TPC Wire & Cable Corp.

2015-2016 Product Catalog

Designed for your abusive environments

TPC WIRE & CABLE CORP.

EXPECT HIGH PERFORMANCE®

ONE SOURCE — ***ENDLESS POSSIBILITIES***

At TPC, we're helping customers daily to develop solutions for their temporary power strategies. The possibilities are endless but the one constant is that the final solution comes from one source. Our experienced sales professionals can meet with you on site to find out what you need, develop a plan and deliver products that will keep your facility running in the event of a power emergency.

As part of the nuclear industry's post Fukushima FLEX program, TPC cable and connections were specified as the solution of choice for the US nuclear fleet. We have also supported the Phoenix and Memphis Regional Response Centers by supplying electrical cable and connectors for portable emergency power equipment. In the event of a critical emergency at a US nuclear plant TPC products will be deployed to provide temporary power and keep these plants running safely.

Whether you're looking for solutions to keep your food manufacturing plant running, an oil rig producing or a pond aeration system functional, we know time lost means money lost. Our totally customizable emergency electrical power solutions can minimize your downtime, meet your safety criteria and allow you to work with one company to get it all done.

STEPS™ Strategy
Flexible Solutions for Temporary Power

Call your TPC sales representative to start the discussion for your temporary power solutions.

TPC WIRE & CABLE CORP.
EXPECT HIGH PERFORMANCE®

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Cable, Connector and Accessories for

The Total Wire & Cable Solution

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Designed for Abuse

TPC Wire & Cable Corp. is a leading supplier of wire, cable and connectors used in harsh industrial environments. TPC's products are designed and engineered to withstand harsh conditions including abrasion, chemicals, constant flexing and extreme temperatures. TPC serves a variety of markets including the steel, utility, mining, automotive, food and beverage, government, oil and gas, transportation and wood, pulp and paper markets. The company's long-lasting, dependable wire and cable products solve the most difficult application problems in the harshest environments resulting in lower overall costs and increased production time. **TPC products outperform and outlast ordinary cable 10:1.**

QUALITY: TPC is committed to quality through its active participation in BSI's ISO 9001 Quality System, 5S (Five S) workplace organization methods and continuous improvement teams that engage over 10% of employees at any given time.

SALES FORCE: TPC has a technical sales force that is committed to monthly training in products, systems and segment markets. They support their customers in showing cost value analysis reporting, application problem solving assistance, and wire and cable expertise. TPC's sales force consists of field representatives, inside representatives, segment market managers and international (bilingual) representatives. TPC also works closely with distributor partners in the U.S., South America and Africa as well as having well-established OEM relationships in the U.S.

CUSTOM ENGINEERED PRODUCTS: TPC provides custom engineered products designed with application and environmental information supplied by the customer. These products are built specifically to solve a particular problem for an individual customer and represent a valuable service. The engineers who solve these problems are from the electrical, mechanical, chemical and industrial engineering disciplines.

RESEARCH AND DEVELOPMENT: Much of TPC's research and development process takes place at our customer's facility on their plant floor. Field sales representatives are frequently asked to look at a particular problem and work with internal TPC resources to develop a better solution. Other R&D processes take place in testing facilities, vendor meetings and the internal VOC (Voice of the Customer) program.

GOVERNMENT DEDICATED: TPC holds a GSA Multiple Award Schedule Contract through the U.S. General Services Administration (GSA). The contract is effective through December 14, 2017. It allows government agencies and organizations to purchase TPC products at pre-negotiated pricing and terms. TPC has approximately 1600 part numbers on its GSA contract. Those products can also be found on the GSA Advantage website.

FACILITIES: In 2012, TPC moved to its current location in Macedonia, OH. The newly renovated 120,000 square foot facility includes an onsite warehouse and distribution center, cable assembly center and engineering testing labs.

TPC WIRE & CABLE CORP.
EXPECT HIGH PERFORMANCE®

Our History

1979: As part of Premier Industrial Corporation, TPC Wire & Cable started as a spin off of Cadillac Electric. The company started in a small office in Cleveland, OH with warehousing operations in Indianapolis, IN. At the time, the product line was limited to electrical cord and cable products selling to plant maintenance facilities on a regional basis.

1986: In response to rapid growth, TPC moves its warehouse and distribution operations to a much larger facility in Mentor, OH

1996: Premier Industrial Corporation was purchased by British company, Farnell Electronics plc of Leeds, England. Premier Farnell plc is formed.

2011: In January of 2011 Premier Farnell sold TPC to Pfingsten Partners, a Chicago based private equity firm.

2012: TPC moves corporate headquarters to Macedonia, OH.

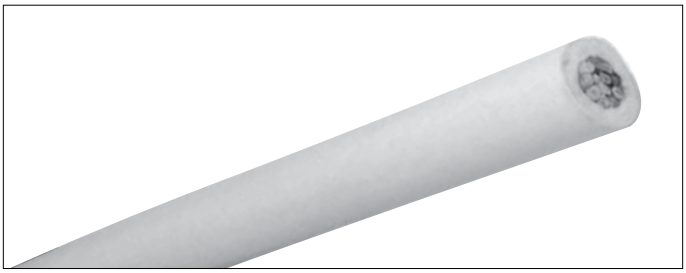
2014: International sales expansion to South Africa and Zambia.

Wire & Cable

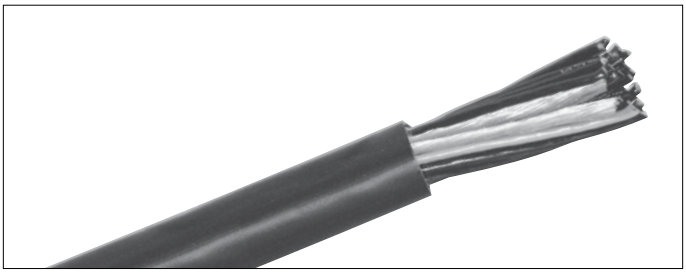
Environments Key Code: **A** = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

Our Brands

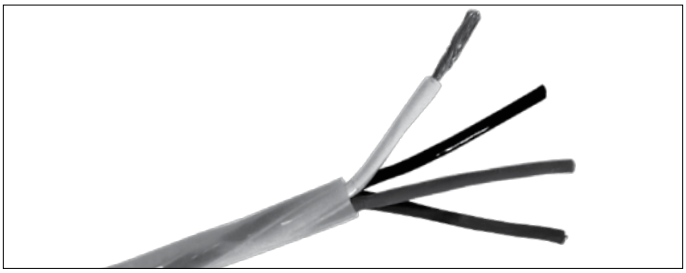
Field analysis shows that TPC Wire & Cable Corp.'s products can last up to 10 times longer than standard commercially available products in abusive industrial environments where cables are exposed to flexing, chemicals, impact, cutting, abrasion and extreme temperatures.



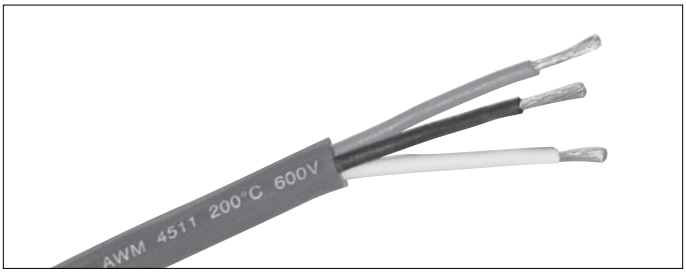
SUPER-TREX®: A very rugged line of cables which includes both single and multi-conductor configurations ranging from 300 volts to 35 kV. These products are designed primarily for power and control applications where cables may be exposed to tension, reeling, flexing, cutting, abrasion, impact and heat.



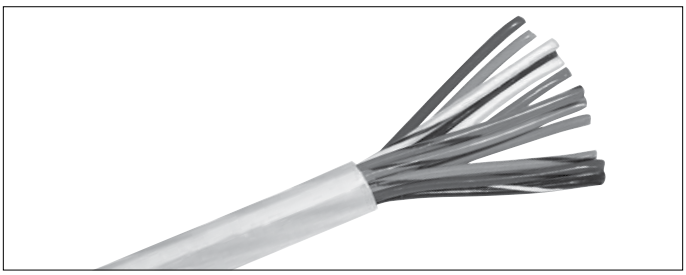
TREX-ONICS®: Designed for constant flexing applications such as cable carriers and robotics, this product line is designed to provide a high level of resistance to abrasion and cutting. Trex-Onics products include power and reeling cables and shielded multi-conductor cables for instrumentation, control and communications.



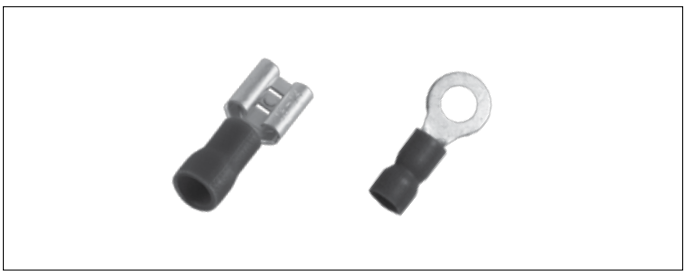
DEFENDER®: Antimicrobial cable is designed to provide a solution to bacteria, fungus and mold growth on the cable jacket. A silver ion based antimicrobial additive provides built-in lasting protection for the life of the cable while effectively eliminating greater than 99% of gram-negative and gram-positive bacteria, fungus and mold within 24 hours.



THERMO-TREX®: High temperature cables and accessories designed for temperatures ranging from 400°F up to an extreme of 3,000°F. This line includes power and control cables as well as a line of thermocouple cables.



CHEM-GARD™: Designed for a broad range of applications where heat, cold or extreme chemical exposure can affect cable performance. Chem-Gard uses a fluoropolymer insulation and jacket that gives the cable a temperature performance range from -60°C to +200°C. The fluoropolymer jacket also allows the cable to survive in very acidic, alkali or solvent based environments. Chem-Gard's unique design makes it an excellent choice for abrasion resistance such as being pulled through conduit or for environments which require resistance to temperature extremes or exposure to chemicals.



HOFFMAN PRODUCTS: TPC Wire & Cable Corp.'s electrical components accessory line offers a diverse selection of electrical products such as terminals, connectors, cable ties, alligator clips, cable glands and more that are used on a daily basis by electrical maintenance professionals everywhere.

Super-Trex® Brand Cables

CONTROL/INSTRUMENTATION CABLES					
PRODUCT NAME	**SHIELDING**	**INSULATION**	**JACKET**	**VOLTAGE**	**PAGE**
Reduced Diameter Control Cable (20 AWG)	Unshielded	Polyester	TPE	600	41
Reduced Diameter Control Cable (18 AWG)	Unshielded	Polyester	TPE	WTTC – 1000 TC-ER – 600	42
Reduced Diameter Control Cable (16 AWG)	Unshielded	Polyester	TPE	WTTC – 1000 TC-ER – 600	43
Reduced Diameter Control Cable (12 AWG)	Unshielded	XLPE	TSE	600	45
MEDIUM VOLTAGE CABLES					
Medium Voltage Single Conductor Power Cable	Shielded	EPR	TSE	5 kV – 35 kV	64
Unshielded Jumper Cable	Unshielded	EPR	TSE	15,000	66
PORTABLE CORDS					
Extreme Temperature Cable	Unshielded	Cross-Linked	Cross-Linked TSE	1,000	67
Triple-Gard™ Yellow Portable Cord	Unshielded	Live-Flex™	TSE Double Pass	600	68
Triple-Gard™ Black Portable Cord	Unshielded	Live-Flex™	TSE Double Pass	600	69
Type TC-ER Rated Portable Cord	Unshielded	Live-Flex™	TSE	600	70
Ultra-Gard™ Portable Cord	Unshielded	Live-Flex™	TSE	600	71
POWER CABLES					
Single Conductor Power Cable	Unshielded	EPR	TSE	2,000	72
Type G Portable Power Cable *(online only)*	Unshielded	EPR	TSE Double Pass	2,000	*Online**
Type W – RHH/RHW Single Conductor Power Cable	Unshielded	Live-Flex™	TSE	2,000	73
Type W Portable Power & Automation Cable	Unshielded	Live-Flex™ EPR	TSE Double Pass	2,000	74
Type W/Type TC Portable Power & Automation Cable (2–6 Conductor)	Unshielded	Live-Flex™ EPR	TSE Double Pass	TC-ER – 2,000 W – 2,000	75
4/0 Type TC Power Cable	Unshielded	Live-Flex™ FREP	TSE Double Pass	600	76
4 Conductor Aramid Reinforced Portable Power Reeling Cable	Unshielded	Live-Flex™ EPR	Orange TSE Double Pass	2,000	77
REELING CABLES					
4 Conductor Aramid Reinforced Portable Power Reeling Cable	Unshielded	Live-Flex™ EPR	Orange TSE Double Pass	2,000	84
Basket-Crane Cable	Unshielded	TPE	Polyurethane	600	79
Extra Heavy-Duty All Weather Reeling Cable	Unshielded	EPR	TSE Double Pass	600	80
Heavy-Duty High Flex Crane Cable	Unshielded	EPR	TSE Double Pass	600	81
Multi-Conductor P&R Cable	Unshielded	Live-Flex™ XLPE	TSE	TC – 600 WTTC – 1,000	82
VARIABLE FREQUENCY DRIVE (VFD) CABLES					
VFD Shielded Power Cable	Shielded	TSE	TSE	Corona Resistant to 2,000 V TC-ER, 600 V	90
WELDING CABLES					
600 Volt Welding Cable	Unshielded	-	TSE	600	94
DC Welding Cable	Unshielded	-	TSE	90	95

**Search "Super-Trex® Type G Portable Power Cable" at www.tpcwire.com for more information.*

Trex-Onics® Brand Cables

PRODUCT NAME	SHIELDING	INSULATION	JACKET	VOLTAGE	PAGE
BUS CABLES — ETHERNET					
Industrial Ethernet CAT5E / 2-Pair Cable	Unshielded	Polypropalene	Polyurethane	300	23
Industrial Ethernet CAT6A Cable	Shielded	Polyolefin	Polyurethane	300	24
Industrial Ethernet CAT7A Cable	Shielded	Polyolefin	Polyurethane	600	25
BUS CABLES — NETWORK					
ControlNet RG-6U Quad-Shield Coaxial Cable	Shielded	HDPE	Polyurethane	30	26
Profibus Festoon/Trailing Cable	Shielded	HDPE	Polyurethane	30	27
DeviceNet™ Flex-Net™ Cables	Shielded	TPE	TPE	300	28
CONTROL/INSTRUMENTATION					
Individually Shielded Multi-Pair Control Cable	Shielded	Fluoropolymer	Polyurethane	600	46
Individually Shielded Encoder/Resolver Cable	Shielded	Fluoropolymer	Polyurethane	300	48
Intrinsically Safe Cable	Shielded	Fluoropolymer	Polyurethane	300	48
Low Capacitance Cable	Shielded	Foam PE	Polyurethane	300	49
Multi-Pair Control Cable	Shielded	Fluoropolymer	Polyurethane	600	50
Overall Shielded Continuous Flex Multi-Conductor Cable	Shielded	Fluoropolymer	Polyurethane	600	52
FLAT FESTOON CABLES					
Flat Festoon Cable	Unshielded	Fluoropolymer	Polyurethane	600	54
POWER CABLES					
Reduced Diameter Power Cable	Unshielded	TPE	TPE	600	78
REELING CABLES					
Reduced Diameter Extra Heavy-Duty Reeling Cable	Unshielded	TPE	TPE Double Pass	600	85
RETRACTILE COIL CORDS					
High-Flex Ultra-Coil Retractiles	Unshielded	TPE	Polyurethane	600	86
VARIABLE FREQUENCY DRIVE (VFD) CABLES					
Extreme Cold Temperature VFD Cable	Shielded	TPE	TPE	600	91
VFD Shielded Power Cable	Shielded	Oil Resistant Composite	TPE	Corona Resistant to 2,000 CSA – 1,000 TC-ER – 600	92
Servo Motor Drive Cable *(AKA VFD Shielded Power Cable with Brake Signal Pairs)*	Shielded	Oil Resistant Composite	TPE	Corona Resistant to 2,000 CSA – 1,000 TC-ER – 600	93

Chem-Gard™ Brand Cables

BUS CABLES — ETHERNET					
PRODUCT NAME	**SHIELDING**	**INSULATION**	**JACKET**	**VOLTAGE**	**PAGE**
200°C CAT6 Industrial Ethernet Cable	Unshielded	Fluoropolymer	Fluoropolymer	300	22

CHEMICAL RESISTANT CABLES					
Individually Shielded Pair Cable	Shielded	Fluoropolymer	Fluoropolymer	600	36
Chem-Gard™ 200 Cable — Unshielded	Unshielded	Fluoropolymer	Fluoropolymer	600	37
Chem-Gard™ 200 Cable — Shielded	Shielded	Fluoropolymer	Fluoropolymer	600	38
Chem-Gard™ 150 Cable — Unshielded	Unshielded	Fluoropolymer	Fluoropolymer	600	39
Chem-Gard™ 150 Cable — Shielded	Shielded	Fluoropolymer	Fluoropolymer	600	40

Thermo-Trex® Brand Cables

HIGH TEMPERATURE CABLES					
PRODUCT NAME	**SHIELDING**	**INSULATION**	**JACKET**	**VOLTAGE**	**PAGE**
Thermo-Trex® 2800 Cable	Unshielded	Silicone	Glass Braid	600	55
Thermo-Trex® 2000 Cable	Unshielded	Mica/Glass	Glass Braid	600	56
Thermo-Trex® 850 Cable	Unshielded	Ceramic Wrap	Glass Braid	600	57
Thermo-Trex® 500 Cable	Unshielded	Silicone	Glass Braid	600	60
Thermo-Trex® 500-K Multi-Conductor Cable	Unshielded	Silicone	Aramid Braid	600	59
Thermo-Trex® 500-K Single Conductor Cable	Unshielded	Silicone	Aramid Braid	600	58
Thermo-Trex® 500-Plus Silicone Cable	Unshielded	Silicone	Silicone	600	61

FIRE RESISTANT CABLES					
Circuit Integrity Cable *(online only)*	Unshielded	Mica/Fiberglass	Fiberglass/ Fluoropolymer	600	*Online**

IGNITER CABLES					
Flare Stack Cable	Unshielded	Silicone/Mica	Fluoropolymer/ Fiberglass	25 kV	62
Igniter Wire with Fiberglass Jacket	Unshielded	Mica Wrap	Fiberglass	25 kVDC/17 kVAC	63
Igniter Wire with Fluoropolymer Jacket	Unshielded	Fluoropolymer	Fluoropolymer	25 kVDC	63

THERMOCOUPLE EXTENSION WIRE					
Type JX, KX, RSX Thermocouple Extension Wire	Unshielded	Fluoropolymer, PFA, Mica, or Mica/TFE/Glass	PUR, FEP, PFA or Glass Braid		88

Defender™ Brand Cables

ANTIMICROBIAL CABLES					
PRODUCT NAME	**SHIELDING**	**INSULATION**	**JACKET**	**VOLTAGE**	**PAGE**
Defender™ Antimicrobial Cable — Shielded	Shielded	Fluoropolymer	Antimicrobial	600	20
Defender™ Antimicrobial Cable — Unhielded	Unshielded	Fluoropolymer	Antimicrobial	600	20

**Search "Thermo-Trex® Circuit Integrity Cable" at www.tpcwire.com for more information.*

Environments

A = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

PRODUCT NAME	A	C	E	F	I	T	PAGE
ANTIMICROBIAL CABLES							
Defender™ Antimicrobial Cable —Shielded	•	•	•	•			20
Defender™ Antimicrobial Cable —Unhielded	•	•	•	•			20
BUS CABLES							
Chem-Gard™ 200°C CAT6 Industrial Ethernet Cable	•	•	•	•			22
Trex-Onics® Industrial Ethernet CAT5E / 2-Pair Cable	•	•		•			23
Trex-Onics® Industrial Ethernet CAT6A Cable	•	•		•			24
Trex-Onics® Industrial Ethernet CAT7A Cable	•	•		•			25
Trex-Onics® ControlNet RG-6U Quad-Shield Coaxial Cable	•	•	•	•			26
Trex-Onics® Profibus Festoon/Trailing Cable	•	•	•				27
Trex-Onics® DeviceNet™ Flex-Net™ "Thick" High Performance Cable	•	•		•			29
Trex-Onics® DeviceNet™ Flex-Net™ "Thin" High Performance Cable	•	•		•			30
Trex-Onics® DeviceNet™ Flex-Net™ "Thick" Cables	•	•					31
Trex-Onics® DeviceNet™ Flex-Net™ Cable Micro Assemblies	•	•		•			32
Trex-Onics® DeviceNet™ Flex-Net™ Cable Mini Assemblies	•	•		•			34
CHEMICAL RESISTANT CABLES							
Chem-Gard™ Individually Shielded Pair Cable	•	•	•	•			36
Chem-Gard™ 200 Cable	•	•	•	•			37
Chem-Gard™ 150 Cable	•	•	•	•			39
CONTROL/INSTRUMENTATION CABLES							
Super-Trex® Reduced Diameter Control Cable (20 AWG)	•			•			41
Super-Trex® Reduced Diameter Control Cable (18 AWG)	•			•			42
Super-Trex® Reduced Diameter Control Cable (16 AWG)	•			•			43
Super-Trex® Reduced Diameter Control Cable (12 AWG)	•			•	•		45
Trex-Onics® Individually Shielded Multi-Pair Cable	•	•	•	•			46
Trex-Onics® Individually Shielded Encoder/Resolver Cable	•	•	•	•			48
Trex-Onics® Intrinsically Safe Cable	•	•		•			48
Trex-Onics® Low Capacitance Cable	•	•					49
Trex-Onics® Multi-Pair Control Cable	•	•	•	•			50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	•	•	•	•			52
FIRE RESISTANT CABLES							
Thermo-Trex® Circuit Integrity Cable *(online only)*	•	•	•	•			*Online*
FLAT FESTOON CABLES							
Trex-Onics® Flat Festoon Cable	•	•		•		•	54
HIGH TEMPERATURE CABLES							
Thermo-Trex® 2800 Cable			•	•			55
Thermo-Trex® 2000 Cable			•	•			56
Thermo-Trex® 850 Cable			•	•			57
Thermo-Trex® 500 Cable			•	•			60
Thermo-Trex® 500-K Multi-Conductor Cable	•		•	•		•	59
Thermo-Trex® 500-K Single Conductor Cable	•		•	•		•	58
Thermo-Trex® 500-Plus Silicone Cable		•	•	•			61

Environments

A = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

PRODUCT NAME	A	C	E	F	I	T	PAGE
IGNITER CABLES							
Thermo-Trex® Flare Stack Cable	•	•	•	•			62
Thermo-Trex® Igniter Wire with Fiberglass Jacket			•	•			63
Thermo-Trex® Igniter Wire with Fluoropolymer Jacket	•	•	•	•			63
MEDIUM VOLTAGE CABLES							
Super-Trex® Medium Voltage Single Conductor Power Cable/Assemblies	•	•		•	•	•	64
Super-Trex® Unshielded Jumper Cable, 15kV	•	•		•	•		66
PORTABLE CORDS							
Super-Trex® Extreme Temperature Cable	•	•	•	•			67
Super-Trex® Triple-Gard™ Yellow Portable Cord	•	•		•	•	•	68
Super-Trex® Triple-Gard™ Black Portable Cord	•	•		•	•	•	69
Super-Trex® Type TC-ER Rated Portable Cord	•	•		•	•		70
Super-Trex® Ultra-Gard™ Portable Cord	•	•		•	•		71
POWER CABLES							
Super-Trex® Single Conductor Power Cable	•	•		•	•		72
Super-Trex® Type G Portable Power Cable *(online only)*	•	•		•	•	•	*Online*
Super-Trex® Type W Portable Power & Automation Cable	•	•	•	•	•	•	74
Super-Trex® Type W/Type TC Portable Power & Automation Cable (2-6 Conductor)	•	•		•	•		75
Super-Trex® Type W-RHH/RHW Single Conductor Power Cable	•	•		•	•	•	73
Super-Trex® 4/0 Type TC Power Cable	•	•		•	•	•	76
Super-Trex® 4 Conductor Aramid Reinforced Portable Power Reeling Cable	•	•		•	•	•	77
Trex-Onics® Reduced Diameter Power Cable	•	•		•			78
REELING CABLES							
Super-Trex® Basket-Crane Cable	•	•		•	•	•	79
Super-Trex® Extra Heavy-Duty All Weather Reeling Cable	•	•	•	•	•	•	80
Super-Trex® Heavy-Duty High Flex Crane Cable	•	•	•	•	•	•	81
Super-Trex® 4 Conductor Aramid Reinforced Portable Power Reeling Cable	•	•		•	•	•	84
Super-Trex® Multi-Conductor P&R Cable	•	•		•	•	•	82
Trex-Onics® Reduced Diameter Extra Heavy-Duty Reeling Cable	•	•	•	•		•	85
RETRACTILE COIL CORDS							
Trex-Onics® High-Flex Ultra-Coil Retractiles	•	•		•		•	86
THERMOCOUPLE EXTENSION WIRE							
Thermo-Trex® Type JX, KX, RSX Thermocouple Extension Wire	•	•	•	•			88
VARIABLE FREQUENCY DRIVE (VFD) CABLES							
Super-Trex® VFD Shielded Power Cable	•	•	•	•	•		90
Trex-Onics® VFD Extreme Cold Temperature Cable	•	•	•	•	•	•	91
Trex-Onics® VFD Shielded Power Cable	•	•		•			92
Trex-Onics® VFD Shielded Power Cable with Brake Signal Pairs	•	•		•			93
WELDING CABLES							
Super-Trex® 600 Volt Welding Cable	•	•	•	•	•	•	94
Super-Trex® DC Welding Cable	•	•		•	•	•	95

Gauge Size

26 AWG			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Trex-Onics® Industrial Ethernet CAT6A Cable	Bus Cable	4 PR	24
Trex-Onics® Industrial Ethernet CAT7A Cable	Bus Cable	4 PR	25
24 AWG			
Chem-Gard™ 200°C CAT6 Industrial Ethernet Cable	Bus Cable	4 PR	22
Trex-Onics® Industrial Ethernet CAT5E Cable	Bus Cable	2 PR	23
Chem-Gard™ Individually Shielded Pair Cable	Chemical Resistant Cable	2, 3, 4, 6, 7, 9 PR	36
Trex-Onics® Individually Shielded Multi-Pair Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 12 PR	46
Trex-Onics® Individually Shielded Encoder/Resolver Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Trex-Onics® Intrinsically Safe Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Trex-Onics® Low Capacitance Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 10, 12 PR	49
Trex-Onics® Multi-Pair Control Cable	Control/Instrumentation Cable	4 PR	50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	Control/Instrumentation Cable	2, 4, 6, 9	52
23 AWG			
Trex-Onics® Profibus Festoon/Trailing Cable	Bus Cable	2	27
22 AWG			
Chem-Gard™ Individually Shielded Pair Cable	Chemical Resistant Cable	2, 3, 4, 6, 7, 9 PR	36
Trex-Onics® Individually Shielded Encoder/Resolver Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Trex-Onics® Intrinsically Safe Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® Type JX, KX, RSX Thermocouple Extension Wire	Thermocouple Extension Wire	1, 2 PR	88
20 AWG			
Trex-Onics® ControlNet RG-6U Quad-Shield Coaxial Cable	Bus Cable	1	26
Chem-Gard™ Individually Shielded Pair Cable	Chemical Resistant Cable	2, 3, 4, 6, 7, 9 PR	36
Super-Trex® Reduced Diameter Control Cable (20 AWG)	Control/Instrumentation Cable	5, 12, 19, 25, 33, 47, 65	41
Trex-Onics® Individually Shielded Multi-Pair Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 12, 18 PR	46
Trex-Onics® Individually Shielded Encoder/Resolver Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Trex-Onics® Intrinsically Safe Cable	Control/Instrumentation Cable	2, 3, 4, 6, 7, 9 PR	48
Trex-Onics® Multi-Pair Control Cable	Control/Instrumentation Cable	2, 3, 6, 9, 12 PR	50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	Control/Instrumentation Cable	2, 6, 9, 12, 18, 24, 26	52
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
18 AWG — *Continued On Next Page*			
Defender™ Antimicrobial Cable — Shielded	Antimicrobial Cable	3, 4, 12	20
Defender™ Antimicrobial Cable — Unshielded	Antimicrobial Cable	4, 12	20
Chem-Gard™ Individually Shielded Pair Cable	Chemical Resistant Cable	2, 3, 4, 6, 7, 9 PR	36
Chem-Gard™ 200 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 5, 12	37
Chem-Gard™ 200 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	3, 4, 12	38
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37-38
Chem-Gard™ 150 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 12	39
Chem-Gard™ 150 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	3, 4, 12	40
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39-40
Super-Trex® Reduced Diameter Control Cable (18 AWG)	Control/Instrumentation Cable	5, 12, 19, 25, 33, 49, 65	42
Trex-Onics® Individually Shielded Multi-Pair Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 12 PR	46
Trex-Onics® Multi-Pair Control Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 12 PR	50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	Control/Instrumentation Cable	2, 3, 4, 6, 9, 12, 18, 24, 33, 49, 65	52

Gauge Size

18 AWG — *Continued*			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® 850 Cable	High Temperature Cable	1	57
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Thermo-Trex® Flare Stack Cable	Igniter Cable	1	62
Thermo-Trex® Igniter Wire with Fiberglass Jacket	Igniter Cable	1	63
Thermo-Trex® Igniter Wire with Fluoropolymer Jacket	Igniter Cable	1	63
Super-Trex® Ultra-Gard™ Portable Cord	Portable Cord	3, 4	71
Trex-Onics® High-Flex Ultra-Coil Retractiles	Retractile Coil Cord	3, 4, 12	86
Thermo-Trex® Type JX, KX, RSX Thermocouple Extension Wire	Thermocouple Extension Wire	1, 2 PR	88
16 AWG			
Defender™ Antimicrobial Cable — Shielded	Antimicrobial Cable	4, 12	20
Defender™ Antimicrobial Cable — Unshielded	Antimicrobial Cable	4, 8, 12	20
Chem-Gard™ 200 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 12	37
Chem-Gard™ 200 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	2, 3, 4, 12	38
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	38
Chem-Gard™ 150 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 12	39
Chem-Gard™ 150 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	2, 3, 4, 12	40
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	40
Super-Trex® Reduced Diameter Control Cable (16 AWG)	Control/Instrumentation Cable	5, 7, 8, 12, 16, 19, 22, 25, 31, 33, 41, 47, 49, 60	43
Trex-Onics® Multi-Pair Control Cable	Control/Instrumentation Cable	1 PR	50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	Control/Instrumentation Cable	3, 5, 9, 12, 19, 25, 31	52
Trex-Onics® Flat Festoon Cable	Flat Festoon Cable	4, 8, 12	54
Thermo-Trex® 2800 Cable	High Temperature Cable	3	55
Thermo-Trex® 2000 Cable	High Temperature Cable	1, 4	56
Thermo-Trex® 850 Cable	High Temperature Cable	1, 4, 12	57
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Thermo-Trex® 500-Plus Silicone Cable	High Temperature Cable	2, 3, 4, 5	61
Thermo-Trex® Flare Stack Cable	Igniter Cable	1	62
Super-Trex® Triple-Gard™ Black Portable Cord	Portable Cord	3, 4	69
Super-Trex® Type TC-ER Portable Cord	Portable Cord	3, 4	70
Super-Trex® Ultra-Gard™ Portable Cord	Portable Cord	2, 3, 4, 5, 6, 7, 8	71
Super-Trex® Heavy-Duty High Flex Crane Cable	Reeling Cable	9, 16	81
Super-Trex® Multi-Conductor P&R Cable	Reeling Cable	6, 8, 10, 12, 16, 20, 24, 33, 36, 41, 49	82
Trex-Onics® Reduced Diameter Extra Heavy-Duty Reeling Cable	Reeling Cable	6, 8, 12 16, 20, 24	85
Trex-Onics® High-Flex Ultra-Coil Retractiles	Retractile Coil Cord	3, 4, 8	86
Thermo-Trex® Type JX, KX, RSX Thermocouple Extension Wire	Thermocouple Extension Wire	1, 2 PR	88
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
14 AWG — *Continued On Next Page*			
Defender™ Antimicrobial Cable — Shielded	Antimicrobial Cable	4	20
Defender™ Antimicrobial Cable — Unshielded	Antimicrobial Cable	4, 8, 12	20
Chem-Gard™ 200 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 12	37
Chem-Gard™ 200 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	4	38
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	38
Chem-Gard™ 150 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4, 12	39

Gauge Size

14 AWG — *Continued*			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Chem-Gard™ 150 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	4	40
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	40
Trex-Onics® Multi-Pair Control Cable	Control/Instrumentation Cable	1 PR	50
Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable	Control/Instrumentation Cable	10	52
Thermo-Trex® Circuit Integrity Cable *(online only)*	Fire Resistant Cable	3, 4, 5, 10, 12	*Online*
Trex-Onics® Flat Festoon Cable	Flat Festoon Cable	8, 12	54
Thermo-Trex® 2800 Cable	High Temperature Cable	1	55
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® 850 Cable	High Temperature Cable	1	57
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500-K Multi-Conductor Cable	High Temperature Cable	2, 3, 4, 5, 7, 9, 12	59
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Thermo-Trex® Flare Stack Cable	Igniter Cable	1	62
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Triple-Gard™ Yellow Portable Cord	Portable Cord	3, 4	68
Super-Trex® Triple-Gard™ Black Portable Cord	Portable Cord	3, 4	69
Super-Trex® Type TC-ER Portable Cord	Portable Cord	3, 4	70
Super-Trex® Ultra-Gard™ Portable Cord	Portable Cord	3, 4	71
Trex-Onics® Extra Heavy-Duty All Weather Reeling Cable	Reeling Cable	12, 24	80
Trex-Onics® Heavy-Duty High Flex Crane Cable	Reeling Cable	12, 24	81
Super-Trex® Multi-Conductor P&R Cable	Reeling Cable	7, 8, 10, 12, 16, 20, 24	82
Trex-Onics® Reduced Diameter Extra Heavy-Duty Reeling Cable	Reeling Cable	8, 16, 37	85
Trex-Onics® High-Flex Ultra-Coil Retractiles	Retractile Coil Cord	4	86
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR, 4 + 2 PR	93
2.5 mm²			
Trex-Onics® Basket-Crane Cable	Reeling Cable	42	79
Trex-Onics® Extra Heavy-Duty All Weather Reeling Cable	Reeling Cable	44	80
12 AWG — *Continued On Next Page*			
Defender™ Antimicrobial Cable — Shielded	Antimicrobial Cable	4	20
Defender™ Antimicrobial Cable — Unshielded	Antimicrobial Cable	4	20
Chem-Gard™ 200 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4	37
Chem-Gard™ 200 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	4	38
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	38
Chem-Gard™ 150 Cable – Unshielded Multi-Conductor	Chemical Resistant Cable	4	39
Chem-Gard™ 150 Cable – Shielded Multi-Conductor	Chemical Resistant Cable	4	40
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	40
Super-Trex® Reduced Diameter Control Cable (12 AWG)	Control/Instrumentation Cable	8, 12, 22	45
Thermo-Trex® Circuit Integrity Cable *(online only)*	Fire Resistant Cable	3, 4, 7, 12	*Online*
Trex-Onics® Flat Festoon Cable	Flat Festoon Cable	4	54
Thermo-Trex® 2800 Cable	High Temperature Cable	1, 4	55
Thermo-Trex® 2000 Cable	High Temperature Cable	1, 4	56
Thermo-Trex® 850 Cable	High Temperature Cable	1, 4	57
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500-K Multi-Conductor Cable	High Temperature Cable	2, 3, 4, 5, 7, 9, 12	59
Thermo-Trex® 500 Cable	High Temperature Cable	1	60

Gauge Size

12 AWG — *Continued*			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Thermo-Trex® Flare Stack Cable	Igniter Cable	1	62
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Triple-Gard™ Yellow Portable Cord	Portable Cord	3, 4	68
Super-Trex® Triple-Gard™ Black Portable Cord	Portable Cord	3, 4	69
Super-Trex® Type TC-ER Portable Cord	Portable Cord	4	70
Super-Trex® Ultra-Gard™ Portable Cord	Portable Cord	3, 4	71
Super-Trex® Orange Type G Portable Power Cable *(online only)*	Power Cable	3	*Online*
Trex-Onics® Extra Heavy-Duty All Weather Reeling Cable	Reeling Cable	12, 24, 30	80
Trex-Onics® Heavy-Duty High Flex Crane Cable	Reeling Cable	12, 24	81
Super-Trex® Multi-Conductor P&R Cable	Reeling Cable	6, 8, 12, 20, 30	82
Trex-Onics® Reduced Diameter Extra Heavy-Duty Reeling Cable	Reeling Cable	6, 8, 12, 14, 30	85
Trex-Onics® High-Flex Ultra-Coil Retractiles	Retractile Coil Cord	4	86
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR, 4 + 2 PR	93
10 AWG			
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	38
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	40
Thermo-Trex® Circuit Integrity Cable *(online only)*	Fire Resistant Cable	3, 4	*Online*
Trex-Onics® Flat Festoon Cable	Flat Festoon Cable	4	54
Thermo-Trex® 2800 Cable	High Temperature Cable	1	55
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® 850 Cable	High Temperature Cable	1	57
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500-K Multi-Conductor Cable	High Temperature Cable	2, 3, 4, 5, 7, 9, 12	59
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Thermo-Trex® Flare Stack Cable	Igniter Cable	1	62
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Triple-Gard™ Yellow Portable Cord	Portable Cord	3, 4	68
Super-Trex® Triple-Gard™ Black Portable Cord	Portable Cord	3, 4	69
Super-Trex® Type TC-ER Portable Cord	Portable Cord	4	70
Super-Trex® Ultra-Gard™ Portable Cord	Portable Cord	3, 4	71
Super-Trex® Orange Type G Portable Power Cable *(online only)*	Power Cable	3	*Online*
Trex-Onics® Extra Heavy-Duty All Weather Reeling Cable	Reeling Cable	12, 24	80
Trex-Onics® Heavy-Duty High Flex Crane Cable	Reeling Cable	12, 24	81
Super-Trex® Multi-Conductor P&R Cable	Reeling Cable	6, 8, 12	82
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR, 4 + 2 PR	93
8 AWG			
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	2, 4	74
Super-Trex® Type W/Type TC Portable Power & Automation Cable	Power Cable	2, 3, 4	75
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR, 4 + 2 PR	93

Gauge Size

6 AWG			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39
Trex-Onics® Flat Festoon Cable	Flat Festoon Cable	4	54
Thermo-Trex® 2000 Cable	High Temperature Cable	1	56
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Orange Type G Portable Power Cable *(online only)*	Power Cable	3	*Online*
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	2, 4	74
Super-Trex® Type W/Type TC Portable Power & Automation Cable	Power Cable	2, 3, 4, 5, 6	75
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR, 4 + 2 PR	93

4 AWG			
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	2, 4	74
Super-Trex® Type W/Type TC Portable Power & Automation Cable	Power Cable	2, 3, 4	75
Super-Trex® Aramid Reinforced Orange Portable Power Reeling Cable	Power Cable & Reeling Cable	4	77, 84
Trex-Onics® Reduced Diameter Power Cable	Power Cable	3	78
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
Trex-Onics® Extreme Cold Temperature VFD Cable	VFD Cable	4	91
Trex-Onics® Variable Frequency Drive Shielded Power Cable	VFD Cable	4	92
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Super-Trex® DC Welding Cable	Welding Cable	1	95
Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs	VFD Cable	4 + 1 PR	93

2 AWG			
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cable	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Extreme Temperature Cable	Portable Cord	3, 4	67
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	2, 4	74
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
Super-Trex® Type W/Type TC Portable Power & Automation Cable	Power Cable	2, 3, 4, 5	75
Super-Trex® Aramid Reinforced Orange Portable Power Reeling Cable	Power Cable & Reeling Cable	4	77, 84
Trex-Onics® Reduced Diameter Power Cable	Power Cable	3	78
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Super-Trex® DC Welding Cable	Welding Cable	1	95

Gauge Size

1 AWG			
PRODUCT NAME	**CABLE TYPE**	**NO. OF CONDUCTORS**	**PAGE**
Chem-Gard™ 200 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	37
Chem-Gard™ 150 Cable – Unshielded Single Conductor	Chemical Resistant Cable	1	39
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cable	1	64
Super-Trex® DC Welding Cable	Welding Cable	1	95

1/0 AWG			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cable	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	2	74
Super-Trex® Type W/Type TC Portable Power & Automation Cable	Power Cable	2, 3	75
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Super-Trex® DC Welding Cable	Welding Cable	1	95

2/0 AWG			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cable	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Type W Portable Power & Automation Cable	Power Cable	4, 3	74
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Super-Trex® DC Welding Cable	Welding Cable	1	95

3/0 AWG			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® DC Welding Cable	Welding Cable	1	95

4/0 AWG			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Thermo-Trex® 500 Cable	High Temperature Cable	1	60
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cables	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cables	1	66
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
Super-Trex® 4/0 Type TC Power Cable	Power Cable	2, 3	76
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
Super-Trex® 600 Volt Welding Cable	Welding Cable	1	94
Super-Trex® DC Welding Cable	Welding Cable	1	95

Gauge Size

PRODUCT NAME	CABLE TYPE	NO. OF CONDUCTORS	PAGE
250 KCMIL			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cables	1	64
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
262 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
313 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
350 KCMIL			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cables	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cables	1	66
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
373 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
444 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
500 KCMIL			
Thermo-Trex® 500-K Single Conductor Cable	High Temperature Cable	1	58
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cable	1	64
Super-Trex® Unshielded Jumper Cable	Medium Voltage Cable	1	66
Super-Trex® Type W—RHH/RHW Single Conductor Power Cable	Power Cable	1	73
535 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
Super-Trex® Variable Frequency Drive Shielded Power Cable	VFD Cable	3	90
646 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72
750 KCMIL			
Super-Trex® Medium Voltage Single Conductor Power Cable	Medium Voltage Cables	1	64
777 KCMIL			
Super-Trex® Single Conductor Power Cable	Power Cable	1	72

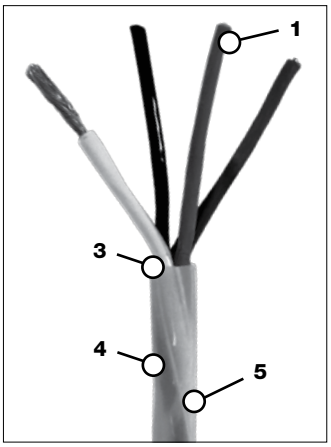
Ratings

Ratings

Defender® Antimicrobial Cable

- UL Recognized
- CSA
- 600 V
- RoHS Compliant
- FT-1 Flame Rating
- VW-1 Flame Rating
- Operating Temperature Range -60°C to 150°C
- Superior Chemical Resistance
- Antimicrobial

Defender® antimicrobial cable eliminates greater than 99% of bacteria, fungus and mold growth on the cable jacket. Silver ion based addtiives provide built-in long lasting protection for the life of the cable. Key characteristics include superior chemical resistance, 600 Volt, -60°C to +150°C, VW-1, FT-1. This cable provides a real solution for customers looking to keep the highest standards in cleanliness.



FEATURES & BENEFITS

1. FINELY STRANDED TINNED CONDUCTORS— Provides greater flex life in dynamic conditions and protects from corrosion and oxidation in chemical and high temperature environments.

2. HAS A LOW COEFFICIENT OF FRICTION — Provides superior resistance to cutting and abrasion.

3. SMALLER DIAMETER — Easily fits through conduit or around tight spaces.

4. BRIGHT GREEN JACKET COLOR — Allows for easy visual inspection.

5. PROPRIETARY JACKET — Provides excellent resistance to harsh chemicals including oils, acids and solvents. DEFENDER® jacket also equips the jacket with long term broad-spectrum protection from bacteria, mold and fungus reducing cable change outs.

ADD STAINLESS STEEL GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Page 99.*

ORDERING INFORMATION *(Call for pricing & availability)*

UNSHIELDED					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
52128	12/4	65/30	0.335	48	133
52124	14/4	105/34	0.270	37	86
52127	14/8	105/34	0.354	24	165
52125	14/12	105/34	0.383	23	210
52126	16/4	65/34	0.225	21	59
52129	16/8	65/34	0.295	18	115
52130	16/12	65/34	0.365	13	152
52122	18/4	41/34	0.200	16	41
52123	18/12	41/34	0.315	10	98

SHIELDED					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
52118	12/4	65/30	0.370	48	154
52117	14/4	105/34	0.290	37	104
52116	16/4	65/34	0.245	21	77
52120	16/12	65/34	0.385	13	176
52114	18/3	65/36	0.205	16	46
52115	18/4	41/34	0.220	16	56
52119	18/12	41/34	0.345	10	123

NOTE: (1) Ampacities are based on conductors in free air, 40°C (104°F) ambient, 150°C (302°F) conductor temperature.

TPC CAN PROVIDE CUSTOM CONFIGURATIONS.

PRODUCT DISCLAIMER: *Antimicrobial properties are built in to inhibit the growth of bacteria that may affect this product. The additives can not leach out of this product. The antimicrobial properties do not protect users or others against bacteria, viruses, germs or other disease organisms. Always clean and wash this product in accordance with required cleaning procedures.*

Defender® Antimicrobial Cable *(Continued)*

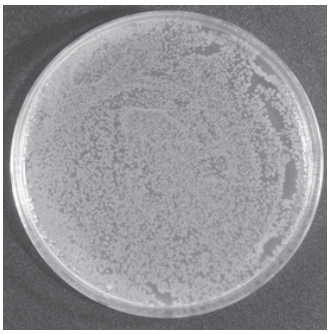
Eliminates Greater than 99% of Bacteria, Fungus and Mold

TPC designs and supplies high quality, high performance cord, cable and accessories that increase uptime and solve difficult problems in harsh industrial environments. ***DEFENDER***® antimicrobial cable is the first product in this antimicrobial line to provide a solution to bacteria, fungus and mold growth on the cable jacket. A silver ion based antimicrobial additive provides built in lasting protection for the life of the cable while effectively eliminating greater than 99% of gram-negative and gram-positive bacteria, fungus and mold within 24 hours.

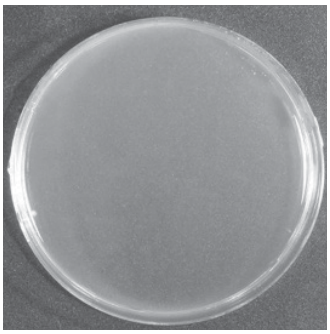
The presence of heat, moisture and organic materials in food processing plants create an ideal environment for bacteria, fungus and mold to grow on equipment. Stringent cleaning requirements are daily rituals in the food and beverage industry. *DEFENDER* antimicrobial cable adds another level of protection with its built in antimicrobial jacket. If a cable fails a visual inspection, the down time can cost a facility thousands of dollars in lost production. *DEFENDER* antimicrobial cable will increase the cable life in this harsh industrial environment while inhibiting bacteria, fungus and mold growth on the cable jacket.

TESTING METHODS

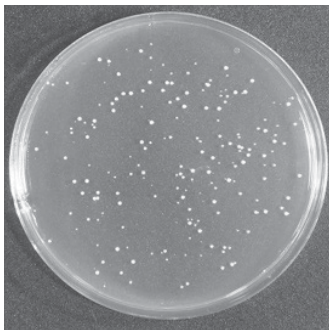
Highly effective ***DEFENDER***® **Antimicrobial Cable** efficacy has been confirmed by independent lab test results. Photos below show the amount of E. Coli and Staph bacteria cultivated for 14 days after 24 hours of exposure to the *DEFENDER* antimicrobial cable jacket versus a cable jacket without antimicrobial agents. The photos have not been altered in any way.



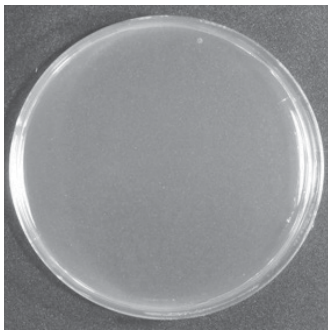
E. COLI GROWTH
No Antimicrobial Additive



E. COLI NO GROWTH
With Antimicrobial Additive



STAPH GROWTH
No Antimicrobial Additive



STAPH NO GROWTH
With Antimicrobial Additive

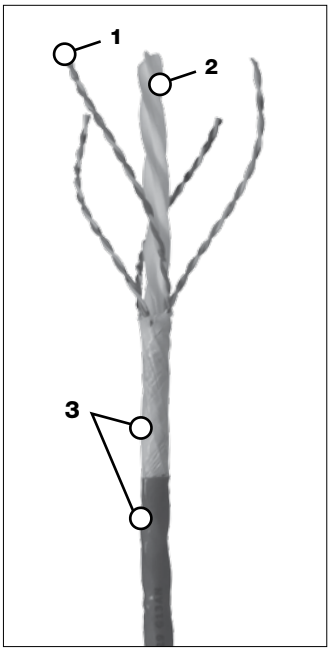
APPLICATIONS

- Wash Down Areas
- Automated Packaging/Bagging Equipment
- Electronic Control Systems
- Cable Carriers
- Power Supply for Fans, Pumps, Motors, Hand Tools
- Conveyor Systems
- Coolers, Freezers, Ovens, Fryers
- Pasta Drying Machinery
- Canning and Bottling Process Lines
- Any application where fungus, bacteria or mold growth need to be controlled

Chem-Gard™ 200°C CAT6 Industrial Ethernet Cable

• TIA/EIA 568-B-2 CAT6 • 300 V • Operating Temperature Range -60°C to 200°C • Finely Stranded Silver-Plated Copper • Color Coded to 586B

This rugged Industrial Ethernet CAT6 cable is built for performance in the harshest of environments. Chem-Gard's unique physical properties offer resistance to UV light, cutting, abrasion, oil, chemicals and extreme temperatures. TPC Wire & Cable's Chem-Gard™ CAT6 cable provides superior performance to meet or exceed CAT6 and Ethernet/IP requirements.



FEATURES & BENEFITS

1. FINELY STRANDED SILVER ALLOY CONDUCTORS — Improve flexibility and offers longer flex life.

2. CENTER SPLINE — Keeps conductors separated and in their proper lay.

3. DOUBLE JACKET DESIGN — Provides an inner jacket to protect the conductors from impact and to keep the lay lengths intact, and an outer Trex-Onics® jacket to provide protection from environmental abuse and defense against cutting, abrasion, oil and chemicals.

4. UNIQUE CONDUCTOR LAY LENGTHS — Ensures signal integrity.

5. ARAMID RIP CORD — For ease of stripping.

6. CAPABLE OF WITHSTANDING EXPOSURE TO CHEMICALS, CONSTANT FLEXING AND EXTREME TEMPERATURES.

7. CHEM-GARD™ — Eliminates the need for compounds or lubricants when pulling through conduit and the tough jacket will also withstand abrasion and cutting.

8. DESIGNED FOR USE IN A VARIETY OF INDUSTRIES — Steel, Automotive, Utility, Mining, Food & Beverage, Oil & Gas, Transportation, Wood, Pulp, & Paper and Government.

9. EXTREME TEMPERATURE CABLE

10. IMPROVED HIGH TEMP FLEXIBILITY

11. LONGER FLEX LIFE

12. OIL, CHEMICAL AND HEAT RESISTANT

13. FLAME RETARDANT

APPLICATIONS

- Data Processing & Information Systems
- High Bandwidth Digital Applications
- High Data Rate Applications

ELECTRICALS

- 14.5pF/ft Capacitance Conductor to Conductor
- 100 Ohms Impedance
- Velocity of Propagation

TIA/EIA 568-B-2 REQUIREMENTS

FREQUENCY (MHZ)	**ATTINUATION** (DB/100')	**SPL MIN** (db)	**NEXT MIN** (db)
10	2.4	25.0	59.3
100	8.0	20.1	44.3
250	12.2	17.3	38.3

CHEMICAL RESISTANCE

CHEMICAL	FLUOROPOLYMER	ETFE	FEP
Oxidation Resistance	Excellent	Excellent	Excellent
Oil	Excellent	Excellent	Excellent
UV Rays	Excellent	Excellent	Excellent
Water	Excellent	Excellent	Excellent
Acid	Excellent	Excellent	Excellent
Alkali	Excellent	Excellent	Excellent
Gasoline/Kerosene	Excellent	Excellent	Excellent
Benzol Toluene	Excellent	Excellent	Excellent
Degreaser Solvent	Excellent	Excellent	Excellent
Alcohol	Excellent	Excellent	Excellent

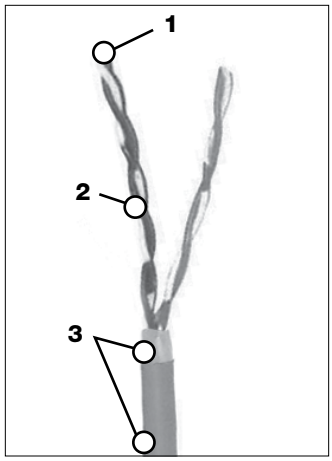
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE	OVERALL SHIELD	NOMINAL O.D.	WT. (LBS) PER 1000'
60064	24 AWG	NO	0.292	38

Trex-Onics® Industrial Ethernet CAT5E / 2-Pair Cable

• UL Recognized • TIA/EIA 568-C-2* • AWM 20233 • RoHS Compliant • 300 V • 80°C

This UL approved Industrial Ethernet CAT5E / 2-pair cable is suitable for use in Ethernet systems where a more robust cable is required and is designed specifically for industrial applications where flexing and repetitive motion exists.



COLOR CODE	
PAIR NO.	**COLOR**
1	Blue - White/Blue
2	Orange - White/Orange

FEATURES & BENEFITS

1. STRANDED COPPER CONDUCTORS — Provide longer flex life and improves cable flexibility.

2. INSULATION — High density compounds are used for the conductor insulation to provide excellent dielectric properties that meet CAT5E requirements.

3. UNIQUE JACKET DESIGN — Product is constructed with an inner binder and outer jacket. The inner binder provides protection to the conductor bundle from impact and keeps the lay lengths of the cable intact to ensure signal integrity. The outer Trex-Onics® jacket provides protection from environmental abuse and offers excellent defense against cutting, abrasion, oil and chemicals.

4. UNIQUE CONDUCTOR LAY LENGTHS — Conductor pairs are cabled with unique lay lengths to ensure signal integrity.

APPLICATIONS

- PLC and DCS Automation Networks
- Device and Field Level Networking
- ProfiNet
- Industrial Ethernet Networks

ELECTRICAL SPECIFICATIONS

FREQUENCY (MHz)	ATTENUATION (dB/100m)	NEXT (dB)
1	2.0	68
4	4.1	59
8	5.8	55
10	6.5	53
16	8.2	50
20	9.3	49
25	10.4	47
31.25	11.7	46
62.50	17.0	41
100	22.0	38
155	28.1	35
200	32.4	34
310	41.8	31
350	44.9	30

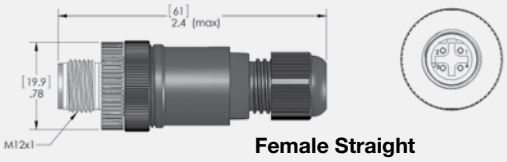
SPECIFICATIONS

- DC Resistance: **9.38 Ω/100m (28.6 Ω/kft) Max.**
- DCR Unbalanced: **5% Max**
- Mutual Capacitance: **12 pFm/ft**
- Characteristic Impedance: **100 Ω ± 15 Ω (1-100 MHz)**
- Input Impedance: **100 Ω ± 15 Ω (1-100 MHz)**
- Velocity of Propagation: **71% Nominal**

M12 D-Coded Micro Connectors with CAT5E / 2-Pair Cable

• UL Recognized • cUL

Male Straight



Standard Wiring
1-White/Blue
2-White/Orange
3-Orange
4-Blue

Female Straight

Call us to build your assembly today!
TPC Wire & Cable Corp., your source for connector assemblies.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE AWG	STRAND AWG	NO. OF PAIRS	CENTER SPINE	SHIELD	TAPE SEPARATOR	FINISHED O.D. (IN)	WT. (LBS) PER 1000'
600652	24 AWG	19/36	2	NONE	NO	YES	0.208	29

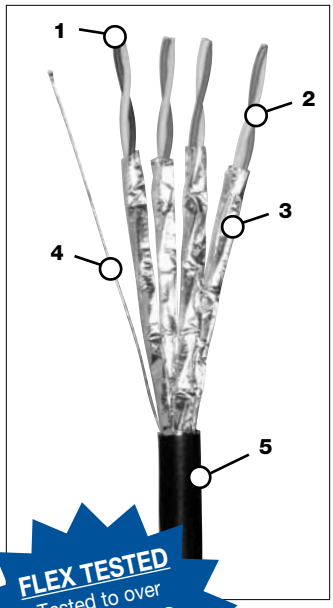
PART NO.	DESCRIPTION
3340120	Male Straight, M12 D-Coded Micro Connector
3340121	Female Straight, M12 D-Coded Micro Connector

**Telecommunications Industry Association / Electronic Industries Alliance*

Trex-Onics® Industrial Ethernet CAT6A Cable

• IEC 60332-1 • IEC 61156 • ISO/IEC 11801 • RoHS Compliant • 300 V • Halogen-Free • Frequency Range up to 500 MHz

This Industrial Ethernet CAT6A cable is built for performance. The halogen-free and flame retardant jacket provides protection from environmental abuse and offers resistance to UV light, cutting, abrasion, oil and chemicals. Our combination of cellular insulation and shielded pairs provides superior performance to meet or exceed CAT6A and Ethernet/IP requirements.



FEATURES & BENEFITS

1. STRANDED BARE COPPER CONDUCTORS — Improve flexibility and offer longer flex life.

2. CELLULAR POLYOLEFIN INSULATION — Provides excellent dielectric and insulation properties.

3. ALUMINUM/POLYESTER FOIL SHIELD — Around each pair reduces electrical noise interference.

4. DRAIN WIRE

5. HALOGEN-FREE AND FLAME RETARDANT POLYURETHANE JACKET — Provides protection from environmental abuse and offers resistance to UV light, cutting, abrasion, oil and chemicals.

6. COMBINATION OF CELLULAR INSULATION AND SHIELDED PAIRS — Provides superior electrical performance to meet CAT6A and Ethernet/IP requirements.

APPLICATIONS

- Data Processing & Information Systems
- High Bandwidth Digital Applications
- High Data Rate Applications

SPECIFICATIONS

- Voltage Rating: **300 Volts**
- Frequency Range: **500 MHz**
- Input Impedance: **100 Ω ± 15 Ω**
- DC Resistance: **44.2 Ω/1000 ft**
- DCR Unbalanced: **2% Max**
- Capacitance Unbalanced: **0.36Pf/ft Max**
- Delay (Skew): **30 nsec/100 m Max**
- Velocity of Propagation: **78% Nominal**
- Temperature Range: **- 30°C to +65°C**
- Tensile Strength (Short Term): **22 Lbs Max**

COLOR CODE	
PAIR NO.	**COLOR**
1	Blue - White
2	Orange - White
3	Green - White
4	Brown - White

ELECTRICAL SPECIFICATIONS

FREQ (MHz)	**ATTENUATION** (dB/100m)	**PS NEXT LOSS** (dB)	**NEXT LOSS** (dB)	**PS ANEXT** (dB)	**ELFEXT** (dB)	**PS ELFEXT** (dB)	**RL** (dB)
1	3.1	72.3	75.3	67.0	68.0	65.0	20.0
4	5.8	63.3	66.3	67.0	56.0	53.0	23.0
10	9.0	57.3	60.3	67.0	48.0	45.0	25.0
20	12.8	52.8	55.8	67.0	42.0	39.0	25.0
30	15.8	50.1	53.1	67.0	38.4	35.4	23.8
100	29.9	42.3	45.3	62.5	28.0	25.0	21.1
150	37.4	39.7	42.7	59.8	24.5	21.5	18.8
200	43.8	37.8	40.8	58.0	22.0	19.0	18.0
250	49.7	36.3	39.3	56.5	20.0	17.0	17.3
300	55.1	35.1	38.1	55.3	18.5	15.5	17.3
400	65.1	33.3	36.3	53.4	16.0	13.0	17.3
500	74.0	31.8	34.8	52.0	14.0	11.0	17.3

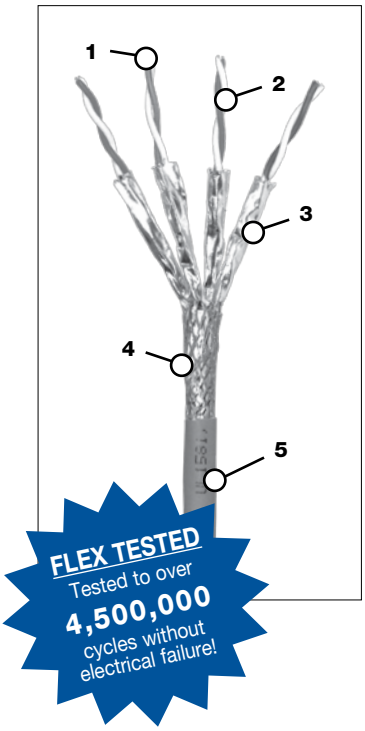
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	**CONDUCTOR SIZE**	**NOM. INSUL. WALL** (IN)	**OVERALL SHIELD**	**JACKET WALL** (IN)	**NOMINAL O.D.** (IN)	**WT.** (LBS) **PER 1000'**
60062	26 AWG (7 x 0.0067")	0.010	NO	0.039	0.275	27

Trex-Onics® Industrial Ethernet CAT7A Cable

- ANSI TIA/EIA 568-B
- ISO/IEC 11801
- IEC 60332-1
- IEC 61156-6
- Operating Temperature Range -40°C to 70°C
- RoHS Compliant 2002/95/EC
- Frequency Range up to 1000 MHz
- Halogen-Free Flame Retardent
- Abrasion Resistant
- 600 V

The Trex-Onics® Industrial Ethernet CAT7A cable's classic design starts with finely stranded conductors that provide high flexibility and a longer flex-life. The Ultra-Shield® configuration and shield construction placed around each pair reduces radiated and conducted electrical noise interference. Our jacket is a halogen-free, flame retardant material that provides protection from environmental abuse and offers resistance to cutting, abrasion, oil and chemicals.



FEATURES & BENEFITS

1. STRANDED BARE COPPER CONDUCTORS — Improve flexibility and offer longer flex life.

2. POLYOLEFIN (PO) INSULATION SYSTEM — Provides excellent dielectric and insulation properties.

3. ULTRA-SHIELD® CONFIGURATION AND ALUMINUM/POLYESTER FOIL SHIELD CONSTRUCTION — Placed around each pair reduces radiated and conducted electrical noise interference.

4. BRAIDED SHIELD

5. HALOGEN-FREE AND FLAME RETARDANT POLYURETHANE JACKET — Provides protection from environmental abuse and offers resistance to UV light, cutting, abrasion, oil and chemicals.

6. COMBINATION OF CELLULAR INSULATION AND SHIELDED PAIRS — Provides superior electrical performance to meet CAT7A and Ethernet/IP requirements.

7. BACKWARD COMPATIBILITY — Fully inter-changeable with CAT5E, CAT6 and CAT6A and cables.

SPECIFICATIONS

- Frequency Range: **1,000 MHz**
- Input Impedance: **100 Ω ± 15 Ω**
- DC Resistance: **44.2 Ω/1000 ft**
- DCR Unbalanced: **2% Max**
- Capacitance Unbalanced: **0.36pF/ft Max**
- Dielectric Strength: **500 V / Minute**
- Dielectric Strength to Shield: **500 V / Minute**
- Delay (Skew): **20 nsec/100 m Max**
- Velocity of Propagation: **78% Nominal**
- Temperature Range: **- 40°C to +70°C**
- Tensile Strength (Short Term): **33.7 Lbs Max**
- Min. Insulation Resistance: **5 G Ω • Km**
- Min. Bend Radius: **1.4 Inches**

COLOR CODE	
PAIR NO.	**COLOR**
1	Blue - White
2	Orange - White
3	Green - White
4	Brown - White

APPLICATIONS

- Data Processing & Information Systems
- High Bandwidth Digital Applications
- High Data Rate Applications

ELECTRICAL SPECIFICATIONS

FREQ (MHz)	**ATTENUATION** (dB/100m)	**PS NEXT LOSS** (dB)	**NEXT LOSS** (dB)	**PS ANEXT** (dB)	**PS ACR-F** (dB)	**RL** (dB)
1	3.0	75.0	78.0	67.0	75.0	20.0
4	5.6	75.0	78.0	67.0	75.0	23.0
10	8.7	75.0	78.0	67.0	75.0	25.0
20	12.3	75.0	78.0	67.0	65.0	25.0
30	15.0	75.0	78.0	67.0	61.5	23.8
100	27.8	75.0	78.0	67.0	51.0	21.1
200	39.7	71.0	74.0	67.0	45.0	18.0
300	49.0	68.2	71.2	67.0	41.5	15.6
600	70.6	63.7	66.7	64.0	35.5	15.6
700	76.7	62.7	65.4	63.0	34.0	15.6
900	87.7	61.1	64.1	61.0	32.0	15.6
1000	92.9	60.4	63.4	60.0	31.0	15.6

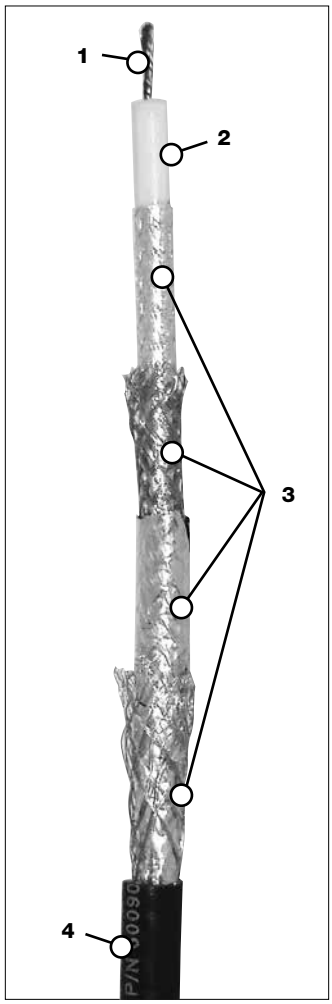
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	**CONDUCTOR SIZE**	**NOM. INSUL. WALL** (IN)	**OVERALL SHIELD**	**JACKET WALL** (IN)	**NOMINAL O.D.** (IN)	**WT.** (LBS) **PER 1000'**
60067	26 AWG (7 x 0.0063")	0.010	YES	0.039	0.260	27

Trex-Onics® ControlNet RG-6U Quad-Shield Coaxial Cable

• UL Recognized • FT-2 Flame Rating • ODVA Conformity • RoHS Compliant

ControlNet RG-6U Quad-Shield coaxial cable is designed for use in heavy-duty industrial ControlNet applications that demand flexibility and abrasion resistance or resistances to oils and chemicals. The Quad-Shield provides protection against RF and EMI noise.



FEATURES & BENEFITS

1. FINELY STRANDED BARE COPPER CONDUCTORS — Improve flexibility and offers maximum conductivity. Tin for "f" connectors.

2. FOAM INSULATION — Conductors are insulated with a foamed HDPE to provide a low dielectric constant and maintain low cable capacitance.

3. QUAD-SHIELD — Provides excellent protection against RF and EMI noise. Uses RG-6 style connectors.

4. HEAVY-DUTY POLYURETHANE JACKET — Provides excellent protection against cutting, abrasion, oil and chemicals extending cable life.

APPLICATIONS

- Human Machine Interfaces
- PC Based Controllers
- Video Monitors
- PLC's
- Closed Circuit Systems
- Satellite Systems

SPECIFICATIONS

- Temperature Range: **-40°C to +80°C**
- Voltage: **30 Volts**
- Velocity of Propagation: **79% Nominal**
- Impedance: **75 ± 5 Ohms**
- Capacitance: **17 pF/ft Nominal**

FLEX TESTED
Tested to over
1,000,000
cycles without
electrical failure!

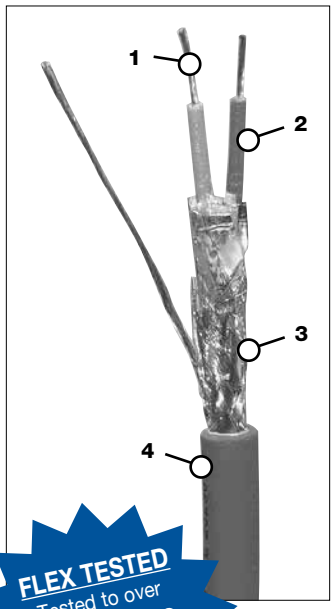
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOM. INSUL. THICKNESS (IN)	NOM. JACKET THICKNESS (IN)	NOMINAL DIAMETER	WT. (LBS) PER 1000'
60090	20 AWG	105/40	0.182	0.027	0.300	29.5

Trex-Onics® PROFIBUS® Festoon/Trailing Cable

• UL Recognized • RoHS Compliant • Operating Temperature Range -40°C to 80°C • 30 V

Trex-Onics® PROFIBUS Cable is designed for industrial festoon applications where flexibility, oil and chemical resistance, and protection against cuts and abrasion are required. A heavy-duty poyurethane jacket extends overall cable life. -40°C to +80°C, 30 Volts



FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Finely stranded tinned copper conductors resist corrosion, improves flexibility and helps reduce conductor fatigue and breakage in flexing applications.

2. FOAM INSULATION — Conductors are insulated with foamed High-Density Polyethylene (HDPE). Foamed HDPE insulation provides a low dielectric constant, excellent electrical characteristics and improved signal integrity.

3. HEAVY-DUTY COMBINATION OF TINNED COPPER BRAID AND ALUMINUM/POLYESTER FOIL SHIELD — Combination of tinned copper braid and aluminum/polyester foil shield provides 100% shielding protection from EM and RF interference. The finely stranded braid provides superior flexibility and mechanical strength.

4. HEAVY-DUTY POLYURETHANE JACKET — Provides excellent protection against cutting, abrasion, oil and chemicals, extending the overall cable life.

APPLICATIONS

- Process Automation Systems
- Crane Festoon Systems

SPECIFICATIONS

- Temperature Range: **-40°C to +80°C**
- Voltage: **30 Volts**
- Velocity of Propagation: **78% Nominal**
- Impedance: **122.1 Ohms Differential; 78.8 Ohms Single-Ended**
- Capacitance: **10.7 pF/ft Mutual; 16.5 pF/ft Single-Ended**

ELECTRICAL SPECIFICATIONS

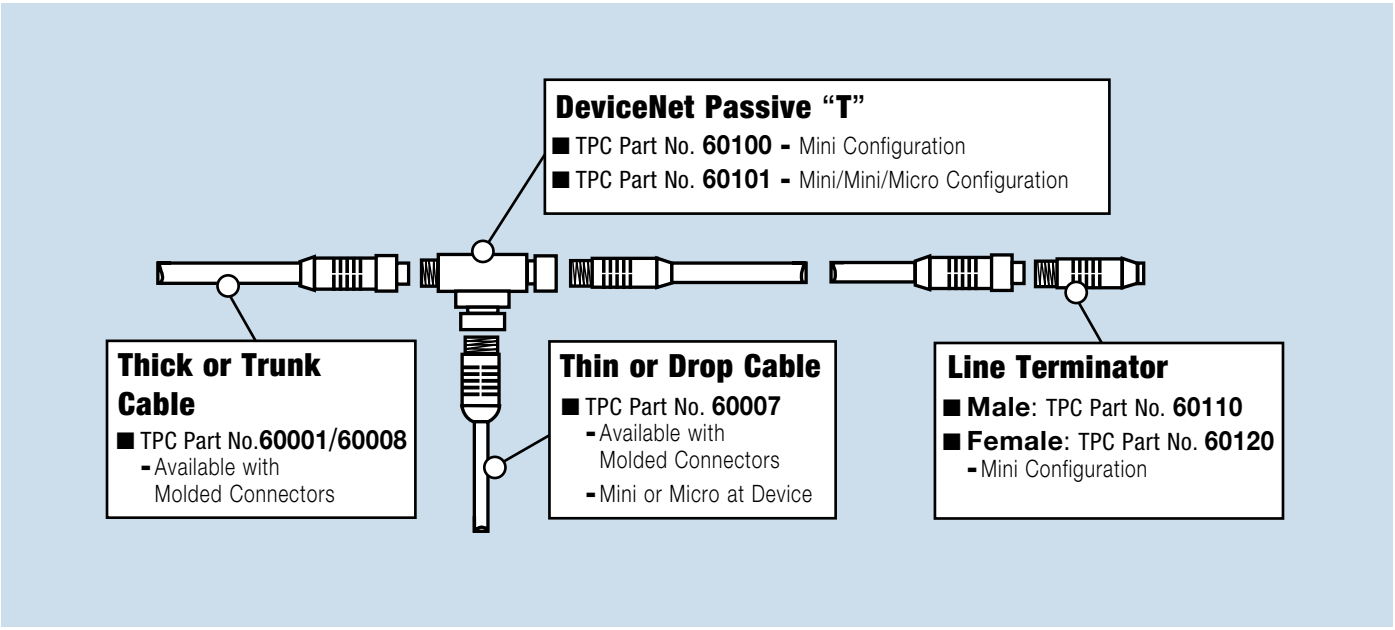
ATTENUATION	
FREQUENCY (MHz)	**dB/100 Feet** (NOMINAL)
4	0.95
16	1.92
100	4.94
300	8.87
500	11.73

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE	CONDUCTOR STRANDING	NOMINAL INSUL. THICKNESS (IN)	NOMINAL JACKET THICKNESS (IN)	NOMINAL DIAMETER (IN)
60092	23 AWG	21/36	0.082	0.05	0.29

DeviceNet™

DeviceNet is a standardized open communication network for the inter-connection of field devices such as sensors, switches and actuators. The basic technology of the physical layer of DeviceNet is based on the CANbus. CAN is an acronym for “Controller Area Network” which is a communication system in compliance with the international standard ISO 11 898.



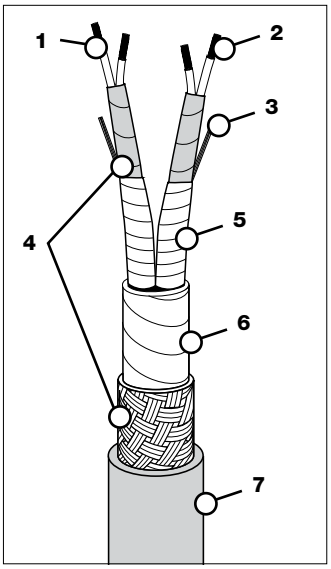
As a bus arbitration method a CSMA/NBA (Carrier Sense Multiple Access/Non-Destructive Bit Arbitration) scheme is used which allows communication on the network. The Controller Area Network communication system allows the transmission of data messages of up to 8 bytes in length. For the physical signal transmission on the bus line a differential voltage signal is used which is similar to the RS-485 standard, which offers the best interference immunity.

The DeviceNet specification supports a variety of different network services for support of up to 64 addressable bus nodes. TPC Wire & Cable supplies a full line of DeviceNet Cable, Connectors and Accessories specifically designed for industrial applications. In addition to being UL and CSA rated, these products have been tested to meet all electrical requirements of the ODVA (Open DeviceNet Vendor Association). The design of our Flex-Net™ line of products was based on the proven performance of our Trex-Onics® line of Electronic Cable, offering superior cut-through, abrasion and chemical resistance.

Trex-Onics® DeviceNet™ Flex-Net™ "Thick" High Performance Cable

- UL Recognized
- CSA
- Type PLTC
- 300 V
- ODVA Conformity
- RoHS Compliant
- FT-4 Flame Rating
- Max Conductor Temperature 80°C

Flex-Net™ Cable is designed to meet the electrical requirements identified by the Open DeviceNet Association (ODVA) for the "Thin Cable". The heavy duty Ultra-Shield™ construction is a combination of two shielding technologies that provides both mechanical strength and 100% shielding protection from EMI and RF interference. The heavy-duty jacket provides excellent defense against cutting, abrasion, oil and chemicals, and is also flame and heat resistance. Flex-Net™ Cable meets the performance requirements as specified by ODVA with a capacitance between conductors – 12 pF/foot at 1 MHz (nominal), capacitance between one conductor and other conductor connected to shield is 24 pF/foot (nominal), impedance of 120 Ohms +/- 10% at 1 MHz, and propagation delay of 1.36 nSec/foot (maximum). Flex-Net™ Cable is available as a "Thick or Trunk Cable" high performance design.



FEATURES & BENEFITS

1. FINE STRANDED COPPER CONDUCTORS — Improves flex life in abusive applications.

2. TINNED COPPER CONDUCTORS — Resists corrosion. Easier to solder.

3. DRAIN WIRE — Drain wire with each pair to protect against interference.

4. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY COMBINATION OF TINNED COPPER SHIELD AND AN ALUMINUM/ POLYESTER FOIL SHIELD — 100% shielding provides protection from EM and RF interference. Finely stranded spiral braid provides superior mechanical strength.

5. FLUOROPOLYMER TAPE WRAP — Allows the braid and conductors to move more freely within the jacket. Improves performance in high flex torsional applications.

6. WOVEN NYLON TAPE — Improves flexibility allowing conductor bundle to move easily within the jacket. Protects inner conductor bundle from spiral braid.

7. HEAVY-DUTY GRAY TREX-ONICS® TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

8. ELECTRONICALLY TESTED — Meets the performance requirements as specified by ODVA™.

COLOR CODE	
POWER PAIR	**DATA PAIR**
Red & Black	Blue & White

ELECTRICAL SPECIFICATIONS

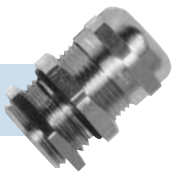
- The electrical requirement of the DeviceNet Cable shall be in accordance with those identified by the ODVA (Open DeviceNet Association) for the Thin Cable.
- Capacitance between Conductors – 12 pF/ft. at 1 MHz (nominal).
- Impedance – 120 Ohms +/- 10% (at 1 MHz).
- Capacitance between one conductor and other conductor connected to shield – 24 pF/ft. at 1 MHz (nominal).
- Propagation Delay – 1.36 nSec/ft. (maximum).

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
60008	0.540	100

ODVA™ is a trademark of the Open DeviceNet Vendors Association, Inc. — 16 AWG Power Pair — 18 AWG Communication Pair

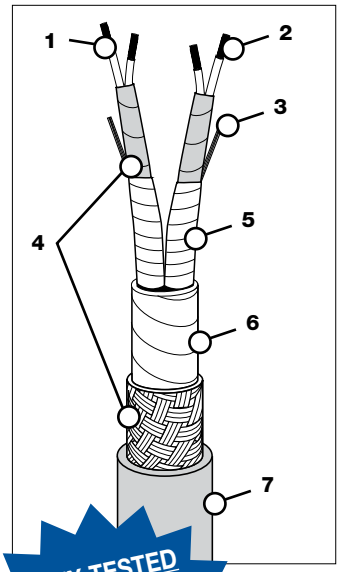
ADD AN EMI SHIELDED GRIP-SEAL™ TO COMPLETE YOUR ORDER! *See Page 102.*



Trex-Onics® DeviceNet™ Flex-Net™ "Thin" High Performance Cable

- UL Recognized
- CSA
- Type PLTC
- CE
- ODVA Conformity
- 300 V
- FT-4 Flame Rating
- RoHS Compliant
- Max Conductor Temperature 80°C

Flex-Net™ Cable is designed to meet the electrical requirements identified by the Open DeviceNet Association (ODVA) for the "Thin Cable". The heavy-duty Ultra-Shield™ construction is a combination of two shielding technologies that provides both mechanical strength and 100% shielding protection from EMI and RF interference. The heavy-duty jacket provides excellent defense against cutting, abrasion, oil and chemicals, and is also flame and heat resistance. Flex-Net™ Cable meets the performance requirements as specified by ODVA with a capacitance between conductors – 12 pF/foot at 1 MHz (nominal), capacitance between one conductor and other conductor connected to shield is 24 pF/foot (nominal), impedance of 120 Ohms +/- 10% at 1 MHz, and propagation delay of 1.36 nSec/foot (maximum). Flex-Net™ Cable is available as a "Thin or Drop Cable" high performance design.



FLEX TESTED
Tested to over
4,000,000
cycles without
electrical failure!

COLOR CODE	
POWER PAIR	DATA PAIR
Red & Black	Blue & White

FEATURES & BENEFITS

1. FINE STRANDED COPPER CONDUCTORS — Improves flex life in abusive applications.

2. TINNED COPPER CONDUCTORS — Resists corrosion. Easier to solder.

3. DRAIN WIRE — Drain wire with each pair to protect against interference.

4. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY COMBINATION OF TINNED COPPER SHIELD AND AN ALUMINUM/ POLYESTER FOIL SHIELD — 100% shielding provides protection from EM and RF interference. Finely stranded spiral braid provides superior mechanical strength.

5. FLUOROPOLYMER TAPE WRAP — Allows the braid and conductors to move more freely within the jacket. Improves performance in high flex torsional applications.

6. WOVEN NYLON TAPE — Improves flexibility allowing conductor bundle to move easily within the jacket. Protects inner conductor bundle from spiral braid.

7. HEAVY-DUTY GRAY TREX-ONICS® TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

8. ELECTRONICALLY TESTED — Meets the performance requirements as specified by ODVA™.

ELECTRICAL SPECIFICATIONS

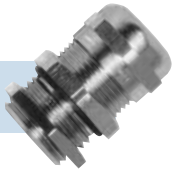
- The electrical requirement of the DeviceNet Cable shall be in accordance with those identified by the ODVA (Open DeviceNet Association) for the Thin Cable.
- Capacitance between Conductors – 12 pF/ft. at 1 MHz (nominal).
- Impedance – 120 Ohms +/- 12 Ohms.
- Capacitance between one conductor and other conductor connected to shield – 24 pF/ft. at 1 MHz (nominal).
- Propagation Delay – 1.36 nSec/ft. (maximum).

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
60007	0.340	55

ODVA™ is a trademark of the Open DeviceNet Vendors Association, Inc. — 22 AWG Power Pair — 24 AWG Communication Pair

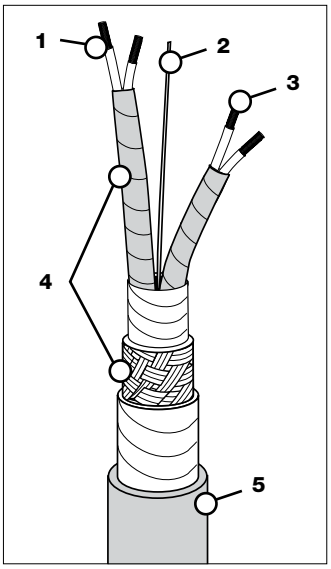
ADD AN EMI SHIELDED GRIP-SEAL™ TO COMPLETE YOUR ORDER! *See Page 102.*



Trex-Onics® DeviceNet™ Flex-Net™ "Thick" Cable

- UL Recognized
- CSA
- Type PLTC
- 300 V
- ODVA Conformity
- RoHS Compliant
- FT-4 Flame Rating
- Max Conductor Temperature 80°C

Flex-Net™ Cable is designed to meet the electrical requirements identified by the Open DeviceNet Association (ODVA) for the "Thin Cable". The heavy duty Ultra-Shield™ construction is a combination of two shielding technologies that provides both mechanical strength and 100% shielding protection from EMI and RF interference. The heavy-duty jacket provides excellent defense against cutting, abrasion, oil and chemicals, and is also flame and heat resistance. Flex-Net™ Cable meets the performance requirements as specified by ODVA with a capacitance between conductors – 12 pF/foot at 1 MHz (nominal), capacitance between one conductor and other conductor connected to shield is 24 pF/foot (nominal), impedance of 120 Ohms +/- 10% at 1 MHz, and propagation delay of 1.36 nSec/foot (maximum). Flex-Net™ Cable is available as a "Thick or Trunk Cable" high performance design.



FEATURES & BENEFITS

1. FINE STRANDED COPPER CONDUCTORS — Improves flex life in abusive applications.

2. 18 AWG DRAIN WIRE

3. TINNED COPPER CONDUCTORS — Resists corrosion. Easier to solder.

4. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY COMBINATION OF TINNED COPPER SHIELD AND AN ALUMINUM/ POLYESTER FOIL SHIELD — 100% shielding provides protection from EM and RF interference. Finely stranded spiral braid provides superior mechanical strength.

5. HEAVY-DUTY GRAY TREX-ONICS® TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

6. ELECTRONICALLY TESTED — Meets the performance requirements as specified by ODVA™.

7. COMMON AXIS DESIGN — Equal stresses are placed on all conductors. Provides superior performance in Torsional and Bending applications.

COLOR CODE	
POWER PAIR	**DATA PAIR**
Red & Black	Blue & White

ELECTRICAL SPECIFICATIONS

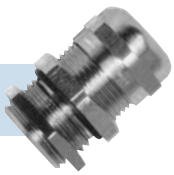
- The electrical requirement of the DeviceNet Cable shall be in accordance with those identified by the ODVA (Open DeviceNet Association) for the Thin Cable.
- Capacitance between Conductors – 12 pF/ft. at 1 MHz (nominal).
- Impedance - 120 Ohms +/- 10% (at 1 MHz).
- Capacitance between one conductor and other conductor connected to shield – 24 pF/ft. at 1 MHz (nominal).
- Propagation Delay – 1.36 nSec/ft. (maximum).

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
60001	0.475	100

ODVA™ is a trademark of the Open DeviceNet Vendors Association, Inc. — 15 AWG Power Pair — 18 AWG Communication Pair

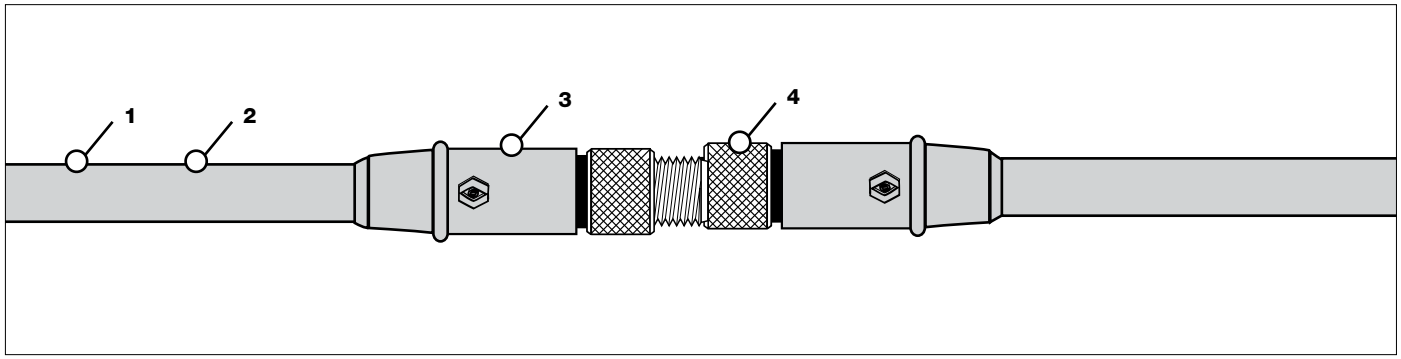
ADD AN EMI SHIELDED GRIP-SEAL™ TO COMPLETE YOUR ORDER! *See Page 102.*



Trex-Onics® DeviceNet™ Flex-Net™ Cable Micro Assemblies

• RoHS Compliant • ODVA Conformity

Flex-Net™ Cable Micro Assemblies take all the advantages of our Flex-Net™ Cable (a heavy-duty jacket and Ultra-Shield™ construction) and add a molded micro head which is permanently bonded to the cable providing a superior water and chemical resistant seal. Our micros have contact pins that are gold plating over nickel to ensure electronic and electrical integrity over repeated insertions and extractions.



FEATURES & BENEFITS

1. HEAVY-DUTY GRAY TREX-ONICS® JACKET — Excellent defense against cutting, abrasion, oil and chemicals. High flex cable designed to withstand harsh industrial applications.

2. HEAVY-DUTY COMBINATION OF TINNED COPPER SHIELD AND AN ALUMINUM/MYLAR SHIELD — 100% shielding provides protection from EM and RF interference. Finely stranded braid provides superior mechanical strength.

3. POLYURETHANE MOLDED PLUG BODY — Permanently bonded to cable providing a superior water and chemical resistant seal.

4. CONTACT PINS AND SLEEVES — Gold plating over nickel insures electronic and electrical integrity over repeated insertions and extractions.

ROLE OF PRODUCT

This product is intended for use in the DeviceNet™ Bus System in applications requiring “Micro” style Male, Female or Male/Female connectors. Applications for this product are industrial in nature and will be connected to devices such as proximity, photo electric and limit switches. This cable may be used in harsh industrial environments where oils, coolants, water, chemicals or grease are present.

COLOR CODE	
POWER PAIR	**DATA PAIR**
Red & Black	Blue & White

ELECTRICAL SPECIFICATIONS

- The electrical requirement of the DeviceNet™ Cable shall be in accordance with those identified by the ODVA (Open DeviceNet™ Association) for the Thin Cable.
- Capacitance between Conductors – 12 pF/ft. at 1 MHz (nominal).
- Impedance – 120 Ohms +/- 12 Ohms.
- Capacitance between one conductor and other conductor connected to shield – 24 pF/ft. at 1MHz (nominal).
- Propagation Delay – 1.36 nSec/ft. (maximum).

Trex-Onics® DeviceNet™ Flex-Net™ Cable Micro Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

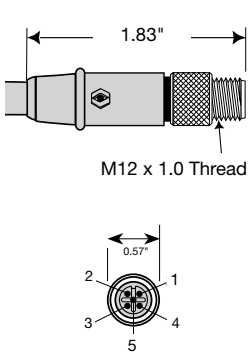
MICRO STRAIGHT DEVICENET™ CONNECTOR CORD SETS – THIN			
PART NO.	**M**	**FT**	**DESCRIPTION**
CT15A43M001	1.0	3.3	Male
CT15A43M002	2.0	6.6	Male
CT15A43M003	3.0	9.8	Male
CT15A43M004	4.0	13.1	Male
CT15A43M006	6.0	19.7	Male
CT15A43M012	12.0	39.3	Male
CT15A43M018	18.0	59.0	Male
CT15A43M024	24.0	78.7	Male
CT15A43M030	30.0	98.4	Male
CT15C43M001	1.0	3.3	Female
CT15C43M002	2.0	6.6	Female
CT15C43M003	3.0	9.8	Female
CT15C43M004	4.0	13.1	Female
CT15C43M006	6.0	19.7	Female
CT15C43M012	12.0	39.3	Female
CT15C43M018	18.0	59.0	Female
CT15C43M024	24.0	78.7	Female
CT15C43M030	30.0	98.4	Female
CT25E43M001	1.0	3.3	Male/Female
CT25E43M002	2.0	6.6	Male/Female
CT25E43M003	3.0	9.8	Male/Female
CT25E43M004	4.0	13.1	Male/Female
CT25E43M006	6.0	19.7	Male/Female
CT25E43M012	12.0	39.3	Male/Female
CT25E43M018	18.0	59.0	Male/Female
CT25E43M024	24.0	78.7	Male/Female
CT25E43M030	30.0	98.4	Male/Female

MICRO 90°/STRAIGHT DEVICENET™ CONNECTOR CORD SETS – THIN			
PART NO.	**M**	**FT**	**DESCRIPTION**
CT25G43M001	1.0	3.3	Male 90°/Female
CT25G43M002	2.0	6.6	Male 90°/Female
CT25G43M003	3.0	9.8	Male 90°/Female
CT25G43M004	4.0	13.1	Male 90°/Female
CT25G43M006	6.0	19.7	Male 90°/Female
CT25G43M012	12.0	39.3	Male 90°/Female
CT25G43M018	18.0	59.0	Male 90°/Female
CT25G43M024	24.0	78.7	Male 90°/Female
CT25G43M030	30.0	98.4	Male 90°/Female
CT25F43M001	1.0	3.3	Male/Female 90°
CT25F43M002	2.0	6.6	Male/Female 90°
CT25F43M003	3.0	9.8	Male/Female 90°
CT25F43M004	4.0	13.1	Male/Female 90°
CT25F43M006	6.0	19.7	Male/Female 90°
CT25F43M012	12.0	39.3	Male/Female 90°
CT25F43M018	18.0	59.0	Male/Female 90°
CT25F43M024	24.0	78.7	Male/Female 90°
CT25F43M030	30.0	98.4	Male/Female 90°
CT25H43M001	1.0	3.3	Male 90°/Female 90°
CT25H43M002	2.0	6.6	Male 90°/Female 90°
CT25H43M003	3.0	9.8	Male 90°/Female 90°
CT25H43M004	4.0	13.1	Male 90°/Female 90°
CT25H43M006	6.0	19.7	Male 90°/Female 90°
CT25H43M012	12.0	39.3	Male 90°/Female 90°
CT25H43M018	18.0	59.0	Male 90°/Female 90°
CT25H43M024	24.0	78.7	Male 90°/Female 90°
CT25H43M030	30.0	98.4	Male 90°/Female 90°

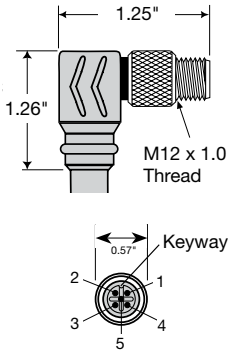
Trex-Onics® Flex-Net™ Cable Assemblies are designed and manufactured in accordance with your length requirements. Please contact our Engineered Products Department to review your specific needs.

PRODUCT SPECIFICATIONS

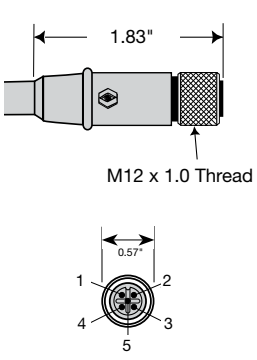
STRAIGHT MALE PLUG



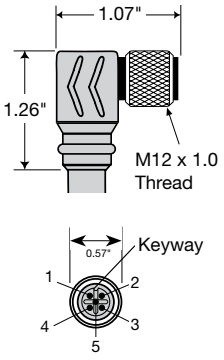
90° MALE PLUG



STRAIGHT FEMALE PLUG



90° FEMALE PLUG



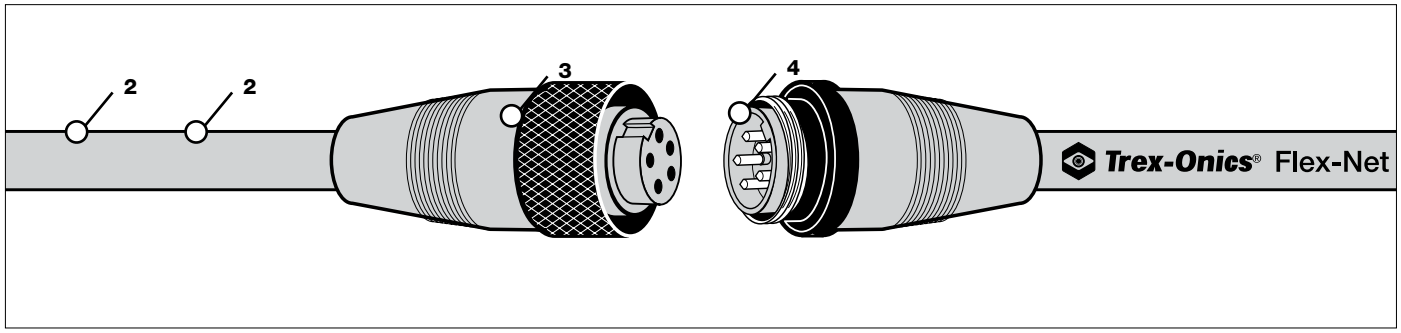
FACE VIEW OF FEMALE PLUG

5 POLE
1. Drain
2. Red (V+)
3. Black (V-)
4. White (Can-H)
5. Blue (Can-L)

Trex-Onics® DeviceNet™ Flex-Net™ Cable Mini Assemblies

• RoHS Compliant • ODVA Conformity

Flex-Net™ Cable Mini Assemblies take all the advantages of our Flex-Net™ Cable (a heavy-duty jacket and Ultra-Shield™ construction) and add a molded mini head which is permanently bonded to the cable providing a superior water and chemical resistant seal. Our micros have contact pins that are gold plating over nickel to ensure electronic and electrical integrity over repeated insertions and extractions.



FEATURES & BENEFITS

1. HEAVY-DUTY GRAY TREX-ONICS® JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

2. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY COMBINATION OF COPPER BRAID AND AN ALUMINUM/ MYLAR SHIELD — 100% shielding provides protection from EM and RF interference. Finely stranded braid provides superior mechanical strength.

3. POLYURETHANE MOLDED PLUG BODY — Permanently bonded to cable providing a superior water and chemical resistant seal.

4. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

5. UNIQUE STAINLESS STEEL REINFORCED FEMALE PIN DESIGN — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion environments. Probe proof.

6. CONTACT PINS AND SLEEVES — Gold plating over nickel insures electronic and electrical integrity over repeated insertions and extractions.

7. FLEX-NET™ THIN CABLE — For flexing and torsional applications. Meets ODVA™ electrical performance requirements.

8. COMMON AXIS DESIGN

ROLE OF PRODUCT

This product is intended for use in the DeviceNet™ Bus System in applications requiring “Mini” style Male, Female or Male/Female connectors. Applications for this product are industrial in nature and will be connected to devices such as proximity, photo electric and limit switches. This cable may be exposed to oils, coolants, water, chemicals and grease. Temperature exposures for the assemblies are not to exceed 80˚C (176˚F) and not below -25˚C (-13˚F).

PHYSICAL TESTING SPECIFICATIONS

- Thin cable torsional performance exceeded 1,000,000 cycles with a bend radius of 10x.

ELECTRONIC SPECIFICATIONS

- The electrical requirement of the DeviceNet Cable shall be in accordance with those identified by the ODVA (Open DeviceNet Association) for the Thin Cable.
- Capacitance between Conductors – 12 pF/ft. at 1 MHz (nominal).
- Impedance – 120 Ohms +/- 12 Ohms.
- Capacitance between one conductor and other conductor connected to shield – 24 pF/ft. at 1 MHz (nominal).
- Propagation Delay – 1.36 nSec/ft. (maximum).

Trex-Onics® DeviceNet™ Flex-Net™ Cable Mini Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

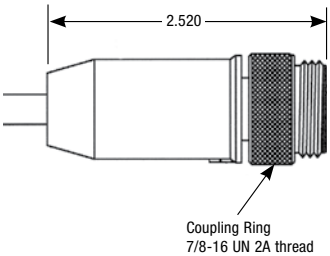
MIINI DEVICENET™ CONNECTOR CORD SETS – THICK				
STANDARD PRODUCT (#60001)	HIGH PERFORMANCE PRODUCT (Thick Cable #60008)	M	FT	DESCRIPTION
60933	**CP25E44M001**	1.0	3.3	Male/Female
60936	**CP25E44M002**	2.0	6.6	Male/Female
60939	**CP25E44M003**	3.0	9.8	Male/Female
60932	**CP25E44M004**	4.0	13.1	Male/Female
60930	**CP25E44M006**	6.0	19.7	Male/Female
60934	**CP25E44M012**	12.0	39.3	Male/Female
60937	**CP25E44M018**	18.0	59.0	Male/Female
60938	**CP25E44M024**	24.0	78.7	Male/Female
60931	**CP25E44M030**	30.0	98.4	Male/Female
60503	**CP15A44M001**	1.0	3.3	Male
60506	**CP15A44M002**	2.0	6.6	Male
60509	**CP15A44M003**	3.0	9.8	Male
60512	**CP15A44M004**	4.0	13.1	Male
60520	**CP15A44M006**	6.0	19.7	Male
60540	**CP15A44M012**	12.0	39.3	Male
60550	**CP15A44M015**	15.0	49.2	Male
60560	**CP15A44M018**	18.0	59.0	Male
60580	**CP15A44M024**	24.0	78.7	Male
60510	**CP15A44M030**	30.0	98.4	Male
60303	**CP15C44M001**	1.0	3.3	Female
60306	**CP15C44M002**	2.0	6.6	Female
60309	**CP15C44M003**	3.0	9.8	Female
60312	**CP15C44M004**	4.0	13.1	Female
60320	**CP15C44M006**	6.0	19.7	Female
60340	**CP15C44M012**	12.0	39.3	Female
60350	**CP15C44M018**	18.0	59.0	Female
60360	**CP15C44M024**	24.0	78.7	Female
60310	**CP15C44M030**	30.0	98.4	Female

MIINI DEVICENET™ CONNECTOR CORD SETS – THIN				
STANDARD PRODUCT (#60001)	HIGH PERFORMANCE PRODUCT (Thick Cable #60008)	M	FT	DESCRIPTION
60923	**CP25E43M001**	1.0	3.3	Male/Female
60926	**CP25E43M002**	2.0	6.6	Male/Female
60929	**CP25E43M003**	3.0	9.8	Male/Female
60922	**CP25E43M004**	4.0	13.1	Male/Female
60920	**CP25E43M006**	6.0	19.7	Male/Female
60940	**CP25E43M012**	12.0	39.4	Male/Female
60052	**CP25E43M015**	15.0	50.0	Male/Female
60060	**CP25E43M018**	18.0	59.0	Male/Female
60080	**CP25E43M024**	24.0	78.7	Male/Female
60012	**CP25E43M030**	30.0	98.4	Male/Female
60703	**CP15A43M001**	1.0	3.3	Male
60706	**CP15A43M002**	2.0	6.6	Male
60709	**CP15A43M003**	3.0	9.8	Male
60712	**CP15A43M004**	4.0	13.1	Male
60720	**CP15A43M006**	6.0	19.7	Male
60740	**CP15A43M012**	12.0	39.4	Male
60750	**CP15A43M015**	15.0	49.2	Male
60760	**CP15A43M018**	18.0	59.0	Male
60780	**CP15A43M024**	24.0	78.7	Male
60710	**CP15A43M030**	30.0	98.4	Male
60203	**CP15C43M001**	1.0	3.3	Female
60206	**CP15C43M002**	2.0	6.6	Female
60209	**CP15C43M003**	3.0	9.8	Female
60212	**CP15C43M004**	4.0	13.1	Female
60220	**CP15C43M006**	6.0	19.7	Female
60240	**CP15C43M012**	12.0	39.4	Female
60250	**CP15C43M015**	15.0	49.2	Female
60260	**CP15C43M018**	18.0	59.0	Female
60280	**CP15C43M024**	24.0	78.7	Female
60210	**CP15C43M030**	30.0	98.4	Female

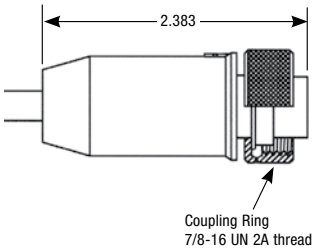
Trex-Onics® Flex-Net™ Cable Assemblies are designed and manufactured in accordance with your length requirements. Please contact our Engineered Products Department to review your specific needs.

PRODUCT SPECIFICATIONS

STRAIGHT MALE PLUG



STRAIGHT FEMALE PLUG



FACE VIEW OF FEMALE MINI

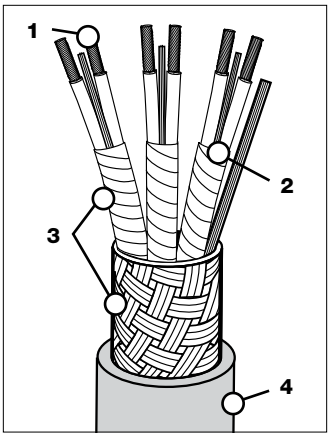
5 POLE
1. Drain
2. Red (V+)
3. Black (V-)
4. White (Can-H)
5. Blue (Can-L)

A C E F

Chem-Gard™ 200 Encoder/Resolver Cable

• UL Recognized • CSA • 600 V • FT-1 Flame Rating • VW-1 Flame Rating • RoHS Compliant • Operating Temperature Range -60°C to 200°C

The Chem-Gard™ 200 Encoder/Resolver cable offers individually shielded pairs with overall shielding to conductors rated at 200°C (392°F) and as low as -60°C (-76°F). Add excellent chemical and abrasion resistance and high heat resistance to this flexible cable and the protection of your signal can be extended through many harsh environments. Chem-Gard™ Micro Quick-Connects™ are also available if a complete assembly is needed.



FEATURES & BENEFITS

1. FINELY STRANDED NICKEL-PLATED COPPER CONDUCTORS — For improved flexibility in dynamic applications and protection from corrosion and oxidation in chemical and high temperature environments.

2. FLUOROPOLYMER INSULATION ON INDIVIDUAL CONDUCTORS — Offers superior resistance to oils, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

3. HEAVY-DUTY COMBINATION OF NICKEL-PLATED COPPER BRAID AND ALUMINUM/ MYLAR FOIL SHIELD — The combination of nickel-copper braid and aluminum/foil shield provides 100% shielding protection from EM and RF interference. Finely stranded braid is ideal for flexing applications.

4. FLUOROPOLYMER JACKET — Ideal for environments with harsh chemicals including oils, acids and solvents. Excellent protection against cutting and abrasion. Excellent performance in temperatures up to 200°C and down to -60°C.

COLOR CODE					
NO.	**COLOR**	**NO.**	**COLOR**	**NO.**	**COLOR**
1	Black/Red	4	Black/Blue	7	Black/Orange
2	Black/White	5	Black/Brown	8	Red/White
3	Black/Green	6	Black/Yellow	9	Red/Green

ADD CHEM-GARD™ QUICK-CONNECTS™ TO COMPLETE YOUR ORDER!
Find out more at www.tpcwire.com or call 800-521-7935.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	COND SIZE (AWG/# PAIRS)	STRANDING (STRANDS/AWG)	NOMINAL O.D. (IN)	AMPACITY[1]	WT. (LBS) PER 1000'	CAPACITANCE COND-COND (pF/ft)	CAPACITANCE COND-SHLD (pF/ft)	INDUCTANCE (mHh/ft)
45502	18/2 PR	19/30	0.292	19	85	32.5	58.5	0.16
45503	18/3 PR	19/30	0.325	16	98	32.5	58.5	0.16
45504	18/4 PR	19/30	0.360	16	116	32.5	58.5	0.16
45506	18/6 PR	19/30	0.460	16	201	32.5	58.5	0.16
45507	18/7 PR	19/30	0.460	16	209	32.5	58.5	0.16
45509	18/9 PR	19/30	0.535	12	295	32.5	58.5	0.16
45602	20/2 PR	19/32	0.262	13	65	28.8	51.8	0.17
45603	20/3 PR	19/32	0.290	11	75	28.8	51.8	0.17
45604	20/4 PR	19/32	0.330	11	96	28.8	51.8	0.17
45606	20/6 PR	19/32	0.380	11	136	28.8	51.8	0.17
45607	20/7 PR	19/32	0.380	11	140	28.8	51.8	0.17
45609	20/9 PR	19/32	0.480	8	230	28.8	51.8	0.17
45702	22/2 PR	19/34	0.225	10	52	25.3	45.5	0.17
45703	22/3 PR	19/34	0.270	9	60	25.3	45.5	0.17
45704	22/4 PR	19/34	0.300	9	76	25.3	45.5	0.17
45706	22/6 PR	19/34	0.340	9	108	25.3	45.5	0.17
45707	22/7 PR	19/34	0.340	9	110	25.3	45.5	0.17
45709	22/9 PR	19/34	0.430	6	145	25.3	45.5	0.17
45802	24/2 PR	19/36	0.215	8	42	22.4	40.3	0.19
45803	24/3 PR	19/36	0.250	7	52	22.4	40.3	0.19
45804	24/4 PR	19/36	0.275	7	62	22.4	40.3	0.19
45806	24/6 PR	19/36	0.326	7	85	22.4	40.3	0.19
45807	24/7 PR	19/36	0.326	7	123	22.4	40.3	0.19
45809	24/9 PR	19/36	0.379	5	150	22.4	40.3	0.19

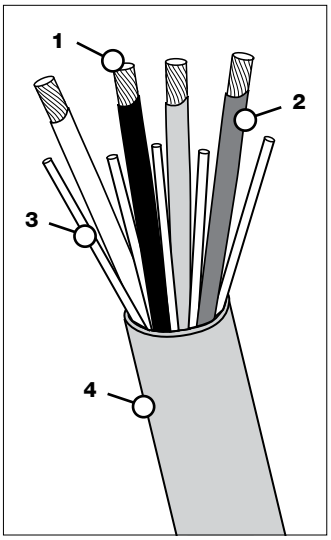
NOTE: (1) Ampacities are based on not more than three current carrying conductors, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.

A C E F

Chem-Gard™ 200 Cable

• UL Recognized • CSA • 600 V • FT-1 Flame Rating • VW-1 Flame Rating • RoHS Compliant • Operating Temperature Range -60°C to 200°C

Chem-Gard™ 200 Cable has excellent resistance to chemicals, abrasion and high heat. This flexible cable has been rated at conductor temperatures as high as 200°C (392°F) and as low as -60°C (-76°F). Chem-Gard cable is roughly forty percent smaller in diameter than SOOW cable allowing it to be used in areas that require a tighter bend radius. Chem-Gard 200 is available in many configurations of shielded and unshielded options as well as single or multi-conductors.



FEATURES & BENEFITS

1. FINELY STRANDED NICKEL-PLATED COPPER CONDUCTORS — For improved flexibility in dynamic applications and protection from corrosion and oxidation in chemical and high temperature environments.

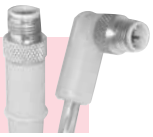
2. FLUOROPOLYMER CONDUCTOR INSULATION — Extremely chemical resistant and mechanically durable for additional protection against cutting, abrasion and chemicals. Conductors slide easily within jacket for maximum flex life.

3. HIGH TEMPERATURE FLUOROPOLYMER FILLERS — Will not wick up contaminants into cable. Allows conductors to move freely within jacket for improved flexibility in dynamic applications.

4. FLUOROPOLYMER JACKET — Ideal for harsh chemical environments. Excellent defense against cutting and abrasion. Resistant to oils, acids, solvents and chemicals. Designed for continuous temperature environments up to 200°C (392°F).

5. OPTIONAL ULTRA-SHIELD™ CONSTRUCTION— 90% coverage heavy-duty nickel-plated copper braid shielding provides protection from EM and RF interference in addition to superior mechanical strength in abusive environments.

6. SMALL DIAMETER — Fluoropolymer offers excellent electrical properties and the product is much smaller than most cables of the same AWG size and conductor count. This allows the product to be used in areas that require a tighter bend radius.



APPLICATIONS

- Conveyors
- Pumps
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Furnaces

ORDERING INFORMATION *(Call for pricing & availability)*

UNSHIELDED MULTI-CONDUCTOR *(Additional Configurations Available)*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
42804	18/4	41/34	0.200	19	42
42805	18/5	41/34	0.230	15	55
42812	18/12	41/34	0.305	9	105
42604	16/4	65/34	0.230	25	59
42612	16/12	65/34	0.370	12	152
42404	14/4	105/34	0.270	36	86.5
42412	14/12	105/34	0.425	16	210
42204	12/4	65/30	0.345	45	133.5

UNSHIELDED SINGLE CONDUCTOR *(Additional Configurations Available)* — *Continued On Next Page*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[2]	**WT.** (LBS) **PER 1000'**
42901	1	817/30	0.437	344	340
42902	2	665/30	0.401	293	277
42904	4	133/25	0.305	220	170
42906	6	133/27	0.252	165	111
42908	8	133/29	0.211	124	73
42881	18 BLACK	41/34	0.068	24	6.8
42882	18 WHITE	41/34	0.068	24	6.8
42883	18 RED	41/34	0.068	24	6.8

NOTE: (1) Ampacities are based on not more than three current carrying conductors, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.
(2) Ampacities are based on a single conductor in free air, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.

UNSHIELDED SINGLE CONDUCTOR *(Additional Configurations Available) — Continued From Previous Page*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[2]	**WT.** (LBS) **PER 1000'**
42884	18 GREEN	41/34	0.068	20	6.8
42885	18 BROWN	41/34	0.068	20	6.8
42886	18 ORANGE	41/34	0.068	20	6.8
42887	18 YELLOW	41/34	0.068	20	6.8
42888	18 BLUE	41/34	0.068	20	6.8
42661	16 BLACK	65/34	0.078	37	10.4
42662	16 WHITE	65/34	0.078	37	10.4
42663	16 RED	65/34	0.078	37	10.4
42664	16 GREEN	65/34	0.078	37	10.4
42665	16 BROWN	65/34	0.078	37	10.4
42666	16 ORANGE	65/34	0.078	37	10.4
42667	16 YELLOW	65/34	0.078	37	10.4
42668	16 BLUE	65/34	0.078	37	10.4
42441	14 BLACK	105/34	0.094	54	15.5
42442	14 WHITE	105/34	0.094	54	15.5
42443	14 RED	105/34	0.094	54	15.5
42444	14 GREEN	105/34	0.094	54	15.5
42445	14 BROWN	105/34	0.094	54	15.5
42446	14 ORANGE	105/34	0.094	54	15.5
42447	14 YELLOW	105/34	0.094	54	15.5
42448	14 BLUE	105/34	0.094	54	15.5
42221	12 BLACK	65/30	0.124	68	24.6
42222	12 WHITE	65/30	0.124	68	24.6
42223	12 RED	65/30	0.124	68	24.6
42224	12 GREEN	65/30	0.124	68	24.6
42225	12 BROWN	65/30	0.124	68	24.6
42226	12 ORANGE	65/30	0.124	68	24.6
42227	12 YELLOW	65/30	0.124	68	24.6
42228	12 BLUE	65/30	0.124	68	24.6
42301	10 BLACK	105/30	0.134	90	38.5
42302	10 WHITE	105/30	0.134	90	38.5
42303	10 RED	105/30	0.134	90	38.5
42304	10 GREEN	105/30	0.134	90	38.5
42305	10 BROWN	105/30	0.134	90	38.5
42306	10 ORANGE	105/30	0.134	90	38.5
42307	10 YELLOW	105/30	0.134	90	38.5
42308	10 BLUE	105/30	0.134	90	38.5

SHIELDED MULTI-CONDUCTOR *(Additional Configurations Available)*					
PART NO.	**CONFIGURATION** (AWG/COND.)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
42066	18/3	41/34	0.208	19	46
42060	18/4	41/34	0.220	19	56
42064	18/12	41/34	0.345	9	123
420612	16/2	65/30	0.215	32	35
420613	16/3	65/30	0.232	32	46
42061	16/4	65/34	0.245	25	77
42065	16/12	65/34	0.385	12	176
42062	14/4	105/34	0.290	36	104
42063	12/4	65/30	0.370	45	154

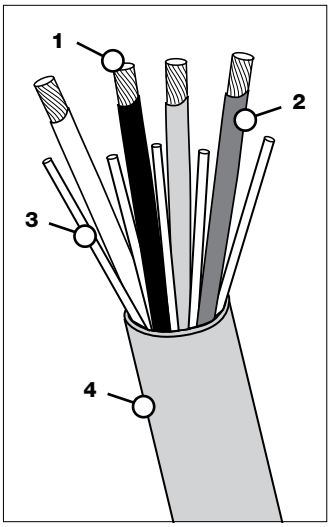
NOTE: (1) Ampacities are based on not more than three current carrying conductors, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.

A C E F

Chem-Gard™ 150 Cable

• UL Recognized • CSA • 600 V • FT-1 Flame Rating • VW-1 Flame Rating • RoHS Compliant •Operating Temperature Range -60°C to 150°C

Chem-Gard™ 150 Cable has excellent resistance to chemicals, abrasion and high heat. This flexible cable has been rated at conductor temperatures as high as 150°C (302°F) and as low as -60°C (-76°F). Chem-Gard cable is roughly forty percent smaller in diameter than SOOW cable allowing it to be used in areas that require a tighter bend radius. Chem-Gard 150 is available in many configurations of shielded and unshielded options as well as single or multi-conductors.



FEATURES & BENEFITS

1. FINELY STRANDED TINNED-PLATED COPPER CONDUCTORS — For improved flexibility in dynamic applications and protection from corrosion and oxidation in chemical and high temperature environments.

2. FLUOROPOLYMER CONDUCTOR INSULATION — Extremely chemical resistant and mechanically durable for additional protection against cutting, abrasion and chemicals. Conductors slide easily within jacket for maximum flex life.

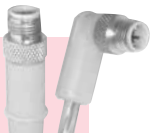
3. HIGH TEMPERATURE FLUOROPOLYMER FILLERS — Will not wick up contaminants into cable. Allows conductors to move freely within jacket for improved flexibility in dynamic applications.

4. FLUOROPOLYMER JACKET — Ideal for harsh chemical environments. Excellent defense against cutting and abrasion. Resistant to oils, acids, solvents and chemicals. Designed for continuous temperature environments up to 150°C (302°F).

5. OPTIONAL ULTRA-SHIELD™ CONSTRUCTION — 90% coverage heavy-duty nickel-plated copper braid shielding provides protection from EM and RF interference in addition to superior mechanical strength in abusive environments.

6. SMALL DIAMETER — Fluoropolymer offers excellent electrical properties and the product is much smaller than most cables of the same AWG size and conductor count. This allows the product to be used in areas that require a tighter bend radius.

ADD CHEM-GARD™ QUICK-CONNECTS™ TO COMPLETE YOUR ORDER!
Find out more at www.tpcwire.com or call 800-521-7935.



APPLICATIONS

- Conveyors
- Pumps
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Furnaces

ORDERING INFORMATION *(Call for pricing & availability)*

UNSHIELDED MULTI-CONDUCTOR *(Additional Configurations Available)*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
42122	18/4	41/34	0.200	16	41
42123	18/12	41/34	0.315	8	98
42126	16/4	65/34	0.225	21	59
42130	16/12	65/34	0.365	11	152
42124	14/4	105/34	0.270	34	86
42125	14/12	105/34	0.423	17	210
42128	12/4	65/30	0.335	43	133

UNSHIELDED SINGLE CONDUCTOR *(Additional Configurations Available)* — *Continued On Next Page*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[2]	**WT.** (LBS) **PER 1000'**
42197	1	817/30	0.437	293	340
42190	2	665/30	0.401	255	277
42185	4	133/25	0.305	190	170
42180	6	133/27	0.252	155	111
42170	8	133/29	0.211	106	73
42161	18 BLACK	41/34	0.066	20	6.8
42162	18 WHITE	41/34	0.066	20	6.8
42163	18 RED	41/34	0.066	24	6.8
42164	18 GREEN	41/34	0.066	24	6.8

NOTE: (1) Ampacities are based on not more than three current carrying conductors, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.
(2) Ampacities are based on a single conductor in free air, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.

UNSHIELDED SINGLE CONDUCTOR *(Additional Configurations Available)* — *Continued From Previous Page*					
PART NO.	**CONFIGURATION** (AWG/COND)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[2]	**WT.** (LBS) **PER 1000'**
42165	18 BROWN	41/34	0.066	24	6.8
42166	18 ORANGE	41/34	0.066	24	6.8
42167	18 YELLOW	41/34	0.066	24	6.8
42168	18 BLUE	41/34	0.066	24	6.8
42151	16 BLACK	65/34	0.076	32	10.4
42152	16 WHITE	65/34	0.076	32	10.4
42153	16 RED	65/34	0.076	32	10.4
42154	16 GREEN	65/34	0.076	32	10.4
42155	16 BROWN	65/34	0.076	32	10.4
42156	16 ORANGE	65/34	0.076	32	10.4
42157	16 YELLOW	65/34	0.076	32	10.4
42158	16 BLUE	65/34	0.076	32	10.4
42141	14 BLACK	105/34	0.092	46	15.5
42142	14 WHITE	105/34	0.092	46	15.5
42143	14 RED	105/34	0.092	46	15.5
42144	14 GREEN	105/34	0.092	46	15.5
42145	14 BROWN	105/34	0.092	46	15.5
42146	14 ORANGE	105/34	0.092	46	15.5
42147	14 YELLOW	105/34	0.092	46	15.5
42148	14 BLUE	105/34	0.092	46	15.5
42131	12 BLACK	65/30	0.124	60	24.6
42132	12 WHITE	65/30	0.124	60	24.6
42133	12 RED	65/30	0.124	60	24.6
42134	12 GREEN	65/30	0.124	60	24.6
42135	12 BROWN	65/30	0.124	60	24.6
42136	12 ORANGE	65/30	0.124	60	24.6
42137	12 YELLOW	65/30	0.124	60	24.6
42138	12 BLUE	65/30	0.124	60	24.6
42101	10 Black	105/30	0.142	80	38.5
42102	10 White	105/30	0.142	80	38.5
42103	10 Red	105/30	0.142	80	38.5
42104	10 Green	105/30	0.142	80	38.5
42105	10 BROWN	105/30	0.142	80	38.5
42106	10 ORANGE	105/30	0.142	80	38.5
42107	10 YELLOW	105/30	0.142	80	38.5
42108	10 BLUE	105/30	0.142	80	38.5

SHIELDED MULTI-CONDUCTOR *(Additional Configurations Available)*					
PART NO.	**CONFIGURATION** (AWG/COND.)	**STRANDING** (STRANDS/AWG)	**NOMINAL O.D.** (IN)	**AMPACITY**[1]	**WT.** (LBS) **PER 1000'**
42114	18/3	65/36	0.205	16	46
42115	18/4	41/34	0.220	16	56
42119	18/12	41/34	0.345	8	123
421162	16/2	65/30	0.215	21	35
421163	16/3	65/30	0.232	21	46
42116	16/4	65/34	0.245	21	77
42120	16/12	65/34	0.385	11	176
42117	14/4	105/34	0.290	34	104
42118	12/4	65/30	0.370	43	154

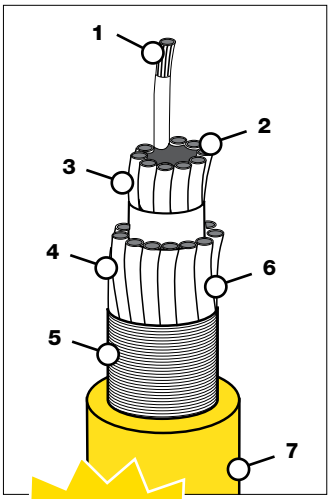
NOTE: (1) Ampacities are based on not more than three current carrying conductors, 40°C (104°F) ambient temperature, 200°C (392°F) conductor temperature.

A F

Super-Trex® Reduced Diameter Control Cable (20 AWG)

• UL Listed • CSA • CE • 600 V • FT-1 Flame Rating • RoHS Compliant • Max Conductor Temperature 90°C

TPC's Super-Trex® Reduced Diameter Control Cable features a high strand count and cable construction designed to provide long life in dynamic flexing applications. The security yellow TPE jacket provides excellent protection against oil, and most industrial chemicals. Available in 20 AWG and various conductor counts from 5 to 65 conductors. 18 AWG, 16 AWG and 12 AWG also available.



FLEX TESTED
Tested to over
4,500,000
cycles in cable carrier
without failure!

FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications. Easier to solder.

2. POLYESTER TPE CONDUCTOR INSULATION — Oil resistant and has high dielectric, tensile and mechanical properties.

3. CONDUCTORS ARE CODED WITH ALPHA-NUMERIC IDENTIFICATION — Provides fast identification of conductors. Easy to read and simplifies installation.

4. NYLON FILLERS — Low friction, non-wicking fillers provide excellent flexibility.

5. HIGH FLEX TAPE SEPARATOR AROUND INNER COMPONENTS — Provides easy movement of the conductor bundle for longer flex life.

6. UNI-LAY CONSTRUCTION ALTERNATING BUNDLES — Superior performance in flexing and torsional applications.

7. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TPE JACKET — Superior first-line defense against oil, ozone and UV exposure as well as most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

Chemical Resistance of Super-Trex® TPE Jacket
Resistance to solvents and chemicals is tested by immersing cable specimens in a solution for 30 days at room temperature. Measurements of cable diameter are made before and after immersion. Resistance is rated as follows, depending upon the % of change in cable diameter:

(E) Excellent – less than 10% **(F) Fair –** 30% to 50%
(G) Good – 10% to 30% **(P) Poor –** More than 50%

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*

Color Code			
NO. OF COND.	BASE COLOR	FIRST TRACER	NUM. ID.
1	Green	Yellow	–
2	Black	–	1
3	White	Black	–
4	Black	–	3

The first conductor in the outside layer is always Green with a Yellow Tracer. The third conductor in the outer layer is always White with a Black Tracer. All other conductors are Black with a white number. Color code repeats with black with unique numeric identification.

REAGENT	TPE	PVC	NEOPRENE
Mobile Oil DTE 24	E	–	–
Mobile Oil DTE 26	E	–	–
Castor Oil	E	–	–
Simesol	E	–	–
Trimsol	E	–	–
ASTM Oil 1, 2 or 3	E	G	G
Transformer Oil	G	G	E
Diesel Fuel	G	P	G
Gasoline	G	P	G
Kerosene	E	E	G

APPLICATIONS

- Automatic Welders
- Broach Machines
- Control Circuits
- Cranes
- Festoon Systems
- Machine Tools
- Cable Carrier Systems
- Sensing Equipment
- Transfer Vehicles
- Positioning Equipment
- Remote Control of Electrical Equipment

Not for Reeling or Forced Directional (Pulling) Applications.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
88305	20/5	26 x 34	9	0.010	0.050	0.275	52	2.20
88312	20/12	26 x 34	8	0.010	0.050	0.362	94	2.90
88319	20/19	26 x 34	6	0.010	0.060	0.453	148	3.60
88325	20/25	26 x 34	6	0.010	0.060	0.507	175	4.00
88333	20/33	26 x 34	4	0.010	0.065	0.541	226	4.30
88347	20/47	26 x 34	4	0.010	0.070	0.663	335	5.30
88365	20/65	26 x 34	4	0.010	0.100	0.820	515	6.60

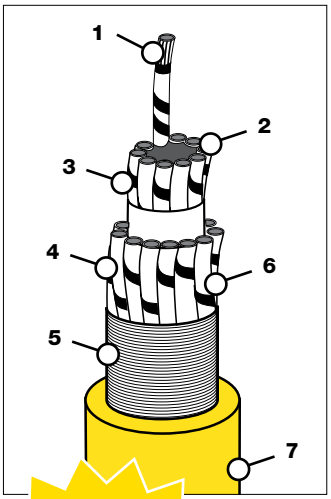
NOTES: (1) Maximum allowable current per conductor. Ampacities are based on an ambient temperature of 30ºC with a conductor temperature of 90ºC, not more than 3 current carrying conductors.

A F

Super-Trex® Reduced Diameter Control Cable (18 AWG)

• UL Listed • CE • Type TC-ER – 600 V • Type WTTC – 1,000 V • FT-4 Flame Rating • RoHS Compliant • Max Conductor Temperature 90°C

TPC's Super-Trex® Reduced Diameter Control Cable features a high strand count and cable construction designed to provide long life in dynamic flexing applications. The security yellow TPE jacket provides excellent protection against oil, and most industrial chemicals. Available in 18 AWG and various conductor counts from 5 to 65 conductors. 20 AWG, 16 AWG and 12 AWG also available.



FLEX TESTED Tested to over **4,500,000** cycles in cable carrier without failure!

FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications. Easier to solder.

2. POLYESTER TPE CONDUCTOR INSULATION — Oil resistant and has high dielectric, tensile and mechanical properties.

3. CONDUCTORS ARE CODED WITH ALPHA-NUMERIC IDENTIFICATION — Provides fast identification of conductors. Easy to read and simplifies installation.

4. NYLON FILLERS — Low friction, non-wicking fillers provide excellent flexibility.

5. HIGH FLEX TAPE SEPARATOR AROUND INNER COMPONENTS — Provides easy movement of the conductor bundle for longer flex life.

6. UNI-LAY CONSTRUCTION ALTERNATING BUNDLES — Superior performance in flexing and torsional applications.

7. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TPE JACKET — Superior first-line defense against oil, ozone and UV exposure as well as most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*

Chemical Resistance of Super-Trex® TPE Jacket
Resistance to solvents and chemicals is tested by immersing cable specimens in a solution for 30 days at room temperature. Measurements of cable diameter are made before and after immersion. Resistance is rated as follows, depending upon the % of change in cable diameter:

(E) Excellent – less than 10% **(F) Fair –** 30% to 50%
(G) Good – 10% to 30% **(P) Poor –** More than 50%

Color Code			
NO. OF COND.	BASE COLOR	FIRST TRACER	NUM. ID.
1	Green	Yellow	–
2	Black	–	1
3	White	Black	–
4	Black	–	3

The first conductor in the outside layer is always Green with a Yellow Tracer. The third conductor in the outer layer is always White with a Black Tracer. All other conductors are Black with a white number. Color code repeats with black with unique numeric identification.

REAGENT	TPE	PVC	NEOPRENE
Mobile Oil DTE 24	E	–	–
Mobile Oil DTE 26	E	–	–
Castor Oil	E	–	–
Simesol	E	–	–
Trimsol	E	–	–
ASTM Oil 1, 2 or 3	E	G	G
Transformer Oil	G	G	E
Diesel Fuel	G	P	G
Gasoline	G	P	G
Kerosene	E	E	G

APPLICATIONS

- Automatic Welders
- Broach Machines
- Control Circuits
- Cranes
- Festoon Systems
- Machine Tools
- Cable Carrier Systems
- Sensing Equipment
- Transfer Vehicles
- Positioning Equipment
- Remote Control of Electrical Equipment

Not for Reeling or Forced Directional (Pulling) Applications.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
88905	18/5	41 x 34	11	0.010	0.060	0.321	68	2.57
88912	18/12	41 x 34	7	0.010	0.070	0.444	137	3.55
88919	18/19	41 x 34	7	0.010	0.075	0.538	208	4.30
88925	18/25	41 x 34	6	0.010	0.080	0.613	273	4.90
88933	18/33	41 x 34	5	0.010	0.080	0.645	318	5.16
88949	18/49	41 x 34	5	0.010	0.090	0.787	473	6.29
88965	18/65	41 x 34	5	0.010	0.100	0.892	614	7.14

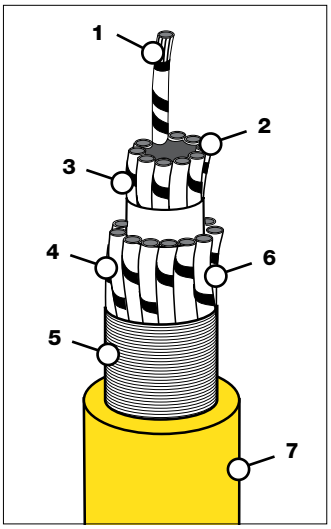
NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

A F

Super-Trex® Reduced Diameter Control Cable (16 AWG)

• UL Listed • CE • Type TC-ER – 600 V • Type WTTC – 1,000 V • FT-4 Flame Rating • RoHS Compliant • Max Conductor Temperature 90°C

TPC's Super-Trex® Reduced Diameter Control Cable features a high strand count and cable construction designed to provide long life in dynamic flexing applications. The security yellow TPE jacket provides excellent protection against oil, and most industrial chemicals. Available in 16 AWG and various conductor counts from 5 to 60 conductors. 20 AWG, 18 AWG and 12 AWG also available.



FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications. Easier to solder.

2. POLYESTER TPE CONDUCTOR INSULATION — Oil resistant and has high dielectric, tensile and mechanical properties.

3. CONDUCTORS ARE CODED WITH ALPHA-NUMERIC IDENTIFICATION — Provides fast identification of conductors. Easy to read and simplifies installation. **RED** conductors for AC applications and **BLUE** conductors for DC applications.

4. NYLON FILLERS — Low friction, non-wicking fillers provide excellent flexibility.

5. HIGH FLEX TAPE SEPARATOR AROUND INNER COMPONENTS — Provides easy movement of the conductor bundle for longer flex life.

6. UNI-LAY CONSTRUCTION ALTERNATING BUNDLES — Superior performance in flexing and torsional applications.

7. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TPE JACKET — Superior first-line defense against oil, ozone and UV exposure as well as most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

FLEX TESTED
Tested to over **4,500,000** cycles in cable carrier without failure!

Color Code for RED Conductor			
NO. OF COND.	BASE COLOR	FIRST TRACER	NUM. ID.
1	Green	Yellow	–
2	Red	–	1
3	White	Red	–
4	Red	–	3
5	Red	–	4

All remaining conductors will have RED base with BLACK numeric identification

- The first conductor in the outside layer is always GREEN with a YELLOW tracer.
- The third conductor in the outer layer is always WHITE with a RED tracer.
- All other conductors are RED with a BLACK number.

Color Code for BLUE Conductor			
NO. OF COND.	BASE COLOR	FIRST TRACER	NUM. ID.
1	Green	Yellow	–
2	Blue	–	1
3	White	Blue	–
4	Blue	–	3
5	Blue	–	4

All remaining conductors will have RED base with BLACK numeric identification

- The first conductor in the outside layer is always GREEN with a YELLOW tracer.
- The third conductor in the outer layer is always WHITE with a BLUE tracer.
- All other conductors are BLUE with a WHITE number.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.			CORD SIZE AWG/COND	COND STRAND	AMP[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
STD	RED	BLUE								
–	88505R	88505B	16/5	65 x 34	14	0.010	0.060	0.358	88	2.86
–	–	88507B	16/7	65 x 34	13	0.010	0.080	0.453	150	3.62
–	–	88508B	16/8	65 x 34	13	0.010	0.080	0.456	172	3.70
88512	88512R	88512B	16/12	65 x 34	9	0.010	0.070	0.510	191	3.96
88516	–	–	16/16	65 x 34	9	0.010	0.070	0.555	239	4.40
–	88519R	88519B	16/19	65 x 34	9	0.010	0.075	0.596	281	4.76
88522	–	–	16/22	65 x 34	8	0.010	0.080	0.650	327	5.20
88525	88525R	88525B	16/25	65 x 34	8	0.010	0.080	0.700	376	5.60
88531	–	–	16/31	65 x 34	7	0.010	0.080	0.745	425	5.80
–	88533R	88533B	16/33	65 x 34	7	0.010	0.080	0.745	448	5.96
88541	–	–	16/41	65 x 34	6	0.010	0.100	0.895	608	6.96
–	88547R	88547B	16/47	65 x 34	6	0.010	0.085	0.850	653	7.12
88549	–	–	16/49	65 x 34	6	0.010	0.100	0.925	714	7.20
88560	–	–	16/60	65 x 34	6	0.010	0.100	0.975	783	7.80

NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

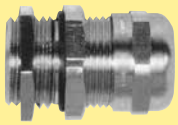
A F

Super-Trex® Reduced Diameter Control Cable (16 AWG) *(Continued)*

Recommended Minimum Bend Radius for Cable Applications

The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*



APPLICATIONS *Not for Reeling or Forced Directional (Pulling) Applications.*

- Automatic Welders
- Broach Machines
- Control Circuits
- Cranes
- Festoon Systems
- Machine Tools
- Cable Carrier Systems
- Sensing Equipment
- Transfer Vehicles
- Positioning Equipment
- Remote Control of Electrical Equipment

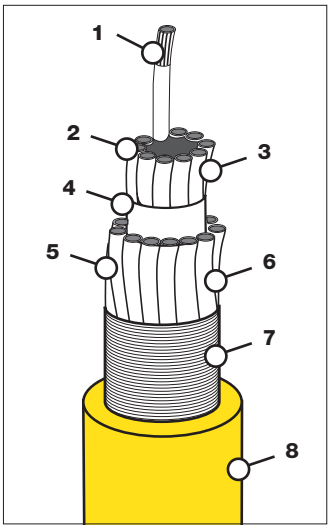
16 AWG REDUCED DIAMETER CONTROL CABLE				
NO. OF COND.	**BASE COLOR**	**TRACER**	**SIDE ONE NUMERIC**	**SIDE TWO ALPHA-NUMERIC**
1	Black	—	1	One
2	White	—	2	Two
3	Red	—	3	Three
4	Green	—	4	Four
5	Orange	—	5	Five
6	Blue	—	6	Six
7	White	Black	7	Seven
8	Red	Black	8	Eight
9	Green	Black	9	Nine
10	Orange	Black	10	Ten
11	Blue	Black	11	Eleven
12	Black	White	12	Twelve
13	Red	Black	13	Thirteen
14	Green	Black	14	Fourteen
15	Blue	Black	15	Fifteen
16	Black	White	16	Sixteen
17	White	Black	17	Seventeen
18	Orange	Black	18	Eighteen
19	Blue	Black	19	Nineteen
20	Red	Black	20	Twenty
21	Orange	Black	21	Twenty-One

A C F I

Super-Trex® Reduced Diameter Control Cable (12 AWG)

• UL Listed • CSA • Type TC • 600 V • FT-1 Flame Rating • RoHS Compliant • Max Conductor Temperature 90°C

TPC's Super-Trex® Reduced Diameter Control Cable features a high strand count and cable construction designed to provide long life in dynamic flexing applications. The security yellow TSE jacket provides excellent protection against oil, and most industrial chemicals. Available in 12 AWG and various conductor counts from 8 to 22 conductors. 20 AWG, 18 AWG and 16 AWG also available.



FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications. Easier to solder.

2. CONDUCTORS ARE CODED WITH ALPHA-NUMERIC IDENTIFICATION — Provides fast identification of conductors. Easy to read and simplifies installation.

3. XLPE CONDUCTOR INSULATION — Oil resistant and has high dielectric, tensile and mechanical properties.

4. NYLON ARMORED INNER CONDUCTORS — Lower coefficient of friction. Longer life in flexing applications.

5. NYLON FILLERS — Low friction, non-wicking fillers provide excellent flexibility.

6. REVERSE LAY OF ALTERNATING BUNDLES — Increases flexibility and relieves bending and twisting stress.

7. RUBBER BACKED FABRIC TAPE AROUND INNER COMPONENTS — Provides easy movement of the conductor bundle for longer flex life.

8. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Superior first-line defense against oil, ozone and UV exposure as well as most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

APPLICATIONS *Not for Reeling or Forced Directional (Pulling) Applications.*

- Automatic Welders
- Broach Machines
- Control Circuits
- Cranes
- Festoon Systems
- Machine Tools
- Cable Carrier Systems
- Sensing Equipment
- Transfer Vehicles
- Positioning Equipment
- Remote Control of Electrical Equipment

Recommended Minimum Bend Radius for Cable Applications: The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ORDERING INFORMATION *(Call for pricing & availability)*

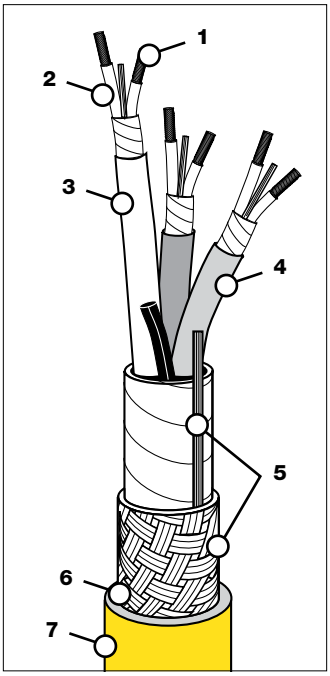
PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
88708	12/8	65 x 30	21	0.015	0.060	0.640	306	5.12
88712	12/12	65 x 30	15	0.015	0.060	0.710	410	5.68
88722	12/22	65 x 30	13	0.015	0.085	0.945	750	7.56

NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

Trex-Onics® Individually Shielded Multi-Pair Control Cable

- UL Recognized
- CSA
- MSHA Approved
- RoHS Compliant
- Max Conductor Temperature 105°C — UL
- Max Conductor Temperature 105°C — CSA
- Cold Temperature Rating -40°C
- 600 V

Trex-Onics® Individually Shielded Multi-Pair Control Cable is designed for industrial cable carriers, reeling, drop pendants and robotics. Individually twisted and shielded pairs have FEP insulation, FEP overcoat, overall foil shield and tinned copper braid. Shielding provides 100% protection from EM and RF interference. Heavy-duty polyurethane TPE jacket comes in TPC's classic security yellow. Tested to over 4 million cycles without failure.



FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Improves flexibility and extends flex life.

2. FLUOROPOLYMER INSULATION ON INDIVIDUAL CONDUCTORS — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

3. UNIQUE COLOR CODE FOR EACH PAIR — FEP coated pairs are color coded for ease of identification.

4. INDIVIDUALLY TWISTED SHIELDED PAIRS PROTECTED WITH FEP "OVERCOAT" — Unique "overcoat" design helps maintain shield integrity on the pairs in flexing applications.

5. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY TINNED COPPER BRAID, ALUMINUM/POLYESTER FOIL SHIELD AND TINNED DRAIN WIRE — 100% shielding provides protection from EM and RF interference. Finely stranded braid provides superior mechanical strength.

6. CABLE BONDED DESIGN — Jacket adheres to braid to reduce conductor movement and elongation in flexing or reeling applications.

7. SECURITY YELLOW HEAVY-DUTY POLYURETHANE TPE JACKET — Provides excellent protection against cutting, abrasion, oil and chemicals.

FLEX TESTED
Tested to over
4,000,000
cycles in cable carrier
without failure!

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG	NO. OF PAIRS	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	IND. PAIRS DRAIN WIRE	OVERALL DRAIN WIRE	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
68412	24	12	19/36	5.0	0.010	26 AWG	26 AWG	0.070	0.60	215
68409	24	9	19/36	5.0	0.010	26 AWG	26 AWG	0.065	0.57	160
68406	24	6	19/36	7.0	0.010	26 AWG	26 AWG	0.060	0.47	126
68404	24	4	19/36	7.0	0.010	26 AWG	26 AWG	0.055	0.39	86
68403	24	3	19/36	7.0	0.010	26 AWG	26 AWG	0.050	0.36	79
68402	24	2	19/36	8.0	0.010	26 AWG	26 AWG	0.045	0.33	62
68518	20	18	19/32	6.0	0.010	22 AWG	22 AWG	0.080	0.85	275
68512	20	12	19/32	6.0	0.010	22 AWG	22 AWG	0.075	0.73	264
68509	20	9	19/32	7.0	0.010	22 AWG	22 AWG	0.070	0.72	247
68506	20	6	19/32	7.0	0.010	22 AWG	22 AWG	0.060	0.57	161
68504	20	4	19/32	9.0	0.010	22 AWG	22 AWG	0.055	0.48	118
68503	20	3	19/32	11.0	0.010	22 AWG	22 AWG	0.050	0.43	92
68502	20	2	19/32	13.0	0.010	22 AWG	22 AWG	0.050	0.41	74
68312	18	12	19/30	12.0	0.010	20 AWG	20 AWG	0.080	0.84	405
68309	18	9	19/30	12.0	0.010	20 AWG	20 AWG	0.080	0.79	320
68306	18	6	19/30	16.0	0.010	20 AWG	20 AWG	0.075	0.65	245
68304	18	4	19/30	16.0	0.010	20 AWG	20 AWG	0.065	0.54	163
68303	18	3	19/30	16.0	0.010	20 AWG	20 AWG	0.060	0.49	142
68302	18	2	19/30	19.0	0.010	20 AWG	20 AWG	0.060	0.44	110

NOTE: (1) Ampacities are based on 30°C ambient and 90°C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

Trex-Onics® Individually Shielded Multi-Pair Control Cable *(Continued)*

APPLICATIONS

- Bar Code Readers
- Computer Inter-Connections
- Computer Interfaces
- Control Circuits
- Data Transmissions
- Digital Remote Controls
- Heat Pressure & Flow Meters
- Encoders or Resolvers
- Instrumentation
- Load Cell Monitors
- Pendants
- Programmable Limit Switches
- Programmable Controllers
- Proximity Switches
- Servo Motors
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- Variable Speed Motors
- X-Ray Monitors

Trex-Onics® Individually Shielded Paired Cables

This cable has been specifically designed for these types of applications:

1. Cable Carrier applications
2. Reeling applications
3. Drop Pendant applications
4. Robotic applications

ELECTRICAL SPECIFICATIONS

PART NO.	NOMINAL IMPEDANCE (PER 1,000 FT)	NOMINAL CAPACITANCE (COND–COND)	NOMINAL CAPACITANCE (COND–SHIELD)
68412	59	30	53
68409	59	30	53
68406	59	30	53
68404	69	24	42.5
68403	69	24	42.5
68402	69	24	42.5
68512	45	35	33
68509	45	35	33
68506	45	35	33
68504	45	35	33
68503	45	35	33
68502	45	35	33
68312	47	35	62
68309	47	35	62
68306	47	35	62
68304	47	35	62
68303	47	35	62
68302	47	35	62

NOTE: (1) Ampacities are based on 30˚C ambient and 90˚C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

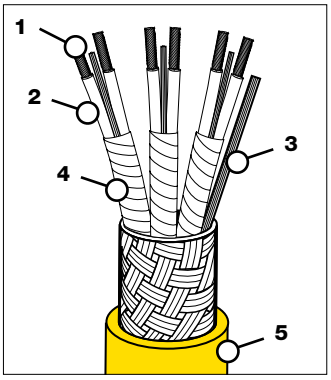
Trex-Onics® Individually Shielded Paired Products: The FEP pair overcoat colors for the individually shielded pairs are listed below and shall be made of 10 mils of FEP.

PAIR NO.	COLOR CODE	FEP OVERCOAT COLOR
1	Black – Red	Black
2	Black – White	White
3	Black – Green	Red
4	Black – Blue	Green
5	Black – Brown	Orange
6	Black – Yellow	Blue
7	Black – Orange	Yellow
8	Red – Green	Brown
9	Red – White	Violet
10	Red – Blue	Gray
11	Red – Yellow	Pink
12	Red – Brown	Tan/Beige

Trex-Onics® Individually Shielded Encoder/Resolver & Intrinsically Safe Cable

- UL Recognized
- CSA
- RoHS Compliant
- 300 V
- Max Conductor Temperature 105°C — UL
- Max Conductor Temperature 105°C — CSA
- VW-1 Flame Rating
- FT-2 Flame Rating

Designed for use in heavy-duty industrial encoder/resolver applications, this cable has a polyurethane jacket which provides superior protection against cutting, abrasion, oil and chemicals. FEP insulated conductor pairs are shielded, plus an overall braid shield provides 100% EM and RF interference.



COLOR CODE			
#	COLOR	#	COLOR
1	Black-Red	6	Black-Yellow
2	Black-White	7	Black-Orange
3	Black-Green	8	Red-Green
4	Black-Blue	9	Red-White
5	Black-Brown		

FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Improves flexibility and extends conductor life.

2. FLUOROPOLYMER INSULATION ON INDIVIDUAL CONDUCTORS — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

3. DRAIN WIRE

4. HEAVY-DUTY COMBINATION OF TINNED COPPER BRAID AND ALUMINUM/POLYESTER FOIL SHIELD — Shielding combination provides 100% protection from EM and RF interference. Finely stranded braid provides superior flexibility and mechanical strength.

5. HEAVY-DUTY POLYURETHANE JACKET — Provides excellent protection against cutting, abrasion, oil and chemicals. Available in Security Yellow or Intrinsically Safe Blue.

ELECTRICAL SPECIFICATIONS

AWG	NOMINAL IMPEDANCE (OHMS)	NOM. CAPACITANCE pF/FT (COND–COND)	NOM. CAPACITANCE pF/FT (COND–SHIELD)	NOM. INDUCTANCE µH/FT
24	55	36.5	65.7	0.188
22	40	41.2	74.2	0.180
20	35	45.5	81.4	0.172

APPLICATIONS

- Encoders/Resolvers
- Bar Code Readers
- Control Circuits
- Heat, Pressure, Flow Meters
- Instrumentation
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Servo Motors
- Tachometers
- Variable Speed Motors
- General Analog Applications

ORDERING INFORMATION *(Call for pricing & availability)*

Intrinsically safe circuits are designed to limit electrical and thermal energy to levels below what is necessary to ignite a flammable atmosphere. Reference NEC 2011, Article 504 when wiring Intrinsically Safe circuits.

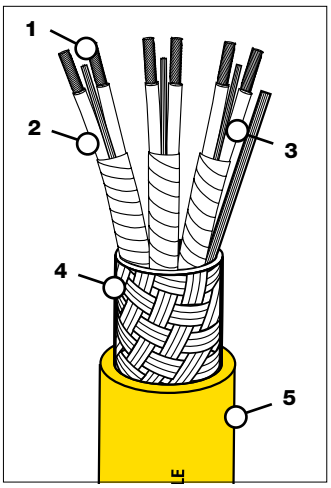
PART NO.		COND. SIZE AWG/ PAIRS	COND. STRANDING	AMPACITY[1]	INSULATION THICK (IN)	IND. PAIRS DRAIN WIRE	OVERALL DRAIN WIRE	JACKET THICK (IN)	NOM. DIA. (IN)	WT. (LBS) PER 1000'
YELLOW	BLUE									
68809	68809B	24/9	19/36	4	0.006	26 AWG	26 AWG	0.045	0.400	97
68807	68807B	24/7	19/36	4	0.006	26 AWG	26 AWG	0.045	0.330	68
68806	68806B	24/6	19/36	6	0.006	26 AWG	26 AWG	0.045	0.330	64
68804	68804B	24/4	19/36	7	0.006	26 AWG	26 AWG	0.045	0.300	48
68803	68803B	24/3	19/36	7	0.006	26 AWG	26 AWG	0.045	0.265	42
68802	68802B	24/2	19/36	8	0.006	26 AWG	26 AWG	0.045	0.275	33
68709	68709B	22/9	19/34	6	0.006	24 AWG	24 AWG	0.045	0.450	138
68707	68707B	22/7	19/34	6	0.006	24 AWG	24 AWG	0.045	0.370	92
68706	68706B	22/6	19/34	8	0.006	24 AWG	24 AWG	0.045	0.370	86
68704	68704B	22/4	19/34	9	0.006	24 AWG	24 AWG	0.045	0.315	62
68703	68703B	22/3	19/34	9	0.006	24 AWG	24 AWG	0.045	0.300	52
68702	68702B	22/2	19/34	11	0.006	24 AWG	24 AWG	0.045	0.275	43
68609	68609B	20/9	19/32	6	0.006	22 AWG	22 AWG	0.045	0.500	189
68607	68607B	20/7	19/32	7	0.006	22 AWG	22 AWG	0.045	0.410	125
68606	68606B	20/6	19/32	7	0.006	22 AWG	22 AWG	0.045	0.410	117
68604	68604B	20/4	19/32	10	0.006	22 AWG	22 AWG	0.045	0.350	83
68603	68603B	20/3	19/32	10	0.006	22 AWG	22 AWG	0.045	0.315	66
68602	68602B	20/2	19/32	13	0.006	22 AWG	22 AWG	0.045	0.305	53

NOTE: (1) Ampacities are based on 30°C ambient and 90°C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

Trex-Onics® Low Capacitance Cable

- UL Recognized
- RoHS Compliant
- EIA RS-232/422/485
- VW-1 Flame Rating
- Max Conductor Temperature 80°C — UL
- Max Conductor Temperature 80°C
- 13pF/ft
- 300 V

Designed for use in heavy-duty industrial digital communication and instrumentation applications, Trex-Onics® Low Capacitance Cable gives superior protection against oil, chemicals and abrasion, plus capacitance limited to 13pF/ft. 100% shielding from EMI and RF interference.



COLOR CODE	
PAIR NO.	**COLOR**
1	Black - Red
2	Black - White
3	Black - Green
4	Black - Blue
5	Black - Yellow
6	Black - Brown
7	Black - Orange
8	Red - White
9	Red - Green
10	Red - Blue
11	Red - Yellow
12	Red - Brown

FEATURES & BENEFITS

1. FINELY STRANDED BARE COPPER CONDUCTORS — Finely stranded copper conductors improve flexibility. The bare copper conductor offers maximum conductivity.

2. FOAM INSULATION ON INDIVIDUAL CONDUCTORS — Foam polyethylene insulation on individual conductors provides a low dielectric constant to maintain a low capacitance value between conductors.

3. INDIVIDUALLY SHIELDED TWISTED PAIRS

4. HEAVY-DUTY COMBINATION OF TINNED COPPER BRAID AND ALUMINUM/POLYESTER FOIL SHIELD — Combination of tinned copper braid and aluminum/polyester foil shield provides 100% shielding protection from EM and RF interference. Finely stranded braid provides superior flexibility and mechanical strength.

5. SECURITY YELLOW HEAVY-DUTY POLYURETHANE JACKET — Provides excellent protection against cutting, abrasion, oil and chemicals.

APPLICATIONS

- Tachometers
- Computers
- Control Circuits
- Instrumentation
- High Speed Digital/Analog Communications
- Encoders/Resolvers

ELECTRICAL CHARACTERISTICS

- **Capacitance:** 13.0 pF/Ft @ 1 MHz – between conductors
- **DC Resistance:** 25.38 Ohms/1000 Ft @ 20°C Nominal
- **Voltage:** 300 Volts
- **Characteristic Impedance:** 115 Ohms ± 16 Ohms
- **Propagation Delay:** 2.03 nsec/Ft (Max)

ORDERING INFORMATION *(Call for pricing & availability)*

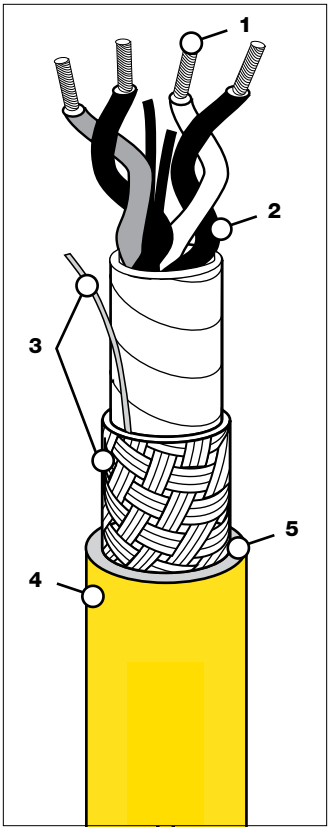
PART NO.	CABLE AWG/ NO. PAIRS	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICK. (IN)	IND. PAIRS DRAIN WIRE	OVERALL DRAIN WIRE	JACKET THICK. (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
68902	24/2	19/36	1.6	0.028	26 AWG	26 AWG	0.035	0.364	64
68903	24/3	19/36	1.4	0.028	26 AWG	26 AWG	0.035	0.386	72
68904	24/4	19/36	1.4	0.028	26 AWG	26 AWG	0.035	0.428	91
68906	24/6	19/36	1.4	0.028	26 AWG	26 AWG	0.035	0.509	118
68909	24/9	19/36	1.0	0.028	26 AWG	26 AWG	0.035	0.639	164
68910	24/10	19/36	1.0	0.028	26 AWG	26 AWG	0.035	0.639	170
68912	24/12	19/36	1.0	0.028	26 AWG	26 AWG	0.035	0.639	175

NOTE: (1) Based on 20°C ambient, 80°C Conductor Temperature, single cable in open air.

Trex-Onics® Multi-Pair Control Cable

• UL Recognized • CSA • 600 V • RoHS Compliant • Max Conductor Temperature 105°C — UL • Max Conductor Temperature 105°C — CSA

Trex-Onics® Multi-Pair Control Cable are constructed with Ultra-Shield™ which includes a heavy-duty combination of tinned copper braid, foil shield, and tinned drain wire. 100% shielding provides protection from EM and RF interference. The security yellow polyurethane jacket provides excellent defense against cutting, abrasion, oil and chemicals. Finely stranded conductors increases flexibilty and conductor life. **This cable is recommended for static, non-moving applications.**



FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Improves flexibility and extends conductor life.

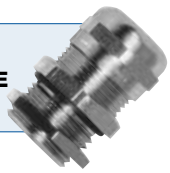
2. FLUOROPOLYMER INSULATION — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

3. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY COMBINATION OF TINNED COPPER BRAID, ALUMINUM/POLYESTER FOIL SHIELD AND TINNED DRAIN WIRE — 100% shielding provides protection from EM and RF Interference. Finely stranded braid provides superior mechanical strength.

4. SECURITY YELLOW HEAVY-DUTY POLYURETHANE TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

5. CABLE BONDED DESIGN — Jacket adheres to braid to reduce conductor movement and elongation in flexing or reeling applications.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*



APPLICATIONS

- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Heat Pressure & Flow Meters
- Instrumentation
- Load Cell Monitors
- Telecommunications
- Tachometers
- Pendants
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Servo Motors
- Torque-Tool Monitoring Equipment
- Variable Speed Motors
- X-Ray Monitors

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE AWG	NO. OF PAIRS	CONDUCTOR STRANDING	AMPACITY[1]	OVERALL DRAIN WIRE	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
66424	24	4	19/36	7.0	26 AWG	0.305	53
66312	20	12	19/32	8.0	22 AWG	0.600	225
66309	20	9	19/32	8.0	22 AWG	0.530	172
66306	20	6	19/32	11.0	22 AWG	0.450	130
66303	20	3	19/32	11.0	22 AWG	0.335	70
66302	20	2	19/32	13.0	22 AWG	0.335	66
66212	18	12	19/30	12.0	22 AWG	0.670	298
66209	18	9	19/30	12.0	22 AWG	0.610	240
66206	18	6	19/30	16.0	22 AWG	0.510	175
66204	18	4	19/30	16.0	22 AWG	0.420	110
66203	18	3	19/30	16.0	22 AWG	0.380	93
66202	18	2	19/30	19.0	22 AWG	0.380	88
66101	16	1	19/29	22.0	22 AWG	0.265	56
66001	14	1	19/27	25.0	22 AWG	0.300	70

NOTE: (1) Ampacities are based on 30°C ambient and 90°C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

Trex-Onics® Multi-Pair Control Cable *(Continued)*

APPLICATIONS

- Bar Code Readers
- Computer Inter-Connections
- Computer Interfaces
- Control Circuits
- Data Transmissions
- Digital Remote Controls
- Heat Pressure & Flow Meters
- Encoders or Resolvers
- Instrumentation
- Load Cell Monitors
- Pendants
- Programmable Limit Switches
- Programmable Controllers
- Proximity Switches
- Servo Motors
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- Variable Speed Motors
- X-Ray Monitors

COLOR CODE	
PAIR NO.	**COLOR**
1	Black - Red
2	Black - White
3	Black - Green
4	Black - Blue
5	Black - Yellow
6	Black - Brown
7	Black - Orange
8	Red - White
9	Red - Green
10	Red - Blue
11	Red - Yellow
12	Red - Brown

ELECTRICAL SPECIFICATIONS

PART NO.	NOMINAL IMPEDANCE (PER 1,000 FT)	NOMINAL CAPACITANCE (COND–COND)	NOMINAL CAPACITANCE (COND–SHIELD)
66424	69	24	42.5
66312	53	31.5	56
66309	53	31.5	56
66306	53	31.5	56
66303	53	31.5	56
66302	53	31.5	56
66212	47	35	62
66209	47	35	62
66206	47	35	62
66204	47	35	62
66203	47	35	62
66202	47	35	62
66101	37.5	44	79
66001	35	46	80

These values are to be used as a guideline and may vary according to the actual cable application.

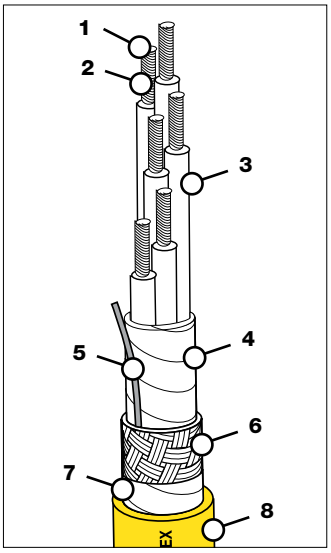
CHEMICAL RESISTANCE OF COMMON INSULATING MATERIALS

CHEMICAL	RUBBER	SILICONE	FLUOROPOLYMER
Oxidation Resistance	Fair	Excellent	Outstanding
Oil Resistance	Poor	Fair-Good	Outstanding
UV Resistance	Fair	Outstanding	Outstanding
Water Resistance	Good	Good-Excellent	Excellent
Acid Resistance	Fair-Good	Fair-Good	Excellent
Alkali Resistance	Fair-Good	Fair-Good	Excellent
Gasoline Kerosene	Poor	Poor-Fair	Excellent
Benzol Toluene	Poor	Poor	Excellent
Degreaser Solvent	Poor	Poor-Good	Excellent
Alcohol Resistance	Good	Good	Excellent

Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable

• UL Recognized • CSA • 600 V • RoHS Compliant • MSHA Approved • Max Conductor Temperature 105°C — UL & CSA • Continuous Flex Applications

Designed for industrial applications, Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable is constructed with FEP insulation, FEP overwrap, heavy-duty tinned copper braid and a polyurethane jacket. It shows superior resistance from abrasion, tearing, oil, ozone, UV and most chemicals.



FEATURES & BENEFITS

1. BUNCH STRANDED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications.

2. FINELY STRANDED TINNED COPPER CONDUCTORS — Improves flexibility and extends flex life.

3. FLUOROPOLYMER INSULATION — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

4. FLUOROPOLYMER OVER-WRAP — Acts as a flex-facilitator, allowing the conductors to slide smoothly under the braid shield in dynamic applications. Protects the conductors from abrasion, improving flex life.

5. FLAT TINNED DRAIN WIRE

6. ULTRA-SHIELD™ CONSTRUCTION, A HEAVY-DUTY TINNED COPPER BRAID — Shielding provides a minimum of 85% protection from EM and RF interference in addition to superior mechanical strength in industrial applications.

7. WOVEN NYLON TAPE — Improves flexibility, allows the conductor bundle to move easily within the jacket for longer flex life.

8. SECURITY YELLOW HEAVY-DUTY POLYURETHANE TPE JACKET — Provides superior first-line defense against industrial and environmental abuse. Resists tearing, abrasion, oil, ozone and most chemicals. UV resistant.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE AWG/COND	STRANDING NO./AWG	AMPACITY[1]	DRAIN WIRE	NOMINAL O.D. (IN)	INSULATION THICK (IN)	WT. (LBS) PER 1000'
61609	24/9	19/36	4.9	24 AWG	0.300	0.010	51
61606	24/6	19/36	5.6	24 AWG	0.255	0.010	41
61604	24/4	19/36	5.6	24 AWG	0.225	0.010	32
61602	24/2	19/36	7.0	24 AWG	0.210	0.010	28
61526	20/26	26/34	4.9	22 AWG	0.500	0.010	196
61524	20/24	26/34	4.9	22 AWG	0.495	0.010	192
61518	20/18	26/34	5.5	22 AWG	0.430	0.010	148
61512	20/12	26/34	5.5	22 AWG	0.375	0.010	110
61509	20/9	26/34	7.7	22 AWG	0.360	0.010	89
61506	20/6	26/34	8.8	22 AWG	0.290	0.010	68
61502	20/2	26/34	11.0	22 AWG	0.235	0.010	40
61465	18/65	41/34	4.9	20 AWG	0.980	0.010	628
61449	18/49	41/34	4.9	20 AWG	0.875	0.010	496
61433	18/33	41/34	5.6	20 AWG	0.615	0.010	322
61424	18/24	41/34	6.3	20 AWG	0.560	0.010	265
61418	18/18	41/34	7.0	20 AWG	0.485	0.010	210
61412	18/12	41/34	7.0	20 AWG	0.415	0.010	145
61409	18/9	41/34	9.8	20 AWG	0.400	0.010	110
61406	18/6	41/34	11.2	20 AWG	0.320	0.010	88
61404	18/4	41/34	11.2	20 AWG	0.280	0.010	58
61403	18/3	41/34	14.0	20 AWG	0.265	0.010	54
61402	18/2	41/34	14.0	20 AWG	0.250	0.010	50
61731	16/31	65/34	7.2	20 AWG	0.655	0.010	412
61725	16/25	65/34	8.0	20 AWG	0.640	0.010	360
61719	16/19	65/34	9.0	20 AWG	0.575	0.010	286
61712	16/12	65/34	9.0	20 AWG	0.465	0.010	185
61709	16/9	65/34	12.6	20 AWG	0.435	0.010	158
61705	16/5	65/34	14.4	20 AWG	0.360	0.010	110
61703	16/3	65/34	18.0	20 AWG	0.290	0.010	85
61340	14/10	105/34	12.5	20 AWG	0.515	0.010	260

NOTE: (1) Ampacities are based on 30°C ambient and 90°C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

Trex-Onics® Overall Shielded Continuous Flex Multi-Conductor Cable *(Continued)*

APPLICATIONS

- Cable Carriers
- Computer Interface
- Digital Remote Control
- Heat, Pressure & Flow Meters
- Instrumentation
- Load Cell Monitors
- Programmable Controllers
- Proximity Switches
- Programmable Limit Switches
- Robotic Applications
- Servo Motors
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- Variable Speed Motors

COLOR CODE			
NO.	**COLOR**	**NO.**	**COLOR**
1	Black	**34.**	Black/White/Orange
2	White	**35.**	White/Red/Orange
3	Red	**36.**	Orange/White/Blue
4	Green	**37.**	White/Red/Blue
5.	Orange	**38.**	Black/White/Green
6.	Blue	**39.**	White/Black/Green
7.	White/Black	**40.**	Red/White/Green
8.	Red/Black	**41.**	Green/White/Blue
9.	Green/Black	**42.**	Orange/Red/Green
10.	Orange/Black	**43.**	Blue/Red/Green
11.	Blue/Black	**44.**	Black/White/Blue
12.	Black/White	**45.**	White/Black/Blue
13.	Red/White	**46.**	Red/White/Blue
14.	Green/White	**47.**	Green/Orange/Red
15.	Blue/White	**48.**	Orange/Red/Blue
16.	Black/Red	**49.**	Blue/Red/Orange
17.	White/Red	**50.**	Black/Orange/Red
18.	Orange/Red	**51.**	White/Black/Orange
19.	Blue/Red	**52.**	Red/Orange/Black
20.	Red/Green	**53.**	Green/Red/Blue
21.	Orange/Green	**54.**	Orange/Black/Blue
22.	Black/White/Red	**55.**	Blue/Black/Orange
23.	White/Black/Red	**56.**	Black/Orange/Green
24.	Red/Black/White	**57.**	White/Orange/Green
25.	Green/Black/White	**58.**	Red/Orange/Green
26.	Orange/Black/White	**59.**	Green/Black/Blue
27.	Blue/Black/White	**60.**	Orange/Green/Blue
28.	Black/Red/Green	**61.**	Blue/Green/Orange
29.	White/Red/Green	**62.**	Black/Red/Blue
30.	Red/Black/Green	**63.**	White/Orange/Blue
31.	Green/Black/Orange	**64.**	Red/Black/Blue
32.	Orange/Black/Green	**65.**	Green/Orange/Blue
33.	Blue/White/Orange		

CHEMICAL RESISTANCE OF COMMON INSULATING MATERIALS

CHEMICAL	RUBBER	SILICONE	FLUOROPOLYMER
Oxidation Resistance	Fair	Excellent	Outstanding
Oil Resistance	Poor	Fair-Good	Outstanding
UV Resistance	Fair	Outstanding	Outstanding
Water Resistance	Good	Good-Excellent	Excellent
Acid Resistance	Fair-Good	Fair-Good	Excellent
Alkali Resistance	Fair-Good	Fair-Good	Excellent
Gasoline Kerosene	Poor	Poor-Fair	Excellent
Benzol Toluene	Poor	Poor	Excellent
Degreaser Solvent	Poor	Poor-Good	Excellent
Alcohol Resistance	Good	Good	Excellent

ELECTRICAL SPECIFICATIONS

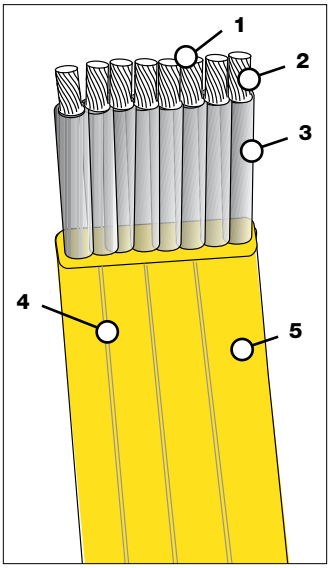
PART NO.	NOMINAL IMPEDANCE (PER 1,000 FT)	NOMINAL CAPACITANCE (COND–COND)	NOMINAL CAPACITANCE (COND–SHIELD)
61609	69	24	42.5
61606	69	24	42.5
61604	69	24	42.5
61602	69	24	42.5
61524	53	31.5	56
61518	53	31.5	56
61512	53	31.5	56
61509	53	31.5	56
61506	53	31.5	56
61502	53	31.5	56
61424	47	35	62
61418	47	35	62
61412	47	35	62
61409	47	35	62
61406	47	35	62
61404	47	35	62
61402	47	35	62
61731	37.5	44	79.2
61725	37.5	44	79.2
61719	37.5	44	79.2
61712	37.5	44	79.2
61709	37.5	44	79.2
61705	37.5	44	79.2
61703	37.5	44	79
61340	35	46	80

These values are to be used as a guideline and may vary according to the actual cable application.

Trex-Onics® Flat Festoon Cable

• 600 V • RoHS Compliant • Max Conductor Temperature 90°C

The Trex-Onics® Flat Festoon Cable's polyurethane TPE jacket offers defense against cutting, abrasion, oil and chemicals; and finely stranded tinned conductors ensure a high degree of flexibility and an extended flex life. The flat design of the cable allows it to lay flat in a crane or hoist application and avoid problems that may arise when using other types of cable. TPC also provides specially designed Grip-Seals™ for flat festoon cable.



FEATURES & BENEFITS

1. TINNED CONDUCTORS — Resists corrosion. Easier to solder.

2. FINELY STRANDED TINNED CONDUCTORS — Improves flexibility and extends conductor life.

3. FLUOROPOLYMER INSULATION — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

4. CUT GROOVES — Easier to strip and terminate.

5. SECURITY YELLOW HEAVY-DUTY TREX-ONICS® POLYURETHANE TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals.

6. UNIQUE CONSTRUCTION — Provides for a very durable long life flat cable.

ADD SPECIALLY DESIGNED GRIP-SEALS™ FOR FLAT FESTOON CABLE TO COMPLETE YOUR ORDER! *See Page 105.*

ORDERING INFORMATION *(Call for pricing & availability)*

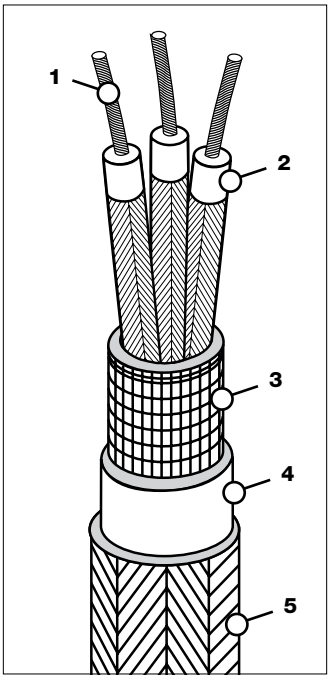
PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	INSULATION THICK. (IN)	AMPACITY[1]	DIMENSIONAL DATA	COLOR CODE	WT. (LBS) PER 1000'
61114	16/4	65/34	0.015"	18	0.19" x 0.485"	Black, Red, Blue, Orange	94
61118	16/8	65/34	0.015"	12	0.19" x 0.87"	Black, Red, Blue, Orange, Yellow, Brown, Red/Black, Blue/Black	130
61112	16/12	65/34	0.015"	9	0.19" x 1.255"	Black, Red, Blue, Orange, Yellow, Brown, Red/Black, Blue/Black, Orange/Black, Yellow/Black, Brown/Black, Black/Red	198
61148	14/8	105/34	0.015"	17	0.204" x 0.982"	Black, Red, Blue, Orange, Yellow, Brown, Red/Black, Blue/Black	206
61142	14/12	105/34	0.015"	12	0.204" x 1.423"	Black, Red, Blue, Orange, Yellow, Brown, Red/Black, Blue/Black, Orange/Black, Yellow/Black, Brown/Black, Black/Red	287
61124	12/4	65/30	0.015"	30	0.22" x 0.60"	Black, Red, Blue, Orange	112
61104	10/4	105/30	0.018"	40	0.246" x 0.709"	Black, Red, Blue, Orange	210
61164	6/4	266/30	0.022"	75	0.350" x 1.13"	Black, Red, Blue, Orange	462

NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

Thermo-Trex® 2800 Cable

• UL Listed • 600 V • RoHS Compliant • Continuous Temperatures up to 1000°F (537°C) • Extreme Temperatures up to 3000°F (1649°C)

Thermo-Trex® is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven glass-braid jacket impregnated with abrasion resistant finishing compounds. High heat resistance allows the Thermo-Trex® 2800 to withstand continuous temperatures up to 1,000°F and flash heat up to 3,000°F.



FEATURES & BENEFITS

1. 27% NICKEL-PLATED COPPER, #30 AWG STRANDING — Increases flexibility, provides longer cable life.

2. FLUOROPOLYMER COLOR SATURATED INSULATION — Easier to identify. Reduced chance of miswiring. Maintain their color for ease of identification up to 450ºC.

3. SPECIAL FLUOROPOLYMER/MICA/GLASS MULTIPLE-LAYERED CONSTRUCTION — Highly resistant to heat, chemicals and corrosives. Long-term durability in the harshest industrial environments.

4. HEAT-SEALED FLUOROPOLYMER VAPOR BARRIER PERMANENTLY BONDED TO THE JACKET — Provides improved electrical safety in wet environments.

5. SPECIALLY WOVEN GLASS-BRAID JACKET, IMPREGNATED WITH FLUOROPOLYMER FINISHING COMPOUNDS — Provides first-line defense against abrasion and high heat.

6. AVAILABLE IN SINGLE AND MULTIPLE CONDUCTOR CONFIGURATIONS — The right product for the job.

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

CONDUCTOR COLOR CODE	
1	Red
2	White
3	Blue
4	Green

Independently lab tested to ANSI/ IEEE 383-1974 Standard. Passed 2-hour 3000°F vertical flame test.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
41213	16/3	26/30	25	0.332	93
41215	12/4	65/30	42	0.448	166
41204	14	41/30	51	0.190	30
41205	12	65/30	70	0.208	42
41206	10	105/30	95	0.254	63

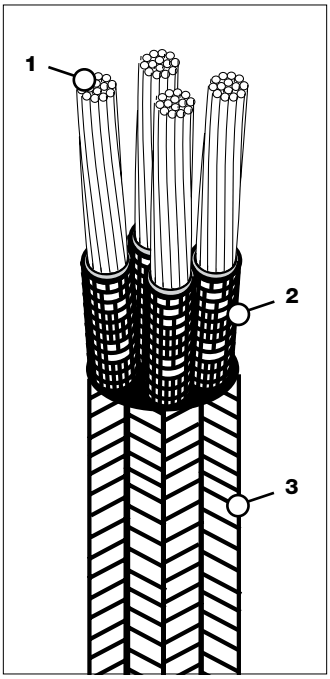
NOTE: (1) Ampacity is based on a single conductor in free air, 40ºC (104ºF) ambient, 450ºC (842ºF) conductor temperature. Ampacity ratings for Thermo-Trex high-temperature wire are significantly higher than normally insulated wire because the insulating materials used in Thermo-Trex can withstand much higher conductor temperatures without breaking down.

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

Thermo-Trex® 2000 Cable

• 600 V • RoHS Compliant • Continuous Temperatures up to 850 (454°C) • Extreme Temperatures up to 2000°F (1093°C)

Thermo-Trex® is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven glass-braid jacket impregnated with abrasion resistant finishing compounds. High heat resistance allows the Thermo-Trex® 2000 to withstand continuous temperatures up to 850°F and flash heat up to 2,000°F.



FEATURES & BENEFITS

1. 27% NICKEL-PLATED COPPER STRANDING — Long life in high-heat, improved signal quality. Increases flexibility, provides longer cable life.

2. SPECIAL MICA/GLASS MULTIPLE-LAYERED INSULATION — Provides long-term durability in the harshest industrial environments. Highly resistant to heat.

3. SPECIALLY WOVEN GLASS-BRAID JACKET, IMPREGNATED WITH FLUOROPOLYMER FINISHING COMPOUNDS — Provides first-line defense against abrasion and high heat.

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

CONDUCTOR IDENTIFICATION

Stove Pipe Printing: 1 – One, 2 – Two, 3 – Three

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
41103	22	7/30	11	0.095	4.62
41106	20	10/30	21	0.105	7.52
41109	18	16/30	28	0.115	9.77
41112	16	26/30	38	0.125	11.87
41115	14	41/30	51	0.140	17.12
41118	12	65/30	70	0.160	30
41121	10	105/30	95	0.210	41.58
41124	8	133/29	130	0.265	69.30
41127	6	133/27	177	0.310	102.90
41134	16/4	19/0.0117	13	0.317	77
41139	12/4	37/0.0133	23	0.388	142

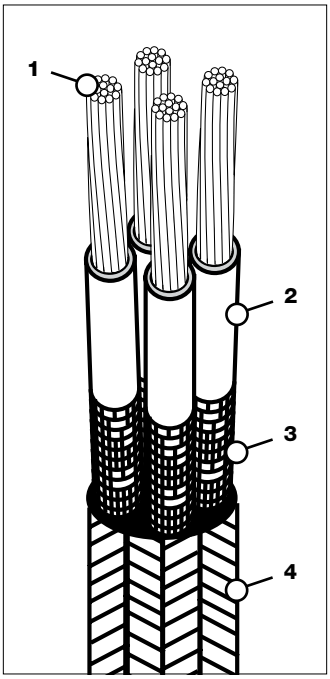
NOTE: (1) Ampacities are based on a single conductor in free air, 40°C (104°F) ambient, 450°C (842°F) conductor temperature. Ampacity ratings for Thermo-Trex high temperature wire are significantly higher than normal insulated wire because the insulating materials used in Thermo-Trex can withstand much higher conductor temperatures without breaking down.

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

Thermo-Trex® 850 Cable

• UL Recognized • CSA • 600 V • RoHS Compliant • Continuous Temperatures up to 500°F (260°C) • Extreme Temperatures up to 850°F (304°C)

Thermo-Trex® is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven glass-braid jacket impregnated with abrasion resistant finishing compounds. High heat resistance allows the Thermo-Trex® 850 to withstand continuous temperatures up to 500°F and flash heat up to 850°F.



FEATURES & BENEFITS

1. 2% NICKEL-PLATED COPPER, #30 AWG FLEXIBLE STRANDING — Increased flexibility, improved signal quality.

2. FLUOROPOLYMER VAPOR BARRIER INSULATION — Provides high resistance to chemicals and corrosives.

3. CERAMIC WRAP — Acts as a heat barrier to protect the insulation and provide optimum performance.

4. SPECIALLY WOVEN GLASS-BRAID JACKET, IMPREGNATED WITH FLUOROPOLYMER FINISHING COMPOUNDS — Provides first-line defense against abrasion and high heat.

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

CONDUCTOR IDENTIFICATION

Stove Pipe Printing: 1 – One, 2 – Two, 3 – Three

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
41062	18	16/30	27	0.110	13
41065	16	26/30	37	0.120	18
41068	14	41/30	51	0.140	24
41071	12	65/30	66	0.160	34
41074	10	105/30	90	0.185	51
41084	16/4	26/30	16	0.332	84
41087	16/12	26/30	10	0.566	224
41089	12/4	65/30	22	0.423	158

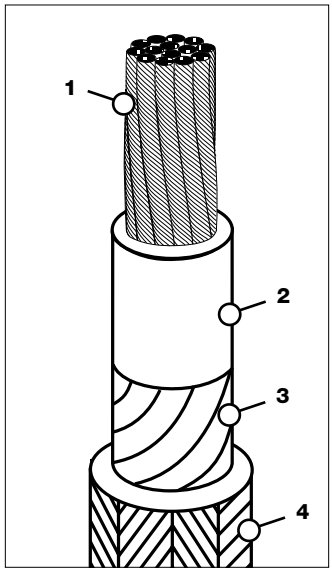
NOTE: (1) Ampacity is based on a single conductor in free air, 40ºC (104ºF) ambient, 200ºC (392ºF) conductor temperature. Ampacity ratings for Thermo-Trex high-temperature wire are significantly higher than normally insulated wire because the insulating materials used in Thermo-Trex can withstand much higher conductor temperatures without breaking down.

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

Thermo-Trex® 500-K Single Conductor Cable

• UL Recognized • 600 V • RoHS Compliant • Continuous Temperatures up to 392°F (200°C) • Extreme Temperatures up to 775°F (413°C)

Thermo-Trex® is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, tinned copper conductors and a specially woven aramid-braid jacket impregnated with heat and moisture resistant finishing compounds. High heat resistance allows the Thermo-Trex® 500-K to withstand continuous temperatures up to 392°F and flash heat up to 775°F. The aramid fiber braid jacket adds tensile strength and added protection against abrasion.



FEATURES & BENEFITS

1. CONDUCTORS — Flexible tinned copper strands for improved flexibility.

2. INSULATION — Silicone rubber provides resistance to heat, moisture and chemicals.

3. TFE WRAP — Improves performance in flexing applications and provides an additional thermal barrier to extend product life in extreme temperature environments.

4. JACKET — Heat and moisture resistant Aramid fiber braid jacket provides added protection against abrasion.

5. STAINLESS STEEL OVERBRAID — Optional

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	SILICONE THICKNESS (IN)	ARAMID BRAID THICKNESS (IN)	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
44002	16	7/24	0.045	0.025	37	0.200	24
44003	14	7/22	0.045	0.025	51	0.220	30
44004	12	19/25	0.045	0.025	66	0.240	40
44005	10	19/23	0.045	0.025	90	0.270	50
44006	8	54/25	0.060	0.040	125	0.375	90
44007	6	84/25	0.060	0.040	167	0.415	125
44008	4	133/25	0.060	0.040	226	0.475	185
44009	2	133/23	0.060	0.040	305	0.540	270
44010	1	259/25	0.080	0.040	362	0.625	360
44011	1/0	259/24	0.080	0.040	422	0.670	435
44012	2/0	259/23	0.080	0.040	492	0.725	530
44013	3/0	259/22	0.080	0.040	574	0.785	650
44014	4/0	259/21	0.080	0.040	671	0.850	810
44015	250	427/22	0.100	0.040	756	0.945	960
44016	350	427/21	0.100	0.040	947	1.06	1310
44017	500	427/19	0.100	0.040	1202	1.215	1830

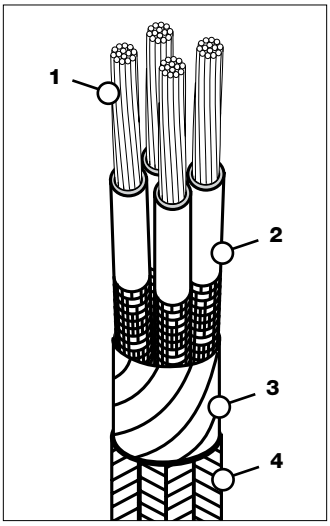
NOTE: (1) Based on single conductor in free air, 200ºC conductor temperature, 40ºC ambient temperature per IEEE STD 835.

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

Thermo-Trex® 500-K Multi-Conductor Cable

• 600 V • RoHS Compliant • Continuous Temperatures up to 392°F (200°C) • Extreme Temperatures up to 775°F (413°C)

Thermo-Trex® is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven aramid-braid jacket impregnated with heat and moisture resistant finishing compounds. High heat resistance allows the Thermo-Trex® 500-K to withstand continuous temperatures up to 392°F and flash heat up to 775°F. The aramid fiber braid jacket adds tensile strength and added protection against abrasion.



FEATURES & BENEFITS

1. CONDUCTORS — Flexible tinned copper strands for improved flexibility.

2. INSULATION — Silicone rubber provides resistance to heat, moisture and chemicals.

3. TFE WRAP — Improves performance in flexing applications and provides an additional thermal barrier to extend product life in extreme temperature environments.

4. JACKET — Heat and moisture resistant Aramid fiber braid jacket provides added protection against abrasion.

5. STAINLESS STEEL OVERBRAID — Optional

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

CONDUCTOR COLOR CODE					
COND	COLOR	TRACER	COND	COLOR	TRACER
1	Black	-	7	White	Black
2	White	-	8	Red	Black
3	Red	-	9	Green	Black
4	Green	-	10	Orange	Black
5	Orange	-	11	Blue	Black
6	Blue	-	12	Black	White

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	SILICONE THICKNESS (IN)	ARAMID BRAID THICKNESS (IN)	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
44027	14/2	7/22	0.045	0.030	36	0.375	55
44028	14/3	7/22	0.045	0.030	36	0.400	75
44029	14/4	7/22	0.045	0.030	36	0.435	100
44030	14/5	7/22	0.045	0.030	29	0.480	125
44031	14/7	7/22	0.045	0.030	29	0.520	170
44032	14/9	7/22	0.045	0.030	25	0.610	210
44033	14/12	7/22	0.045	0.030	18	0.690	280
44034	12/2	19/25	0.045	0.030	45	0.410	75
44035	12/3	19/25	0.045	0.030	45	0.430	110
44036	12/4	19/25	0.045	0.030	45	0.475	145
44037	12/5	19/25	0.045	0.030	36	0.520	175
44038	12/7	19/25	0.045	0.030	36	0.570	240
44039	12/9	19/25	0.045	0.030	32	0.670	300
44040	12/12	19/25	0.045	0.030	23	0.755	410
44041	10/2	19/23	0.045	0.045	60	0.525	125
44042	10/3	19/23	0.045	0.045	60	0.555	180
44043	10/4	19/23	0.045	0.045	60	0.615	235
44044	10/5	19/23	0.045	0.045	48	0.675	300
44045	10/7	19/23	0.045	0.045	48	0.740	385
44046	10/9	19/23	0.045	0.045	42	0.875	500
44047	10/12	19/23	0.045	0.045	30	0.990	665

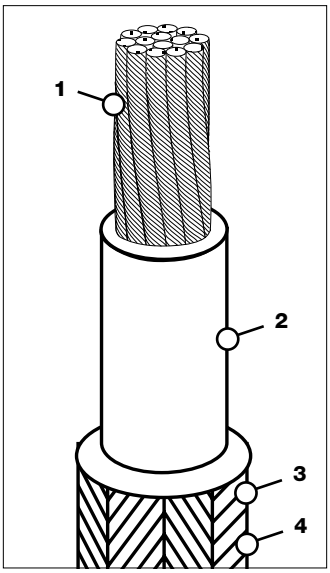
NOTE: (1) Based on an ambient temperature of 40°C and conductor temperature of 200°C per NEC 2011, Table 3.10.15(B)(18).

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please call us at 800-521-7935.

Thermo-Trex® 500 Cable

• UL Recognized • CSA • 600 V • RoHS Compliant • Continuous Temperatures up to 392°F (200°C) • Extreme Temperatures up to 775°F (413°C)

Thermo-Trex® 500 is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven glass-braid jacket impregnated with abrasion resistant finishing compounds. High heat resistance allows the Thermo-Trex® 500 to withstand continuous temperatures up to 392°F and flash heat up to 775°F.



FEATURES & BENEFITS

1. FLEXIBLE, TINNED COPPER STRANDING — Increased flexibility for easier installation.

2. SILICONE RUBBER INSULATION — Provides resistance to heat, moisture and chemicals.

3. WOVEN GLASS-BRAID JACKET — Provides defense, provides increased heat, abrasion and moisture resistance.

4. AVAILABLE IN A VARIETY OF COLORS — Easier identification, less chance for miswiring.

5. STAINLESS STEEL OVERBRAID — Optional

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.			CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
BLACK	WHITE	RED					
41001	**41002**	**41003**	18	7/26	27	0.121	12.5
41004	**41005**	**41006**	16	7/24	37	0.130	17
41007	**41008**	**41009**	14	7/22	51	0.145	23
41010	**41011**	**41012**	12	19/25	66	0.160	31.5
41013	**41014**	**41015**	10	19/23	90	0.220	53
41016	**41017**	**41018**	8	54/25	125	0.300	92
41019	**41020**	**41021**	6	84/25	167	0.340	133
41022	**41023**	**41024**	4	133/25	226	0.411	190
41025	**41026**	**41027**	2	133/23	305	0.500	280
41028	**41029**	**41030**	1	259/25	362	0.585	362
41031	**41032**	**41033**	1/0	259/24	422	0.645	440
41034	**41035**	**41036**	2/0	259/23	492	0.700	538
41037	**41038**	**41039**	3/0	259/22	574	0.755	659
41040	**41041**	**41042**	4/0	259/21	671	0.820	812

NOTE: (1) Ampacity is based on a single conductor in free air, 40ºC (104ºF) ambient, 200ºC (392ºF) conductor temperature. Ampacity ratings for Thermo-Trex high-temperature wire are significantly higher than normally insulated wire because the insulating materials used in Thermo-Trex can withstand much higher conductor temperatures without breaking down.

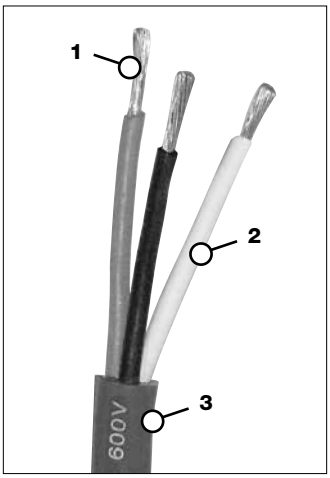
Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

A E F

Thermo-Trex® 500-Plus Silicone Cable

• UL Listed • cUL • CE • RoHS Compliant • FT-1 & FT-2 Flame Ratings • 600 V • Max Conductor Temperature 200°C • Low Smoke Zero Halogen

Thermo-Trex® 500-Plus Silicone Cable is designed with a tear resistant silicone jacket and rated at a conductor temperature of 200°C (392°F). It is an ideal choice for applications exposed to high temperatures, UV light and mechanical abuse. This is a low smoke zero halogen (LSZH) product.



FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Finely stranded tinned copper conductors improve flexibility and extends conductor life.

2. SILICONE INSULATION ON INDIVIDUAL CONDUCTORS — Silicone based elastomer insulation on individual conductors offers superior resistance to oil and abrasion. This insulation is extremely flexible and offers low smoke density and is halogen free.

3. TEAR RESISTANT SILICONE JACKET — The tear-resistant silicone jacket provides excellent protection against abrasion, mechanical abuse and is resistant to oils. It offers outstanding resistance to high temperatures, and remains flexible down to -40°C. The jacket material is low smoke/halogen-free.

ADD 500-PLUS SILICONE QUICK-CONNECTS™ TO COMPLETE YOUR ORDER! *See Pages 204-205 for more information.*

CONDUCTOR COLOR CODE	
1	White
2	Black
3	Green
4	Red
5	Orange

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE (AWG)	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
41462	16/2	19/29	30	0.272	46
41463	16/3	19/29	26	0.287	56
41464	16/4	19/29	24	0.295	70
41465	16/5	19/29	23	0.342	89
41423	12/3	19/20	45	0.409	124
41424	12/4	19/20	36	0.448	155

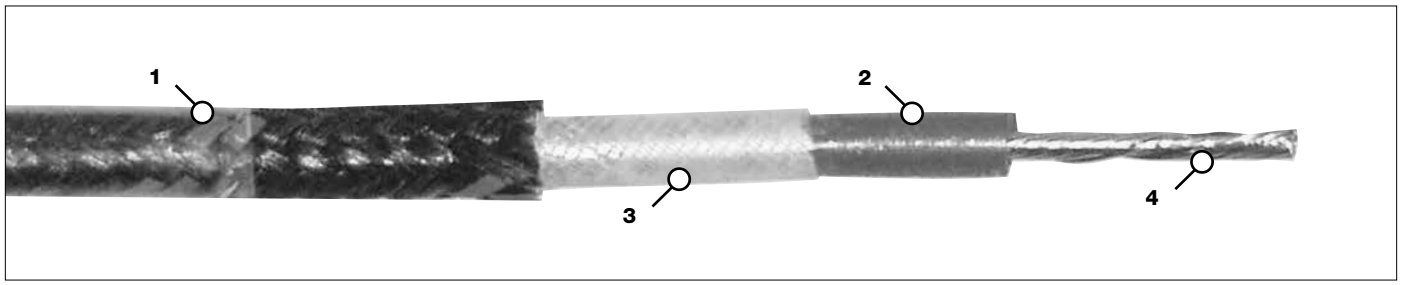
NOTE: (1) Calculations are based on 40°C ambient temperature, 200°C conductor temperature, single cable installed in free air.

Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart on page 259 to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.

Thermo-Trex® Flare Stack Cable

• 25 kV • Max Conductor Temperature 250°C

Thermo-Trex® Flare Stack Cable is the source for a high temperature resistant, flexible cable. This cable is suitable for virtually all flare stack igniter applications and with its unique cable design, it is built to weather the harshest environments ensuring ignition.



FEATURES & BENEFITS

1. FLUOROPOLYMER/FIBERGLASS JACKETING SYSTEM — Braided fiberglass over-coated with a fluoropolymer to provide additional weather and chemical protection. The addition of the fluoropolymer coating protects the fiberglass braid from damage during insulation, provides a slick surface for easier installation in conduit or cable trays and extends product use in outdoor environments.

2. HIGH VOLTAGE SILICONE MICA INSULATION SYSTEM — Provides superior heat and voltage protection and resistance to chemicals and weather. High voltage silicone provides additional flexibility, making the product easier to install.

3. MICA WRAP — Provides strong dielectric properties and good tensile strength. Resists heat and harsh chemicals such as alkali and acids.

4. 27% NICKEL-PLATED COPPER CONDUCTOR — Reduces corrosion in high heat environments and extends cable life.

5. VOLTAGE RATED FOR UP TO 25 kV — Suitable for virtually all flare stack igniter applications.

6. TEMPERATURE RATED FROM 250°C UP TO AN EXTREME OF 500°C — Provides insulation and jacketing protection in the most extreme temperature environments.

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Kiln Fans
- Flare Stacks
- Motor Operated Valves
- Emergency Isolation Valves
- Control Panels
- Crane Hoist

ORDERING INFORMATION *(Call for pricing & availability)*

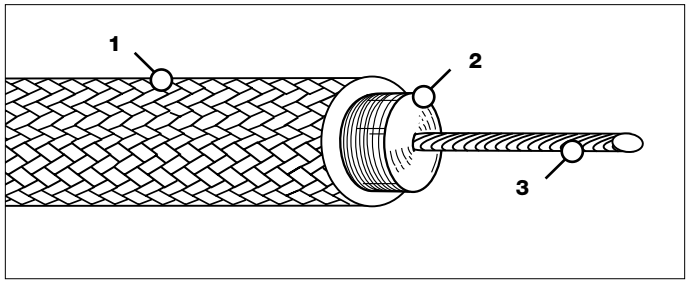
PART NO.	CONDUCTOR SIZE (AWG)	JACKET	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
40518	18	Glass-Fiber/Fluoropolymer	0.236	36
40516	16	Glass-Fiber/Fluoropolymer	0.242	42
40514	14	Glass-Fiber/Fluoropolymer	0.281	53
40512	12	Glass-Fiber/Fluoropolymer	0.306	65
40510	10	Glass-Fiber/Fluoropolymer	0.340	85

E F

Thermo-Trex® Igniter Wire (40100)

• RoHS Compliant

Thermo-Trex® is the source for a high temperature resistant, flexible cable. The igniter wire is an 18 AWG, nickel-plated copper conductor that is voltage rated to 25kV and a maximum temperature range of 538°C (1,000°F). Also available with a fluoropolymer jacket.



FEATURES & BENEFITS (40100)

1. BRAIDED FIBERGLASS JACKET WITH FLUOROPOLYMER SATURATED FINISH — Provides additional weather and chemical protection. The addition of the fluoropolymer coating protects the fiberglass braid from damage during insulation, provides a slick surface for easier installation in conduit or cable trays, and extends product use in outdoor environments.

2. INSULATED WITH MULTIPLE REINFORCED MICA TAPE WRAPS — Provides strong dielectric properties and good tensile strength. Resists heat and harsh chemicals such as alkali and acids.

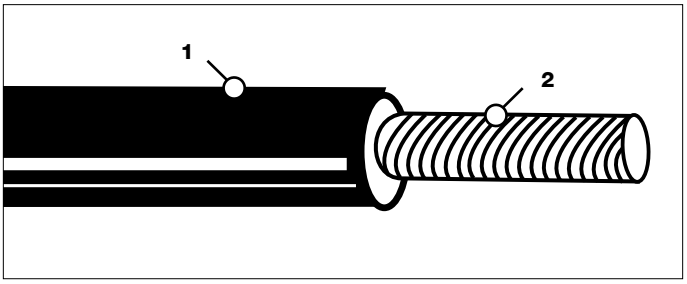
3. 27% NICKEL PLATED COPPER CONDUCTOR — Reduces corrosion in high heat environment, extends cable life.

A C E F

Thermo-Trex® Igniter Wire (40200)

• UL Listed • RoHS Compliant

Thermo-Trex® is the source for a high temperature resistant, flexible cable. The igniter wire is an 18 AWG, nickel-plated copper conductor that is voltage rated to 25kV and a maximum temperature range of 538°C (1,000°F). Also available with a fluoropolymer jacket.



FEATURES & BENEFITS (40200)

1. FLUOROPOLYMER JACKET — Ideal for harsh chemical environments. Excellent defense against cutting and abrasion. Resistant to oils, acids, solvents and chemicals. Designed for continuous temperature environments up to 250°C.

3. 27% NICKEL PLATED COPPER CONDUCTOR — Reduces corrosion in high heat environment, extends cable life.

APPLICATIONS

- Conveyors
- Pumps
- Furnaces
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Flare Stacks
- Control Panels
- Crane Hoist

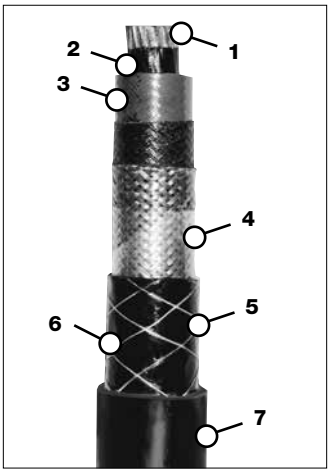
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	SIZE (AWG)	VOLTAGE	JACKET	TEMPERATURE	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
40100	18	25 kVDC/17 kVAC	Black (Fiberglass Braid)	1000°F / 538°C	0.339	50.13
40200	18	25 kVDC	Black (Fluoropolymer)	482°F / 250°C	0.098	41.00

A C F I T

Super-Trex® Medium Voltage Single Conductor Power Cable/Assemblies

- ASTM B-33: Standard specification for tinned soft or annealed copper wire for electrical purposes
- ICEA S-75-381/NEMA WC-58: Portable and power feeder cables for use in mines and similar applications
- IEEE - 383 Flame Rating
- FT-4 Flame Rating
- RoHS Compliant
- 600 V



FEATURES & BENEFITS

1. CONDUCTOR — High flex tin coated bunch stranded copper conductors, for long life in harsh environments.

2. CONDUCTOR SHIELD — Combination of semi-conducting tape and extruded semi-conductive TSE.

3. INSULATION — EPR insulation provides protection from moisture, heat and ozone.

4. INSULATION SHIELD — Tin coated braid shield placed over semi-conductive tape.

5. INNER JACKET — Heavy-duty TSE provides added strength.

6. REINFORCEMENT † — Rayon tire cord reinforcing, improves cable resistance to pulling and twisting.

7. OUTER JACKET — Extra heavy-duty TSE jacket provides excellent protection against industrial and environmental abuse. Resists tearing, abrasion, oil, impact, ozone and most chemicals.

ORDERING INFORMATION *(Call for pricing & availability)*

VOLTAGE/ JACKET COLOR	PART NO.	CABLE SIZE (AWG/COND)	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
5kV YELLOW	70502	2	259	190	0.110	1.125	0.975	674
	70510	1/0	266	260	0.110	0.140	1.060	825
	70520	2/0	323	300	0.110	0.140	1.170	1039
	70540	4/0	532	400	0.110	0.155	1.300	1393
	70525	250	627	445	0.120	0.155	1.300	1477
	70535	350	888	550	0.120	0.170	1.490	1926
	70550	500	1221	695	0.120	0.190	1.700	2662
15kV ORANGE	70102	2	259	195	0.210	0.155	1.203	881
	70110*	1/0	266	260	0.210	0.155	1.325	1147
	70120*	2/0	323	300	0.210	0.155	1.350	1226
	70140*	4/0	532	400	0.210	0.170	1.497	1594
	70125*	250	608	445	0.210	0.170	1.550	1760
	70135* †	350	888	550	0.210	0.190	1.765	2364
	70150* †	500	1221	685	0.210	0.190	1.900	2937
25kV RED	70201*	1	259	225	0.260	0.170	1.450	1170
	70210*	1/0	266	260	0.295	0.170	1.500	1350
	70220*	2/0	323	300	0.295	0.170	1.560	1507
	70240* †	4/0	532	395	0.295	0.190	1.713	1909
	70225*	250	627	440	0.295	0.190	1.765	2085
	70235* †	350	888	545	0.295	0.190	1.886	2517
	70250* †	500	1221	680	0.295	0.205	2.048	3168
	70275 †	750	1850	870	0.295	0.205	2.253	4253
35kV BLACK	70310	1	259	225	0.340	0.170	1.623	1465
	70316	1/0	266	260	0.340	0.170	1.725	1632
	70320	2/0	342	300	0.340	0.205	1.840	1898
	70340 †	4/0	532	395	0.340	0.205	1.895	2235
	70325 †	250	608	440	0.340	0.205	1.960	2429
	70335 †	350	888	545	0.340	0.205	2.100	2901
	70350 †	500	1221	680	0.340	0.205	2.280	3396

NOTES: (1) Allowable ampacity per conductor of insulated single conductor in air based on conductor temperature of 90°C and ambient air temperature of 40°C. NEC 2011 Table 310.60(C)(69).
**CSA Approved. †These cables include rayon reinforcement.*

Super-Trex® Medium Voltage Single Conductor Power Cable/Assemblies *(Continued)*

TPC's Medium Voltage Single Conductor Power cable is a highly flexible single conductor shielded medium voltage cable designed to ICEA standards. An extra heavy-duty TSE jacket provides excellent protection against tearing, abrasion, oil, impact and most industrial chemicals. Available in voltages from 5kV to 35kV. Ideal for applications where flexibility and ease of use is required. TPC can also add a connector to this cable and deliver a complete assembly — ready to install. A full testing report is provided to certify the testing and ensure the highest quality workmanship and traceability of the "ready to install" assembly.

We stock the product so you don't have to! TPC Wire & Cable carries deep inventories of medium voltage power cables and allows you to buy just the amount you need for your specific application.

Custom Cutting and Packaging Service. TPC will cut the cable to length for you and pack the product to your specific requirements. You will receive the product in the lengths you require ready to be installed.

Buy it Connectorized:

- Factory installed medium voltage terminations – standard or customized to meet your specific requirements.
- Factory installed load break elbows.
- Cut, packaged and shipped ready for installation.

APPLICATIONS

- Mobile substation equipment.
- Anywhere a flexible medium voltage cable is needed.
- Other series and colors available through our Engineered Products Department.

Available 2 AWG to 750 MCM

5kV	15kV	25kV	35kV
YELLOW	ORANGE	RED	BLACK

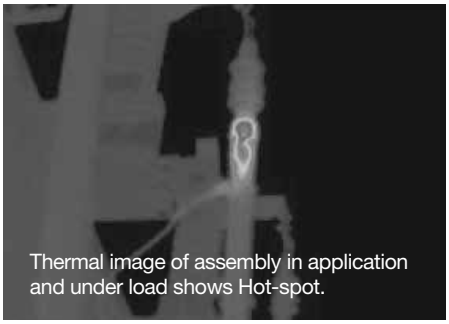
**35kv is NOT CSA approved*

MEDIUM VOLTAGE CABLE ASSEMBLY TESTING

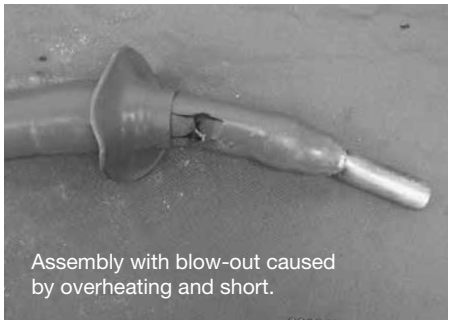
TPC Wire & Cable Corp. tests all Medium and High Voltage assemblies prior to leaving our facility. All assemblies are tested in accordance with the ANSI/NEMA WC 58-2008, 6.17 electrical test requirements. A full testing report is provided to certify the testing and to ensure the highest quality workmanship and traceability of the ready to install assembly.

Damaging an assembly is easy to do but hard to detect until it is too late. ***TPC provides 100% AC or DC Hi-pot testing on all assemblies before they leave our facility – giving you 100% peace of mind.***

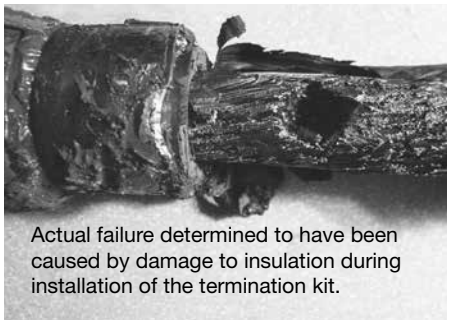
AVOID UNTESTED CABLE ASSEMBLIES



Thermal image of assembly in application and under load shows Hot-spot.



Assembly with blow-out caused by overheating and short.

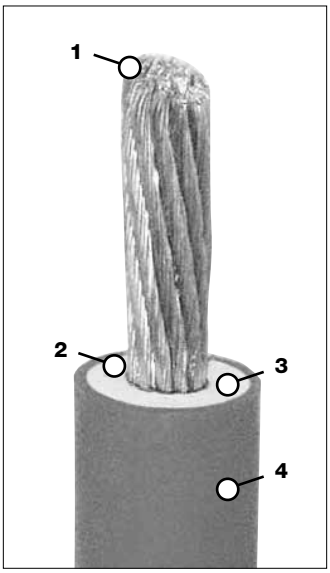


Actual failure determined to have been caused by damage to insulation during installation of the termination kit.

Super-Trex® Unshielded Jumper Cable, 15 kV

• Max Conductor Temperature 90°C • 15,000 Volts

Super-Trex® Unshielded Jumper Cable is a highly flexible single conductor unshielded medium voltage jumper cable designed for temporary use. Ideal for applications where an unshielded flexible medium voltage cable is required. Jumper cables are intended for temporary use only.



FEATURES & BENEFITS

1. EXTRA FLEXIBLE TINNED COPPER CONDUCTORS — Extends the flex life of this cable in abusive applications. Tinned copper resists corrosion.

2. SEMI-CONDUCTIVE TAPE — Placed directly over the tinned copper conductor the semi-conductive tape prevents the insulation compound from bonding to the conductor. This makes the product easier to strip and terminate.

3. EXTRUDED SEMI-CONDUCTIVE EPR INSULATION — Heat resistant, 90°C EPR insulation provides excellent dielectric properties and resists moisture and ozone.

4. TSE JACKET — Rated to 90°C and provides excellent protection from abrasion, tearing, impact and most chemicals.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONDUCTOR SIZE	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
78006	6	133	110	0.210	0.065	0.820	360
78004	4	259	150	0.210	0.065	0.880	449
78002	2	259	195	0.210	0.065	0.940	563
78010	1/0	266	260	0.210	0.065	1.05	742
78020	2/0	323	300	0.210	0.065	1.08	869
78040	4/0	532	400	0.210	0.065	1.22	1181
78350	350	888	550	0.210	0.065	1.34	1692
78500	500	1221	685	0.210	0.065	1.46	2192

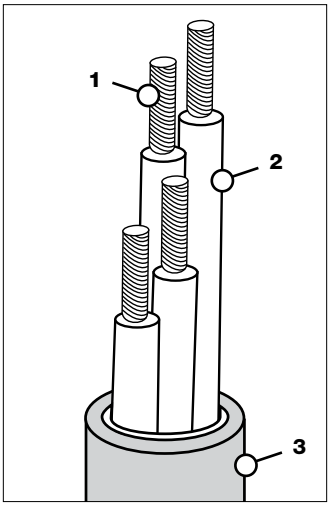
NOTES: (1) Based on a conductor temperature of 90°C, ambient temperature of 40°C, 15,000 volts, single conductor in free air per NEC 2014 Table 310.60(C)(69).

A C E F

Super-Trex® Extreme Temperature Cable *(-70°C to +150°C)*

• UL Recognized • cUL • 1,000 V • RoHS Compliant • FT-1 Flame Rating • UV Resistant • Operating Temperature Range -70°C to 150°C

Super-Trex® Extreme Temperature Cable is designed to operate in temperature extremes ranging from -70°C to 150°C per ISO standards (UL/cUL 105°C). This is a highly flexible portable cord and power cable that is ideally suited for extreme cold temperature applications. Features a conductor temperature rating of +150°C, and passes a -70°C cold bend test. The cross linked jacket offers excellent resistance to abrasion, oils and chemicals.



FEATURES & BENEFITS

1. STRANDED TINNED COPPER CONDUCTORS — Resist corrosion, improve flexibility, and help reduce conductor fatigue and breakage in flexing applications.

2. CROSS-LINKED TSE INSULATION ON INDIVIDUAL CONDUCTORS — The temperature rating of the insulation is matched to the jacket to provide maximum protection in high and low temperature applications. The heavy-duty design provides extra cut through protection.

3. HIGH TEMPERATURE CROSS-LINKED TSE JACKET — The jacket protects the cable from high temperature operation and remains flexible at extreme cold temperatures. The heavy-duty jacket provides protection from cutting, abrasion, water, oils, chemicals and is UV resistant.

4. UL RECOGNIZED — Certified by UL to both Canadian and U.S. requirements.

COLOR CODE	
PAIR NO.	**COLOR**
1	White
2	Black
3	Green
4	Red

APPLICATIONS

- Deep Freeze Food Processing
- Extreme Hot Applications
- Outdoor Applications
- Construction Sites
- Industrial Ovens
- Arctic Pipeline
- Steel Mills
- Foundries
- Oil Fields

ORDERING INFORMATION *(Call for pricing & availability)*

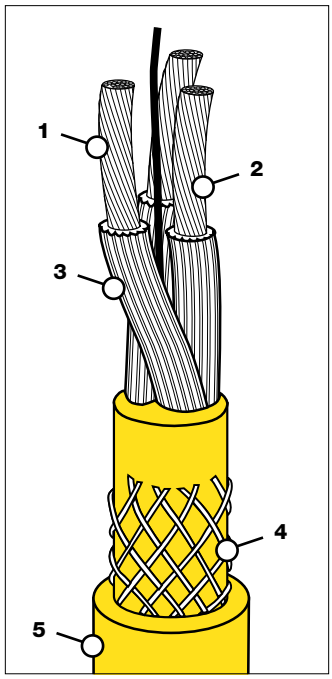
PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	JACKET THICKNESS (IN)	WT. (LBS) PER 1000'
87840	14/3	41/30	34	0.426	0.065	106
87841	14/4	41/30	34	0.460	0.065	130
87835	12/3	65/30	43	0.465	0.065	141
87836	12/4	65/30	43	0.503	0.065	172
87830	10/3	105/30	55	0.492	0.065	192
87831	10/4	105/30	55	0.536	0.065	238
87825	8/3	168/30	76	0.685	0.060	306
87826	8/4	168/30	76	0.790	0.080	482
87820	6/3	259/30	96	0.814	0.080	448
87821	6/4	259/30	96	0.889	0.080	593
87815	4/3	413/30	120	0.933	0.080	653
87816	4/4	413/30	120	1.022	0.080	871
87810	2/3	665/30	160	1.074	0.080	991
87811	2/4	665/30	160	1.179	0.080	1328

NOTES: (1) Based on an ambient temperature of 40°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(18).

Super-Trex® Triple-Gard™ Yellow Portable Cord

- UL Listed
- CSA
- Type SOOW
- RoHS Compliant
- FT-2 Flame Rating
- 600 V
- Suitable for Class 1, 2, 3 Division 1 & 2*
- Operating Temperature Range -40°C to 90°C
- Triple Layered Construction
- Extra Hard Usage
- UV Resistant

Super-Trex® Yellow Triple-Gard™ portable cord is a highly flexible, Extra Hard Usage portable cord with excellent resistance to impact, cutting, abrasion, oils and most industrial chemicals. Features an integral fill, dual layered fiber reinforced jacket for added strength against twisting and pulling. Ideal for appliations where cable tension is a concern. Security yellow TSE jacket allows for extreme all weather flexibility.



FEATURES & BENEFITS

1. TINNED CONDUCTORS — Resists corrosion, easier to solder.

2. 2-1/2 TIMES MORE STRANDING — Improves flexibility. Reduces conductor fatigue and breakage.

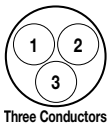
3. THIRD LAYER: SPECIALLY RIBBED OIL RESISTANT LIVE-FLEX CONDUCTOR INSULATION — Resists effects of lubricating oils, coolants, cutting oils, acids and most chemicals. Superior tensile strength.

4. SECOND LAYER: RAYON REINFORCED BRAID AND INTEGRAL FILL DESIGN — Provides added strength. Improves cable resistance to tearing, abrasion, twisting and pulling. Locks the conductors into the jacket. Helps prevent cork-screwing and premature conductor failure.

5. FIRST LAYER: SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Superior first line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all weather flexibility.

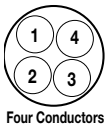
6. SUPER-TREX® TRIPLE-GARD™ CONSTRUCTION — Extends life in torque, tension and flexing applcations.

Portable Cord and Color Rotation



Three Conductors

Rotation	Nema Color Code
1	Black
2	White
3	Green



Four Conductors

Rotation	Nema Color Code
1	Black
2	White
3	Red
4	Green

Recommended Minimum Bend Radius for Cable Applications

The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

APPLICATIONS

- Cord Reels
- Construction Sites
- Conveyors
- Extension Cords
- Floor Polishers
- Foot Switches
- Heavy-Duty Tools
- Hospital Equipment
- Industrial Heaters
- Limit Switches
- Man Cooling Fans
- Molds and Dies
- Motor Leads
- Pendant Pushbutton Stations
- Portable Machinery
- Proximity Switches
- Sanders
- Signaling Equipment
- Solenoid Valves
- T-Stands
- Welding Primary

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
85194	14/3	105 x 34	15	0.045	0.080	0.548	185	4.38
85199	14/4	105 x 34	15	0.045	0.080	0.590	245	4.72
85195	12/3	168 x 34	20	0.045	0.095	0.623	265	4.98
85200	12/4	168 x 34	20	0.045	0.095	0.675	320	5.40
85196	10/3	259 x 34	25	0.045	0.095	0.685	335	5.48
85201	10/4	259 x 34	25	0.045	0.095	0.745	400	5.96

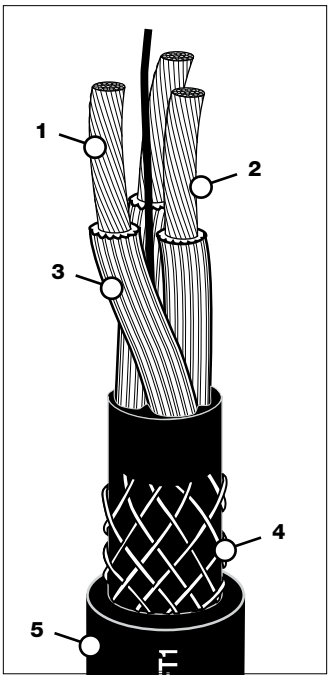
NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(1).
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

A C F I T

Super-Trex® Triple-Gard™ Black Portable Cord

- UL Listed
- CSA
- Type SOOW
- RoHS Compliant
- FT-1 Flame Rating
- 600 V
- Suitable for Class 1, 2, 3, Division 1 & 2*
- Operating Temperature Range -40°C to 90°C
- MSHA Approved
- Weather Resistant
- UV Resistant
- Extra Hard Usage

Super-Trex® Black Triple-Gard™ portable cord is a highly flexible, Extra Hard Usage portable cord with excellent resistance to impact, cutting, abrasion, oils and most industrial chemicals. Features an integral fill, dual layered fiber reinforced jacket for added strength against twisting and pulling. Ideal for appliations where cable tension is a concern. Black TSE jacket allows for extreme all weather flexibility.



FEATURES & BENEFITS

1. TINNED CONDUCTORS — Resists corrosion, easier to solder.

2. 2-1/2 TIMES MORE STRANDING — Improves flexibility. Reduces conductor fatigue and breakage.

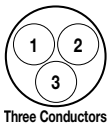
3. THIRD LAYER: SPECIALLY RIBBED OIL RESISTANT LIVE-FLEX™ CONDUCTOR INSULATION — Resists effects of lubricating oils, coolants, cutting oils, acids and most chemicals. Superior tensile strength.

4. SECOND LAYER: RAYON REINFORCED BRAID AND INTEGRAL FILL DESIGN — Provides added strength. Improves cable resistance to tearing, abrasion, twisting and pulling. Locks the conductors into the jacket. Helps prevent cork-screwing and premature conductor failure.

5. FIRST LAYER: SPECIALLY COMPOUNDED, BLACK, SUPER-TREX® TSE JACKET — Superior first line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all weather flexibility.

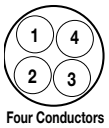
6. SUPER-TREX® TRIPLE-GARD™ CONSTRUCTION — Extends life in torque, tension and flexing applcations.

Portable Cord and Color Rotation



Three Conductors

Rotation	Nema Color Code
1	Black
2	White
3	Green



Four Conductors

Rotation	Nema Color Code
1	Black
2	White
3	Red
4	Green

Recommended Minimum Bend Radius for Cable Applications

The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

APPLICATIONS

- Cord Reels
- Construction Sites
- Conveyors
- Extension Cords
- Floor Polishers
- Foot Switches
- Heavy-Duty Tools
- Hospital Equipment
- Industrial Heaters
- Limit Switches
- Man Cooling Fans
- Molds and Dies
- Motor Leads
- Pendant Pushbutton Stations
- Portable Machinery
- Proximity Switches
- Sanders
- Signaling Equipment
- Solenoid Valves
- T-Stands
- Welding Primary

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
85093**	16/3	65 x 34	10	0.030	0.060	0.408	105	3.26
85098**	16/4	65 x 34	10	0.030	0.060	0.435	130	3.48
85094	14/3	105 x 34	15	0.045	0.080	0.548	185	4.38
85099	14/4	105 x 34	15	0.045	0.080	0.590	245	4.72
85095	12/3	168 x 34	20	0.045	0.095	0.623	265	4.98
85000	12/4	168 x 34	20	0.045	0.095	0.675	320	5.40
85096	10/3	259 x 34	25	0.045	0.095	0.685	335	5.48
85001	10/4	259 x 34	25	0.045	0.095	0.745	400	5.96

NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(1).

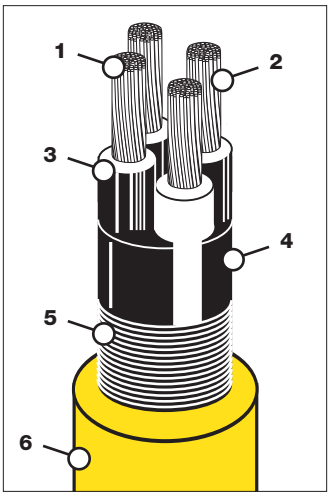
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

***16 AWG products are designed with reinforced single pass jacket.*

Super-Trex® Type TC-ER Rated Portable Cord

- UL Listed
- CSA
- Type SOOW
- Type TC-ER
- FT-4 Flame Rating
- MSHA Approved
- Suitable for Class 1, 2, 3, Division 1 & 2*
- Max Conductor Temperature 90°C
- Oil Resistant
- Sunlight Resistant
- Extra Hard Usage
- 600 V

Super-Trex® Type TC-ER is a highly flexible, Extra Hard Usage portable cord with excellent resistance to impact, cutting, abrasion, oils and most industrial chemicals. This cable also features tinned Extra-Flex™ stranded copper conductors and Live-Flex™ insulation with No-Wick™ reinforced fillers and 100% fabric serve. Security yellow TSE jacket allows for extreme all weather flexibility.



FEATURES & BENEFITS

1. TINNED EXTRA-FLEX™ #34 AWG BUNCH STRANDED COPPER — Improves flexibility and reduces conductor fatigue and breakage. The tinned conductors resist corrosion making them easier to solder.

2. TINNED CONDUCTORS — Resists corrosion, easier to solder.

3. LIVE-FLEX OIL AND FLUID RESISTANT THERMOSET INSULATION, WITH SEPARATOR — Resists effects of lubricating oils, coolants, cutting oils, acids and most chemicals. Superior tensile strength.

4. NO-WICK™ RAYON-REINFORCED SYNTHETIC FILLER — Adds tensile strength. Improves flexibility and won't wick up liquids. Acts like a shock absorber to reduce damage from impact.

5. 100% FABRIC SERVE, JACKET IMPREGNATED — Increases tear resistance, provides greater protection from impact.

6. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat-resistant. Extreme all-weather flexibility.

PASSED UL2225 CRUSH & IMPACT TEST

Rotation & Nema Color Code	3 Conductor	4 Conductor
	1 Black 2 White 3 Green	1 Black 2 White 3 Red 4 Green

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*

Recommended Minimum Bend Radius for Cable Applications

The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

APPLICATIONS

- Automated Equipment
- Cable Raceways
- Cable Trays-TC Rated
- Construction Sites
- Conveyors
- Electrical Fans
- Extension Cords
- Foot Switches
- Heavy-Duty Tools
- Indoor and Outdoor Use
- Industrial Heaters
- Industrial Lighting
- Modular Power
- Molds and Dies
- Motor Leads
- Packaging Equipment
- Portable Machinery
- Signal Circuits
- Sound Equipment
- Wet or Dry Use

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
87193TC	16/3	65 x 34	10	0.030	0.060	0.408	105	3.26
87198TC	16/4	65 x 34	10	0.030	0.060	0.435	130	3.48
87194TC	14/3	104 x 34	15	0.045	0.080	0.548	185	4.38
87199TC	14/4	104 x 34	15	0.045	0.080	0.590	245	4.72
87200TC	12/4	165 x 34	20	0.045	0.095	0.675	320	5.40
87201TC	10/4	259 x 34	25	0.045	0.095	0.738	400	5.90

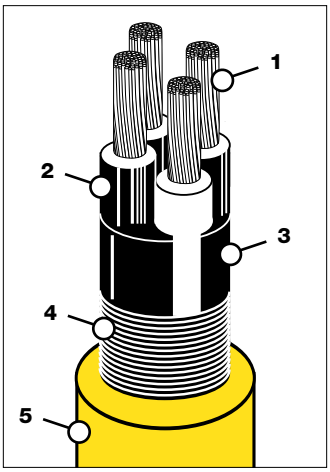
NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(1).
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

A C F I

Super-Trex® Ultra-Gard™ Portable Cord

- UL Listed
- CSA
- Type SOO
- 600 V
- FT-2 Flame Rating
- RoHS Compliant
- Suitable for Class 1, 2, 3, Division 1 & 2*
- Operating Temperature Range -30°C to 90°C
- MSHA Approved
- Extra Hard Usage
- UV Resistant

Super-Trex® Ultra-Gard™ Portable Cord is one of TPC's most tried and true products. It's a highly flexible portable cord with excellent resistance to impact, cutting, abrasion, oils and most industrial chemicals. Rated for Extra Hard Usage, this cable also features tinned Extra-Flex™ stranded copper conductors and Live-Flex™ insulation with No-Wick™ reinforced fillers and 100% fabric serve. Security yellow TSE jacket allows for extreme all weather flexibility.



FEATURES & BENEFITS

1. TINNED EXTRA-FLEX™ #34 AWG BUNCH STRANDED COPPER — Improves flexibility and reduces conductor fatigue and breakage. The tinned conductors resist corrosion making them easier to solder.

2. LIVE-FLEX OIL AND FLUID RESISTANT THERMOSET INSULATION, WITH SEPARATOR — Resists effects of lubricating oils, coolants, cutting oils, acids and most chemicals. Superior tensile strength.

PASSED UL2225 CRUSH & IMPACT TEST

3. NO-WICK™ RAYON-REINFORCED SYNTHETIC FILLER — Adds tensile strength. Improves flexibility and won't wick up liquids. Acts like a shock absorber to reduce damage from impact.

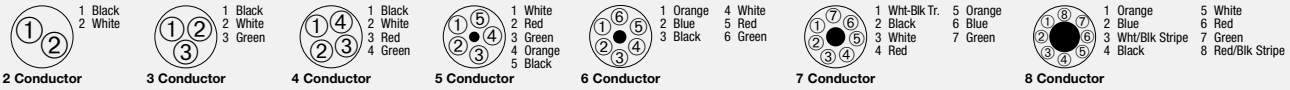
4. 100% FABRIC SERVE, JACKET IMPREGNATED — Increases tear resistance, provides greater protection from impact.

5. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat-resistant. Extreme all-weather flexibility.

APPLICATIONS

- Cord Reels
- Conveyors
- Construction Sites
- Dockside Power
- Extension Cords
- Floor Polishers
- Foot Switches
- Heavy Duty Tools
- Hospital Equipment
- Industrial Heaters
- Limit Switches
- Man Cooling Fans
- Molds and Dies
- Motor Leads
- Portable Machinery
- Pendant Pushbutton Stations
- Proximity Switches
- Sanders
- Solenoid Valves
- Signaling Equipment
- Sound Equipment
- T-Stands
- Welding Primary

Rotation & Nema Color Code



ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
87192	18/3	41 x 34	7	0.030	0.060	0.380	80	3.04
87197	18/4	41 x 34	7	0.030	0.060	0.408	100	3.26
87191	16/2	65 x 34	13	0.030	0.060	0.388	85	3.10
87193	16/3	65 x 34	10	0.030	0.060	0.408	105	3.26
87198	16/4	65 x 34	10	0.030	0.060	0.435	120	3.48
87202	16/5	65 x 34	8	0.030	0.080	0.520	175	4.16
87206	16/6	65 x 34	8	0.030	0.080	0.560	210	4.48
87207	16/7	65 x 34	7	0.030	0.080	0.630	240	5.04
87208	16/8	65 x 34	7	0.030	0.080	0.640	275	5.12
87194	14/3	104 x 34	15	0.045	0.080	0.548	180	4.38
87199	14/4	104 x 34	15	0.045	0.080	0.590	210	4.72
87195	12/3	165 x 34	20	0.045	0.095	0.623	235	4.98
87200	12/4	165 x 34	20	0.045	0.095	0.675	290	5.40
87196	10/3	259 x 34	25	0.045	0.095	0.685	310	5.48
87201	10/4	259 x 34	25	0.045	0.095	0.738	385	5.90

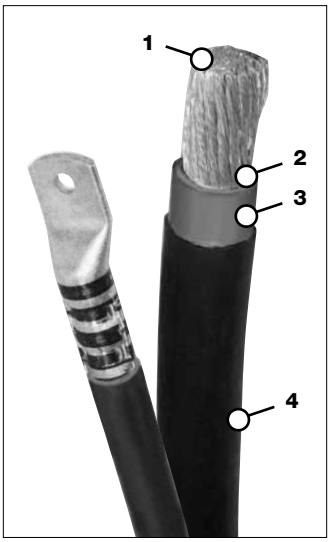
NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(1).

**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Super-Trex® Single Conductor Power Cable

- UL Listed
- For CT Use
- Type RHH/RHW-2
- RoHS Compliant
- VW-1 Flame Rating
- FT-4 Flame Rating
- IEEE 1202 Flame Rating
- Sunlight Resistant
- Max Conductor Temperature 90°C
- Meets Smoke Release Test
- 2,000 V

TPC's Single Conductor Power Cables are flexible single conductor power cables of Type RHH/RHW-2 and Type CT for tray cable use. Two layer design of insualtion and jacket provides excellent protection against abrasion, impact, oils and most industrial chemicals. Cable design meets low smoke requirements of UL 1685.



FEATURES & BENEFITS

1. CONDUCTORS — Flexible stranded, tinned, annealed coated copper.

2. SEPARATOR — Suitable separator tape provides easy stripping of insulation.

3. INSULATION — Ethylene propylene rubber (EPR).

4. SUPER-TREX® TSE JACKET — Flame retardant, oil and sunlight resistant, meets low smoke requirements of UL 1685.

5. FEATURES A TWO LAYER COMPOSITE — Flame retardant, oil and sunlight resistant TSE outer layer and an EPR inner layer.

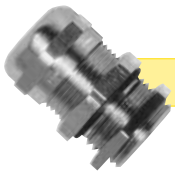
APPLICATIONS

- Locomotive and Car Equipment
- Motor and Generator Leads
- Battery Leads
- Shipyards
- Telecommunications Power
- Heavy Earth Moving Equipment
- Wind Turbines
- Other Heavy-Duty Flexing Applications.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	SIZE AWG/ KCMIL	MIN. WIRES PER COND	AMPACITY[1] (90°C)	INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
76020	2/0	342	300	0.065	0.045	0.69	562
76030	3/0	418	350	0.065	0.045	0.77	757
76040	4/0	532	405	0.065	0.052	0.82	894
76262	262	646	467	0.075	0.052	0.96	1091
76313	313	777	522	0.075	0.052	1.01	1245
76373	373	925	591	0.075	0.052	1.07	1486
76444	444	1110	652	0.075	0.052	1.14	1749
76323	535	1332	728	0.090	0.052	1.26	2099
76646	646	1591	815	0.090	0.052	1.36	2464
76777	777	1924	904	0.090	0.052	1.44	2899

NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(17).



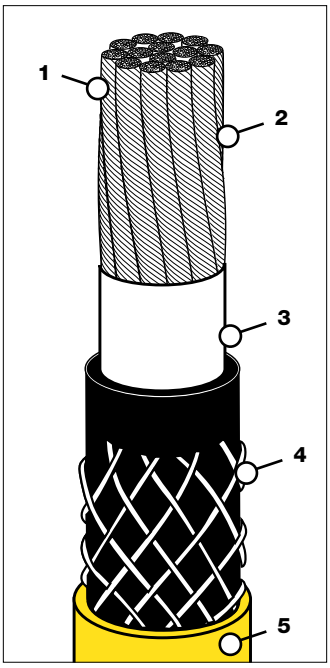
ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*

A C F I T

Super-Trex® Type W - RHH/RHW Single Conductor Power Cable

- UL Listed
- RoHS Compliant
- Type RHH/RHW – 600 V
- Type W – 2,000 V
- Max Conductor Temperature 75°C – Wet
- Max Conductor Temperature 90°C – Dry
- Extra Hard Usage
- UV Resistant
- Suitable for Class 1, 2, 3, Division 1 & 2*

Super-Trex® Type W RHH/RHW Single Conductor Power Cable features a high strand count and our Live-Flex™ insulation to provide superior flexibility and ease of installation. The security yellow TSE jacket provides excellent protection against abrasion, tearing, impact, oils and most industrial chemicals.



FEATURES & BENEFITS

1. TINNED COPPER CONDUCTOR BUNCHED IN A LEFT HAND LAY — Resists corrosion, easy to solder, improved flex life.

2. #30 AWG STRANDED COPPER CONDUCTOR — Provides for easy installation and longer life in vibration and flexing applications.

3. MYLAR SEPARATOR — Easier to strip. Saves time.

4. LIVE-FLEX™ RIBBED EPR CONDUCTOR INSULATION RATED 90°C — Ribbed to prevent kinking and breakage due to twisting and flexing. Resists dry rot. High dielectric, tensile and mechanical properties.

5. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat-resistant. Extreme all-weather flexibility.

APPLICATIONS

- Automation Equipment
- Cable Carrier
- Crane Power
- Electroplating Equipment
- Induction Furnaces
- Motor Power Leads
- Metal Heat Treating Equipment
- Permanent Power
- Pumps
- Wet and Dry Environments

Recommended Minimum Bend Radius for Cable Applications: The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	COND SIZE MCM	CONDUCTOR STRANDING	AMPACITY[1]		INSULATION THICKNESS (IN)	JACKET THICKNESS (IN)	NOM. O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
			WET** 75°C	DRY** 90°C					
86324	#2	665 x 30	170	190	0.060	0.095	0.660	440	5.28
86325	2/0	1330 x 30	265	300	0.080	0.095	0.820	750	6.56
86326	4/0	2107 x 30	360	405	0.080	0.095	0.965	1080	7.72
86319	250	2496 x 30	405	455	0.095	0.095	1.035	1310	8.28
86321	350	3458 x 30	505	570	0.095	0.095	1.140	1720	9.12
86323	500	5054 x 30	620	700	0.095	0.095	1.325	2320	10.60

NOTES: (1) Based on an ambient temperature of 30°C per NEC 2011, Table 310.15(B)(17).

**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

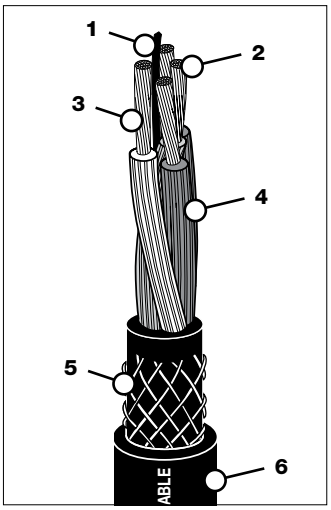
***Conductor Temperature*

A C E F I T

Super-Trex® Type W Portable Power & Automation Cable

- UL Listed
- cUL Listed
- Type W – 2,000 V
- All Weather Usage
- FT-5 Flame Rating
- IEEE 1202 Flame Rating
- ICEA S-75-381
- MSHA Approved
- Suitable for Class 1, 2, 3, Division 1 & 2*
- Operating Temperature Range -40°C to 90°C
- UV Resistant
- Extra Hard Usage

Super-Trex® Type W Portable Power and Automation Cable is rated for Extra Hard Usage. This portable power cable has excellent resistance to abrasion, impact, tearing, and most industrial chemicals and keep its all-weather flexibility to -40° C. The cable design features an integral fill, dual layered fiber reinforced jacket and Live-Flex™ ribbed insulation for added strength. This is a black jacketed product.



FEATURES & BENEFITS

1. NO-WICK™ RAYON REINFORCED SYNTHETIC CENTER — Adds tensile strength. Improves flexibility. Won't wick up liquids. Acts like a shock absorber to reduce damage from impact.

2. FLEXIBLE CONCENTRIC ROPE LAY BUNCH STRANDED COPPER — Provides longer life in reeling, flexing and twisting applications.

3. TINNED CONDUCTORS — Resists corrosion. Easier to solder.

4. LIVE-FLEX™ EPR CONDUCTOR INSULATION RATED 90°C — Resists dry rot. High dielectric, tensile and mechanical properties.

5. POLYESTER TIRE CORD REINFORCING BRAID EMBEDDED IN JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

6. SPECIALLY COMPOUNDED TSE SUPER-TREX® DOUBLE PASS JACKET — Superior first line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Excellent all weather flexibility.

COLOR CODE	
#	BASE COLOR
2	Black, White
4	Black, White, Red, Green

AMPACITY CHANGES BASED ON LAYERS	
NO. OF LAYERS	CORRECTION FACTORS
1	0.85
2	0.65
3	0.45
4	0.35

AMPACITY CHANGES BASED ON TEMPERATURE[1]		
AMBIENT TEMPERATURE		CORRECTION FACTOR MULTIPLY AMPACITY BY
°C	°F	
21 - 25	70 - 77	1.04
26 - 30	78 - 86	1.00
31 - 35	87 - 95	0.96
36 - 40	96 - 104	0.91
41 - 45	105 - 113	0.87
46 - 50	114 - 122	0.82
51 - 55	123 - 131	0.76
56 - 60	132 - 140	0.71
61 - 65	141 - 149	0.65
66 - 70	150 - 158	0.58

NOTE: (1) NEC 2011, Table 310.15(B)(2)(A).

APPLICATIONS

- Arc Welders
- Automated Equipment
- Robotic Welding
- Conveyors and Cranes
- Generator Power
- Lifting Magnets
- Mining Machines
- Mobile Equipment
- Movie Studio Power
- Pumps and Heaters
- Railroad Stand-by Power
- Retractable Reels
- Saws and Drills
- Shovels and Dredges
- Temporary & Emergency Power
- Transfer Cars and Loaders

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[2]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MSHA
87404	8/2	133 (7 x 19)	74	0.141	0.902	409	•
87304	8/4	133 (7 x 19)	65	0.141	1.027	643	•
87406	6/2	259 (7 x 37)	99	0.141	0.960	505	•
87306	6/4	259 (7 x 37)	87	0.141	1.100	818	•
87407	4/2	259 (7 x 37)	130	0.141	1.096	702	•
85108	4/4	259 (7 x 37)	114	0.141	1.270	1152	•
87408	2/2	259 (7 x 37)	174	0.141	1.220	1033	•
85110	2/4	259 (7 x 37)	152	0.141	1.380	1549	•
87411	1/0-2	266 (19 x 14)	234	0.156	1.520	1616	•
85258	2/0-3	323 (19 x 17)	237	0.156	1.750	2342	•
85224	2/0-4	323 (19 x 17)	237	0.156	1.880	2872	

NOTE: (2) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(2).
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

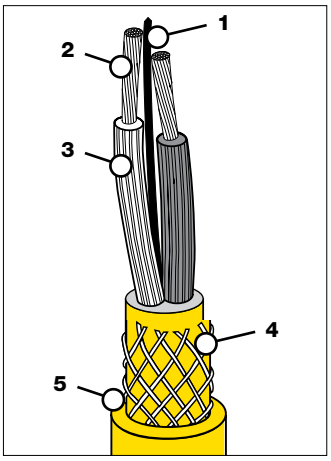
TPC WIRE & CABLE CORP. • USA 800-521-7935 • CANADA 800-545-0122 • MEXICO 001-877-283-1696

A C F I

Super-Trex® Type W/Type TC Portable Power & Automation Cable

- UL Listed
- cUL Listed *(3-6 conductors only)*
- MSHA Approved
- ICEA S-75-381
- Type W – 2,000 V
- Type TC-ER – 2,000 V
- Suitable for Class 1, 2, 3, Division 1 & 2*
- Max Conductor Temperature 90°C
- UV Resistant
- Extra Hard Usage

Super-Trex® Type W/ Type TC-ER Portable Power and Automation Cable is rated for Extra Hard Usage. This portable power cable has excellent resistance to abrasion, impact, tearing, and most industrial chemicals. Features an integral fill, dual layered fiber reinforced jacket and Live-Flex™ ribbed insulation for added strength. Security yellow TSE jacket allows for extreme all weather flexibility.



Conductor Color Code	
#	**BASE COLOR**
2	Black, White
3	Black, Red, Green
4	Black, White, Red, Green
5	Black, White, Red, Green, Orange
6	Black, White, Red, Green, Orange, Blue

FEATURES & BENEFITS

1. NO-WICK™ REINFORCED SYNTHETIC FILLERS — Adds tensile strength. Improves flexibility. Won't wick up liquids. Acts like a shock absorber to reduce damage from impact. *(2 conductor only.)*

2. FLEXIBLE CONCENTRIC ROPE LAY BUNCH STRANDED COPPER — Provides longer life in reeling, flexing and twisting applications.

3. LIVE-FLEX™ RIBBED EPR RATED 90°C — Ribbed to prevent kinking and breakage due to twisting and flexing. Resists dry rot. High dielectric, tensile and mechanical properties.

4. POLYESTER TIRE CORD REINFORCING BRAID EMBEDDED IN JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

5. HEAVY-DUTY SECURITY YELLOW SUPER-TREX® TSE DOUBLE PASS JACKET — Provides superior first-line defense against industrial and environmental abuse. Resists tearing, abrasion, oil, impact, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

FLEX TESTED
Tested to over
4,500,000
cycles in cable carrier
without failure!

APPLICATIONS

- Arc Welders
- Automated Equipment
- Robotic Welding
- Conveyors and Cranes
- Generator Power
- Lifting Magnets
- Mining Machines
- Mobile Equipment
- Movie Studio Power
- Pumps and Heaters
- Railroad Stand-by Power
- Retractable Reels
- Saws and Drills
- Shovels and Dredges
- Temporary & Emergency Power
- Transfer Cars and Loaders
- Robot Power Supplies
- Tray Cable Applications

ORDERING INFORMATION *(Call for pricing & availability)*

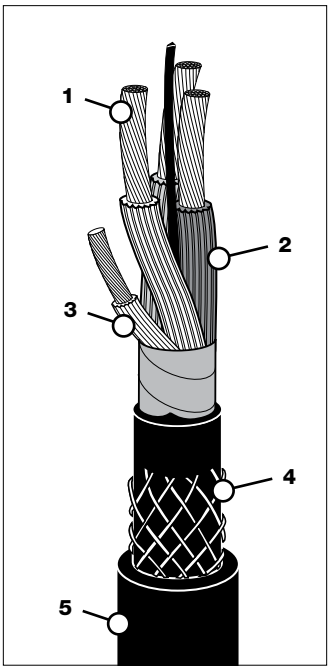
PART NO.	CORD SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICK (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)	FLAME RATING	TC	TC-ER	MSHA
85404	8/2	133 (7 x 19)	74	0.141	0.950	512	7.60	FT-1	•		•
85406	6/2	259 (7 x 37)	99	0.141	1.050	626	8.40	FT-4	•		•
85407	4/2	259 (7 x 37)	130	0.141	1.150	823	9.20	FT-4	•		•
85408	2/2	259 (7 x 37)	174	0.141	1.265	1094	10.12	FT-4	•		•
85411	1/0-2	1064 (19 x 56)	234	0.156	1.625	1766	13.00	FT-4	•		
85203	8/3	133 (7 x 19)	65	0.141	1.00	598	8.00	FT-1		•	•
85205	6/3	259 (7 x 37)	87	0.141	1.080	742	8.64	FT-4		•	•
85257	4/3	259/28	114	0.141	1.225	997	9.80	FT-4		•	•
85259	2/3	259/26	152	0.141	1.34	1353	10.72	FT-4		•	•
85255	1/0-3	1050 x 30	205	0.156	1.70	2328	13.60	FT-4		•	
85204	8/4	133 (7 x 19)	65	0.141	1.07	706	8.56	FT-1		•	•
85206	6/4	259 (7 x 37)	87	0.141	1.18	914	9.44	FT-4		•	•
85215	6/5	259 (7 x 37)	69	0.141	1.280	1077	10.24	FT-4		•	•
85606	6/6	259 (7 x 37)	69	0.141	1.39	1262	11.04	FT-4		•	•
85208	4/4	259 (7 x 37)	114	0.141	1.38	1229	11.12	FT-4		•	•
85210	2/4	259 (7 x 37)	152	0.141	1.46	1684	11.68	FT-4		•	•
85115	2/5	259 (7 x 37)	121	0.170	1.660	2135	13.28	FT-4		•	•

NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(2).
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Super-Trex® 4/0 Type TC Power Cable

- UL Listed
- CSA
- Type TC – 600 V
- FT-4 Flame Rating
- Suitable for Class 1,2, Division 2*
- Max Conductor Temperature 90°C
- UV Resistant
- RoHS Compliant

Super-Trex® 4/0 Type TC Power Cables are designed with a double pass TSE fiber reinforced jacket which provides excellent resistance to impact, abrasion, oils and most industrial chemicals while providing added strength against twisting and pulling. Available with 2 or 3 conductors, and a 2 AWG or 1/0 AWG ground wire. This is a black jacketed product.



FEATURES & BENEFITS

1. BUNCH STRANDED SOFT DRAWN COPPER — Longer flex life in flexing and twisting applications.

2. CONDUCTORS ARE NUMBERED — Provides fast identificaton of conductors. Easy to read and simplifies installation.

3. LIVE-FLEX™ FREP CONDUCTOR INSULATION — Flame retardant EP insulation designed for tray cable applications. High dielectric, tensile and mechanical properties.

4. RAYON TIRE CORD REINFORCING BRAID EMBEDDED IN JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

5. BLACK HEAVY-DUTY SUPER-TREX® TSE DOUBLE PASS JACKET — Provides superior first line defense against industrial and environmental abuse. Resists tearing, abrasion, oil, impact, ozone and most chemicals. Flame and heat resistant. Extreme all weather flexibility.

APPLICATIONS

- Automation Equipment
- Robot Power Supplies
- Mobile Equipment
- Tray Cable Applications
- Temporary and Emergency Power
- Pumps

COLOR CODE	
#	BASE COLOR
3	Black – 1, Black – 2, Green
4	Black – 1, Black – 2 Black – 3, Green

AMPACITY CHANGES BASED ON LAYERS	
NO. OF LAYERS	CORRECTION FACTORS
1	0.85
2	0.65
3	0.45
4	0.35

AMPACITY CHANGES BASED ON TEMPERATURE[1]		
AMBIENT TEMPERATURE		CORRECTION FACTOR MULTIPLY AMPACITY BY
°C	°F	
21 - 25	69 - 77	1.04
26 - 30	78 - 86	1.00
31 - 35	87 - 95	0.96
36 - 40	96 - 104	0.91
41 - 45	105 - 113	0.87
46 - 50	114 - 122	0.82
51 - 55	123 - 131	0.76
56 - 60	132 - 140	0.71
61 - 65	141 - 149	0.65
66 - 70	150 - 158	0.58

NOTE: (1) NEC 2011, Table 310.15(B)(2)(A).

Recommended Minimum Bend Radius for Cable Applications

The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[2]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
85412	4/0 - 2 Conductor with a 1/0 Ground	2090 x 30 & 1064 x 30	260	1.790	2958	14.32
85413	4/0 - 3 Conductor with a 1/0 Ground	2090 x 30 & 1064 x 30	260	1.995	3842	15.92
85422	4/0 - 2 Conductor with a 2 AWG Ground	2090 x 30 & 665 x 30	260	1.790	2792	14.32
85423	4/0 - 3 Conductor with a 2 AWG Ground	2090 x 30 & 665 x 30	260	1.925	3595	15.40

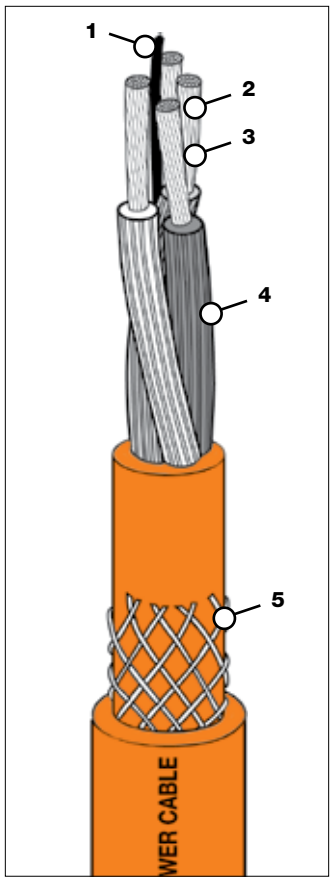
NOTES: (2) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Super-Trex® 4 Conductor Aramid Reinforced Orange Portable Power Reeling Cable

- UL Listed
- CSA
- Type W
- 2,000 V
- MSHA Approved
- Max Conductor Temperature 90°C
- FT-5 Flame Rating
- Extra Hard Usage
- Suitable for Class 1, 2, 3, Division 1 & 2*

Super-Trex® 4 Conductor Aramid Reinforced Orange Portable Power Reeling Cable is an excellent cable for high tension reeling applications. Designed with an aramid center strength member providing up to 6,000 pounds of break strength, these cables feature an integral filled, dual layered fiber reinforced jacket for added strength and resistance to twisting and pulling. The orange TSE jacket provides excellent protetion against abrasion, impact and most industrial chemicals.



FEATURES & BENEFITS

1. JACKETED ARAMID ROPE BRAID CENTER FILLER — Provides up to 6,000 pounds of pull strength. Exceptional support in pulling, reeling or pendant applications. Dramatically improves overall tensile strength, reducing conductor fatigue and maximizing cable life.

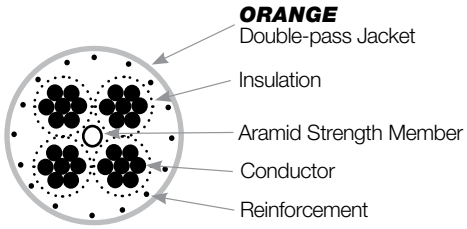
2. TINNED CONDUCTORS — Resists corrosion. Easier to solder.

3. FLEXIBLE CONCENTRIC ROPE LAY BUNCH STRANDED COPPER — Has longer life in reeling, flexing and twisting applications.

4. LIVE-FLEX™ RIBBED EPR CONDUCTOR INSULATION RATED 90°C — Ribbed to prevent kinking and breakage due to twisting and flexing. High dielectric, tensile and mechanical properties. Resists dry rot.

5. POLYPROPYLENE CORD REINFORCING BRAID EMBEDDED IN JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

6. SPECIALLY COMPOUNDED ORANGE SUPER-TREX® TSE DOUBLE-PASS INTEGRAL FILL JACKET — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat-resistant. Excellent all-weather flexibility.

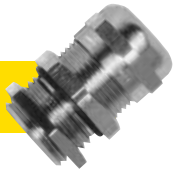


APPLICATIONS

- Automation Equipment
- Conveyors and Cranes
- Mobile Equipment
- Pendant Applications
- Railroad Stand-by Power
- Retractable Reels
- Robotic Welding
- Steel Transfer Cars and Loaders
- Temporary and Emergency Power

COLOR CODE	
COND	**COLOR**
4	Black, White, Red, Green

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Page 97-107.*



ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
85288	4/4	259 (7 x 37)	114	0.125	1.29	1229
85248	2/4	259 (7 x 37)	152	0.180	1.50	1684

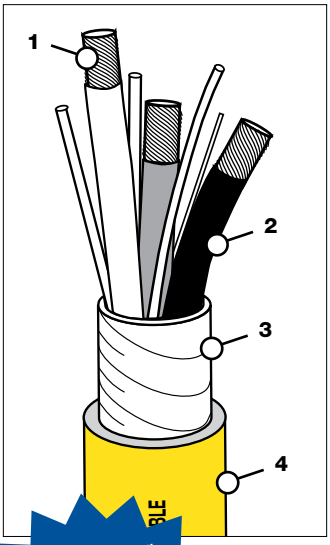
NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(2).

**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Trex-Onics® Reduced Diameter Power Cable

• UL Recognized • CSA • FT-1 Flame Rating • RoHS Compliant • 600 V • Max Conductor Temperature 90°C • Continuous Flex Applications

Trex-Onics® Reduced Diameter Power Cable is designed for Continuous Flexing Applications and tested to over 4 million cycles without failure. Extra fine conductor stranding and unique tubed construction allow conductors to move freely and not bind. Security yellow TPE jacket is the first line of defense against tearing, abrasion, impact, oil, ozone and most chemicals.



Tested to over **4,000,000** cycles with a bend radius of 10 x O.D.

FEATURES & BENEFITS

1. EXTRA FINE STRANDING — 34 AWG stranding for improved flexibility in robotic and Cable Carrier applications. Four times the stranding fo standard power cable designs.

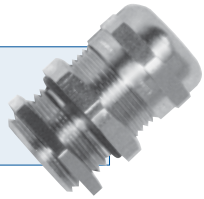
2. FLEXIBLE CONCENTRIC ROPE LAY BUNCH STRANDED COPPER — Provides longer life in reeling, flexing and twisting applications.

3. HIGH FLEX NYLON WOVEN WRAP — Improves performance in continuous movement applications. Allows the conductors to move freely within the jacket, reducing conductor failure due to work hardening.

4. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TPE JACKET — Superior first line defense against tearing, abrasion, impact, oil, ozone and most chemicals.

5. UNIQUE TUBED CONSTRUCTION — Designed to allow the conductors to move freely within the jacket without binding.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*



APPLICATIONS

- Cable Carriers
- Automated Equipment
- Mobile Equipment
- Robotics
- Conveyors
- Pumps and Heaters
- Material Handling
- Temporary Power
- Electric Motors

ORDERING INFORMATION *(Call for pricing & availability)*

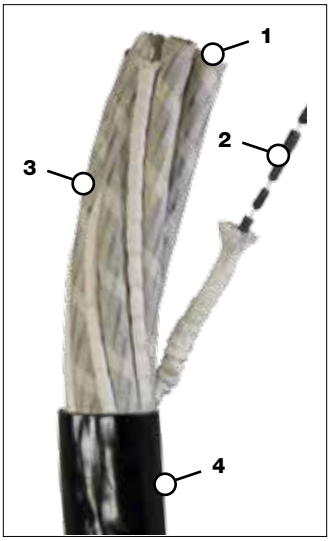
PART NO.	CABLE SIZE AWG/COND	STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
61843	4/3	1,050 x 34	95	0.945	672
61823	2/3	1,666 x 34	130	1.160	1,007

NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

Super-Trex® Basket-Crane Cable

• 600 V • Operating Temperature Range -40°C to 70°C • UV Resistant

Super-Trex® Basket-Crane Cable is designed for gravity fed crane systems. Sometimes called “bologna cable,” TPC’s cable is constructed using a heavy-duty polyurethane jacket that provides excellent protection against abrasion, chemicals and UV light. An aramid fiber braid supplies additional strength and support to extend cable life. This cable is an excellent choice for both indoor and outdoor applications.



FEATURES & BENEFITS

1. FLEXIBLE STRANDED COPPER CONDUCTORS — High strand count provides longer life in flexing and reeling applications.

2. LEAD-CHAIN WEIGHTS — Designed to improve functionality and performance, and to provide stability in gravity fed installations.

3. ARAMID REINFORCING FIBER — Provides added strength and resistance to tensile and torsional forces, ultimately extending cable life.

4. HEAVY-DUTY POLYURETHANE JACKET — Offers excellent protection against abrasion, impact, chemicals and UV light.

APPLICATIONS

- Port Cranes
- Wood-Yard Cranes
- All Gravity Fed Crane Systems

ORDERING INFORMATION *(Call for pricing & availability)*

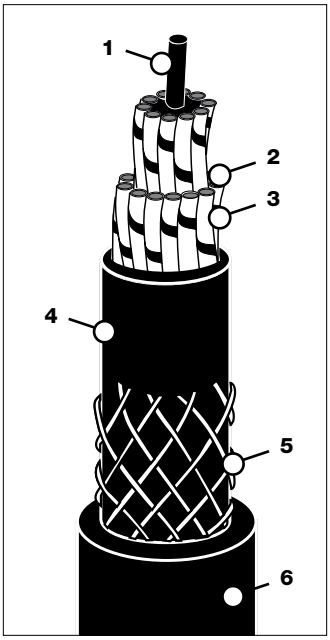
PART NO.	CONDUCTOR SIZE	NUMBER OF CONDUCTORS	CONDUCTOR STRANDS	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
899010	2.5 mm^2	42	83	1.60	2,376

A C E F I T

Super-Trex® Extra Heavy-Duty All Weather Reeling Cable

• 600 V • Aramid Reinforced • Operating Temperature Range -40°C to 90°C • All Weather Usage • Harsh Industrial Applications • Extra Heavy-Duty

Super-Trex® Extra Heavy-Duty All Weather Reeling Cable features an aramid center strength member providing up to 6,000 pounds of break strength, an integral fill design and dual layered aramid fiber reinforced jacket for added strength. Excellent all weather protection against abrasion, impact, oils, solvents, sunlight and UV light.



COLOR CODE
Black with Alpha-Numeric Identification
Green Ground Wire

FEATURES & BENEFITS

1. CENTRAL STRENGTH MEMBER RUBBER JACKETED ARAMID REINFORCEMENT — Provides additional overall strength to the cable, reduces stress on conductors.

2. FINELY STRANDED FLEXIBLE TINNED COPPER CONDUCTORS — Provide longer flex life in reeling applications, tinned copper conductors resist corrosion and are easy to solder.

3. FLEXIBLE HEAT AND MOISTURE RESISTANT EPR CONDUCTOR INSULATION 90°C — Provides protection to the individual conductors while allowing them to remain flexible, provides longer flex life in heavy-duty reeling applications.

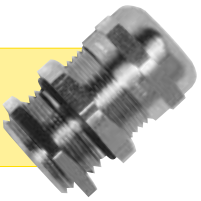
4. INTEGRAL FILL DESIGN — Inner jacket compound fills interstices of cable and locks conductors into place preventing corkscrewing and premature cable failure.

5. REINFORCED WITH ARAMID BRAID

6. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — Double pass aramid reinforced jacket provides superior tensile strength in the most demanding reeling applications. The combination of a center aramid strength member with the reinforced aramid jacket provides 6,000 pounds of break strength.

7. EXTRA HEAVY-DUTY ALL WEATHER CONSTRUCTION — This product is suitable for harsh industrial applications, indoor or outdoor use. The high quality compounds provide superior protection from sunlight, UV, oils, solvents, water, impact, heat and offer excellent all weather flexibility.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 97-107.*



APPLICATIONS

- Cranes
- Reels
- Cable Carriers
- Transfer Cars

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	INSULATION THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
88842	14/12	19 x 27	12	0.120	0.033	0.930	704
88847	14/24	19 x 27	11	0.120	0.030	1.135	836
88852	12/12	19 x 25	15	0.120	0.033	1.034	939
88857	12/24	19 x 25	13	0.120	0.030	1.278	1296
88879	12/30	19 x 25	13	0.260	0.030	1.75	2175
88862	10/12	37 x 26	20	0.120	0.033	1.114	704
88867	10/24	37 x 26	18	0.120	0.030	1.352	1503
88859	2.5 mm^2 x 44	50 x 30	9	0.120	0.030	1.55	1849

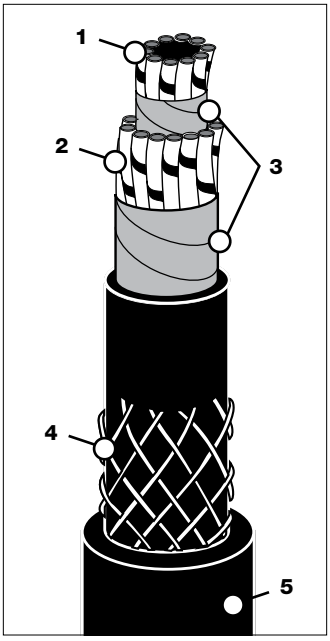
NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).

A C E F I T

Super-Trex® Heavy-Duty High Flex Crane Cable

• 600 V • Aramid Reinfoced • Operating Temperature Range -40°C to 90°C • All Weather Usage • Harsh Industrial Applications • Extra Heavy-Duty

Super-Trex® Heavy-Duty, High Flex Crane Cable was designed specifically for crane and reeling applications. The cable features an aramid reinforcing braid embedded in the center of the dual-pass jacket providing added strength. The internal design is constructed for dynamic applications with the use of low-friction separators and left-hand conductor lay, and lay-lengths optimized for flexing. Excellent all-weather protection and resistance to UV light, abrasion, impact, oils, solvents and heat.



COLOR CODE
Black with Alpha-Numeric Identification
Green Striped Conductor Ground Wire

FEATURES & BENEFITS

1. FINELY STRANDED TINNED COPPER CONDUCTORS — Tinned copper conductors provide longer flex life and resists corrosion. Conductors are assembled in a left-hand lay with optimized lay-lengths for crane/reeling applications.

2. FLEXIBLE HEAT AND MOISTURE RESISTANT EPR CONDUCTOR INSULATION — Provides protection to the individual conductors while allowing them to remain flexible, provides long flex life in heavy-duty reeling applications.

3. LOW-FRICTION TAPE SEPARATOR — Improves performance in flexing applications.

4. ARAMID FIBER REINFORCING BRAID — Embedded in the center of a double-pass jacket, the aramid reinforcing braid provides added strength and improves cable resistance to pulling and torsional forces.

5. EXTRA HEAVY-DUTY ALL WEATHER DESIGN — This product is suitable for harsh industrial applications, indoor or outdoor use. The high quality compounds provide superior protection from sunlight, UV, oils, solvents, water, impact, heat, and offers excellent weather flexibility.

APPLICATIONS

- Cranes
- Reels
- Cable Carriers
- Hoists

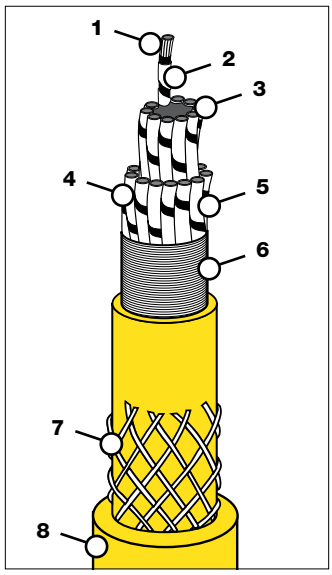
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
898210	16/9	19 x 29	12	0.120	0.757	304
898211	16/16	19 x 29	9	0.120	0.880	416
898212	14/12	19 x 27	12	0.120	0.937	536
898213	14/24	19 x 27	11	0.120	1.135	833
898214	12/12	19 x 25	15	0.120	1.040	725
898215	12/24	19 x 25	13	0.120	1.278	1158
898216	10/12	37 x 26	20	0.120	1.120	970
898217	10/24	37 x 26	18	0.120	1.395	1596

NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2014, Table 3.10.15(B)(16).

Super-Trex® Multi-Conductor P&R Cable

- UL Listed
- CSA
- RoHS Compliant
- UV Resistant
- Type WTTC – 1,000 V
- Type TC – 600 V
- FT-1 Flame Rating
- MSHA Approved (16 AWG Only)
- Max Conductor Temperature 90°C Dry
- Max Conductor Temperature 75°C Wet
- Suitable for Class 1, 2, Division 2*



FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER — Longer flex life in reeling, flexing and twisting applications. Easier to solder.

2. LIVE-FLEX™ XLPE CONDUCTOR INSULATION — Increases flexibility and has high dielectric, tensile and mechanical properties.

3. CONDUCTORS – LOWER COEFFICIENT OF FRICTION — Longer life in reeling and flexing applications. Fewer spares needed.

4. NO-WICK™ RAYON-REINFORCED SYNTHETIC FILLER — Adds tensile strength, improves flexibility and won't wick up liquids. Acts like a shock absorber to reduce damage from impact.

5. NYLON ARMORED INNER CONDUCTORS ARE CODED WITH ALPHA NUMERIC IDENTIFICATION — Provides fast identification of conductors. Easy to read and simplifies installation.

6. POLYESTER TAPE AROUND INNER COMPONENTS — Provides easy movement of the conductor bundle for longer flex life.

7. NYLON REINFORCING BRAID EMBEDDED BETWEEN TWO-LAYER JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

8. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET — A two layer reinforced jacket provides superior first-line defense against industrial and environmental abuse. Resists tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

ORDERING INFORMATION *(Call for pricing & availability)*

	PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
COLOR CODED CONDUCTORS	88820	16/6	65/34	14	0.115	0.540	210	4.32
	88822	16/8	65/34	12	0.115	0.605	247	4.84
	88823	16/10	65/34	9	0.115	0.680	287	5.44
	88824	16/12	65/34	9	0.135	0.695	326	5.56
	88825	16/16	65/34	9	0.135	0.745	372	5.96
	88826	16/20	65/34	9	0.135	0.805	450	6.44
	88827	16/24	65/34	8	0.135	0.885	497	7.08
	88828	16/33	65/34	7	0.155	0.980	708	7.84
	88829	16/36	65/34	7	0.155	1.01	722	8.08
	88830	16/41	65/34	6	0.155	1.07	833	8.56
	88831	16/49	65/34	6	0.155	1.12	929	8.96
ALPHA NUMERIC BLACK CONDUCTORS	88811	14/7	41/30	17	0.115	0.625	276	5.00
	88812	14/8	41/30	17	0.115	0.660	305	5.28
	88813	14/10	41/30	12	0.115	0.745	365	5.96
	88814	14/12	41/30	12	0.135	0.760	411	6.08
	88815	14/16	41/30	12	0.135	0.820	499	6.56
	88816	14/20	41/30	12	0.135	0.890	586	7.12
	88817	14/24	41/30	11	0.135	0.965	680	7.72
	88800	12/6	65/30	24	0.115	0.640	334	5.12
	88802	12/8	65/30	21	0.115	0.720	402	5.76
	88804	12/12	65/30	15	0.135	0.830	549	6.64
	88806	12/20	65/30	15	0.135	0.975	822	7.80
	88808	12/30	65/30	13	0.155	1.155	1157	9.24
	88832	10/6	105/30	32	0.115	0.760	439	6.08
	88834	10/8	105/30	28	0.115	0.860	554	6.88
	88836	10/12	105/30	20	0.135	0.990	768	7.92

NOTES: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(16).
**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Super-Trex® Multi-Conductor P&R Cable *(Continued)*

Super-Trex® Multi-Conductor P&R Cable exhibits a unique design for payout and retractile (P&R) applications featuring our Live-Flex™ insulation with a low coefficient of friction and a dual layered fiber reinforced jacket for added strength. No-Wick™ synthetic fillers provide added strength and reduced damage to impact. Security yellow TSE jacket provides superior resistance to abrasion, tearing, impact, oil and most industrial chemicals.

APPLICATIONS

- Remote Control of Electrical Equipment
- Festoon Systems
- Cranes and Hoists
- Cable Carrier Systems
- Cable Reels
- Automatic Welders
- Broach Machines
- Retractable Reels
- Machine Tools
- Control Circuits
- Positioning Equipment
- Transfer Vehicles

K-1/METHOD 1 WITH ALPHA NUMERIC IDENTIFICATION

NO. OF CONDUCTORS	BASE COLOR	TRACER	SIDE ONE: NUMERIC	SIDE TWO: ALPHA-NUMERIC
1	BLACK	—	1	ONE
2	WHITE	—	2	TWO
3	RED	—	3	THREE
4	GREEN	—	4	FOUR
5	ORANGE	—	5	FIVE
6	BLUE	—	6	SIX
7	WHITE	BLACK	7	SEVEN
8	RED	BLACK	8	EIGHT
9	GREEN	BLACK	9	NINE
10	ORANGE	BLACK	10	TEN
11	BLUE	BLACK	11	ELEVEN
12	BLACK	WHITE	12	TWELVE
13	RED	WHITE	13	THIRTEEN
14	GREEN	WHITE	14	FOURTEEN
15	BLUE	WHITE	15	FIFTEEN
16	BLACK	RED	16	SIXTEEN
17	WHITE	RED	17	SEVENTEEN
18	ORANGE	RED	18	EIGHTEEN
19	BLUE	RED	19	NINETEEN
20	RED	GREEN	20	TWENTY
21	ORANGE	GREEN	21	TWENTY-ONE

Color code repeats after twenty-one conductors. Alpha-numeric identification is unique for all conductor counts one through thirty-six.

SUPER-TREX® CHEMICAL AND SOLVENT RESISTANCE

Super-Trex® Cord and Cable is jacketed with TSE, a specially compounded thermoset elastomer which has excellent resistance to most chemicals and solvents.

Resistance to solvents and chemicals is tested by immersing cable specimens in a solution for 28 days at room temperature.

Measurements of cable diameter are made before and after immersion. Resistance is rated as follows, depending upon the % of change in cable diameter:

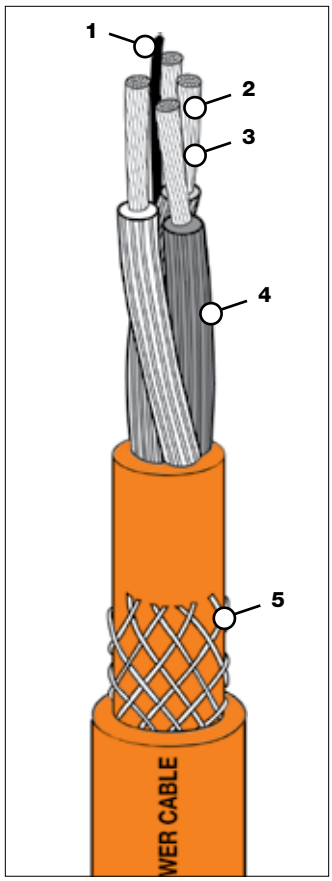
(E) Excellent – less than 10%
(F) Fair – 30% to 50%
(G) Good – 10% to 30%
(P) Poor – More than 50%

Acetic Acid (60%)	G	Chromic Acid	G	Linseed Oil	E
Ammonium Hydroxide (60%)	E	Corn Oil	E	Lubricating Oil (3-in-1)	E
ASTM Fuel A	E	Distilled Water	E	Methyl Butyl Ketone	P
ASTM Fuel B	G	Floor Polish	E	Milk	E
ASTM No. 1 Oil	E	Formaldehyde (40%)	E	N-Butyl Alcohol	E
ASTM No. 2 Oil	E	Gasoline	G	Perchloroethylene	F
ASTM No. 3 Oil	E	Glycerine	E	Phosphate Ester Hydraulic (Skydrol 500B)	P
Beef Blood	E	Hydrocarbon Hydraulic Fluid	E	Phosphoric Acid (85%)	E
Beer	E	Hydrochloric Acid (60%)	E	Potassium Citrate	E
Boric Acid	E	Hydrogen Sulfide	E	Potassium Hydroxide (20%)	E
Calcium Chloride	E	JP-4 (Jet Fuel)	G	Rochelle Salts	E
Chlorinated Salt Brine	E	Kerosene	E	Silicone Oil	E
				Sodium Bicarbonate	E
				Sodium Chloride	E
				Sodium Cyanide (60%)	G
				Sodium Hydroxide (60%)	G
				Sodium Nitrate	E
				Steel Mill Rolling Oil	E
				Sulphuric Acid (10%)	E
				Toluene	P
				Turpentine	G

Super-Trex® 4 Conductor Aramid Reinforced Orange Portable Power Reeling Cable

- UL Listed
- CSA
- Type W
- 2,000 V
- MSHA Approved
- Max Conductor Temperature 90°C
- FT-5 Flame Rating
- Extra Hard Usage
- Suitable for Class 1, 2, 3, Division 1 & 2*

Super-Trex® 4 Conductor Aramid Reinforced Orange Portable Power Reeling Cable is an excellent cable for high tension reeling applications. Designed with an aramid center strength member providing up to 6,000 pounds of break strength, these cables feature an integral filled, dual layered fiber reinforced jacket for added strength and resistance to twisting and pulling. The orange TSE jacket provides excellent protetion against abrasion, impact and most industrial chemicals.



FEATURES & BENEFITS

1. JACKETED ARAMID ROPE BRAID CENTER FILLER — Provides up to 6,000 lbs. of pull strength. Exceptional support in pulling, reeling or pendant applications. Dramatically improves overall tensile strength, reducing conductor fatigue and maximizing cable life.

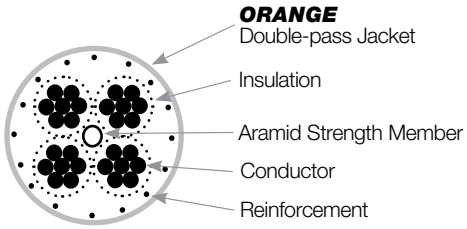
2. TINNED CONDUCTORS — Resists corrosion. Easier to solder.

3. FLEXIBLE CONCENTRIC ROPE LAY BUNCH STRANDED COPPER — Has longer life in reeling, flexing and twisting applications.

4. LIVE-FLEX™ RIBBED EPR CONDUCTOR INSULATION RATED 90°C — Ribbed to prevent kinking and breakage due to twisting and flexing. High dielectric, tensile and mechanical properties. Resists dry rot.

5. POLYPROPYLENE CORD REINFORCING BRAID EMBEDDED IN JACKET — Provides added strength. Improves cable resistance to impact, abrasion, twisting and pulling.

6. SPECIALLY COMPOUNDED ORANGE SUPER-TREX® TSE DOUBLE-PASS INTEGRAL FILL JACKET — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat-resistant. Excellent all-weather flexibility.

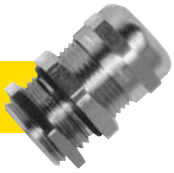


APPLICATIONS

- Automation Equipment
- Conveyors and Cranes
- Mobile Equipment
- Pendant Applications
- Railroad Stand-by Power
- Retractable Reels
- Robotic Welding
- Steel Transfer Cars and Loaders
- Temporary and Emergency Power

COLOR CODE	
COND	COLOR
4	Black, White, Red, Green

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Page 97-107.*



ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG/COND	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
85288	4/4	259 (7 x 37)	114	0.125	1.29	1229
85248	2/4	259 (7 x 37)	152	0.180	1.50	1684

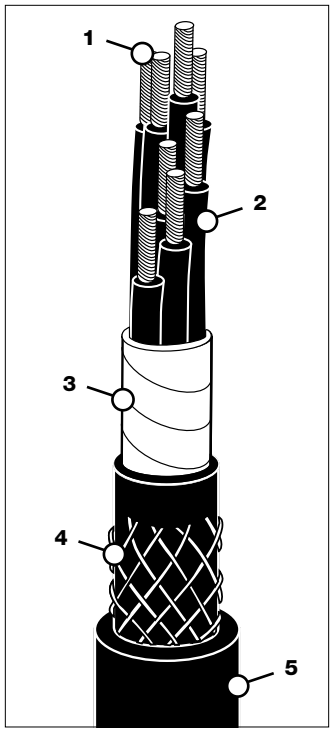
NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 400.5(A)(2).

**When installed in accordance with NEC guidelines sections, 501.140, 502.140, 503.140.*

Trex-Onics® Reduced Diameter Extra Heavy-Duty Reeling Cable

• UL Recognized • cUL • Type TC-ER • 600 V • FT-1 Flame Rating • VW-1 Flame Rating • AWM • Operating Temperature Range -40°C to 90°C • Direct Burial

Trex-Onics® Reduced Diameter Extra Heavy-Duty (EHD) Reeling Cable is a specially designed 600V reeling cable with aramid reinforced dual pass jacket. The aramid braid is rated at 1,800 lbs tensile strength for heavy-duty applications. This cable also has TPE conductor insulation for very low coefficient of friction and superior dielectrics. Ideal for reeling, cable carriers and theater/stage lighting.



FEATURES & BENEFITS

1. BUNCH STRANDED TINNED SOFT DRAWN COPPER CONDUCTORS — Longer flex life in flexing and twisting applications, resist corrosion, easier to solder.

2. TPE CONDUCTOR INSULATION — Superior dielectrics and very low coefficient of friction improves overall performance in dynamic reeling applications for longer life.

3. HIGH FLEX TAPE SEPARATOR — Non woven tape applied over the conductor layers improves the lubricity between the conductors, improving overall flexibility and performance in flexing applications.

4. REINFORCING ARAMID BRAID EMBEDDED IN JACKET — Reinforced with an aramid fiber braid for an additional 1,800 lbs of tensile strength for tensile reeling applications.

5. HEAVY-DUTY TPE JACKET — Superior first line defense against tearing, abrasion, oil, ozone, UV exposure, as well as most chemicals. Flame and heat resistant. All weather flexibility.

APPLICATIONS

- Automatic Welders
- Broach Machines
- Cable Carrier Systems
- Control Circuits
- Cranes
- Bolster Cable
- Festoon Systems
- Machine Tools
- Positioning Equipment
- Sensing Equipment
- Remote Control of Electrical Equipment
- Transfer Vehicles

ORDERING INFORMATION *(Call for pricing & availability)*

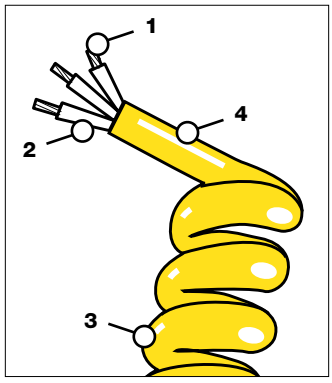
PART NO.	CABLE SIZE AWG/COND	STRANDING NO. x AWG	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
621606	16/6	65 x 34	14	0.496	140
621608	16/8	65 x 34	13	0.564	185
621612	16/12	65 x 34	9	0.681	256
621616	16/16	65 x 34	9	0.741	319
621620	16/20	65 x 34	9	0.808	389
621408	14/8	41 x 30	17	0.678	270
621416	14/16	41 x 30	12	0.812	420
621437	14/37	41 x 30	9	1.235	959
621208	12/8	65 x 30	21	0.743	363
621212	12/12	65 x 30	15	0.818	459
621214	12/14	65 x 30	15	0.855	521

NOTE: (1) Ampacity based on NEC Table 310.16, 90°C Rated Conductors.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Page 97-107.*

Trex-Onics® High-Flex Ultra-Coil Retractiles

• UL Recognized • CE • RoHS Compliant • 600 V • Max Conductor Temperature 80°C • Max Conductor Temperature 90°C — UL



FEATURES & BENEFITS

1. TINNED CONDUCTORS — Resists corrosion. Easier to solder.

2. OIL AND FLUID RESISTANT INSULATION — Offers superior resistance to oil, solvents and chemicals. Provides high dielectric capability, mechanical strength and cut resistance.

3. SECURITY YELLOW HEAVY-DUTY POLYURETHANE TPE JACKET — Excellent defense against cutting, abrasion, oil and chemicals. Designed for long term coil retention.

4. 12" OR 24" PIGTAIL LEADS ON BOTH ENDS — Provides for easy termination without disrupting coil integrity.

5. UNIQUE CONSTRUCTION — Provides for a very durable but light weight retractile design. Superior coil retention and "snappiness".

6. PERFORMANCE DESIGNED — For continuous cycle applications.

7. QUICK-CONNECT™ COMPATIBLE DESIGN — Uniquely designed to allow the addition of TPC Molded Micro or Mini Quick-Connects in either 3 or 4 conductor configurations.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	COIL LENGTH (FT)	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICK (IN)	INSULAT THICK (IN)	NOM. O.D. (IN)	COIL I.D. (IN)	COIL O.D. (IN)	LEAD LENGTH (IN)
60831	18/3	1-5	41 x 34	10	0.050	0.012	0.270	0.60	1.10	12
60832	18/3	2-10	41 x 34	10	0.050	0.012	0.270	0.60	1.10	12
60833	18/3	3-15	41 x 34	10	0.050	0.012	0.270	0.60	1.10	12
60834	18/3	4-20	41 x 34	10	0.050	0.012	0.270	0.60	1.10	12
60841	18/4	1-5	41 x 34	10	0.050	0.012	0.290	0.60	1.10	12
60842	18/4	2-10	41 x 34	10	0.050	0.012	0.290	0.60	1.10	12
60843	18/4	3-15	41 x 34	10	0.050	0.012	0.290	0.60	1.10	12
60844	18/4	4-20	41 x 34	10	0.050	0.012	0.290	0.60	1.10	12
60871	18/12	1-5	41 x 34	5	0.065	0.016	0.475	0.75	1.60	12
60872	18/12	2-10	41 x 34	5	0.065	0.016	0.475	0.75	1.60	12
60873	18/12	3-15	41 x 34	5	0.065	0.016	0.475	0.75	1.60	12
60874	18/12	4-20	41 x 34	5	0.065	0.016	0.475	0.75	1.60	12
60631	16/3	1-5	65 x 34	16	0.050	0.016	0.330	0.60	1.20	12
60632	16/3	2-10	65 x 34	16	0.050	0.016	0.330	0.60	1.20	12
60633	16/3	3-15	65 x 34	16	0.050	0.016	0.330	0.60	1.20	12
60634	16/3	4-20	65 x 34	16	0.050	0.016	0.330	0.60	1.20	12
60641	16/4	1-5	65 x 34	16	0.050	0.016	0.360	0.60	1.20	12
60642	16/4	2-10	65 x 34	16	0.050	0.016	0.360	0.60	1.20	12
60643	16/4	3-15	65 x 34	16	0.050	0.016	0.360	0.60	1.20	12
60644	16/4	4-20	65 x 34	16	0.050	0.016	0.360	0.60	1.20	12
60681	16/8	1-5	65 x 34	11	0.069	0.016	0.460	0.75	1.60	24
60682	16/8	2-10	65 x 34	11	0.069	0.016	0.460	0.75	1.60	24
60683	16/8	3-15	65 x 34	11	0.069	0.016	0.460	0.75	1.60	24
60684	16/8	4-20	65 x 34	11	0.069	0.016	0.460	0.75	1.60	24
60441	14/4	1-5	105 x 34	19	0.059	0.018	0.375	0.60	1.40	24
60442	14/4	2-10	105 x 34	19	0.059	0.018	0.375	0.60	1.40	24
60443	14/4	3-15	105 x 34	19	0.059	0.018	0.375	0.60	1.40	24
60444	14/4	4-20	105 x 34	19	0.059	0.018	0.375	0.60	1.40	24
60241	12/4	1-5	165 x 34	25	0.070	0.018	0.470	0.75	1.70	24
60242	12/4	2-10	165 x 34	25	0.070	0.018	0.470	0.75	1.70	24
60243	12/4	3-15	165 x 34	25	0.070	0.018	0.470	075	1.70	24
60244	12/4	4-20	165 x 34	25	0.070	0.018	0.470	0.75	1.70	24

NOTE: (1) Per IEEE Standard 835, based on a conductor temperature of 80°C, ambient temperature of 40°C, not more than three current carrying conductors. NEC 2011 Table 310.15(B)(3)(a) used as adjustment for more than three current carrying conductors.

Trex-Onics® High-Flex Ultra-Coil Retractiles *(Continued)*

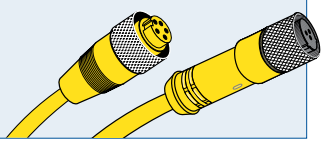
Trex-Onics® High-Flex Ultra Coil Retractiles exhibit a unique design that provides a very durable yet lightweight retractile cable while preserving superior coil retention and "snappiness". A heavy-duty yellow polyurethane TPE jacket protects against cutting, abrasion, oil and chemicals. Available as Mini or Micro cordsets.

APPLICATIONS

- Fork Lifts
- Overhead Doors
- Portable Tools
- Packaging Equipment
- Portable Conveyors
- Presses
- Robots
- Slide Tables

COLOR CODE	
PAIR NO.	**COLOR**
1	Black
2.	White
3.	Green
4.	Red
5.	Orange
6.	Yellow
7.	Blue
8.	Brown
9.	Violet
10.	Gray
11.	White/Black
12	White/Red

ADD A TREX-ONICS® QUICK-CONNECT™ TO COMPLETE YOUR ORDER! *See Page 202.*



CHEMICAL RESISTANCE OF COMMON INSULATING MATERIALS

CHEMICAL	RUBBER	SILICONE	FLUOROPOLYMER
OXIDATION RESISTANCE	FAIR	EXCELLENT	OUTSTANDING
OIL RESISTANCE	POOR	FAIR-GOOD	OUTSTANDING
UV RESISTANCE	FAIR	OUTSTANDING	OUTSTANDING
WATER RESISTANCE	GOOD	GOOD-EXCELLENT	EXCELLENT
ACID RESISTANCE	FAIR-GOOD	FAIR-GOOD	EXCELLENT
ALKALI RESISTANCE	FAIR-GOOD	FAIR-GOOD	EXCELLENT
GASOLINE KEROSENE	POOR	POOR-FAIR	EXCELLENT
BENZOL TOLUENE	POOR	POOR	EXCELLENT
DEGREASER SOLVENT	POOR	POOR-GOOD	EXCELLENT
ALCOHOL RESISTANCE	GOOD	GOOD	EXCELLENT

TREX-ONICS® JACKET CHEMICAL RESISTANCE

ACIDS
Acetic, 5% ..... Good
Formic, 20% ..... Variable
Hydrochloric, 10% ..... Fair
Olcic ..... Fair-Good
Sulfuric, 20% ..... Fair

ALCOHOLS
Ethanol ..... Variable
Isopropanol ..... Fair-Poor
Isopropanol, 50% ..... Fair-Poor
Methanol ..... Variable

ALKALI
Sodium Hydroxide, 20% ..... Fair

ORGANICS
Acetone ..... Poor
ASTM Fuel A ..... Good
ASTM Fuel B ..... Fair
ASTM Fuel C ..... Fair-Variable
ASTM Fuel #1 ..... Good
ASTM Fuel #2 ..... Good
ASTM Fuel #3 ..... Good-Fair
Benzene ..... Variable
Brake Fluid Type A ..... Variable
Brake Fluid (H.D.) ..... Fair-Good
Butane ..... Good
Carbon Tetrachloride ..... Variable
Cyclohexanone ..... NR
Dimenthyl Formamid ..... NR
Dimethyl Sulfoxide ..... NR
I, 4-Dioxane ..... NR
Dioctyl Phthalate ..... Fair
Ethyl Ether ..... Fair-Good

ORGANICS (continued)
Ethylene Glycol ..... Good
Ethylene Glycol 50% Water ..... Good
Gasoline, 100 Octane ..... Fair
Hexane Fair-Good
Kerosene ..... Good
Methylene Chloride ..... Variable
Methyl Ethyl Keytone ..... Variable
N-Methyl-2-Pyrrolidene ..... NR
Oil, Texas Crude ..... Fair-Good
Oil, Detergent 20W ..... Good
Oil, Non-Detergent 20W ..... Good
Oil, Skydrol Type B ..... NR
Oil, Skydrol Type 500A ..... Fair-Variable
Oil, Skydrol Type 500B ..... Fair-Variable
Oil, Transmission Type A ..... Good
Perchlorethylene ..... Variable
Pyridine ..... NR
Tertrahydrofuran ..... NR
Toluene ..... Variable
Trichlorothylene ..... Variable
Turpentine ..... Good

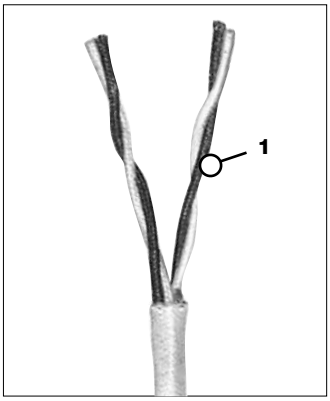
MISCELLANEOUS
Chlorox (5%) ..... Good
Calcium Chloride Saturated Solution ..... Good
FREON-113 ..... Variable
FREON-11B ..... Variable
FREON-112 ..... Good
Hydrogen Disulfide (5%) ..... Excellent
Sodium Chloride Saturated Solution ..... Good
Synthetic Perspiration ..... Good
Tide (1%) ..... Good
Water ..... Good

CODING
EXCELLENT — Little or no change in constant exposure — application is recommended.
GOOD — Only slight loss in properties on constant exposure — application is recommended.
FAIR — Some swelling could occur in constant exposure but recommended for infrequent contact.
VARIABLE — In constant exposure not recommended. Infrequent contact recommended.
NR — Not recommended, product could deteriorate in moderate exposure.

A C E F

Thermo-Trex® Thermocouple Extension Wire *(Types JX, KX & RSX)*

• RoHS Compliant • High Chemical Resistance Offered By FEP & PFA Jacket



FEATURES & BENEFITS

1. FINELY STRANDED CONDUCTORS — Improve flexibility.

2. ANSI COLOR CODED CONDUCTORS & JACKET

APPLICATIONS

- Aerospace Industries
- Engine & Turbine Exhaust Gas
- Food Processing Equipment
- Glass Processing
- Heat Treating & Metals Processing
- Medical Equipment
- Plastic Molding Equipment
- Remotely Located Controller or Temperature Indicator

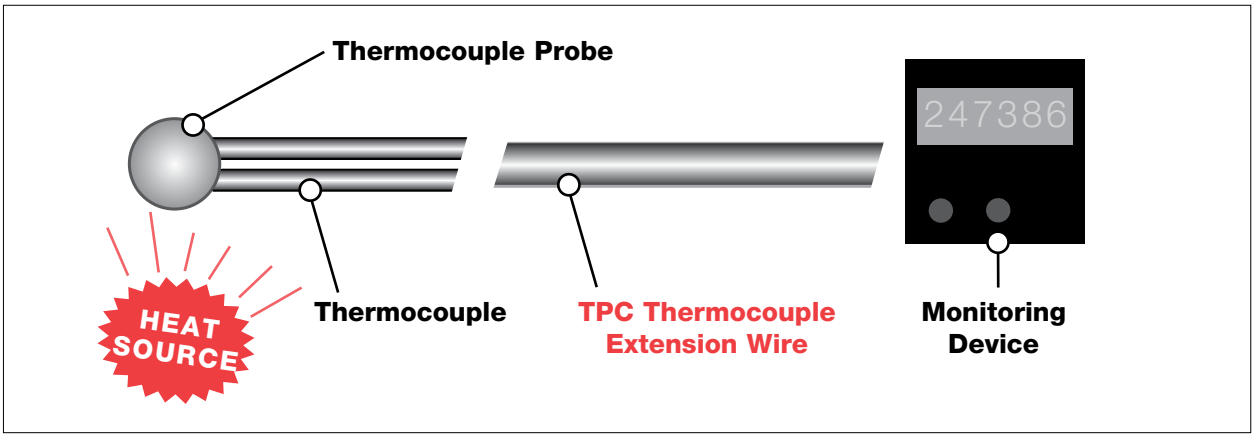
ORDERING INFORMATION *(Call for pricing & availability)*

TYPE JX		TYPE KX		TYPE RSX		CONFIG.	COND. STRAND.	JACKET	WT. (LBS) PER 1000'	AMBIENT TEMP. RATING
PART NO.	CABLE O.D. (IN)	PART NO.	CABLE O.D. (IN)	PART NO.	CABLE O.D. (IN)					
46500	0.165	**46530**	0.165	**–**	–	22/1 PR	7/30	PUR	21	
46501	0.227	**46531**	0.227	**–**	–	22/2 PR	7/30	PUR	31	
46502	0.200	**46532**	0.200	**46602**	0.219	18/1 PR	7/26	PUR	33	**90°C (194°F)**
46503	0.285	**46533**	0.285	**–**	–	18/2 PR	7/26	PUR	51	
46504	0.220	**46534**	0.220	**–**	–	16/1 PR	7/24	PUR	41	
46505	0.320	**46535**	0.320	**–**	–	16/2 PR	7/24	PUR	62	
46506	0.130	**46536**	0.130	**–**	–	22/1 PR	7/30	FEP	15	
46507	0.195	**46537**	0.195	**–**	–	22/2 PR	7/30	FEP	21	
46508	0.170	**46538**	0.170	**–**	–	18/1 PR	7/26	FEP	26	**150°C (302°F)**
46509	0.255	**46539**	0.255	**–**	–	18/2 PR	7/26	FEP	39	
46510	0.196	**46540**	0.196	**–**	–	16/1 PR	7/24	FEP	34	
46511	0.290	**46541**	0.290	**–**	–	16/2 PR	7/24	FEP	54	
46512	0.130	**46542**	0.130	**–**	–	22/1 PR	7/30	PFA	16	
46513	0.195	**46543**	0.195	**–**	–	22/2 PR	7/30	PFA	21	
46514	0.170	**46544**	0.170	**46614**	0.250	18/1 PR	7/26	PFA	27	**250°C (482°F)**
46515	0.255	**46545**	0.255	**–**	–	18/2 PR	7/26	PFA	40	
46516	0.196	**46546**	0.196	**–**	–	16/1 PR	7/24	PFA	35	
46517	0.290	**46547**	0.290	**–**	–	16/2 PR	7/24	PFA	54	
46518	0.230	**46548**	0.230	**–**	–	22/1 PR	7/30	TT2000	29.1	
46519	0.344	**46549**	0.344	**–**	–	22/2 PR	7/30	TT2000	54.4	
46520	0.259	**46550**	0.259	**–**	–	18/1 PR	7/26	TT2000	39.1	**450°C (842°F)**
46521	0.389	**46551**	0.389	**–**	–	18/2 PR	7/26	TT2000	75.9	
46522	0.277	**46552**	0.277	**46622**	0.279	16/1 PR	7/24	TT2000	47.4	
46523	0.422	**46553**	0.422	**–**	–	16/2 PR	7/24	TT2000	89.8	
46524	0.273	**46554**	0.273	**–**	–	22/1 PR	7/30	TT2800	38.2	
46525	0.417	**46555**	0.417	**–**	–	22/2 PR	7/30	TT2800	76.5	
46526	0.310	**46556**	0.310	**–**	–	18/1 PR	7/26	TT2800	51.4	**530°C (986°F)**
46527	0.460	**46557**	0.460	**–**	–	18/2 PR	7/26	TT2800	100.7	
46528	0.340	**46558**	0.340	**–**	–	16/1 PR	7/24	TT2800	59.1	
46529	0.500	**46559**	0.500	**–**	–	16/2 PR	7/24	TT2800	116.4	

Additional thermocouple types and paired configurations available. Shielding also available.

Thermo-Trex® Thermocouple Extension Wire *(Types JX, KX & RSX)* *(Continued)*

Thermo-Trex® is the source for a high temperature resistant, flexible cable. The thermocouple extension wire is available is types JX, KX and RSX. High heat resistance ranging from 90°C to 530°C is available. High chemical resistance is also available in the 150°C and 250°C heat resistant families of thermocouple extension wires. Other types available upon request.



STANDARD CONFIGURATIONS

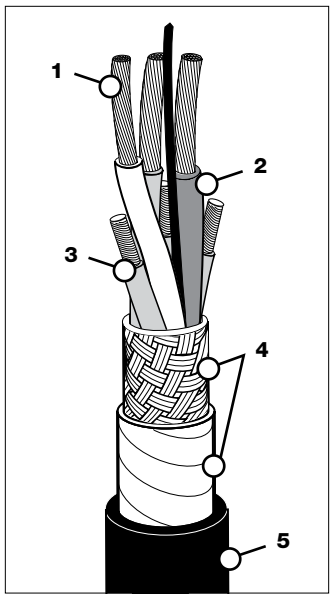
ANSI TYPE	METALS		COLOR CODE		
	+	–	JACKET	+	–
JX	IRON	CONSTANTAN	BLACK	White	Red
KX	CHROMEL	ALUMEL	YELLOW	Yellow	Red
RSX	COPPER	COPPER ALLOY	GREEN	Black	Red
TX	COPPER	CONSTANTAN	BLUE	Blue	Red

For RTD Extension Cable, any standard cable in a 3 or 4 conductor configuration may be used; be sure to match the cable for the environment.

Super-Trex® VFD Shielded Power Cable

• UL Listed • cUL • Type TC-ER • FT-4 Flame Rating • 600 V • Corona Resistant to 2,000 V • Max Conductor Temperature 90°C

Designed specifically for variable frequency drives, Super-Trex® VFD cable features a heavy-duty jacket that provides excellent protection against abrasion, impact, oil, chemicals, heat and flame. Designed to withstand the harsh electrical environment of typical VFD systems, the cable is constructed with both a foil and braid shield and will withstand corona voltages up to 2,000 volts. Symmetrical ground wires are used to reduce the effect of common-mode-voltage noise. Ideal for harsh environment VFD applications where a longer lasting cable is desired.



FEATURES & BENEFITS

1. FINELY STRANDED COPPER CONDUCTORS — Improves flexibility and extends conductor life in dynamic applications.

2. TSE INSULATION — Corona resistant insulation designed for VFD applications.

3. THREE INSULATED GROUNDS — Reduces overall cable O.D.

4. ULTRA-SHIELD CONSTRUCTION — Combination tinned copper braid and foil shield for maximum RF and EM protection.

5. SPECIALLY COMPOUNDED SUPER-TREX® TSE JACKET — Superior protection against oil, ozone, sunlight, UV, chemicals, heat and flame. Excellent all weather flexibility.

APPLICATIONS

- Variable Frequency Drive Systems
- Shielded Power Cable

COLOR CODE	
COND	**COLOR**
1	Black
2	White
3	Red
Ground	Green

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER!
See Pages 97-107.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	POWER COND SIZE AWG/COND	POWER COND STRANDING	GROUND SIZE COND/AWG[1]	AMPACITY[2]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
89103	#4 - 3 Cond	259 x 0.0127	3 x 12 AWG	114	1.19	1101
89104	#2 - 3 Cond	259 x 0.0160	3 x 10 AWG	152	1.34	1512
89106	1/0 - 3 Cond	266 x 0.0199	3 x 10 AWG	205	1.61	2174
89107	2/0 - 3 Cond	342 x 0.0199	3 x 10 AWG	237	1.70	2510
89109	4/0 - 3 Cond	532 x 0.0199	3 x 8 AWG	316	1.99	3727
89110	262Kcmil - 3 Cond	646 x 0.0199	3 x 6 AWG	362	2.21	4581
89111	373Kcmil - 3 Cond	925 x 0.0199	3 x 6 AWG	449	2.45	5968
89112	444Kcmil - 3 Cond	1110 x 0.0199	3 x 6 AWG	497	2.60	6922
89113	535Kcmil - 3 Cond	1332 x 0.0199	3 x 6 AWG	555	2.85	8246

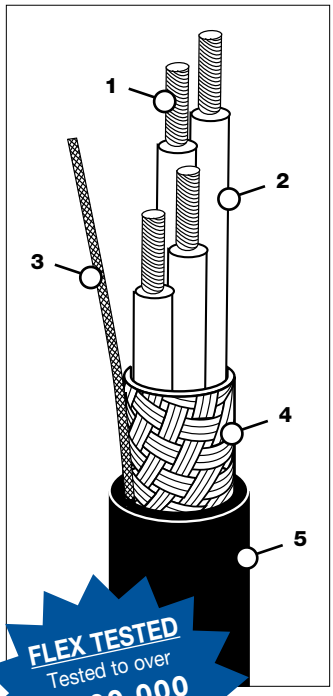
NOTE: (1) Ground sized in accordance with NEC Table 250, 122 + UL1277 whichever is larger.

NOTE: (2) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table B310.15(B)(2)(3).

Trex-Onics® Extreme Cold Temperature VFD Cable

- UL Listed
- CSA
- CE
- 600 V
- CSA — FT-1 Flame Rating
- Corona Resistant to 2,000 V
- Max Conductor Temperature 105°C
- Cold Bend -60°C
- Sunlight Resistant
- Oil Resistant
- RoHS Compliant

TPC's Trex-Onics® Extreme Cold Temp VFD Cable is designed for superior performance. A heavy-duty tinned copper braid protects equipment and motor from damage caused by electrical noise and 'stray voltage' and provides a shield against EM and RF noise and interference, and a low impedance path to ground. The finely stranded copper conductors extend conductor life in dynamic applications and are alpha-numerically marked for ease of identification. The oil resistant composite insulation system offers high dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation, our shielded power cable is Corona Resistant to 2,000 V.



FEATURES & BENEFITS

1. FINELY STRANDED COPPER CONDUCTORS — Improves flexibility and extends conductor life in dynamic applications. Conductors are alpha-numerically marked for ease of identification.

2. OIL RESISTANT COMPOSITE INSULATION SYSTEM — High dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation. Prevents damage to motor and controllers.

3. FLAT BRAID DRAIN WIRE FILLERS — Low friction, non-wicking fillers provide increased flexibility in dynamic applications.

4. HEAVY-DUTY 95% COVERAGE OF TINNED COPPER BRAID — Provides a shield against EM and RF noise and interference, and a low impedance path to ground. Protects equipment and motor damage from electrical noise and "stray voltage". Designed for superior performance in moving applications.

5. SPECIALLY COMPOUNDED SECURITY Black TREX-ONICS® TPE JACKET — Superior first line defense against oil, ozone, UV exposure, as well as most chemicals. Flame and heat resistant. All-weather flexibility.

COLOR CODE	
COND	**COLOR**
1, 2 & 3	Black
4	Green/Yellow

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER! *See Pages 99-107.*

APPLICATIONS

- Land Rigs

ORDERING INFORMATION *(Call for pricing & availability)*

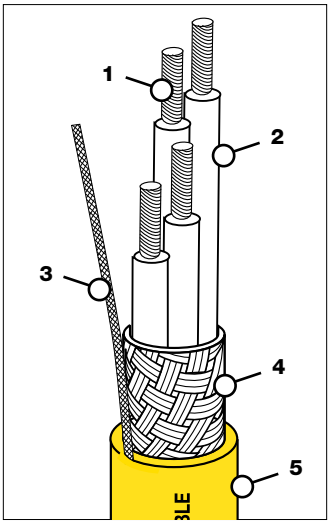
PART NO.	CABLE SIZE AWG	STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	DRAIN WIRE AWG
65007	4/4	413 x 30	95	1.26	1083	14

NOTE: (1) Based on an ambient temperature of 40°C and conductor temperature of 90°C, not more than three current carrying conductors, per NEC 2014, Table B310.15(B)(2)(3). Preliminary specifications are subject to change.

Trex-Onics® VFD Shielded Power Cable

- UL Listed
- CE
- CSA
- CSA – 1,000 V
- Type TC-ER – 600 V
- Corona Resistant to 2,000 V
- Max Conductor Temperature 90°C
- RoHS Compliant
- Sunlight Resistant
- Oil Resistant

TPC's Trex-Onics® VFD Shielded Power Cable is designed for superior performance. A heavy-duty tinned copper braid protects equipment and motor from damage caused by electrical noise and 'stray voltage' and provides a shield against EM and RF noise and interference, and a low impedance path to ground. The finely stranded copper conductors extend conductor life in dynamic applications and are alpha-numerically marked for ease of identification. The oil resistant composite insulation system offers high dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation, our shielded power cable is Corona Resistant to 2,000 V.



COLOR CODE	
COND	**COLOR**
1, 2 & 3	Black
4	Green/Yellow

FEATURES & BENEFITS

1. FINELY STRANDED COPPER CONDUCTORS — Improves flexibility and extends conductor life in dynamic applications. Conductors are alpha-numerically marked for ease of identification.

2. OIL RESISTANT COMPOSITE INSULATION SYSTEM — High dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation. Prevents damage to motor and controllers.

3. FLAT BRAID DRAIN WIRE

4. HEAVY-DUTY 95% COVERAGE OF TINNED COPPER BRAID — Provides a shield against EM and RF noise and interference, and a low impedance path to ground. Protects equipment and motor damage from electrical noise and "stray voltage". Designed for superior performance in moving applications.

5. SPECIALLY COMPOUNDED SECURITY YELLOW TREX-ONICS® TPE JACKET — Superior first line defense against oil, ozone, UV exposure, as well as most chemicals. Flame and heat resistant. All-weather flexibility.

6. FILLERS — Low friction, non-wicking fillers provide increased flexibility in dynamic applications.

Tested to over **4,000,000** cycles in cable carrier without failure!

APPLICATIONS

AC Variable Frequency Drives are more prevalent today as the advantages of this technology have become better understood. The most common method of controlling VFD motors is the use of Pulse Width Modulation (PWM), a method where the frequency or pulse width of the drive signal is controlled to vary the motor speed. The issues associated with VFD systems are high switching speeds (10 KHz and higher) which generate electrical noise, corona discharge and "stray voltages". The generation of electrical noise, corona and "stray voltages" are potentially damaging to the motor and equipment if a non VFD or "drive rated" cable is installed. For this reason, TPC has designed a high performance VFD cable for dynamic industrial applications that reduces the effects of electrical noise and corona discharge, while providing a low impedance path to ground to eliminate the potential damage caused by "stray voltages".

ORDERING INFORMATION *(Call for pricing & availability)*

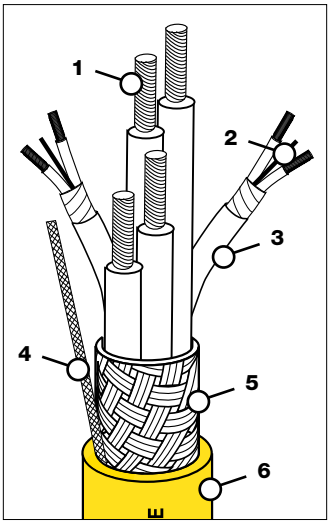
PART NO.	CABLE SIZE AWG	STRANDING	AMPACITY[1]	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	DRAIN WIRE AWG
60040	16/4	65 x 34	18	0.465	145	18
60041	14/4	105 x 34	25	0.509	158	16
60042	12/4	165 x 34	30	0.606	247	14
60043	10/4	105 x 30	40	0.683	308	14
60044	8/4	168 x 30	55	0.887	528	14
60045	6/4	266 x 30	75	1.020	753	14
60046	4/4	413 x 30	95	1.190	1083	14

NOTE: (1) Ambient temperature of 30°C, conductor temperature of 90°C, not more than three current-carrying conductors. Based on NEC 2011, Table 310.15(B)(16).

Trex-Onics® VFD Shielded Power Cable with Brake & Signal Pairs

- UL Listed
- CE
- CSA
- CSA – 1,000 V
- Type TC-ER – 600 V
- Corona Resistant to 2,000 V
- Max Conductor Temperature 90°C
- RoHS Compliant
- Sunlight Resistant
- Oil Resistant

TPC's Trex-Onics® Shielded Power Cable (with Brake and Signal Pairs) is designed for superior performance. A heavy-duty tinned copper braid protects equipment and motor from damage caused by electrical noise and 'stray voltage' and provides a shield against EM and RF noise and interference, and a low impedance path to ground. The finely stranded copper conductors extend conductor life in dynamic applications and are alpha-numerically marked for ease of identification. The oil resistant composite insulation system offers high dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation, our shielded power cable is Corona Resistant to 2,000 V.



COLOR CODE	
COND	**COLOR**
1, 2 & 3	Black
4	Green/Yellow

FEATURES & BENEFITS

1. FINELY STRANDED COPPER CONDUCTORS — Improves flexibility and extends conductor life in dynamic applications. Conductors are alpha-numerically marked for ease of identification.

2. BRAKE AND SIGNAL PAIRS — Aluminum/Mylar foil shielded pairs provide 100% shielding.

3. OIL RESISTANT COMPOSITE INSULATION SYSTEM — High dielectric, tensile and mechanical properties. Designed with a semi-conductive layer to protect against Corona discharge build up from voltage spikes during operation. Prevents damage to motor and controllers.

4. FLAT BRAID DRAIN WIRE

Pairs Identified Alpha Numerically
BLACK with **WHITE** print
PAIR #1 = 5+6 and **PAIR #2 = 7+8**

5. HEAVY-DUTY 95% COVERAGE OF TINNED COPPER BRAID — Provides a shield against EM and RF noise and interference, and a low impedance path to ground. Protects equipment and motor damage from electrical noise and "stray voltage". Designed for superior performance in moving applications.

6. SPECIALLY COMPOUNDED SECURITY YELLOW TREX-ONICS® TPE JACKET — Superior first line defense against oil, ozone, UV exposure, as well as most chemicals. Flame and heat resistant. All-weather flexibility.

6. FILLERS — Low friction, non-wicking fillers provide increased flexibility in dynamic applications.

Tested to over **4,000,000** cycles in cable carrier without failure!

ORDERING INFORMATION *(Call for pricing & availability)*

SINGLE PAIR

PART NO.	POWER CONDUCTOR				BRAKE & SIGNAL PAIRS			JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
	AWG/ COND	STRANDING	AMPACITY[1]	OVERALL DRAIN	AWG/NO. PAIRS	STRANDING	DRAIN WIRES			
60021	14/4	105 x 34	25	16	16/1	65 x 34	18	0.070	0.620	215
60023	12/4	165 x 34	30	14	16/1	65 x 34	18	0.070	0.670	310
60025	10/4	105 x 30	40	14	16/1	65 x 34	18	0.070	0.760	420
60026	8/4	168 x 30	55	14	16/1	65 x 34	18	0.090	0.940	617
60027	6/4	266 x 30	75	14	16/1	65 x 34	18	0.090	1.050	825
60096	4/4	1050 x 34	95	18	14/1	105 x 30	16	0.115	1.390	1450

TWO PAIR

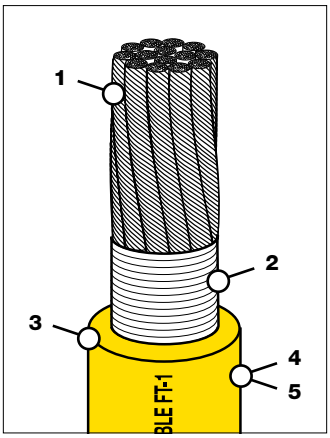
PART NO.	POWER CONDUCTOR				BRAKE & SIGNAL PAIRS			JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
	AWG/ COND	STRANDING	AMPACITY[1]	OVERALL DRAIN	AWG/NO. PAIRS	STRANDING	DRAIN WIRES			
60028	14/4	105 x 34	25	16	16/2	65 x 34	18	0.070	0.695	280
60029	12/4	165 x 34	30	14	16/2	65 x 34	18	0.070	0.745	370
60030	10/4	105 x 30	40	14	16/2	65 x 34	18	0.070	0.860	505
60031	8/4	168 x 30	55	14	16/2	65 x 34	18	0.090	1.000	800
60032	6/4	266 x 30	75	14	16/2	65 x 34	18	0.090	1.110	1175

NOTE: (1) Ambient temperature of 30°C, conductor temperature of 90°C, not more than three current-carrying conductors. Based on NEC 2011, Table 310.15(B)(16).

Super-Trex® 600 Volt Welding Cable

- UL Listed
- CSA
- RoHS Compliant
- FT-1 Flame Rating
- Type SC
- 600 V
- Max Conductor Temperature 90°C
- Extreme Usage
- UV Resistant
- MSHA Approved* (2, 1/0, 2/0, 4/0 Only)

Super-Trex® 600 Volt Welding Cable is designed for rugged use featuring our Extra-Flex™ rope lay copper conductor, 100% fabric serve and a jacket with a 25% thicker wall compared to ordinary cable. The result is a flexible weld and power cable that withstands tearing, abrasion, impact and chunking, extending the life of the cable in harsh applications. This cable is ideal for use in welding or power applications.



FEATURES & BENEFITS

1. EXTRA-FLEX™ #34 AWG BUNCH STRANDED ROPE LAY COPPER — 2-1/2 times more stranding than conventional welding cables. Reduces copper conductor fatigue and breakage. Easier to work with. High impact resistance.

2. 100% FABRIC SERVE — Improves tear resistance and reduces jacket shrink-back.

3. FOOTAGE INDICATORS MARKED ON THE JACKET — Easy, precise measuring reduces waste and improves productivity.

4. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET RATED 600 VOLT — Superior first-line defense against all types of industrial and environmental abuse. Flame and heat resistant. Extreme all-weather flexibility.

5. JACKET IS 25% THICKER THAN ORDINARY CABLE — Withstands tearing, abrasion, impact and chunking.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER!
See Pages 97-107.

FLEX TESTED
Tested to over **1,000,000** cycles in cable carrier without failure!

APPLICATIONS

- Battery Charger Lead Wires
- Bus Welding Boxes or Transformers
- Portable Lighting
- Electrode Holder and Ground Connections to Arc Welders
- Power Supply Applications

Recommended Minimum Bend Radius for Cable Applications: The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CABLE SIZE AWG	CONDUCTOR STRANDING	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)	SUGGESTED APPLICATION AMPACITIES FOR:	
							600 VOLT IN-LINE[1]	INTERMITTENT WELDING[2]
86310	6	660 x 34	0.080	0.370	132	2.96	105	130
86311	4	1045 x 34	0.093	0.450	202	3.60	140	195
86312*	2	1650 x 34	0.103	0.540	305	4.32	190	260
86314*	1/0	2640 x 34	0.115	0.620	416	5.44	260	300
86315*	2/0	3300 x 34	0.115	0.700	558	5.60	300	450
86317*	4/0	5225 x 34	0.158	0.900	906	7.20	405	600

NOTE: (1) Based on an ambient temperature of 30°C and conductor temperature of 90°C per NEC 2011, Table 3.10.15(B)(17).

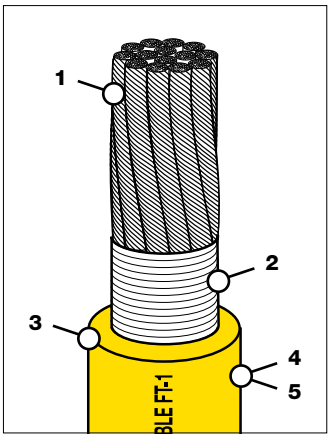
NOTE: (2) These values for current carrying capacity are based on a conductor temperature of 90˚C (194˚F), an ambient temperature of 30˚C (86˚F). In actual service, the load factor may be much higher than indicated without overheating the cable as the ambient temperature will generally be substantially lower than 40˚C (Based on 100 feet length for total circuit for secondary voltages only with 4 volt drop and 60% duty cycle).

**MSHA Approved*

Super-Trex® DC Welding Cable

- CSA
- 90 Volts Max
- RoHS Compliant
- FT-1 Flame Rating
- Max Conductor Temperature 90°C
- Extreme Usage
- UV Resistant
- Extra Flexible

Super-Trex® DC Welding Cable is designed for rugged welding use featuring our Extra-Flex™ rope lay copper conductor, 100% fabric serve and a jacket with a 25% thicker wall compared to ordinary cable. The result is a flexible weld cable that withstands tearing, abrasion, impact and chunking, extending the life of the cable in harsh applications.



FEATURES & BENEFITS

1. EXTRA-FLEX™ #34 AWG BUNCH STRANDED ROPE LAY COPPER — 2-1/2 times more stranding than conventional welding cables. Reduces copper conductor fatigue and breakage. Easier to work with. High impact resistance.

2. 100% FABRIC SERVE — Improves tear resistance and reduces jacket shrink-back.

3. FOOTAGE INDICATORS MARKED ON THE JACKET — Easy, precise measuring reduces waste and improves productivity.

4. SPECIALLY COMPOUNDED, SECURITY YELLOW, SUPER-TREX® TSE JACKET RATED 600 VOLT — Superior first-line defense against all types of industrial and environmental abuse. Flame and heat resistant. Extreme all-weather flexibility.

5. JACKET IS 25% THICKER THAN ORDINARY CABLE — Withstands tearing, abrasion, impact and chunking.

ADD KORD-GARDS™ OR GRIP-SEALS™ TO COMPLETE YOUR ORDER!
See Pages 97-107.

APPLICATIONS

- Battery Charger Lines
- Lift Truck Cables
- Electro-Plating Leads
- Electro-Plating Danglers
- Ground Cables
- Jumper Cables
- Battery Cables
- Welding Stingers
- Welding Ground Leads
- Welding Electrode Leads

SUGGESTED CABLE SIZE BASED ON AMPACITY AND CABLE LENGTH

IMPORTANT NOTE: *Total circuit length includes both the welding (electrode) and ground lead.*

REQUIRED AMPS	TOTAL CIRCUIT LENGTH								
	100'	150'	200'	250'	300'	350'	400'	500'	600'
100	4	4	2	1	1/0	1/0	2/0	3/0	4/0
150	4	2	1	1/0	2/0	3/0	3/0		
200	2	1	1/0	2/0	3/0	4/0	4/0		
250	1	1/0	2/0	3/0	4/0				
300	1/0	2/0	3/0	4/0					
350	1/0	3/0	4/0						
400	2/0	3/0							
450	2/0	4/0							
500	3/0	4/0							
550	3/0	4/0							

For welding applications only. Do not use this table for 600 volt applications. The total circuit length includes both the welding and ground cable (based on 4 volt drop) 60% duty-cycle. Current carrying values are based on copper temperature of 60°C and ambient temperature of 40°C.

Recommended Minimum Bend Radius for Cable Applications: The Minimum Bend Radius for Dynamic Applications is 8 times the O.D. of the cable. Minimum Bend Radius for Static Applications is 6 times the O.D. of the cable.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.			CABLE SIZE AWG	CONDUCTOR STRANDING	AMPACITY[1]	JACKET THICKNESS (IN)	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'	MIN. BEND RADIUS (IN)
YELLOW	RED	BLACK							
86301	—	—	4	1045 x 34	150	0.093	0.450	209	3.60
86302	86302R	86302BK	2	1650 x 34	200	0.103	0.540	318	4.32
86303	—	—	1	2090 x 34	250	0.103	0.580	379	4.64
86304	—	—	1/0	2640 x 34	350	0.120	0.660	484	5.28
86305	86305R	86305BK	2/0	3300 x 34	450	0.115	0.700	579	5.60
86306	—	—	3/0	4256 x 34	550	0.140	0.800	709	6.40
86307	—	—	4/0	5225 x 34	600	0.158	0.900	935	7.20

NOTE: (1) Ampacity is for a low voltage intermittent welding lead. Based on 30ºC ambient 90ºC insulation.

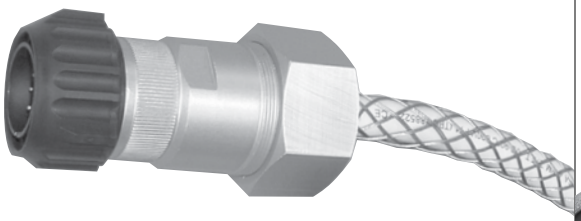
Connectorize Any Cable Order!

Contact your TPC Sales Representative or call 800-521-9735 for more information!

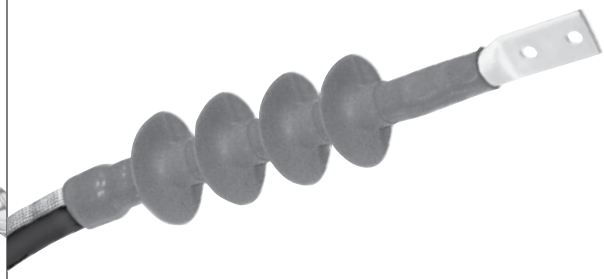
MOLDED CIRCULAR CONNECTORS

MOLDED SINGLE POLE CAM-TYPE

HDLC ASSEMBLIES



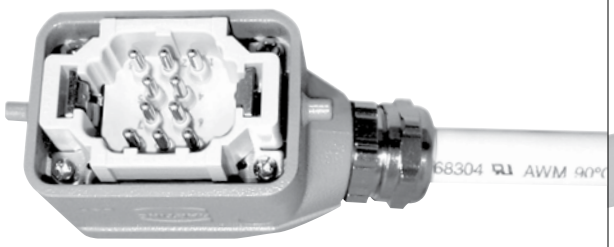
TYPE SH TERMINATION



MILITARY ASSEMBLIES

HEAVY-DUTY LUG TERMINATION

RECTANGULAR ASSEMBLIES



CUSTOM DESIGNED

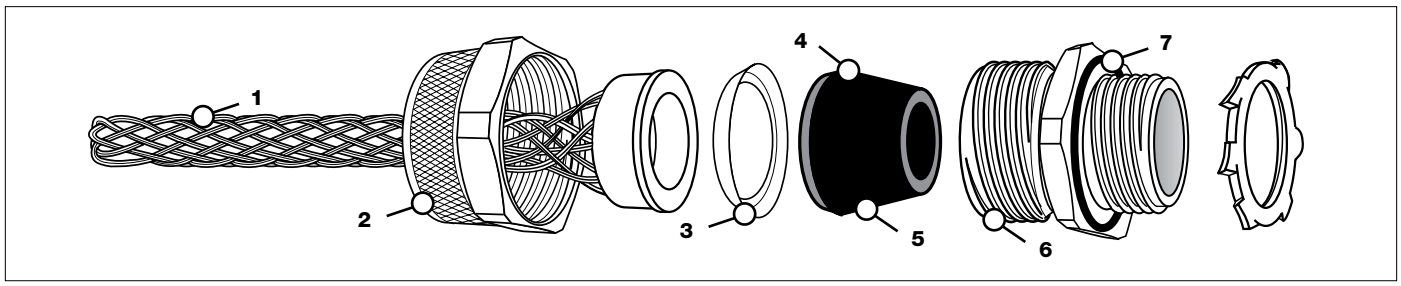
Wire & Cable Accessories

Environments Key Code: **A** = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

Kord-Gard™ Mesh Cord Grips

• UL Listed • CSA • RoHS Compliant • Extra Hard-Duty Strain Relief • Straight & 90° Configurations

Each Grip-Seal™ package includes the grip-seal body, O-ring and locking nut. Our aluminum compression bushing and threaded body is resistant to corrosion and weathering, and has a maximum operating temperature of 250°F. The nickel-plated friction ring provides a uniform compression for a proper environmental seal against dust, moisture and chemicals. The full double-woven stainless steel mesh is a unique drop-in basket design for easier assembly and provides exceptional gripping, strength, a longer cord life and resists corrosion.



FEATURES & BENEFITS

1. FULL DOUBLE-WOVEN STAINLESS STEEL MESH — Provides exceptional gripping strength, longer life. Resists corrosion.

2. UNIQUE DROP-IN BASKET DESIGN — Easier assembly.

3. NICKEL-PLATED FRICTION RING — Provides uniform compression for a proper seal. Prevents bushing damage.

4. SYNTHETIC SEALING BUSHING — Seals out water, oil, and other contaminants. 250°F maximum operating temperature.

5. MULTIPLE BUSHING SIZES — Covers a broad range of cord and cable sizes.

6. ALUMINUM COMPRESSION BUSHING AND THREADED BODY — Resistant to corrosion and weathering. Easy attachment to pendants and electrical enclosures. Available in both a 90° and straight configuration.

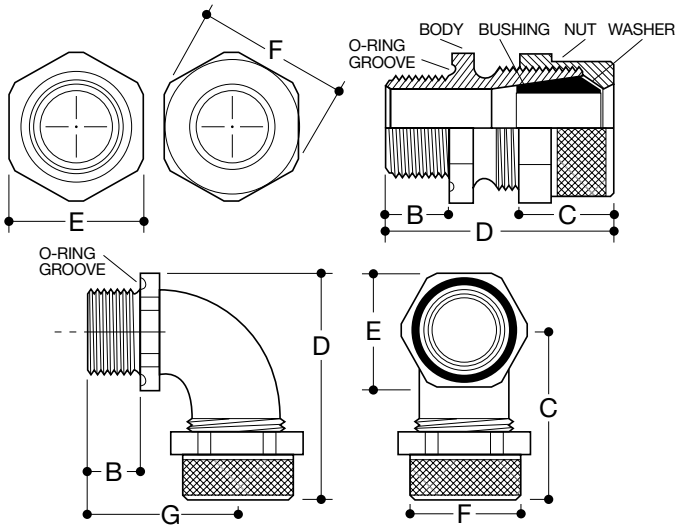
7. SEALING O-RING AND LOCKNUT — Seals out oil, chemicals and other contaminants. Locknut included with each unit.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.		CORD O.D. RANGE (IN)	FITTING SIZE	NUMBER OF BUSHINGS	KNOCK-OUT DRILL SIZE
STRAIGHT	90°				
55405	**59405**	0.124 – 0.312	3/8" NPT	3	11/16"
55410	**59410**	0.250 – 0.438	3/8" NPT	3	11/16"
55415	**59415**	0.312 – 0.500	1/2" NPT	3	7/8"
55420	**59420**	0.437 – 0.625	1/2" NPT	3	7/8"
55430	**59430**	0.562 – 0.750	3/4" NPT	2	1-1/8"
55440	**59440**	0.687 – 0.875	3/4" NPT	1	1-1/8"
55445	**59445**	0.745 – 1.000	1" NPT	2	1-3/8"
55450	**59450**	0.870 – 1.125	1-1/4" NPT	2	1-3/4"
55455	**59455**	1.105 – 1.375	1-1/4" NPT	2	1-3/4"
55460	**59460**	1.320 – 1.562	2" NPT	2	2-3/8"
55465	**59465**	1.413 – 1.655	2" NPT	2	2-3/8"

Kord-Gard™ Mesh Cord Grips *(Continued)*

SPECIFICATIONS



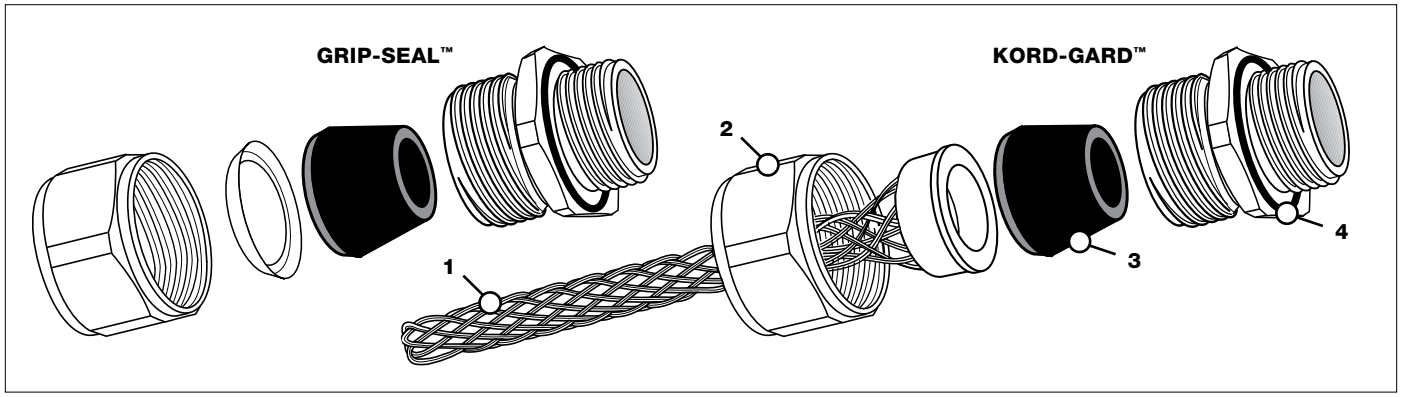
STRAIGHT KORD-GARD™ DIMENSION TABLE							
PART NO.	**FITTING SIZE**	**A: BODY BORE** (IN)	**B** (IN)	**C** (IN)	**D** (IN)	**E: BODY HEX.** (IN)	**F: NUT DIA.** (IN)
55405	3/8" NPT	0.46	0.44	0.59	1.50	0.88	0.99
55410	3/8" NPT	0.46	0.44	0.59	1.50	0.88	0.99
55415	1/2" NPT	0.62	0.53	0.72	1.81	1.09	1.33
55420	1/2" NPT	0.62	0.53	0.72	1.81	1.09	1.33
55430	3/4" NPT	0.81	0.56	0.86	2.06	1.38	1.52
55440	3/4" NPT	0.81	0.62	0.97	2.31	1.56	1.70
55445	1" NPT	1.00	0.69	1.25	2.78	2.16	2.50
55450	1-1/4" NPT	1.31	0.69	1.25	2.78	2.16	2.50
55455	1-1/4" NPT	1.31	0.69	1.25	2.78	2.16	2.50
55460	2" NPT	1.84	0.84	1.72	3.75	2.83	3.25
55465	2" NPT	1.84	0.84	1.72	3.75	2.83	3.25

90° KORD-GARD™ DIMENSION TABLE								
PART NO.	**FITTING SIZE**	**A: BODY BORE** (IN)	**B** (IN)	**C** (IN)	**D** (IN)	**E: BODY HEX.** (IN)	**F: NUT DIA.** (IN)	**G** (IN)
59405	3/8" NPT	0.45	0.44	1.51	2.00	0.98	0.99	1.31
59410	3/8" NPT	0.45	0.44	1.51	2.00	0.98	0.99	1.31
59415	1/2" NPT	0.58	0.56	1.88	2.39	1.03	1.33	1.50
59420	1/2" NPT	0.58	0.56	1.88	2.39	1.03	1.33	1.50
59430	3/4" NPT	0.76	0.63	2.25	2.88	1.25	1.52	1.94
59440	3/4" NPT	0.76	0.63	2.25	2.88	1.25	1.52	1.94
59445	1" NPT	0.99	0.63	2.41	3.13	1.44	1.70	2.00
59450	1-1/4" NPT	1.28	0.69	3.19	4.41	2.13	2.55	2.69
59455	1-1/4" NPT	1.28	0.69	3.19	4.41	2.13	2.55	2.69
59460	2" NPT	1.90	0.81	4.03	5.56	2.81	3.25	3.19
59465	2" NPT	1.90	0.81	4.03	5.56	2.81	3.25	3.19

Stainless Steel Grip-Seals and Kord-Gard™ Mesh Cord Grips

• UL Listed • CSA • RoHS Compliant • IP68 Rated • NEMA 4X Rated • Corrosion Resistant • Liquid Tight Seal • 304 Stainless Steel • Sealing O-Ring

This Grip-Seal™ has a 304 stainless steel smooth flange compression nut and threaded body is ideal for wash down areas. Designed to fit tightly against panel surfaces to keep moisture and other contaminates out; achieves IP68/NEMA4x. The full double-woven stainless steel mesh is a unique drop-in basket design for easier assembly and provides exceptional gripping, strength, a longer cord life and resists corrosion.



FEATURES & BENEFITS

1. FULL DOUBLE-WOVEN STAINLESS STEEL MESH — ***(Kord-Gards™ only)*** Provides exceptional gripping strength, extends cable life and resists corrosion.

2. 304 STAINLESS STEEL SMOOTH FLANGE COMPRESSION NUT AND THREADED BODY — Smooth flange compression nut eliminates crevices where bacteria can grow. Ideal for wash down areas. 304 Stainless Steel design resists impact and corrosion. Provides exceptional gripping strength. Easy to install.

3. MULTIPLE SYNTHETIC SEALING BUSHINGS INCLUDED WITH EACH PRODUCT — One part number covers a variety of cord diameters. Seals out water, oil, metal particles and other contaminants.

4. SEALING O-RING — Designed to fit tightly against panel surface to keep moisture and other contaminants out of panel. Protects connections from corrosion.

ORDERING INFORMATION *(Call for pricing & availability)*

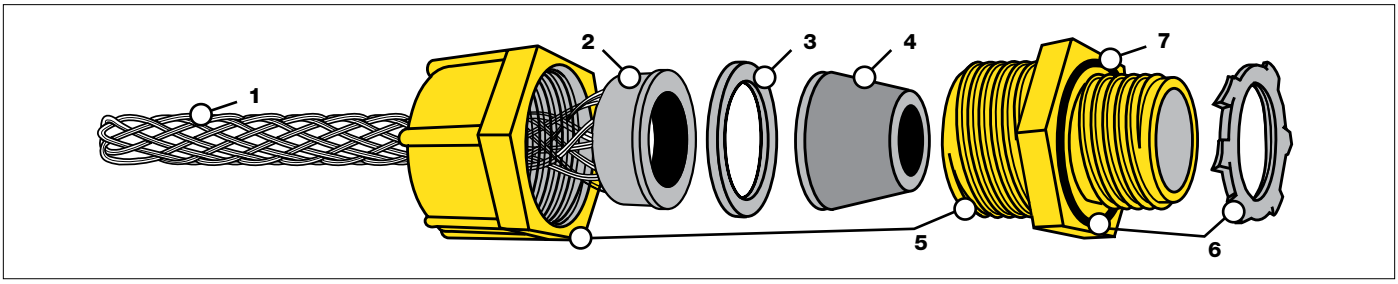
STAINLESS STEEL GRIP-SEALS™			
PART NO.	**CORD O.D. RANGE** (IN)	**FITTING SIZE**	**NUMBER OF BUSHINGS**
55505SS	0.180" – 0.430"	3/8" NPT	4
55513SS	0.188" – 0.500"	1/2" NPT	5
55515SS	0.312" – 0.625"	1/2" NPT	5
55516SS	0.188" – 0.625"	1/2" NPT	7
55530SS	0.560" – 0.750"	3/4" NPT	2
55540SS	0.875" – 1.00"	1" NPT	1

STAINLESS STEEL KORD-GARDS™			
PART NO.	**CORD O.D. RANGE** (IN)	**FITTING SIZE**	**NUMBER OF BUSHINGS**
55310SS	0.180" – 0.310"	3/8" NPT	2
55311SS	0.310" – 0.440"	3/8" NPT	2
55320SS	0.370" – 0.500"	1/2" NPT	2
55321SS	0.500" – 0.570"	1/2" NPT	2
55330SS	0.560" – 0.690"	3/4" NPT	1
5534155	0.875" – 1.250"	1-1/4" NPT	3
5534355	0.750" – 0.875"	1" NPT	1

Nylon Kord-Gard™ Mesh Cord Grips

• UL Listed • CSA • RoHS Compliant • Extra Hard-Duty Strain Relief • Corrosion Resistant

Each Grip-Seal™ package includes the grip-seal body, O-ring and locking nut. Our nylon friction ring provides uniform compression for a proper seal. It prevents bushing damage and results in a tight, uniform seal on the cord surface which seals out oil, chemicals and other contaminates. The full double-woven stainless steel mesh is a unique drop-in basket design for easier assembly and provides exceptional gripping, strength, a longer cord life and resists corrosion.



FEATURES & BENEFITS

1. FULL DOUBLE-WOVEN STAINLESS STEEL MESH — Provides exceptional gripping strength. Resists corrosion.

2. UNIQUE DROP-IN BASKET DESIGN — Easier assembly.

3. FRICTION RING — Provides uniform compression for a proper seal. Prevents bushing damage.

4. SYNTHETIC SEALING BUSHING — Seals out water, oil, and other contaminants.

5. SECURITY YELLOW NYLON COMPRESSION NUT AND THREADED BODY — Resists impact and corrosion. Easy to remove and reuse.

6. SEALING O-RING AND ZINC-PLATED LOCKNUT — Seals out oil, chemicals and other contaminants. Zinc-plated locknut included with each unit is rustproof.

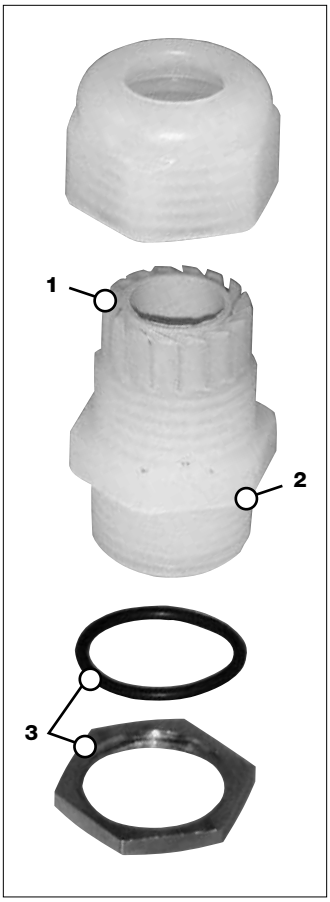
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD O.D. RANGE (IN)	FITTING SIZE	NUMBER OF GROMMETS	KNOCK-OUT DRILL SIZE
55310	0.18" – 0.31"	3/8" NPT	2	11/16"
55311	0.31" – 0.44"	3/8" NPT	2	11/16"
55320	0.37" – 0.50"	1/2" NPT	2	7/8"
55321	0.50" – 0.57"	1/2" NPT	2	7/8"
55330	0.56" – 0.69"	3/4" NPT	1	1-1/8"

Heat & Chemically Resistant Straight Grip-Seals™

• UL Listed • CSA • RoHS Compliant • Operating Temperature Range -35°C to 150°C • Corrosion Resistant • Liquid Tight Seal • Extreme Temperature

These Grip-Seals™ operate up to 150°C, resist impact and corrosion, and provide exceptional gripping strength. It's an ideal accessory for use with our Chem-Gard™ product line.



EXTREME TEMPERATURE

FEATURES & BENEFITS

1. FLUOROELASTOMER FORM SEAL — Ensures a strong, uniform seal around the cord surface and will withstand high temperature conditions.

2. HEAT AND CHEMICAL RESISTANT — Grip-Seals™ are made of PVDF (Polyvinylidene Difluoride) which provides outstanding temperature and chemical resistance. These Grip-Seals operate up to 150°C, resists impact and corrosion, and provide exceptional gripping strength. It is an ideal accessory for use with our Chem-Gard™ product line. Each Grip-Seal package includes the grip-seal body, O-ring and locking nut.

3. FLUOROELASTOMER O-RING AND NICKEL-PLATED BRASS LOCKING NUT — Provides uniform compression for a proper seal and withstands high temperature conditions. The nickel-plated brass locking nut included with each Grip-Seal™ will resist corrosion.

CHEMICAL RESISTANCE

Acetic Acid, 5% ... R	Hydrogen Sulphide ... R	Trichlorethylene ... R
Acetonitrile ... R	Hypochlorites ... R	Trichloroethane ... R
Amyl Acetate ... R	Isobutyl Alcohol ... R	Water ... R
Amyl Alcohol ... R	Isopropyl Acetate ... R	Benzene ... L
Benzaldehyde ... R	Isopropyl Alcohol ... R	Chloroform ... L
Benzyl Alcohol ... R	Kerosene ... R	Ethers ... L
Boric Acid ... R	Methanol ... R	Methyl Ethyl Ketone (MEK) ... L
Bromine ... R	Nitric acid (50%) ... R	Methyl Isobutyl Ketone ... L
Butyl Alcohol ... R	Oils, Diesel ... R	Nitrobenzene ... L
Calcium Chloride ... R	Oils, Lubricating ... R	Perchloroethylene ... L
Carbon Tetrachloride ... R	Ozone ... R	Tetrahydrofuran ... L
Cyclohezanone ... R	Pentane ... R	Acetone ... N
Ethyl Alcohol ... R	Perchloric Acid ... R	Ammonia ... N
Ethylene Glycol ... R	Petroleum Base Oils ... R	Ammonium Hydroxide ... N
Formaldehyde ... R	Phenol (0.5%) ... R	Diethyl Acetamide ... N
Formic Acid ... R	Phosphoric Acid (95%) ... R	Dioxane ... N
Freon TF ... R	Propane ... R	Ethyl Acetate ... N
Gasoline ... R	Silicone Oils ... R	Hydrofluric Acid ... N
Glycerol ... R	Sodium Hydroxide ... R	Methylene Chloride ... N
Hexane ... R	Sodium Peroxide ... R	Sulfuric Acid ... N
Hydrobromic Acid (50%) ... R	Sodium Silicate ... R	Toluene ... N
Hydrochloric Acid ... R	Sulphates (Na, K, Mg, Ca) ... R	Xylene ... N
Hydrogen Peroxide, 30% ... R	Sulphur ... R	

R = *Resistant* L = *Limited Resistance (testing before use recommended)* N = *Not Recommended*

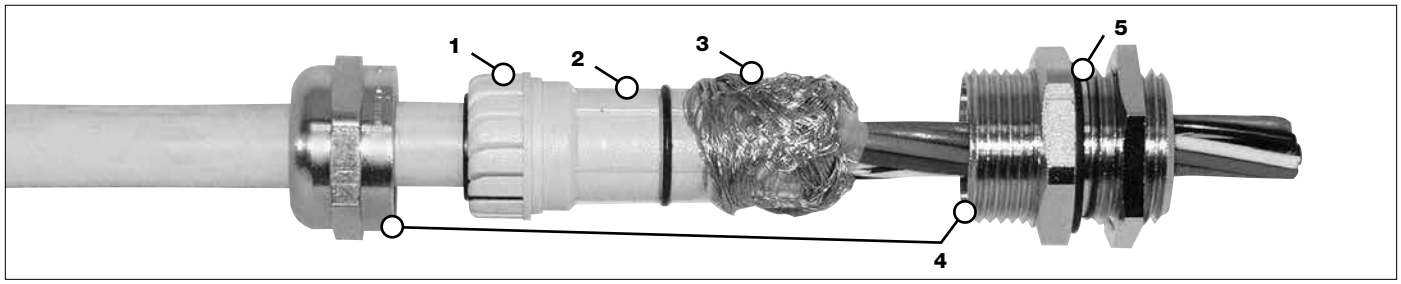
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	THREAD SIZE (IN)	CORD DIAMETER RANGE (IN)	KNOCK OUT DRILL SIZE (IN)
55725	1/4" NPT	0.08" – 0.20"	1/2"
55738	3/8" NPT	0.08" – 0.24"	11/16"
55739	3/8" NPT	0.16" – 0.31"	11/16"
55750	1/2" NPT	0.24" – 0.47"	7/8"

EMI Shielded Grip-Seals™

- UL Listed
- CSA
- RoHS Compliant
- EMI Protection
- Strain Relief
- Liquid Tight Seal
- Operating Temperature Range -40°C to 100°C (-40°F to 212°F)
- For Cables with Braid Shields

EMI Shielded Grip-Seals™ are designed to provide a reliable electrical ground and protection from electromagnetic interference (EMI). An integral O-ring presses the braid shield against the inside wall of the body to ensure solid contact between the cable braid and grip-seal wall. Each EMI Shield Grip-Seal™ package includes the grip-seal body, bushing, form seal and O-ring and locking nut.



FEATURES & BENEFITS

1. BUNA-N FORM SEAL — A Buna-N form seal creates a strong seal around the cord surface providing a liquid tight IP68 seal.

2. NYLON BUSHING

3. BRAID SHIELD FOLDS OVER NYLON BUSHING

4. NICKEL-PLATED BODY AND LOCKING NUT — Provides corrosion resistance.

5. BUNA-N O-RING

6. MATERIALS — Body & Locking Nut: Nickel-Plated Brass; Bushing: Nylon; Form Seal & O-Ring: Buna-N.

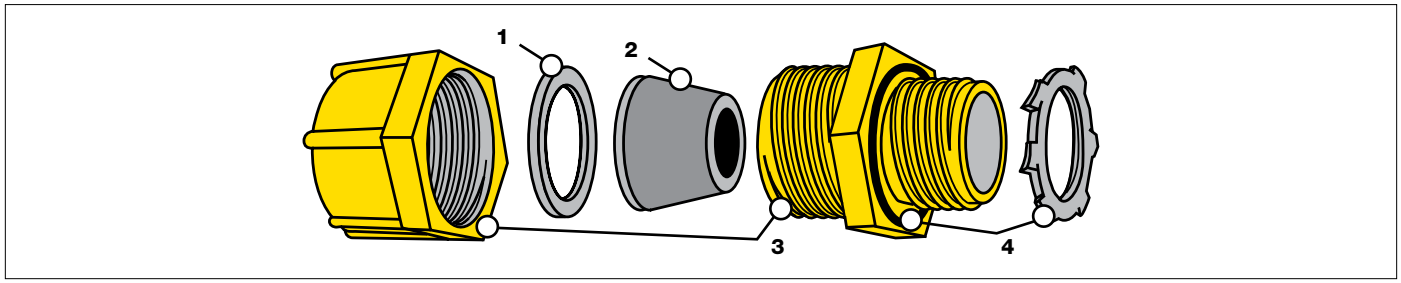
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	THREAD SIZE (IN)	CORD DIAMETER RANGE (IN)	KNOCK OUT DRILL SIZE (IN)
55051	3/8" NPT	0.16" – 0.31"	0.68"
55052	1/2" NPT	0.24" – 0.47"	0.83"
55053	3/4" NPT	0.51" – 0.71"	1.05"
55054	PG 29	0.70" – 0.98"	1.47"
55055	PG 36	0.86" – 1.26"	1.85"
55056	PG 42	1.26" – 1.50"	2.13"
55058	PG 48	1.77" – 2.01"	2.34"

Nylon Straight and 90° Grip-Seals™

• UL Listed • CSA • RoHS Compliant • Liquid Tight Seal • Strain Relief • Corrosion Resistant • Straight and 90° Configurations

Each Grip-Seal™ package includes the grip-seal body, O-ring and locking nut. Our nylon friction ring provides uniform compression for a proper seal. It prevents bushing damage and results in a tight, uniform seal on the cord surface which seals out oil, chemicals and other contaminates.



FEATURES & BENEFITS

1. NYLON FRICTION RING — Provides uniform compression for a proper seal. Prevents bushing damage and results in a tight, uniform seal on the cord surface.

2. MULTIPLE SYNTHETIC SEALING BUSHINGS INCLUDED WITH EACH PRODUCT — One part number covers a variety of cord diameters. Seals out water, oil, metal particles and other contaminants.

3. SECURITY YELLOW NYLON COMPRESSION NUT AND THREADED BODY — Resists impact and corrosion. Provides exceptional gripping strength. Easy to remove and reuse.

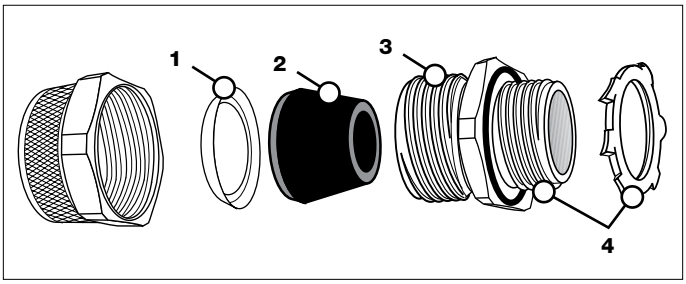
4. SEALING O-RING AND ZINC-PLATED LOCKNUT — Seals out oil, chemicals and other contaminants. Zinc-plated locknut included with each unit is rustproof.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONFIGURATION	CORD DIAMETER RANGE	FITTING SIZE	NUMBER OF BUSHINGS	KNOCK-OUT DRILL SIZE
55505	Straight	0.180" – 0.430"	3/8" NPT	4	11/16"
55513	Straight	0.188" – 0.500"	1/2" NPT	5	7/8"
55515	Straight	0.312" – 0.625"	1/2" NPT	5	7/8"
55516	Straight	0.188" – 0.625"	1/2" NPT	7	7/8"
55530	Straight	0.560" – 0.750"	3/4" NPT	2	1-1/8"
55592	90°	0.188" – 0.625"	1/2" NPT	7	7/8"
55593	90°	0.562" – 0.750"	3/4" NPT	2	1-1/8"

Aluminum Straight and 90° Grip-Seals™

• UL Listed • CSA • RoHS Compliant • Liquid Tight Seal • Straight and 90° Configurations



Each Grip-Seal™ package includes the grip-seal body, O-ring and locking nut. Our aluminum compression bushing and threaded body is resistant to corrosion and weathering, and has a maximum operating temperature of 250°F. The nickel-plated friction ring provides a uniform compression for a proper environmental seal against dust, moisture and chemicals.

FEATURES & BENEFITS

1. NICKEL-PLATED FRICTION RING — Provides uniform compression for a proper seal. Prevents bushing damage and results in a tight, uniform seal on the cord surface.

2. MULTIPLE SEALING BUSHINGS — Provides environmental seal against dust, moisture, chemicals. One part number covers a variety of cord diameters. 250°F maximum operating temperature.

3. ALUMINUM COMPRESSION BUSHING AND THREADED BODY — Resistant to corrosion and weathering. Easy attachment to pendants and electrical enclosures. Available in both a 90˚ and straight configuration.

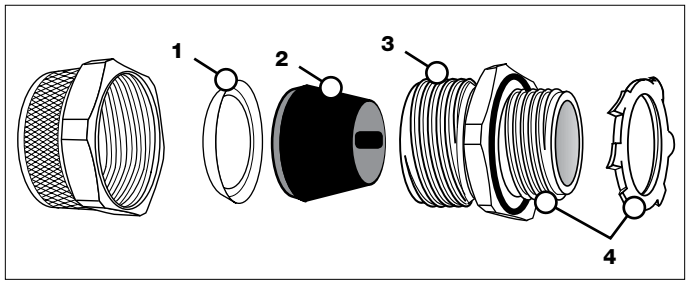
4. SEALING O-RING — Seals out oil, chemicals and other contaminants. Locknut included with each unit.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONFIGURATION	FITTING SIZE	CORD O.D. RANGE (IN)	NUMBER OF BUSHINGS
55001	Straight	3/8" NPT	0.188 – 0.312	2
55002	Straight	3/8" NPT	0.312 – 0.438	2
55003	Straight	1/2" NPT	0.250 – 0.375	2
55004	Straight	1/2" NPT	0.375 – 0.500	2
55005	Straight	1/2" NPT	0.500 – 0.625	2
55006	Straight	3/4" NPT	0.500 – 0.688	2
55007	Straight	3/4" NPT	0.625 – 0.812	2
55008	Straight	1" NPT	0.688 – 0.875	2
55009	Straight	1" NPT	0.812 – 1.000	2
55010	Straight	1-1/4" NPT	0.875 – 1.125	2
55011	Straight	1-1/4" NPT	1.125 – 1.375	2
55012	Straight	1-1/2" NPT	0.875 – 1.125	2
55013	Straight	1-1/2" NPT	1.125 – 1.375	2
55014	Straight	2" NPT	1.250 – 1.562	2
55015	Straight	2" NPT	1.562 – 1.812	2
55016	Straight	2-1/2" NPT	1.812 – 2.062	2
55017	Straight	2-1/2" NPT	2.062 – 2.312	2
55901	90˚	3/8" NPT	0.188 – 0.312	2
55902	90˚	3/8" NPT	0.312 – 0.438	2
55903	90˚	1/2" NPT	0.250 – 0.375	2
55904	90˚	1/2" NPT	0.375 – 0.500	2
55905	90˚	1/2" NPT	0.500 – 0.625	2
55906	90˚	3/4" NPT	0.500 – 0.688	2
55907	90˚	3/4" NPT	0.625 – 0.812	2
55908	90˚	1" NPT	0.688 – 0.875	2
55909	90˚	1" NPT	0.812 – 1.00	2
55910	90˚	1-1/4" NPT	0.875 – 1.125	2
55911	90˚	1-1/4" NPT	1.125 – 1.375	2
55912	90˚	2" NPT	1.250 – 1.562	2
55913	90˚	2" NPT	1.562 – 1.812	2

Aluminum Grip-Seals™ For Flat Festoon Cable

• UL Listed • CSA • RoHS Compliant • Liquid Tight Seal • Straight and 90° Configurations



Each Grip-Seal™ package includes the grip-seal body, O-ring and locking nut. Specially designed sealing bushings for flat festoon cables. Our aluminum compression bushing and threaded body is resistant to corrosion and weathering, and has a maximum operating temperature of 250°F. The nickel-plated friction ring provides a uniform compression for a proper environmental seal against dust, moisture and chemicals.

FEATURES & BENEFITS

1. NICKEL-PLATED FRICTION RING — Provides uniform compression for a proper seal. Prevents bushing damage and results in a tight, uniform seal on the cord surface.

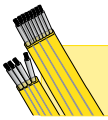
2. SEALING BUSHINGS FOR FLAT FESTOON CABLE — Specially designed bushing provides environmental seal against dust, moisture, chemicals. 250°F maximum operating temperature.

3. ALUMINUM COMPRESSION BUSHING AND THREADED BODY — Resistant to corrosion and weathering. Easy attachment to pendants and electrical enclosures. Available in both a 90˚ and straight configuration.

4. SEALING O-RING — Seals out oil, chemicals and other contaminants. Locknut included with each unit.

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CONFIGURATION	FITTING SIZE	CABLE (IN)	SIZE/CONDUCTOR	NUMBER OF BUSHINGS
55038	Straight	1" NPT	0.190 – 0.870	16/8	1
55032	Straight	1-1/2" NPT	0.204 – 1.420	14/12	1
55034	Straight	1" NPT	0.220 – 0.600	12/4	1
55036	Straight	1-1/2" NPT	0.350 – 1.130	6/4	1

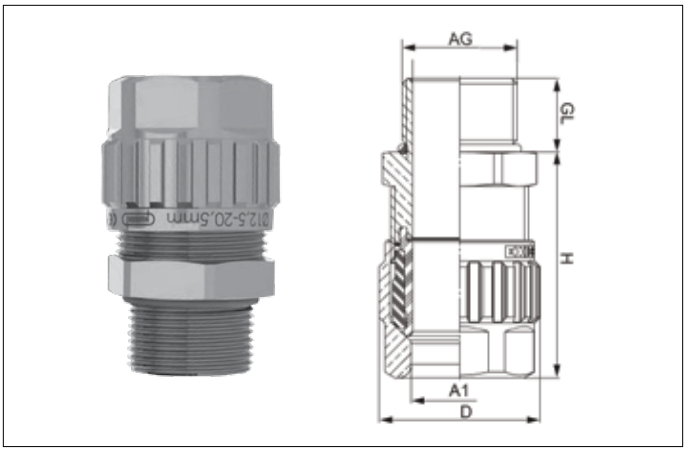


SEE PAGE 54 FOR FLAT FESTOON CABLE FOR USE WITH GRIP-SEAL™ CONNECTORS

Cable Glands For Hazardous Areas — Brass

• CSA/cUS • IECEx: Dual Certified Ex-d/Ex-e • NEC Class I / Division 2; Class II / Division 1 or Division 2 • ABS • DNV • Lloyd • Inmetro • PCT GOST

Hazardous location glands from TPC Wire & Cable Corp. are designed for non-armored cables. They are dual-certified for both Ex-d and Ex-e environments between -60°C to 105°C (-76°F to 221°F) and hazardous areas Zone 1, Zone 2, Zone 20, Zone 21, Zone 22 and NEC Class I / Division 2 and Class II / Division 1 or Division 2, where durability and quality is a must.



FEATURES

1. FITTINGS: RAW BRASS

2. SEALS: SILICONE

3. O-RINGS: SILICONE

4. HALOGEN AND PHOSPHOROUS-FREE

5. OPERATING TEMPERATURE: -60°C TO 105°C (-76°F TO 221°F)

APPLICATIONS

- Oil & Gas Production
- Refineries
- Oilfield Service Companies
- The Petroleum Industry
- Energy/Coal
- Process Industry
- Paint Manufacturing
- Chemical Industries
- Pharmaceutical
- Waste
- Wood Processing
- Agriculture
- Metal
- Food Processing
- Recycling
- Motion Control
- Construction
- Textile
- Marine
- Industrial Manufacturing Sector

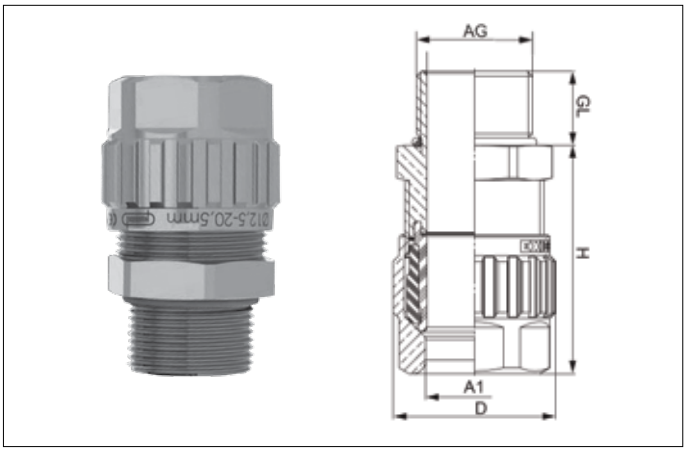
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	THREAD TYPE & SIZE (AG)	BODY LENGTH (H)	OUTER DIAMETER (D)	THREAD LENGTH (GL)	CABLE RANGE 1 (A1)	WRENCH FLAT
HL09NK-BRASS	3/8" NPT	1.56" (39.7 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL13NK-BRASS	1/2" NPT	1.44" (36.5 mm)	1.14" (29 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.94" (24 mm)
HL13NM-BRASS	1/2" NPT	1.44" (36.5 mm)	1.06" (27 mm)	0.79" (20 mm)	0.35 – 0.63" (9 – 16 mm)	0.87/0.94" (22/24 mm)
HL21NK-BRASS	3/4" NPT	1.87" (47.5 mm)	1.38" (35 mm)	0.81" (20.5 mm)	0.49 – 0.81" (12.5 – 20.5 mm)	1.18" (30 mm)
HL29NK-BRASS	1" NPT	1.88" (47.8 mm)	1.65" (42 mm)	0.98" (25 mm)	0.67 – 1.02" (16.9 – 26 mm)	1.42" (36 mm)
HL29LK-BRASS	1 1/4" NPT	2.01" (51.1 mm)	2.05" (52 mm)	1.02" (26 mm)	0.87 – 1.29" (22 – 33 mm)	1.81" (46 mm)
HL36NK-BRASS	1 1/2" NPT	2.24" (56.8 mm)	2.52" (64 mm)	1.04" (26.5 mm)	1.10 – 1.61" (28 – 41 mm)	2.17" (55 mm)
HL50NK-BRASS	2" NPT	2.57" (65.4 mm)	2.87" (73 mm)	1.06" (27 mm)	1.57 – 2.07" (40 – 52.6 mm)	2.56" (65 mm)
HL52NK-BRASS	2 1/2" NPT	2.77" (70.3 mm)	3.54" (90 mm)	1.57" (40 mm)	2.01 – 2.40" (51 – 61 mm)	3.15" (80 mm)
HL30NK-BRASS	3" NPT	3.00" (76.2 mm)	4.21" (107 mm)	1.63" (41.5 mm)	2.44 – 3.07" (62 – 78 mm)	3.74" (95 mm)
HL16MK-BRASS	M16 x 1.5	140" (35.6 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL20MK-BRASS	M20 x 1.5	1.40" (35.6 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL20MM-BRASS	M20 x 1.5	1.56" (39.7 mm)	1.14" (29 mm)	0.63" (16 mm)	0.35 – 0.63" (9 – 16 mm)	0.94" (24 mm)
HL25MK-BRASS	M25 x 1.5	1.87" (47.5 mm)	1.38" (35 mm)	0.63" (16 mm)	0.49 – 0.81" (12.5 – 20.5 mm)	1.18" (30 mm)
HL32MK-BRASS	M32 x 1.5	1.88" (47.8 mm)	1.65" (42 mm)	0.63" (16 mm)	0.67 – 1.02" (16.9 – 26 mm)	1.81" (46 mm)
HL40MK-BRASS	M40 x 1.5	2.01" (51.1 mm)	2.05" (52 mm)	0.63" (16 mm)	0.87 – 1.30" (22 – 33 mm)	1.81" (46 mm)
HL50MK-BRASS	M50 x 1.5	2.24" (56.8 mm)	2.52" (64 mm)	0.63" (16 mm)	1.10 – 1.61" (28 – 41 mm)	2.17" (55 mm)
HL63MK-BRASS	M63 x 1.5	2.57" (65.4 mm)	2.87" (73 mm)	0.63" (16 mm)	1.57 – 2.07" (40 – 52.6 mm)	2.60" (65 mm)
HL75MK-BRASS	M75 x 1.5	2.77" (70.3 mm)	3.54" (90 mm)	0.63" (16 mm)	2.01 – 2.57" (51 – 65.3 mm)	3.15" (80 mm)
HL90MK-BRASS	M90 x 1.5	3.00" (76.2 mm)	4.21" (107 mm)	0.79" (20 mm)	2.44 – 3.07" (62 – 78 mm)	3.74" (95 mm)

Cable Glands For Hazardous Areas — Stainless Steel

• CSA/cUS • IECEx: Dual Certified Ex-d/Ex-e • NEC Class I / Division 2; Class II / Division 1 or Division 2 • ABS • DNV • Lloyd • Inmetro • PCT GOST

Hazardous location glands from TPC Wire & Cable Corp. are designed for non-armored cables. They are dual-certified for both Ex-d and Ex-e environments between -60°C to 105°C (-76°F to 221°F) and hazardous areas Zone 1, Zone 2, Zone 20, Zone 21, Zone 22 and NEC Class I / Division 2 and Class II / Division 1 or Division 2, where durability and quality is a must.



FEATURES

1. FITTINGS: STAINLESS STEEL

2. SEALS: SILICONE

3. O-RINGS: SILICONE

4. HALOGEN AND PHOSPHOROUS-FREE

5. OPERATING TEMPERATURE: -60°C TO 105°C (-76°F TO 221°F)

APPLICATIONS

- Oil & Gas Production
- Refineries
- Oilfield Service Companies
- The Petroleum Industry
- Energy/Coal
- Process Industry
- Paint Manufacturing
- Chemical Industries
- Pharmaceutical
- Waste
- Wood Processing
- Agriculture
- Metal
- Food Processing
- Recycling
- Motion Control
- Construction
- Textile
- Marine
- Industrial Manufacturing Sector

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	THREAD TYPE & SIZE (AG)	BODY LENGTH (H)	OUTER DIAMETER (D)	THREAD LENGTH (GL)	CABLE RANGE 1 (A1)	WRENCH FLAT
HL09NK-STEEL	3/8" NPT	1.56" (39.7 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL13NK-STEEL	1/2" NPT	1.44" (36.5 mm)	1.14" (29 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.94" (24 mm)
HL13NM-STEEL	1/2" NPT	1.44" (36.5 mm)	1.06" (27 mm)	0.79" (20 mm)	0.35 – 0.63" (9 – 16 mm)	0.87 /0.94" (22/24 mm)
HL21NK-STEEL	3/4" NPT	1.87" (47.5 mm)	1.38" (35 mm)	0.81" (20.5 mm)	0.49 – 0.81" (12.5 – 20.5 mm)	1.18" (30 mm)
HL29NK-STEEL	1" NPT	1.88" (47.8 mm)	1.65" (42 mm)	0.98" (25 mm)	0.67 – 1.02" (16.9 – 26 mm)	1.42" (36 mm)
HL29LK-STEEL	1 1/4" NPT	2.01" (51.1 mm)	2.05" (52 mm)	1.02" (26 mm)	0.87 – 1.29" (22 – 33 mm)	1.81" (46 mm)
HL36NK-STEEL	1 1/2" NPT	2.24" (56.8 mm)	2.52" (64 mm)	1.04" (26.5 mm)	1.10 – 1.61" (28 – 41 mm)	2.17" (55 mm)
HL50NK-STEEL	2" NPT	2.57" (65.4 mm)	2.87" (73 mm)	1.06" (27 mm)	1.57 – 2.07" (40 – 52.6 mm)	2.56" (65 mm)
HL52NK-STEEL	2 1/2" NPT	2.77" (70.3 mm)	3.54" (90 mm)	1.57" (40 mm)	2.01 – 2.40" (51 – 61 mm)	3.15" (80 mm)
HL30NK-STEEL	3" NPT	3.00" (76.2 mm)	4.21" (107 mm)	1.63" (41.5 mm)	2.44 – 3.07" (62 – 78 mm)	3.74" (95 mm)
HL16MK-STEEL	M16 x 1.5	140" (35.6 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL20MK-STEEL	M20 x 1.5	1.40" (35.6 mm)	1.06" (27 mm)	0.63" (16 mm)	0.24 – 0.47" (6 – 12 mm)	0.87" (22 mm)
HL20MM-STEEL	M20 x 1.5	1.56" (39.7 mm)	1.14" (29 mm)	0.63" (16 mm)	0.35 – 0.63" (9 – 16 mm)	0.94" (24 mm)
HL25MK-STEEL	M25 x 1.5	1.87" (47.5 mm)	1.38" (35 mm)	0.63" (16 mm)	0.49 – 0.81" (12.5 – 20.5 mm)	1.18" (30 mm)
HL32MK-STEEL	M32 x 1.5	1.88" (47.8 mm)	1.65" (42 mm)	0.63" (16 mm)	0.67 – 1.02" (16.9 – 26 mm)	1.81" (46 mm)
HL40MK-STEEL	M40 x 1.5	2.01" (51.1 mm)	2.05" (52 mm)	0.63" (16 mm)	0.87 – 1.30" (22 – 33 mm)	1.81" (46 mm)
HL50MK-STEEL	M50 x 1.5	2.24" (56.8 mm)	2.52" (64 mm)	0.63" (16 mm)	1.10 – 1.61" (28 – 41 mm)	2.17" (55 mm)
HL63MK-STEEL	M63 x 1.5	2.57" (65.4 mm)	2.87" (73 mm)	0.63" (16 mm)	1.57 – 2.07" (40 – 52.6 mm)	2.60" (65 mm)
HL75MK-STEEL	M75 x 1.5	2.77" (70.3 mm)	3.54" (90 mm)	0.63" (16 mm)	2.01 – 2.57" (51 – 65.3 mm)	3.15" (80 mm)
HL90MK-STEEL	M90 x 1.5	3.00" (76.2 mm)	4.21" (107 mm)	0.79" (20 mm)	2.44 – 3.07" (62 – 78 mm)	3.74" (95 mm)

Hoffman Products Terminals

• UL Listed • RoHS Compliant

High quality solderless terminals provide solid wire crimps that meld both stranded wire or solid wire with the barrel of the terminal into one strong electrical connection. Terminals are available with or without tin plating used for corrosion resistance. Insulation is available in vinyl and nylon with or without an extra support sleeve (for double crimp). The ring and spade terminals are made from 100% electrolytic copper and are tin plated.

26-22 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
2	E2	-	-	EFND2/J	-	-	-	-
4	E3	-	-	EFND3.7	-	-	-	-
6	EM3	-	-	EFND3/J	-	-	-	-
8	E4	-	-	EFND4/J	-	-	-	-

22-16 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
2	AS2	-	-	-	-	-	-	-
4	AS3	AFVLS3R2	AFVDS3	AFNDS3	-	-	-	-
6	AM3	AFVLM3R2	AFVDM3	AFNDM3	-	AM3NPT	AWSM3HT	AHS3
8	HA4	AFVL4R2	AFVD4	AFND4	-	A4NPT	AWS4HT	AHS4
10	A5	AFVL5R2	AFVD5	AFND5	-	A5NPT	AWS5HT	AHS5
1/4"	A6	AFVL6R2	AFVD6	AFND6	-	-	AWS6HT	AHS6
5/16"	A8	AFVL8R2	AFVD8	AFND8	-	-	-	AHS8
3/8"	A9	AFVL9R2	AFVD9	AFND9	-	-	-	AHS9
1/2"	A13	-	-	-	-	-	-	-

16-14 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
4	B3	BFVL3R2	BFVD3	BFND3	-	-	-	-
6	BM3	BFVLM3R2	BFVDM3	BFNDM3		BM3NPT	BWSM3HT	BHS3
8	B4	BFVL4R2	BFVD4	BFND4	-	BM4NPT	BWS4HT	BHS4
10	B5	BFVL5R2	BFVD5	BFND5	-	BM5NPT/J	BWS5HT	BHS5
1/4"	B6	BFVL6R2	BFVD6	BFND6	-	-	BWS6HT	BHS6
5/16"	B8	BFVL8R2	BFVD8	BFND8	-	-	-	BHS8
3/8"	B9	BFVL9R2	BFVD9	BFND9	-	-	-	BHS9
1/2"	B13	BFVL13R2	BFVD13	BFND13	-	-	-	-

Hoffman Products Terminals *(Continued)*

12-10 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	DS3	DFVL3R2	DFVDS3	DFNDS3	-	-	-	-
8	D4	DFVL4R2	DFVD4	DFND4	-	D4NPT/J	DWS4HT	DHS4
10	D5	DFVL5R2	DFVD5	DFND5	-	D5NPT	DWS5HT	DHS5
1/4"	D6	DFVL6R2	DFVD6	DFND6	-	D6NPT	DWS6HT	DHS6
5/16"	D8	DFVL8R2	DFVD8	DFND8	-	-	-	DHS8
3/8"	D9	DFVL9R2	DFVD9	DFND9	-	-	-	DHS9
1/2"	D13	DFVL13R2	DFVD13	DFND13	-	-	-	-
9/16"	D14	-	-	-	-	-	-	-

8 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
8	8S4R1	-	-	-	FN8S4	-	-	-
10	8S5R1	-	-	-	FN8S5	-	-	-
1/4"	8S6R1	-	-	-	FN8S6	-	-	-
5/16"	88R1	-	-	-	FN88	-	-	-
3/8"	89R1	-	-	-	FN89	-	-	-
1/2"	813R1	-	-	-	FN813	-	-	-

6 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
10	65R1	-	-	-	FN65	-	-	-
1/4"	66R1	-	-	-	FN66	-	-	-
5/16"	68R1	-	-	-	FN68	-	-	-
3/8"	69R1	-	-	-	FN69	-	-	-
1/2"	613R1	-	-	-	FN613	-	-	-

4 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
10	4S5R1	-	-	-	FN4S5	-	-	-
1/4"	46R1	-	-	-	FN46	-	-	-
5/16"	48R1	-	-	-	FN48	-	-	-
3/8"	4S9R1	-	-	-	FN49	-	-	-
1/2"	413R1	-	-	-	FN413	-	-	-

Hoffman Products' Terminals *(Continued)*

2 AWG RING TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
10	2S5R1	-	-	-	FN2S5	-	-	-
1/4"	2S6R1	-	-	-	FN2S6	-	-	-
5/16"	2S8R1	-	-	-	FN2S8	-	-	-
3/8"	29R1	-	-	-	FN29	-	-	-
7/16"	211R1	-	-	-	-	-	-	-
1/2"	213R1	-	-	-	FN213	-	-	-

LARGE NON-INSULATED RING TERMINALS

STUD SIZE	WIRE SIZE							
	1/0 AWG	2/0 AWG	3/0 AWG	4/0 AWG	250/300 MCM	300/350 MCM	400/500 MCM	500/600 MCM
1/4"	1/06R1	2/06R1	3/06R1	4/06R1	-	-	-	-
5/16"	1/08R1	2/08R1	3/08R1	4/08R1	1508R1	-	-	-
3/8"	1/09R1	2/09R1	3/09R1	4/09R1	1509R1	2009R1	2509R1	3009R1
7/16"	1/011R1	2/011R1	3/011R1	-	15011R1	-	-	-
1/2"	1/013R1	2/013R1	3/013R1	4/013R1	15013R1	20013R1	25013R1	30013R1
5/8"	1/016R1	2/016R1	3/016R1	4/016R1	15016R1	20016R1	25016R1	30016R1
3/4"	-	-	-	4/019R1	-	20019R1	-	-

NON-INSULATED FLAG TERMINALS

STUD SIZE	WIRE SIZE										
	22-16	16-14	12-10	8	6	4	2	1/0	2/0	3/0	4/0
8	AFG4	BFG4	-	-	-	-	-	-	-	-	-
10	AFG5	BFG5	DFG5	FG85	FG65/J	-	-	-	-	-	-
1/4"	-	BFG6	DFG6	FG86	FG66	FG46	FG26	FG1/06	-	-	-
5/16"	-	-	-	FG88	FG68	FG48	FG28	FG1/08	FG2/08	FG3/08	FG4/08
3/8"	-	-	-	FG89	FG69	FG49	FG29	FG1/09	FG2/09	FG3/09	FG4/09
1/2"	-	-	-	-	-	-	-	-	FG2/013	FG3/013	FG4/013
3/4"	-	-	-	-	-	-	-	-			

26-22 AWG SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
4	E3A	-	-	-	-	-	-	-
6	E3.7A	-	-	-	EFND3.7A/J	-	-	-
8	E4A	-	-	-	EFND4A/J	-	-	-

Hoffman Products' Terminals *(Continued)*

22-16 AWG SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
4	AM3A	AFVLM3AR2	AFVDM3A	AFNDM3A	-	-	-	-
6	AS3A	AFVLS3AR2	AFVDS3A	AFNDS3A	-	-	-	AHS3A
8	AS4A	AFVLS4AR2	AFVDS4A	AFNDS4A	-	-	-	AHS4A
10	AM5A	AFVLM5AR2	AFVDM5A	AFNDM5A	-	-	-	AHS5A
1/4"	A6A	AFVL6AR2	AFVD6A	AFND6A	-	-	-	-

16-14 AWG SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
8	B4A	BFVL4AR2	BFVD4A	BFND4A	-	-	-	BHS4A
10	B5A	BFVL5AR2	BFVD5A	BFND5A	-	-	-	BHS5A
1/4"	B6A	BFVL6AR2	BFVD6A	BFND6A	-	-	-	-

12-10 AWG SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	DS3A	DFVLS3AR2	DFVDS3A	DFNDS3A	-	-	-	-
8	-	DFVLS4AR2	-	DFNDS4A	-	-	-	DHS4A
10	D5A	DFVL5AR2	DFVD5A	DFND5A	-	-	-	DHS5A
1/4"	D6A	DFVL6AR2	DFVD6A	DFND6A	-	-	-	DHS6A

22-16 AWG FLANGED SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	AS3B	AFVLS3BR2	AFVDS3B	AFNDS3B	-	-	-	-
8	AS4B	AFVLS4BR2	AFVDS4B	AFNDS4B	-	-	-	-
10	AS5B	-	AFVDS5B	AFNDS5B	-	-	-	-

16-14 AWG FLANGED SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	-	BFVLS3BR2	BFVDS3B	BFNDS3B	-	-	-	-
8	BS4B	BFVLS4BR2	BFVDS4B	BFNDS4B	-	-	-	-
10	BS5B	BFVLS5BR2	BFVDS5B	BFNDS5B	-	-	-	-

Hoffman Products' Terminals *(Continued)*

12-10 AWG FLANGED SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	DS3B	DFVLS3BR2	DFVDS3B	DFNDS3B	-	-	-	-
8	DS4B	-	DFVDS4B	DFNDS4B	-	-	-	-
10	-	-	DFVDS5B	DFNDS5B	-	-	-	-

22-16 AWG LOCKING SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	AWS3LST	AFVL3LSR2	AFVD3LST	AFND3LSR2	-	-	-	-
8	AWS4LST	AFVL4LSR2	AFVD4LST	AFND4LSR2	-	-	-	-
10	AWS5LST	AFVL5LSR2	AFVD5LST	AFND5LSR2	-	-	-	-

16-14 AWG LOCKING SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	BWS3LST	BFVL3LSR2	BFVD3LST	BFND3LSR2	-	-	-	-
8	-	BFVL4LSR2	BFVD4LST	BFND4LSR2	-	-	-	-
10	BWS5LST	BFVL5LSR2	BFVD5LST	BFND5LSR2	-	-	-	-

12-10 AWG LOCKING SPADE TERMINALS

STUD SIZE	NON-INSULATED	VINYL	VINYL W/ SUPPORT SLEEVE	NYLON W/ SUPPORT SLEEVE	NYLON	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
6	DWS3LST	DFVL3LSR2	DFVD3LST	DFND3LSR2	-	-	-	-
8	DWS4LST	DFVL4LSR2	DFVD4LST	DFND4LSR2	-	-	-	-
10	DWS5LST	DFVL5LSR2	DFVD5LST	DFND5LSR2	-	-	-	-

Connection Made with a Heat Gun — No Soldering or Crimping Tool Required

For more details on Soldering Type Heat Shrinkable Terminals and Connectors, see page 113 and 120.

Hoffman Products' Terminals *(Continued)*

Soldering Type Heat Shrinkable Terminals provide maximum pull out strength; maximum conductivity; a water tight seal; low temperature pre-fluxed solder ring and a crimp free design.

SOLDERING TYPE HEAT SHRINKABLE SPADE TERMINALS

		PART NO.	GAUGE	COLOR	DESCRIPTION
	•	HELA220-02	22-24 AWG	CLEAR	#2 Stud
	•	HELA220-04	22-24 AWG	CLEAR	#4 Stud
	•	HELA220-06	22-24 AWG	CLEAR	#6 Stud
•	•	HELA216-10	18-20 AWG	RED	#10 Stud
•	•	HELA214-10	14-16 AWG	BLUE	#10 Stud
•	•	HELA210-10	10-12 AWG	YELLOW	#10 Stud

SOLDERING TYPE HEAT SHRINKABLE RING TERMINALS

		PART NO.	GAUGE	COLOR	DESCRIPTION
	•	HELA120-02	22-24 AWG	CLEAR	#2 Stud
	•	HELA120-04	22-24 AWG	CLEAR	#4 Stud
	•	HELA120-06	22-24 AWG	CLEAR	#6 Stud
•	•	HELA116-06	18-20 AWG	RED	#6 Stud
•	•	HELA116-08	18-20 AWG	RED	#8 Stud
•	•	HELA116-10	18-20 AWG	RED	#10 Stud
•	•	HELA116-14	18-20 AWG	RED	1/4" Stud
	•	HELA116-516	18-20 AWG	RED	5/16" Stud
	•	HELA116-38	18-20 AWG	RED	3/8" Stud
	•	HELA114-06	14-16 AWG	BLUE	#6 Stud
•	•	HELA114-08	14-16 AWG	BLUE	#8 Stud
•	•	HELA114-10	14-16 AWG	BLUE	#10 Stud
•	•	HELA114-14	14-16 AWG	BLUE	1/4" Stud
	•	HELA114-516	14-16 AWG	BLUE	5/16" Stud
•	•	HELA114-38	14-16 AWG	BLUE	3/8" Stud
•	•	HELA110-10	10-12 AWG	YELLOW	#10 Stud
•	•	HELA110-14	10-12 AWG	YELLOW	1/4" Stud
	•	HELA110-516	10-12 AWG	YELLOW	5/16" Stud
•	•	HELA110-38	10-12 AWG	YELLOW	3/8" Stud
•	•	HELA110-12	10-12 AWG	YELLOW	1/2" Stud

Hoffman Products' Terminals *(Continued)*

Our tubular lugs are available in non-plated, tin-plated and color-coded. They are UL certified for heavy-duty applications with trucks, buses, forklifts, automotive and industrial equipment. They have annealed terminals for easy crimping, along with seamless barrels for a secure accurate crimp. They are also made from high quality copper: *110 Cu ASTM B152.*

TUBULAR LUGS — *TIN PLATED COPPER*

STUD SIZE	WIRE SIZE								
	8	6	4	2	1	1/0	2/0	3/0	4/0
10	-	-	1590T76	-	-	-	-	-	-
1/4"	1701T76	1601T76	1591T76	1580T76	1560T76	1550T76	1540T76	1530T76	1520T76
5/16"	1702T76	1602T76	1592T76	1581T76	1561T76	1551T76	1541T76	1531T76	1521T76
3/8"	1703T76	1603T76	1593T76	1582T76	1562T76	1552T76	1542T76	1532T76	1522T76
1/2"	-	1604T76	1594T76	1583T76	1563T76	1553T76	1543T76	1533T76	1523T76

More options available: ***Non-plated*** *(delete "**T**" from part number - i.e. "**170176**");* ***With sight hole*** *(add "**S**" before "**76**" in part number - i.e. "**1523TS76**").*

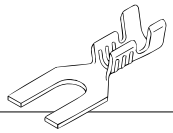
TUBULAR LUGS — *COLOR CODED TIN PLATED COPPER WITH SIGHT HOLE*

STUD SIZE	WIRE SIZE								
	8 RED	6 BLUE	4 GRAY	2 BROWN	1 GREEN	1/0 PINK	2/0 BLACK	3/0 ORANGE	4/0 PURPLE
10	TLS8576	-	-	-	-	-	-	-	-
1/4"	TLS8676	TLS6676	TLS4676	TLS2676	TLS16	TLS1/0676	TLS2/0676	TLS3/06	-
5/16"	TLS88	TLS68	TLS4876	TLS2876	TLS1876	TLS1/0876	TLS2/08	TLS3/08	-
3/8"	TLS8976	TLS6976	TLS4976	TLS2976	TLS1976	TLS1/0976	TLS2/0976	TLS3/0976	TLS4/0976
1/2"	-	-	-	-	-	TLS1/01376	TLS2/013	TLS3/013	TLS4/01376

RING TERMINALS — *METAL STRIP MOUNTED*

WIRE SIZE	STUD SIZE	CRIMP TYPE	PART NO.
22-16	5	SINGLE	2216M2ST
22-16	8	SINGLE	20144ST
22-16	5	DOUBLE	2216S2ST
22-16	6	DOUBLE	22163ST
22-16	6	DOUBLE	22162ST
22-16	6	DOUBLE	2016M3ST
22-16	8	DOUBLE	2216M4ST
22-16	8	DOUBLE	22164ST
22-16	10	DOUBLE	2216M5ST
22-16	10	DOUBLE	H22165ST
22-16	5/16"	DOUBLE	22168ST
22-16	3/8"	DOUBLE	2216S9ST

SPADE TERMINALS — *METAL STRIP MOUNTED*



WIRE SIZE	STUD SIZE	CRIMP TYPE	PART NO.
20-16	6	DOUBLE	22163AST
20-16	8	DOUBLE	22164AST

Hoffman Products' Terminals *(Continued)*

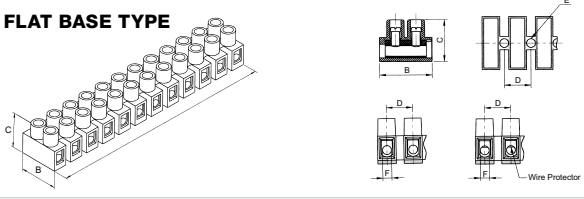
SERRATED RING TERMINALS — *METAL STRIP MOUNTED*

WIRE SIZE	STUD SIZE	CRIMP TYPE	PART NO.
22-16	8	DOUBLE	2216M4SST
20-16	6	DOUBLE	2016M3SST
20-16	6	DOUBLE	20163SST
20-16	8	DOUBLE	20164SST
20-16	10	DOUBLE	20165SST
20-16	1/4"	DOUBLE	20166SST

TERMINAL BLOCKS

Hoffman Products' Safe Wire Terminal Blocks are a high quality, cost saving method for wire termination. The "Safe Wire" feature is designed with a stainless steel plate that closes over the wire to eliminate breakage of the wire strands and creates a safe, secure connection. They are made from 6/6 nylon, making them durable, flame retardant and heat resistant. The blocks can be cut to specific requirements, saving time and money. Available in flat base, high base and high foot base construction.

FLAT BASE TYPE



PART NO.	CONSTRUCTION	WIRE RANGE	# OF POSITIONS	SCREW (ZINC PLATED)	DIMENSIONS (IN)					
					A	B	C	D	E	F
HB1820ABWP/12	FLAT BASE	22-12	12	M2.6 X 5	3.77	0.64	0.52	0.32	0.11	0.11
HB141810WP/12	FLAT BASE	22-12	12	M3 X 6	4.63	0.8	0.62	0.39	0.14	0.13
HB121012WP/12	FLAT BASE	22-10	12	M3.5 X 7	5.4	0.64	0.75	0.47	0.15	0.15
HB813.5WP/12	FLAT BASE	22-8	12	M4 X P	6.22	1.01	0.99	0.53	0.17	0.19

HOUSING FOR 110 TAB

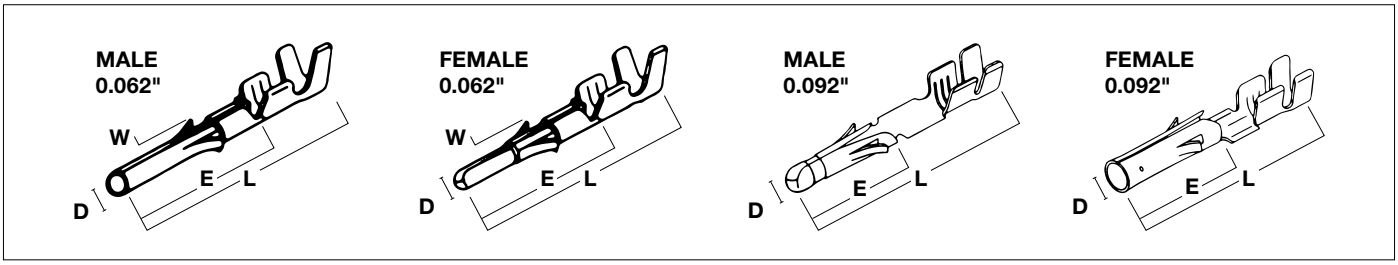
PART NO.	DESCRIPTION	USE WITH
F4110	4 Position Female Housing	MI2216T110MS
F6110	6 Position Female Housing	MI2216T110MS
F9110	9 Position Female Housing	MI2216T110MS
M4110	4 Position Male Housing	FI2216T110MS
M9110	9 Position Male Housing	FI2216T110MS
F4110LK	4 Position Locking Female Housing	MI2216T110MS
F9110LK	9 Position Locking Female Housing	MI2216T110MS
M3110LK	3 Position Locking Male Housing	FI2216T110MS
M4110LK	4 Position Locking Male Housing	FI2216T110MS
M6110LK	6 Position Locking Male Housing	FI2216T110MS
M9110LK	9 Position Locking Male Housing	FI2216T110MS

HOUSING FOR 250 TAB

PART NO.	DESCRIPTION	USE WITH
F4250	4 Position Female Housing	MI2216T250MS
F6250	6 Position Female Housing	MI2216T250MS
F8250	8 Position Female Housing	MI2216T250MS
M4250	4 Position Male Housing	FI2216T250MS
M6250	6 Position Male Housing	FI2216T250MS
M8250	8 Position Male Housing	FI2216T250MS
F4250LK	4 Position Locking Female Housing	MI2216T250MS
F6250LK	6 Position Locking Female Housing	MI2216T250MS
F8250LK	8 Position Locking Female Housing	MI2216T250MS
M4250LK	4 Position Locking Male Housing	FI2216T250MS
M6250LK	6 Position Locking Male Housing	FI2216T250MS
M8250LK	8 Position Locking Male Housing	FI2216T250MS

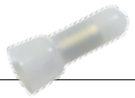
Hoffman Products' Connectors

PIN AND SOCKET CONNECTORS

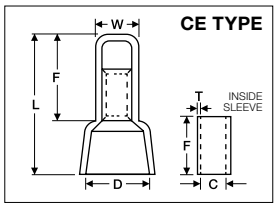


WIRE SIZE	DESCRIPTION	PART NO.	L (IN)	E (IN)	W (IN)	(IN)
22-18	Male Pin 0.062" Dia Strip M Type	MPIN2218T62ST	0.68	0.428	0.124	0.062
22-18	Female Socket 0.062" Dia Strip M Type	FPIN2218T62STM	0.664	0.404	0.124	0.062
22-18	Male Pin 0.092" Dia Strip KM Type	MPIN2218T92ST	0.866	0.445	-	0.0906
22-18	Female Socket 0.092" Dia Strip KM Type	FPIN2218T92ST	0.87	0.441	-	0.0906

CLOSED END CONNECTORS



Hoffman Products' Closed End Connectors are made from 6/6 nylon, UL94V2, with a tin plated copper insert and are UL certified, CSA certified and RoHS compliant.



PART NO.	COLOR	TEMP	VOLTAGE	WIRE SIZE	DIMENSIONS (IN)						
					L	W	F	D	E	T	C
CE100	CLEAR	105°C	300V	22-18	0.709	0.191	0.465	0.244	0.265	0.016	0.102
CE100R	CLEAR	105°C	300V	22-18	0.709	0.191	0.465	0.244	0.265	0.016	0.102
CE233	CLEAR	105°C	300V	16-14	0.776	0.211	0.493	0.311	0.271	0.076	0.121
CE233R	CLEAR	105°C	300V	16-14	0.7874	0.211	0.493	0.283	0.271	0.076	0.121
CE551	CLEAR	105°C	300V	12-10	1.004	0.283	0.626	0.413	0.271	0.023	0.172
CE551R*	CLEAR	105°C	300V	12-10	1.0039	0.283	0.626	0.378	0.271	0.023	0.0172
CE800	CLEAR	105°C	300V	8	1.091	0.359	0.619	0.488	0.332	0.037	0.209
CE233HR	WHITE	150°C	300V	16-14	0.7874	0.211	0.493	0.283	0.271	0.076	0.121
CE551HR	WHITE	150°C	300V	12-10	1.0039	0.283	0.262	0.378	0.271	0.023	0.0172
2218SDB	CLEAR	105°C	600V	22-18	0.598	0.197	0.346	0.236	0.276	0.020	0.091
1614BSDB	CLEAR	105°C	600V	16-14	0.598	0.228	0.346	0.248	0.276	0.018	0.122
1210DSDB	CLEAR	105°C	600V	12-10	0.701	0.287	0.346	0.362	0.295	0.028	0.157

**Also available in 600V version*

Hoffman Products' Connectors *(Continued)*

Speed-Ease™ Connectors have a grooved outer design to enable easy twisting even when hands may be greasy. They also provide a threaded inner edge which grabs the wires to provide faster and smoother twisting. A unique funnel entry design helps feed the wires into the connector quickly and easily. Designed with a narrower outer barrel but the same inner dimensions as a standard type so they fit into tight spaces.

STANDARD SPEED-EASE™ CONNECTORS

Color coded with a square wire insert that grabs the wires producing a secure connection. Handles temperatures up to 105°C (221°F).

PART NO.	COLOR	WIRE RANGE (MIN)	WIRE RANGE (MAX)	VOLTAGE
HE1	GRAY	2#22	1#14+1#20	300
HE2	BLUE	2#22	3#16	300
HE3/600V	ORANGE	1#18+1#20	4#16+1#16	600
HE4/600V	YELLOW	3#20	1#10+2#14+1#16	600
HE5	RED	3#18	3#10	600

SLIM SPEED-EASE™ CONNECTORS

These uniquely designed connectors will save you money! Designed with a narrower outer barrel but the same inner dimensions as a standard type so they fit into tight spaces. They can also handle temperatures up to 105°C (221°F).

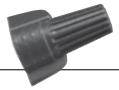
PART NO.	COLOR	WIRE RANGE (MIN)	WIRE RANGE (MAX)	VOLTAGE
SEHE3C	ORANGE	1#18+1#20	4#16+1#20	600
SEHE4	YELLOW	3#20	1#10+2#14+1#16	600
SEHE5	RED	3#18	3#10	600

BLACK HIGH TEMPERATURE SPEED-EASE™ CONNECTORS

Designed to handle higher temperatures up to 150°C (302°F).

PART NO.	COLOR	WIRE RANGE (MIN)	WIRE RANGE (MAX)	VOLTAGE
HE1H	BLACK	3#22	2#16	300
HE3H	BLACK	3#20	2#14+1#16	300

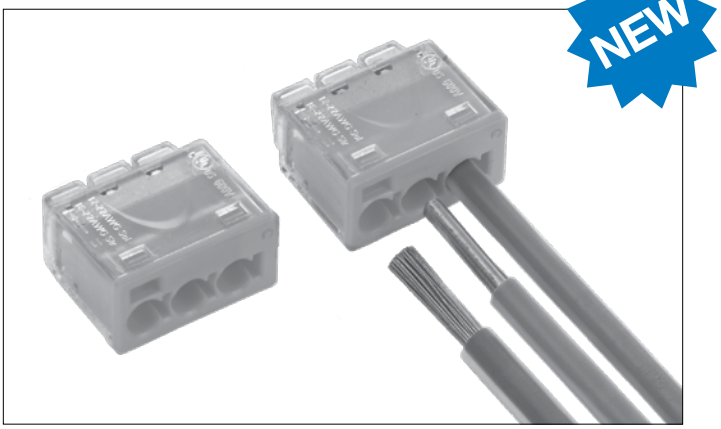
WING TAB SPEED-EASE™ CONNECTORS



Designed with a square wire insert with wing tabs to make the twist action easier.

PART NO.	COLOR	WIRE RANGE (MIN)	WIRE RANGE (MAX)	VOLTAGE
HE3YW	Yellow	2#18	3#12	600
HE4TW	Tan	3#22	3#10	600
HE5RW	Red	3#16	5#12	600
HE6GW	Gray	3#14+1#18	3#10	600
HE7BW	Blue	2#10+1#12	1#18+3#10	600

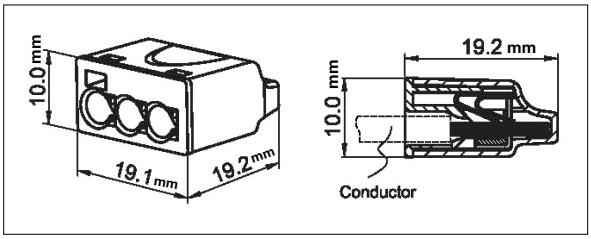
Hoffman Products' Connectors *(Continued)*



RELEASABLE SPEED-E PUSH-IN CONNECTORS

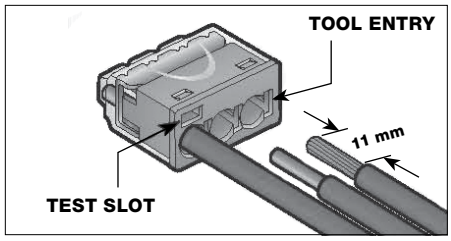
Releasable Speed-E Push-In Connectors are for use with rigid/solid and flexible/stranded conductors. Their compact size is perfect for tight spaces. These connectors accept conductors up to 12 AWG and can be reused. Insert the stripped stranded conductors into connector easily with the operating tool. **18 AWG and larger solid conductors do not require the operating tool.** An operating tool is available upon request.

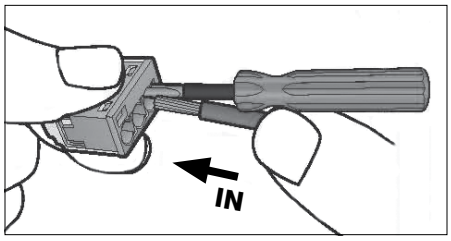
- Polycarbonate and Polyamide 66, Flame Retardant to UL 94V0.
- Working Temperature: 105°C (221°F) UL.
- Rated to 600 Volt maximum for building wiring and **1,000 Volt maximum for lighting fixtures and signs.**
- UL/cUL Certified, CE, RoHS Compliant.

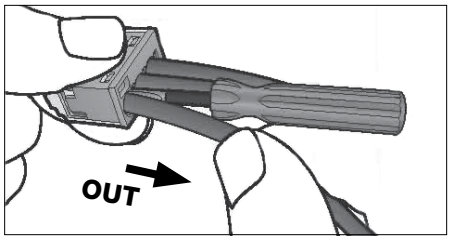


PART NO.	POLES	COLOR	RATINGS & WIRE RANGE	PACK QTY
SPEEDE3RLS	3	Orange	UL: 600 V 20 – 12 AWG, Sol Cu 22 – 16 AWG, Str Cu	100

INSTALLATION



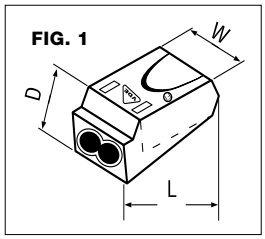


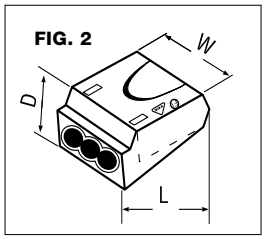


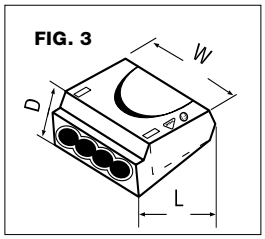
Hoffman Products' Connectors *(Continued)*

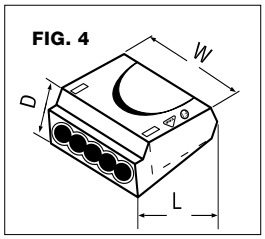
SPEED-E CONNECTORS

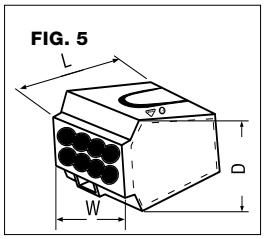
Speed-E Connectors are made for quick, fast and efficient splicing. Available in both solid and clear plastic housings with 2-8 positions. For solid copper wire in ranges 12-22 AWG only. Color coded for easy identification. 24 AMP, 600 Volt, 6/6 nylon, temperature: 105°C (221°F). UL/CSA Certified, VDE Approved Flame Retardant Thermoplastic, UL94V2.











PART NO.	PART NO. (CLEAR)	NO. OF POSITIONS	COLOR	DIMENSIONS			
				FIGURE NO.	W (MM)	D (MM)	L (MM)
SPEEDE2	SPEEDE2CL	2	Red	1	10.5	9.5	19.5
SPEEDE3	SPEEDE3CL	3	Orange	2	13.5	9.5	19.7
SPEEDE4	SPEEDE4CL	4	Yellow	3	17.2	9.5	19.7
SPEEDE5	SPEEDE5CL	5	Grey	4	21.1	9.5	19.7
SPEEDE8	SPEEDE8CL	8	Black	5	17.5	16.8	19

PARALLEL CONNECTORS

WIRE SIZE	NON-INSULATED	VINYL BUTTED SEAM FLARED	VINYL TUBULAR FLARED	NYLON STRAIGHT TUBULAR	NYLON FLARED BUTTED SEAM	NYLON FLARED TUBULAR	NYLON WINDOW WITH SLEEVE	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
22-16	AP/J	-	AFVP/J	ANP/J	-	AFNP	-	-	-	-
16-14	BP/J	-	BFVP/J	BNP/J	-	BFNP	-	BPNPT/J	-	-
12-10	DP/J	-	DFVP/J	DNP/J	-	DFNP	-	DPNPT/J	-	-
22-16	APC/J	AFVLPCR2	-	-	AFNPC	-	-	-	-	-
16-14	BPC/J	BFVLPC	-	-	BFNPC	-	-	-	-	-
12-10	DPC/J	DFVLPC	-	-	DFNPC/J	-	-	-	-	-

BUTT CONNECTORS

WIRE SIZE	NON-INSULATED	VINYL BUTTED SEAM FLARED	VINYL TUBULAR FLARED	NYLON STRAIGHT BUTTED SEAM	NYLON STRAIGHT TUBULAR	NYLON FLARED BUTTED SEAM	NYLON FLARED TUBULAR	NYLON WINDOW WITH SLEEVE	HIGH TEMP 650°F	HIGH TEMP 900°F	HEAT SHRINK
22-16	AC	AFVCWS	AFVC	ANCL	-	AFNC	AFNC/J	ANDCW	ACNPT	AWSCHT	HSC2216
16-14	BC	BFVCWS	BFVC	BNCL	-	BFNC/J	BFNC/J	BNDCW	BCNPT	BWS4HT	HSC1614
12-10	DC	DFVCWS	DFVC	DNCL	-	DFNC/J	DFNC/J	DNDCW	DCNPT	DWS4HT	HSC1210
26-22	EC	-	-	-	-	-	-	-	-	-	HSC2622

Hoffman Products' Connectors *(Continued)*

8-600MCM BUTT CONNECTORS

GAUGE	NON-INSULATED VINYL	INSULATED VINYL
8	C8R1	FVC8R1
6	C6R1	FVC6R1
4	C4R1	-
2	C2R1	-
1/0	C1/0R1	-
2/0	C2/0R1	-
3/0	C3/0R1	-
4/0	C4/0R1	-
300MCM	C150R1	-
350MCM	C200R1	-
500MCM	C250R1	-
600MCM	C300R1	-

8-500MCM PARALLEL CONNECTORS

GAUGE	PART NO.
8	P8R1
6	P6R1
4	P4R1
2	P2R1
1/0	P1/0R1
2/0	P2/0R1
3/0	P3/0R1
4/0	P4/0R1
250-300MCM	P150R1/J
350MCM	P250R1/J
400-500MCM	P300R1

SOLDERING TYPE HEAT SHRINKABLE BUTT CONNECTORS

UL	CSA	PART NO.	GAUGE	COLOR
•	•	HELA5-20	22-24 AWG	CLEAR
•	•	HELA5-16	18-20 AWG	RED
•	•	HELA5-14	14-16 AWG	BLUE
	•	HELA5-10	10-12 AWG	YELLOW

MALE BULLET CONNECTORS

WIRE SIZE	DIAMETER (IN)	VINYL FULLY INSULATED	VINYL FULLY INSULATED SUPPORT SLEEVE
22-16	0.156	AFVGMT5	AFVDGMT5
16-14	0.156	BFVGMT5	BFVDGMT5
12-10	0.156	-	DFVD6MTSTOR

FEMALE BULLET CONNECTORS

WIRE SIZE	DIAMETER (IN)	VINYL FULLY INSULATED	VINYL FULLY INSULATED SUPPORT SLEEVE
22-16	0.156	ACVGFT5	ACVDGFT5
16-14	0.156	BCVGFT5	BCVDGFT5
16-14	0.195	-	BCVDGFT7
12-10	0.195	DCVGFT7	DCVDGFT7

Hoffman Products' Connectors *(Continued)*

FEMALE OPEN BARREL CONNECTORS

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED
24-20	0.110 x 0.020	LTO01T110N
22-18	0.205 X 0.032	LTO21T205A
20-16	0.110 x 0.020	LTO41T110N
20-16	0.187 x 0.020	LTO41T187N
22-18	0.250 x 0.032	LTO21T250N/J
18-14	0.250 x 0.032	LTO61T250N/J
14-10	0.250 x 0.032	LTO81T250N/J

OPEN BARREL CONNECTORS — *WITH LOCKING TAB*

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED FEMALE	NON-INSULATED MALE
22-20	0.110 x 0.020	LTI01T110N/J	LIM01T110A/J
22-18	0.250 X 0.032	LTI21T250N	-
20-16	0.110 x 0.020	LTI41T110N/J	LIM41T110B/J
20-14	0.250 x 0.032	LTI51T250N/J	LIM51T250N/J
18-14	0.250 x 0.032	LTI61T250/J	LIM61T250/J
12-10	0.250 x 0.032	LTI81T250N	-

PIGGYBACK CONNECTORS

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED	VINYL BUTTED SEAM	VINYL SUPPORT SLEEVE	NYLON INSULATED SUPPORT SLEEVE
22-16	0.250 x 0.032	ADFMT250A	AFVDFMT250A	AFVDDFMT250A	AFNDDFMT250A
16-14	0.250 X 0.032	BDFMT250A	BFVDFMT250A	BFVDDFMT250A	BFNDDFMT250A
12-10	0.250 x 0.032	DDFMT250A	DFVDFMT250A	DFVDDFMT250A	DFNDDFMT250A

QUICK-TAP SPLICE CONNECTORS

COLOR	TYPE	PART NO.
RED	TAP	TP18R1
BLUE	TAP	TP14M
YELLOW	TAP	TP10
WHITE	THROUGH TAP	TH14

Vulko-Wrap™ Insulating Tape 5 Roll Storage/Dispenser Box Available

Keep rolls protected and organized in a sturdy, reusable compact box. *See page 143 for more info.*

Hoffman Products' Disconnects

FEMALE DISCONNECTS

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED	NON-INSULATED SUPPORT SLEEVE	VINYL BUTTED SEAM	VINYL SUPPORT SLEEVE	VINYL FULLY INSULATED SUPPORT SLEEVE
22-16	0.110 X 0.020	ADFT110A5	-	AFVDFT110A5	AFVHDFT110A5	-
22-16	0.110 X 0.032	ADFT110A8	-	AFVDFT110A8	AFVHDFT110A8	-
22-16	0.187 X 0.020	ADFT187A5	-	AFVDFT187A5	AFVHDFT187A5	ALVHDFT187A5
22-16	0.187 X 0.032	ADFT187A8	-	AFVDFT187A8	AFVHDFT187A8	ALVHDFT187A8
22-16	0.250 X 0.032	ADFT250A	-	AFVDFT250A	AFVHDFT250A	ALVHDFT250A
16-14	0.187 X 0.020	-	-	BFVDFT187A5	BFVHDFT187A5	BLVHDFT187A5
16-14	0.187 x 0.032	-	-	BFVDFT187A8	BFVHDFT187A8	BLVHDFT187A8
16-14	0.250 x 0.032	-	-	BFVDFT250A	BFVHDFT250A	BLVHDFT250A
12-10	0.250 x 0.032	-	-	DFVDFT250A	DFVDDFT250A	DLVDDFT250A

WIRE SIZE	TAB SIZE (IN)	PC INSULATED SUPPORT SLEEVE	PC FULLY INSULATED SUPPORT SLEEVE	NYLON COUPLER	HEAT SHRINK	HEAT SHRINK SUP-PORT SLEEVE
22-16	0.110 x 0.020	AFNDDFT110A5	ALNDDFT110A5	-	-	-
22-16	0.110 X 0.032	AFNDDFT110A8	ALNDDFT110A8	-	-	-
22-16	0.187 X 0.020	AFNDDFT187A5	ALNDDFT187A5	-	-	-
22-16	0.187 X 0.032	AFNDDFT187A8	ALNDDFT187A8	-	-	-
22-16	0.250 X 0.032	AFNDDFT250A	ALNDDFT250A	ALNDF250H	AHSLDFT250A	AHSDFT250A
16-14	0.187 X 0.020	BFNDDFT187A5	BLNDDFT187A5TOR	-	-	-
16-14	0.187 x 0.032	BFNDDFT187A8	BLNDDFT187A8	-	-	-
16-14	0.250 x 0.032	BFNDDFT250A	BLNDDFT250A	BLNDF250H	BHSLDFT250A	BHSDFT250A
12-10	0.250 x 0.032	DFNDDFT250A	DLNDDFT250A	DLNDF250H	DHSLDFT250A	DHSDFT250A

FEMALE DISCONNECTS — *METAL STRIP MOUNTED*

WIRE SIZE	TAB SIZE (IN)	PART NO.
22-16	0.250 x 0.032	DF22161TMS
20-14	0.250 x 0.032	DF20141TMS
22-16	0.187 x 0.020	DF22161ST5MS
22-16	0.187 x 0.032	DFOS22161ST8MS
18-12	0.250 x 0.032	DFH18121TMS
22-18	0.205 x 0.020	DFOS22181MT5MS
20-14	0.250 x 0.032	DFOS20141TMS

INSULATING SLEEVES FOR DISCONNECTS

TYPE	TAB WIDTH (IN)	ENTRY DIAMETER (mm)	PART NO.
STRAIGHT	0.187	3	KF1830
STRAIGHT	0.25	2.8	KF2528
STRAIGHT	0.25	3.2	KF2532
STRAIGHT	0.25	3.8	KF2538
FLAG	0.187	3	KFF183012M
FLAG	0.187	3.2	KFF1832
FLAG	0.25	3.2	KFF2532
FLAG	0.25	4	KFF2540M
FLAG	0.25	4.8	KFF2548

Hoffman Products' Disconnects *(Continued)*

MALE DISCONNECTS

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED	NON-INSULATED SUPPORT SLEEVE	VINYL BUTTED SEAM	VINYL SUPPORT SLEEVE	VINYL FULLY INSULATED SUPPORT SLEEVE
22-16	0.110 x 0.020	-	-	-	-	-
22-16	0.110 X 0.032	-	-	-	-	-
22-16	0.187 X 0.020	-	-	-	-	-
22-16	0.187 X 0.032	-	-	-	-	-
22-16	0.250 X 0.032	ADMT250	ADDMT2505.9/J	-	AFVDDMT250	-
16-14	0.187 X 0.020	BDMT187A5	-	-	-	-
16-14	0.187 x 0.032	BDMT187A8	-	-	-	-
16-14	0.250 x 0.032	BDMT250	BDDMT2505.9/J	-	BFVDDMT250	-
12-10	0.250 x 0.032	DDMT250	DDDMT2506.9/J	-	DFVDDMT250	-

WIRE SIZE	TAB SIZE (IN)	PC INSULATED SUPPORT SLEEVE	PC FULLY INSULATED SUPPORT SLEEVE	NYLON COUPLER	HEAT SHRINK	HEAT SHRINK SUPPORT SLEEVE
22-16	0.110 X 0.020	-	-	-	-	-
22-16	0.110 X 0.032	-	-	-	-	-
22-16	0.187 X 0.020	-	-	-	-	-
22-16	0.187 X 0.032	-	-	-	-	-
22-16	0.250 X 0.032	-	-	ALNDM250H	AHSDMT250	AHSLDMT250
16-14	0.187 X 0.020	-	-	-	-	-
16-14	0.187 x 0.032	-	-	-	-	-
16-14	0.250 x 0.032	-	-	BLNDM250H	BHSDMT250	BHSLDMT250
12-10	0.250 x 0.032	-	-	DLNDM250H	DHSDMT250	DHSLDMT250

MALE DISCONNECTS — *METAL STRIP MOUNTED*

WIRE SIZE	TAB SIZE (IN)	PART NO.
22-16	0.110 x 0.020	MI2216T110MS
20-16	0.250 x 0.020	MI2216T250MS
20-14	0.250 x 0.032	MI2014T250MS

NON-INSULATED MALE/FEMALE DISCONNECTS

TAB SIZE (IN)	FEMALE DISCONNECT	MALE DISCONNECT
0.250 x 0.032	1DF2DM250	2DM1DF250

FEMALE FLAG DISCONNECTS

WIRE SIZE	TAB SIZE (IN)	NON-INSULATED	NYLON INSULATED	METAL STRIP
22-16	0.187 x 0.020	DF22181ST5	FNDF22181ST5	FNDF22181ST5MS
22-16	0.187 X 0.032	DF22181ST8	FNDF22181ST8	FNDF22181ST8MS
22-16	0.250 x 0.032	DF22181T	FNDF22181T	FNDF22181TMS
16-14	0.187 x 0.020	DF18141ST	FNDF18141ST5	FNDF18141ST5MS
16-14	0.187 x 0.032	DF18141ST8	FNDF18141ST8	FNDF18141ST8MS
16-14	0.250 x 0.032	DF18141T	FNDF18141T	FNDF18141TMS
12-10	0.250 x 0.032	DF1210T250	-	-

Hoffman Products' Ferrules

• No More Frayed or Broken Wires • Tin Plated Copper Barrel with Nylon Insulation • 105°C (221°F) • 300 Volts

High quality Speed-Ease™ tin plated ferrules are available in non-insulated or insulated styles for use in terminal blocks to avoid direct contact with wire and avoid the possibility of wire strand breakage. Available in wire sizes 26-2/0 AWG.

SINGLE INSULATED FERRULES

PART NO.	WIRE SIZE	COLOR
FEB268	26 AWG	LIGHT BLUE
FEV268	26 AWG	VIOLET
FEB248	24 AWG	TURQUOISE
FEP248	24 AWG	PINK
FEO228	22 AWG	ORANGE
FEW228	22 AWG	WHITE
FEB208	20 AWG	BLUE
FEW208	20 AWG	WHITE
FEG208	20 AWG	GRAY
FER188	18 AWG	RED
FEY188	18 AWG	YELLOW
FEBK168	16 AWG	BLACK
FER168	16 AWG	RED
FEG148	14 AWG	GRAY
FEB148	14 AWG	BLUE
FEO1212	12 AWG	ORANGE
FEG1212	12 AWG	GRAY
FEGN1012	10 AWG	OLIVE
FEBK1012	10 AWG	BLACK
FEY1012	10 AWG	YELLOW
FEBR812	8 AWG	BROWN
FEI812	8 AWG	IVORY
FER812	8 AWG	RED
FEI612	6 AWG	IVORY
FEGN612	6 AWG	GREEN
FEB612	6 AWG	BLUE
FEBK416	4 AWG	BLACK
FEY416	4 AWG	YELLOW
FER216	2 AWG	RED
FEB1/020	1/0 AWG	BLUE
FEGN1/020	1/0 AWG	OLIVE
FEY2/020	2/0 AWG	YELLOW

NON-INSULATED FERRULES

PART NO.	WIRE SIZE
FE226	22 AWG
FE206	20 AWG
FE186	18 AWG
FE167	16 AWG
FE147	14 AWG
FE1212	12 AWG
FE1010	10 AWG
FE815	8 AWG
FE615	6 AWG
FE418	4 AWG
FE1/022	1/0 AWG
FE2/025	2/0 AWG
FE3/025	3/0 AWG

Hoffman Products' Alligator Clips

Hoffman Products' charging clips, alligator clips and insulators are ideal for making temporary connections. Copper and nickel plated clips are available with or without insulation.

CHARGING CLIPS

PART NO.	AMPS	JAW SPREAD LENGTH (IN)	INSULATION	WITH SCREW
T510	10	0.39	NONE	NO
T510S	10	0.39	NONE	YES
T510SB	10	0.39	BLACK	YES
T510SR	10	0.51	RED	YES
T520S	20	0.51	NONE	YES
T550	50	0.51	NONE	YES
T550SB	50	0.51	BLACK	YES
T550SR	50	0.51	RED	YES
T615	15	0.39	NONE	NO
T615B	15	0.39	BLACK	NO
T615R	15	0.39	RED	NO
T6410C*	100	0.866	NONE	NO
T6410CB*	100	0.866	BLACK	NO
T6410CR*	100	0.866	RED	NO
T641CP	30	0.433	NONE	NO
T641CPB	30	0.433	BLACK	NO
T641CPR	30	0.433	RED	NO
T641CPC*	75	0.433	NONE	NO
T641CPCB1*	75	0.433	BLACK	NO
T641CPCR1*	75	0.433	RED	NO

** Material is Copper, 176°C*

STANDARD ALLIGATOR CLIPS

PART NO.	AMPS	JAW SPREAD LENGTH (IN)	INSULATION
T115SR	10	0.509	RED
T115SB	10	0.509	BLACK
T154	5	0.138	NONE
T160	10	0.157	NONE
T160R	10	0.157	RED
T160B	10	0.157	BLACK

*For **clip with a screw add S** to part number, i.e. **T160S**.*
*For **copper plating add C** to part number, i.e. **T160C**.*

INSULATORS FOR STANDARD

INSULATORS PART NO.	FOR CLIP PART NO.	COLOR
T154INSB	T154	BLACK
T154INSBL	T154	BLUE
T154INSGR	T154	GREEN
T154INSR	T154	RED
T154INSY	T154	YELLOW
T160INSB	T160	BLACK
T160INSR	T160	RED
T160INSW	T160	WHITE
TS20INSR	T520	RED
TS20INSB	T520	BLACK

Hoffman Products' Wire Bundling

• Type 6/6 Nylon Meets the UL94 V-2 Flammability Rating, Self-Extinguishing • Black Cable Ties are UV Protected

Hoffman Products' cable ties are quality products designed to provide application either by hand or tool. These self adjusting, self locking ties provide a permanent harness. They are designed to ensure a secure bundling system and are resistant to shock, vibration, petrochemicals and environmental extremes. They combine outstanding physical properties such as light weight, abrasion resistance, toughness, high tensile strength, exeptional dielectric properties and resilience to common solvents, alkalies, dilute acids, oils and greases. **Specifications:** Type 6/6 Nylon meets the UL94 V-2 flammability rating, self-extinguishing.

Black cable ties have the same resistance to petrochemicals as our 6/6 nylon cable ties, but are also UV protected, making black cable ties ideal for your outdoor applications. If corrosion is a concern, Hoffman Products' stainless steel cable ties offer a higher level of durability. You can save time and increase efficiency by using releasable cable ties. Hoffman Products' releasable cable ties offer all the advantages of standard cable ties, plus the ability to remove the cable tie without cutting, which makes the cable tie reusable.

CABLE TIES — *STANDARD*

PART NO. (WHITE)	**PART NO.** (BLACK)	**LENGTH** (IN)	**WIDTH** (IN)	**TENSILE STRENGTH** (LBS)	**PACK QTY**
CT4S	CT4SB	4	0.1	18	100*
CT5.5S	CT5.5SB	5.5	0.1	18	100*
CT5.5I	CT5.5IB	5.5	0.14	40	100*
CT8I	CT8IB	8	0.14	40	100*
CT11.8I	CT11.8IB	11.8	0.14	40	100*
CT14.5I	CT14.5IB	14.5	0.14	40	100*
CT4.7	CT4.7B	4.7	0.19	50	100*
CT7.3	CT7.3B	7.3	0.19	50	100*
CT11.3	CT11.3B	11.3	0.19	50	100*
CT14.5	CT14.5B	14.5	0.19	50	100*
CT8HD	CT8HDB	8	0.3	120	100
CT11.5HD	CT11.5HDB	11.5	0.3	120	100
CT14.5HD	CT14.5HDB	14.5	0.3	120	100
CT17EHD	CT17EHDB	17	0.35	175	100
CT20.7EHD	CT20.7EHDB	20.7	0.35	175	100
CT27.6EHD	CT27.6EHDB	27.6	0.35	175	100
CT36EHD	CT36EHDB	36	0.35	175	100
CT48EHD	CT48EHDB	48	0.35	175	100

Available in **1000 pack. Add M to the end of the part number. For example: **CT4SB/M = 1000 pack in black.***

CABLE TIES — *RELEASABLE*

PART NO.	**LENGTH** (IN)	**WIDTH** (IN)	**TENSILE STRENGTH** (LBS)	**PACK QTY**
RCT8	8	0.19	50	100
RCT11.7	11.7	0.19	50	100
RCT14.5	14.5	0.19	50	100
RCT11.3XHD	11.3	0.51	250	100
RCT15.4XHD	15.4	0.51	250	100
RCT27.6XHD	27.6	0.51	250	100
RCT31.6XHD	31.6	0.51	250	100

Hoffman Products' Wire Bundling *(Continued)*

CABLE TIES — *STAINLESS STEEL SELF LOCKING*

PART NO.	LENGTH (IN)	WIDTH (IN)	TENSILE STRENGTH (LBS)
STCT5HD	5	0.18	100
STCT7.9HD	7.9	0.18	100
STCT14.2HD	14.2	0.18	100
STCT20.4HD	20.4	0.18	100
STCT26.8HD	26.8	0.18	100
STCT42HD/25	42	0.18	100
STCT1200HD/25	47	0.18	100
STCT5XHD/50	5	0.31	250
STCT7.9XHD/50	7.9	0.31	250
STCT14.2XHD/50	14.2	0.31	250
STCT20.4XHD/50	20.4	0.31	250
STCT26.8XHD/50	26.8	0.31	250
STCT33XHD/50	33	0.31	250
STCT47XHD/25	47	0.31	250

CABLE TIES — *MOUNTING HEAD*

PART NO.	LENGTH (IN)	WIDTH (IN)	TENSILE STRENGTH (LBS)	PACK QTY
MHT8I	8	0.14	40	100
MHT11.8	11.8	0.19	50	100
MHT14.5	14.5	0.19	50	100
MHT8.3HD	8.3	0.3	120	100
MHT11.8HD	11.8	0.3	120	100
MHT14.5HD	14.5	0.3	120	100

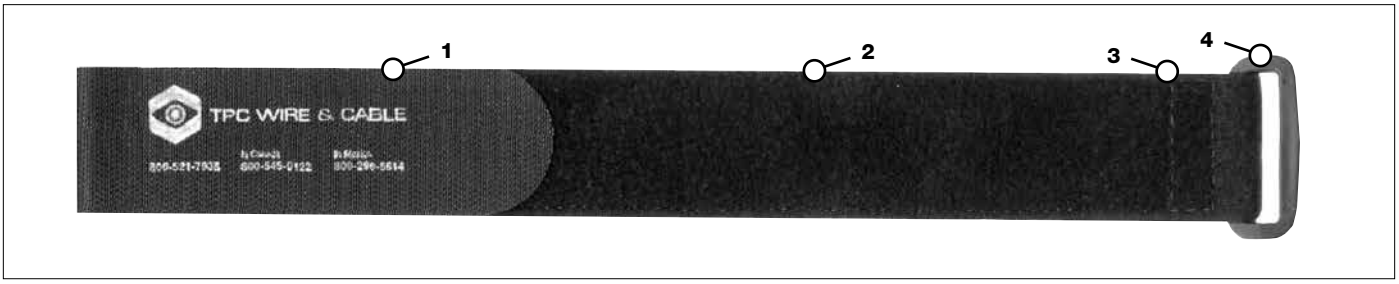
CABLE TIES — *MARKER*

PART NO.	LENGTH (IN)	WIDTH (IN)	TENSILE STRENGTH (LBS)	PACK QTY
MKCT4S/M	4	0.1	18	100
MKCT8S/M	8	0.1	18	100
MKCT11.8	11.8	0.19	50	100
MKCT14.5	14.5	0.19	50	100

Adjustable Cable Strap

• RoHS Compliant • Operating Temperature Range -70°F to 200°F (-55°C to 93°C) • Reusable • Fits Various Bundle Sizes • Easy To Install

TPC's Adjustable Cable Strap is a double-sided band made of "hook and loop" material. The 1.5 inch wide, non-abrasive strap will not cut into cable jackets or adversely affect cable performance. The industrial strength nylon buckle is lightweight, yet stands up to tough use and allows for easy securing of the strap. Available in two lengths, 17 inch or 30 inch.



FEATURES & BENEFITS

1. DOUBLE SIDED LOOP DESIGN — Double sided design doubles strength and allows strap to be used on a variety of bundle sizes.

2. NON-ABRASIVE 1.5" WIDE STRAP — Will not cut into cable jackets or adversely affect cable performance.

3. BOX STITCHED CONSTRUCTION — Buckle is attached to strap with a strong box stitch to prevent twisting or breaking.

4. RUGGED NYLON BUCKLE — Industrial strength nylon buckle is lightweight, yet stands up to tough use. Allows easy securing of strap.

5. REUSABLE — Strap can be installed quickly or, when necessary, loosened and reinstalled with minimum downtime.

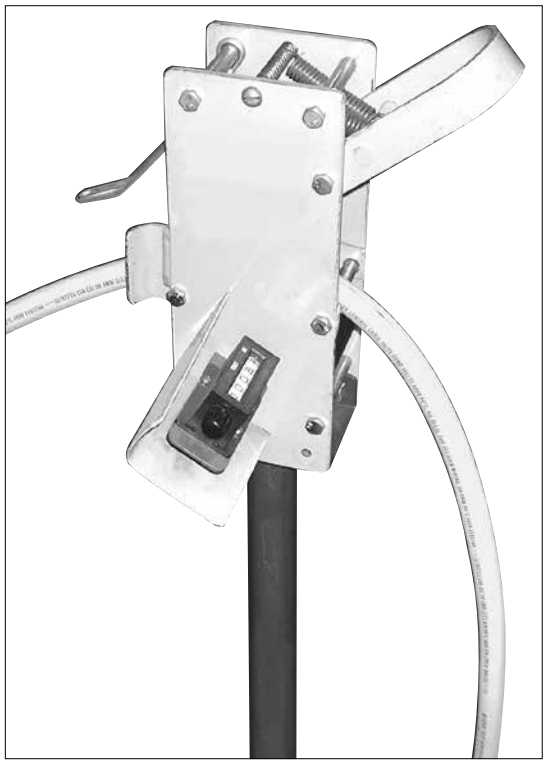
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	WIDTH (IN)	TOTAL LENGTH (IN)	CABLE BUNDLE MAXIMUM NOMINAL O.D. (IN)	DOUBLE SIDED LOOP LENGTH (IN)	SINGLE SIDED HOOK LENGTH (IN)
12507	1.5	17	0.25 to 4	12	5
12530	1.5	30	0.25 to 8	25	5

Cord & Cable Meter

• Exact Measurements • Measures from 0 to 1,000 FT • Measures up to 2" Diameter Cord and Cable • Heavy-Duty • Reduces Waste

The Cord and Cable Meter measures up to a 2 inch diameter cable fast and accurately in feet and inches to a maximum of 1,000 feet. Little set-up time is required. The floor stand adjusts from 30 inches to 48 inches. It has a convenient handle and its welded steel pipe and angle iron construction is built to last.



FEATURES & BENEFITS

1. UNITIZED CONSTRUCTION — Little set up time required making measuring cord and cable quick and easy.

2. CABLE COUNTER INDICATES MEASUREMENTS IN FEET AND INCHES — Measures the exact length for the job at hand, therefore reducing waste. The counter measures fast and accurately in feet and inches.

3. FLOOR STAND — Adjusts from 30" TO 48". Easier to use and setup.

4. WELDED STEEL PIPE AND ANGLE IRON CONSTRUCTION — Quality construction, built to last.

5. ACCURATELY MACHINED STEEL ROLLERS — For smooth operation.

6. CONVENIENT HANDLE

Ask Your Sales Rep How to Earn a Free Cable Meter!

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING WEIGHT (LBS)
12003	Cable Meter and Adjustable Floor Stand	31

K-Kart 9600 Heavy-Duty Mobile Cable Carrier

• Weight: 130 lbs • Load Rating: 300 lbs • Wheels: Solid Rubber 10" O.D. x 2.75" Wide • Overall Dimensions: 24" W x 29" L x 50" H

Easily transports up to 300 lbs. of cable – that's 100' of 500 MCM cable! This is a small (24" W x 29" L x 50" H) durable cart that can accommodate a large reel with a connector at the ready. The small footprint makes it just slightly larger than the reel itself adding to the convenience and portability. Rolling this cart is a breeze with solid 10" diameter rubber wheels.

Ask Your Sales Rep How to Earn a Free K-Kart!

FEATURES & BENEFITS

1. HIGH LOAD CAPACITY — Easily transport 300 lb., up to 100' of 500 MCM cable.

2. CRANK HANDLE HOLDER — Crank is always available when needed, prevents lost crank handle.

3. ERGONOMIC HANDLE AND STEP BAR — Provide stability and personal support while cranking.

4. RING & PINION GEAR OPERATION — Rugged gearing provides great mechanical advantage. Easy to reel cable back onto the cart.

5. GREASE FITTINGS — Pillow block bearings have grease fittings for long life and durability.

6. ADJUSTABLE SPRING LOADED FRICTION STOP — Prevents cable from unreeling or backpulling while reeling.

5. SOLID RUBBER WHEELS — Rolling is a breeze with 10" wheels and a fully loaded cart. Never worry about deflated wheels.

6. WELDED FRAME CONSTRUCTION — Ultra-durable construction, will not bend or twist under the highest loads.

5. LARGE CENTER HUB OPENING — Accomodates large cable connector heads for easy deployment and reeling.

6. LOW PROFILE/SMALL FOOTPRINT DESIGN — At 24" wide, 29" long and 50" handle height, K-Kart is minimally larger than the entire reel!

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING WEIGHT (LBS)
12008	Heavy-Duty Mobile Cable Carrier (24" W x 29" L x 50" H)	130

Large Cord & Cable Reel Rack with Hoist

• Heavy-Duty • Easy to Dispense • Reduces Waste • Measures 84” H x 96” W x 36” D

The large cord and cable reel rack with hoist holds six full reels with 1,000 lb capacity, totalling 6,000 lbs. This rack can support reel sizes 30 inch diameter by 20" width. The large reel rack is constructed with heavy-duty steel, is easy to load or dispense by just one person, and keeps areas organized.

FEATURES & BENEFITS

1. HOLDS SIX FULL REELS OF TPC CORD AND CABLE — Full reels reduce waste— only one end piece. Reduces the improper storage of unusable lengths.

2. EASY TO DISPENSE THE CABLE NEEDED — Allows you to take just the right amount of “Kink Free — Twist Free” TPC product for the job at hand, therefore reducing waste.

3. HALF TON HOIST WITH TROLLEY — Makes reel handling easy. Designed to be loaded or dispensed by just one person.

4. HEAVY STEEL WELDED CONSTRUCTION — Built to last.

5. TAKES UP VERY LITTLE SPACE — Can be located in stores, crib, construction or high maintenance areas. Organizes inventory and makes visual inspection easy.

SPECIFICATIONS

- Measures 84" high x 96" wide x 36" deep
- Holds reel sizes up to 30" in diameter x 20" wide
- Half ton hoist with chain fall
- Specially designed trolley mounted on 4" I-Beam
- Reinforced cable reel collar
- High quality paint finish
- Safety designed rear angled axle track

Ask Your Sales Rep How to Earn a Free Reel Rack!

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING BOX	WEIGHT (LBS)
12001	Hoist and Trolley	8" x 11.5" x 11.5"	31
12002	Large Reel Rack	13.5" x 32" x 94"	400

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING WEIGHT (LBS)
12003	Cable Meter and Adjustable Floor Stand *(See page..)*	31

Large Cord & Cable Reel Rack

• Heavy-Duty • Easy to Assemble • Holds Up To 10,000 lbs • Keeps Area Organized • Measures 120" High x 48" Wide x 36" Deep

The large cord and cable reel rack has a 10,000 lbs. capacity. Each level of the rack is adjustable and can support 60 inch diameter reels and 2,000 pounds. The large reel rack is heavy-duty, easy to assemble, and keeps areas organized. The large reel racks can be bolted together to expand capacity.

FEATURES & BENEFITS

1. HIGH CAPACITY REEL RACK — Adjustable for up to 60" diameter reels. Brackets support up to 2,000 lbs per level, Max capacity 10,000 lbs.

2. RACKS CAN BE BOLTED TOGETHER TO EXPAND CAPACITY

3. SAFETY PINS LOCK AXLE BRACKETS AND CROSS BEAMS TO UPRIGHT FRAMES — Cross beams and brackets adjust on 3" centers.

4. HEAVY-DUTY 12 GAUGE STEEL UPRIGHT FRAME — Measures 3-1/2" wide x 3" deep. 10 gauge steel axle brackets. Lapped and welded beams have three hooks for positive connection.

5. REEL RACK INCLUDES — 2 upright frames with built in brace set, 2 pairs of cross beams, 4 pairs of axle brackets. Rack should be secured to the floor.

6. EASY TO ASSEMBLE

Ask Your Sales Rep How to Earn a Free Reel Rack!

SPECIFICATIONS

- Measures 120" high x 48" wide x 36" deep
- Adjustable for up to 60" diameter reels
- Axle brackets accommodate up to 2" diameter
- Axles for 2,000 lb capacity per level
- Rack should be secured to the floor
- Safety pins lock axle brackets and cross beams to upright frames
- Gray powder coat finish
- Durable 12 gauge steel upright frames measure 3½" wide x 3" deep

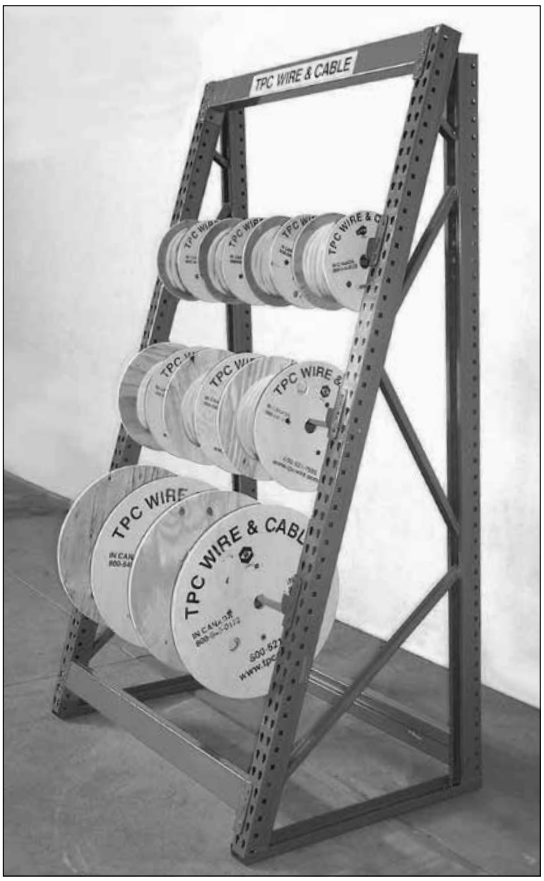
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING BOX	WEIGHT (LBS)
12006	High Capacity Reel Rack	Ships in four boxes	260

Small Cord & Cable Reel Rack

• Easy to Assemble • Measures 96" High x 48" Wide x 36" Deep • Organize Inventory

The small reel rack has a 3,000 lbs. capacity. Each level of the rack is adjustable and can support 30 inch diameter reels and 1,000 pounds. The small reel rack takes up very little space, has a sturdy welded construction that is built to last, organizes inventory and allows for efficient product handling.



FEATURES & BENEFITS

1. STURDY WELDED CONSTRUCTION — Built to last.

2. TAKES UP VERY LITTLE SPACE — Can be located in stores, crib, construction or high maintenance areas. Organizes inventory and makes visual inspection easy.

3. HOLDS FULL REELS OF TPC CORD AND CABLE — Full reels reduce waste – only one end piece. Reduces the improper storage of unusable lengths.

4. EASILY DISPENSE CABLE NEEDED — Allows you to take just the right amount of "Kink Free – Twist Free" TPC Product for the job at hand, therefore reducing waste.

SPECIFICATIONS

- Accommodates various TPC cord and cable reels
- Measures 96" high x 48" wide x 36" deep
- Holds reel sizes up to 30" in diameter x 20" wide
- Heavy steel construction
- 3000 lb. capacity – 1000 lbs. per level
- Includes 4 steel bars to hold assorted reels

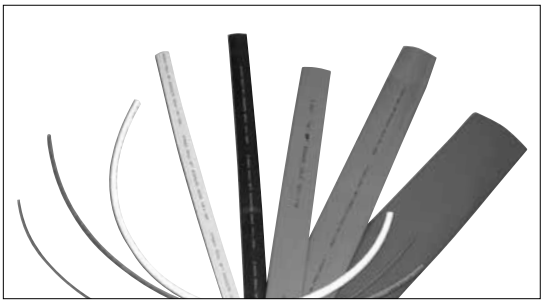
Ask Your Sales Rep How to Earn a Free Reel Rack!

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	SHIPPING BOX	WEIGHT (LBS)
12005	Small Reel Rack	12" x 38" x 97"	250

Hoffman Products' Standard Polyolefin Tubing — 2:1 Shrink Ratio

• UL224 125°C • VW1 • RoHS Compliant • 600 V • Operating Temperature: -55°C to +125°C (-67°F to 257°F) • Minimum Shrink Temperature: 70°C (158°F)



Our Standard polyolefin tubing is designed to protect inline components, splices and disconnects. Used for jacketing, wire bundles, light duty harnesses and identifying or color coding wire, cables and terminal components. Standard colors available are black, red, blue, yellow, white, green and clear. Custom pieces available. **Call for more colors.**

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	INSIDE DIAMETER		NOMINAL RECOVERED WALL THICKNESS AFTER HEAT	REEL QTY (FT)	4 FT QTY (PCS)
	MIN EXPANDED AS SUPPLIED	MAX RECOVERED AFTER HEAT			
HSTB1/16	0.059 in	0.026 in	0.014 in	500'	25
HSTB3/32	0.094 in	0.039 in	0.020 in	500'	25
HSTB1/8	0.118 in	0.059 in	0.016 in	500'	25
HSTB3/16	0.177 in	0.091 in	0.020 in	250'	25
HSTB1/4	0.230 in	0.118 in	0.022 in	250'	25
HSTB3/8	0.354 in	0.177 in	0.024 in	200'	25
HSTB1/2	0.472 in	0.236 in	0.024 in	200'	5
HSTB3/4	0.709 in	0.354 in	0.031 in	100'	5
HSTB1	0.984 in	0.492 in	0.035 in	100'	5
HSTB1.5	1.575 in	0.787 in	0.039 in	100'	5

Custom cut pieces and large reels available, contact sales@hoffmanproducts.com.

Hoffman Products' Dual Wall Adhesive Lined Tubing — 3:1 Shrink Ratio

• UL224 125°C • VW1 • 600 V • Operating Temperature: -55°C to +125°C (-67°F to 257°F)

Designed to environmentally seal and protect electrical and power distribution applications and connector-to-cable transitions. Standard colors available are black, red, blue, yellow, white, green and clear. Custom pieces available. **Call for additional colors.**

PART NO.	INSIDE DIAMETER		NOM. RECOVERED WALL THICKNESS		REEL QTY (FT)	4 FT QTY (PCS)
	MIN EXPANDED AS SUPPLIED	MAX RECOVERED AFTER HEAT	TOTAL WALL AFTER HEAT	ADHESIVE WALL AFTER HEAT		
HSTBD1/8	0.126 in	0.039 in	0.037 in	0.014 in	500'	25
HSTBD3/16	0.189 in	0.063 in	0.043 in	0.016 in	250'	25
HSTBD1/4	0.252 in	0.087 in	0.047 in	0.018 in	250'	25
HSTBD3/8	0.374 in	0.126 in	0.057 in	0.020 in	200'	25
HSTBD1/2	0.500 in	0.165 in	0.067 in	0.020 in	100'	5
HSTBD3/4	0.752 in	0.248 in	0.079 in	0.022 in	-	5
HSTBD1	1.000 in	0.335 in	0.083 in	0.022 in	-	5
HSTBD1.25	1.250 in	0.4167 in	0.086 in	0.029 in	-	5
HSTBD1.5	1.535 in	0.531 in	0.094 in	0.024 in	-	5

Hy-Trex™ High Ratio 6 to 1 Adhesive Shrink Tubing

• MIL-DTL-23053 • RoHS Compliant • Continuous Operating Temperature 55°C to 110°C • Shrink Temperature 120°C

The Hy-Trex™ High Ratio 6 to 1 Adhesive Shrink Tubing is universal. It easily fits over and seals large, bulky connections and only three sizes are needed to cover wire from 16 AWG to 2000 MCM. The inner adhesive provides a watertight seal, excellent strain relief, and added tensile strength. With dielectric strength up to 24kV and protection against wet or underground environments, it's ideal for high voltage applications.

FEATURES & BENEFITS

1. SELF-SEALING — Inner adhesive provides a watertight seal, ideal for wet and corrosive locations and underground applications.

2. WIDE APPLICATION RANGE — Only three sizes needed to cover wire from #16 AWG through 2000 MCM cable.

3. DIELECTRIC STRENGTH UP TO 24,000 VOLTS — Ideal for high voltage applications.

4. GREATER STRENGTH — The inner adhesive provides excellent strain relief and tensile strength.

5. VERSATILE — Designed to adhere to cable jackets and other non-oily surfaces.

6. UNIVERSAL — Adhesive 6 to 1 easily fits over and seals large, bulky connections saving time and added expense.

APPLICATIONS

Abrasion Protection For:
- Exposed Sensors
- Cables
- Cords
- Flexible Conduit
- Hydraulic Hoses & Fittings

Strain Relief For:
- Plugs
- Connectors
- Flexible Conduit
- Portable Cords

Dielectric Protection For:
- Tools
- Crimp Connections
- Pliers

Corrosion Protection For:
- Hydraulic Cylinders
- Conduit
- Exposed Sensors

SPECIFICATIONS

PROPERTY		VALUE	ASTM TEST METHOD
ELECTRICAL	Dielectric Strength	500 Volts/Mil	ASTM D149
PHYSICAL	Tensile Strength (min)	2100 psi	ASTM D412
	Elongation	600%	ASTM D412
	Cut-Through Resistance	Excellent	ASTM D2240
CHEMICAL	Water Absorption (max)	0.1%	ASTM D570
	Fungus Resistance	No Growth	ASTM DG21
	Fluid Resistance (24 hrs @ 25°C) of the following fluids: a) Turbine fuel, JP-4, MIL-T-5624 b) Hydraulic fluid MIL-H-5606 c) Diesel fuel, V V-F-800 d) Lubricating oil, MIL-L-7808 e) Lubricating oil, MIL-L-23699 f) 5% NaCL, O-S-1926 g) De-icing fluid, MIL-A-8243	Passes	ASTM D4R

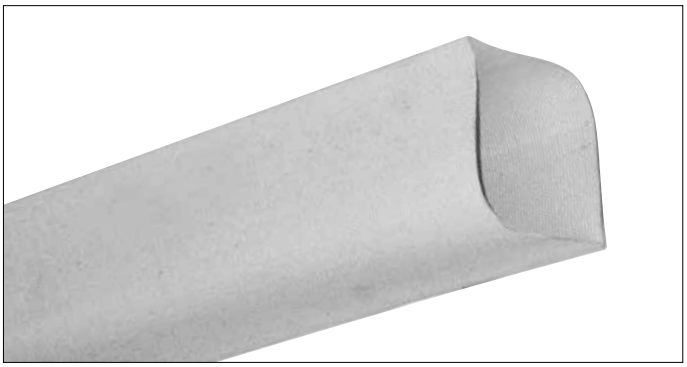
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	LENGTH (IN)	UNIT OF MEASURE	BEFORE SHRINKING		AFTER SHRINKING	
			O.D. (IN)	WALL THICKNESS (IN)	O.D. (IN)	WALL THICKNESS (IN)
75001	24	Each	0.75	0.040	0.125	0.103
75002	24	Each	2.00	0.045	0.330	0.132
75003	24	Each	3.50	0.048	0.673	0.145

Abrasion Resistant Ultra-Sleeve™ High Temperature Sleeving

• RoHS Compliant • Cold Temperature Rating -40°C • Continuous Temperatures up to 500°F • Abrasion Resistant • Fits Cable Sizes from 2.0" to 6"

Abrasion Resistant Ultra-Sleeve™ is constructed with an extra thick nylon/polyester blend fiber. Ultra-Sleeve™ offers superior protection against tearing and abrasion adding greater protection to your electrical cables, water lines, hydraulic hoses, air lines and other critical areas. It offers heat resistance up to 500°F. Also available with hook and loop closure, zipper closure or both hook and loop and zipper closure.



FEATURES & BENEFITS

1. PROTECTS CABLES AND EQUIPMENT — Protect cables from wear due to abrasion. Decrease downtime due to cable failure. Prevents equipment being marred by chains or cables.

2. AVAILABLE IN VARYING ODs — Allows you to buy the right size for the job. Protects most cable sizes.

3. ABRASION RESISTANT FINISHING COMPOUNDS — Specially designed with heavy-duty nylon/polyester fibers and impregnated with abrasion resistant polymers to provide abrasion protection in harsh applications.

4. EXTRA THICK BRAID — Offers superior protection in abusive environments.

APPLICATIONS/PRODUCT CAPABILITIES

- Cable Covers
- Cable Tray Protection
- Welding Cable Protection
- Sheds heat from molten splash almost instantly, before heat transfer can occur
- Protects from water, grease and hydraulic oils
- Protection From Abrasion
- Hose Protection

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	SLEEVING INNER DIAMETER (IN)
49502Y	2.00
49503Y	3.50
49504Y	4.00
49506Y	6.00

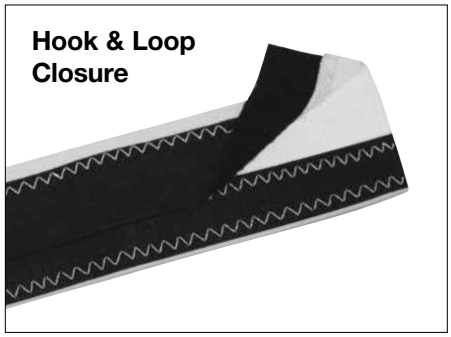
SEE PAGE 142 TO LEARN ABOUT OUR HIGH TEMPERATURE SILICA TAPE

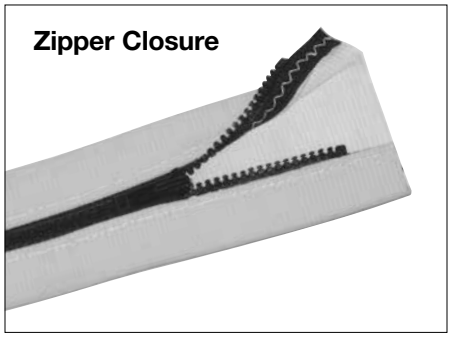
A E F

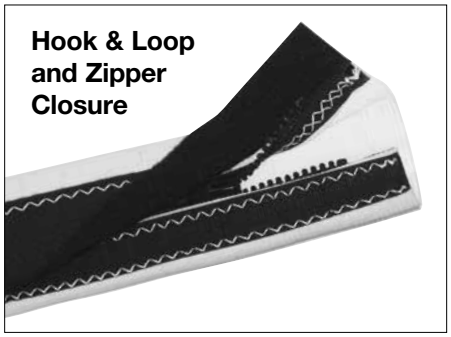
Abrasion Resistant Ultra-Sleeve™ High Temperature Sleeving with Closures

• Continuous Temperature Range -50°C to 176°C (-58°F to 350°F) • Extreme Temperatures up to 1650°C (3000°F) • Flame Resistant • Abrasion Resistant

Abrasion Resistant Ultra-Sleeve™ with Closures offer a quick and easy way to install protective sleeving. Choose from hook and loop closure, zipper closure or both hook and loop and zipper closure. Ultra-Sleeve™ offers superior protection against tearing and abrasion adding greater protection to your electrical cables, water lines, hydraulic hoses, air lines and other critical areas. It offers heat resistance up to 350°F. Available in 1-1/2" inner diameter and 3" diameter. Multiple lengths and closure options make this a highly flexible option.







FEATURES & BENEFITS

1. UNIQUE CLOSURE DESIGNS FOR QUICK INSTALLATION — Select Hook and Loop, Zipper or combination Hook and Loop & Zipper closure design. Provides quick field installation and removal of sleeving.

2. EXTRA THICK BRAID — Offers superior protection in abusive environments.

3. PROTECTS CABLES AND EQUIPMENT — Protect cables from wear due to abrasion. Decrease downtime due to cable failure. Prevents equipment being marred by chains or cables.

4. ABRASION RESISTANT FINISHING COMPOUNDS — Specially designed with heavy-duty nylon/polyester fibers and impregnated with abrasion resistant polymers to provide abrasion protection in harsh applications.

5. AVAILABLE IN MULTIPLE LENGTHS AND CABLE DIAMETERS — Allows you to buy the right size for the job. Protects most cable sizes.

APPLICATIONS

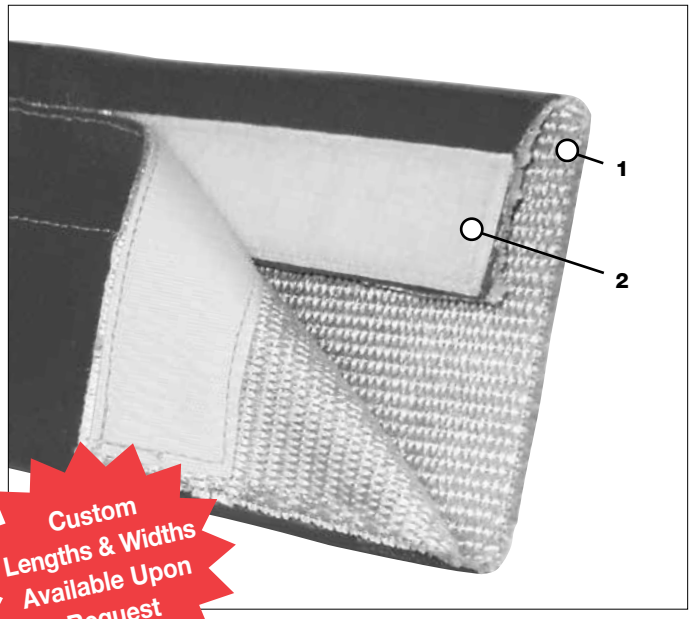
- Electrical Cables
- Water Lines
- Hydraulic Hoses
- Air Lines
- And Other Critical Areas

ORDERING INFORMATION *(Call for pricing & availability)*

SLEEVING INNER DIAMETER (IN)	LENGTH (IN)	PART NO.		
		HOOK & LOOP CLOSURE	ZIPPER CLOSURE	HOOK & LOOP AND ZIPPER CLOSURE
1.50"	2'	49652Y	49752Y	49852Y
	3'	49632Y	49732Y	49832Y
	4'	49642Y	49742Y	49842Y
	6'	49602Y	49702Y	49802Y
	8'	49612Y	49712Y	49812Y
	10'	49622Y	49722Y	49822Y
	15'	49662Y	-	-
3.00"	2'	49653Y	49753Y	49853Y
	3'	49633Y	49733Y	49833Y
	4'	49643Y	49743Y	49843Y
	6'	49603Y	49703Y	49803Y
	8'	49613Y	49713Y	49813Y
	10'	49623Y	49723Y	49823Y
	15'	49663Y	-	-

High Temperature Fiberglass/Silicone Sleeve with Closure

• Continuous Temperature Range -50°C to 176°C (-58°F to 350°F) • Extreme Temperatures up to 1650°C (3000°F) • Flame Resistant • Abrasion Resistant



Custom Lengths & Widths Available Upon Request

FEATURES & BENEFITS

1. ULTRA-HEAVY GRADE FIBERGLASS BASE FABRIC — Coated with a heavy layer of specially compounded silicone rubber to resist severe temperatures. The sleeve can extend the life of cables that are exposed to extreme heat and molten splash.

2. NOMEX HOOK & LOOP CLOSURE SYSTEMS — Allows for easy access to cables for inspection or maintenance, while also protecting them from extreme heat and molten splash. The Nomex Hook & Loop material will withstand continuous temperatures from -50°C (-58°F) to 176°C (350°F). *Short term exposure defined as 20 – 30 seconds.*

3. EASY INSTALLATION — Product can be installed without having to disconnect existing cables or cable assemblies.

4. IN THE EVENT OF EXTREME TEMPERATURES — The sleeve will withstand maximum short term exposure* of temperatures up to 1650°C (3000°F).

APPLICATIONS/PRODUCT CAPABILITIES

- Cable Covers
- Cable Tray Protection
- Welding Cable Protection
- Protection From Abrasion
- Hose Protection
- Protects from water, grease & hydraulic oils
- Sheds heat from molten splash almost instantly, before heat transfer can occur

MARKETS/INDUSTRIES

- Primary metals
- Refineries
- Blast furnaces
- Casting furnaces
- Electric arc furnaces
- Robotic weld cells
- Utility power stations
- Plastic molding plants
- Fire protection equipment
- Food industry
- Auto plants

PRODUCT SPECIFICATIONS

- Flame resistant
- Abrasion resistant
- Nominal thickness 0.145"
- White 96 oz. heavy-duty fiberglass
- Continuous Temperature Range: -50°C to 176°C (-58°F to 350°F)
- Extreme Temperatures to 1650°C (3000°F)
- Coated on one side with specially compounded silicone rubber

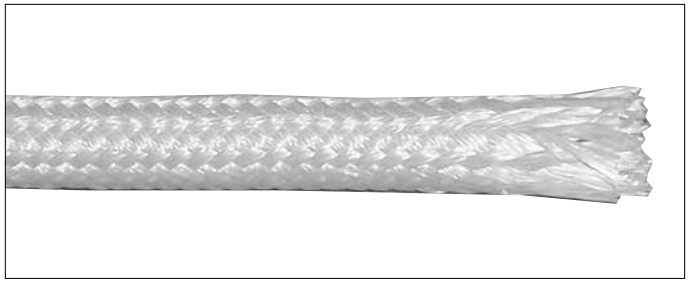
SEE PAGE 142 TO LEARN ABOUT OUR HIGH TEMPERATURE SILICA TAPE

E F

Thermo-Trex® Ceramic Ultra-Sleeve™ High Temperature Sleeving

- Continuous Temperatures up to 2200°F
- Intermittent Temperatures up to 2600°F
- Excellent Flame Resistance
- RoHS Compliant

Ceramic Ultra-Sleeve™ High Temperature Sleeving is a protective sleeve that is ideal for those areas where your cable runs through a particularly harsh environment of flash heat or flame, chemical or mechanical abuse. The Ceramic Ultra-Sleeve™ offers excellent heat and flame resistance.



FEATURES & BENEFITS

1. EXTRA THICK BRAID — Superior resistance to ultra high temperatures.

2. FINELY STRANDED SPUN CERAMIC FIBERS — Finer strands mean more flexibility. Higher density of ceramic fibers per square inch increases protection of cable.

3. SPECIAL FINISHING COMPOUNDS — Reduces friction for easier installation.

4. AVAILABLE IN VARYING O.D.'S — Allows you to buy the right size for the job. Protects most cable sizes.

ORDERING INFORMATION *(Call for pricing & availability)*

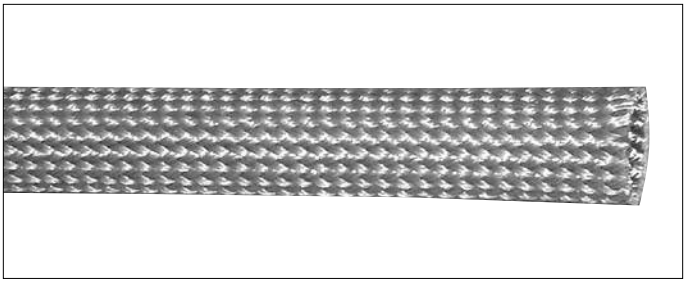
CERAMIC	
PART NO.	**INNER DIAMETER** (IN)
49300	0.25
49301	0.50
49302	1.00
49303	1.50

E F

Thermo-Trex® Fiberglass Ultra-Sleeve™ High Temperature Sleeving

- Continuous Temperatures up to 1000°F
- Fits Cable Sizes from 0.25" to 2.25"
- Excellent Temperature Resistance
- RoHS Compliant
- Abrasion & Cutting Resistance

Fiberglass Ultra-Sleeve™ High Temperature Sleeving is a protective sleeve that is ideal for those areas where your cable runs through a particularly harsh environment of flash heat or flame, chemical or mechanical abuse. The Fiberglass Ultra-Sleeve™ offers great heat resistance. Fits cable sizes from 1/4" to 2-1/4".



FEATURES & BENEFITS

1. EXTRA THICK BRAID — Superior high temperature resistance.

2. FINELY STRANDED SPUN GLASS FIBERS — Finer strands mean more flexibility. Higher density of fibers per square inch increases protection of cable.

3. SPECIAL FINISHING COMPOUNDS — Adds stiffness and reduces friction for easier installation.

ORDERING INFORMATION *(Call for pricing & availability)*

FIBERGLASS	
PART NO.	**INNER DIAMETER** (IN)
49200	0.25
49201	0.75
49202	1.00
49203	1.50
49204	2.50

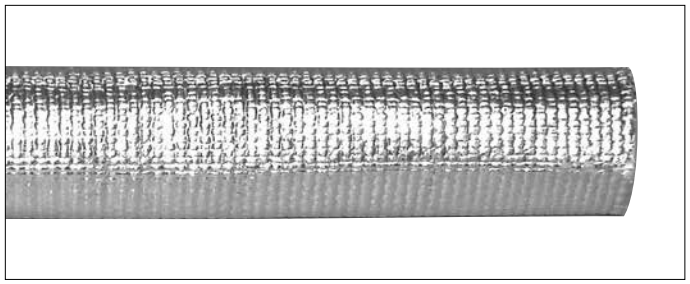
SEE PAGE 142 TO LEARN ABOUT OUR HIGH TEMPERATURE SILICA TAPE

E F

Thermo-Trex® Reflective Fiberglass Ultra-Sleeve™ High Temperature Sleeving

- Continuous Temperatures up to 752°F (400°C)
- Intermittent Temperatures up to 1000°F (538°C)
- Excellent Moisture & Chemical Resistance
- RoHS Compliant

Reflective Fiberglass Ultra-Sleeve™ High Temperature Sleeving is a protective sleeve that is ideal for those areas where your cable runs through a particularly harsh environment of flash heat or flame, chemical or mechanical abuse. This Ultra-Sleeve™ offers great heat resistance and excellent moisture and chemical resistance.



FEATURES & BENEFITS

1. FRAY RESISTANT DESIGN — Will not unravel or fray when exposed to constant flexing or movement.

2. FINELY STRANDED AND WOVEN FIBERGLASS SLEEVE — Superior high temperature resistance. Fine stranding means greater flexibility.

3. ALUMINIZED HEAT SEAL FILM — Protects cables by providing a barrier to radiant heat. Fluid and chemical resistant. Extremely flexible.

4. AVAILABLE IN VARYING O.D.'S — Allows you to buy the right size for the job. Larger sizes available through our Engineered Products Department.

ORDERING INFORMATION *(Call for pricing & availability)*

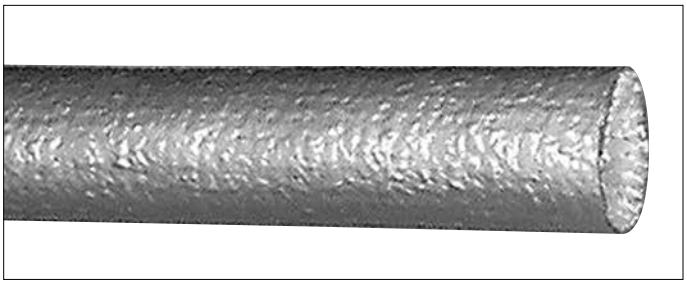
REFLECTIVE FIBERGLASS	
PART NO.	**INNER DIAMETER** (IN)
49402	0.75
49403	1.00
49404	1.50

A E F

Thermo-Trex® Silicone Fiberglass Ultra-Sleeve™ High Temperature Sleeving

- Extreme Temperatures up to 2000°F (1093°C)
- Continuous Temperature Range -65°F to 500°F (-54°C to 260°C)
- Excellent Moisture & Chemical Resistance
- RoHS Compliant

Silicone Fiberglass Ultra-Sleeve™ High Temperature Sleeving is a protective sleeve that is ideal for those areas where your cable runs through a particularly harsh environment of flash heat or flame, chemical or mechanical abuse. This Ultra-Sleeve™ offers heat resistance up to 500°F and excellent protection against moisture and chemicals.



FEATURES & BENEFITS

1. FINELY STRANDED SPUN GLASS FIBERS — Finer strands mean more flexibility. Higher density of glass fibers per square inch increases protection of cable.

2. EXTRA THICK SILICONE BARRIER — Provides a first line defense against heat, abrasion and moisture.

3. ALUMINIZED JACKET — Reflects radiant heat energy. Helps to reduce heat build up within the sleeve.

4. AVAILABLE IN VARYING O.D.'S — Allows you to buy the right size for the job. Protects most cable sizes.

ORDERING INFORMATION *(Call for pricing & availability)*

SILICONE FIBERGLASS	
PART NO.	**INNER DIAMETER** (IN)
49100	0.25
49105	0.50
49101	0.75
49102	1.00
49103	1.50
49104	2.00

SEE PAGE 142 TO LEARN ABOUT OUR HIGH TEMPERATURE SILICA TAPE

Thermo-Trex® Silica Ultra-Sleeve™ High Temperature Sleeving

- Continuous Operating Temperature: 1800°F (982°C)
- Max Short Term Exposure: 3000°F (1650°C)
- Flame Resistance: Outstanding
- Weld splatter resistance: Excellent
- Molten splash resistance: Good
- Flexibility: Outstanding
- Abrasion resistance: Moderate
- Water and oil resistance: Moderate

Thermo-Trex® Silica Ultra-Sleeve™ is a braided silica fiber that is 96% pure. Silica offers temperature resistance up to 3,000°F (1,650°C) while offering outstanding flame resistance, flexibility and tensile strength. It also doesn't have the negative health effects associated with asbestos or ceramic sleeves. Additional inside diameters up to 4 inches are available upon request. This silica material can be used to create a custom blanket for a specific piece of equipment or cabinet as well.

APPLICATIONS

- Steel Mills
- Manufacturing Plants
- Foundries
- Glass Factories
- Welding & Cutting Shops

ORDERING INFORMATION *(Call for pricing & availability)*

SILICA	
PART NO.	**INNER DIAMETER** (IN)
49900	0.25
49901	0.50
49902	1.00
49903	1.50

**Additional inside diameters up to 4" are available upon request.*

Thermo-Trex® High Temperature Silica Tape

• Continuous Temperature Rating 1800°F (982°C) • Maximum Short Term Exposure 3000°F (1650°C)

Thermo-Trex® High Temperature Silica Tape is made of 96% pure SiO2 silica fiber which offers superior resistance to radiant heat and flame. It's an ideal solution for electrical cables that are exposed to extreme heat. It is suitable for continuous use at 1,800°F and will withstand short term exposure with temperatures as high as 3,000°F. This wrap will not unravel or pull back from extreme heat. Adhesive backing decomposes when heated, leaving a perfectly wrapped hose, cable or assembly. Silica Tape comes in 25 foot rolls and is 2 inches wide.

FEATURES & BENEFITS

1. UNIQUE SILICA BASED TAPE — Designed using 96% pure SiO2 silica fiber offers superior resistance to radiant heat and flame.

2. EASE OF INSTALLATION — Adhesive backed tape provides for ease of installation, no need to disconnect hoses or cables. Simply remove backing tape and wrap around object to be protected.

3. EXTREME TEMPERATURE PROPERTIES — Suitable for continuous use at 1800°F and able to withstand short term exposure up to 3000°F. Offers superior protection for cables, assemblies or hoses exposed to extreme heat or flame.

4. SUPERIOR ABRASION AND CUT RESISTANCE — Proprietary hydrocarbon coatings enhance abrasion resistance, cut through and tensile strength.

5. SELF SEALING DESIGN — The wrap will not unravel or pull back from extreme heat. Adhesive backing decomposes when heated, leaving a perfectly wrapped hose, cable or assembly.

APPLICATIONS

Protect your hydraulic and pneumatic lines, and electrical cables from exposure to high and extreme heat conditions. Use our High Temperature Silica Tape to fastened our Ultra-Sleeves™ to your lines, pipes, and cables.

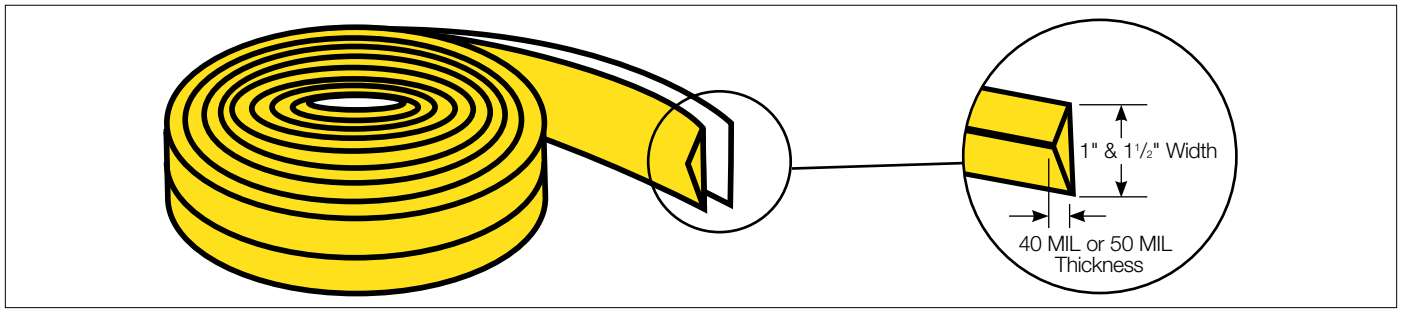
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	NOMINAL WIDTH (IN)	NOMINAL LENGTH/ROLL (FT)	NOMINAL THICKNESS (INCLUDING BACKING)
91111	2.00"	25'	0.030"

Vulko-Wrap™ Insulating Tape (Yellow & Black)

• CID A-A-59163 • RoHS Compliant • MIL-I-46852 • Self-Vulcanizing Wrap • High Dielectric Strength

Vulko-Wrap™ is TPC's popular self vulcanizing insulated wrap. Made of a specially compounded, synthetic silicone elastomer, this tape is resistant to oil, water, ozone and many chemicals. It has a high dielectric strength and can be used on all electrical connections. It sticks to itself without sticky residue and fully bonds in 24 hours yet remains pliable in the application. It remains effective in temperatures ranging from -60°F to +400°F. Vulko-Wrap is available in 40 or 50 mil thickness as well as a reinforced option. It comes in yellow and black.



FEATURES & BENEFITS

1. HIGH DIELECTRIC STRENGTH — Can be used for all electrical connections.

2. SPECIALLY COMPOUNDED, SYNTHETIC SILICONE ELASTOMER — Resistant to oil, water, ozone, and many chemicals. Wide temperature range from -60°F to +400°F.

3. VULCANIZES IMMEDIATELY — Requires no heat – becomes fully bonded in 24 hours at room temperature. Remains pliable over time.

Storage/Dispenser Box Available
Keep rolls protected and organized in sturdy, reusable, compact box

4. NO ADHESIVES / ADHERES ONLY TO ITSELF — Easy to remove – leaves no residue. Covered fittings are immediately reusable.

5. TRIANGULAR SHAPE WITH COLOR GUIDELINE — Allows even thickness for uniform high dielectric strength.

6. STRETCHES TO APPROXIMATELY 2-1/2 TIMES ITS LENGTH — Conforms to irregular shapes and uneven surfaces. Can be used on parts which move or vibrate.

7. WIDTH 1" TO 1-1/2" — Covers more surface than ordinary tape with a single wrap.

8. AVAILABLE IN 40 MIL OR 50 MIL THICKNESS — Extra thick design allows wrapping over sharp and irregular surfaces without tearing or puncturing.

SPECIFICATIONS Meets U.S. Military Spec. MIL-I-46852, superseded by CID A-A-59163.

DIELECTRIC STRENGTH (Per ASTM D-149): 300 volts per mil of finished wrap thickness for 40 mil and 275 volts per mil of finished wrap thickness for 50 mil.

TENSILE/BREAK STRENGTH (Per ASTM D-412): 700 PSI Min.; 17 lbs. for 40 mil; 42 lbs. for 50 mil.

ELONGATION (Per ASTMD-412): 300% minimum.

SHELF LIFE Product should be stored at 70˚F or less for maximum shelf life. Store in original packaging in clean dry environment when not in use.

PRODUCT LIMITATION Vulko-Wrap has a low abrasion and cut resistance. A protective overwrap is recommended for applications exposed to dragging or impact.

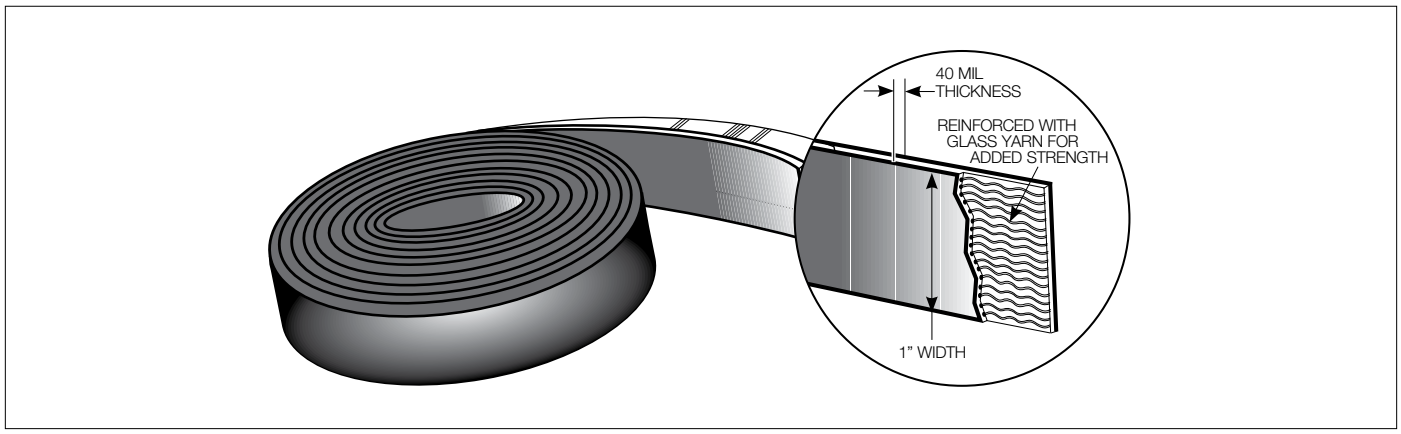
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.		NOMINAL THICKNESS	NOMINAL WIDTH	NOMINAL LENGTH	WRAP COLOR	GUIDELINE COLOR	DIELECTRIC STRENGTH/ PER MIL
1 ROLL	5 ROLL PACK						
98412	**98412D**	40 Mils	1 in (2.54 cm)	36 ft (1100 cm)	Yellow	Red	300 Volts
98512	**98512D**	50 Mils	1-1/2 in (3.81 cm)	36 ft (1100 cm)	Yellow	Black	275 Volts
98412BK	**98412BKD**	40 Mils	1 in (2.54 cm)	36 ft (1100 cm)	Black	Green	300 Volts
98512BK	**98512BKD**	50 Mils	1-1/2 in (3.81 cm)	36 ft (1100 cm)	Black	Yellow	275 Volts

Vulko-Wrap™ Insulating Tape (Black Reinforced)

• Temperature Rating -60°F to 400°F • RoHS Compliant • Self-Vulcanizing Wrap • High Dielectric Strength • Reinforced with Glass Yarn Fiber

Reinforced Vulko-Wrap™ has been embedded with a glass yarn fiber braid for added strength while maintaining the flexibility found in the traditional Vulko-Wrap product. Reinforced Vulko-Wrap has a temperature rating of from -60°F to +400°F and has a dielectric strength of 500 volts per mil. One roll has 36 feet of tape that is 1 inch wide. It is available in 40 mil thickness in the color black only.



FEATURES & BENEFITS

1. REINFORCED WITH GLASS YARN BRAID — Reinforcing braid embedded in center of material provides enhanced mechanical strength while still allowing the product to cover irregular shapes.

2. HIGH DIELECTRIC STRENGTH — Can be used for all electrical connections.

3. VULCANIZES IMMEDIATELY — Requires no heat – becomes fully bonded in 24 hours at room temperature. Remains pliable over time.

4. NO ADHESIVES / ADHERES ONLY TO ITSELF — Easy to remove – leaves no residue. Covered fittings are immediately reusable.

5. AVAILABLE IN 40 MIL THICKNESS — Extra thick design allows wrapping over sharp and irregular surfaces without tearing or puncturing.

APPLICATIONS

- Bus Bar Insulation
- Cable Insulation Splices
- Corrosive Areas
- Electroplating Danglers
- Food Related Equipment
- High Heat
- High Voltage
- HVAC Equipment
- Lift Truck Battery Cable Terminals
- Motor Leads
- Outdoor Terminations
- Temporary Repair of Low Pressure Air & Hydraulic Lines
- Terminal Splicing
- Transformer Tap Lead Insulation
- Washdown Areas

SPECIFICATIONS Meets U.S. Military Spec. MIL-I-22444C.

DIELECTRIC STRENGTH (Per ASTM D-149) 500 volts per mil of finished wrap thickness for 40 mil.

ELONGATION (Per ASTMD-412) 15% minimum.

SHELF LIFE Product should be stored at 70°F or less for maximum shelf life. Store in original packaging in clean dry environment when not in use.

REINFORCEMENT Reinforcing braid embedded in center of material provides enhanced mechanical strength while still allowing the product to cover irregular shapes.

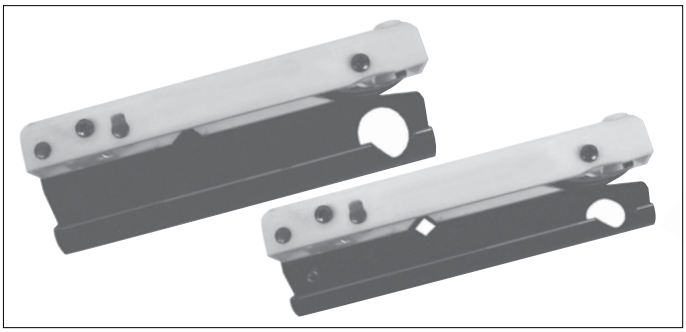
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.			NOMINAL THICKNESS	NOMINAL WIDTH	NOMINAL LENGTH	WRAP COLOR	GUIDELINE COLOR	DIELECTRIC STRENGTH/ PER MIL
1 ROLL	5 ROLL PACK	SAMPLE ROLL						
18412	–	–	40 Mils	1 in (2.54 cm)	36 ft (1100 cm)	Black	None	500 Volts

Cable Stripper — Large & Small

• RoHS Compliant

The Large Diameter Cable Stripper can cut cable jackets from 3/8" to 7/8" outside diameter size. The Small Diameter Cable Stripper can cut cable jackets from 0.25" to 0.675" outside diameter size. It's compact and ergonomically designed to keep a good grip while stripping cable jackets. It has a calibrated micrometer dial to allow for precise depth of your cut. A free replacement blade is included in every tool. Safer to use than a knife or razor blade. Made in the U.S.A.



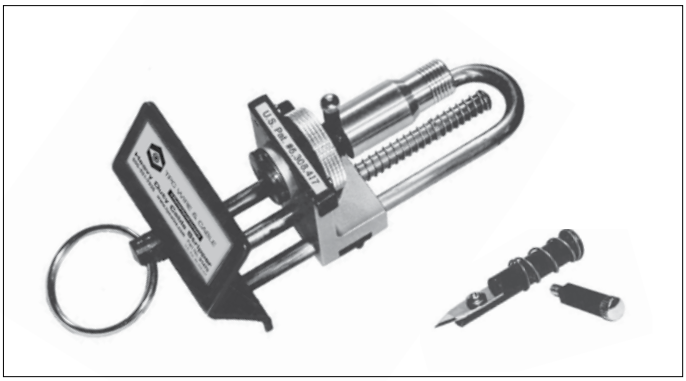
ORDERING INFORMATION *(Call for pricing & availability)*

LARGE & SMALL DIAMETER	
PART NO.	**CORD O.D. RANGE** (IN)
91450	0.375 – 0.875 (Large Diameter)
91400	0.250 – 0.675 (Small Diameter)
11400	Replacement Blades

Heavy-Duty Cable Stripper

• RoHS Compliant

TPC's Heavy-Duty Cable Stipper is ideal for stripping rubber jacketed cable. All too often a box cutter is used which can be very dangerous. This tool will easily and safely strip the jacket of cables ranging from 1/4" up to 2-1/4". This cable stipper is easy to use, provides precise cuts and protects people from injury.



ORDERING INFORMATION *(Call for pricing & availability)*

HEAVY-DUTY	
PART NO.	**CORD O.D. RANGE** (IN)
91470	0.25 – 2.25
11470	Replacement Blades

Wire Stripper & Cutter (Y500B)

• RoHS Compliant

Lightweight stripper and cutter for quick, easy wire processing. The unique stripping blades automatically adjust to the wire gauge and strips with a quick squeeze of the handles. Cutting blade is exposed by pushing the thumb notch forward, inserting the wire and squeezing the handle to cut.

ORDERING INFORMATION *(Call for pricing & availability)*

LARGE DIAMETER		
PART NO.	**SIZES**	**CORD O.D. RANGE** (IN)
Y500B	20-12 AWG	–

Wire Stripper (HY510B)

• RoHS Compliant

TPC's Wire Stripper is a durable tool that can strip cord with an outside diameter range of 0.0395" to 0.1260". It has an automatic function that prevents the crushing or cutting of the finest wires or wire filaments. A great addition to any electrician's tool box.

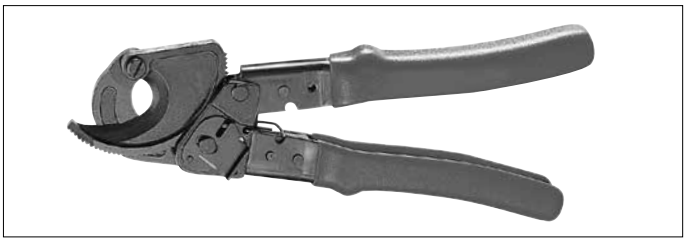
ORDERING INFORMATION *(Call for pricing & availability)*

SMALL DIAMETER		
PART NO.	**SIZES**	**CORD O.D. RANGE** (IN)
HY510B	18-8 AWG	0.0395 – 0.1260

Ratcheting Cable Cutter

• RoHS Compliant

TPC's Ratcheting Cable Cutter can accommodate copper or aluminum cables up to 1-1/4" diameter. The precision ratcheting design provides added torque and makes it easy to cut large cables in tight spaces. The blades are hardened steel and can be resharpened, providing a longer life. The tool frame is made of carbon steel making it rust resistant. The handles are coated with anti-slip PVC providing a comfortable grip.



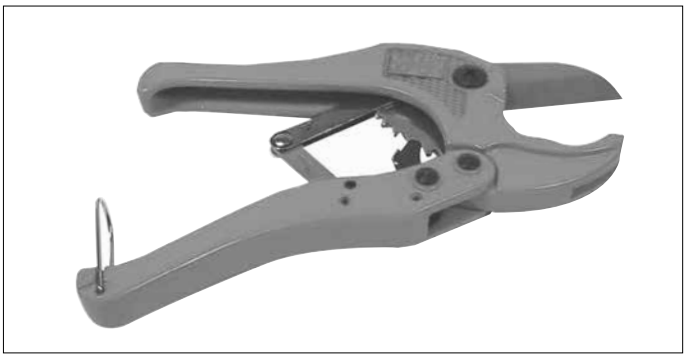
ORDERING INFORMATION *(Call for pricing & availability)*

RATCHETING CABLE CUTTER	
PART NO.	**CORD O.D. RANGE** (IN)
91455	Up to 1.25

Cable Cutter

• RoHS Compliant

TPC's Cable Cutter is a durable tool that cleanly and easily cuts cord with an outside diameter range of 0.25" to 0.75". Cutter blade is replaceable.



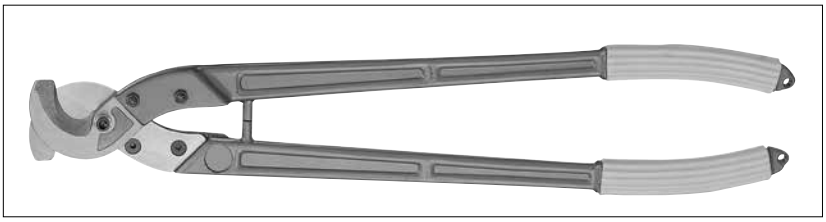
ORDERING INFORMATION *(Call for pricing & availability)*

CABLE CUTTER	
PART NO.	**CORD O.D. RANGE** (IN)
PVC100	0.25 – 0.75

Large Handle Cable Cutter

• RoHS Compliant

This large handle cable cutter is a high quality tool that can easily cut copper or aluminum cables up to 1-1/2" in diameter. The blades are forged chromium-molybdenum steel that make clean cuts with minimal distortion to cable conductors and jacket. The blades are rust resistant and can be resharpened, extending the life of the tool. The handles are strong and lightweight. They are made of aluminum and feature rubber anti-slip grips.

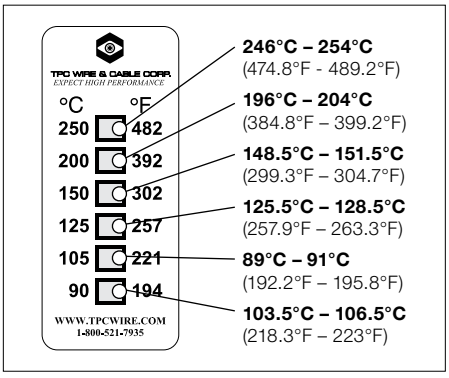


ORDERING INFORMATION *(Call for pricing & availability)*

LARGE HANDLE CABLE CUTTER	
PART NO.	**CORD O.D. RANGE** (IN)
91457	Up to 1.50

Temperature Tag

• Temperature Range 90°C – 250°C (194°F – 482°F) • One Time Use • Immediate Response • Oil and Water Resistant • Self Adhesive Label



The TPC Temperature Tag will allow you to choose the right cable for your environment. Temperature affects ampacity, with this tag, you can know, with certainty, what temperature range your application reaches. The tag changes color from orange to black. In the environment, black indicates highest temperature.

ORDERING INFORMATION

TEMPERATURE TAG	
PART NO.	**SIZE**
TEMPTAG-90C-250C	3/4" x 2"

APPLICATIONS

- Conveyors
- Pumps
- Motor Operated Valves
- Emergency Isolation Valves
- Kiln Fans
- Furnaces
- Control Panels
- Any Hot Environment

Cord Sets

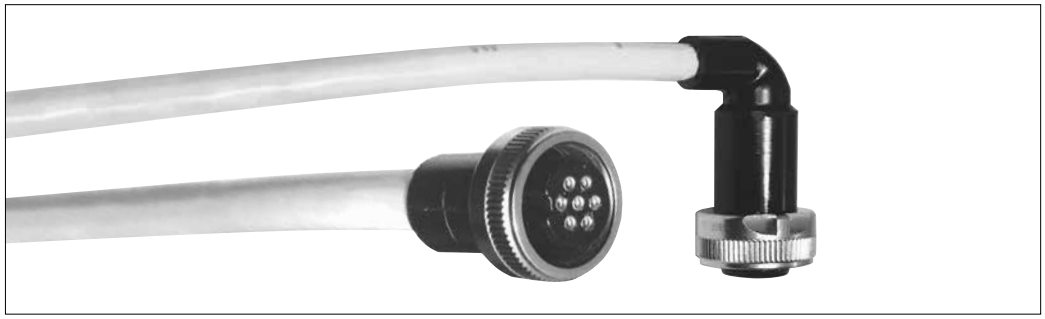
Environments Key Code: **A** = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

A C F

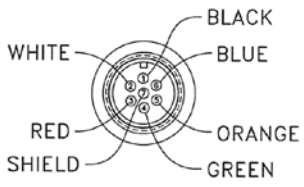
7 Pin Molded Valve Plugs

• RoHS Compliant • Straight and 90° Configurations

The 7-Pin Molded Valve Plug is available in a straight or 90° head with no assembly required. Each connector head is protected with an O-ring seal and coupling nut with machined hole for tie down. Used with Atos, Moog, Vickers and Rexroth servo or proportional valves.



FACE VIEW



FEATURES & BENEFITS

1. TREX-ONICS® C-FLEX CABLE — Superior performance in continuous flex applications. TPC's unique cable 18/6 shielded design has been tested to over 25 million cycles without electrical failure.

2. O-RING SEAL — Each connector head is protected with an o-ring seal. The o-ring compresses when tightened, sealing the connector end from contaminants.

3. 90° OR STRAIGHT CONSTRUCTION — Select the proper configuration for the application.

4. PUR MOLDED HEAD DESIGN — Rugged polyurethane head is molded to the Trex-Onics® cable to provide a sealed connection, eliminating the risk of failure due to contaminants.

5. COUPLING NUT WITH MACHINED HOLE — Hole can be used to tie down coupling ring and eliminate possible loosening caused by vibration and constant movement. Insures a secure connection in the toughest environments.

6. THREAD — 7/8"-20

APPLICATIONS

- Used with Atos, Moog, Vickers and Rexroth servo or proportional valves.

ORDERING INFORMATION *(Call for pricing & availability)*

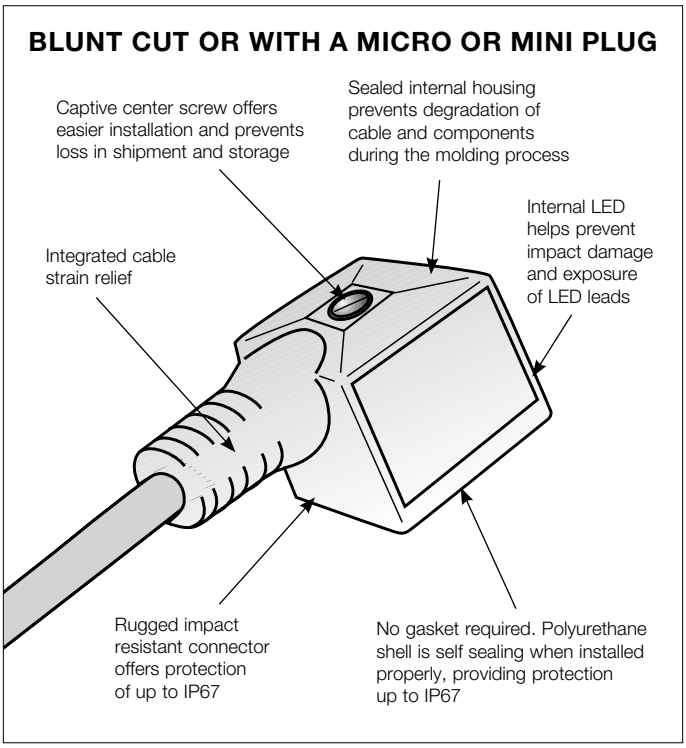
PART NO.		DESCRIPTION	LENGTH (FT)
STRAIGHT	90°		
77003	77903	7 Pin Female Plug	3
77006	77906	7 Pin Female Plug	6
77009	77909	7 Pin Female Plug	9
77012	77912	7 Pin Female Plug	12
77015	77915	7 Pin Female Plug	15
77020	77920	7 Pin Female Plug	20
77050	77950	7 Pin Female Plug	50
77060	77960	7 Pin Female Plug	60

DIN Connector Assemblies

- RoHS Compliant

Completely molded DIN connectors are available with TPC's Trex-Onics® high quality cable in industry standard configurations. A self-sealing design eliminates the need for rubber gaskets and an integrated LED illuminates the entire connector head that can be seen from 360°. Our DIN connectors provide environmental protection up to IP67/NEMA 6. They are RoHS Compliant and each unit has built-in surge suppression to protect against electrical spikes or surges.

TPC Wire & Cable Corp. also offers you the chance to build your own DIN connector cord sets. You can choose the plug style, DIN connection style, voltage, number of conductors, ground position, head style, DIN connector cable type, UOM and length. Our sales team and engineers will work with you one-on-one to help you build the exact DIN connector for your custom needs.



FEATURES & BENEFITS

1. SECURITY YELLOW TREX-ONICS® 18 AWG 3 CONDUCTOR CABLE WITH HEAVY-DUTY POLYURETHANE JACKET — A superior first line defense against tearing abrasion, impact, oil, ozone and most chemicals.

2. RUGGED POLYURETHANE SHELL DESIGN — Resists damage from impact, abrasion, oil and most chemicals.

3. ZYTEL INSERT — Durable fiberglass filled nylon insert.

4. MOLDED ASSEMBLY — DIN Plug is secured to the cord to seal the unit, preventing dust and moisture from damaging the internal wiring.

5. SURGE SUPPRESSION — Built into each Plug to protect against electrical spikes or surges.

6. SUPER BRIGHT LED STATUS LIGHT — Incorporated into translucent DIN body, protecting LED from damage. Easily visible from multiple angles.

7. SELF SEALING UNIT — Polyurethane shell seals without the need for a gasket, providing protection up to IP67.

8. IP67/NEMA 6 — Once properly installed the connection is protected from dust, moisture and oil.

9. ALL POLYURETHANE MICRO OR MINI-HEAD DESIGN — Ensures 100% bonding between jacket and head.

10. DIN CONNECTORS IN INDUSTRY STANDARD CONFIGURATIONS AVAILABLE WITH TPC TREX-ONICS® MINI OR MICRO QUICK-CONNECTS™

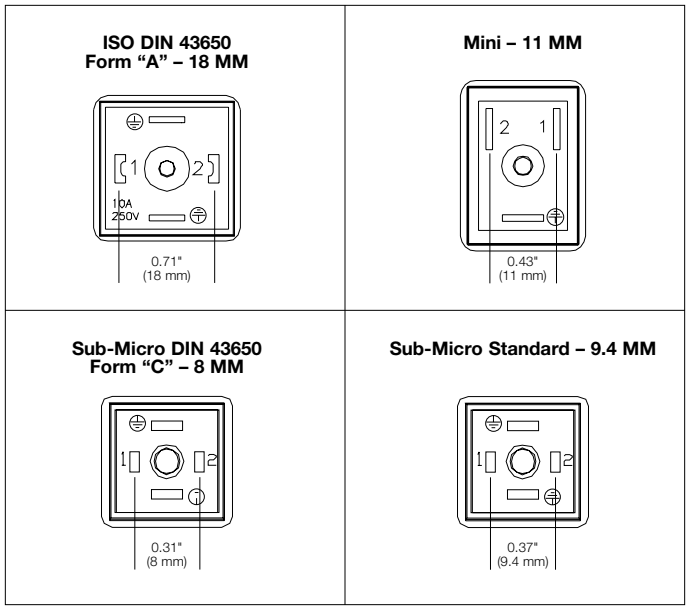
DIN Connector Assemblies *(Continued)*

TERMS & TECHNOLOGY

What is DIN?
DIN (or Deutsch Industrial Normale) is a series of uniformity standards developed in Germany, which apply to commonly manufactured items.

What is DIN 43650?
DIN 43650 is the standard for a series of electrical connectors, which are commonly used with solenoids (especially those used on valves in hydraulics and pneumatics). Other applications include special sensors, such as pressure switches, optical switches and limit switches.

What does DIN 43650 include?
DIN 43650 is a family of four connectors:



Although their official names are listed on top, we generally refer to them as 18, 11, 9.4 or 8v millimeter, which is the actual spacing between PIN #1 and PIN #2.

How are the connectors applied?
Generally, the female connector is attached to the solenoid valve or sensor and the male Quick-Connect™ side or blunt cut end attaches to the controller. The DIN connectors are offered either as blunt cut cable or with molded mini or micro male Quick-Connects.

Why use a molded assembly?
Molded assemblies provide a more secure installation, offer many technical advantages and save installation time, labor and cost. Hand wiring a DIN connector is very labor intensive. Considering the overall cost of the connector, wire and labor, cable assemblies generally are much less expensive.

What other advantages do molded assemblies offer?

- Solid molded connector offers superior durability
- Impact resistant, with great cable strain relief
- Available in all DIN 43650 pin configurations
- In standard cable lengths of 2, 3, 4, 5 and 6 meters
- With built in LED and suppression

What are the other advantages of our assemblies?

- Tighter surge suppression clamping
- Better circuit ratings
- Solid post molded construction
- Sealed against dirt and moisture
- Shorter profile
- Superior cable for better durability

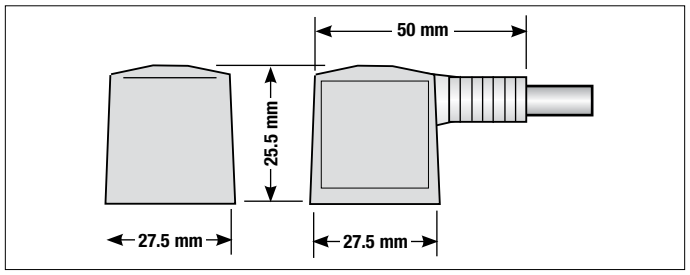
Why use surge suppression?
In solenoid valve applications, a magnetic field is created around the coil. When the power is turned off (as the coil is de-energized) the remaining magnetic field collapses back onto the coil. This creates an electrical surge which can exceed 3000 volts (this happens in both AC and DC applications, with operating voltages as low as 12 volts). The resulting surge can cause component damage (both immediate and long term) and create problems with noise interference. Building in surge suppression into the connector, stops the transient surge at the source. The suppressor circuit generally offered with the molded assemblies is a varistor (to be more specific an MOV), which is polarity independent, works with AC and DC and offers a small release delay time.

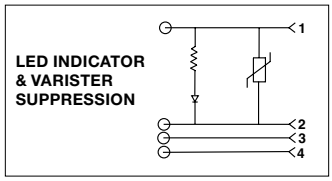
ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	SIZE	STRANDING	NOMINAL O.D. (IN)	WT. (LBS) PER 1000'
60143	18/3	41/34	0.220	40
60144	18/4	41/34	0.240	45

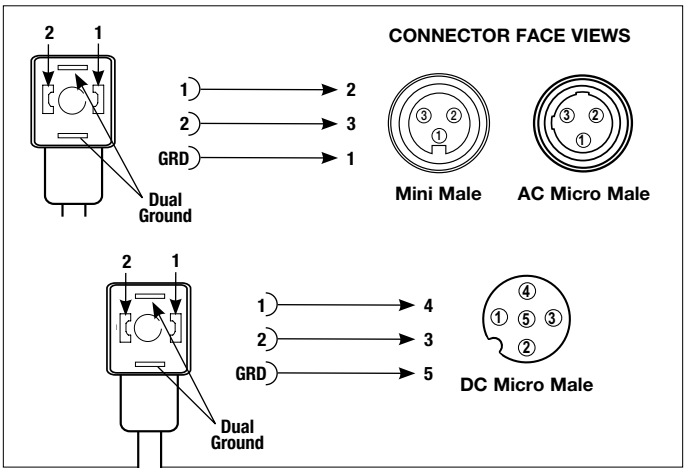
ISO DIN Form "A" — 18 mm

• RoHS Compliant • IP67 Rated • NEMA 6 Rated • Operating Temperature Range -25°C to 80°C (-13°F to 176°F) • Cable: Trex-Onics® 18/3





COLOR CODE	
DC 24 V	AC 115V
1 Black	**1** Black
2 Black/White	**2** Black/White
3 Green/Yellow	**3** Green/Yellow



SPECIFICATIONS & KEY CHARACTERISTICS

- Connection Voltage: 6 – 24V AC/DC or 120V AC@ 50/60 Hz
- Nominal Current: 10 Amps
- Connection Test Voltage: 250V AC Max, 300 V DC Max
- Connector Material: Durable Polyurethane
- Center Screw: M3 x 28mm
- Suppressor Clamping Voltage: 24V AC/DC – 30V AC Continuous – 38V DC 120V AC – 130V AC Continuous – 170V DC
- White Translucent Body with LED Power Status Indicator
- No Sealing Gasket Required

FEATURES & BENEFITS

1. SECURITY YELLOW TREX-ONICS® 18 AWG 3 CONDUCTOR CABLE WITH HEAVY-DUTY POLYURETHANE JACKET — A superior first line defense against tearing abrasion, impact, oil, ozone and most chemicals.

2. RUGGED POLYURETHANE SHELL DESIGN — Resists damage from impact, abrasion, oil and most chemicals.

3. ZYTEL INSERT — Durable fiberglass filled nylon insert.

4. MOLDED ASSEMBLY — DIN Plug is secured to the cord to seal the unit, preventing dust and moisture from damaging the internal wiring.

5. VARISTOR SURGE SUPPRESSION — Built into each Plug to protect against electrical spikes or surges.

6. SUPER BRIGHT LED STATUS LIGHT — Incorporated into translucent DIN body, protecting LED from damage. Easily visible from multiple angles.

7. SELF SEALING UNIT — Polyurethane shell seals without the need for a gasket, providing protection up to IP67.

8. IP67/NEMA 6 — Once properly installed the connection is protected from dust, moisture and oil.

9. ALL POLYURETHANE MICRO OR MINI-HEAD DESIGN — Ensures 100% bonding between jacket and head.

10. DIN CONNECTORS IN INDUSTRY STANDARD CONFIGURATIONS — Available with TPC Trex-Onics® Mini or Micro Quick-Connects™

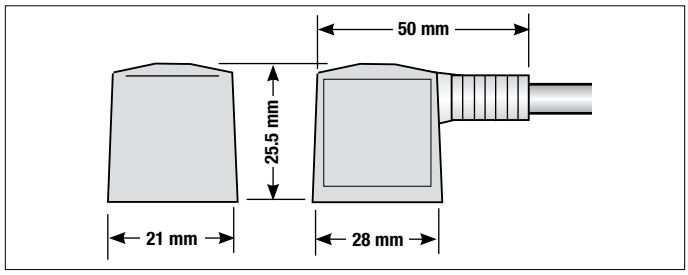
ORDERING INFORMATION *(Call for pricing & availability)*

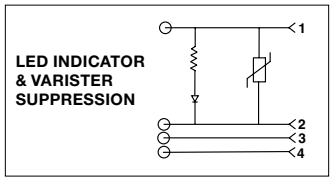
BLUNT CUT PART NO.	AC MICRO PART NO.	DC MICRO PART NO.	MINI PART NO.	DESCRIPTION	CORD LENGTH	
					FEET	METERS
D01134XXAM002	**D01134GCAM002**	**—**	**D01134LCAM002**	115V DIN Conn w/LED & Suppression	6.56	2
D01134XXAM003	**D01134GCAM003**	**—**	**D01134LCAM003**	115V DIN Conn w/LED & Suppression	9.84	3
D01134XXAM004	**D01134GCAM004**	**—**	**D01134LCAM004**	115V DIN Conn w/LED & Suppression	13.12	4
D01134XXAM005	**D01134GCAM005**	**—**	**D01134LCAM005**	115V DIN Conn w/LED & Suppression	16.4	5
D01134XXAM006	**D01134GCAM006**	**—**	**D01134LCAM006**	115V DIN Conn w/LED & Suppression	19.68	6
D01234XXAM002	**D01234GCAM002**	**D01234FCAM002**	**D01234LCAM002**	24V DIN Conn w/LED & Suppression	6.56	2
D01234XXAM003	**D01234GCAM003**	**D01234FCAM003**	**D01234LCAM003**	24V DIN Conn w/LED & Suppression	9.84	3
D01234XXAM004	**D01234GCAM004**	**D01234FCAM004**	**D01234LCAM004**	24V DIN Conn w/LED & Suppression	13.12	4
D01234XXAM005	**D01234GCAM005**	**D01234FCAM005**	**D01234LCAM005**	24V DIN Conn w/LED & Suppression	16.4	5
D01234XXAM006	**D01234GCAM006**	**D01234FCAM006**	**D01234LCAM006**	24V DIN Conn w/LED & Suppression	19.68	6

A C F

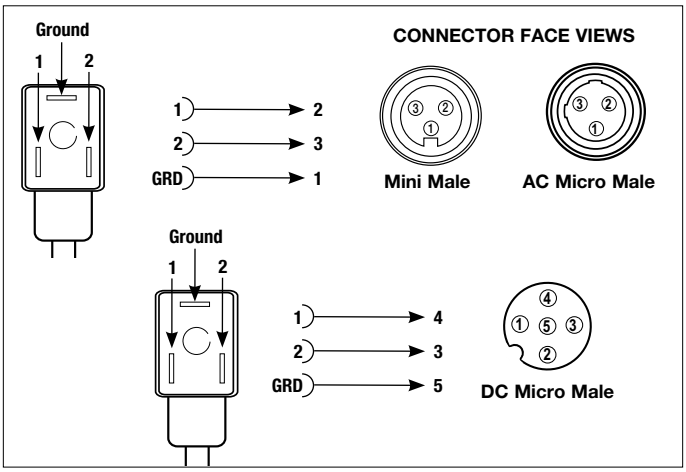
Mini DIN Standard — 11 mm

• RoHS Compliant • IP67 Rated • NEMA 6 Rated • Operating Temperature Range -25°C to 80°C





COLOR CODE	
DC 24 V	**AC 115V**
1 Black (1)	**1** Black (1)
2 Black (2)	**2** Black (2)
3 Green/Yellow	**3** Green/Yellow



SPECIFICATIONS & KEY CHARACTERISTICS

- Connection Voltage: 6 – 24V AC/DC or 120V AC@ 50/60 Hz
- Nominal Current: 10 Amps
- Connection Test Voltage: 250V AC Max, 300 V DC Max
- Connector Material: Durable Polyurethane
- Center Screw: M3 x 28mm
- Suppressor Clamping Voltage: 24V AC/DC – 30V AC Continuous – 38V DC
  120V AC – 130V AC Continuous – 170V DC
- White Translucent Body with LED Power Status Indicator
- No Sealing Gasket Required

FEATURES & BENEFITS

1. SECURITY YELLOW TREX-ONICS® 18 AWG 3 CONDUCTOR CABLE WITH HEAVY-DUTY POLYURETHANE JACKET — A superior first line defense against tearing abrasion, impact, oil, ozone and most chemicals.

2. RUGGED POLYURETHANE SHELL DESIGN — Resists damage from impact, abrasion, oil and most chemicals.

3. ZYTEL INSERT — Durable fiberglass filled nylon insert.

4. MOLDED ASSEMBLY — DIN Plug is secured to the cord to seal the unit, preventing dust and moisture from damaging the internal wiring.

5. VARISTOR SURGE SUPPRESSION — Built into each Plug to protect against electrical spikes or surges.

6. SUPER BRIGHT LED STATUS LIGHT — Incorporated into translucent DIN body, protecting LED from damage. Easily visible from multiple angles.

7. SELF SEALING UNIT — Polyurethane shell seals without the need for a gasket, providing protection up to IP67.

8. IP67/NEMA 6 — Once properly installed the connection is protected from dust, moisture and oil.

9. ALL POLYURETHANE MICRO OR MINI-HEAD DESIGN — Ensures 100% bonding between jacket and head.

10. DIN CONNECTORS IN INDUSTRY STANDARD CONFIGURATIONS — Available with TPC Trex-Onics® Mini or Micro Quick-Connects™

ORDERING INFORMATION *(Call for pricing & availability)*

BLUNT CUT PART NO.	AC MICRO PART NO.	DC MICRO PART NO.	MINI PART NO.	DESCRIPTION	CORD LENGTH	
					FEET	METERS
D02135XXAM002	**D02135GCAM002**	**—**	**D02135LCAM002**	115V DIN Conn w/LED & Suppression	6.56	2
D02135XXAM003	**D02135GCAM003**	**—**	**D02135LCAM003**	115V DIN Conn w/LED & Suppression	9.84	3
D02135XXAM004	**D02135GCAM004**	**—**	**D02135LCAM004**	115V DIN Conn w/LED & Suppression	13.12	4
D02135XXAM005	**D02135GCAM005**	**—**	**D02135LCAM005**	115V DIN Conn w/LED & Suppression	16.4	5
D02135XXAM006	**D02135GCAM006**	**—**	**D02135LCAM006**	115V DIN Conn w/LED & Suppression	19.68	6
D02235XXAM002	**D02235GCAM002**	**D02235FCAM002**	**D02235LCAM002**	24V DIN Conn w/LED & Suppression	6.56	2
D02235XXAM003	**D02235GCAM003**	**D02235FCAM003**	**D02235LCAM003**	24V DIN Conn w/LED & Suppression	9.84	3
D02235XXAM004	**D02235GCAM004**	**D02235FCAM004**	**D02235LCAM004**	24V DIN Conn w/LED & Suppression	13.12	4
D02235XXAM005	**D02235GCAM005**	**D02235FCAM005**	**D02235LCAM005**	24V DIN Conn w/LED & Suppression	16.4	5
D02235XXAM006	**D02235GCAM006**	**D02235FCAM006**	**D02235LCAM006**	24V DIN Conn w/LED & Suppression	19.68	6

Build Your Own DIN Connector Cord Sets

The chart below lists components with which to "build" the exact cord set needed. Begin at left with the first column. Write a **"D"** in the box at the top of the column. From the next column, identify the series. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

1	2	3	4	5	6	7	8	9
PLUG STYLE	**DIN STYLE**	**VOLTAGE**	**NO. OF COND.**	**HEAD STYLE**	**HEAD CONFIG.**	**CABLE TYPE**	**UOM**	**LENGTH**
D	01	2	3	F	C	A	F	005
D = DIN	**01 =** 18 mm Varistor & LED *(2 wire + ground)*	**1 =** 115 Volt	**3 =** 3 Cond. *(2 + ground)*	**F =** DC Mirco	**C =** Male Straight	**A =** Trex-Onics® 18/3 #60143 (0.220" O.D.)	Unit of Measure:	Enter a three digit code in the box above.
	02 = 11 mm Varistor & LED *(2 wire + ground)*	**2 =** 24 Volt *(DC Only)*	**4 =** 4 Cond. *(3 + ground)*	**G =** AC Micro	**D =** Male 90°	**B =** Trex-Onics® 18/4 #60144 (0.240" O.D.)	**M =** Meters	**EXAMPLE:**
	03 = 9.4 mm Varistor & LED *(2 wire + ground)*			**L =** Mini *(A Size)*	**X =** Blunt Cut		**F =** Feet	**5 =** "005"
	04 = 8 mm Varistor & LED *(2 wire + ground)*			**X =** Blunt Cut			**A =** Inches	**50 =** "050"
	05 = 18 mm Varistor & LED *(3 wire + ground)*							**500 =** "500"

PART NO.

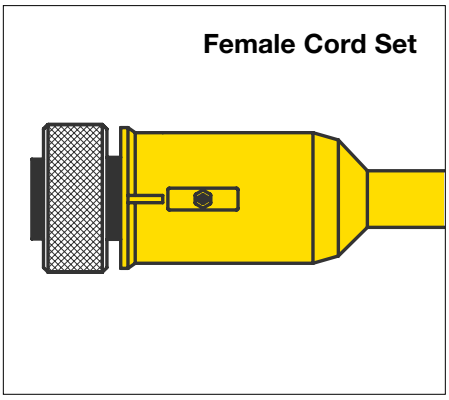
In the sample part number above, **D0123FCAF005** is an 18 mm Varister and LED (2 wire + ground) DIN connector, 24 volt, 3 conductor (2 + ground), DC micro, male straight with Trex-Onics® 18/3 (#60143) cable, 5 feet.

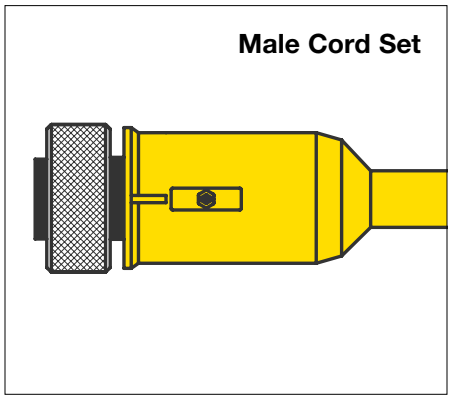
A C F

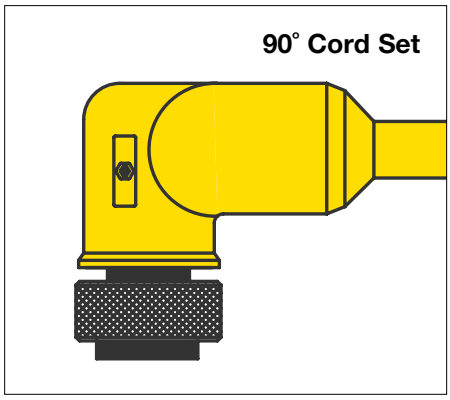
16 AWG Quick-Connect™ Cord Sets (2-6 Pole)

• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.







FEATURES & BENEFITS

1. PLUG SETS MADE WITH SUPER-TREX® TYPE S00 ULTRA-GARD™ PORTABLE CORD, RATED 90°C — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. EXTRA LONG PLUG BODY IS SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long flex life, resists heat and oil deterioration.

3. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED, MACHINE CRIMPED TO CONDUCTORS — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

4. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

5. STAINLESS STEEL FRICTION RING BETWEEN COUPLER AND PLUG BODY — Increases pull-out strength, ensures uniform tightness.

6. UNIQUE STAINLESS STEEL SLEEVE OVER THE GOLD PLATED FEMALE PINS — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion environments. Probe proof.

7. MOLDED AND KEYED, VULCANIZED THERMOSET ASSEMBLY — Provides rapid and secure connect and disconnect. Ensures a water, oil, and dust tight seal.

8. HARD COATED MIL SPEC. ANODIZED ALUMINUM KNURLED COUPLING RING — Resists corrosion, provides quick and secure assembly.

9. SHELL SIZE — A (7/8"), B (1"), C (1-1/8") and D (1.5").

ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE PLUGS

PART NO.					FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
84203	84303	84403	84503	—	3	0.91	F Plug
84206	84306	84406	84506	84166	6	1.83	F Plug
84212	84312	84412	84512	84172	12	3.66	F Plug
84220	84320	84420	84520	84190	20	6.10	F Plug

MALE PLUGS

PART NO.					FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
84003	84803	84703	84603	—	3	0.91	M Plug
84006	84806	84706	84606	84266	6	1.83	M Plug
84012	84812	84712	84612	84272	12	3.66	M Plug
84020	84820	84720	84620	84290	20	6.10	M Plug

16 AWG Quick-Connect™ Cord Sets (2-6 Pole) *(Continued)*

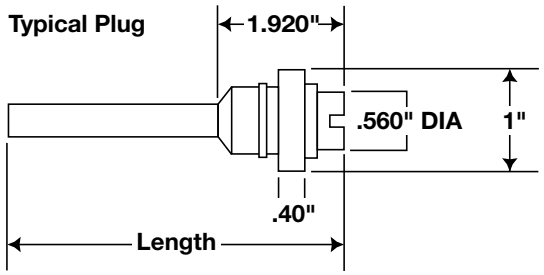
ORDERING INFORMATION *(Call for pricing & availability)*

90° FEMALE PLUGS						
PART NO.				FEET	METERS	DESCRIPTION
3 POLE	4 POLE	5 POLE	6 POLE			
89303	89403	89503	CL16D09F003	3	0.91	90° F Plug
89306	89406	89506	CL16D09F006	6	1.83	90° F Plug
89312	89412	89512	CL16D09F012	12	3.66	90° F Plug
89320	89420	89520	CL16D09F020	20	6.10	90° F Plug

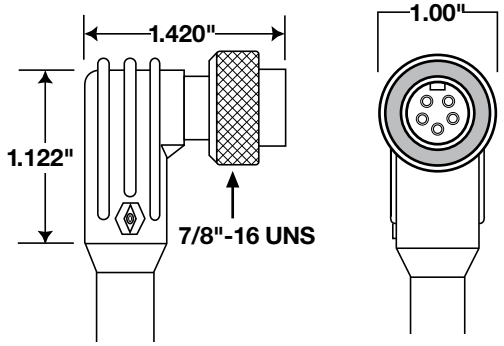
MALE / FEMALE EXTENSION SET							
PART NO.					FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
84921	84901	84935	84968	84953	3	0.91	M/F
84922	84902	84936	84969	84954	6	1.83	M/F
84923	84903	84937	84970	84955	12	3.66	M/F
84929	84909	84919	84979	84956	20	6.10	M/F

DIMENSIONAL INFORMATION

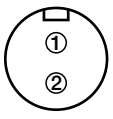
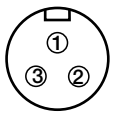
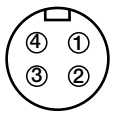
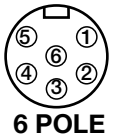
2, 3, 4, 5, 6 POLE STRAIGHT DIMENSIONS



2, 3, 4, 5 POLE 90° PLUG DIMENSIONS



FACE VIEW OF FEMALE CONNECTORS "A" SIZE (7/8"-16 COUPLING THREAD)

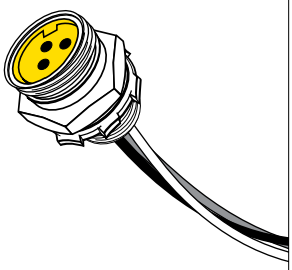
 2 POLE	 3 POLE	 4 POLE	 5 POLE	 6 POLE A Size
1. White 2. Black	1. Green 2. Black 3. White	1. Black 2. White 3. Red 4. Green	1. White 2. Red 3. Green 4. Orange 5. Black	1. White 2. Red 3. Green 4. Orange 5. Black 6. Blue

16 AWG Quick-Connect™ Receptacles (2-6 Pole)

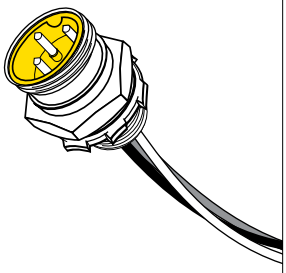
• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

16 AWG Quick-Connect™ 2-6 pole receptacles are available in female (back mounted and 90°) with 4 foot pigtails and male (back mounted and 90°) with 1 foot pigtails. O-ring and locknut included; closure caps with chain are sold separately.

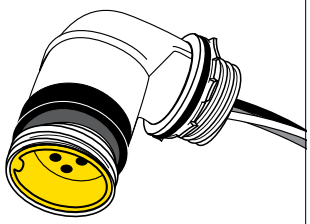
Female Receptacle



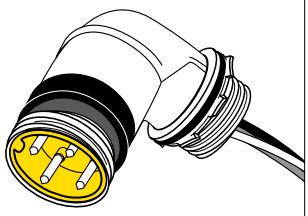
Male Receptacle



90° Female Receptacle



90° Male Receptacle



FEATURES & BENEFITS

1. RECEPTACLE INSERTS ARE SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long flex life, resists heat and oil deterioration.

2. MOLDED AND KEYED, VULCANIZED THERMOSET ASSEMBLY — Provides rapid and secure connect and disconnect. Ensures a water, oil, and dust tight seal.

3. HARD COATED MIL SPEC. ANODIZED ALUMINUM RECEPTACLE SHELL — Resists corrosion, provides quick and secure assembly.

4. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED, MACHINE CRIMPED TO CONDUCTORS — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

5. UNIQUE STAINLESS SLEEVE OVER THE GOLD PLATED FEMALE PINS — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion environments. Probe proof.

6. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

7. FLUOROELASTOMER SEALING O-RING AND LOCKNUT — Seals out oil, chemicals and other contaminants. Locknut included with each unit.

8. 16 AWG STRANDED, TINNED COPPER PIGTAILS INSULATED WITH 125°C CROSS LINKED POLYETHYLENE — Provides excellent oil and heat resistance.

ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE RECEPTACLES (48" PIGTAILS)

PART NO.					PIGTAIL LENGTH FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
84000	**84800**	**84700**	**84600**	**84561**	4	1.22	F Recept.

FEMALE 90° RECEPTACLES (48" PIGTAILS)

PART NO.					PIGTAIL LENGTH FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
89000	**89800**	**89700**	**89600**	**—**	4	1.22	90° F

MALE RECEPTACLES (12" PIGTAILS)

PART NO.					PIGTAIL LENGTH FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
84200	**84300**	**84400**	**84500**	**84661**	1	0.3	M Recept.

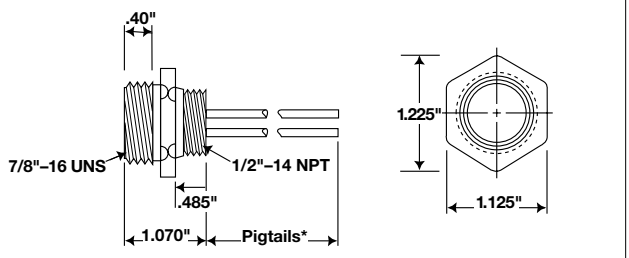
16 AWG Quick-Connect™ Receptacles (2-6 Pole) *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

MALE 90° RECEPTACLES (12" PIGTAILS)							
PART NO.					PIGTAIL LENGTH FEET	METERS	DESCRIPTION
2 POLE	3 POLE	4 POLE	5 POLE	6 POLE			
89200	89300	89400	89500	–	1	0.3	90° M

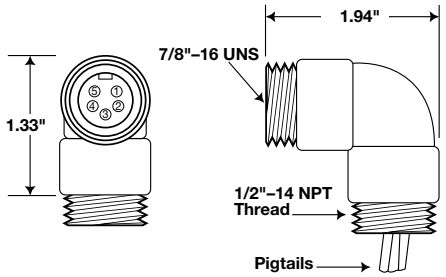
DIMENSIONAL INFORMATION

2, 3, 4, 5, 6 POLE RECEPTACLE DIMENSIONS



NOTES: The length of the pigtails on the male receptacles is 12", and the length of the pigtails on the female receptacles is 48".

2, 3, 4, 5, 6 90° RECEPTACLE DIMENSIONS



NOTES: The length of the pigtails on the male receptacles is 12", and the length of the pigtails on the female receptacles is 48".

FACE VIEW OF FEMALE CONNECTORS "A" SIZE (7/8"-16 COUPLING THREAD)

 2 POLE	 3 POLE	 4 POLE	 5 POLE	 6 POLE A Size
1. White 2. Black	1. Green 2. Black 3. White	1. Black 2. White 3. Red 4. Green	1. White 2. Red 3. Green 4. Orange 5. Black	1. White 2. Red 3. Green 4. Orange 5. Black 6. Blue

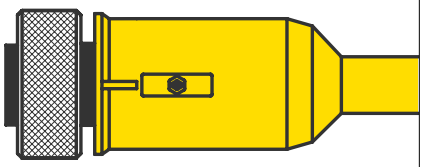
A C F

16 AWG Quick-Connect™ Cord Sets (6-8 Pole)

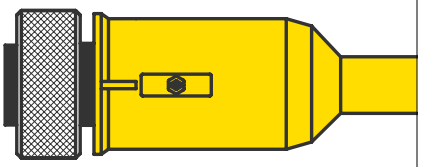
• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.

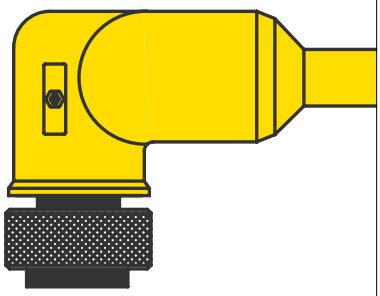
Female Cord Set



Male Cord Set



90˚ Cord Set



FEATURES & BENEFITS

1. PLUG SETS MADE WITH SUPER-TREX® TYPE S00 ULTRA-GARD™ PORTABLE CORD, RATED 90°C — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. EXTRA LONG PLUG BODY IS SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long flex life, resists heat and oil deterioration.

3. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED, MACHINE CRIMPED TO CONDUCTORS — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

4. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

5. STAINLESS STEEL FRICTION RING BETWEEN COUPLER AND PLUG BODY — Increases pull-out strength, ensures uniform tightness.

6. UNIQUE STAINLESS STEEL SLEEVE OVER THE GOLD PLATED FEMALE PINS — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion environments. Probe proof.

7. MOLDED AND KEYED, VULCANIZED THERMOSET ASSEMBLY — Provides rapid and secure connect and disconnect. Ensures a water, oil, and dust tight seal.

8. HARD COATED MIL SPEC. ANODIZED ALUMINUM KNURLED COUPLING RING — Resists corrosion, provides quick and secure assembly.

9. SHELL SIZE — A (7/8"), B (1"), C (1-1/8") and D (1.5").

ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE PLUGS

PART NO.			FEET	METERS	DESCRIPTION
6 POLE	7 POLE	8 POLE			
84666	84766	84866	6	1.83	F Plug
84672	84772	84872	12	3.66	F Plug
84690	84790	84890	20	6.10	F Plug

MALE PLUGS

PART NO.			FEET	METERS	DESCRIPTION
6 POLE	7 POLE	8 POLE			
84566	84466	84366	6	1.83	M Plug
84572	84472	84372	12	3.66	M Plug
84590	84490	84390	20	6.10	M Plug

16 AWG Quick-Connect™ Cord Sets (6-8 Pole) *(Continued)*

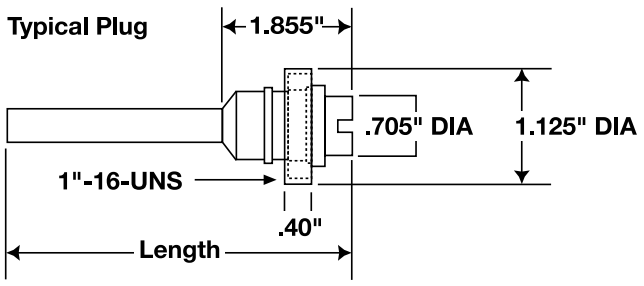
ORDERING INFORMATION *(Call for pricing & availability)*

90° FEMALE PLUGS					
PART NO.			FEET	METERS	DESCRIPTION
6 POLE	7 POLE	8 POLE			
CM16D09F006	CM17D11F006	CM18D12F006	6	1.83	90° F PLUG
CM16D09F012	CM17D11F012	CM18D12F012	12	3.66	90° F PLUG
CM16D09F020	CM17D11F020	CM18D12F020	20	6.10	90° F PLUG

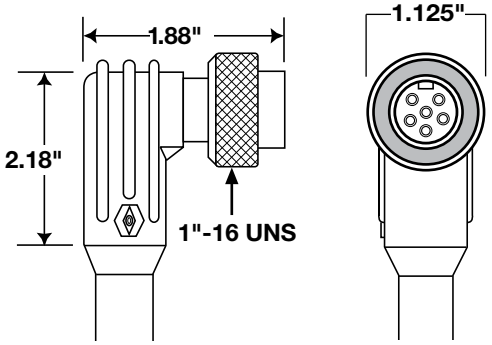
MALE / FEMALE EXTENSION SET					
PART NO.			FEET	METERS	DESCRIPTION
6 POLE	7 POLE	8 POLE			
84963	84973	84983	3	0.91	M/F
84964	84974	84984	6	1.83	M/F
84965	84975	84985	12	3.66	M/F
84966	84976	84986	20	6.10	M/F

DIMENSIONAL INFORMATION

6, 7, 8 POLE STRAIGHT DIMENSIONS



6, 7, 8 POLE 90° PLUG DIMENSIONS



FACE VIEW OF FEMALE CONNECTORS "B" SIZE (1"-16 COUPLING THREAD)

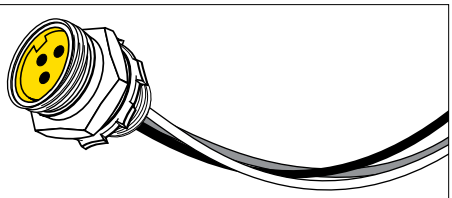
 6 POLE	 7 POLE	 8 POLE
1. Orange 2. Blue 3. Black 4. White 5. Red 6. Green	1. Wht-Blk Tr. 2. Black 3. White 4. Red 5. Orange 6. Blue 7. Green	1. Orange 2. Blue 3. Wht-Blk Tr. 4. Black 5. White 6. Red 7. Green 8. Red-Blk Tr.

16 AWG Quick-Connect™ Receptacles (6-8 Pole)

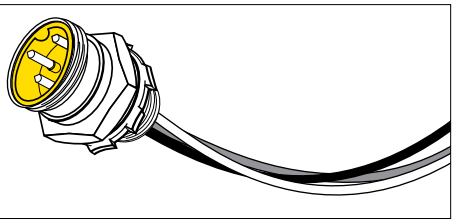
• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

16 AWG Quick-Connect™ 6-8 pole receptacles are available in female with 4 foot pigtails and male with 1 foot pigtails. O-ring and locknut included; closure caps with chain are sold separately.

Female Receptacle



Male Receptacle



FEATURES & BENEFITS

1. RECEPTACLE INSERTS ARE SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long flex life, resists heat and oil deterioration.

2. MOLDED AND KEYED, VULCANIZED THERMOSET ASSEMBLY — Provides rapid and secure connect and disconnect. Ensures a water, oil, and dust tight seal.

3. HARD COATED MIL SPEC. ANODIZED ALUMINUM RECEPTACLE SHELL — Resists corrosion, provides quick and secure assembly.

4. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED, MACHINE CRIMPED TO CONDUCTORS — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

5. UNIQUE STAINLESS SLEEVE OVER THE GOLD PLATED FEMALE PINS — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion environments. Probe proof.

6. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

7. FLUOROELASTOMER SEALING O-RING AND LOCKNUT — Seals out oil, chemicals and other contaminants. Locknut included with each unit.

8. 16 AWG STRANDED, TINNED COPPER PIGTAILS INSULATED WITH 125°C CROSS LINKED POLYETHYLENE — Provides excellent oil and heat resistance.

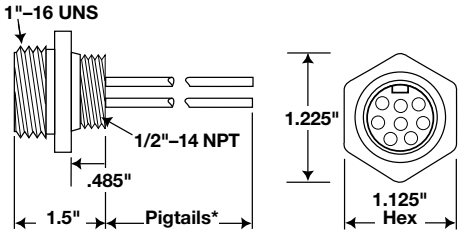
ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE RECEPTACLES (48" PIGTAILS)					
PART NO.			**FEET**	**METERS**	**DESCRIPTION**
6 POLE	**7 POLE**	**8 POLE**			
84560	**84460**	**84360**	4	1.22	F Receptacle

MALE RECEPTACLES (12" PIGTAILS)					
PART NO.			**FEET**	**METERS**	**DESCRIPTION**
6 POLE	**7 POLE**	**8 POLE**			
84660	**84770**	**84880**	1	0.30	M Receptacle

DIMENSIONAL INFORMATION

6, 7, 8 POLE STRAIGHT RECEPTACLE "B" SIZE



NOTES: The length of the pigtails on the male receptacles is 12", and the length of the pigtails on the female receptacles is 48".

FACE VIEW OF FEMALE RECEPTACLE

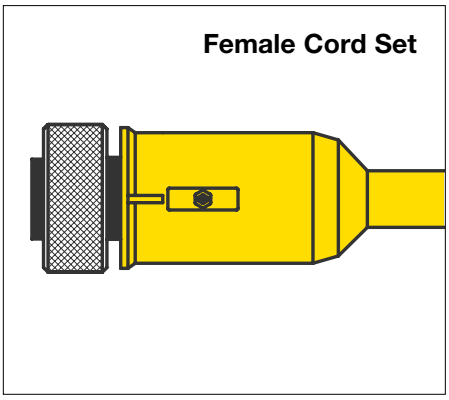
 6 POLE	 7 POLE	 8 POLE
1. Orange 2. Blue 3. Black 4. White 5. Red 6. Green	1. Wht-Blk Tr. 2. Black 3. White 4. Red 5. Orange 6. Blue 7. Green	1. Orange 2. Blue 3. Wht-Blk Tr. 4. Black 5. White 6. Red 7. Green 8. Red-Blk Tr.

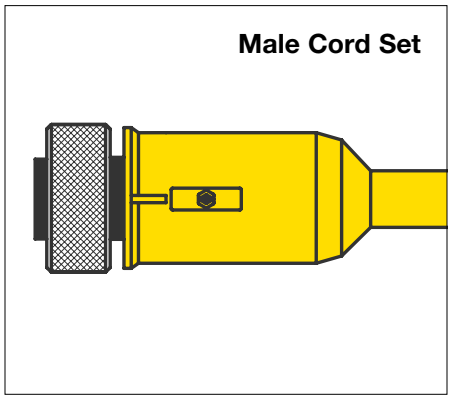
A C F

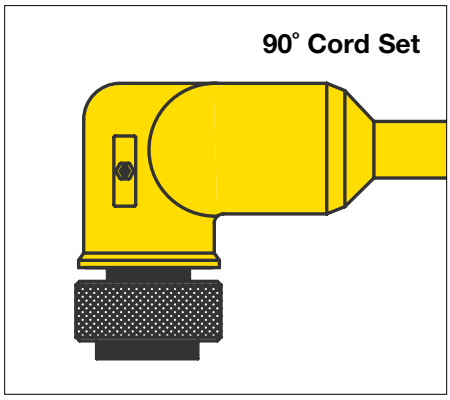
16 AWG Quick-Connect™ Cord Sets (9, 10 & 12 Pole)

• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.







FEATURES & BENEFITS

1. PLUG SETS MADE WITH SUPER-TREX® — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. EXTRA LONG PLUG BODY IS SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long flex life, resists heat and oil deterioration.

3. MOLDED AND KEYED, VULCANIZED THERMOSET ASSEMBLY — Provides rapid and secure connect and disconnect. Ensures a water, oil, and dust tight seal.

4. HARD COATED MIL SPEC. ANODIZED ALUMINUM KNURLED COUPLING RING — Resists corrosion, provides quick and secure assembly.

5. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED, MACHINE CRIMPED TO CONDUCTORS — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

6. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

7. SHELL SIZE — A (7/8"), B (1"), C (1-1/8") and D (1.5").

ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE PLUGS					
PART NO.			FEET	METERS	DESCRIPTION
9 POLE	10 POLE	12 POLE			
83296	83286	83276	6	1.83	F Plug
83291	83281	83271	12	3.66	F Plug
83292	83282	83272	20	6.10	F Plug

MALE PLUGS					
PART NO.			FEET	METERS	DESCRIPTION
9 POLE	10 POLE	12 POLE			
83196	83186	83176	6	1.83	M Plug
83191	83181	83171	12	3.66	M Plug
83192	83182	83172	20	6.10	M Plug

16 AWG Quick-Connect™ Cord Sets (9, 10 & 12 Pole) *(Continued)*

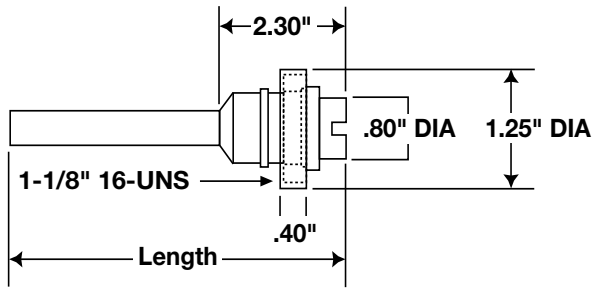
ORDERING INFORMATION *(Call for pricing & availability)*

90° FEMALE PLUGS					
PART NO.			FEET	METERS	DESCRIPTION
9 POLE	10 POLE	12 POLE			
CN19D13F006	CN110D14F006	CN112D15F006	6	1.83	90° F PLUG
CN19D13F012	CN110D14F012	CN112D15F012	12	3.66	90° F PLUG
CN19D13F020	CN110D14F020	CN112D15F020	20	6.10	90° F PLUG

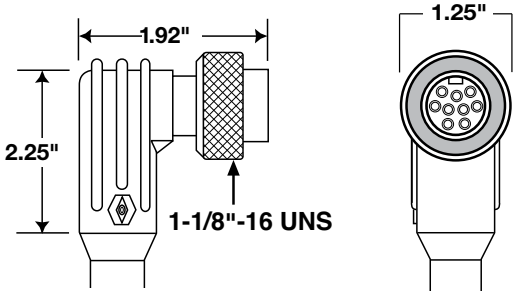
MALE / FEMALE EXTENSION SET					
PART NO.			FEET	METERS	DESCRIPTION
9 POLE	10 POLE	12 POLE			
—	—	83573	3	0.91	M/F
—	—	83576	6	1,83	M/F
83591	83581	83571	12	3.66	M/F
83592	83582	83572	20	6.10	M/F
—	—	83575	25	6.54	M/F

DIMENSIONAL INFORMATION

9, 10, 12 POLE STRAIGHT DIMENSIONS



9, 10, 12 POLE 90° PLUG DIMENSIONS



FACE VIEW OF FEMALE CONNECTORS "C" SIZE (1-1/8"-16 COUPLING THREAD)

9 POLE FEMALE FACE VIEW

1. Orange	6. Red
2. Blue	7. Green
3. Red/Blk. Tr.	8. White/Blk. Tr.
4. Green/Blk. Tr.	9. Black
5. White	

10 POLE FEMALE FACE VIEW

1. Orange	6. Orange/Blk. Tr.
2. Blue	7. Red
3. White/Blk. Tr.	8. Green
4. Red/Blk. Tr.	9. Black
5. Green/Blk. Tr.	10. White

12 POLE FEMALE FACE VIEW

1. Orange	7. Blue/Blk. Tr.
2. Blue	8. Blk./White Tr.
3. White/Blk. Tr.	9. Green
4. Red/Blk. Tr.	10. Red
5. Green/Blk. Tr.	11. White
6. Orange/Blk. Tr.	12. Black

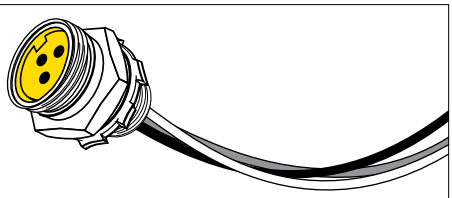
CABLE SIZE	NOM. O.D. (IN.)
16/9	0.560
16/10	0.580
16/12	0.590

16 AWG Quick-Connect™ Receptacles (9, 10 & 12 Pole)

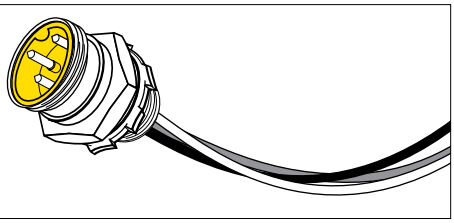
• UL Recognized • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

16 AWG Quick-Connect™ 9, 10 & 12 pole receptacles are available in female with 4 foot pigtails and male with 1 foot pigtails. O-ring and locknut included; closure caps with chain are sold separately.

Female Receptacle



Male Receptacle



FEATURES & BENEFITS

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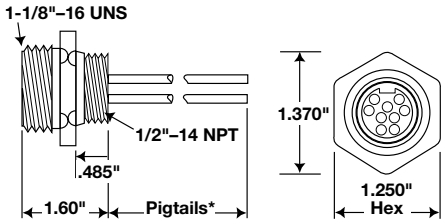
ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE RECEPTACLES (48" PIGTAILS)					
PART NO.			**FEET**	**METERS**	**DESCRIPTION**
9 POLE	**10 POLE**	**12 POLE**			
83360	**83350**	**83340**	1	0.30	F Receptacle

MALE RECEPTACLES (12" PIGTAILS)					
PART NO.			**FEET**	**METERS**	**DESCRIPTION**
9 POLE	**10 POLE**	**12 POLE**			
83390	**83380**	**83370**	1	0.30	M Receptacle

DIMENSIONAL INFORMATION

9, 10 & 12 POLE STRAIGHT RECEPTACLE "C" SIZE



FACE VIEW OF FEMALE RECEPTACLE

9 POLE FEMALE FACE VIEW

1. Orange
2. Blue
3. Red/Blk. Tr.
4. Green/Blk.Tr.
5. White
6. Red
7. Green
8. White/Blk. Tr.
9. Black

10 POLE FEMALE FACE VIEW

1. Orange
2. Blue
3. White/Blk. Tr.
4. Red/Blk.Tr.
5. Green/Blk.Tr.
6. Orange/Blk. Tr.
7. Red
8. Green
9. Black
10. White

12 POLE FEMALE FACE VIEW

1. Orange
2. Blue
3. White/Blk. Tr.
4. Red/Blk.Tr.
5. Green/Blk.Tr.
6. Orange/Blk. Tr.
7. Blu/Blk. Tr.
8. Blk/Wht. Tr.
9. Green
10. Red
11. White
12. Black

Build Your Own Mini Cord Sets

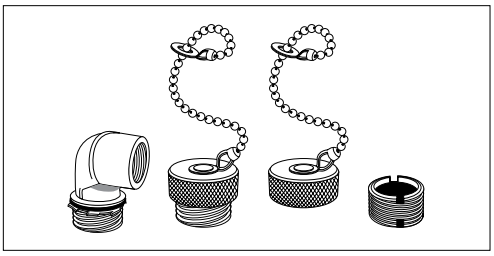
The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"C"** for cord set or a **"R"** for receptacle in the box at the top of the column. From the next column, identify the style. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

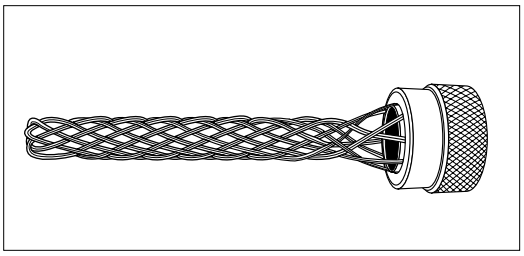
1	2	3	4	5	6	7	8	9
TYPE	**STYLE**	**ENDS**	**POLES**	**HEAD CONFIG.**	**CABLE**	**UOM**	**LENGTH**	**COUPLING**
C	L	2	4	E	05	F	017	**PART NO.**
C = Cord Set	**L =** Mini (2-6 Pole) "A" Size	**1 =** Single End (or Receptacle)	Number of Poles: **2 – 12**	**A =** Male Straight **B =** Male 90° **C =** Female Straight **D =** Female 90°	**Mini Super-Trex®** **01 =** 16/2 #87191 **02 =** 16/3 #87193 **04 =** 16/3 (auto color code) #87193AU **05 =** 16/4 #87198 **07 =** 16/5 #87202 **08 =** 16/5 (auto color code) #87202AU **09 =** 16/6 #87206 **11 =** 16/7 #87207 **12 =** 16/8 #87208 **13 =** 16/9 #88509 **14 =** 16/10 #88510 **15 =** 16/12 #88512	Unit of Measure: **M =** Meters	Enter a three digit code in the box above. **EXAMPLE:** **5 =** "005"	**Blank =** Regular
R = Receptacle	**M =** Mini (6, 7, 8 Pole) "B" Size	**2 =** Double End		**E =** Male Straight to Female Straight **F =** Male Straight to Female 90° **G =** Male 90° to Female Straight **H =** Male 90° to Female 90°		**F =** Feet	**50 =** "050"	**S =** Stainless Steel
	N = Mini (9, 10, 12 Pole) "C" Size			**J =** Male Straight to Male Straight* **K =** Male Straight to Male 90° **L =** Male 90° to Male 90° **Male to male configurations only available in Nanos*		**A =** Inches	**500 =** "500"	**P =** Plastic
				M = Female Straight to Female Straight **N =** Female Straight to Female 90° **P =** Female 90° to Female 90°	**Other Cable Options: Super-Trex® SOO Mini** **50 =** 18/3 #87192 **51 =** 18/4 #87197 **52 =** 18/5 (auto color code) **54 =** 16/4 Cenelec			

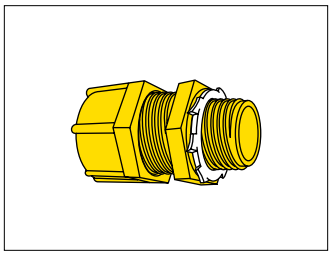
In the sample part number above, **CL24E05F017** is a mini cord set, double ended, 4 pole, male straight to female straight, using 16/4 Super-Trex® cable (#87198), and is 17 feet long.

16 AWG Quick-Connect™ Accessories

16 AWG Quick-Connect™ Accessories include 90° short elbow, closure caps, adapters, strain relief and grip seals. These products are made of the highest quality materials to withstand the harsh industrial environments they are frequently used in.







TECHNICAL INFORMATION

90° Short Elbow

- 100% aluminum.
- For 16 AWG, 2-12 Pole Quick-Connects™.
- Elbow is threaded to industry standard to ensure interchangeability.

Closure Cap

- Hard coated black anodized aluminum.
- Provides a dust proof environment for the Quick-Connect™ face.
- Two threaded configurations for either cord sets or receptacles.
- Convenient chain which attaches to the cord to prevent misplacing the dust cap.
- Chain length 6".

Adapter

- Hard coated black anodized aluminum which is corrosion resistant.
- For 16 AWG, 2-12 Pole Quick-Connects™.
- Adapter is threaded to industry standard to ensure interchangeability with the rest of the standard connectors now in use.
- Slotted for easy installation and removal.

Quick-Connect™ Kord-Gard™ Strain Relief

- Full length double-woven stainless steel mesh provides exceptional gripping strength, longer life and corrosion resistance.
- Tapered body holds coupler and mesh and provides excellent pull-out strength.
- For 16 AWG, 2-5 Pole Quick-Connects™.
- Designed to fit a range of Quick-Connects™, this reduces the need to carry large inventories.
- One-piece design, nothing to assemble, ensures convenience.

Grip-Seal™

- Nylon compression nut and threaded body, resists impact and corrosion.
- Multiple synthetic sealing bushing provides a high uniform seal on the cord surface, sealing out water, oil and other contaminants.
- Nylon friction ring provides uniform pressure, preventing bushing damage. The result is a tight seal.
- Locknut with fluoroelastomer O-ring seals out contaminants.

ORDERING INFORMATION *(Call for pricing & availability)*

90° ELBOW, CLOSURE CAPS & ADAPTER

PART NO.	DESCRIPTION
84101	1/2" 90° Short Elbow
84102	Closure Cap for Receptacles 2-6 pin (A-Size)
84103	Closure Cap for Plugs 2-6 pin (A-Size)
84104	Adapter 2-6 pin (A-Size)
84106	Closure Cap for Receptacles 6, 7, 8 pin (B-Size)
84107	Closure Cap for Plugs 6, 7, 8 pin (B-Size)
84108	Adapter 6, 7, 8 pin (B-Size)
84109	Closure Cap for Receptacles 9, 10, 12 pin (C Size)
84110	Closure Cap for Plugs 9, 10, 12 pin (C Size)
84111	Adapter 9, 10, 12 pin (C Size)
84120	Closure Cap for Receptacles 1-3/16"–16

QUICK-CONNECT™ KORD-GARD™ STRAIN RELIEF

PART NO.	DESCRIPTION
84115	16 AWG 2, 3, 4, 5 Pole Strain Relief

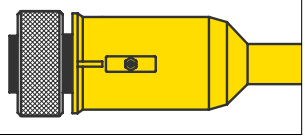
GRIP-SEAL™

PART NO.	CORD DIAMETER RANGE	FITTING SIZE	NO. OF BUSHING	CORD SET SIZE
55505	0.180" – 0.430"	3/8" NPT	4	2-3 Pole
55513	0.188" – 0.500"	1/2" NPT	5	2-4 Pole
55515	0.310" – 0.560"	1/2" NPT	5	2-6 Pole
55516	0.188" – 0.625"	1/2" NPT	7	2-7 Pole
55530	0.560" – 0.750"	3/4" NPT	2	6-12 Pole

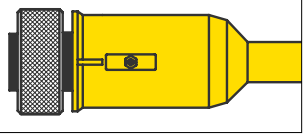
14 AWG Quick-Connect™ Cord Sets (3 & 4 Pole)

• IP68 Rated • IP69K Rated • RoHS Compliant • 600 V • Ampacity: 3 Pole – 18 Amps; 4 Pole – 15 Amps

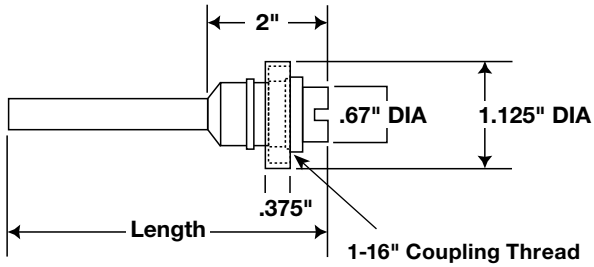
Female Cord Set



Male Cord Set



Female Plug Assembly



FACE VIEW OF FEMALE PLUG ASSEMBLY

3 POLE	4 POLE
	
1. Green 2. Black 3. White	1. Black 2. White 3. Red 4. Green

FEATURES & BENEFITS

1. CORD SETS MADE WITH ULTRA-GARD™ PORTABLE CORD — Provides the best defense against tearing, abrasion, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. SILVER PLATED BRASS SLEEVES — Provides superior long life electrical contract. Corrosion resistant. Ensures snugness through repeated disconnects.

3. ONE PIECE MOLDED PLUG BODY — Reduces cable stress by allowing the entire assembly to flex.

4. SPECIAL CORK SEAL — Positive seal keeps out dust, moisture and oils.

5. DOUBLE KEY — Unique double key on the 4 pole configuration reduces the chance of improper installation.

6. CABLE — Super-Trex® Ultra-Gard™ oil, heat and impact resistant portable cord.

7. FEMALE PLUG BODY IS SUPER-TREX® TSE™ COMPOUND — Factory molded to the cord.

8. DOUBLE KEYED — 4 pole assembly protects against accidental mis-wiring.

9. SLEEVES — Machine crimped silver plated brass.

ORDERING INFORMATION *(Call for pricing & availability)*

QUICK-CONNECT™ 14 AWG FEMALE PLUGS

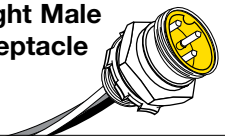
PART NO.	DESCRIPTION	AMPS
83303	3' 3 Pole Female Plug	18
83306	6' 3 Pole Female Plug	18
83312	12' 3 Pole Female Plug	18
83320	20' 3 Pole Female Plug	18
83403	3' 4 Pole Female Plug	15
83406	6' 4 Pole Female Plug	15
83412	12' 4 Pole Female Plug	15
83420	20' 4 Pole Female Plug	15

14 AWG M / F EXTENSION SET

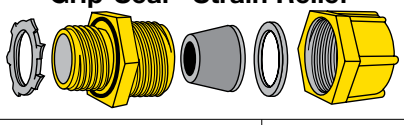
PART NO.	DESCRIPTION	AMPS
83336	6' 3 Pole M/F Ext Set	18
83321	12' 3 Pole M/F Ext Set	18
83322	20' 3 Pole M/F Ext Set	18
83426	6' 4 Pole M/F Ext Set	15
83421	12' 4 Pole M/F Ext Set	15
83422	20' 4 Pole M/F Ext Set	15

QUICK-CONNECT 14 AWG KIT CONTENTS

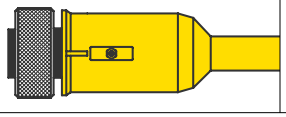
Straight Male Receptacle



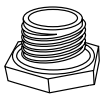
Grip-Seal™ Strain Relief



Female Plug



Female Reducer 3/4" to 1/2"



Part No. 11008

3/4" Locknut

Part No. 11002

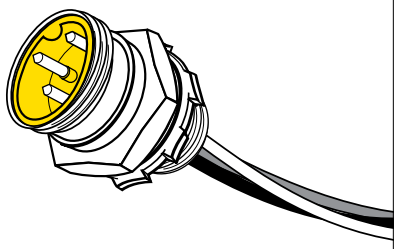
PART NO.	DESCRIPTION	AMPS
83005	3' 3 Pole 14 AWG Kit	18
83003	6' 3 Pole 14 AWG Kit	18
83001	12' 3 Pole 14 AWG Kit	18
83006	3' 4 Pole 14 AWG Kit	15
83004	6' 4 Pole 14 AWG Kit	15
83002	12' 4 Pole 14 AWG Kit	15

14 AWG Quick-Connect™ Receptacles (3 & 4 Pole)

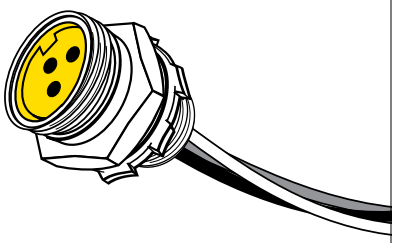
• IP68 Rated • IP69K Rated • RoHS Compliant • 600 V

14 AWG Quick-Connect™ 3 and 4 pole receptacles are available in female with 4 foot pigtails and male with 1 foot pigtails. O-ring and locknut included; closure caps with chain are sold separately.

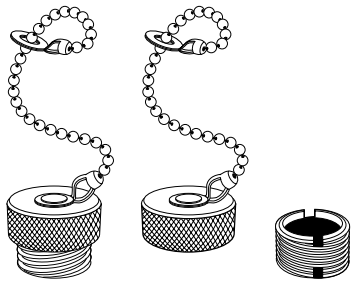
Male Receptacle



Female Receptacle



Closure Caps & Adapters



FEATURES & BENEFITS

1. MULTIPLE CONFIGURATIONS — Available in male three or four pole straight.

2. SPECIALLY COMPOUNDED THERMOSET INSERT KEYED AND HERMETICALLY SEALED IN BODY — Soft, non-plastic face ensures cork seal. Provides an oil, water and dust tight seal.

3. ANODIZED ALUMINUM BODY WITH SEALING LOCKNUT — Durable, compact fittings. Resists corrosion. Easy to install.

4. HEAVY GAUGE SILVER PLATED BRASS PINS AND SLEEVES — Ensures superior electrical contact. Maintains contact through repeated disconnects.

5. 14 AWG STRANDED, TINNED COPPER PIGTAILS INSULATED WITH 125°C CROSS-LINKED POLYETHYLENE — Provides excellent oil and heat resistance.

6. EXTENDED GROUND PIN — Ensures "first in — last out" contact.

ORDERING INFORMATION *(Call for pricing & availability)*

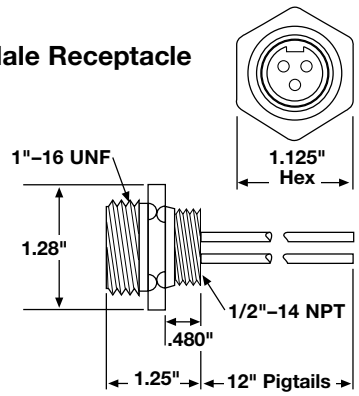
MALE RECEPTACLES (12" PIGTAILS)			
PART NO.		**DESCRIPTION**	**AMPS**
ALUMINUM	**NYLON**		
83300	**83300N2**	Straight 3 Pole w/Locking Nut	18
83400	**83400N2**	Straight 4 Pole w/Locking Nut	15

FEMALE RECEPTACLES (48" PIGTAILS)			
PART NO.		**DESCRIPTION**	**AMPS**
ALUMINUM	**NYLON**		
83301	-	Straight 3 Pole w/Locking Nut	18
83401	-	Straight 4 Pole w/Locking Nut	15

CLOSURE CAPS & ADAPTERS	
PART NO.	**DESCRIPTION**
84201A	Aluminum Closure Cap for Receptacle 14 AWG
84202A	Aluminum Closure Cap for Plugs 14 AWG
84038A	Aluminum Adapter 14 AWG
84203N	Black Delrin Closure Cap for Receptacle 14 AWG
84204N	Black Delrin Closure Cap for Plugs 14 AWG
84038N	Delrin Adapter

DIMENSIONAL INFORMATION

Male Receptacle



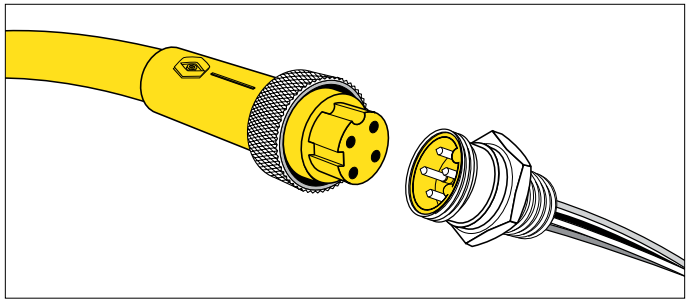
Face View of Female Receptacle

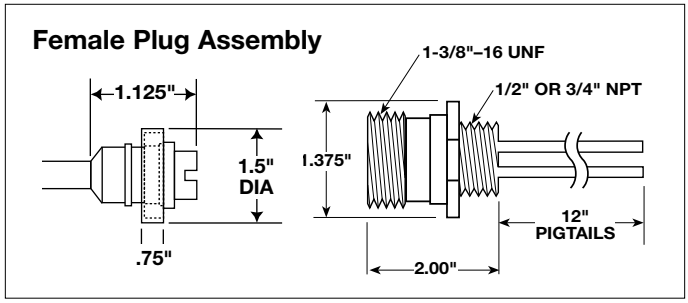
 **3 POLE**	 **4 POLE**
1. Green **2. Black** **3. White**	**1. Black** **2. White** **3. Red** **4. Green**

10 & 12 AWG Quick-Connect™ Cord Sets & Receptacles (3 & 4 Pole)

• IP68 Rated • IP69K Rated • RoHS Compliant • 600 V • 20-25 Amp Rated • Heavy-Duty

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.





FEATURES & BENEFITS

1. CORD SETS MADE WITH SUPER-TREX® ULTRA-GARD™ PORTABLE CORD, RATED 90°C — Provides the best defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. PLUG BODY IS DESIGNED WITH SUPER-TREX® TSE COMPOUND — Provides superior resistance to oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

3. HEAVY GAUGE BRASS SLEEVES AND CONTACT PINS — Provides superior long life electrical contact. Ensures electrical continuity through repeated disconnects.

4. STRANDED, TINNED COPPER PIGTAILS INSULATED WITH 125°C CROSS LINKED POLYETHYLENE — Provides excellent oil and heat resistance. Available in various lengths.

5. MULTIPLE CONFIGURATIONS — Available in numerous lengths and configurations. Also available with an anodized aluminum or nylon coupler ring and receptacle body.

6. CABLE — Super-Trex® Ultra-Gard™ oil, heat and impact resistant 10 or 12 AWG portable cord.

7. MALE & FEMALE PLUGS — Super-Trex® TSE compound, factory molded to the cord.

8. SPECIALLY KEYED ASSEMBLY — Protects against accidental mis-wiring.

9. CONTACT PINS & SLEEVES — Are heavy-duty brass, machine crimped to provide positive electrical contact.

10. PIGTAILS ARE 10 OR 12 AWG STRANDED, TINNED COPPER INSULATED WITH 125°C CROSS-LINKED POLYETHYLENE — Provides excellent oil and heat resistance.

11. AN EXTENDED GROUND PIN — Ensures "first in — last out" contact providing an electrically safe connection.

12. THE RECEPTACLE BODY — A specially compounded thermoset elastomer, hermetically sealed in the shell with clear epoxy.

13. THE RECEPTACLE INSERT IS KEYED — To ensure correct mating with the plug every time.

ORDERING INFORMATION *(Call for pricing & availability)*

10 AWG (1-3/8" – 16 COUPLING THREAD)			
PART NO.			
ALUMINUM	**NYLON**	**DESCRIPTION**	**AMPS**
84213A	**84213N**	3' 4 Pole Female Plug	25
84216A	**84216N**	6' 4 Pole Female Plug	25
84217A	**84217N**	12' 4 Pole Female Plug	25
84283A	**84283N**	3' 4 Pole Male Plug	25
84286A	**84286N**	6' 4 Pole Male Plug	25
84287A	**84287N**	12' 4 Pole Male Plug	25
84253A	**84253N**	3' 4 Pole Male/Female Extension Set	25
84256A	**84256N**	6' 4 Pole Male/Female Extension Set	25
84257A	**84257N**	12' 4 Pole Male/Female Extension Set	25

FACE VIEW OF FEMALE PLUG ASSEMBLY

 **3 POLE**	 **4 POLE**
1. Black **2. White** **3. Green**	**1. Black** **2. Green** **3. Red** **4. White**

10 & 12 AWG Quick-Connect™ Cord Sets & Receptacles (3 & 4 Pole) *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

12 AWG (1-3/8" - 16 COUPLING THREAD)			
PART NO.			
ALUMINUM	**NYLON**	**DESCRIPTION**	**AMPS**
84233A	**84233N**	3' 3 Pole Female Plug	25
84236A	**84236N**	6' 3 Pole Female Plug	25
84237A	**84237N**	12' 3 Pole Female Plug	25
84243A	**84243N**	3' 4 Pole Female Plug	20
84246A	**84246N**	6' 4 Pole Female Plug	20
84247A	**84247N**	12' 4 Pole Female Plug	20
84273A	**84273N**	3' 3 Pole Male Plug	25
84276A	**84276N**	6' 3 Pole Male Plug	25
84277A	**84277N**	12' 3 Pole Male Plug	25
84293A	**84293N**	3' 4 Pole Male Plug	20
84296A	**84296N**	6' 4 Pole Male Plug	20
84297A	**84297N**	12' 4 Pole Male Plug	20
84274A	**84274N**	3' 3 Pole Male/Female Extension Set	25
84275A	**84275N**	6' 3 Pole Male/Female Extension Set	25
84278A	**84278N**	12' 3 Pole Male/Female Extension Set	25
84279A	**84279N**	20' 3 Pole Male/Female Extension Set	25
84294A	**84294N**	3' 4 Pole Male/Female Extension Set	20
84295A	**84295N**	6' 4 Pole Male/Female Extension Set	20
84298A	**84298N**	12' 4 Pole Male/Female Extension Set	20
84299A	**84299N**	20' 4 Pole Male/Female Extension Set	20

10 AWG RECEPTACLES					
PART NO.					
ALUMINUM 1/2"	**ALUMINUM 3/4"**	**NYLON 1/2"**	**NYLON 3/4"**	**DESCRIPTION**	**AMPS**
84210A2	**84210A4**	**84210N2**	**84210N4**	Straight 4 Pole, Male Receptacle (12" Pigtails)	25
84250A2	**84250A4**	**84250N2**	**84250N4**	Straight 4 Pole, Female Receptacle (48" Pigtails)	25

12 AWG RECEPTACLES					
PART NO.					
ALUMINUM 1/2"	**ALUMINUM 3/4"**	**NYLON 1/2"**	**NYLON 3/4"**	**DESCRIPTION**	**AMPS**
84230A2	**84230A4**	**84230N2**	**84230N4**	Straight 3 Pole, Male Receptacle (12" Pigtails)	25
84231A2	**84231A4**	**84231N2**	**84231N4**	Straight 3 Pole, Female Receptacle (48" Pigtails)	25
84240A2	**84240A4**	**84240N2**	**84240N4**	Straight 4 Pole, Male Receptacle (12" Pigtails)	20
84241A2	**84241A4**	**84241N2**	**84241N4**	Straight 4 Pole, Female Receptacle (48" Pigtails)	20

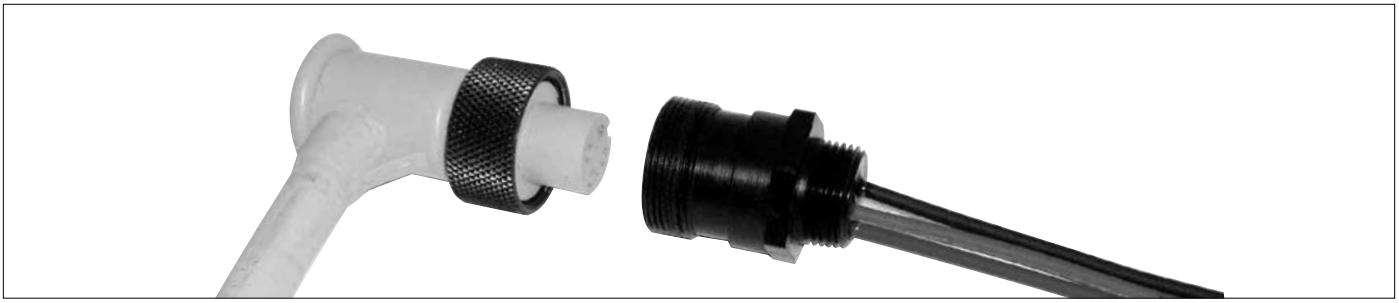
CLOSURE CAPS & ADAPTERS	
PART NO.	**DESCRIPTION**
98160	Aluminum Closure Cap for Receptacle 10 & 12 AWG
98159	Aluminum Closure Cap for Plugs 10 & 12 AWG
98165	Aluminum Adapter 10 & 12 AWG

A C F

10, 12 & 14 AWG Molded 90 Degree Assemblies (3 & 4 Pole)

• IP69K Rated • RoHS Compliant • 600 V • 20-25 Amp Rated • Heavy-Duty

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded, keyed, 90°, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.



FEATURES & BENEFITS

1. 10, 12 & 14 AWG MOLDED 90° QUICK-CONNECT™ CORDSETS HOLD UP TO WASHDOWNS — IP69K rated, provides a fast and durable method for connecting and disconnecting electrical motors and electrical equipment.

2. CORDSETS MADE WITH SUPER-TREX® ULTRA-GARD™ PORTABLE CORD, RATED 90°C — Provides the best defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

3. HEAVY GAUGE BRASS SLEEVES AND CONTACT PINS — Provides superior long life electrical contact. Ensures electrical continuity through repeated disconnects.

4. RECEPTACLE HAS STRANDED, TINNED COPPER PIGTAILS INSULATED WITH 125°C CROSS LINKED POLYETHYLENE — Provides excellent oil and heat resistance.

5. PLUG BODY IS DESIGNED WITH SUPER-TREX® TSE COMPOUND — Provides superior resistance to oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

ORDERING INFORMATION *(Call for pricing & availability)*

90° FEMALE CORD SETS

AWG	PART NO.			DESCRIPTION
	3'	6'	12'	
10	**CX14D64F003N**	**CX14D64F006N**	**CX14D64F012N**	4 Pole
12	**CY13D65F003N**	**CY13D65F006N**	**CY13D65F012N**	3 Pole
12	**CY14D66F003N**	**CY14D66F006N**	**CY14D66F012N**	4 Pole
14	**CZ13D67F003N**	**CZ13D67F006N**	**CZ13D67F012N**	3 Pole
14	**CZ14D68F003N**	**CZ14D68F006N**	**CZ14D68F012N**	4 Pole

DELRAN RECEPTACLES — STRAIGHT MALE

AWG	PART NO.		DESCRIPTION	AMPS
	3'	6'		
10	**84210N2**	**84210N4**	Straight 4 Pole, Male Receptacle	25
12	**84230N2**	**84230N4**	Straight 3 Pole, Male Receptacle	25
12	**84240N2**	**84240N4**	Straight 4 Pole, Male Receptacle	20
14	**83300N2**	**—**	Straight 3 Pole, Male Receptacle	18
14	**83400N2**	**—**	Straight 4 Pole, Male Receptacle	15

Build Your Own 90° Molded Quick-Connect™ Cord Sets

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"C"** for cord set in the box at the top of the column. From the next column, identify the style. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

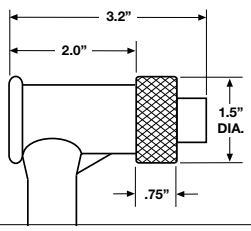
1	2	3	4	5	6	7	8	9
TYPE	**SIZE**	**ENDS**	**POLES**	**HEAD CONFIG.**	**CABLE**	**UOM**	**LENGTH**	**COUPLING**
C	Y	1	4	D	66	F	006	N
C = Cord Set	**X =** 10 AWG **Y =** 12 AWG **Z =** 14 AWG	**1 =** Single End	Number of Poles: **3** or **4**	**D =** Female 90°	**Super-Trex®** **64 =** 10/4 #87201 **65 =** 12/3 #87195 **66 =** 12/4 #87200 **67 =** 14/3 #87194 **68 =** 14/4 #87199	Unit of Measure: **M =** Meters **F =** Feet **A =** Inches	Enter a three digit code in the box above. **EXAMPLE:** **5 =** "005" **50 =** "050" **500 =** "500"	**N =** Nylon

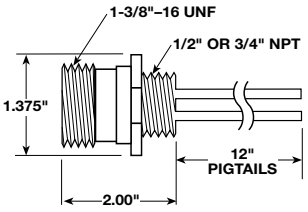
PART NO.

In the sample part number above, **CY14D66F006N** is a 90° molded Quick-Connect™, single ended, 4 pole, female, using 12/4 Super-Trex® cable (#87200), 6 ft. long, with a nylon coupler.

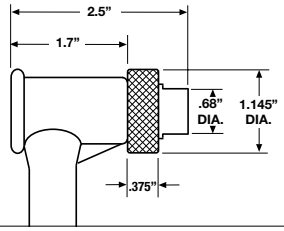
DIMENSIONAL INFORMATION

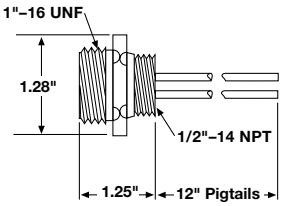
10 AWG & 12 AWG





14 AWG





FACE VIEW OF MALE RECEPTACLE

10 AWG & 12 AWG

3 POLE	4 POLE
1. Black 2. White 3. Green	1. Black 2. Green 3. Red 4. White

14 AWG

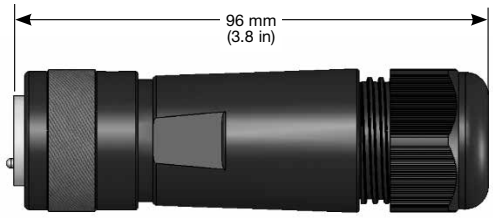
3 POLE	4 POLE
1. Green 2. Black 3. White	1. Black 2. White 3. Red 4. Green

Field Installable Mini Quick-Connects™

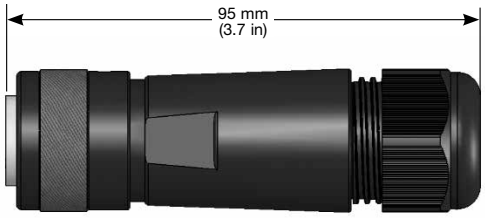
• IP67 Rated • RoHS Compliant • SAE Standard – H1728-2 • 250 V • Operating Temperature Range -40°C to 85°C

Field Installable Mini Quick-Connects™ are impact and crush resistant. The IP67 rated shell and rubber bushing are sealed to provde protection against dust and water spray. Anodized aluminum knurled coupling ring resists corrosion and gives quick, secure assembly. The gold plated brass pins and sockets resist corrosion and provde a long life. These connectors meet SAE Standard H1738-2.

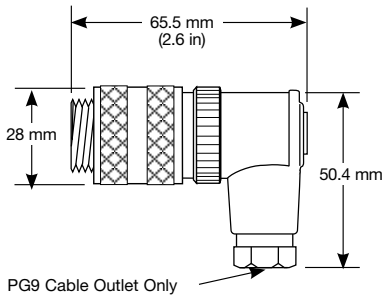
STRAIGHT MALE



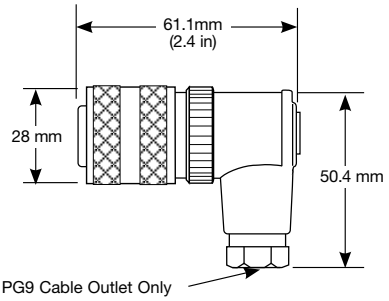
STRAIGHT FEMALE



90° MALE



90° FEMALE



FEATURES & BENEFITS

1. NYLON INSERT & SLEEVE — Impact and crush resistant.

2. IP67 SHELL PROTECTION — Product is sealed to provide protection against dust and water spray.

3. SCREW LOCKING SYSTEM — Secure connection using only a screw driver.

4. ANODIZED ALUMINUM KNURLED COUPLING RING — Resists corrosion and gives quick, secure assembly.

5. RUBBER SEALING BUSHING & PINCH RING — IP67 Rated, providing internal protection from dust and fluid spray.

6. PRESSING SCREW — Nylon pressing screw threads into body sleeve and compresses pinch ring and seal to provide IP67 rating, and grips cable to protect conductors from pulling out of connector.

7. GOLD PLATED BRASS PINS & SOCKETS — Provide long life, resist corrosion, easy positive engagement, extra long ground pin ensures first-in, last-out contact for safety.

8. GENERAL CHARACTERISTICS — 250 V Rated, product will withstand temperature ranges of -40°C to 85°C.

APPLICATIONS *(Verify cable O.D. before making your selection)*

TPC Field Installable Mini Quick-Connects™ are designed to be used with the following cables:

- **Super-Trex® AC & DC SJOO Micro Cord Sets — 18/3, 18/4 & 18/5**
- **Super-Trex® Ultra-Gard™ Portable Cords — 18/3, 18/4, 16/3, 16/4 & 16/5**
- **Trex-Onics® AC & DC Micro Cord Sets — 18/3, 18/4 & 18/5**
- **Trex-Onics® Cords — 18/3, 18/4, 16/3 & 16/4**
- **Trex-Onics® DeviceNet™ Thin Cable & Thin Cable Assemblies**

Field Installable Mini Quick-Connects™ *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT MALE			
PART NO.	**DESCRIPTION**	**CABLE OUTLET**	**FITS CABLE SIZE**
33802	3 Pole Male Straight	–	0.315" – 0.669"
33702	4 Pole Male Straight	–	0.315" – 0.669"
33602	5 Pole Male Straight	–	0.315" – 0.669"

STRAIGHT FEMALE			
PART NO.	**DESCRIPTION**	**CABLE OUTLET**	**FITS CABLE SIZE**
33301	3 Pole Female Straight	–	0.315" – 0.669"
33401	4 Pole Female Straight	–	0.315" – 0.669"
33501	5 Pole Female Straight	–	0.315" – 0.669"

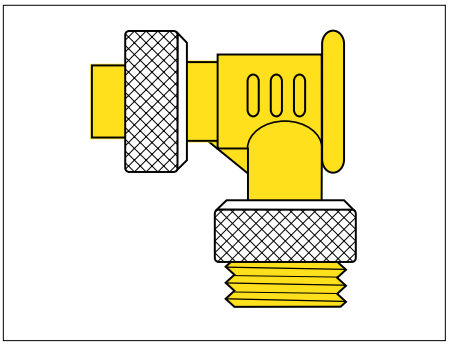
90° MALE			
PART NO.	**DESCRIPTION**	**CABLE OUTLET**	**FITS CABLE SIZE**
33890	3 Pole Male 90°	PG9	0.236" – 0.315"
33790	4 Pole Male 90°	PG9	0.236" – 0.315"
33690	5 Pole Male 90°	PG9	0.236" – 0.315"

90° FEMALE			
PART NO.	**DESCRIPTION**	**CABLE OUTLET**	**FITS CABLE SIZE**
33390	3 Pole Female 90°	PG9	0.236" – 0.315"
33490	4 Pole Female 90°	PG9	0.236" – 0.315"
33590	5 Pole Female 90°	PG9	0.236" – 0.315"

Quick-Connect™ Wiring System Accessories

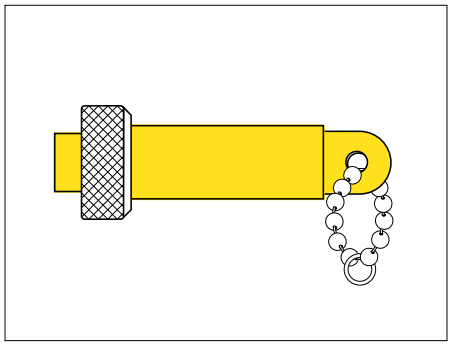
• RoHS Compliant

Quick Connect™ Wiring Sytem Accessories include 16 AWG 90° adaptor, male shorting plug and three way receptables (3/3/4 and 4/4/5). All made of heavy-duty construction to withstand the harshest of environments. Shorting plugs are also available as a custom engineered to order accessory.



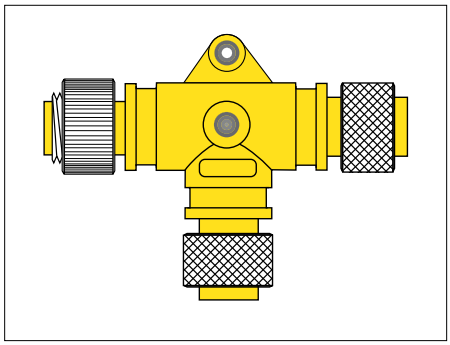
16 AWG 90° Adapter

Allows easy conversion from straight receptacle to a 90° connection. Oil resistant. All-molded construction. Available in 2, 3, 4 and 5 pole configurations.



Male Shorting Plug

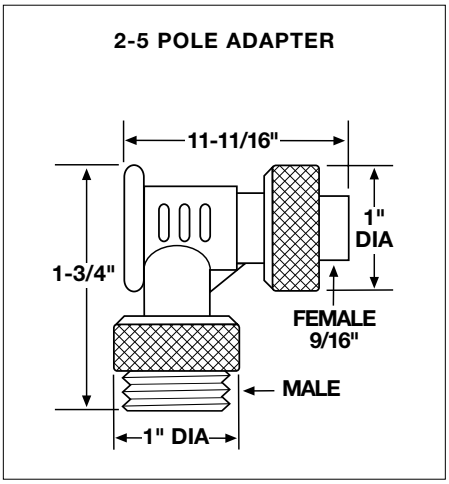
Internally wired shorting plug allows for die identification on stamping presses or circuit interlock. Oil and shock resistant. Male, all-molded, pre-wired construction. Available in 16, 14 and 12 AWG with various pin configurations. Chain included.

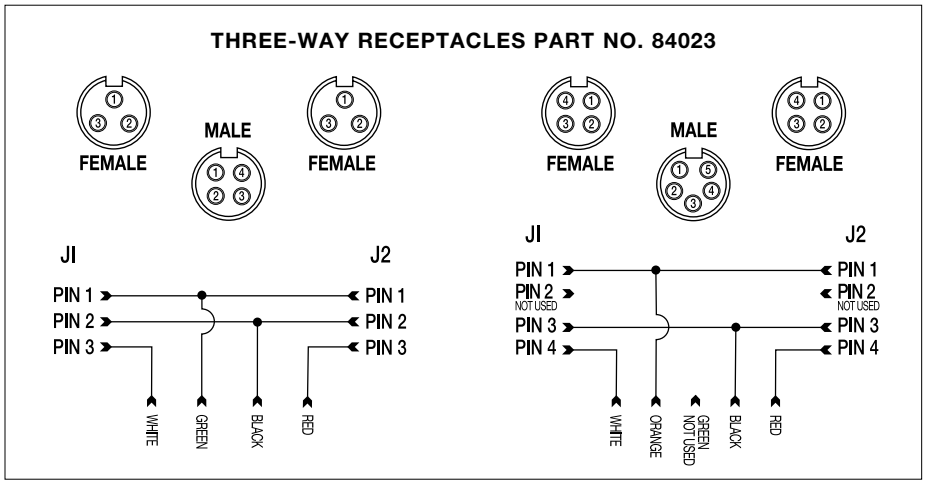


3/3/4 & 4/4/5 Three-way Receptacles

Allows for easy wiring consolidation. Oil and shock resistant. All molded construction. Connects with standard 16 AWG cord sets. Additional configurations available.

DIMENSIONAL & WIRING INFORMATION





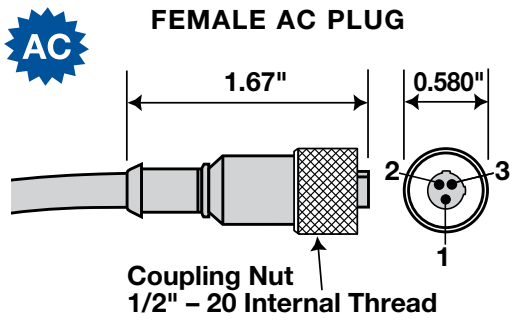
ORDERING INFORMATION *(Call for pricing & availability)*

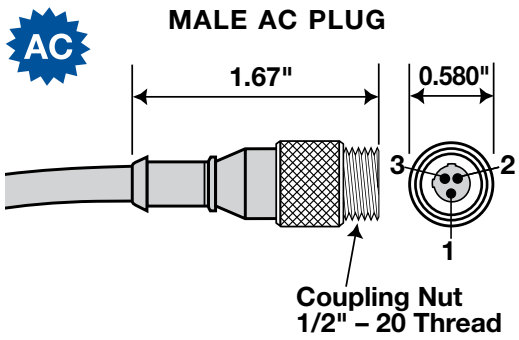
PART NO.	DESCRIPTION	AMPACITY[1]	AVAILABILITY
84011	2 Pole 90° Adapter	13	In stock
84013	3 Pole 90° Adapter	13	In stock
84014	4 Pole 90° Adapter	8	In stock
84015	5 Pole 90° Adapter	8	In stock
84023	3/3/4 Three-way Receptacle	10	In stock
84024	4/4/5 Three-way Receptacle	8	In stock
–	Shorting Plug	Engineered to order, call for availability	

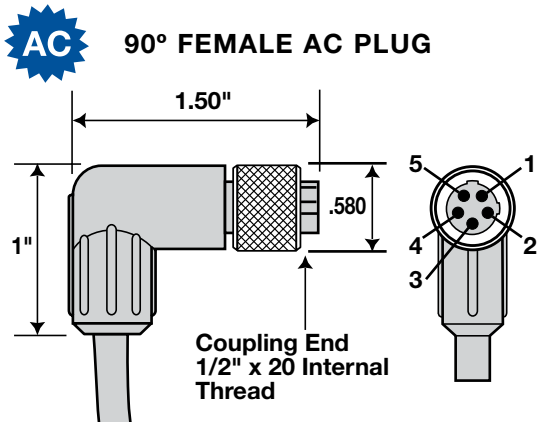
AC 18 AWG Trex-Onics® Micro Dual Key Quick-Connects™

• UL Recognized • cUL • IP68 Rated • RoHS Compliant • 300 V • 4 Amps • Dual Key Design

AC 18 AWG cord sets made with Trex-Onics® Control Cable are designed for high cycle, constant motion applications, and provides excellent defense against impact, cutting, abrasion, oil and chemicals. Solid brass contact pins are nickel coated and gold plated to resist corrosion and ensures electrical integrity in both AC and DC low voltage applications.







FACE VIEW OF FEMALE PLUGS

3 POLE	4 POLE	5 POLE
1. Green 2. Red/Black 3. Red/White	1. Red/Black 2. Red/White 3. Red 4. Green	1. Red/White 2. Red 3. Green 4. Red/Yellow 5. Red/Black

FEATURES & BENEFITS

1. CORDSETS MADE WITH TREX-ONICS® CONTROL CABLE — Designed for high cycle, constant motion applications. Provides excellent defense against impact, cutting, abrasion, oil and chemicals.

2. SPECIALLY COMPOUNDED POLYURETHANE INSERT — Compatible with all industry standards for both AC and DC applications. Provides a superior seal against fluid and dust penetration.

3. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED — Resists corrosion. Ensures electrical integrity in both AC and DC low voltage applications.

4. EXTENDED NUT DESIGN — Protects the insert, pins and sleeves from impact and abuse. Easy to grip.

5. UNIQUE STAINLESS STEEL SLEEVED FEMALE PIN DESIGN — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion applications. Probe proof.

6. ALL POLYURETHANE DESIGN, HEAD AND CORD — Ensures a 100% bond between head and cord. Eliminates glues and bonding materials that break down and leak over time, resulting in loss of signal and continuity.

APPLICATIONS

- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

AC 18 AWG Trex-Onics® Micro Dual Key Quick-Connects™ *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT FEMALE AC PLUG					
PART NO.			FEET	METERS	DESCRIPTION
3 POLE	4 POLE	5 POLE			
65303	**65403**	**65503**	3	0.91	Female Plug
65306	**65406**	**65506**	6	1.83	Female Plug
65312	**65412**	**65512**	12	3.66	Female Plug
65320	**65420**	**65520**	20	6.10	Female Plug

90° FEMALE AC PLUG					
PART NO.			FEET	METERS	DESCRIPTION
3 POLE	4 POLE	5 POLE			
69393	**69493**	**69593**	3	0.91	90° Female Plug
69396	**69496**	**69596**	6	1.83	90° Female Plug
69392	**69492**	**69592**	12	3.66	90° Female Plug
69390	**69490**	**69590**	20	6.10	90° Female Plug

MALE/FEMALE AC EXTENSION CORD SET					
PART NO.			FEET	METERS	DESCRIPTION
3 POLE	4 POLE	5 POLE			
67323	**67423**	**67523**	3	0.91	M/F Ext. Set
67326	**67426**	**67526**	6	1.83	M/F Ext. Set
67327	**67427**	**67527**	9	2.70	M/F Ext. Set
67332	**67432**	**67532**	12	3.66	M/F Ext. Set
67333	**67433**	**67533**	15	4.60	M/F Ext. Set
—	**67434**	**—**	18	5.50	M/F Ext. Set
67340	**67440**	**67540**	20	6.10	M/F Ext. Set

3 POLE	FEET	METERS	DESCRIPTION
67923	3	0.91	Male 90°/Female Straight Ext. Set
67926	6	1.83	Male 90°/Female Straight Ext. Set
67932	9	2.70	Male 90°/Female Straight Ext. Set

3 POLE	FEET	METERS	DESCRIPTION
69923	3	0.91	Straight Male/90° Female Ext. Set
69926	6	1.83	Straight Male/90° Female Ext. Set
67927	9	2.70	Straight Male/90° Female Ext. Set
69933	15	4.60	Straight Male/90° Female Ext. Set
69940	20	6.10	Straight Male/90° Female Ext. Set

UNSHIELDED MICRO QUICK-CONNECT™ CABLE				
PART NO.	SIZE	STRANDING	NOMINAL O.D.	WT. (LBS.) PER 1000'
62013	18/3	41/34	0.220	35.1
62014	18/4	41/34	0.240	41.5
62015	18/5	41/34	0.255	50.3

AC 18 AWG Trex-Onics® Micro Dual Key Quick-Connects™ Receptacles

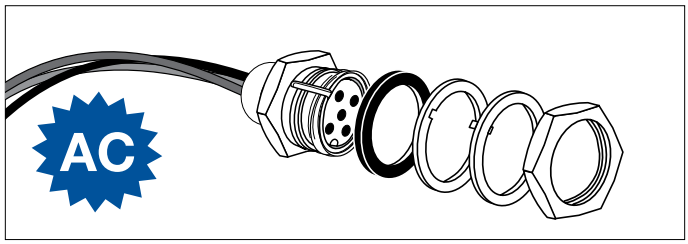
- RoHS Compliant

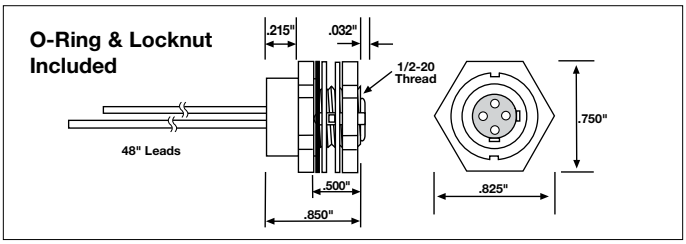
AC 18 AWG Female receptacles are available as back mount or panel mount. Male recptacles are available as panel mount or switch body mount. O-ring and locknut included; AC Micro closure caps with chain are sold separately.

APPLICATIONS

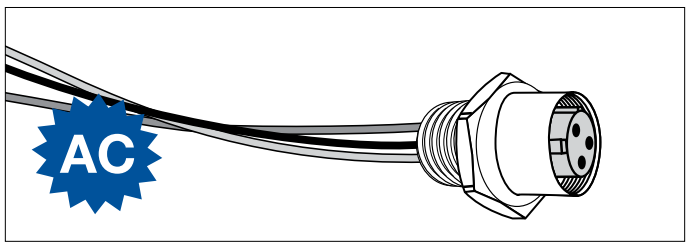
- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

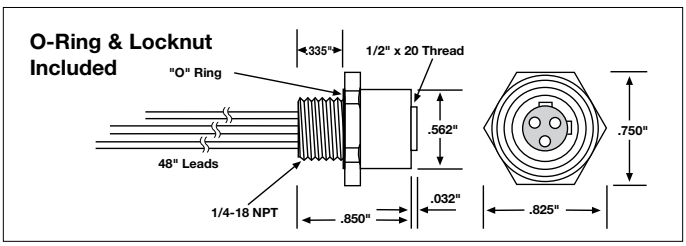
ORDERING INFORMATION *(Call for pricing & availability)*





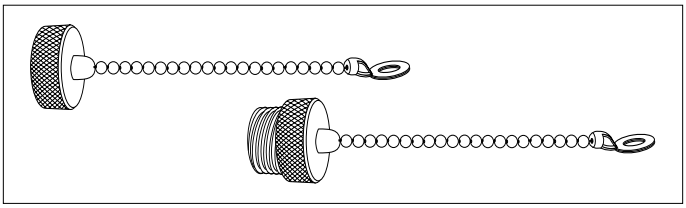
FEMALE RECEPTACLE — BACK MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
67308	**RG13Q28F004**	3P Female Back Mount	48"
67408	**RG14Q29F004**	4P Female Back Mount	48"
67508	**RG15Q30F004**	5P Female Back Mount	48"





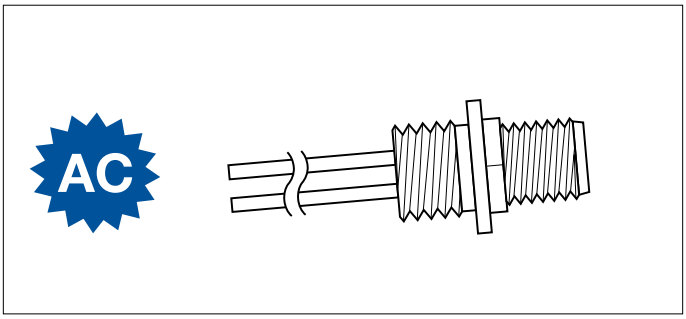
FEMALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
67302	**RG13T28F004**	3P Female Panel Mount	48"
67402	**RG14T29F004**	4P Female Panel Mount	48"
67502	**RG15T30F004**	5P Female Panel Mount	48"

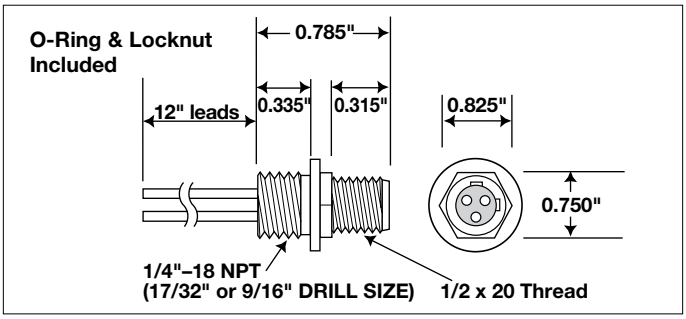
AC MICRO CLOSURE CAPS WITH CHAIN	
PART NO.	**DESCRIPTION**
64901	Closure Cap with 6" Chain for Male Plug & Receptacles with External Thread
64902	Closure Cap with 6" Chain for Female Plug & Receptacles with Internal Thread



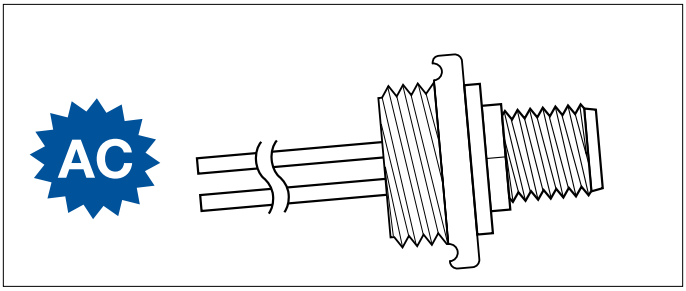
AC 18 AWG Trex-Onics® Micro Dual Key Quick-Connect™ Receptacles *(Continued)*

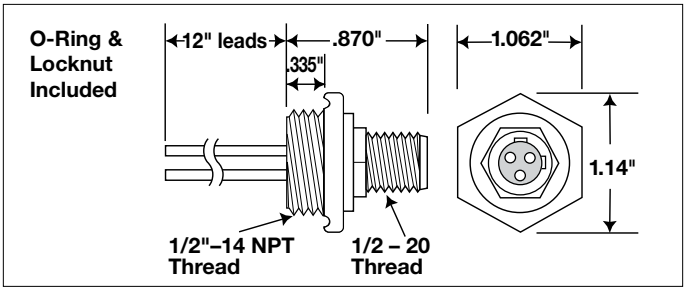
ORDERING INFORMATION *(Call for pricing & availability)*





MALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
65302	**RG13R28F001**	3P Male Panel Mount	12"
65402	**RG14R29F001**	4P Male Panel Mount	12"
65502	**RG15R30F001**	5P Male Panel Mount	12"
—	**RG13R28F004**	3P Male Panel Mount	48"
—	**RG14R29F004**	4P Male Panel Mount	48"
—	**RG15R30F004**	5P Male Panel Mount	48"





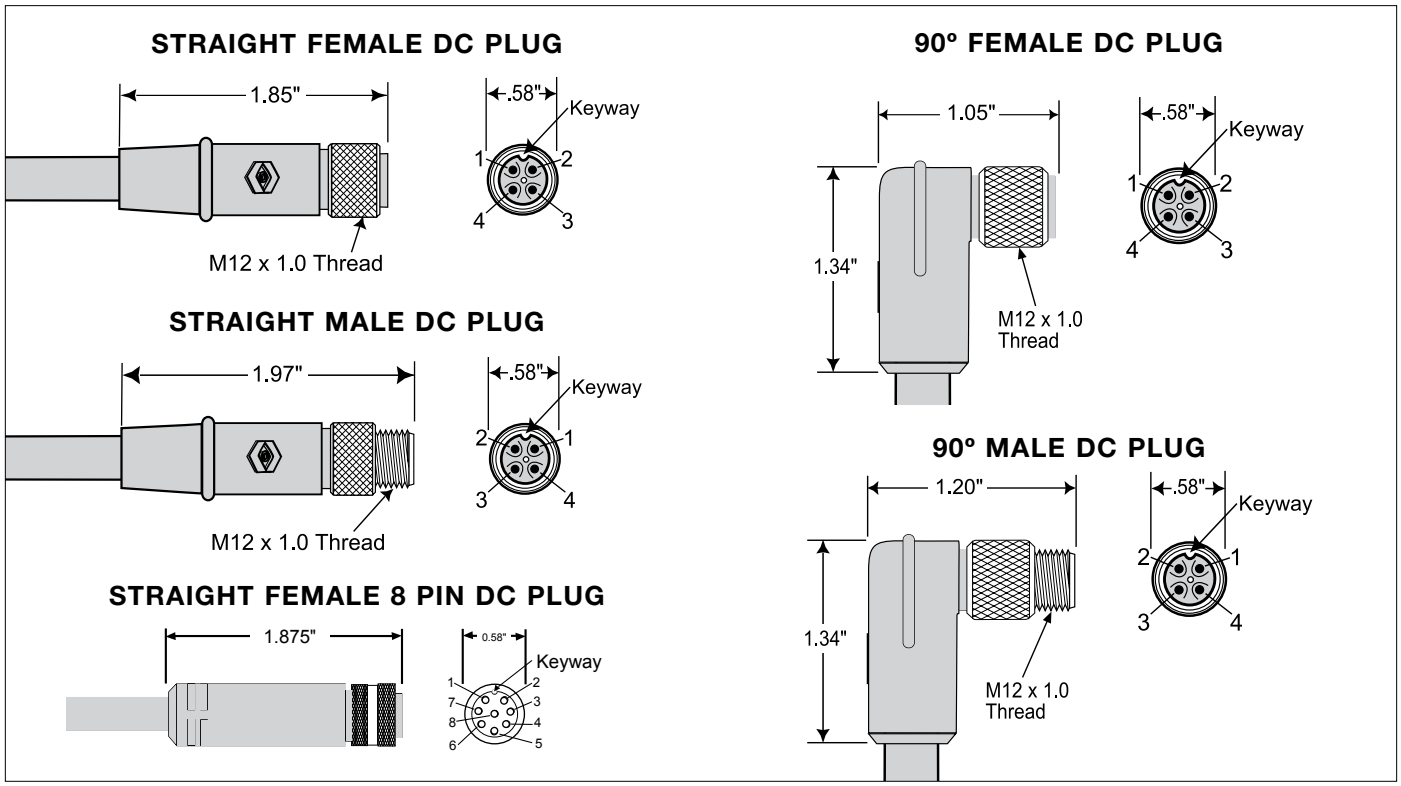
MALE RECEPTACLE — SWITCH BODY MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
65307	**RG13S28F001**	3P Male Switch Body	12"
65407	**RG14S29F001**	4P Male Switch Body	12”
65507	**RG15S30F001**	5P Male Switch Body	12"
—	**RG13S28F004**	3P Male Switch Body	48"
—	**RG14S29F004**	4P Male Switch Body	48"
—	**RG15S30F004**	5P Male Switch Body	48"

 **3 POLE**	 **4 POLE**	 **5 POLE**
1. Green **2. Red/Black** **3. Red/White**	**1. Red/Black** **2. Red/White** **3. Red** **4. Green**	**1. Red/White** **2. Red** **3. Green** **4. Red/Yellow** **5. Red/Black**

DC 18 AWG Trex-Onics® Micro M12 Single Key Quick-Connects™

• UL Listed • cUL • IP68 Rated • IP69K Rated • RoHS Compliant • 300 V • 4 Amps • Single Key Design

DC 18 AWG M12 Cord sets made with Trex-Onics® Control Cable are designed for high cycle, constant motion applications, and provides excellent defense against impact, cutting, abrasion, oil and chemicals. Solid brass contact pins are nickel coated and gold plated to resist corrosion and ensures electrical integrity in both AC and DC low voltage applications.



FEATURES & BENEFITS

1. CORDSETS MADE WITH TREX-ONICS® CONTROL CABLE — Designed for high cycle, constant motion applications. Provides excellent defense against impact, cutting, abrasion, oil and chemicals.

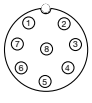
2. SPECIALLY COMPOUNDED POLYURETHANE INSERT — Compatible with all industry standards for both AC and DC applications. Provides a superior seal against fluid and dust penetration.

3. ALL POLYURETHANE DESIGN, HEAD AND CORD — Ensures a 100% bond between head and cord. Eliminates glues and bonding materials that break down and leak over time, resulting in loss of signal and continuity.

APPLICATIONS

- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

FACE VIEW OF FEMALE

2 POLE	3 POLE	4 POLE	5 POLE	8 POLE
				
1 Not Used **2** Not Used **3** Brown **4** Blue **5** Not Used	**1** Brown **2** Not Used **3** Blue **4** Black **5** Not Used	**1** Brown **2** White **3** Blue **4** Black **5** Not Used	**1** Brown **2** White **3** Blue **4** Black **5** Gray	**1** White **2** Brown **3** Green **4** Yellow **5** Gray **6** Pink **7** Blue **8** Red

DC 18 AWG Trex-Onics® Micro M12 Single Key Quick-Connects™ *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

DC — STRAIGHT FEMALE PLUG

PART NO.						FEET	METERS
2 POLE	3 POLE	4 POLE	5 POLE	8 POLE	8 POLE (SHIELDED)		
64203	64303	64403	64503	CF18C60M001	CF18C61M001	3.27	1
64206	64306	64406	64506	CF18C60M002	CF18C61M002	6.56	2
64212	64312	64412	64512	CF18C60M004	CF18C61M004	13.08	4
64220	64320	64420	64520	CF18C60M006	CF18C61M006	19.67	6

DC — 90° FEMALE PLUG

PART NO.						FEET	METERS
2 POLE	3 POLE	4 POLE	5 POLE	8 POLE	8 POLE (SHIELDED)		
69203	69303	69403	69503	CF18D60M001	CF18D61M001	3.27	1
69206	69306	69406	69506	CF18D60M002	CF18D61M002	6.56	2
69212	69312	69412	69512	CF18D60M004	CF18D61M004	13.08	4
69220	69320	69420	69520	CF18D60M006	CF18D61M006	19.67	6

DC — MALE/FEMALE EXTENSION SET

PART NO.						FEET	METERS
2 POLE	3 POLE	4 POLE	5 POLE	8 POLE	8 POLE (SHIELDED)		
CF22E16A020	CF23E17A020	63422	CF25E19A020	CF28E60A020	CF28E61A020	1.64	0.5
63223	63323	63423	63523	CF28E60M001	CF28E61M001	3.27	1
63226	63326	63426	63526	CF28E60M002	CF28E61M002	6.56	2
CF22E16M003	CF23E17M003	63427	CF25E19M003	CF28E60M003	CF28E61M003	9.84	3
63232	63332	63432	63532	CF28E60M004	CF28E61M004	13.08	4
CF22E16M005	CF23E17M005	63433	CF25E19M005	CF28E60M005	CF28E61M005	16.00	5
63240	63340	63440	63540	CF28E60M006	CF28E61M006	19.67	6

MALE 90° / FEMALE STRAIGHT EXTENSION SET

PART NO. 4 POLE	FEET	METERS
63923	3.27	1
63926	6.56	2
63932	13.08	4

STRAIGHT MALE / 90° FEMALE EXTENSION SET

PART NO. 4 POLE	FEET	METERS
69422	1.64	0.5
69423	3.27	1
69426	6.56	2
69427	9.84	3
69432	13.08	4
69440	19.67	6

DC — MICRO QUICK-CONNECT™ CABLE

DC PART NO.	SIZE	STRANDING	NOMINAL O.D.	WT. (LBS.) PER 1000'
62022	18/2 (Unshielded)	41/34	0.220	31.0
62023	18/3 (Unshielded)	41/34	0.220	35.1
62024	18/4 (Unshielded)	41/34	0.240	41.5
62025	18/5 (Unshielded)	41/34	0.255	50.3
60018	22/8 (Unshielded)	7/30	0.245	32.6
60019	22/8 (Shielded)	7/30	0.280	59.6

DC 18 AWG Trex-Onics® Micro M12 Single Key Quick-Connects™ Receptacles

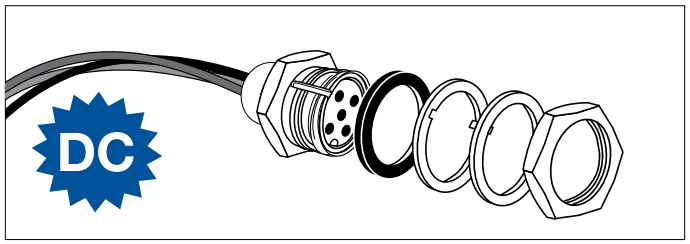
• RoHS Compliant • IP69K Rated

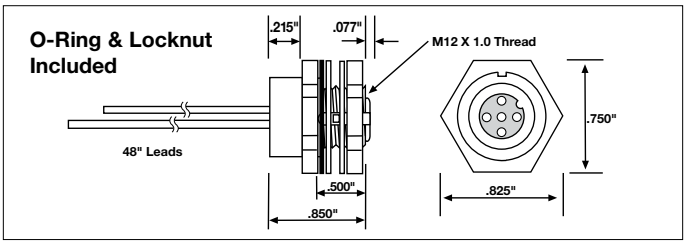
DC 18 AWG Female receptacles are available as back mount or panel mount. Male recptacles are available as panel mount or switch body mount. O-ring and locknut included; DC Micro closure caps with chain are sold separately.

APPLICATIONS

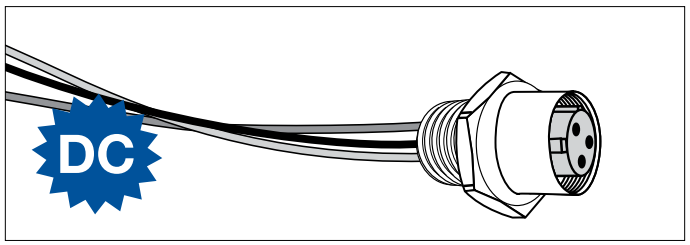
- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

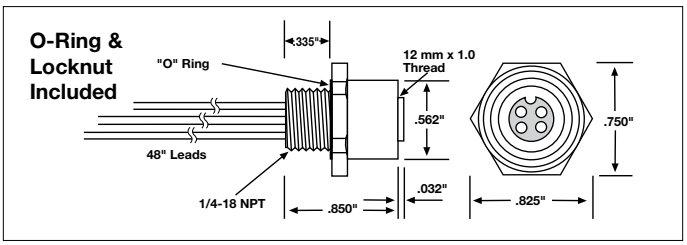
ORDERING INFORMATION *(Call for pricing & availability)*





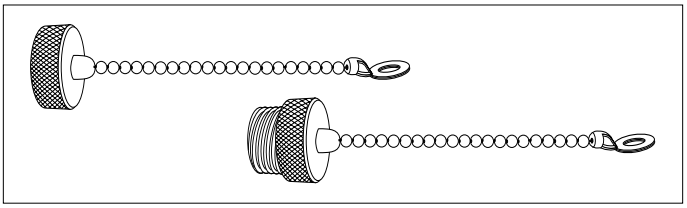
FEMALE RECEPTACLE — BACK MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
63308	**RF13Q24F004**	3P Female Back Mount	48"
63408	**RF14Q25F004**	4P Female Back Mount	48"
63508	**RF15Q26F004**	5P Female Back Mount	48"





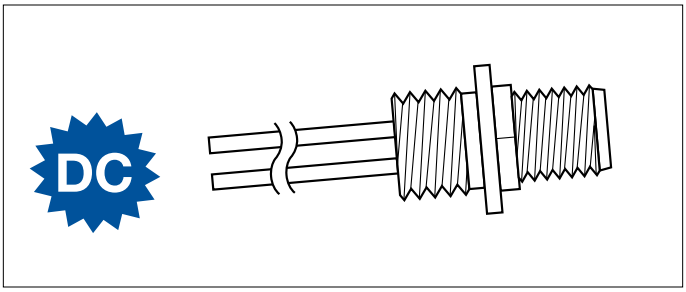
FEMALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
63202	**—**	2P Female Panel Mount	48"
63302	**RF13T24F004**	3P Female Panel Mount	48"
63402	**RF14T25F004**	4P Female Panel Mount	48"
63502	**RF15T26F004**	5P Female Panel Mount	48"
—	**RF18T60M001**	8P F Panel Mt. (Unshielded)	1 m
—	**RF18T61M001**	8P F Panel Mt. (Shielded)	1 m

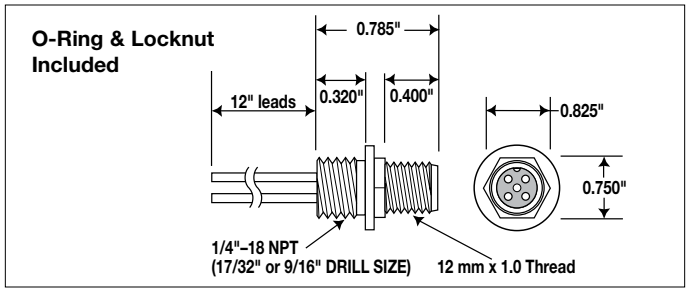
DC MICRO CLOSURE CAPS WITH CHAIN	
PART NO.	**DESCRIPTION**
64801	Closure Cap with 6" Chain for Male Plug & Receptacles with External Thread
64802	Closure Cap with 6" Chain for Female Plug & Receptacles with Internal Thread



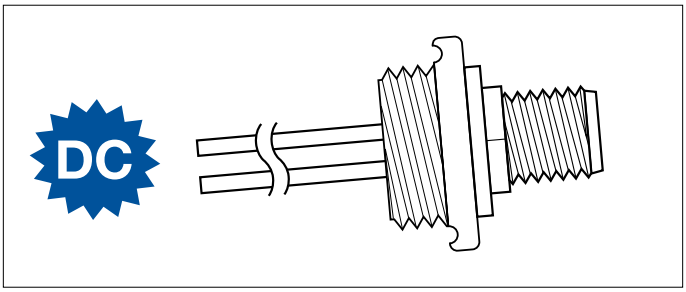
DC 18 AWG Trex-Onics® Micro M12 Single Key Quick-Connect™ Receptacles *(Continued)*

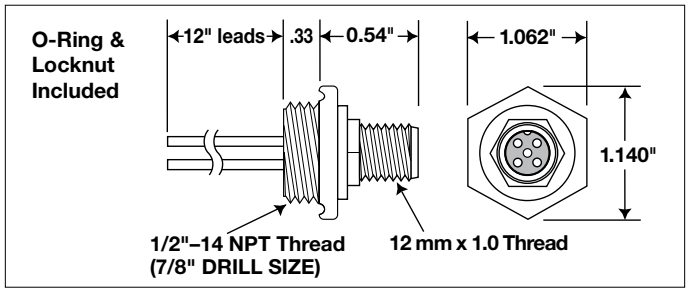
ORDERING INFORMATION *(Call for pricing & availability)*





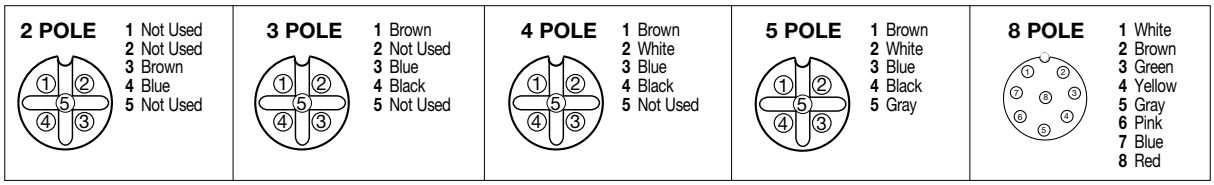
MALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
64202	**—**	2P Male Panel Mount	12"
64302	**RF13R24F001**	3P Male Panel Mount	12"
64402	**RF14R25F001**	4P Male Panel Mount	12"
64502	**RF15R26F001**	5P Male Panel Mount	12"
—	**RF13R24F004**	3P Male Panel Mount	48"
—	**RF14R25F004**	4P Male Panel Mount	48"
—	**RF15R26F004**	5P Male Panel Mount	48"
—	**RF18R60M001**	8P F Panel Mt. (Unshielded)	1 m
—	**RF18R61M004**	8P F Panel Mt. (Shielded)	1 m





MALE RECEPTACLE — SWITCH BODY MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
64207	**—**	2P Male Switch Body	12"
64307	**RF13S24F001**	3P Male Switch Body	12"
64407	**RF14S25F001**	4P Male Switch Body	12"
64507	**RF15S26F001**	5P Male Switch Body	12"
—	**RF13S24F004**	3P Male Switch Body	48"
—	**RF14S25F004**	4P Male Switch Body	48"
—	**RF15S26F004**	5P Male Switch Body	48"

FACE VIEW OF FEMALE PLUGS



Build Your Own Micro M12 Cord Sets

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"C"** for cord set or a **"R"** for receptacle in the box at the top of the column. From the next column, identify the style. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

1	2	3	4	5	6	7	8	9
TYPE	**STYLE**	**ENDS**	**POLES**	**HEAD CONFIG.**	**CABLE**	**UOM**	**LENGTH**	**COUPLING**
C	F	2	5	E	19	F	020	PART NO.
C = Cord Set **R =** Receptacle	**F =** DC Micro **G =** AC Micro	**1 =** Single End (or Receptacle) **2 =** Double End	Number of Poles: **2 – 8**	**A =** Male Straight **B =** Male 90° **C =** Female Straight **D =** Female 90° **E =** Male Straight to Female Straight **F =** Male Straight to Female 90° **G =** Male 90° to Female Straight **H =** Male 90° to Female 90° **J =** Male Straight to Male Straight* **K =** Male Straight to Male 90° **L =** Male 90° to Male 90° **Male to male configurations only available in Nanos* **M =** Female Straight to Female Straight **N =** Female Straight to Female 90° **P =** Female 90° to Female 90° **Micro Receptacles — Micros Only** **Q =** Female Back Mount **R =** Male Panel Mount **S =** Male Switch Mount **T =** Female Panel Mount	**Micro Trex-Onics®** **16 =** 18/2 (DC) #62022 **17 =** 18/3 (DC) #62023 **18 =** 18/4 (DC) #62024 **19 =** 18/5 (DC) #62025 **20 =** 18/3 (AC) #62013 **21 =** 18/4 (AC) #62014 **22 =** 18/5 (AC) #62015 **Other Trex-Onics® Cable Options** **60 =** 22/8 (DC) Unshielded #60018 **61 =** 22/8 (DC) Shielded #60019 **63 =** 18/3 (DC) Shielded #62003	Unit of Measure: **M =** Meters **F =** Feet **A =** Inches	Enter a three digit code in the box above. **EXAMPLE:** **5 =** "005" **50 =** "050" **500 =** "500"	**Blank =** Regular **S =** Stainless Steel **P =** Plastic

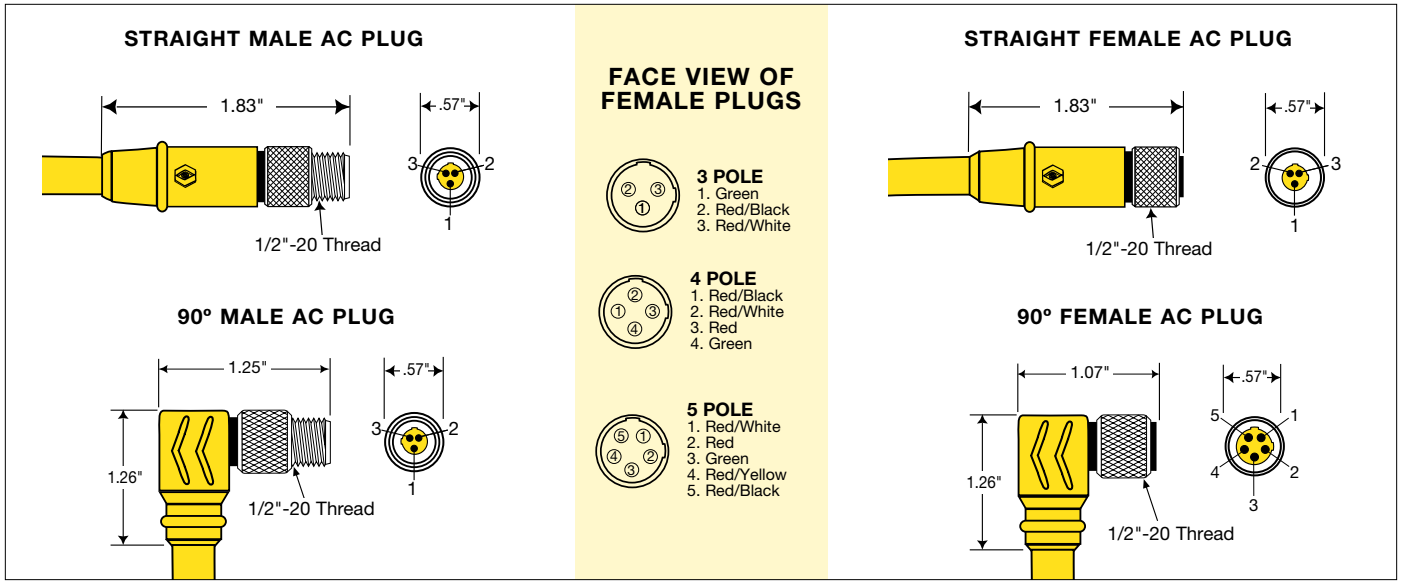
In the sample part number above, **CF25E19F020** is a DC micro, double ended cord set, 5 poles, male straight to female straight with 18/5 Trex-Onics cable (#62025), 20 feet long.

A C F

AC 18 AWG Super-Trex® SJOO Micro Quick-Connect™

• UL Recognized • cUL • Type SJOO • IP68 Rated • RoHS Compliant • Max Conductor Temperature 90°C • Straight & 90° Configurations

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.



FEATURES & BENEFITS

1. PLUG SETS MADE WITH SUPER-TREX® TYPE SJOO ULTRA-GARD™ PORTABLE CORD, RATED 90ºC — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. EXTRA LONG PLUG BODY IS SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long life, resists heat and oil deterioration.

3. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED — Provides long life, resists corrosion, easy positive engagement. Ensures electrical integrity in both AC and DC applications.

4. HARD COATED MIL SPEC. ANODIZED ALUMINUM KNURLED COUPLING NUT — Resists corrosion. Provides quick and secure assembly.

5. UNIQUE RATCHETING NUT DESIGN — Resists loosening caused by vibration and constant movement applications. Insures a secure connection in the toughest environments.

6. COMPLETELY MOLDED DESIGN — Eliminates bonding agents between jacket and plug. Ensures a water, oil and dust tight seal that will not break down under repeated flexing.

7. FLUOROELASTOMER O-RING — Seals out oil, chemicals and other contaminants. Provides a positive seal on mated components.

APPLICATIONS

- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

ORDERING INFORMATION *(Call for pricing & availability)*

AC					
PART NO.	**SIZE**	**STRANDING**	**AMPACITY**	**NOMINAL O.D.**	**WT.** (LBS) **PER 1000'**
87003	18/3	41/34	10	0.315	65
87004	18/4	41/34	7	0.345	88
87005	18/5	41/34	5.6	0.380	101

AC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT FEMALE AC PLUG					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CG13C28F003	CG14C29F003	CG15C30F003	3	0.91	Female Plug
CG13C28F006	CG14C29F006	CG15C30F006	6	1.83	Female Plug
CG13C28F012	CG14C29F012	CG15C30F012	12	3.66	Female Plug
CG13C28F020	CG14C29F020	CG15C30F020	20	6.10	Female Plug
CG13C28F030	CG14C29F030	CG15C30F030	30	9.15	Female Plug

90° FEMALE AC PLUG					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CG13D28F003	CG14D29F003	CG15D30F003	3	0.91	90° Female Plug
CG13D28F006	CG14D29F006	CG15D30F006	6	1.83	90° Female Plug
CG13D28F012	CG14D29F012	CG15D30F012	12	3.66	90° Female Plug
CG13D28F020	CG14D29F020	CG15D30F020	20	6.10	90° Female Plug
CG13D28F030	CG14D29F030	CG15D30F030	30	9.15	90° Female Plug

MALE / FEMALE AC EXTENSION CORD SET					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CG23E28A018	CG24E29A018	CG25E30A018	1.5	0.45	M/F Ext. Set
CG23E28F003	CG24E29F003	CG25E30F003	3	0.91	M/F Ext. Set
CG23E28F006	CG24E29F006	CG25E30F006	6	1.83	M/F Ext. Set
CG23E28F009	CG24E29F009	CG25E30F009	6	2.74	M/F Ext. Set
CG23E28F012	CG24E29F012	CG25E30F012	12	3.66	M/F Ext. Set
CG23E28F015	CG24E29F015	CG25E30F015	15	4.75	M/F Ext. Set
CG23E28F020	CG24E29F020	CG25E30F020	20	6.10	M/F Ext. Set
CG23E28F030	CG24E29F030	CG25E30F030	30	9.15	M/F Ext. Set

MALE / 90° FEMALE AC EXTENSION CORD SET					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CG23F28A018	CG24F29A018	CG25F30A018	1.5	0.45	M/90° F AC
CG23F28F003	CG24F29F003	CG25F30F003	3	0.91	M/90° F AC
CG23F28F006	CG24F29F006	CG25F30F006	6	1.83	M/90° F AC
CG23F28F012	CG24F29F012	CG25F30F012	12	3.66	M/90° F AC
CG23F28F020	CG24F29F020	CG25F30F020	20	6.10	M/90° F AC
CG23F28F030	CG24F29F030	CG25F30F030	30	9.15	M/90° F AC

90° MALE / FEMALE AC EXTENSION CORD SET					
3 PIN	4 PIN	5 PIN	FEET	METERS	DESCRIPTION
CG23G28F003	CG24G29F003	CG25G30F003	3	0.91	90° M/F AC
CG23G28F006	CG24G29F006	CG25G30F006	6	1.83	90° M/F AC
CG23G28F012	CG24G29F012	CG25G30F012	12	3.66	90° M/F AC
CG23G28F020	CG24G29F020	CG25G30F020	20	6.10	90° M/F AC
CG23G28F030	CG24G29F030	CG25G30F030	30	9.15	90° M/F AC

AC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ Receptacles

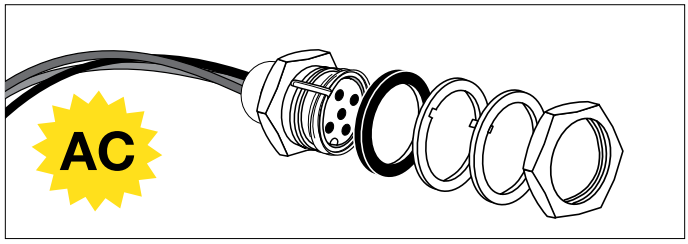
• RoHS Compliant • IP69K Rated

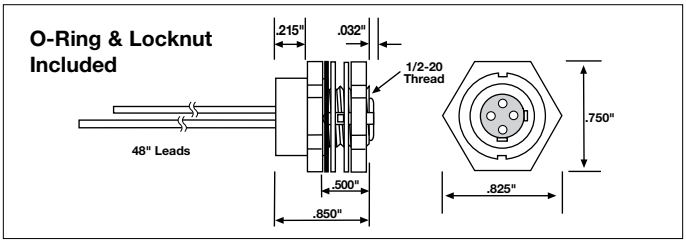
AC 18 AWG Female receptacles are available as back mount or panel mount. Male recptacles are available as panel mount or switch body mount. O-ring and locknut included; AC Micro closure caps with chain are sold separately.

APPLICATIONS

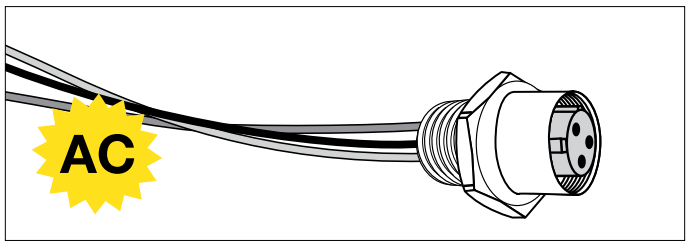
- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

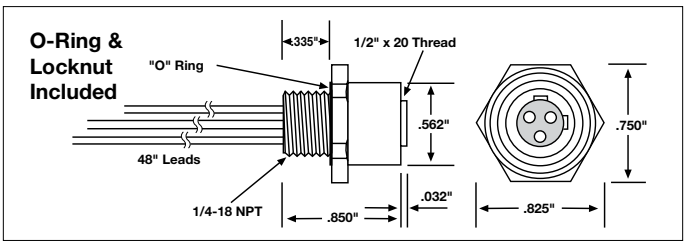
ORDERING INFORMATION *(Call for pricing & availability)*





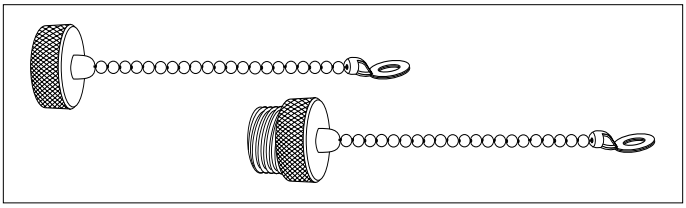
FEMALE RECEPTACLE — BACK MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
67308	**RG13Q28F004**	3P Female Back Mount	48"
67408	**RG14Q29F004**	4P Female Back Mount	48"
67508	**RG15Q30F004**	5P Female Back Mount	48"





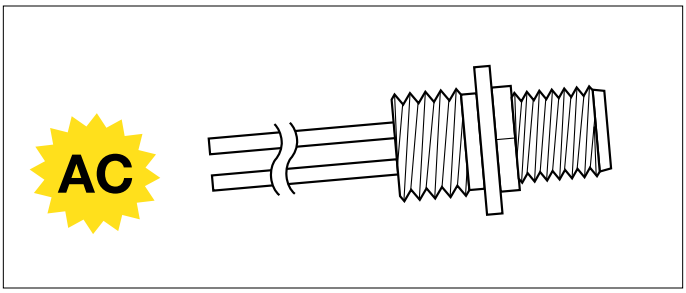
FEMALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
67302	**RG13T28F004**	3P Female Panel Mount	48"
67402	**RG14T29F004**	4P Female Panel Mount	48"
67502	**RG15T30F004**	5P Female Panel Mount	48"

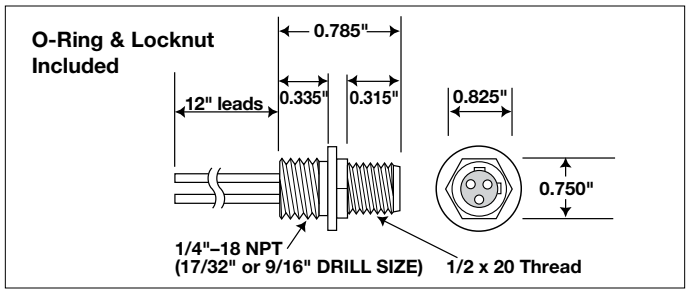
AC MICRO CLOSURE CAPS WITH CHAIN	
PART NO.	**DESCRIPTION**
64901	Closure Cap with 6" Chain for Male Plug & Receptacles with External Thread
64902	Closure Cap with 6" Chain for Female Plug & Receptacles with Internal Thread



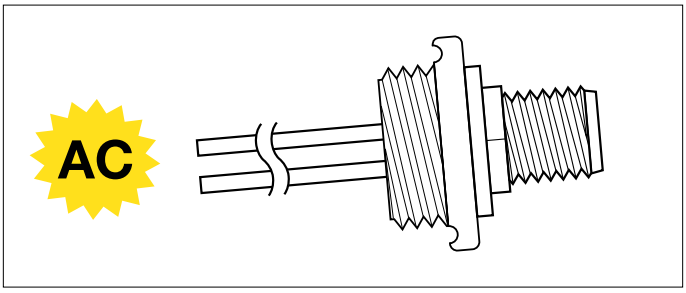
AC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ Receptacles *(Continued)*

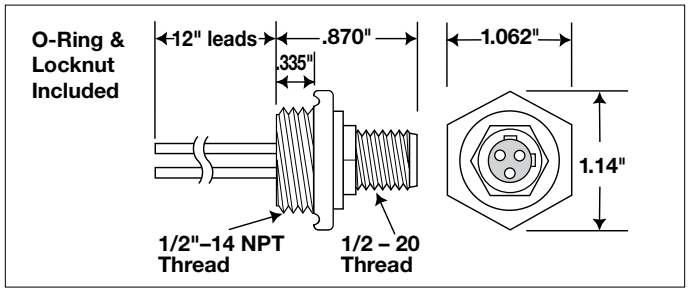
ORDERING INFORMATION *(Call for pricing & availability)*





MALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
65302	**RG13R28F001**	3P Male Panel Mount	12"
65402	**RG14R29F001**	4P Male Panel Mount	12"
65502	**RG15R30F001**	5P Male Panel Mount	12"
—	**RG13R28F004**	3P Male Panel Mount	48"
—	**RG14R29F004**	4P Male Panel Mount	48"
—	**RG15R30F004**	5P Male Panel Mount	48"





MALE RECEPTACLE — SWITCH BODY MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
65307	**RG13S28F001**	3P Male Switch Body	12"
65407	**RG14S29F001**	4P Male Switch Body	12"
65507	**RG15S30F001**	5P Male Switch Body	12"
—	**RG13S28F004**	3P Male Switch Body	48"
—	**RG14S29F004**	4P Male Switch Body	48"
—	**RG15S30F004**	5P Male Switch Body	48"

FACE VIEW OF FEMALE PLUGS

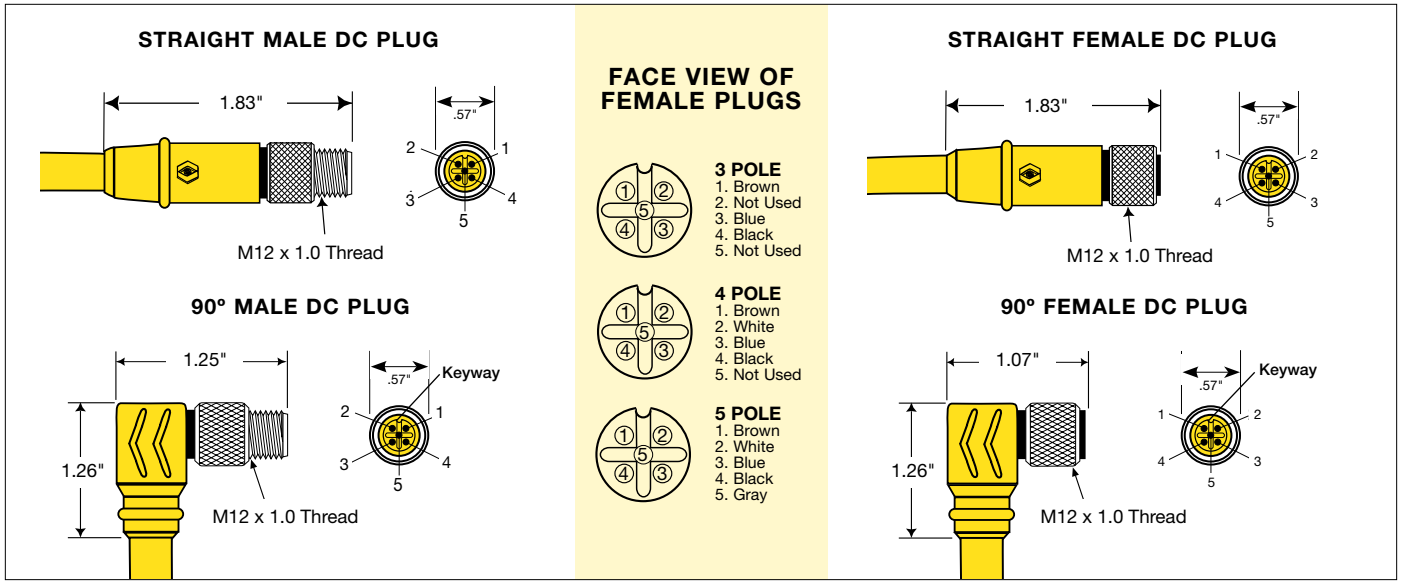
 **3 POLE**	 **4 POLE**	 **5 POLE**
1. Green **2. Red/Black** **3. Red/White**	**1. Red/Black** **2. Red/White** **3. Red** **4. Green**	**1. Red/White** **2. Red** **3. Green** **4. Red/Yellow** **5. Red/Black**

A C F

DC 18 AWG Super-Trex® SJOO Micro Quick-Connect™

• UL Recognized • cUL • Type SJOO • IP68 Rated • RoHS Compliant • Max Conductor Temperature 90°C • Straight & 90° Configurations

Quick-Connects™ make replacement of electrical and electronic control devices quick and simple. Plug sets are made with Super-Trex® SJOO Ultra-Gard™ Portable Cord. A superior first-line of defense against tearing, abrasion, impact, oil, ozone and most chemicals; also flame and heat resistant and offers extreme all-weather flexibility too. The molded and keyed, vulcanized thermoset cordset provides rapid and secure connect and disconnect and ensures a water, oil and dust tight seal.



FEATURES & BENEFITS

1. PLUG SETS MADE WITH SUPER-TREX® TYPE SJOO ULTRA-GARD™ PORTABLE CORD, RATED 90ºC — Superior first-line defense against tearing, abrasion, impact, oil, ozone and most chemicals. Flame and heat resistant. Extreme all-weather flexibility.

2. EXTRA LONG PLUG BODY IS SPECIALLY COMPOUNDED, THERMOSET ELASTOMER — Provides long life, resists heat and oil deterioration.

3. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED — Provides long life, resists corrosion, easy positive engagement. Ensures electrical integrity in both AC and DC applications.

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APPLICATIONS

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- Instrumentation
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- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

ORDERING INFORMATION *(Call for pricing & availability)*

DC					
PART NO.	**SIZE**	**STRANDING**	**AMPACITY**	**NOMINAL O.D.**	**WT.** (LBS) **PER 1000'**
87013	18/3	41/34	10	0.315	65
87014	18/4	41/34	7	0.345	88
87015	18/5	41/34	5.6	0.380	101

DC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT FEMALE DC PLUG					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CF13C24M001	CF14C25M001	CF15C26M001	3.27	1	Female Plug
CF13C24M002	CF14C25M002	CF15C26M002	6.56	2	Female Plug
CF13C24M004	CF14C25M004	CF15C26M004	13.08	4	Female Plug
CF13C24M006	CF14C25M006	CF15C26M006	19.67	6	Female Plug
CF13C24M010	CF14C25M010	CF15C26M010	31.80	10	Female Plug

90° FEMALE DC PLUG					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CF13D24M001	CF14D25M001	CF15D26M001	3.27	1	90° Female Plug
CF13D24M002	CF14D25M002	CF15D26M002	6.56	2	90° Female Plug
CF13D24M004	CF14D25M004	CF15D26M004	13.08	4	90° Female Plug
CF13D24M006	CF14D25M006	CF15D26M006	19.67	6	90° Female Plug
CF13D24M010	CF14D25M010	CF15D26M010	31.80	10	90° Female Plug

MALE / FEMALE DC EXTENSION CORD SET					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CF23E24A020	CF24E25A020	CF25E26A020	1.63	0.5	M/F Ext. Set
CF23E24M001	CF24E25M001	CF25E26M001	3.27	1	M/F Ext. Set
CF23E24M002	CF24E25M002	CF25E26M002	6.56	2	M/F Ext. Set
CF23E24M003	CF24E25M003	CF25E26M003	9.84	3	M/F Ext. Set
CF23E24M004	CF24E25M004	CF25E26M004	13.08	4	M/F Ext. Set
CF23E24M005	CF24E25M005	CF25E26M005	16.00	5	M/F Ext. Set
CF23E24M006	CF24E25M006	CF25E26M006	19.67	6	M/F Ext. Set
CF23E24M010	CF24E25M010	CF25E26M010	31.80	10	M/F Ext. Set

MALE / 90° FEMALE DC EXTENSION CORD SET					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CF23F24A020	CF24F25A020	CF25F26A020	1.63	0.5	M/90° F DC
CF23F24M001	CF24F25M001	CF25F26M001	3.27	1	M/90° F DC
CF23F24M002	CF24F25M002	CF25F26M002	6.56	2	M/90° F DC
CF23F24M003	CF24F25M003	CF25F26M003	9.84	3	M/90° F DC
CF23F24M004	CF24F25M004	CF25F26M004	13.08	4	M/90° F DC
CF23F24M005	CF24F25M005	CF25F26M005	16.00	5	M/90° F DC
CF23F24M006	CF24F25M006	CF25F26M006	19.67	6	M/90° F DC
CF23F24M010	CF24F25M010	CF25F26M010	31.80	10	M/90° F DC

90° MALE / FEMALE DC EXTENSION CORD SET					
3 PIN PART NO.	4 PIN PART NO.	5 PIN PART NO.	FEET	METERS	DESCRIPTION
CF23G24M001	CF24G25M001	CF25G26M001	3.27	1	90° M/F DC
CF23G24M002	CF24G25M002	CF25G26M002	6.56	2	90° M/F DC
CF23G24M004	CF24G25M004	CF25G26M004	13.08	4	90° M/F DC
CF23G24M006	CF24G25M006	CF25G26M006	19.67	6	90° M/F DC
CF23G24M010	CF24G25M010	CF25G26M010	31.80	10	90° M/F DC

DC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ Receptacles

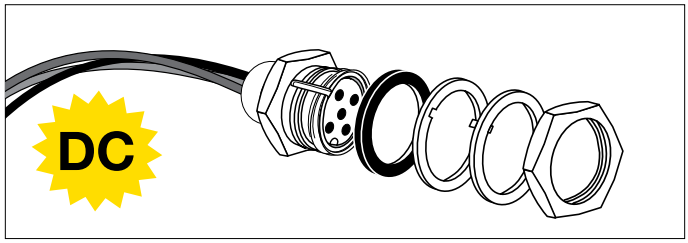
• RoHS Compliant • IP69K Rated

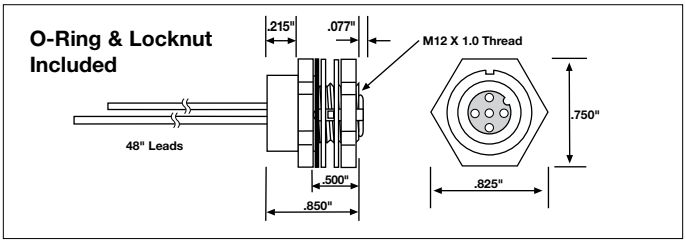
DC 18 AWG Female receptacles are available as back mount or panel mount. Male recptacles are available as panel mount or switch body mount. O-ring and locknut included; DC Micro closure caps with chain are sold separately.

APPLICATIONS

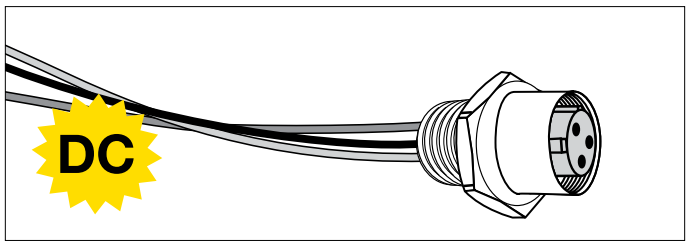
- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure and Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

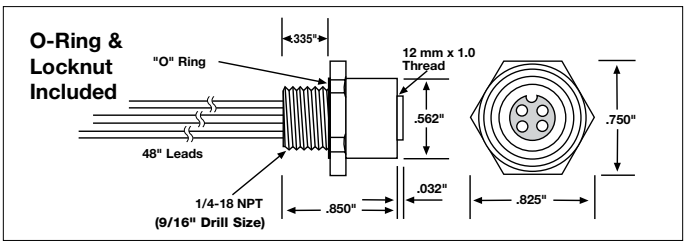
ORDERING INFORMATION *(Call for pricing & availability)*





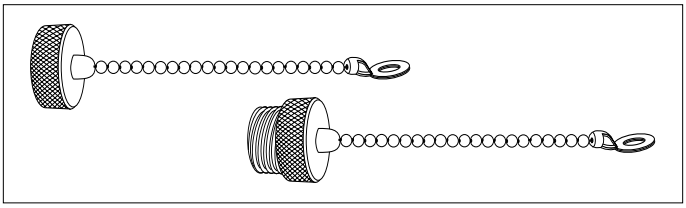
FEMALE RECEPTACLE — BACK MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
63308	**RF13Q24F004**	3P Female Back Mount	48"
63408	**RF14Q25F004**	4P Female Back Mount	48"
63508	**RF15Q26F004**	5P Female Back Mount	48"





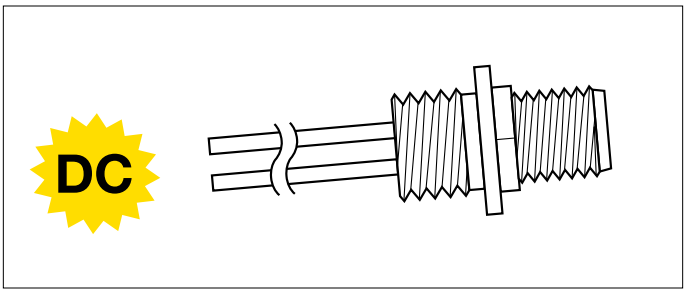
FEMALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
63302	**RF13T24F004**	3P Female Panel Mount	48"
63402	**RF14T25F004**	4P Female Panel Mount	48"
63502	**RF15T26F004**	5P Female Panel Mount	48"

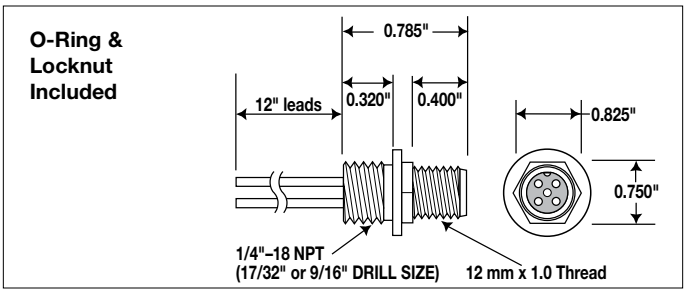
AC MICRO CLOSURE CAPS WITH CHAIN	
PART NO.	**DESCRIPTION**
64801	Closure Cap with 6" Chain for Male Plug & Receptacles with External Thread
64802	Closure Cap with 6" Chain for Female Plug & Receptacles with Internal Thread



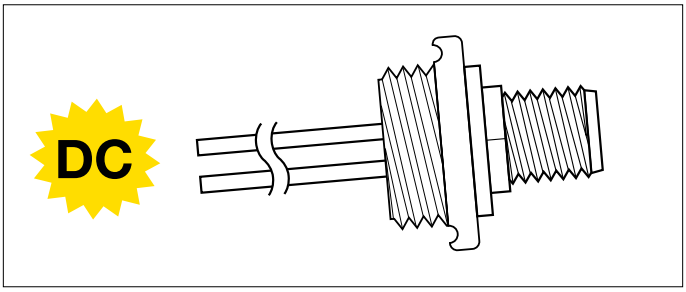
DC 18 AWG Super-Trex® SJOO Micro Quick-Connect™ Receptacles *(Continued)*

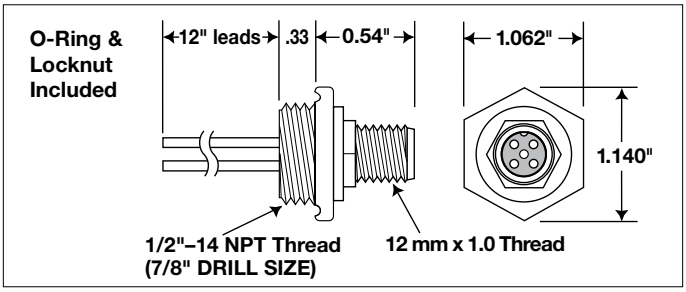
ORDERING INFORMATION *(Call for pricing & availability)*





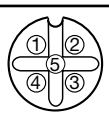
MALE RECEPTACLE — PANEL MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
64302	**RF13R24F001**	3P Male Panel Mount	12"
64402	**RF14R25F001**	4P Male Panel Mount	12"
64502	**RF15R26F001**	5P Male Panel Mount	12"
—	**RF13R24F004**	3P Male Panel Mount	48"
—	**RF14R25F004**	4P Male Panel Mount	48"
—	**RF15R26F004**	5P Male Panel Mount	48"





MALE RECEPTACLE — SWITCH BODY MOUNT			
PART NO.	**PART NO.**	**DESCRIPTION**	**PIGTAIL LENGTH**
64307	**RF13S24F001**	3P Male Switch Body	12"
64407	**RF14S25F001**	4P Male Switch Body	12"
64507	**RF15S26F001**	5P Male Switch Body	12"
—	**RF13S24F004**	3P Male Switch Body	48"
—	**RF14S25F004**	4P Male Switch Body	48"
—	**RF15S26F004**	5P Male Switch Body	48"

FACE VIEW OF FEMALE PLUGS



3 POLE	4 POLE	5 POLE
1. Brown **2.** Not Used **3.** Blue **4.** Black **5.** Not Used	**1.** Brown **2.** White **3.** Blue **4.** Black **5.** Not Used	**1.** Brown **2.** White **3.** Blue **4.** Black **5.** Gray

Build Your Own Super-Trex® SJOO Micro Cord Sets

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"C"** for cord set or a **"R"** for receptacle in the box at the top of the column. From the next column, identify the style. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

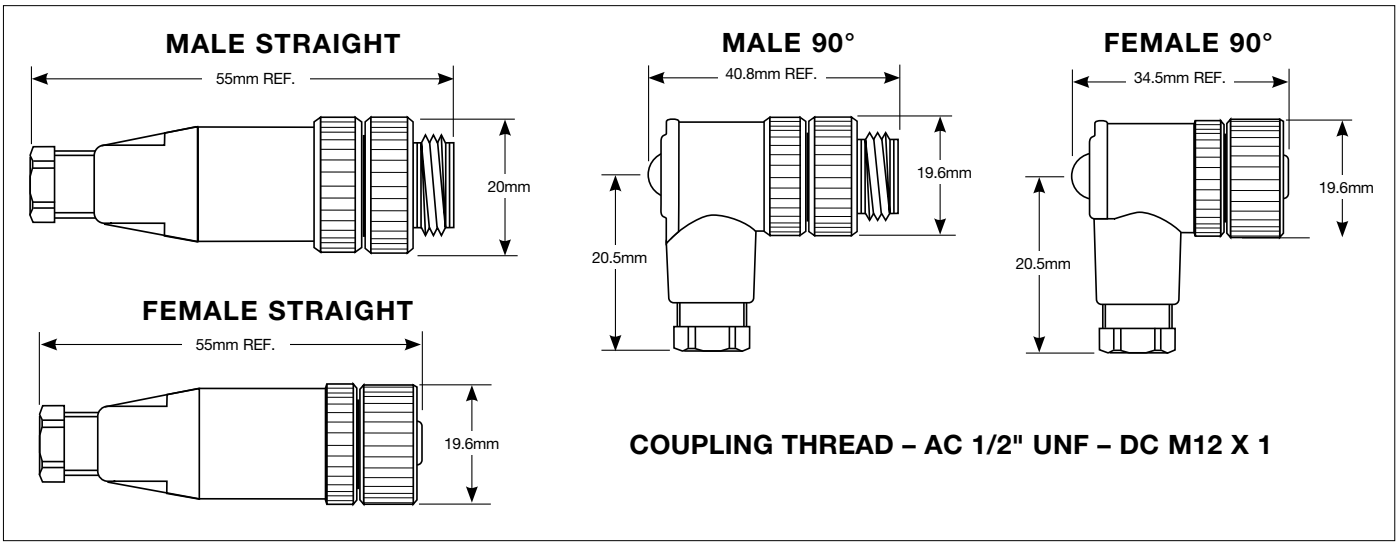
1	2	3	4	5	6	7	8	9
TYPE	**STYLE**	**ENDS**	**POLES**	**HEAD CONFIG.**	**CABLE**	**UOM**	**LENGTH**	**COUPLING**
C	F	2	5	E	25	F	020	**PART NO.**
C = Cord Set	**F =** DC Micro	**1 =** Single End (or Receptacle)	Number of Poles: **1 – 5**	**A =** Male Straight **B =** Male 90° **C =** Female Straight **D =** Female 90°	**Micro (Super-Trex®)** **24 =** 18/3 (DC) #87013	Unit of Measure: **M =** Meters	Enter a three digit code in the box above.	**Blank =** Regular
R = Receptacle	**G =** AC Micro	**2 =** Double End		**E =** Male Straight to Female Straight **F =** Male Straight to Female 90° **G =** Male 90° to Female Straight **H =** Male 90° to Female 90°	**25 =** 18/4 (DC) #87014	**F =** Feet	**EXAMPLE:** **5 =** "005"	**S =** Stainless Steel
				J = Male Straight to Male Straight* **K =** Male Straight to Male 90° **L =** Male 90° to Male 90° **Male to male configurations only available in Nanos*	**26 =** 18/5 (DC) #87015 **27 =** 18/2 (AC) #87002 **28 =** 18/3 (AC) #87003 **29 =** 18/4 (AC) #87004 **30 =** 18/5 (AC) #87005	**A =** Inches	**50 =** "050" **500 =** "500"	**P =** Plastic
				M = Female Straight to Female Straight **N =** Female Straight to Female 90° **P =** Female 90° to Female 90°				
				Micro Receptacles — Micros Only **Q =** Female Back Mount **R =** Male Panel Mount **S =** Male Switch Mount **T =** Female Panel Mount				

In the sample part number above, **CF25E25F020** is a DC micro, double ended cord set, 5 poles, male straight to female straight with 18/4 SJOO cable (#87014), 20 feet long.

Field Installable AC & DC Micro Connectors

• IP67 Rated • RoHS Compliant • DC Single Key (4–5 Pole) • AC Dual Key (3 Pole) • Current Rating: 3 Amps DC & 4 Amps AC

Field Installable AC and DC Mirco Connectors are IP67 rated to provide a liquid tight seal to protect the connection from dust and water contamination. These connectors are designed to fit a wide range of sizes and are easily installed using only a screw driver to secure the connection. The nylon body is impact and crush resistant. Ideal for a quick on-site repair.



FEATURES & BENEFITS

1. SELECTION — AC and DC, straight and 90° connectors, both male and female.

2. SEALING GROMMET — Provides a liquid tight seal to protect the connection from contamination.

3. CABLE SELECTION — Designed to fit a wide range of cord sizes from 0.158" – 0.315".

4. SCREW LOCK SYSTEM — Provides secure connection using only a screw driver.

5. FIELD INSTALLABLE DESIGN — Easy to install for quick on-site repairs.

6. NYLON BODY AND INSERT — Impact and crush resistant.

ORDERING INFORMATION *(Call for pricing & availability)*

AC — FIELD INSTALLABLE MICROS		
PART NO.	**DESCRIPTION**	**CORD O.D. RANGE** (IN)
30801	3 Pole Male Straight AC	0.158 – 0.236
30301	3 Pole Female Straight AC	0.158 – 0.236
39801	3 Pole Male 90° AC	0.158 – 0.236
39301	3 Pole Female 90° AC	0.158 – 0.236

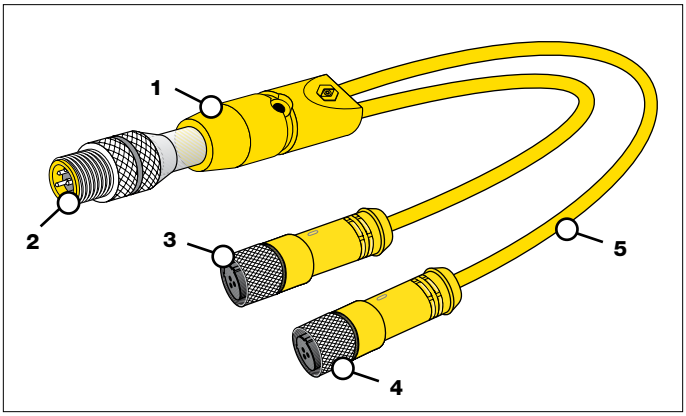
DC — FIELD INSTALLABLE MICROS		
PART NO.	**DESCRIPTION**	**CORD O.D. RANGE** (IN)
30700	4 Pole Male Straight DC	0.158 – 0.236
30600	5 Pole Male Straight DC	0.236 – 0.315
30800	8 Pole Male Straight DC	0.236 – 0.315
30400	4 Pole Female Straight DC	0.158 – 0.236
30500	5 Pole Female Straight DC	0.236 – 0.315
30900	8 Pole Female Straight DC	0.236 – 0.315
39700	4 Pole Male 90° DC	0.158 – 0.236
39600	5 Pole Male 90° DC	0.236 – 0.315
39400	4 Pole Female 90° DC	0.158 – 0.236
39500	5 Pole Female 90° DC	0.236 – 0.315

A C F

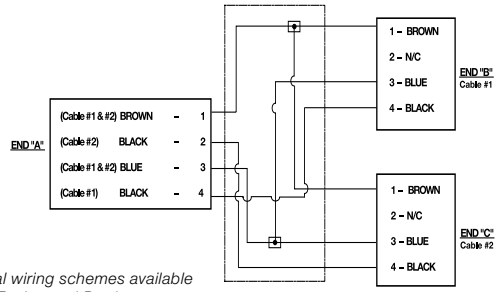
Super-Trex® "Y" Splitter

• UL Recognized • cUL • IP68 Rated • RoHS Compliant • 300 V

The Super-Trex® "Y" Splitter design is constructed using TPC's Micro Quick-Connect™ technology coupled with a one-piece focal point. The focal point unit is constructed of an oil, abrasion, impact, and chemical resistant compound designed to protect the unit from hostile industrial environments. Each conductor lead is molded into the focal point. Each splitter is tested to ensure out-of-box performance. AC and DC variations are available.



AVAILABLE WIRING SCHEMATICS



Additional wiring schemes available through Engineered Products.

FEATURES & BENEFITS

1. UNIQUE RATCHETING NUT DESIGN — Resists loosening caused by vibration and constant movement applications. Insures a secure connection in the toughest environments.

2. SOLID BRASS CONTACT PINS — Nickel coated and gold plated. Resists corrosion, ensures electrical integrity in DC low voltage applications.

3. FLUOROELASTOMER O-RING — Seals out oil, chemicals and other contaminants. Provides a positive seal on mated components.

4. HARD COATED MIL SPEC ANODIZED ALUMINUM KNURLED COUPLING NUT — Resists corrosion. Provides quick and secure assembly.

5. SUPER-TREX® SJOO HEAVY-DUTY CABLE — Superior performance in abrasion, cutting, oil and chemicals.

6. COMPACT DESIGN COMBINED WITH MICRO TECHNOLOGY — Helps to reduce wiring and termination points, simplifying installation and maintenance.

7. DESIGN FLEXIBILITY — Designed for both Micro and Mini applications. Wiring and lead lengths can be made to fit the application. Contact our Engineered Products Department for additional information.

8. UNIQUE MOUNTING FEATURES — Designed to mount securely with either a wire tie or thru bolt for ease of installation.

ROLE OF PRODUCT

This product is designed for industrial applications where there may be periodic exposure to oils, coolants, water, chemicals and grease. Applications for this product include use with proximity switches, optical sensors, cylinders and other dual input applications.

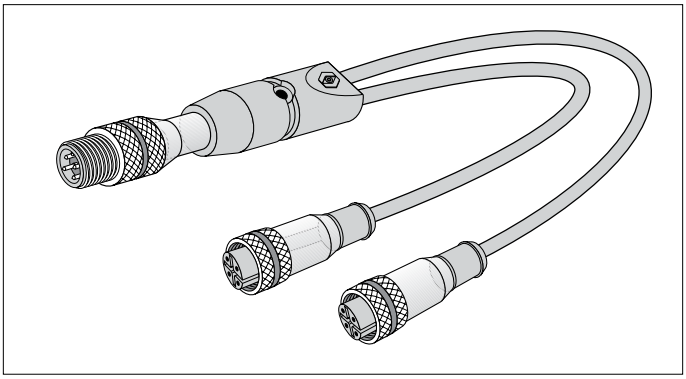
ORDERING INFORMATION *(Call for pricing & availability)*

DC				
PART NO.	**IN-PUT CORD LENGTH** (FT)	**SINGLE-END CONFIGURATION**	**DOUBLE END SIDE #1**	**DOUBLE END SIDE #2**
81401	0.5	4 Pole Male	3 Pole Female	3 Pole Female
81402	1.0	4 Pole Male	3 Pole Female	3 Pole Female
81404	2.0	4 Pole Male	3 Pole Female	3 Pole Female
81411	0.5	4 Pole Female	3 Pole Male	3 Pole Male
81412	1.0	4 Pole Female	3 Pole Male	3 Pole Male
81414	2.0	4 Pole Female	3 Pole Male	3 Pole Male

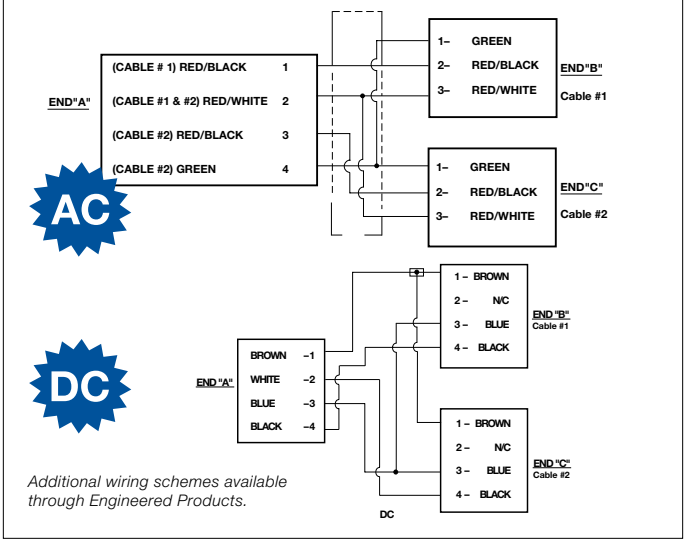
Trex-Onics® "Y" Splitter

• UL Recognized • cUL • RoHS Compliant • 300 V

The Trex-Onics® "Y" Splitter design is constructed using TPC's Micro Quick-Connect™ technology coupled with a one-piece focal point. The focal point unit is constructed of an oil, abrasion, impact, and chemical resistant compound designed to protect the unit from hostile industrial environments. Each conductor lead is molded into the focal point. Each splitter is tested to ensure out-of-box performance. AC and DC variations are available.



AVAILABLE WIRING SCHEMATICS



Additional wiring schemes available through Engineered Products.

FEATURES & BENEFITS

1. ALL TREX-ONICS® HEAVY-DUTY POLYURETHANE DESIGN — Ensures a 100% bond between the focal point and cord. Eliminates glues and bonding materials that break down and leak over time, resulting in loss of signal continuity.

2. COMPACT DESIGN COMBINED WITH MICRO TECHNOLOGY — Helps to reduce wiring and termination points, simplifying installation and maintenance.

3. EXTENDED NUT DESIGN — Protects the insert, pins and sleeves from impact and abuse. Easy to grip.

4. DESIGN FLEXIBILITY — Designed for both Micro and Mini applications. Wiring and lead lengths can be made to fit the application. Contact our Engineered Products Department for additional information.

5. SPECIALLY COMPOUNDED POLYURETHANE INSERTS — Compatible with all industry standards for both AC and DC applications. Provides a superior seal against fluid and dust penetration.

6. UNIQUE MOUNTING FEATURES — Designed to mount securely with either a wire tie or thru bolt for ease of installation.

7. UNIQUE STAINLESS STEEL SLEEVED FEMALE PIN DESIGN — Prevents pin deformation resulting in loss of signal and electrical continuity. Superior performance in high vibration and continuous motion applications.

8. SOLID BRASS CONTACT PINS — Nickel coated and gold plated. Resists corrosion, ensures electrical integrity in both AC and DC low voltage application.

ORDERING INFORMATION *(Call for pricing & availability)*

AC VERSION				
PART NO.	**IN-PUT CORD LENGTH** (FT)	**SINGLE-END CONFIGURATION**	**DOUBLE END SIDE #1**	**DOUBLE END SIDE #2**
64061	0.5	4 Pole Male	3 Pole Female	3 Pole Female
64062	1	4 Pole Male	3 Pole Female	3 Pole Female
64063	1.5	4 Pole Male	3 Pole Female	3 Pole Female
64064	2	4 Pole Male	3 Pole Female	3 Pole Female

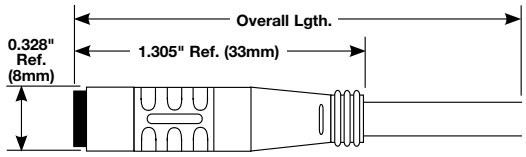
DC VERSION				
PART NO.	**IN-PUT CORD LENGTH** (FT)	**SINGLE-END CONFIGURATION**	**DOUBLE END SIDE #1**	**DOUBLE END SIDE #2**
64066	1	4 Pole Male	3 Pole Female	3 Pole Female
64067	1.67	4 Pole Male	3 Pole Female	3 Pole Female
64068	2	4 Pole Male	3 Pole Female	3 Pole Female
64966	1'	4 Pole Male	90°/3 Pole Female	90°/3 Pole Female

24 AWG Nano M8 Single Ended and Double Ended Assemblies

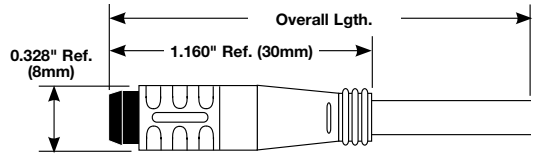
• UL Listed • CSA • IP68 Rated • RoHS Compliant • 300 V • Operating Temperature Range -30°C to 90°C • Current Rating: 4 Amps

Cord sets made with Trex-Onics® 24 AWG cord designed for high cycle, constant motion applications and provides excellent defense against impact, cutting, abrasion, oil and chemicals. Nano M8 Cordsets are molded so there is a 100% bond between the head and cord and are available with either a snap-lock or threaded coupling system choose whichever would be best suited for your application.

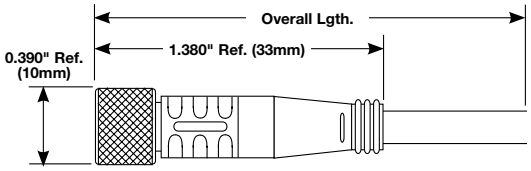
STRAIGHT FEMALE SNAP LOCK



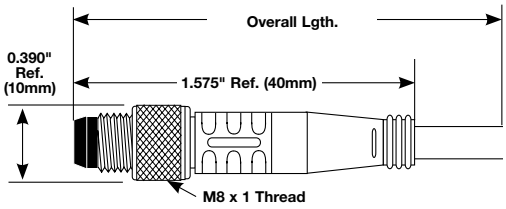
STRAIGHT MALE SNAP LOCK



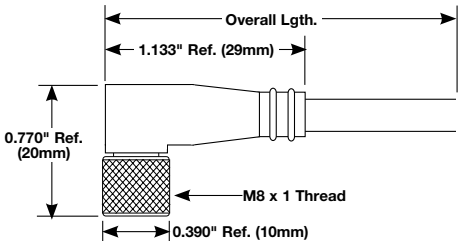
STRAIGHT FEMALE THREADED COUPLING



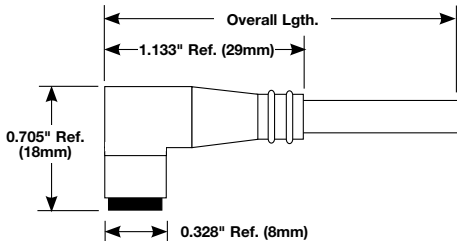
STRAIGHT MALE THREADED COUPLING



90° FEMALE THREADED COUPLING



90° FEMALE SNAP LOCK



FEATURES & BENEFITS

1. CORD SETS MADE WITH TREX-ONICS® 24 AWG NANO CORD — Designed for high cycle, constant motion applications. Provides excellent defense against impact, cutting, abrasion, oil and chemicals.

2. SPECIALLY COMPOUNDED NYLON INSERT — Compatible with all industry standards for nano applications. Provides a superior seal against fluid and dust penetration.

3. CONTACT PINS/SLEEVES ARE COPPER ALLOY AND GOLD PLATED — Ensures electrical integrity in low voltage applications. Resists corrosion.

4. SNAP-LOCK OR THREADED COUPLING SYSTEMS — Select configurations best suited for your applications.

5. ALL MOLDED DESIGN — Ensures a 100% bond between head and cord. Eliminates glues and bonding materials that break down and leak over time, resulting in loss of signal and continuity.

APPLICATIONS

- Bar Code Readers
- Computer Interfaces
- Digital Remote Controls
- Encoders or Resolvers
- Heat Pressure & Flow Meters
- Instrumentation
- I/O (input/output) Devices
- Load Cell Monitors
- Programmable Controllers
- Programmable Limit Switches
- Proximity Switches
- Robotics
- Servo Motors
- Sensors and Relays
- Solenoid Valves
- Tachometers
- Telecommunications
- Torque-Tool Monitoring Equipment
- X-Ray Monitors
- Variable Speed Motors

KEY CHARACTERISTICS

- Snap Lock Configuration IP68 Rated
- Threaded Coupling Configuration IP68 Rated
- Nickel Plated Brass Coupling Nut
- Gold Plated Copper Alloy Pins
- 1 to 6 Meter Standard Lengths
- 300 V Rated & 4 Amp Rated

24 AWG Nano M8 Single Ended and Double Ended Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

DC — NANO CABLE				
PART NO.	**SIZE**	**STRANDING**	**NOMINAL O.D.** (IN)	**COLOR CODE**
62323	24/3	7/32	0.170	Brown, Black, Blue
62324	24/4	7/32	0.180	Brown, White, Black, Blue

STRAIGHT FEMALE SINGLE ENDED SNAP LOCK			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CB13C33M001	3 Pole Single Ended Straight Female – Snap	3.3	1
CB13C33M002	3 Pole Single Ended Straight Female – Snap	6.6	2
CB13C33M004	3 Pole Single Ended Straight Female – Snap	13.1	4
CB13C33M005	3 Pole Single Ended Straight Female – Snap	16.4	5
CB13C33M006	3 Pole Single Ended Straight Female – Snap	19.7	6
CB14C34M001	4 Pole Single Ended Straight Female – Snap	3.3	1
CB14C34M002	4 Pole Single Ended Straight Female – Snap	6.6	2
CB14C34M004	4 Pole Single Ended Straight Female – Snap	13.1	4
CB14C34M005	4 Pole Single Ended Straight Female – Snap	16.4	5
CB14C34M006	4 Pole Single Ended Straight Female – Snap	19.7	6

STRAIGHT MALE SINGLE ENDED SNAP LOCK			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CB13A33M001	3 Pole Single Ended Straight Male – Snap	3.3	1
CB13A33M002	3 Pole Single Ended Straight Male – Snap	6.6	2
CB13A33M004	3 Pole Single Ended Straight Male – Snap	13.1	4
CB13A33M005	3 Pole Single Ended Straight Male – Snap	16.4	5
CB13A33M006	3 Pole Single Ended Straight Male – Snap	19.7	6
CB14A34M001	4 Pole Single Ended Straight Male – Snap	3.3	1
CB14A34M002	4 Pole Single Ended Straight Male – Snap	6.6	2
CB14A34M004	4 Pole Single Ended Straight Male – Snap	13.1	4
CB14A34M005	4 Pole Single Ended Straight Male – Snap	16.4	5
CB14A34M006	4 Pole Single Ended Straight Male – Snap	19.7	6

STRAIGHT FEMALE SINGLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA13C33M001	3 Pole Single Ended Straight Female – Threaded	3.3	1
CA13C33M002	3 Pole Single Ended Straight Female – Threaded	6.6	2
CA13C33M004	3 Pole Single Ended Straight Female – Threaded	13.1	4
CA13C33M005	3 Pole Single Ended Straight Female – Threaded	16.4	5
CA13C33M006	3 Pole Single Ended Straight Female – Threaded	19.7	6
CA14C34M001	4 Pole Single Ended Straight Female – Threaded	3.3	1
CA14C34M002	4 Pole Single Ended Straight Female – Threaded	6.6	2
CA14C34M004	4 Pole Single Ended Straight Female – Threaded	13.1	4
CA14C34M005	4 Pole Single Ended Straight Female – Threaded	16.4	5
CA14C34M006	4 Pole Single Ended Straight Female – Threaded	19.7	6

24 AWG Nano M8 Single Ended and Double Ended Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT MALE SINGLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA13A33M001	3 Pole Single Ended Straight Male – Threaded	3.3	1
CA13A33M002	3 Pole Single Ended Straight Male – Threaded	6.6	2
CA13A33M004	3 Pole Single Ended Straight Male – Threaded	13.1	4
CA13A33M005	3 Pole Single Ended Straight Male – Threaded	16.4	5
CA13A33M006	3 Pole Single Ended Straight Male – Threaded	19.7	6
CA14A34M001	4 Pole Single Ended Straight Male – Threaded	3.3	1
CA14A34M002	4 Pole Single Ended Straight Male – Threaded	6.6	2
CA14A34M004	4 Pole Single Ended Straight Male – Threaded	13.1	4
CA14A34M005	4 Pole Single Ended Straight Male – Threaded	16.4	5
CA14A34M006	4 Pole Single Ended Straight Male – Threaded	19.7	6

90° FEMALE SINGLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA13D33M001	3 Pole Single Ended 90° Female – Threaded	3.3	1
CA13D33M002	3 Pole Single Ended 90° Female – Threaded	6.6	2
CA13D33M004	3 Pole Single Ended 90° Female – Threaded	13.1	4
CA13D33M005	3 Pole Single Ended 90° Female – Threaded	16.4	5
CA13D33M006	3 Pole Single Ended 90° Female – Threaded	19.7	6
CA14D34M001	4 Pole Single Ended 90° Female – Threaded	3.3	1
CA14D34M002	4 Pole Single Ended 90° Female – Threaded	6.6	2
CA14D34M004	4 Pole Single Ended 90° Female – Threaded	13.1	4
CA14D34M005	4 Pole Single Ended 90° Female – Threaded	16.4	5
CA14D34M006	4 Pole Single Ended 90° Female – Threaded	19.7	6

STRAIGHT FEMALE / STRAIGHT FEMALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23M33M001	3 Pole Double Ended Straight F/F – Threaded	3.3	1
CA23M33M002	3 Pole Double Ended Straight F/F – Threaded	6.6	2
CA23M33M004	3 Pole Double Ended Straight F/F – Threaded	13.1	4
CA23M33M005	3 Pole Double Ended Straight F/F – Threaded	16.4	5
CA23M33M006	3 Pole Double Ended Straight F/F – Threaded	19.7	6
CA24M34M001	4 Pole Double Ended Straight F/F – Threaded	3.3	1
CA24M34M002	4 Pole Double Ended Straight F/F – Threaded	6.6	2
CA24M34M004	4 Pole Double Ended Straight F/F – Threaded	13.1	4
CA24M34M005	4 Pole Double Ended Straight F/F – Threaded	16.4	5
CA24M34M006	4 Pole Double Ended Straight F/F – Threaded	19.7	6

24 AWG Nano M8 Single Ended and Double Ended Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT FEMALE / STRAIGHT MALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23E33M001	3 Pole Double Ended Straight F/M – Threaded	3.3	1
CA23E33M002	3 Pole Double Ended Straight F/M – Threaded	6.6	2
CA23E33M004	3 Pole Double Ended Straight F/M – Threaded	13.1	4
CA23E33M005	3 Pole Double Ended Straight F/M – Threaded	16.4	5
CA23E33M006	3 Pole Double Ended Straight F/M – Threaded	19.7	6
CA24E34M001	4 Pole Double Ended Straight F/M – Threaded	3.3	1
CA24E34M002	4 Pole Double Ended Straight F/M – Threaded	6.6	2
CA24E34M004	4 Pole Double Ended Straight F/M – Threaded	13.1	4
CA24E34M005	4 Pole Double Ended Straight F/M – Threaded	16.4	5
CA24E34M006	4 Pole Double Ended Straight F/M – Threaded	19.7	6

STRAIGHT FEMALE / STRAIGHT MALE DOUBLE ENDED SNAP LOCK			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CB23E33M001	3 Pole Double Ended Straight F/M – Snap	3.3	1
CB23E33M002	3 Pole Double Ended Straight F/M – Snap	6.6	2
CB23E33M004	3 Pole Double Ended Straight F/M – Snap	13.1	4
CB23E33M005	3 Pole Double Ended Straight F/M – Snap	16.4	5
CB23E33M006	3 Pole Double Ended Straight F/M – Snap	19.7	6
CB24E34M001	4 Pole Double Ended Straight F/M – Snap	3.3	1
CB24E34M002	4 Pole Double Ended Straight F/M – Snap	6.6	2
CB24E34M004	4 Pole Double Ended Straight F/M – Snap	13.1	4
CB24E34M005	4 Pole Double Ended Straight F/M – Snap	16.4	5
CB24E34M006	4 Pole Double Ended Straight F/M – Snap	19.7	6

STRAIGHT MALE / STRAIGHT MALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23J33M001	3 Pole Double Ended Straight M/M – Threaded	3.3	1
CA23J33M002	3 Pole Double Ended Straight M/M – Threaded	6.6	2
CA23J33M004	3 Pole Double Ended Straight M/M – Threaded	13.1	4
CA23J33M005	3 Pole Double Ended Straight M/M – Threaded	16.4	5
CA23J33M006	3 Pole Double Ended Straight M/M – Threaded	19.7	6
CA24J34M001	4 Pole Double Ended Straight M/M – Threaded	3.3	1
CA24J34M002	4 Pole Double Ended Straight M/M – Threaded	6.6	2
CA24J34M004	4 Pole Double Ended Straight M/M – Threaded	13.1	4
CA24J34M005	4 Pole Double Ended Straight M/M – Threaded	16.4	5
CA24J34M006	4 Pole Double Ended Straight M/M – Threaded	19.7	6

STRAIGHT FEMALE / 90° FEMALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23N33M001	3 Pole Double Ended Straight F/90° F – Threaded	3.3	1
CA23N33M002	3 Pole Double Ended Straight F/90° F – Threaded	6.6	2
CA23N33M004	3 Pole Double Ended Straight F/90° F – Threaded	13.1	4
CA23N33M005	3 Pole Double Ended Straight F/90° F – Threaded	16.4	5
CA23N33M006	3 Pole Double Ended Straight F/90° F – Threaded	19.7	6
CA24N34M001	4 Pole Double Ended Straight F/90° F – Threaded	3.3	1
CA24N34M002	4 Pole Double Ended Straight F/90° F – Threaded	6.6	2
CA24N34M004	4 Pole Double Ended Straight F/90° F – Threaded	13.1	4
CA24N34M005	4 Pole Double Ended Straight F/90° F – Threaded	16.4	5
CA24N34M006	4 Pole Double Ended Straight F/90° F – Threaded	19.7	6

24 AWG Nano M8 Single Ended and Double Ended Assemblies *(Continued)*

ORDERING INFORMATION *(Call for pricing & availability)*

STRAIGHT MALE / 90° FEMALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23F33M001	3 Pole Double Ended Straight M/90° F – Threaded	3.3	1
CA23F33M002	3 Pole Double Ended Straight M/90° F – Threaded	6.6	2
CA23F33M004	3 Pole Double Ended Straight M/90° F – Threaded	13.1	14
CA23F33M005	3 Pole Double Ended Straight M/90° F – Threaded	16.4	5
CA23F33M006	3 Pole Double Ended Straight M/90° F – Threaded	19.7	6
CA24F34M001	4 Pole Double Ended Straight M/90° F – Threaded	3.3	1
CA24F34M002	4 Pole Double Ended Straight M/90° F – Threaded	6.6	2
CA24F34M004	4 Pole Double Ended Straight M/90° F – Threaded	13.1	4
CA24F34M005	4 Pole Double Ended Straight M/90° F – Threaded	16.4	5
CA24F34M006	4 Pole Double Ended Straight M/90° F – Threaded	19.7	6

90° FEMALE / 90° FEMALE DOUBLE ENDED THREADED COUPLING			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CA23P33M001	3 Pole Double Ended 90° F/90° F – Threaded	3.3	1
CA23P33M002	3 Pole Double Ended 90° F/90° F – Threaded	6.6	2
CA23P33M004	3 Pole Double Ended 90° F/90° F – Threaded	13.1	4
CA23P33M005	3 Pole Double Ended 90° F/90° F – Threaded	16.4	5
CA23P33M006	3 Pole Double Ended 90° F/90° F – Threaded	19.7	6
CA24P34M001	4 Pole Double Ended 90° F/90° F – Threaded	3.3	1
CA24P34M002	4 Pole Double Ended 90° F/90° F – Threaded	6.6	2
CA24P34M004	4 Pole Double Ended 90° F/90° F – Threaded	13.1	4
CA24P34M005	4 Pole Double Ended 90° F/90° F – Threaded	16.4	5
CA24P34M006	4 Pole Double Ended 90° F/90° F – Threaded	19.7	6

90° FEMALE / 90° FEMALE DOUBLE ENDED SNAP LOCK			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT.)	**CORD LENGTH** (M.)
CB23P33M001	3 Pole Double Ended 90° F/90° F – Snap	3.3	1
CB23P33M002	3 Pole Double Ended 90° F/90° F – Snap	6.6	2
CB23P33M004	3 Pole Double Ended 90° F/90° F – Snap	13.1	4
CB23P33M005	3 Pole Double Ended 90° F/90° F – Snap	16.4	5
CB23P33M006	3 Pole Double Ended 90° F/90° F – Snap	19.7	6
CB24P34M001	4 Pole Double Ended 90° F/90° F – Snap	3.3	1
CB24P34M002	4 Pole Double Ended 90° F/90° F – Snap	6.6	2
CB24P34M004	4 Pole Double Ended 90° F/90° F – Snap	13.1	4
CB24P34M005	4 Pole Double Ended 90° F/90° F – Snap	16.4	5
CB24P34M006	4 Pole Double Ended 90° F/90° F – Snap	19.7	6

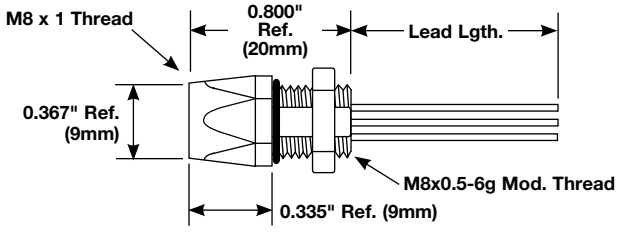
STRAIGHT MALE / 90° FEMALE DOUBLE ENDED SNAP LOCK			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
CB23F33M001	3 Pole Double Ended Straight M/90° F – Snap	3.3	1
CB23F33M002	3 Pole Double Ended Straight M/90° F – Snap	6.6	2
CB23F33M004	3 Pole Double Ended Straight M/90° F – Snap	13.1	4
CB23F33M005	3 Pole Double Ended Straight M/90° F – Snap	16.4	5
CB23F33M006	3 Pole Double Ended Straight M/90° F – Snap	19.7	6
CB24F34M001	4 Pole Double Ended Straight M/90° F – Snap	3.3	1
CB24F34M002	4 Pole Double Ended Straight M/90° F – Snap	6.6	2
CB24F34M004	4 Pole Double Ended Straight M/90° F – Snap	13.1	4
CB24F34M005	4 Pole Double Ended Straight M/90° F – Snap	16.4	5
CA24F34M006	4 Pole Double Ended Straight M/90° F – Snap	19.7	6

24 AWG Nano M8 Receptacles

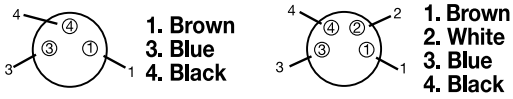
• IP68 Rated • 300 V • Current Rating: 4 Amps

24 AWG Quick-Connect™ Nano M8 receptacles are available in female, panel mounted, and male, panel mounted. O-ring and locknut included; closure caps with chain are sold separately.

FEMALE RECEPTACLE



FACE VIEW OF FEMALE RECEPTACLES



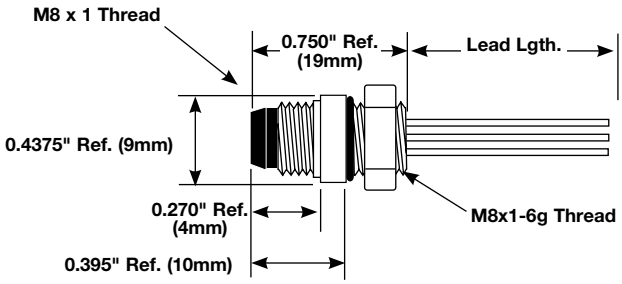
KEY CHARACTERISTICS

- Designed to work with Snap & Threaded Coupling Configurations
- Gold Plated Copper Alloy Pins
- Nickel Plated Brass Coupling Nut
- 1.2 Meter (4 Ft.) Standard Lengths

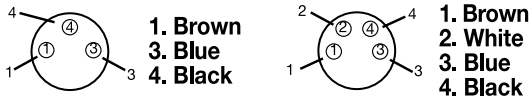
ORDERING INFORMATION *(Call for pricing & availability)*

FEMALE RECEPTACLE			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
RC13C33F004	3 Pole Female Panel Mount Receptacle Snap/Thread	4.0	1.2
RC14C34F004	4 Pole Female Panel Mount Receptacle Snap/Thread	4.0	1.2

MALE RECEPTACLE



FACE VIEW OF MALE RECEPTACLES



KEY CHARACTERISTICS

- Designed to work with Snap & Threaded Coupling Configurations
- Gold Plated Copper Alloy Pins
- Nickel Plated Brass Coupling Nut
- 0.3 Meter (1 Ft.) Standard Lengths

ORDERING INFORMATION *(Call for pricing & availability)*

MALE RECEPTACLE			
PART NO.	**DESCRIPTION**	**CORD LENGTH** (FT)	**CORD LENGTH** (M)
RC13A33F001	3 Pole Male Panel Mount Receptacle Snap/Thread	4.0	1.2
RC14A34F001	4 Pole Male Panel Mount Receptacle Snap/Thread	4.0	1.2

Build Your Own Nano M8 Cord Sets

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"C"** for cord set or a **"R"** for receptacle in the box at the top of the column. From the next column, identify the style. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

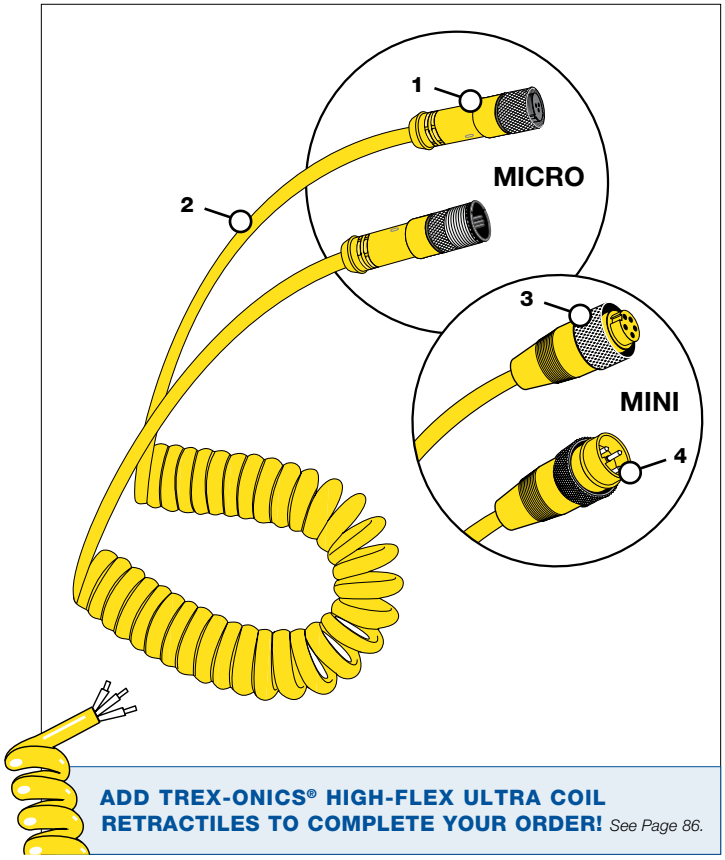
1	2	3	4	5	6	7	8	9
TYPE	**STYLE**	**ENDS**	**POLES**	**HEAD CONFIG.**	**CABLE**	**UOM**	**LENGTH**	**COUPLING**
C	A	2	4	E	34	F	020	PART NO.
C = Cord Set	**A =** Nano Threaded Coupling	**1 =** Single End (or Receptacle)	Number of Poles: **3** or **4**	**A =** Male Straight **B =** Male 90° **C =** Female Straight **D =** Female 90°	**Nano (Trex-Onics®)** **33 =** Nano 3 Conductor #62323	Unit of Measure: **M =** Meters	Enter a three digit code in the box above.	**Blank =** Regular
R = Receptacle	**B =** Nano Snap Coupling	**2 =** Double End		**E =** Male Straight to Female Straight **F =** Male Straight to Female 90° **G =** Male 90° to Female Straight **H =** Male 90° to Female 90°	**34 =** Nano 4 Conductor #62324	**F =** Feet	**EXAMPLE:** **5 =** "005"	**S =** Stainless Steel
	C = Nano Receptacle (Threaded/ Snap)			**J =** Male Straight to Male Straight **K =** Male Straight to Male 90° **L =** Male 90° to Male 90°		**A =** Inches	**50 =** "050"	**P =** Plastic
				M = Female Straight to Female Straight **N =** Female Straight to Female 90° **P =** Female 90° to Female 90°			**500 =** "500"	

In the sample part number above, **CA24E34F020** is a Nano threaded coupling cord set, double ended, 4 pole, male straight to female straight, using 4 conductor Trex-Onics® cable (#62324) and is 20 feet long.

16 & 18 AWG Mini & Micro Retractile Quick-Connect™

• RoHS Compliant • 16 AWG Mini – 600 V • 18 AWG AC/DC Micro – 300 V • Max Conductor Temperature 80°C • Male/Female Configurations

Cord sets made with TPC's Trex-Onics® High-Flex Ultra-Coil Retractiles offers defense against tearing, abrasion, impact, oil, ozone and most chemicals. There is a 5X multiple between a retracted and extended coil, so a 1 foot retracted coil will extend out 5 feet and a 3 foot retracted coil will extend out 15 feet. Built to last, the all polyurethane head design includes solid brass contacts that are nickel coated and gold plated for high/low voltage and low-level signal applications.and a hard coated MIL spec anodized aluminum knurled coupling nut for quick and secure assembly.



ADD TREX-ONICS® HIGH-FLEX ULTRA COIL RETRACTILES TO COMPLETE YOUR ORDER! *See Page 86.*

FEATURES & BENEFITS

1. ALL POLYURETHANE HEAD DESIGN — Chemical, abrasion and impact resistant construction, designed to protect the pins and sleeves from damage.

2. PLUG SETS MADE WITH TREX-ONICS® HIGH FLEX ULTRA-COIL RETRACTILES — Superior first line defense against tearing, abrasion, impact, oil ozone and most chemicals. Extreme all weather flexibility.

3. HARD COATED MIL SPEC ANODIZED ALUMINUM KNURLED COUPLING NUT — Resists corrosion. Provides quick and secure assembly.

4. SOLID BRASS CONTACTS ARE NICKEL COATED AND GOLD PLATED — Provides long life, resists corrosion, easy positive engagement. Excellent for high/low voltage and low level signal applications.

5. EXTRA LONG GROUND PIN — Ensures first-in, last-out contact for safety in AC applications.

6. PIN ORIENTATIONS ARE DESIGNED TO MEET MINI AND MICRO

7. SAE SPECIFICATION PULL-OUT VALUES EXCEED SAE SPECIFICATIONS

APPLICATIONS

- Pendants
- Portable Tools
- Packaging Equipment
- Scissor Lifts
- Robots

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	CORD SIZE AWG/COND	DESCRIPTION	AMPACITY[1]	COIL LENGTH RETRACTED (FT)	COIL LENGTH EXTENDED (FT)	PIGTAIL LENGTH (IN)
60601	16/3	3 Pole Mini Male/Female	13	1'	5'	12"
60603	16/3	3 Pole Mini Male/Female	13	3'	15'	12"
60621	16/4	4 Pole Mini Male/Female	10	1'	5'	12"
60623	16/4	4 Pole Mini Male/Female	10	3'	15'	12"
60891	18/12	12 Pole Mini Male/Female	6	1'	5'	12"
60893	18/12	12 Pole Mini Male/Female	6	3'	15'	12"
60801	18/3	3 Pole AC Micro Male/Female	4	1'	5'	12"
60803	18/3	3 Pole AC Micro Male/Female	4	3'	15'	12"
60821	18/4	4 Pole AC Micro Male/Female	4	1'	5'	12"
60823	18/4	4 Pole AC Micro Male/Female	4	3'	15'	12"
60811	18/3	3 Pole DC Micro Male/Female	4	1'	5'	12"
60813	18/3	3 Pole DC Micro Male/Female	4	3'	15'	12"
60851	18/4	4 Pole DC Micro Male/Female	4	1'	5'	12"
60853	18/4	4 Pole DC Micro Male/Female	4	3'	15'	12"

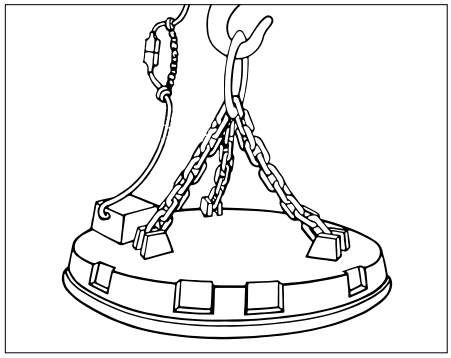
NOTE: (1) Ampacities are based on 30°C ambient and 90°C conductor temperature. These values are to be used as a guideline and may vary according to the actual cable application.

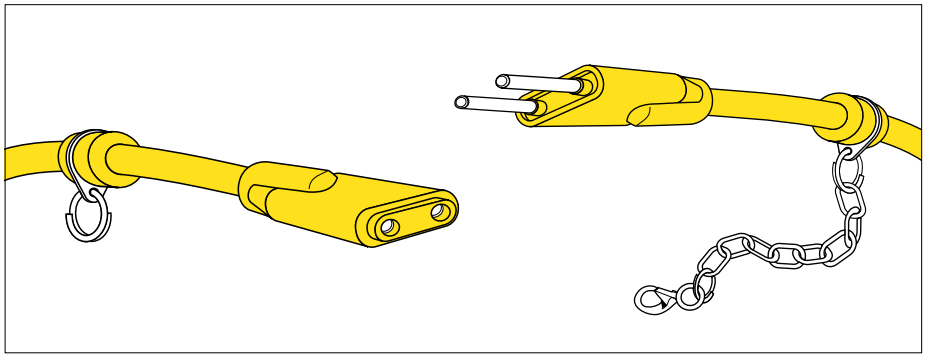
A C F

Oval Quick-Connect™ Power Assemblies

• Type W • RoHS Compliant • 600 V

This rugged Quick-Connect™ power assembly uses our flame and heat resistant Super-Trex® Type W Power Cable; a superior first line of defense against cutting, tearing, abrasion, and impact. The standard pin and sleeve configuration is interchangeable with most standard connectors now in use, but the rubber collar molded at the base of the male pins forms a "cork seal" when plugged into a matching unit from TPC Wire & Cable Corp. This seal reduces carbon arcing and protects against dust and liquids.





FEATURES & BENEFITS

1. SUPER-TREX® TYPE W POWER CABLE — Superior first line defense against cutting, tearing, abrasion and impact. Extreme all-weather flexibility. Flame and heat resistant.

2. 100% TRANSFER MOLDED TSE PLUG AND CONNECTOR BODY — "No pressure" process prevents induced stresses. Body integrity and complete bonding mean longer life.

3. ROTATING SAFETY CHAIN COLLAR — Bearing action will not cut through cable when twisted or flexed.

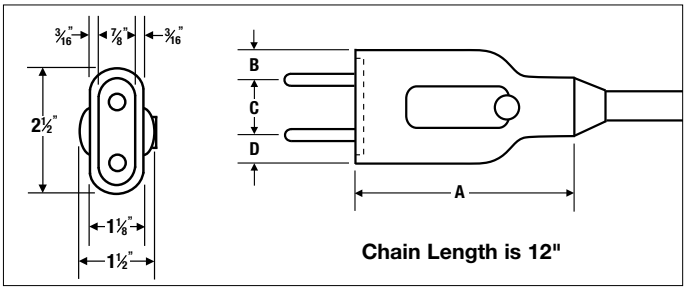
4. RUBBER COLLAR MOLDED AT BASE OF MALE PINS — Forms a "Cork Seal" when plugged into a TPC matching unit. Provides dust and liquid protection and reduces carbon arcing.

5. STANDARD PIN AND SLEEVE CONFIGURATION — Interchangeable with most standard connectors now in use.

6. BRASS PINS AND CONTACT SLEEVES — Ensures a positive electrical connection.

CONFIGURATION

DIMENSION	2/2 MALE	2/2 FEMALE	6/2 MALE	6/2 FEMALE
A	5-1/8"	5-3/8"	4-7/16"	4-7/8"
B	9/16"	3/16"	9/16"	3/16"
C	1-3/8"	2-1/8"	1-3/8"	2-1/8"
D	9/16"	3/16"	9/16"	3/16"



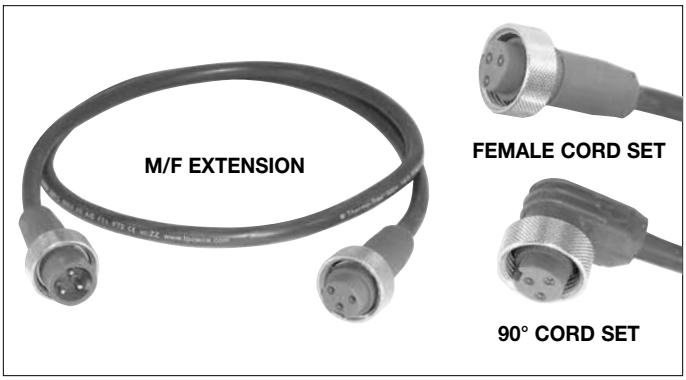
ORDERING INFORMATION *(Call for pricing & availability)*

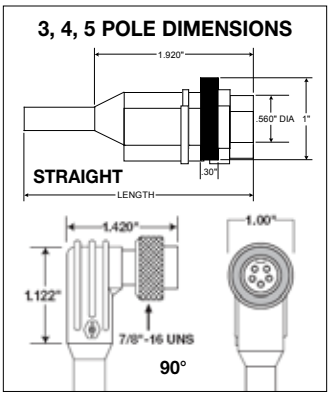
PART NO.	CORD SIZE AWG/COND	ASSEMBLY LENGTH (FT)	PLUG CONFIG.	STANDARD PIN SIZE	AMPACITY	WT. (LBS) PER UNIT	SAFETY CHAIN
85520	6/2	6'	Male/Female	5/16"	65	6	Yes
85521	6/2	6'	Female	5/16"	65	5	Yes
85526	6/2	85'	Female	5/16"	65	55	Yes
85527	6/2	100'	Female	5/16"	65	65	Yes
85540	6/2	6'	Male	5/16"	65	5	Yes
85530	2/2	6'	Male/Female	3/8"	100	10	Yes
85531	2/2	6'	Female	3/8"	100	8	Yes
85532	2/2	6'	Male	3/8"	100	8	Yes

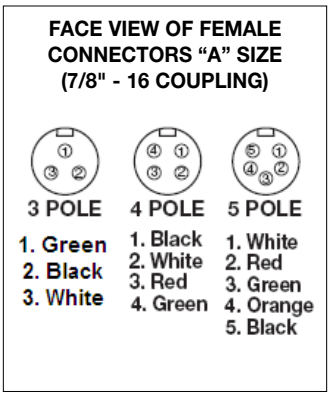
Thermo-Trex® 500-Plus 16 AWG Cord Sets

• IP68 Rated • RoHS Compliant • 600 V • Operating Temperature up to 180°C

Thermo-Trex® 500-Plus 16 AWG Cord Sets are designed with a tear resistant silicone jacket and fully bonded silicone head providing IP68 seal against moisture. It is an ideal choice for applications exposed to high temperatures up to 180°C, UV light and mechanical abuse.







FEATURES & BENEFITS

1. FULLY BONDED DESIGN — The silicone cable is fully bonded to the silicone head using a unique process providing an IP68 seal against moisture.

2. CORD SETS MADE WITH THERMO-TREX® 500-PLUS SILICONE CABLE — Silicone cable and head set provides protection to temperatures up to 180°C.

3. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

4. STAINLESS STEEL KNURLED COUPLING RINGS AND RETAINING WASHER — Resists corrosion, provides quick and secure assembly.

5. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED — Provides long life, resists corrosion, easy positive engagement. Excellent for low voltage/low level signal applications.

RECEPTACLES	
PART NO.	**DESCRIPTION**
84850	3 Pole Female
84750	4 Pole Female
84350	3 Pole Male
84450	4 Pole Male

ORDERING INFORMATION *(Call for pricing & availability)*

16 AWG FEMALE PLUGS	
PART NO.	**DESCRIPTION**
CH13C83F003S	Female Plug, 3 Pole, 3 ft.
CH13C83F006S	Female Plug, 3 Pole, 6 ft.
CH13C83F012S	Female Plug, 3 Pole, 12 ft.
CH13C83F020S	Female Plug, 3 Pole, 20 ft.
CH14C84F003S	Female Plug, 4 Pole, 3 ft.
CH14C84F006S	Female Plug, 4 Pole, 6 ft.
CH14C84F012S	Female Plug, 4 Pole, 12 ft.
CH14C84F020S	Female Plug, 4 Pole, 20 ft.
CH15C85F003S	Female Plug, 5 Pole, 3 ft.
CH15C85F006S	Female Plug, 5 Pole, 6 ft.
CH15C85F012S	Female Plug, 5 Pole, 12 ft.
CH15C85F020S	Female Plug, 5 Pole, 20 ft.

16 AWG 90° FEMALE PLUGS	
PART NO.	**DESCRIPTION**
CH13D83F003S	Female Plug 90°, 3 Pole, 3 ft.
CH13D83F006S	Female Plug 90°, 3 Pole, 6 ft.
CH13D83F012S	Female Plug 90°, 3 Pole, 12 ft.
CH13D83F020S	Female Plug 90°, 3 Pole, 20 ft.
CH14D84F003S	Female Plug 90°, 4 Pole, 3 ft.
CH14D84F006S	Female Plug 90°, 4 Pole, 6 ft.
CH14D84F012S	Female Plug 90°, 4 Pole, 12 ft.
CH14D84F020S	Female Plug 90°, 4 Pole, 20 ft.
CH15D85F003S	Female Plug 90°, 5 Pole, 3 ft.
CH15D85F006S	Female Plug 90°, 5 Pole, 6 ft.
CH15D85F012S	Female Plug 90°, 5 Pole, 12 ft.
CH15D85F020S	Female Plug 90°, 5 Pole, 20 ft.

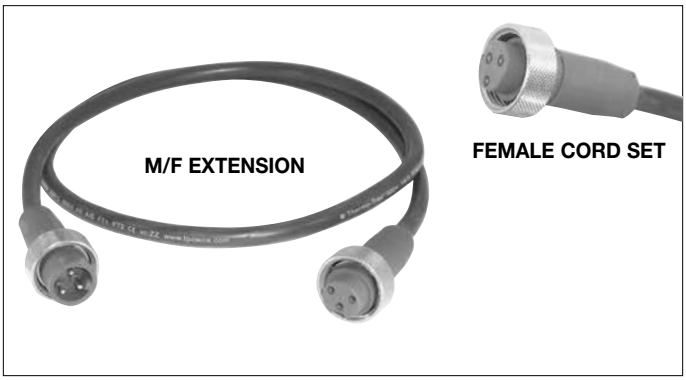
16 AWG MALE / FEMALE EXTENSION SETS	
PART NO.	**DESCRIPTION**
CH23E83F003S	M/F Ext. Set, 3 Pole, 3 ft.
CH23E83F006S	M/F Ext. Set, 3 Pole, 6 ft.
CH23E83F012S	M/F Ext. Set, 3 Pole, 12 ft.
CH23E83F020S	M/F Ext. Set, 3 Pole, 20 ft.
CH24E84F003S	M/F Ext. Set, 4 Pole, 3 ft.
CH24E84F006S	M/F Ext. Set, 4 Pole, 6 ft.
CH24E84F012S	M/F Ext. Set, 4 Pole, 12 ft.
CH24E84F020S	M/F Ext. Set, 4 Pole, 20 ft.
CH25E85F003S	M/F Ext. Set, 5 Pole, 3 ft.
CH25E85F006S	M/F Ext. Set, 5 Pole, 6 ft.
CH25E85F012S	M/F Ext. Set, 5 Pole, 12 ft.
CH25E85F020S	M/F Ext. Set, 5 Pole, 20 ft.

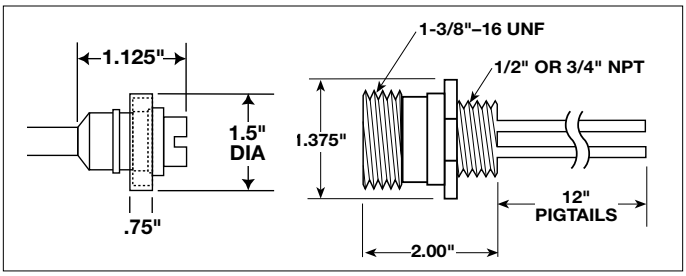
A C E F

Thermo-Trex® 500-Plus 12 AWG Cord Sets

• IP68 Rated • RoHS Compliant • 600 V • Operating Temperature up to 180°C

Thermo-Trex® 500-Plus 16 AWG Cord Sets are designed with a tear resistant silicone jacket and fully bonded silicone head providing IP68 seal against moisture. It is an ideal choice for applications exposed to high temperatures up to 180°C, UV light and mechanical abuse.





FACE VIEW OF FEMALE PLUG ASSEMBLY

3 POLE
1. Black
2. White
3. Green

4 POLE
1. Black
2. Green
3. Red
4. White

FEATURES & BENEFITS

1. FULLY BONDED DESIGN — The silicone cable is fully bonded to the silicone head using a unique process providing an IP68 seal against moisture.

2. CORD SETS MADE WITH THERMO-TREX® 500-PLUS SILICONE CABLE — Silicone cable and head set provides protection to temperatures up to 180°C.

3. EXTRA LONG GROUNDING PIN — Ensures first-in, last-out contact for safety.

4. STAINLESS STEEL KNURLED COUPLING RINGS AND RETAINING WASHER — Resists corrosion, provides quick and secure assembly.

5. SOLID BRASS CONTACT PINS ARE NICKEL COATED AND GOLD PLATED — Provides long life, resists corrosion, easy positive engagement. Excellent for low voltage/low level signal applications.

ORDERING INFORMATION *(Call for pricing & availability)*

12 AWG MALE PLUGS

PART NO.	DESCRIPTION	AMPS
84273S	3 Pole 3' Male Plug	45
84276S	3 Pole 6' Male Plug	45
84277S	3 Pole 12' Male Plug	45
84293S	4 Pole 3' Male Plug	36
84296S	4 Pole 6' Male Plug	36
84297S	4 Pole 12' Male Plug	36

12 AWG FEMALE PLUGS

PART NO.	DESCRIPTION	AMPS
84233S	3 Pole 3' Male Plug	45
84236S	3 Pole 6' Male Plug	45
84237S	3 Pole 12' Male Plug	45
84243S	4 Pole 3' Male Plug	36
84246S	4 Pole 6' Male Plug	36
84247S	4 Pole 12' Male Plug	36

12 AWG MALE / FEMALE EXTENSION SETS

PART NO.	DESCRIPTION	AMPS
84274S	3' 3 Pole	45
84275S	6' 3 Pole	45
84278S	12' 3 Pole	45
84279S	20' 3 Pole	45
84294S	3' 4 Pole	36
84295S	6' 4 Pole	36
84298S	12' 4 Pole	36
84299S	20' 4 Pole	36

12 AWG FEMALE RECEPTACLES *(48" PIGTAILS)*

PART NO.	DESCRIPTION	AMPS
84230S2	3 Pole 1/2" NPT 48" Female Receptacle Silicone Molded w/High Temperature Wire	45
84230S4	3 Pole 3/4" NPT 48" Female Receptacle Silicone Molded w/High Temperature Wire	45
84240S2	4 Pole 1/2" NPT 48" Female Receptacle Silicone Molded w/High Temperature Wire	36
84240S4	4 Pole 3/4" NPT 48" Female Receptacle Silicone Molded w/High Temperature Wire	36

12 AWG MALE RECEPTACLES *(13" PIGTAILS)*

PART NO.	DESCRIPTION	AMPS
84230S2	3 Pole 1/2" NPT 13" Male Receptacle Silicone Molded w/High Temperature Wire	45
84230S4	3 Pole 3/4" NPT 13" Male Receptacle Silicone Molded w/High Temperature Wire	45
84240S2	4 Pole 1/2" NPT 13" Male Receptacle Silicone Molded w/High Temperature Wire	36
84240S4	4 Pole 3/4" NPT 13" Male Receptacle Silicone Molded w/High Temperature Wire	36

Trex-Onics® DeviceNet™ Quick-Connect™ Wiring System Accessories

• UL Listed • CSA • ODVA Conformity • RoHS Compliant

DeviceNet™ compatible accessories meet all electrical requirements of the ODVA and are designed to simplify the addition of a sensor to an existing system. TPC Quick-Connect™ Accessories are a molded design making them inherently oil and shock resistant. Available in both Min and Mini-Micro configurations.

DeviceNet™ Passibe "T" Mini

DeviceNet™ Compatible "T".

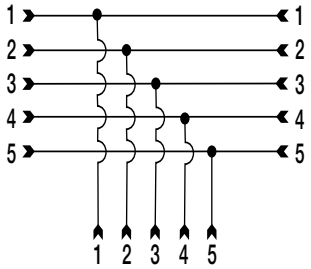
Meets all electrical requirements of Open DeviceNet™ Vendor Association (ODVA™).

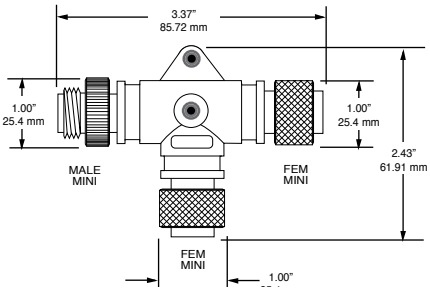
Oil and shock resistant.

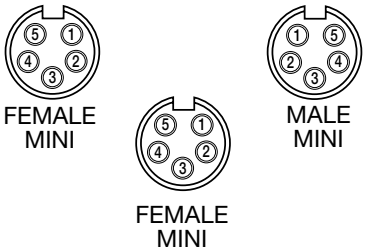
All molded construction.

Designed to simplify the addition of a sensor to an existing system.

Wiring Scheme







DeviceNet™ Passibe "T" Mini to Micro

DeviceNet™ Compatible "T".

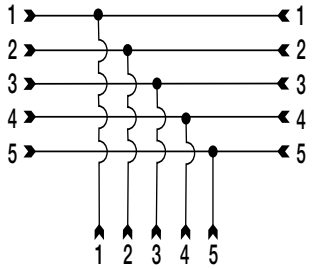
Meets all electrical requirements of Open DeviceNet™ Vendor Association (ODVA™).

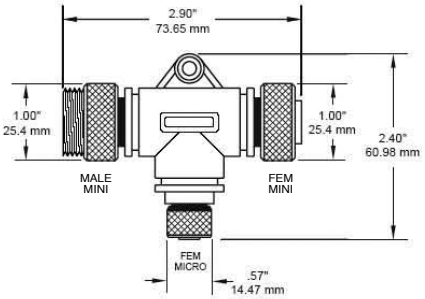
Oil and shock resistant.

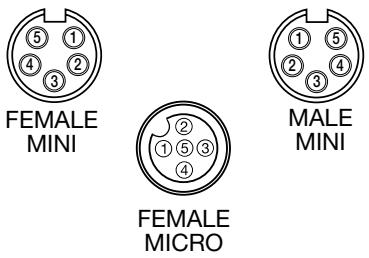
All molded construction.

Designed to simplify the addition of a sensor to an existing system.

Wiring Scheme







ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION
60100	DeviceNet™ Passive "T" – Mini
60101	DeviceNet™ Passive "T" Micro Type – Mini to Micro

Trex-Onics® DeviceNet™ Quick-Connect™ Wiring System Accessories

• UL Listed • CSA • ODVA Conformity • RoHS Compliant

DeviceNet™ compatible accessories meet all electrical requirements of the ODVA and are designed to simplify the addition of a sensor to an existing system. TPC Quick-Connect™ Accessories are a molded design making them inherently oil and shock resistant. Available in both Min and Mini-Micro configurations.

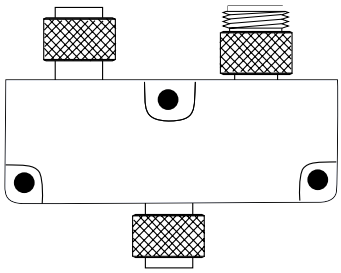
DeviceNet™ "Y"

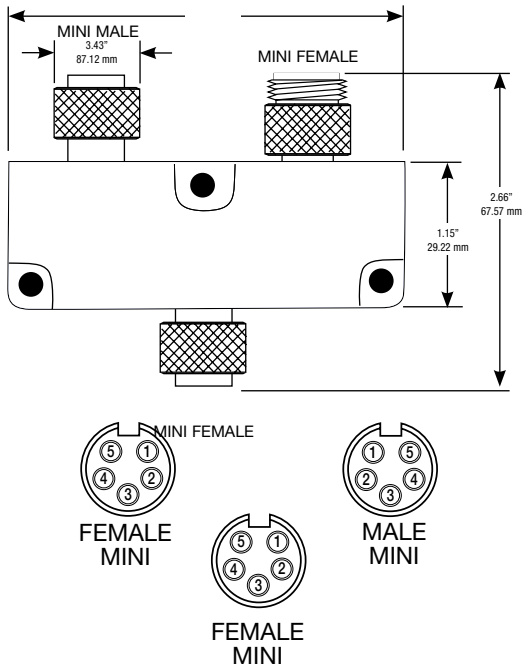
DeviceNet™ Compatible "Y".

Meets all electrical requirements of Open DeviceNet™ Vendor Association (ODVA™).

Oil and shock resistant. All molded construction.

Designed to simplify the addition of a sensor to an existing system.





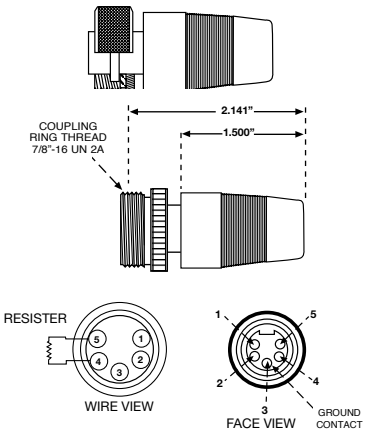
DeviceNet™ Line Terminators

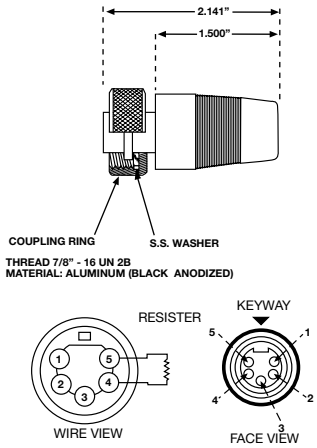
DeviceNet™ Compatible.

Meets all electrical requirements of Open DeviceNet™ Vendor Association (ODVA™).

Oil and shock resistant. All molded construction.

Designed to be used with Quick-Connect™ DeviceNet™ assemblies at a termination plug.





ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION
60200	DeviceNe™ Passive "Y" – Mini
60110	DeviceNet™ Male Terminator
60120	DeviceNet™ Female Terminator

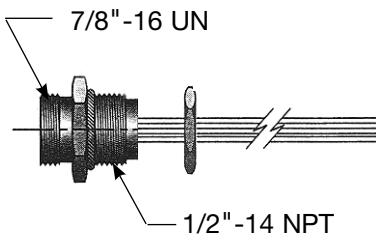
Trex-Onics® Flex-Net™ Receptacles for DeviceNet™ Applications

- RoHS Compliant

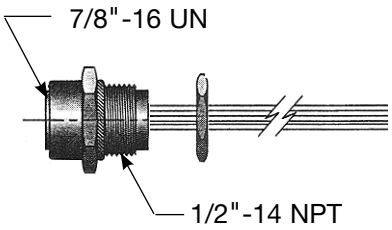
Flex-Net™ Receptacles for DeviceNet™ are designed to mate with DeviceNet™ compatible plug connectors and accessories. Available as male or female in both Mini and Micro sizes.

5 POLE MINI RECEPTACLES

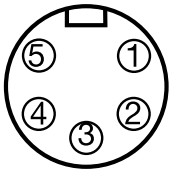
Mini Male



Mini Male



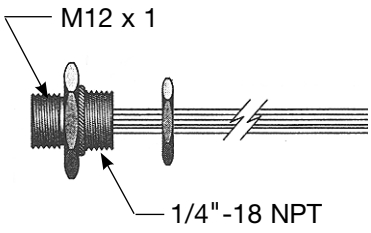
Face View of Female Mini Receptacle



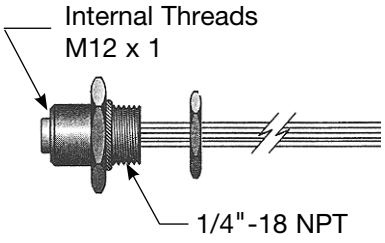
1 Drain
2 Red (V+)
3 Black (V-)
4 White (Can-H)
5 Blue (Can-L)

5 POLE MICRO RECEPTACLES

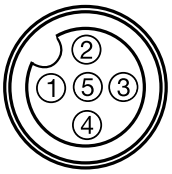
Micro Male



Micro Male



Face View of Female Micro Receptacle



1 Drain
2 Red (V+)
3 Black (V-)
4 White (Can-H)
5 Blue (Can-L)

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION	FEET	METERS
RP15A43F004	Male Receptacle — Mini	4.0	1.22
RP15C43F004	Female Receptacle — Mini	4.0	1.22
RT15R43F004	Male Receptacle — Micro	4.0	1.22
RT15T43F004	Female Receptacle — Micro	4.0	1.22

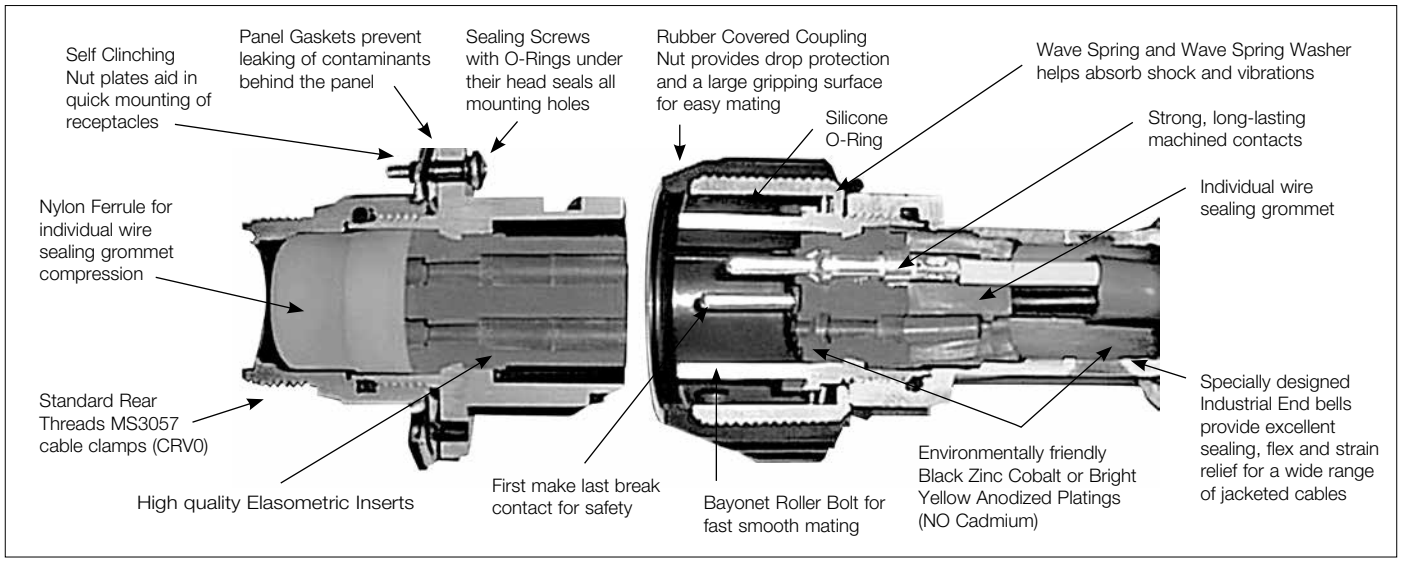
Cable Assemblies

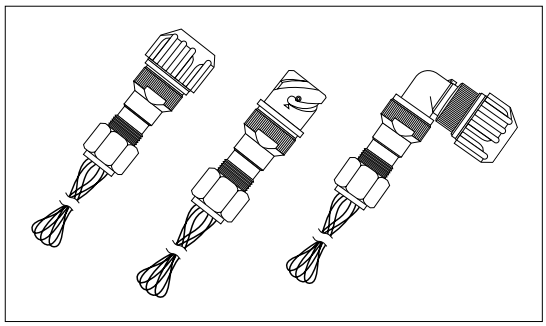
Environments Key Code: **A** = Abrasion | **C** = Chemicals | **E** = Extreme Temperatures | **F** = Flexing | **I** = Impact | **T** = Tension

Heavy-Duty Locking Connectors (HDLC)

- IP67 Rated
- VG 95 234 NATO Specification
- Contact Type: Hard Silver Crimp
- Number of Circuits: 1 to 65
- DIN 40 050 Rated
- Vibration: 200 m/s2 at 10 to 2,000 Hz. To VG 95 234 Test 5.16
- Shock: 50g 11ms, Three Major Axes. To VG 95 234 Test 5.17
- Operating Temperature Range -55°C to 125°C
- Mating Life: 2,000 Cycles Minimum (Commercial) 500 Cycles Minimum (to VG 95 234)

The most advanced line of connectors available according to MIL-C-5015 and VG95234. The HDLC connector series were developed specifically to meet the demands of industrial environments. The HDLC series shares the same shell dimensions, contact layouts, and electrical performance characteristics as the common MIL-C-5015 connectors with application engineered features such as three-quarter reverse bayonet coupling system, rubber covered coupling ring, black zinc shell plating and a superior sealing and strain relief system. Available in sizes from #18 to #1/0.





HDLC Series connectors are the ideal “bulletproof” choice for your applications:

- Superior three-quarter turn reverse bayonet coupling system.
- Rubber covered coupling ring for superior grip and damage prevention.
- Superior sealing and strain relief system.
- First-mate, last-break screw machined crimp contacts for reliability and safety.
- Over 91 contact layouts available with wire sizes from 16 AWG to 0 AWG.
- Superior shock and vibration resistant design.
- Environmentally friendly black zinc shell plating. (No cadmium)
- And much, much more…

FEATURES & BENEFITS

1. THREE QUARTER TURN REVERSE BAYONET COUPLING SYSTEM — Easy to connect and disconnect, positive locking indent prevents accidental uncoupling.

2. RUBBER COVERED COUPLING RING — Protects the nut against damage from impact, provides a large non-slip gripping surface for easy mating.

3. ENVIRONMENTALLY SEALED — The inserts of the HDLC are environmentally sealed to protect the connection against oil, water and chemical contamination. The end bells are sealed with a tapered grommet sized to the specific cable providing a waterproof seal.

4. MACHINED CONTACTS — All contacts are machined, not stamped. This produces a heavier industrial contact that is less likely to crack or break during the crimp process.

5. MESH STRAIN RELIEF — Each assembly end comes with a double weave strain relief for pull-out protection as well as flex relief for the cable.

6. FIRST MATE — LAST BREAK CONTACT — An extended ground pin insures first mate/last break contact for safety.

7. SUPERIOR SHOCK AND VIBRATION RESISTANCE — Each connector contains a wave spring and wave spring washer designed to absorb shock and vibration in the coupler before it reaches the contacts. This helps to eliminate pin elongation and damage that may cause arcing and connector failure.

8. AVAILABLE IN AWG SIZES RANGING FROM #18 TO #1/0 — The HDLC connector accepts a wide range of Gauge sizes and configurations to meet your connector needs.

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

TECHNICAL SPECIFICATIONS

MATERIALS & FINISHES

Shell	Aluminum alloy (Shells can be grounded)
Plating	Black zinc cobalt, bright yellow anodized
Contacts	Copper alloy
Platings	Hard silver plating
Insulator	Resilient polychloroprene (Neoprene)
Seals	Neoprene

ELECTRICAL DATA

The indicated values for the "operating voltage" are limits concerning the electrical function. In any case, when the working voltage exceeds 50V, safety precautions must be in accordance with the following standards: **VDE 0100, IEC 309-1 or applicable national standards.**

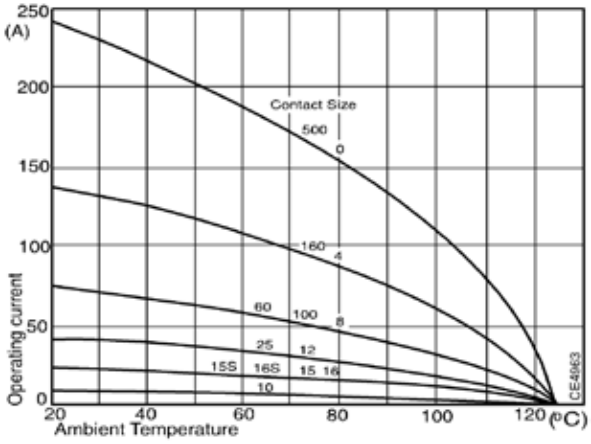
Operating Voltage/Test Voltage According to MIL-C-5015

SERVICE RATING	OPERATING VOLUME		TEST VOLTAGE AC VRMS
	DC V	AC VRMS	
I	250	200	1,000
A	700	500	2,000
D	1,250	900	2,800
E	1,750	1,250	3,500
B	2,450	1,750	4,500

Current Rating at 68˚ F (+20˚C)

CONTACT SIZE	MAX. CURRENT (AMPS)
16/16S	22
12	41
8	74
4	135
0	245

Current Rating (by ambient temperature)



Wire Range Sizes

26 AWG TO 0 AWG *(See contact selection on page 306–309).*

Contact Resistance

Tested according to VG95234 Test 5.10.

CONTACT SIZE	CONTACT RESISTANCE MILLIOHM MAX.
16/16S	6
12	3
8	1
4	0.5
0	0.2

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

TECHNICAL SPECIFICATIONS *(Continued)*

MECHANICAL	Insulation Resistance	>1000 Megohm According to VG 95 319 Test 5.12 and VG 95 210 Part 32, Test condition B.
	Operating Temperature	-55˚ to +125˚C (-67˚ to +257˚F).

Sealing	Fully submersible to 1 bar (35 feet) when mated. Meets IP67, DIN 40 050, VG 95 234.
Wire Sealing Range	The connector is designed for individual wire sealing. Sealing of an outer cable jacket on multi-conductor cables is accomplished with the sealed end bell. Sealing is only guaranteed if wires according to MIL-W-5086 or within the listed ranges are used.

CONTACT SIZE	**WIRE SIZE** (MIL-W-5086)	**INSULATION O.D. LIMIT** (in)	
		MIN. (mm)	**MAX.** (mm)
16/16S	16	0.087 (2.2)	0.110 (2.8)
12	12	0.122 (3.1)	0.138 (3.5)
8	8	0.220 (5.6)	0.256 (6.5)
4	4	0.335 (8.5)	0.370 (9.4)
0	0	0.452 (11.5)	0.512 (13.0)

Mating Life	2,000 cycles minimum (commercial) 500 cycles minimum (to VG 95 234)
Salt Spray	Salt-spray resistant platings
Heat	+125°C (+257°F) for 1000 hours
Chemical Resistance	Tested un-mated and mated according to VG 95 234 for hydraulic fluid, lubricating oil, fuels, humidity, water, salt water, solvents, and corrosion resistance.
Vibration	200 m/s2 at 10 to 2,000 Hz. To VG 95 234 Test 5.16
Shock	50g 11ms, three major axes. To VG 95 234 Test 5.17
Contact Type	Hard silver crimp
No. of Circuits	1 to 65
Contact Insertion	From rear with simple hand tool. Removable, 5 cycles minimum.
Contact Retention	Pin and socket contacts are designed to resist severe vibration and repeated connection and disconnection. Contact retention and separation is tested according to VG 95 319 Part 2. Contact retention to test 5.4 with test force in mating direction. Separations force test 5.7 using required test gauge.

CONTACT SIZE	**RETENTION FORCE NEWTONS** (LBS)		**SEPARATION FORCE MIN. NEWTONS** (LBS)		**GAUGE**
16	35"	(7.9)	1"	(0.22)	G 1.56
12	55"	(12.4)	1.5"	(0.34)	G 2.36
8	80"	(18.0)	3"	(0.67)	G 3.58
4	90"	(20.2)	4"	(0.90)	G 5.69
0	95"	(21.4)	8.5"	(1.9)	G 9.04

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

3 CONTACTS

LAYOUT	20-3	20-6	20-19	22-2	22-9	22-21
# OF CONTACTS	3-#12	3-#16	3-#8	3-#8	3-#12	2-#16; 1-#0
SERVICE RATING	D	D	A	D	E	A

4 CONTACTS

LAYOUT	20-24	22-4	22-10	22-22*	24-4	24-22*	36-5
# OF CONTACTS	2-#16; 2-#8	2-#12; 2-#8	4-#16	4-#8	3-#16; 1-#0	4-#8	4-#0
SERVICE RATING	A	A	E	A	D	D	A

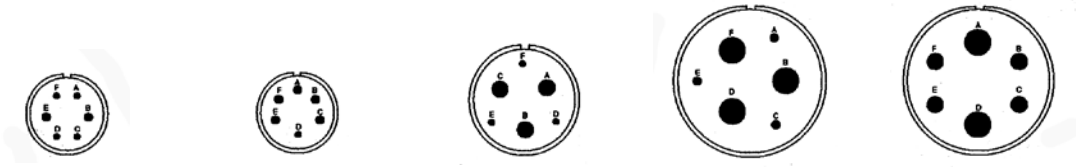
5 CONTACTS

LAYOUT	22-12	24-12
# OF CONTACTS	3-#16; 2-#8	3-#12; 2-#4
SERVICE RATING	D	A

6 CONTACTS

20-8	20-22
4-#16: 2-#8	3-#16; 3-#8
I	A

6 CONTACTS *(Continued)*



LAYOUT	22-5	22-15	28-22	36-3	36-6
# OF CONTACTS	4-#16; 2-#12	1-#16; 5-#12	3-#16; 3-#4	3-#12; 3-#0	4-#4; 2-#0
SERVICE RATING	D	A(A,B,C,E,F);	D	D	A

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

7 CONTACTS

LAYOUT	20-15*	22-28	24-2	24-10	24-27	28-10
# OF CONTACTS	7-#12	7-#12	7-#12	7-#8	7-#16	3-#12; 2-#8; 2-#4
SERVICE RATING	A	A	D	A	E	D(G); A(BALANCE)

8 CONTACTS

LAYOUT	20-7*	22-18	22-23	36A35
# OF CONTACTS	8-#16	8-#16	8-#12	4-#16; 4-#0
SERVICE RATING	A(C-F); D(A,B,G,H)	A(C-E); D(BALANCE)	D(H); A(BALANCE)	A

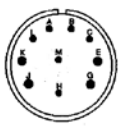
9 CONTACTS

LAYOUT	20A9	20-16	20-18*	22-16	22-20	22-27
# OF CONTACTS	9-#12	7-#16; 2-#12	6-#16; 3-#12	6-#16; 3-#12	9-#16	8-#16; 1-#8
SERVICE RATING	D(J); ALL OTHERS I	A	A	A	A	D(J); A(BALANCE)

9 CONTACTS *(Continued)*

LAYOUT	24-11*	28A16
# OF CONTACTS	6-#12; 3-#8	5-#16; 4-#4
SERVICE RATING	A	A

10 CONTACTS



28-19
6-#16; 4-#12
A(C,E,G,J,K,L); B(H,M); D(A,B)

11 CONTACTS

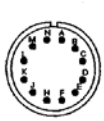
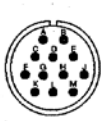
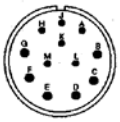
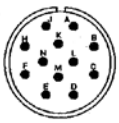
24-20
9-#16; 2-#12
D

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

12 CONTACTS

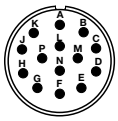
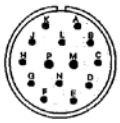
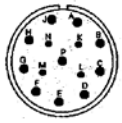





LAYOUT	24-19	24A24	28-51	28-51
# OF CONTACTS	12-#16	12-#12	6-#16; 6-#12	3-#8
SERVICE RATING	A	A	D	D

13 CONTACTS

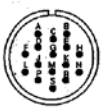
LAYOUT	22-21
# OF CONTACTS	2-#16; 1-#0
SERVICE RATING	A

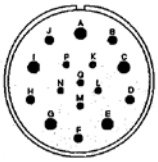
14 CONTACTS

LAYOUT	20-27*	22-19*	28-2	28-20
# OF CONTACTS	14-#16	14-#16	12-#16; 2-#12	4-#16; 10-#12
SERVICE RATING	A	A	D	A

16 CONTACTS



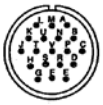


LAYOUT	24-5	24-7*	36-14
# OF CONTACTS	16-#16	14-#16; 2-#12	6-#16; 5-#12; 5-#8
SERVICE RATING	A	A	D

17 CONTACTS

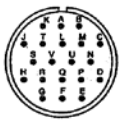
LAYOUT	20-29*
# OF CONTACTS	17-#16
SERVICE RATING	A

19 CONTACTS

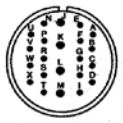
LAYOUT	20A48	22-14*
# OF CONTACTS	19-#16	19-#16
SERVICE RATING	I	A

20 CONTACTS



LAYOUT	28-16
# OF CONTACTS	20-#16
SERVICE RATING	A

22 CONTACTS



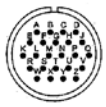
LAYOUT	28-11*
# OF CONTACTS	18-#16; 4-#12
SERVICE RATING	A

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

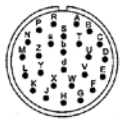
View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

24 CONTACTS



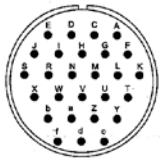
LAYOUT	24-28*
# OF CONTACTS	16/24
SERVICE RATING	I

26 CONTACTS



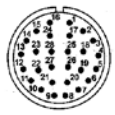
LAYOUT	28-12*
# OF CONTACTS	26-#16
SERVICE RATING	A

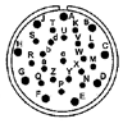
27 CONTACTS



LAYOUT	36A46
# OF CONTACTS	27-#12
SERVICE RATING	A

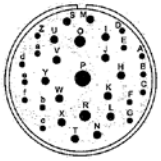
28 CONTACTS





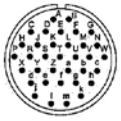
LAYOUT	24A28	28A63
# OF CONTACTS	28-#16	9-#12; 19-#16
SERVICE RATING	I	A

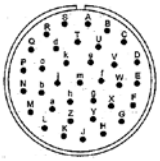
31 CONTACTS



LAYOUT	36-9
# OF CONTACTS	14-#16; 14-#12; 2-#8; 1-#4
SERVICE RATING	A

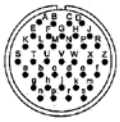
35 CONTACTS





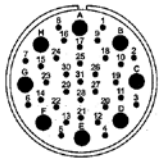
LAYOUT	28-15*	36-15
# OF CONTACTS	35-#16	35-#16
SERVICE RATING	A	D(M); A(BALANCE)

37 CONTACTS



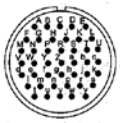
LAYOUT	28-21*
# OF CONTACTS	37-#16
SERVICE RATING	A

39 CONTACTS



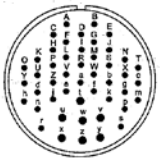
LAYOUT	36A98
# OF CONTACTS	8-#8; 31-#16
SERVICE RATING	A

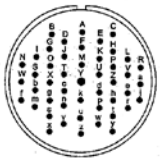
43 CONTACTS



LAYOUT	28A51
# OF CONTACTS	43-#16
SERVICE RATING	A

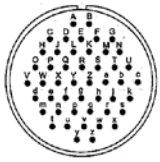
47 CONTACTS





LAYOUT	36-7*	36-8
# OF CONTACTS	40-#16; 7-#12	46-#16; 1-#12
SERVICE RATING	A	A

48 CONTACTS



LAYOUT	36-10*
# OF CONTACTS	48-#16
SERVICE RATING	A

Heavy-Duty Locking Connectors (HDLC) *(Continued)*

NUMBER OF CONTACTS

LAYOUT	TOTAL	16	16S	12	8	4	0
20-3	3			3			
20-4	4			4			
20-6	3	3					
20-7	8	8					
20-8	6	4			2		
20-11	13	13					
20-15	7			7			
20-16	9	7		2			
20-18	9	6		3			
20-19	3				3		
20-22	6	3			3		
20-24	4	2			2		
20-27	14	14					
20-29	17	17					
20A9	9		9				
20A48	19	19					
22-2	3				3		
22-4	4			2	2		
22-5	6	4		2			
22-9	3			3			
22-10	4	4					
22-12	5	3			2		
22-14	19	19					
22-15	6	1		5			
22-16	9	6		3			
22-19	14	14					
22-20	9	9					
22-21	3	2				1	
22-22	4				4		
22-23	8			8			
22-27	9	8			1		
22-28	7			7			
24-2	7			7			
24-5	16	16					
24-7	16	14		2			
24-10	7				7		
24-11	9			6	3		

LAYOUT	TOTAL	16	16S	12	8	4	0
24-12	5				3		2
24-19	12	12					
24-20	11	9		2			
24-22	4				4		
24-27	7	7					
24-28	24	24					
24A24	12			12			
24A28	28	28					
28-2	14	12		2			
28-9	12	6		6			
28-10	7			3	2	2	
28-11	22	18		4			
28-12	26	26					
28-15	35	35					
28-16	20	20					
28-19	10	6		4			
28-20	14	4		10			
28-21	37	37					
28-22	6	3				3	
28-51	12			12			
28A16	9	5				4	
28A51	43	43					
28A63	28	19		9			
36-3	6			3			3
36-5	4						4
36-6	6					4	2
36-7	47	40		7			
36-8	47	46		1			
36-9	31	14		14	2	1	
36-10	48	48					
36-14	16	6		5	5		
36-15	35	35					
36A35	8	4					4
36A46	27			27			
36A98	39	31			8		

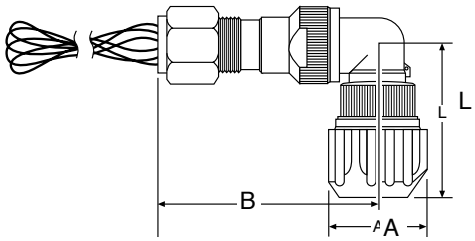
Heavy-Duty Locking Connectors (HDLC) *(Continued)*

DIMENSIONS

90° CABLE PLUG

90˚ cable plugs are for cable connection to the receptacle where a sharp turn is required and are supplied with crimp contacts, individual wire sealing grommet, ferrule, deluxe strain relief backshell and rubber covered coupling ring.

SHELL SIZE	A DIA. MAX.	B REF.	L REF.
20	2.028	4.680	2.638
22	2.205	4.680	2.638
24	2.362	5.000	2.875
28	2.638	5.250	2.875
32	2.992	5.675	3.080
36	3.240	6.360	3.190



SHELL SIZE	CABLE RANGE
20	0.188" – 0.875"
22	0.188" – 0.875"
24	0.688" – 0.875"

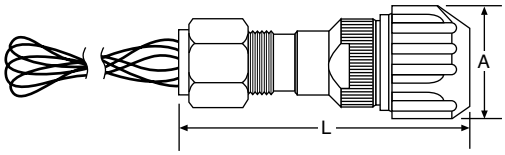
SHELL SIZE	CABLE RANGE
28	0.562" – 1.125"
32	0.750" – 1.125"
36	0.875" – 1.688"

PART NUMBER	DESCRIPTION
3N	90˚ Male Plug
4N	90˚ Female Plug

STRAIGHT PLUG

Straight cable plugs are for cable connection to the receptacle and are supplied with crimp contacts, individual wire sealing grommet, ferrule, deluxe strain relief backshell and rubber covered coupling ring.

SHELL SIZE	A DIA. MAX.	L REF.
20	2.028	5.100
22	2.205	5.600
24	2.362	5.800
28	2.638	5.840
32	2.992	6.080
36	3.240	6.350



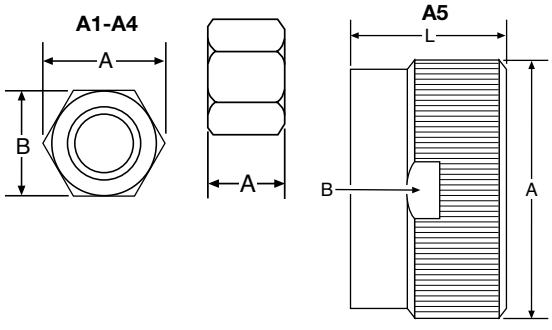
SHELL SIZE	CABLE RANGE
20	0.188" – 0.875"
22	0.188" – 0.875"
24	0.688" – 0.875"

SHELL SIZE	CABLE RANGE
28	0.562" – 1.125"
32	0.750" – 1.125"
36	0.875" – 1.688"

PART NUMBER	DESCRIPTION
3X	Straight Male Plug
4X	Straight Female Plug

GLAND SEAL & CABLE MESH SECURING NUTS

SIZE	A DIA. MAX.	B WRENCH FLATS REFS.	L REF.
A1	1.450	1.260	0.750
A2	1.720	1.510	1.000
A3	2.000	1.750	1.000
A4	2.600	2.250	1.250
A5	2.750	2.625	1.625

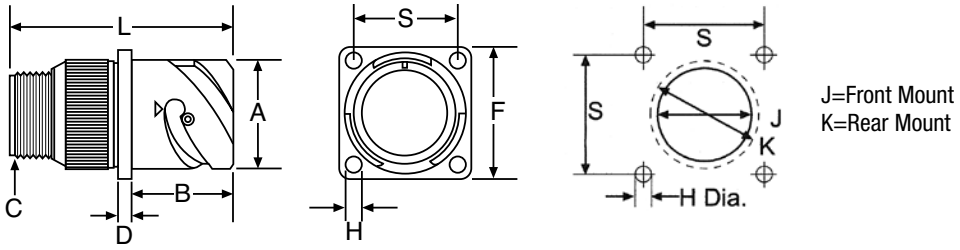


Heavy-Duty Locking Connectors (HDLC) *(Continued)*

DIMENSIONS

PANEL MOUNT RECEPTACLE

Panel mount receptacles are for wall or panel mounting and are supplied with crimp contacts, individual wire sealing grommet, ferrule, end bell, gasket, nut plate and screws.



J=Front Mount
K=Rear Mount

SIZE	A DIA.	B	C THREAD	D	L MAX.	F	S	H	J	K
20	1.350	0.910	1-3/16-18UNEF-2A	0.160	2.480	1.500	1.160	0.130	1.160	1.360
22	1.470	0.910	1-3/16-18UNEF-2A	0.160	2.600	1.650	1.250	0.130	1.290	1.490
24	1.610	0.910	1-7/16-18UNEF-2A	0.160	2.720	1.750	1.370	0.150	1.420	1.630
28	1.840	0.950	1-7/16-18UNEF-2A	0.160	2.760	2.000	1.560	0.150	1.650	1.850
32	2.100	0.950	1-3/4-18UNS-2A	0.160	2.790	2.240	1.750	0.170	1.900	2.120
36	2.350	0.950	2-18UNS-2A	0.160	2.870	2.500	1.940	0.170	2.150	2.360

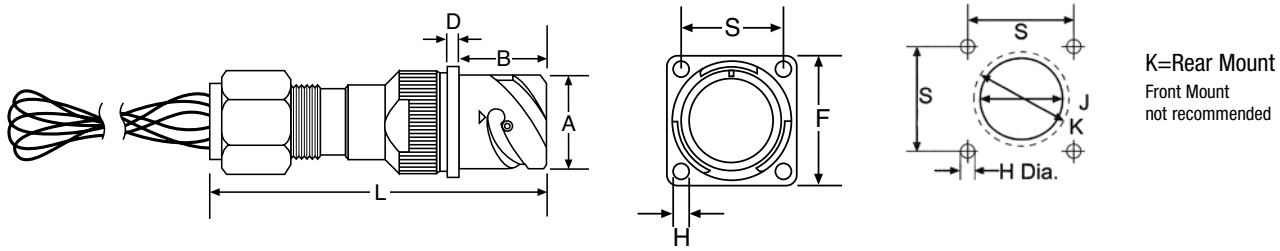
SHELL SIZE	CABLE RANGE
20	0.188" – 0.875"
22	0.188" – 0.875"
24	0.688" – 0.875"

SHELL SIZE	CABLE RANGE
28	0.562" – 1.125"
32	0.750" – 1.125"
36	0.875" – 1.688"

PART NUMBER	DESCRIPTION
1X	Straight Male Panel Mount Receptacle
2X	Straight Female Panel Mount Receptacle

CABLE CONNECTING RECEPTACLE

Cable connecting receptacles are for in-line cable connection and are supplied with crimp contacts, individual wire sealing grommet, ferrule, deluxe strain relief backshell, gasket, nut plate and screws.



K=Rear Mount
Front Mount
not recommended

SHELL SIZE	A DIA.	B	D	L REF.	F	S	H	K
20	1.346	0.907	0.157	5.400	1.496	1.157	0.126	1.358
22	1.472	0.907	0.157	5.830	1.654	1.252	0.126	1.488
24	1.610	0.907	0.157	6.030	1.752	1.374	0.146	1.626
28	1.839	0.947	0.157	6.050	2.000	1.563	0.146	1.854
32	2.102	0.947	0.157	6.280	2.244	1.752	0.169	2.118
36	2.346	0.947	0.157	6.560	2.500	1.937	0.169	2.362

SHELL SIZE	CABLE RANGE
20	0.188" – 0.875"
22	0.188" – 0.875"
24	0.688" – 0.875"

SHELL SIZE	CABLE RANGE
28	0.562" – 1.125"
32	0.750" – 1.125"
36	0.875" – 1.688"

PART NUMBER	DESCRIPTION
5X	Straight In-line Male Receptacle
6X	Straight In-line Female Receptacle

Build Your Own Heavy-Duty Locking Connector Assemblies

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"H"** in the box at the top of the column. From the next column, identify End One. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

1	2	3	4	5	6	7
TYPE	**END 1**	**END 2**	**INSERT LAYOUT**	**CABLE PART NO.**	**UNIT OF MEASURE**	**LENGTH**
H	**3X**	**4X**	**36A22**	**88522**	**F**	**070**
H = HDLC	**3X -** Male Plug	**3X -** Male Plug	Select from Contact Layout Charts in this section	List TPC Cable Part Number or PT for Pigtails **NOTE:** If using a shielded cable and shield requires termination, contact TPC	**M** = Meters	Enter a three digit code in the box above. **EXAMPLE:** **5** = "005"
	4X - Female Plug	**4X -** Female Plug			**F** = Feet	**50** = "050"
	3N - 90˚ Male Plug	**3N -** 90˚ Male Plug			**A** = Inches	**500** = "500"
	4N - 90˚ Female Plug	**4N -** 90˚ Female Plug				
	5X - Male In-line Receptacle	**WM -** Jacket stripped back with Wire Markers (Singled Ended Assembly)				
	6X - Female In-line Receptacle					
	1X - Male Panel Mount Receptacle	**PT -** Pigtail (for Panel Mount Receptacle only)				
	2X - Female Panel Mount Receptacle	**1X -** Male Panel Mount Receptacle				
		2X - Female Panel Mount Receptacle				

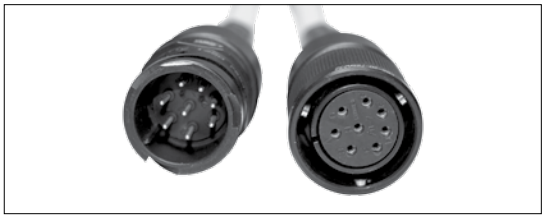
PART NO.

In the example shown above, **H3X4X36A2288522F070** is a male plug to a female plug using a 36A22 insert layout with 70 ft. of 16/22 Super-Trex® Reduced Diameter Control Cable.

Molded Military Connectors (MIL-C-5015)

• MIL-C-5015 • VG 95 234 NATO Specification • Operating Temperature Range -55°C to 125°C

TPC's Circular Connectors are designed and manufactured to MIL-C-5015 standards to operate in most environmental conditions. This connector style has been used in the military for over 50 years with a proven track record. The design is well suited to commercial applications where a rugged threaded connector is required.



TPC has taken the standard MIL-C-5015 design and developed a new back shell that incorporates a sealing grommet and strain relief for added cable life. The shell design is a machined aluminum incorporating a low profile design and a reduced overall length for close quarter installations.

There are over 180 contact layouts available ranging from 1 to 65 positions and up to 150 amps per contact. The standard MIL-C-5015 layouts allow the mixing of power and signal contacts, power only or signal only. Contact sizes range from size 20AWG up to 1/0.

The combination of TPC's High Performance Cable, the proven reliability of the MIL-C-5015 connector and the Flex/Strain Relief of our new back shell design makes for an unbeatable system.

APPLICATIONS

- Earth Moving Equipment
- Engines
- Industrial Machinery
- Mobile Equipment
- Motion Control
- Off-road Vehicles
- Power Generators
- Sensors
- Ships
- Telecommunications

TECHNICAL SPECIFICATIONS

OPERATING VOLTAGE/TEST VOLTAGE					
SERVICE RATING*	TEST VOLTAGE	SUGGESTED* OPERATING VOLTAGE		AIR SPACING NOM.	CREEPAGE DISTANCE NOM.
		DC	AC		
I	1,000	250	200	—	1/16
A	2,000	700	500	1/16	1/8
D	2,800	1,250	900	1/8	3/16
E	3,500	1,750	1,250	3/16	1/4
B	4,500	2,450	1,750	1/4	5/16

Current Rating & Contact Resistance

CONTACT SIZE	TEST CURRENT	POTENTIAL DROP
16	13 AMPS	49 MILLIVOLTS
12	23 AMPS	42 MILLIVOLTS
8	46 AMPS	26 MILLIVOLTS
4	80 AMPS	23 MILLIVOLTS
0	150 AMPS	21 MILLIVOLTS

Maximum total current to be carried per connector in wire bundles as specified in MIL-W-5088. Contact resistance when tested to MIL-C-39029 will not exceed voltage drops listed in above table.

Wire Range Sizes — 20 AWG to 0 AWG up to 150 amps

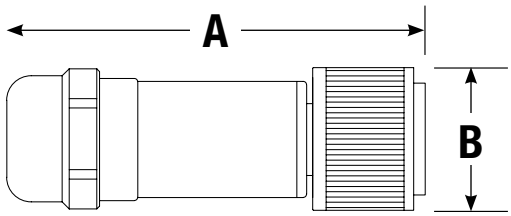
Insulation Resistance — >5000 megohms at 77°F (25°C) per MIL-C-5015

Molded Military Connectors (MIL-C-5015) *(Continued)*

TECHNICAL SPECIFICATIONS *(Continued)*

Operating Temperature	-55° to +125°C (-67° to +257°F) 60 hrs./185°F 1000 hrs.
Sealing	48 hours in 6 feet of water per MIL-C-5015 Meets 20 day extreme humidity testing per MIL-C-5015 (NOTE: using epoxy backfill option)
Mating Life	100 cycles minimum to MIL-C-5015
Chemical Resistance	20 hour full immersion unmated in hydraulic fluid and lubricating oil per MIL-C-5015 minimum
Vibration	10 to 2,000Hz (15 g's) 10 microseconds maximum discontinuity to MIL-STD-1344 Method 2005 per MIL-C-5015
Shock	50g's, 11ms duration, three major axes 10 microseconds maximum discontinuity to MIL-C-5015
Polarization	Integral key and keyway
Approvals	MIL-C-5015 • VG 95 342

Back Shell Dimensions



SHELL SIZE	A	B
8S	2.302	0.8440
10S	2.302	0.9690
10SL	2.802	1.0000
12, 12S	3.049	1.0620
14, 14S	3.049	1.1560
16, 16S	3.300	1.2500
18	3.300	1.3440
20	3.549	1.4690
22	3.549	1.5940
24	3.594	1.7190
28	4.094	1.9690
32	5.887	2.2190
36	5.887	2.4690

LAYOUT BY NUMBER OF CONTACTS

View from Mating Face of Pin Insulator: * = Most Popular Layouts

1 CONTACTS

LAYOUT	8S-1	10S-2	12S-4	12-5	16-12	18-7	20-2	22-7
# OF CONTACTS	1-#16	1-#16	1-#16	1-#12	1-#4	1-#8	1-#0	1-#0
SERVICE RATING	A	A	D	D	A	B	D	E

Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

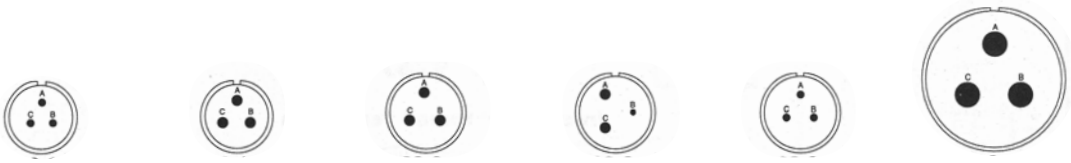
2 CONTACTS

LAYOUT	10SL-4*	12S-3*	14S-9*	16S-4	16-11	18-3	20-23
# OF CONTACTS	2-#16	2-#16	2-#16	2-#16	2-#12	2-#12	2-#8
SERVICE RATING	A	A	D	A	D	A	A

LAYOUT	22-8	22-11	24-9	28-7	32-5
# OF CONTACTS	2-#12	2-#16	2-#4	2-#4	2-#0
SERVICE RATING	E	B	A	D	D

3 CONTACTS

LAYOUT	10SL-3*	14S-1	14S-7*	16S-5	16S-6	16-10*	18-5	18-22
# OF CONTACTS	3-#16	3-#16	3-#16	3-#16	3-#16	3-#12	1-#16; 2-#12	3-#16
SERVICE RATING	A	A	A	A	A	A	D	D



LAYOUT	20-3	20-19	22-2	22-6	22-9	36-4
# OF CONTACTS	3-#12	3-#8	3-#8	1-#16; 2-#8	3-#12	3-#0
SERVICE RATING	D	A	D	D	E	D(A), A(B,C)

4 CONTACTS

LAYOUT	12SA-10	14S-2*	16-9	18-4*	18-10*	18-13	20-4*	20-24
# OF CONTACTS	4-#16	4-#16	2-#16, 2-#12	4-#16	4-#12	3-#12; 1-#8	4-#12	2-#16; 2-#8
SERVICE RATING	I	I	A	D	A	A	D	A

Molded Military Connectors (MIL-C-5015) *(Continued)*

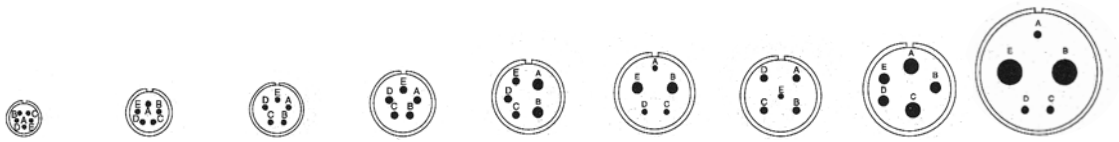
LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: * = Most Popular Layouts

4 CONTACTS *(Continued)*

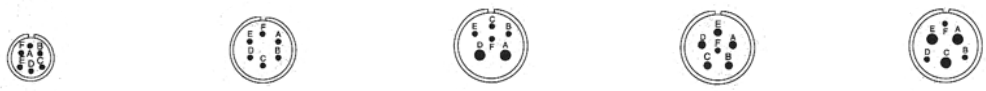
LAYOUT	22-4	22-10	22-22*	24-22*	36-5
# OF CONTACTS	2-#12; 2-#8	4-#16	4-#8	4-#8	4-#0
SERVICE RATING	A	E	A	D	A

5 CONTACTS

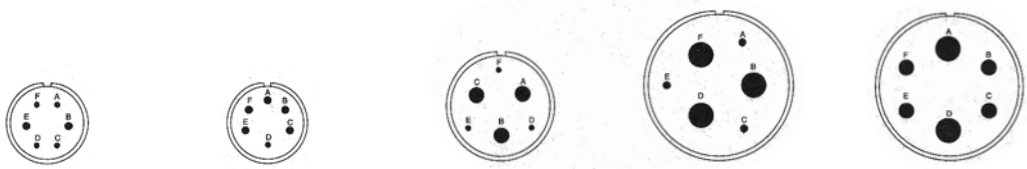


LAYOUT	10SLA-4	14S-5*	16S-8*	18-11*	20-14	22-12	22-13	24-12	34-1
# OF CONTACTS	5-#20	5-#16	5-#16	5-#12	3-#12; 2-#8	3-#16; 2-#8	1-#16; 4-#12	3-#12; 2-#4	3-#12; 2-#0
SERVICE RATING	A	I	A	A	A	D	A(A,D); D(E)	A	E(A); D (BALANCE)

6 CONTACTS



LAYOUT	22-8	22-11	24-9	28-7	32-5
# OF CONTACTS	2-#12	2-#16	2-#4	2-#4	2-#0
SERVICE RATING	E	B	A	D	D



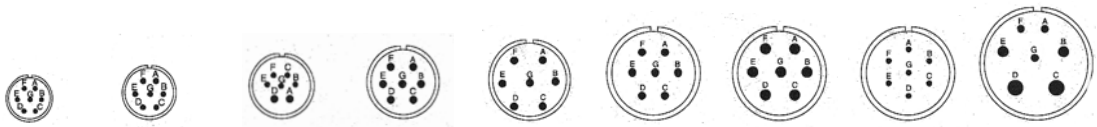
LAYOUT	22-8	22-11	24-9	28-7	32-5
# OF CONTACTS	2-#12	2-#16	2-#4	2-#4	2-#0
SERVICE RATING	E	B	A	D	D

Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: * = Most Popular Layouts

7 CONTACTS

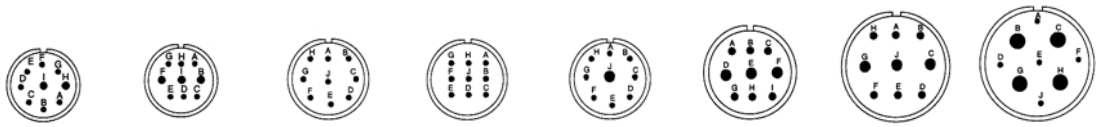


LAYOUT	14SA7	16S-1*	18-9	20-15*	22-28	24-2	24-10	24-27	28-10
# OF CONTACTS	7-#16	7-#16	5-#16; 2-#12	7-#12	7-#12	7-#12	7-#8	7-#16	3-#12; 2-#8; 2-#4
SERVICE RATING	I	A	I	A	A	D	A	E	D(G); A (BALANCE)

8 CONTACTS

LAYOUT	18-8*	20-7*	22-18	22-23	24-6
# OF CONTACTS	7-#16; 1-#12	8-#16	8-#16	8-#12	8-#12
SERVICE RATING	A	A(C-F); D(A,B,G,H)	A(C-E); D(BALANCE)	D(H); A(BALANCE)	D(A,G,H); A (BALANCE)

9 CONTACTS

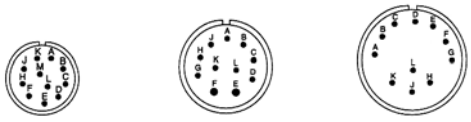


LAYOUT	20-16	20-18*	22-17	22-20	22-27	24-11*	28-1	28A16
# OF CONTACTS	7-#16; 2-#12	6-#16; 3-#12	8-#16; 1-#12	9-#16	8-#16; 1-#8	6-#12; 3-#8	6-#12; 3-#8	5-#16; 4-#4
SERVICE RATING	A	A	D(A); A(BALANCE)	A	D(J); A(BALANCE)	A	D(A,E,J) A(BALANCE)	A

10 CONTACTS

LAYOUT	18-1*	18-19	28-19
# OF CONTACTS	10-#16	10-#16	6-#16; 4-#12
SERVICE RATING	A(B,C,F,G) I(BALANCE)	A	A(C,E,G,J,K,L) B(H,M); D(A,B)

11 CONTACTS



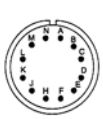
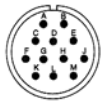
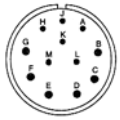
20-33	24-20	28-14
11-#16	9-#16; 2-#12	11-#16
A	D	D

Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

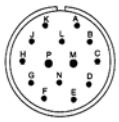
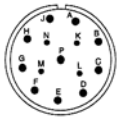
12 CONTACTS

LAYOUT	24-19	24A24	28-9
# OF CONTACTS	12-#16	12-#12	6-#16; 6-#12
SERVICE RATING	A	A	D

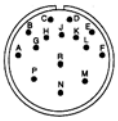
14 CONTACTS



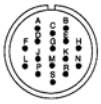
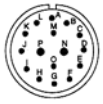
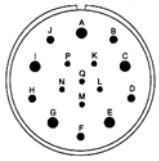
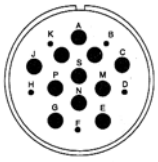
LAYOUT	20-27*	22-19*	28-2	28-20
# OF CONTACTS	14-#16	14-#16	12-#16; 2-#12	4-#16; 10-#12
SERVICE RATING	A	A	D	A

15 CONTACTS



LAYOUT	28-17*
# OF CONTACTS	15-#16
SERVICE RATING	A(A-L); B(R);

16 CONTACTS

LAYOUT	24-5	24-7*	36-14	36A70
# OF CONTACTS	16-#16	14-#16; 2-#12	6-#16; 5-#12; 5-#8	5-#16; 11-#4
SERVICE RATING	A	A	D	I

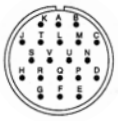
17 CONTACTS

LAYOUT	20-29*
# OF CONTACTS	17-#16
SERVICE RATING	A

19 CONTACTS

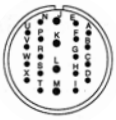
LAYOUT	22-14*
# OF CONTACTS	19-#16
SERVICE RATING	A

20



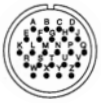
LAYOUT	28-16
# OF CONTACTS	20-#16
SERVICE RATING	A

22



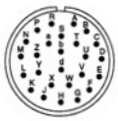
LAYOUT	28-11*
# OF CONTACTS	18-#16; 4-#12
SERVICE RATING	A

24



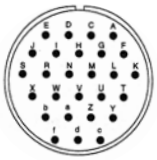
LAYOUT	24-28*
# OF CONTACTS	24-#16
SERVICE RATING	I

26



LAYOUT	28-12*
# OF CONTACTS	26-#16
SERVICE RATING	A

27



LAYOUT	36A46
# OF CONTACTS	27-#12
SERVICE RATING	A

31

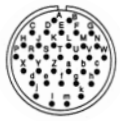
LAYOUT	36-9
# OF CONTACTS	14-#16; 14-#12; 2-#18; 1-#4
SERVICE RATING	A

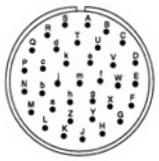
Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY NUMBER OF CONTACTS *(Continued)*

View from Mating Face of Pin Insulator: *** = Most Popular Layouts**

35 CONTACTS



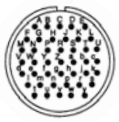


LAYOUT	28-15*	36-15
# OF CONTACTS	35-#16	35-#16
SERVICE RATING	A A(BALANCE)	D(M); A(ALL OTHERS)

37 CONTACTS

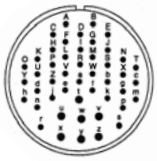
LAYOUT	28-21*
# OF CONTACTS	37-#16
SERVICE RATING	A

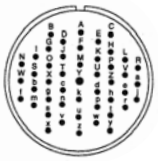
43 CONTACTS



LAYOUT	28A51
# OF CONTACTS	43-#16
SERVICE RATING	A

47 CONTACTS



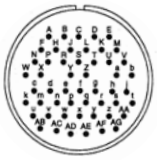


LAYOUT	36-7*	36-8
# OF CONTACTS	40-#16; 7-#12	46-#16; 1-#12
SERVICE RATING	A	A

48

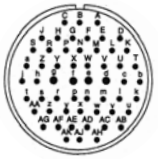
LAYOUT	36-10*
# OF CONTACTS	48-#16
SERVICE RATING	A

52



LAYOUT	36A-34
# OF CONTACTS	52-#16
SERVICE RATING	A

56



LAYOUT	28A51
# OF CONTACTS	52-#16; 4-#12
SERVICE RATING	A

LAYOUT BY SHELL SIZE

LAYOUT	TOTAL	20	16	12	8	4	0	SERVICE RATING
8S-1	1		1					A
10S-2	1		1					A
10SL-3	3		3					A
10SL-4	2		2					A
12S-3	2		2					A
12S-4	1		1					D
12-5	1			1				D
14S-1	3		3					A
14S-2	4		4					I
14S-5	5		5					I
14S-6	6		6					I
14S-7	3		3					A
14S-9	2		2					A
14SA7	7		7					A

Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY SHELL SIZE *(Continued)*

LAYOUT	TOTAL	20	16	12	8	4	0	SERVICE RATING
16S-1	7		7					A
16S-4	2		2					D
16S-5	3		3					A
16S-6	3		3					A
16S-8	5		5					A
16-9	4		2	2				A
16-10	3		3					A
16-11	2			2				A
16-12	1					1		A
18-1	10		10					A(B,C,F,G) I (all others)
18-3	2			2				D
18-4	4		4					D
18-5	3		1	2				D
18-7	1				1			B
18-8	8		7	1				A
18-9	7		5	2				I
18-11	5			5				A
18-12	6		6					A
18-13	4			3	1			A
18-51	6		6					A
18-52	5			5				A
18-53	6		6					A
18-54	4			4				A
18-56	10		10					A
18-57	6		6					A
18-59	6		6					A
18-60	5			5				A
18-61	6		6					A
18-62	6		6					A
18-63	4			4				A
18-65	6		6					A
18-66	10		10					A
18-67	6		6					A
18-68	5			5				A
18-69	10		10					A
18-70	5			5				A
18-71	4			4				A
18-72	4			4				D
18-73	7		5	2				A
18-74	6		6					A
18A31	10		10					A(B,C,F,G) I (all others)
20-2	1						1	D
20-3	3			3				D
20-4	4			4				D

Molded Military Connectors (MIL-C-5015) *(Continued)*

LAYOUT BY SHELL SIZE *(Continued)*

LAYOUT	TOTAL	20	16	12	8	4	0	SERVICE RATING
20-7	8		8					A(B,C,F,G) I (all others)
20-8	6		4		2			I
20-14	5			3	2			A
20-15	7			7				A
20-16	9		7	2				A
20-17	6		1	5				A
20-18	9		6	3				A
20-19	3				3			A
20-22	6		3		3			A
20-23	2				2			A
20-24	4		2		2			A
20-27	14		14					A
20-29	17		17					A
20-33	11		11					A
22-2	3				3			D
22-4	4			2	2			A
22-5	6		4	2				D
22-6	3		1		2			D
22-7	1					1		E
22-8	2			2				E
22-9	3			3				E
22-10	4		4					E
22-11	2		2					B
22-12	5		3		2			A
22-13	5		1	4				A(A-D) D(E)
22-14	19		19					A
22-15	6		1	5				A(A-C,E,F) E(D)
22-17	9		8	1				D(A) A(all others)
22-18	8		8					A(C-E) D(all others)
22-19	14		14					A
22-20	9		9					A
22-22	4				4			A
22-23	8			8				D(H) A(all others)
22-27	9		8		1			D(J) A(all others)
22-28	7			7				A
24-2	7			7				D
24-5	16		16					A
24-6	8			8				D(A,G,H) A(all others)
24-7	16		14	2				A
24-9	2					2		A
24-10	7				7			A
24-11	9			6	3			A
24-12	5			3		2		A
24-19	12		12					A

Molded Military Connectors (MIL-C-5015) *(Continued)*

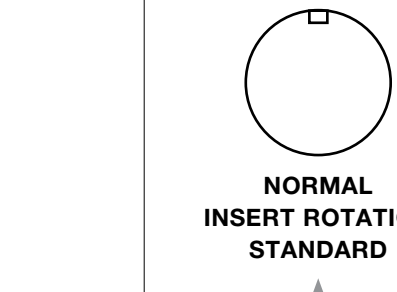
LAYOUT BY SHELL SIZE *(Continued)*

LAYOUT	TOTAL	20	16	12	8	4	0	SERVICE RATING
				Contacts				Service
Layout	Total	20	16	12	8	4	0	Rating
24-20	11		9	2				D
24-22	4				4			D
24-27	7		7					E
24-28	24		24					I
24A24	12			12				A
28-1	9			6	3			D(A,E,J) A(all others)
28-2	14		12	2				D
28-7	2					2		D
28-9	12		6	6				D
28-10	7			3	2	2		D(G) A(all others)
28-11	22		18	4				A
28-12	26		26					A
28-14	11		11					D
28-15	35		35					A
28-16	20		20					A
28-17	15		15					A(A-L) B(R) D(M-P)
28-19	10		6	4				A
28-20	14		4	10				A
28-21	37		37					A
28-22	6		3			3		D
28A16	9		5			4		A(E), I (all others)
28A51	43		43					A
36-3	6			3			3	D
36-4	3						3	A(B,C) D(A)
36-5	4						4	A
36-6	6					4	2	A
36-7	47		40	7				A
36-8	47		46	1				A
36-9	31		14	14	2	1		A
36-10	48		48					A
36-14	16		6	5	5			D
36-15	35		35					D(M) A(all others)
36A34	52		52					A
36A46	27			27				A
36A70	16			5		11		I

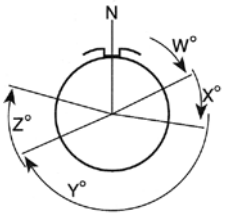
Build Your Own Molded Military Connector Assemblies

The chart below lists components with which to "build" the exact assembly needed. Begin at left with column **1**. Select a code line and write the letters in the box at the top of the column. Next, in column **2**, identify the layout. Write the number in the box at the top of the column. Select components from all remaining columns, writing the code letters and/or numbers chosen in the box at the top of each column. See example below.

1	2	3	4
CODE LINE	**INSERT LAYOUT**	**END 1**	**BACKEND HARDWARE END 1**
MC	**363**	**A**	**4**
MB = Bayonet 5015 (IP69K Rated)	Select Insert Layout from charts on pages 221-226.	**STRAIGHT PLUG** **A** = Male **B** = Female	**1** = No Mesh / No Epoxy
MC = Threaded 5015			**2** = No Mesh / with Epoxy
ME = Bayonet 26482 Series 1		**90° PLUG** **C** = Male **D** = Female	**3** = Mesh / No Epoxy
MF = Bayonet 26482 Series 2			**4** = Mesh / with Epoxy
		PANEL MOUNT RECEPTACLE* **E** = Male **F** = Female	**5** = Molded Back End
			9 = Pigtails for Panel Mount Receptacle*
		IN-LINE RECEPTACLE* **G** = Male **H** = Female	Mesh is **NOT** recommended for high flexing applications
		*Panel Mount Receptacles are supplied with 16 AWG blue MTW Cable	



NORMAL INSERT ROTATION STANDARD



MATING FACE VIEW OF PIN INSERTS

If an alternate ***insert position*** or ***special pinout*** is required, contact a TPC Sales Representative or our Customer Service Department.

	5	6	7	8	9
	END 2	**BACKEND HARDWARE END 2**	**CABLE PART NO.**	**UNIT OF MEASURE**	**LENGTH**
	B	**4**	**87193**	**F**	**070**
	STRAIGHT PLUG **A** = Male **B** = Female **90° PLUG** **C** = Male **D** = Female **IN-LINE RECEPTACLE*** **G** = Male **H** = Female **0** = None	**1** = No Mesh / No Epoxy **2** = No Mesh / with Epoxy **3** = Mesh / No Epoxy **4** = Mesh / with Epoxy **5** = Molded Back End **0** = None Mesh is **NOT** recommended for high flexing applications	List TPC Cable **Part Number** or **PT** for Pigtails* ***NOTE:*** *If using a shielded cable and shield requires termination, contact TPC*	**M** = Meters **F** = Feet **A** = Inches	Enter a three digit code in the box above. **EXAMPLE:** **5** = “005” **50** = “050” **500** = **“**500”

PART NO.

In the sample part number above, after you finish “building” an assembly, the combination of numbers and letters represent the part number you should order. **For example...** a threaded 5015 with insert layout 36-3; end 1 has straight male plug with epoxy/mesh backend hardware; end 2 has straight female epoxy/mesh backend hardware; with 70 feet of 87193 Super-Trex cable would have the part number **“MC363A4B487193F070”**. Its that easy!

Molded Assemblies for Welding & Temporary Power Applications

Please contact your TPC Sales Representative or call us at 800-521-7935 for more information.

BALL NOSE: Mates with any series 18, E1018, Standard Series or ball nose style plugs for welding applications.

TAPER NOSE: Mates with any series 16, E1016, J Series or taper nose style plugs for welding applications.

TPC MOLDED LOCKING CONNECTOR: Mates with any series 22, E1022, Standard Series.

FEATURES & BENEFITS

1. SUPER-TREX® WELD CABLE — First line defense against oils, ozone and UV exposure as well as most chemicals. Extreme all weather flexibility. Proven performance lasts up to 8 times longer than standard weld cables.*

2. COMPLETELY MOLDED DESIGN — All rubber construction reduces cable stress and provides an environmental seal between the cable and the connector head.

3. BALL NOSE & TAPER NOSE SIZED FOR 2 AWG – 4/0 CABLES — Designed to meet your application needs for both welding and temporary power.

4. TPC MOLDED LOCKING CONNECTOR SIZED FOR 4/0 – 750 MCM, 690 AMP RATED — Designed to meet your application needs for both welding and temporary power.

5. MATED CONNECTION PROVIDES A CORK AND BOTTLE SEAL — Forms a water, oil and dust resistant seal, protects the connection from contamination.

6. Quick Disconnect — ¾ turn Quick disconnect system, provides a secure connection. Compatible with both Series 16 Taper Nose and Series 18 Ball Nose.

MOLDED HEAD COLORS	
• Yellow (Standard)	• Blue
• Black	• Green
• Red	• Orange
• White	• Brown

APPLICATIONS

- Government Shipyards
- Commercial and Navy Shipbuilding and Repair Sites
- Welding Ground Cables
- Motor & Generator Applications
- Construction Sites
- Temporary power for concerts, carnivals, conventions, theme parks, etc.
- Utility Applications
- Mining Applications
- Ship to Shore Power

ACCESSORIES *(Call for pricing & availability)*

MALE PANEL MOUNT RECEPTACLE

MALE PANEL MOUNT RECEPTACLE PLUG

FEMALE PANEL MOUNT RECEPTACLE

FEMALE PANEL MOUNT RECEPTACLE CAP

**Data available for customer use*

Build Your Own Molded Connector Assemblies

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"PA"** in the box at the top of the column. From the next column, identify the series. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

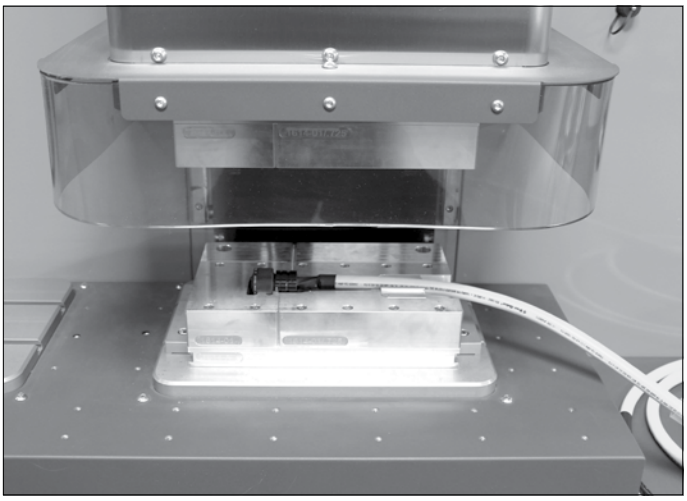
1	2	3	4	5	6	7	8
TYPE	**SERIES**	**END 1**	**END 2**	**CABLE PART NO.**	**UNIT OF MEASURE**	**LENGTH**	**HEAD COLOR**
PA	16	M	F	86317	F	100	Y
PA = Power Assembly	**16** = Taper Nose	**M** = Male	**M** = Male	If ball or taper nose assembly, use TPC cable part number sized for 2 AWG to 4/0.	**M** = Meters	Enter a three digit code in the box above.	**Y** = Yellow (Standard)
	18 = Ball Nose	**F** = Female	**F** = Female		**F** = Feet	**EXAMPLE:**	**BK** = Black
	22 = Molded Locking Conn.		**0** = None	If molded locking assembly, use TPC cable part number sized for 4/0 to 750 MCM.	**A** = Inches	**5** = "005"	**R** = Red
						50 = "050"	**W** = White
						500 = "500"	**BL** = Blue
							G = Green
							BN = Brown
							O = Orange

PART NO.

In the sample part number above, **PA16MF86317F100Y** is a taper nose style power assembly, male to female molded plugs with 100 feet of 86317 (Super-Trex® 4/0 600 Volt Welding Cable) with yellow heads.

Molded Circular Connectors

- Molded Material: UL Certified
- Connector Flammability Rating: 94 V-O
- Connector: IP69K Rated for High Pressure Wash Down Areas
- Connector Operating Temperature: 130°C to -40°C (266°F to -40°F)



Molded circular connectors are built on site at TPC corporate headquarters in Macedonia, Ohio.

FEATURES & BENEFITS

1. FULLY MOLDED AND BONDED DESIGN.

2. DESIGNED TO MEET LOW PRESSURE MOLDING PROCESS REQUIREMENTS.

3. COLORS — Black and Clear Amber.

4. CONNECTOR TYPE — Various circular connectors (including MIL-SPEC) using custom adapter (6061 aluminum with hard anodize black).

5. TPC CAN CONNECTORIZE ANY SIZE OF CABLE.

6. PROVIDES EXCELLENT MOISTURE AND/OR ENVIRONMENTAL RESISTANCE.

7. CONNECTOR PROVIDES BUILT IN STRAIN RELIEF WITH EXCELLENT FLEXIBILITY.

8. MOLDED CIRCULAR CONNECTORS ARE DESIGNED TO PAIR WITH TPC'S SUPER-TREX® AND TREX-ONICS® CABLE — to create a highly flexible assembly.

9. CONNECTOR ASSEMBLIES ARE BUILT, MOLDED, AND INSPECTED IN HOUSE SAVING THE CUSTOMER VALUABLE TIME AND MONEY.

10. MADE IN THE U.S.A.

APPLICATIONS

- Earth Moving Equipment
- Engines
- Industrial Machinery
- Mobile Equipment
- Motion Control
- Off-road Vehicles
- Power Generators
- Sensors
- Ships
- Telecommunications

Please contact your TPC sales representative for more information.

A C F

Molded Connector Assemblies

- Han EE 90°: Available in 10, 18, 32 and 46 Position
  Straight: Available in 32 Position
- Han E 90°: Available in 10,16 and 24 Position
  Straight: Available in 16 Position
- Han DD 90°: Available in 24 Position
- Designed for Industrial Applications

Molded connector assemblies by TPC Wire are built to handle the harshest environments. All of our cord sets include Super-Trex® and Trex-Onics® cables that are designed for industrial applications where flexing, abrasion, impact, and oil can cause premature cable failure. To ensure out-of-the-box reliability, all of our cord sets are tested for continuity and configuration. Our molded cord sets include built-in strain relief providing 250 pounds of pull-out protection. The molded design seals and protects the terminations from tampering or mis-wiring.

FEATURES & BENEFITS

1. SUPER-TREX® & TREX-ONICS® CABLES — High Performance Cables designed for abusive industrial applications.

2. BUILT-IN STRAIN RELIEF — Eliminates the need for Mesh or Grip-Seal™ strain relief. Provides 250 lbs. of pull-out protection.

3. TAMPER PROOF — Molded design seals and protects the terminations from tampering or miss-wiring.

APPLICATIONS

- Product or Assembly Line
- Test Equipment
- Portable Power Assemblies

Call us today to build your molded connector assembly!

TPC Wire & Cable Corp., Your Source For Molded Connector Assemblies.

A C F

Rectangular Connector Assemblies

- Designed for Industrial Applications

Rectangular connectors by TPC Wire are built to handle the harshest environments. All of our cord sets include Super-Trex® and Trex-Onics® cables that are designed for industrial applications where flexing, abrasion, impact, and oil can cause premature cable failure. To ensure out-of-the-box reliability, all of our cord sets are tested for continuity and configuration. To reduce costs of rectangular connectors, custom lengths are available and eliminates excessive cable on the application. Lastly, engineering support is available for those non-standard applications requiring special wiring and design.

FEATURES & BENEFITS

1. SUPER-TREX® & TREX-ONICS® CABLES — Proven performers in industrial environments where flexing, abrasion, impact and oil can cause premature cable failure.

2. PRODUCT TESTING — All assemblies are 100% tested for continuity and configuration. Ensures Out-of-the-Box reliability.

3. CUSTOM LENGTHS — Helps to eliminate excessive cable on the application, reduces cost.

4. ENGINEERING SUPPORT — For those non-standard applications requiring special wiring and design.

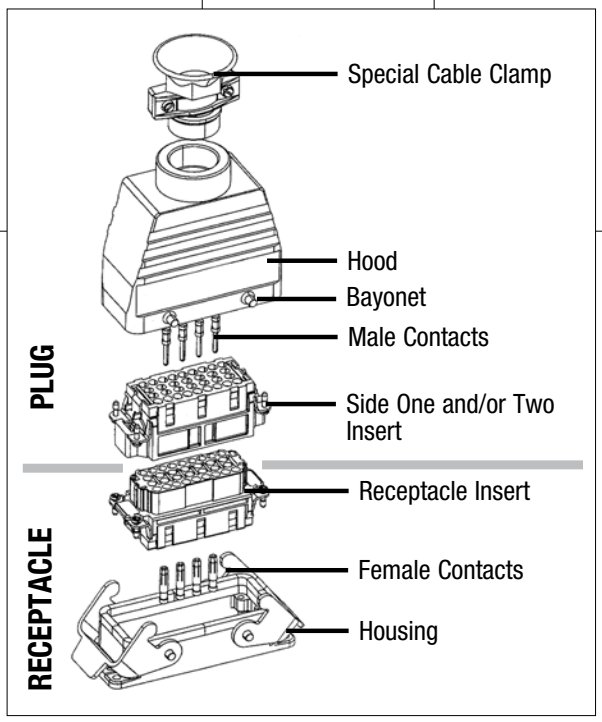
APPLICATIONS

- Product or Assembly Line
- Test Equipment
- Portable Power Assemblies

Build Your Own Rectangular Connector Assemblies

The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"TR"** in the box at the top of the column. From the next column, identify the series. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

TYPE	SERIES NO. OF CONTACTS	END 1				
		GENDER	HOOD	LATCHING	STRAIN RELIEF	
TR	A16	M	T	D	M	
TR = Rectangular Connector	**A** = 3, 4, 10, 16, 32	**M** = Male	**T** = Top Entry	**D** = Double Latch	**M** = Mesh	
	D = 7, 8, 15, 25, 40, 50, 64	**F** = Female	**S** = Side Entry	**S** = Single Latch	**G** = Grip-Seal™	
	DD = 24, 42		**CT** = Cable to Cable Top Entry	**E** = Double Bayonet	**R** = Receptacle Pigtails	
	E = 6, 10, 16, 24, 32, 48		**CS** = Cable to Cable Side Entry	**R** = Single Bayonet		
	EE = 10, 18, 32, 46, 64		**RECEPTACLE HOUSING**			
			J = Surface Single Entry			
			K = Surface Double Entry			
			M = Bulkhead			



How To Order

After completing the chart above, call your TPC Representative to answer any questions, verify your requirements and place your order.

	END 2				CABLE PART NO.	UNIT OF MEASURE	LENGTH
	GENDER	HOOD	LATCHING	STRAIN RELIEF			
	F	S	D	M	88516	F	010
	M = Male	**T** = Top Entry	**D** = Double Latch	**M** = Mesh	If assembly, use TPC cable part number.	**M** = Meters	Enter a three digit code in the box above.
	F = Female	**S** = Side Entry	**S** = Single Latch	**G** = Grip-Seal™		**F** = Feet	**EXAMPLE:**
	Z = None	**CT** = Cable to Cable Top Entry	**E** = Double Bayonet	**Z** = None	**Receptacle Pigtails:**	**A** = Inches	**5** = "005"
		CS = Cable to Cable Side Entry	**R** = Single Bayonet	**If Single Ended Assembly or Receptacle:**	**A** = All Red*		**50** = "050"
		Z = None	**Z** = None	**B** = Blunt End	**B** = All Blue* (Standard)		**500** = "500"
				L = Labeled	*Numbered Conductors		

PART NO.

NOTES

1. CONTACT TYPE — Silver-Crimp is standard. For screw terminals contact a TPC Sales Representative for availability.

2. NUMBER OF CONTACTS — Smart part number is limited to 64 contacts. If more contacts are desired, contact a TPC Sales Representative.

3. HOOD TYPE — The High Hood is standard. The Low Hood is typically used when there is a clearance issue. If clearance is a factor, contact a TPC Sales Representative.

4. LATCHING — Double latches are becoming the standard in the market. Bayonet references the pins or pegs that the latches grab onto to lock the connector down. Typically the latches are on the receptacle and the bayonets are on the assembly.

5. CABLE — TPC cable is used on assemblies. Receptacles are red or blue pigtails. If receptacle color code needs to be the same as the cable, enter the cable part number for the receptacle.

6. CABLE EXIT — On side entry assemblies the cable exit will be away from position #1 on the insert. If needed the other way, contact a TPC Sales Representative.

Rectangular Connector Assemblies *(Continued)*

RECTANGULAR PINOUT STANDARD SMART PART NUMBER

Non-Shield Cable

For non-shielded color coded cable the green conductor will connect to ground pin.

For non-shielded cables with all black conductors the last conductor will be connected to the ground pin.

If the insert has more contacts than the cable has conductors then the ground pin will still be used in place of a contact.

In the case of more conductors than contacts, the extra conductors will be spares.

EXAMPLE

Black – Pin 1
White – Pin 2
Red – Pin 3
Green – Ground Screw
Orange – Pin 4
Etc.

Overall Shielded Cable

For shielded cable the shield will always be connected to the ground pin.

EXAMPLE

Black – Pin 1
White – Pin 2
Red – Pin 3
Green – Pin 4
Orange – Pin 5
Shield – Ground Screw
Etc.

Individually Shielded Cable

Individual shields will be trimmed out and overall shield will be connected to ground pin.

EXAMPLE

PR1

Black – Pin 1
Red – Pin 2
Individual Shield – Cut Out

PR2

Black – Pin 3
White – Pin 4
Individual Shield – Cut Out
Overall Shield – Ground Screw

Rectangular Connector Assemblies *(Continued)*

A

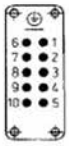
250V
16 Amp

Contact
Arrangement Female
Mating View

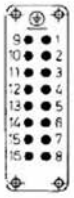
3 + Grd

4 + Grd

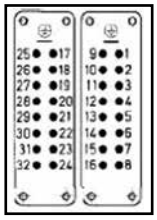
10 + Grd



16 + Grd



32 + Grd
(2 - 16 pole inserts in 1 hood)



D

250V
10 Amp

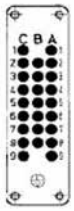
Contact
Arrangement Female
Mating View

7 + Grd

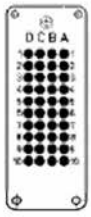
8

15 + Grd

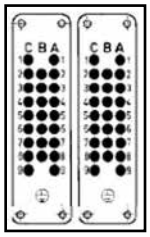
25 + Grd



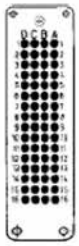
40 + Grd



50 + Grd
(2 - 25 pole inserts in 1 hood)



64 + Grd

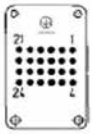


DD

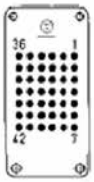
250V
10 Amp

Contact
Arrangement Female
Mating View

24 + Grd



42 + Grd



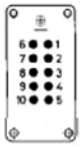
E

500V
16 Amp

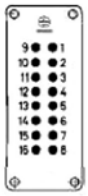
Contact
Arrangement Female
Mating View

6 + Grd

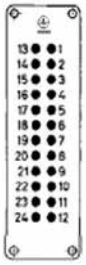
10 + Grd



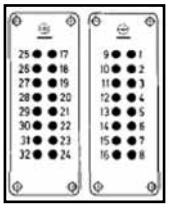
16 + Grd



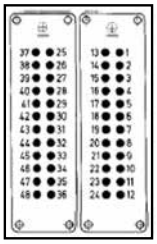
24 + Grd



32 + Grd
(2 - 16 pole inserts in 1 hood)



48 + Grd
(2 - 24 pole inserts in 1 hood)



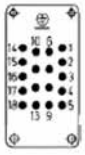
EE

500V
16 Amp

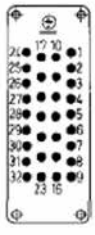
Contact
Arrangement Female
Mating View

10 + Grd

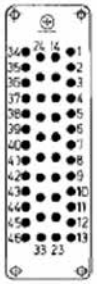
18 + Grd



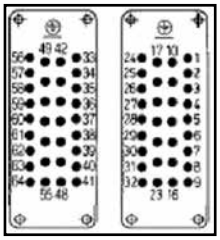
32 + Grd



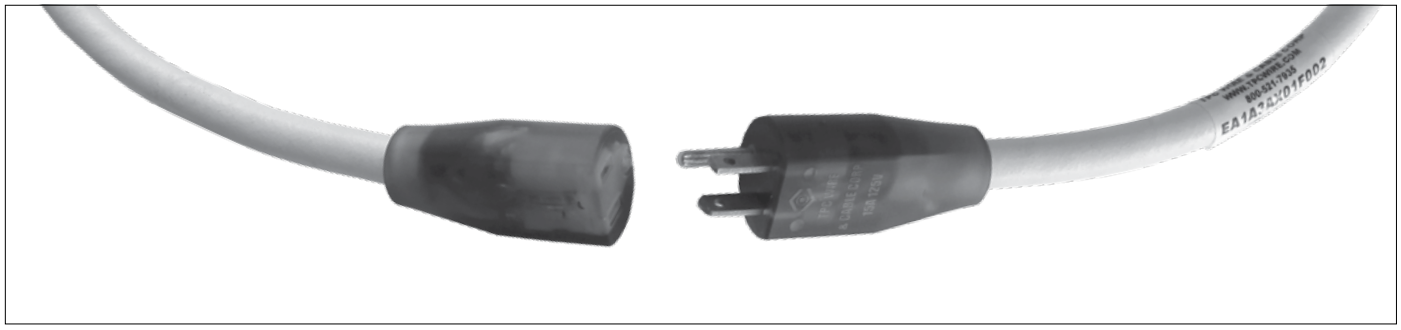
46 + Grd



64 + Grd
(2 - 32 pole inserts in 1 hood)



Build Your Own Extension Cord Assemblies



The chart below lists components with which to "build" the exact assembly needed. Begin at left with the first column. Write a **"EA"** in the box at the top of the column. From the next column, identify the series. Write the appropriate letter in the box at the top of the column. Select components from all remaining columns, writing the desired letters or numbers chosen in the box at the top of each column.

1	2	3	4	5	6	7	8	9
TYPE	**END 1**	**COLOR 1**	**END 2**	**COLOR 2**	**GFCI**	**CABLE**	**UOM**	**LENGTH**
EA	**1**	**A**	**2**	**A**	**X**	**01**	**F**	**050** PART NO.
EA = Extension Cord Assembly	**1 =** Male Nema 5-15 Plug	**A =** Translucent Light Amber with Indicator Light	**1 =** Male Nema 5-15 Plug	**A =** Translucent Light Amber with Indicator Light	GFCI (Ground Fault Circuit Interrupter) **X =** No GFCI on Extension Cord Needed	**Triple-Gard™:** **01 =** 14/3 #85194 Yellow (0.548" OD)	Unit of Measure: **M =** Meters	Enter a three digit code in the box above.
	2 = Female Nema 5-15 Plug	**B =** Translucent Light Amber with No indicator Light	**2 =** Female Nema 5-15 Plug	**B =** Translucent Light Amber with No indicator Light		**02 =** 14/3 #85094 Black (0.548" OD)	**F =** Feet	**EXAMPLE:** **5 =** "005"
	3 = Female TripleTap Nema 5-15		**3 =** Female TripleTap Nema 5-15		**Y =** GFCI Mounted 3 Feet From Male End	**03 =** 12/3 #85195 Yellow (0.623" OD)	**A =** Inches	**50 =** "050"
	4 = Blunt Cut *(No Termination)*	**C =** Black Polyamide with No Indicator Light	**4 =** Blunt Cut *(No Termination)*	**C =** Black Polyamide with No Indicator Light		**04 =** 12/3 #85095 Black (0.623" OD)		**500 =** "500"
						05 = 10/3 #85196 Yellow (0.685" OD)		
						06 = 10/3 #85096 Black (0.685" OD)		
						Ultra-Gard™: **07 =** 14/3 #87194 Yellow (0.548" OD)		
						08 = 12/3 #87195 Yellow (0.623" OD)		
						09 = 10/3 #87196 Yellow (0.685" OD)		
						Type TC: **10 =** 14/3 #87194TC Yellow (0.548" OD)		

MAX LENGTH OF EACH AWG SIZE
14 AWG: 77 Feet Maximum
12 AWG: 125 Feet Maximum
10 AWG: 200 Feet Maximum
125V / 15A / 5% Variance on Voltage Drop (ANSI C84.1)

In the sample part number above, **EA1A2AX01F050** is a double ended extension cord assembly using 14/3 Yellow Triple-Gard™ Portable Cord (#85194) and is 50 feet long. End 1 is a Male Nema 5-15 Plug and End 2 is a Female Nema 5-15 Plug, both are a translucent light amber color with an indicator light.

Services & Solutions

Custom Designed & Engineered

Let TPC design the perfect cable for you! Call us today at 800-521-7935.

TPC Wire & Cable Corp. provides custom engineered products designed with application and environmental information supplied by the customer. These products are built specifically to solve a particular problem for an individual customer and represent a valuable service. The engineers who solve these problems are from the electrical, mechanical, chemical and industrial engineering disciplines.

TPC's custom designed and engineered high performance cables are designed for the most demanding industrial applications. Cable designs include:

- Chemical Resistant Cables
- Composite Cables
- Custom Data Communications Cables
- Custom Thermocouple Extension Cables
- High Temperature Cables
- High Tension Reeling Cables
- Aramid Reinforced Cables
- Low Temperature Cables
- Water Resistant Cables

A major part of TPC's capabilities is working with customers to custom design and develop cables specifically for their application needs.

TPC's expertise in materials, design and manufacturing provides superior cable performance resulting in longer cable life and reduced equipment downtime. TPC's cable design engineers can assemble the critical components of your cable into a final design that will give you a longer lasting cost effective alternative to constantly replacing cables.

COMMON MATERIALS

Conductor Capabilities:
- Copper
- Nickel-Plated Copper (2%)
- Nickel-Plated Copper (27%)
- Silver-Plated Copper
- Tinned Copper

Blanket Capabilities
- Ceramic
- Fiberglass
- Silica
- Silicone
- Reflective Fiberglass
- Abrasion Resistant

Braid Capabilities:
- Aramid
- Brass
- Copper
- Fiberglass
- Nickel-Plated Copper
- Nylon
- Polyester
- Rayon
- Silver
- Stainless-Steel
- Tinned Copper

Insulation Capabilities:
Thermo-Set Materials:
- EPR
- HV Silicone
- Silicone
- XLPE
- XLPO

Thermo-Plastic Materials:
- ETFE
- FEP
- TPE
- TPR

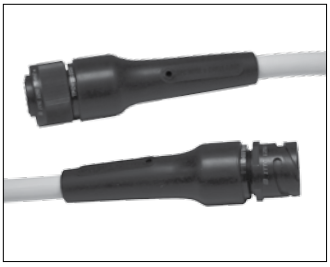
Other:
- Mica
- Mica-Glass
- Semi-Conductive

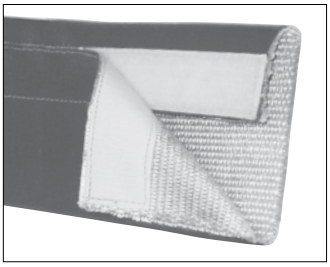
Jacket Capabilities:
Thermo-Set Materials:
- CPE
- NBR
- Silicone
- XLPO

Thermo-Plastic Materials:
- FEP
- Halogen-Free, Low Smoke Polyurethane
- Halogen-Free, Low Smoke TPR
- Polyurethane
- TPR
- TPV

Custom Designed & Engineered *(Continued)*

CUSTOM CAPABILITIES





CONNECTORS: TPC's custom connectors are manufactured to address a specific industry or environmental issue and can also improve upon a well established method.

- Molded Circular Connectors – Now an in house capability at TPC
- Molded Locking Connectors – IP69K Rated
- Molded Ball Nose (18 Series) and Taper Nose (16 Series) Cam Style Locking Connectors – Quickly connects and disconnects
- Molded Nema 5-15 Extension Cords and many others...

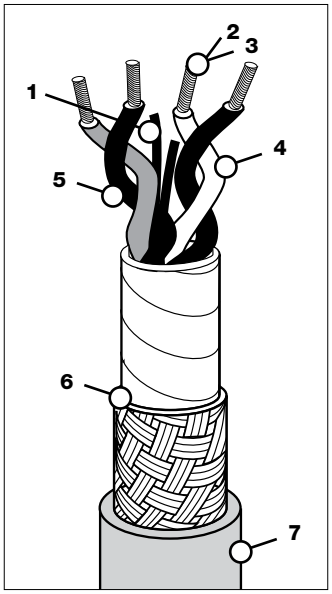
ASSEMBLIES: Providing a complete solution saves the customer valuable downtime and labor costs. TPC can provide a "plug and play" option for a customer's assembly needs.

- Friction Coupling System — Prevents component destruction due to unforeseen pulling forces
- Over Molded Back Shell Assembly — Over molded with thermoplastic elastomer
- Pond Aeration Cable Assemblies — Meets a specific need for specific market segment
- Cable Carrier Systems — Can create a complete system; connectorized and pre-loaded

MATERIALS/PRODUCTS: Striving to meet customer expectations, TPC provides materials and products to enhance a custom solution.

- Stainless Steel Tubing — Extra level of protection for cable that is exposed to sharp edges, metal chips, abrasion and harsh outdoor environments
- Light Stringers — Custom lengths that accept standard light bulb sizes
- High Temperature Blanket — Provides exceptional strength and insulation properties

CABLE COMPONENTS



1. CONSTRUCTION: Includes cabling and positioning of the conductors within the jacket to reduce the internal stresses and maximizing performance.

2. CONDUCTORS: Can be bare copper or copper that is plated with nickel, tin, or silver. The type of conductor is determined by both the application and the environment.

3. STRANDING: Makeup has a significant impact on the flexibility of the final cable design. Selecting the proper stranding is critical to the product's overall flexibility.

4. INSULATION: Life is affected by voltage, ampacity, temperature, flexing and frequency. Matching the insulation system to the application and environment is critical to maximizing cable performance.

5. CABLING: "Lay" of the conductors is the length of the twist applied to the conductors for one complete rotation. Depending on what the cable is designed to do, the conductors are twisted together in different ways. The longer the lay the better the cable will perform in twisting applications. The shorter the lay the better the cable will perform in bending applications.

6. SHIELDING: Protects the electrical signal against EM and RF interference. In power cables, the shielding contains potential interference within the cable so that it does not affect control / communications conductors under the same jacket and other cables in close proximity.

7. JACKETING: The first line of defense for any cable. Selection of the proper jacketing or over jacket materials is critical for cable life.

Custom Designed & Engineered *(Continued)*

CUSTOM CABLE DESIGNS

- Abrasion Resistant
- Antimicrobial
- Aramid Reinforced
- Chemically Resistant
- Composite Systems
- Custom Data & Communication
- Ethernet Systems
- Fiber Optics
- Halogen Free Flame Retardant
- Halogen Free Low Smoke
- High Temperature
- High Temperature Blankets
- High Temperature Ethernet Systems
- High Temperature RS-485
- High Temperature Sleeving
- High Temperature VFD
- High Tension Reeling
- IEC Shipboards
- Low Capacitance
- Low Temperature
- Stainless Steel overbraid
- Thermocouple Extension
- Unique Insulation Systems
- Water Resistant

TYPICAL CUSTOM CABLE ENVIRONMENTS

- Abrasive Surfaces
- Alarm Systems
- Cable Carriers
- Cable Reels
- Control Pendants
- Critical Circuits
- Cutting Lubricants
- Elevators
- Encoder/Resolver
- Festoon Systems
- Ladle Cars
- Melt Furnaces
- Metal Machining
- Metal Treatment
- Outdoor Use
- Paint Booths
- Robotic Systems
- Sanitizing Areas
- Shuttle Presses
- Stage Power
- Submersible
- Underwater
- Vision Systems
- Wash Down Areas

Cable Carriers

With decades of cable carrier system experience, TPC Wire & Cable Corp. offers you solutions to save labor, material, and downtime costs. As experts in the field we understand how important a high quality cable is to a cable carrier system. We have experience with continuous systems, piggy-back systems, dual cable carriers, double stacked cable carriers and many more.

Within a cable carrier system, the cable package usually makes up the majority of the investment. TPC Wire & Cable will provide a solution with our high quality, highly flexible cable and integrated cable chains. After considering your carrier dimensions, clearance, travel orientation, bracket configuration and other variables, we design and deliver your system as a bundles system ready for installation, saving you additional labor and downtime.

Contact your TPC Sales Representative or call 800-521-7935 to customize your cable carrier system.

Molded Assemblies for Welding & Temporary Power Applications

See Page 233 To Build Your Own Molded Connector Assemblies.

BALL NOSE: Mates with any series 18, E1018, Standard Series or ball nose style plugs for welding applications.

TAPER NOSE: Mates with any series 16, E1016, J Series or taper nose style plugs for welding applications.

TPC MOLDED LOCKING CONNECTOR: Mates with any series 22, E1022, Standard Series.

FEATURES & BENEFITS

1. SUPER-TREX® WELD CABLE — First line defense against oils, ozone and UV exposure as well as most chemicals. Extreme all weather flexibility. Proven performance lasts up to 8 times longer than standard weld cables.*

2. COMPLETELY MOLDED DESIGN — All rubber construction reduces cable stress and provides an environmental seal between the cable and the connector head.

3. BALL NOSE & TAPER NOSE SIZED FOR 2 AWG – 4/0 CABLES — Designed to meet your application needs for both welding and temporary power.

4. TPC MOLDED LOCKING CONNECTOR SIZED FOR 4/0 – 750 MCM, 690 AMP RATED — Designed to meet your application needs for both welding and temporary power.

5. MATED CONNECTION PROVIDES A CORK AND BOTTLE SEAL — Forms a water, oil and dust resistant seal, protects the connection from contamination.

6. Quick Disconnect — ¾ turn Quick disconnect system, provides a secure connection. Compatible with both Series 16 Taper Nose and Series 18 Ball Nose.

MOLDED HEAD COLORS	
• Yellow (Standard)	• Blue
• Black	• Green
• Red	• Orange
• White	• Brown

APPLICATIONS

- Government Shipyards
- Commercial and Navy Shipbuilding and Repair Sites
- Welding Ground Cables
- Motor & Generator Applications
- Construction Sites
- Temporary power for concerts, carnivals, conventions, theme parks, etc.
- Utility Applications
- Mining Applications
- Ship to Shore Power

ACCESSORIES *(Call for pricing & availability)*

MALE PANEL MOUNT RECEPTACLE

MALE PANEL MOUNT RECEPTACLE PLUG

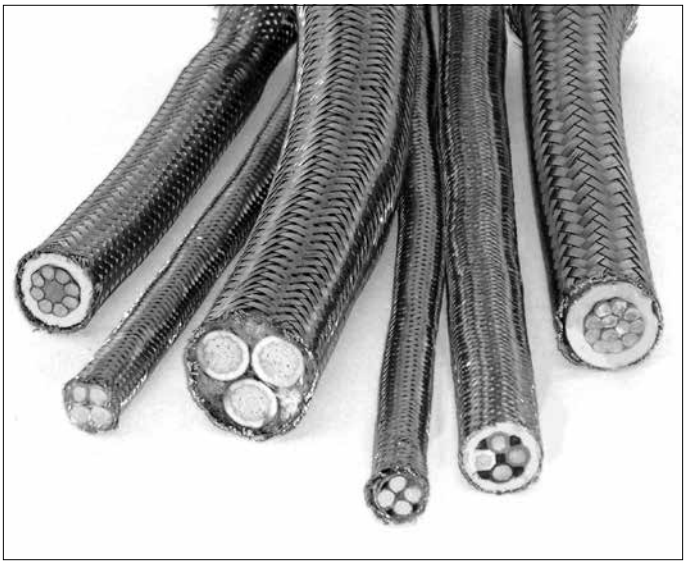
FEMALE PANEL MOUNT RECEPTACLE

FEMALE PANEL MOUNT RECEPTACLE CAP

**Data available for customer use*

Stainless Steel Braiding

• Add Stainless Steel Braiding to Any TPC Cable!



FEATURES & BENEFITS

1. THE STAINLESS STEEL BRAIDING PROTECTS CABLES FROM MOLTEN SPLASH.

2. PROVIDES CUT RESISTANT PROTECTION TO THE CABLE JACKET.

3. ADDS ABRASION RESISTANCE TO CABLES.

4. ADDITIONAL TENSILE STRENGTH TO CABLES.

5. DETERRENT TO THEFT OF CABLES AND EQUIPMENT.

APPLICATIONS

- CNC Machine Cable
- Cement Forming
- Cranberry Juice Production Cord
- Foot Pedal Cable
- Moving Saw in Lumber Yards
- MUDD Gun
- Paint Booth
- Pump Motors
- Reeling Cable on Ladle Cars
- Sand Blasting Cables
- Soaking Pit Cables
- Thermocouple Extension Cords
- Weight Scales
- Zinc Galvanizing Cables

CONFIGURATIONS

- Available for any cable type— Super-Trex®, Chem-Gard™, Defender®, Trex-Onics®, Thermo-Trex® and custom cable
- Overbraid to maximum cable O.D. of 2.5"
- Cable coverage is 90%
- 2-3 week turnaround
- 100' minimum

HOW TO ORDER:

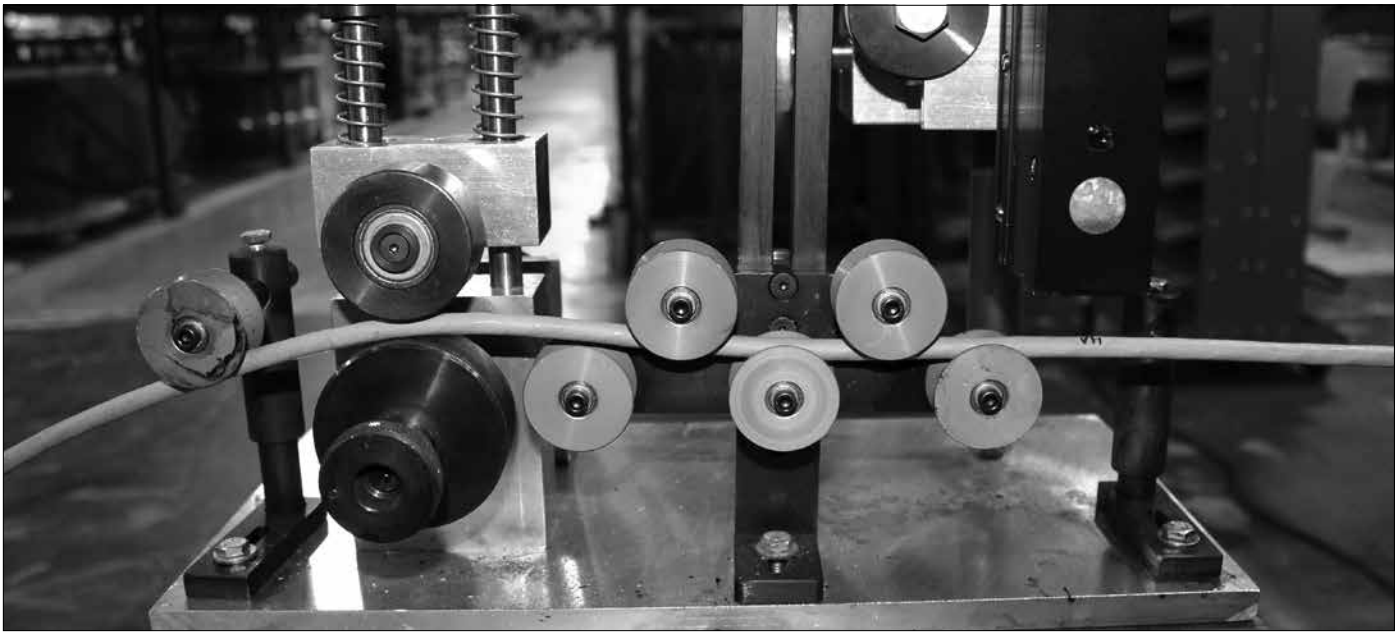
- Add **SSB** to any part number to add stainless steel braiding *(ex. **87193SSB** = Ultra-Gard™ Portable Cord w/ Stainless Steel Braid)*
- Contact your TPC sales representative or call us at 800-521-7935
- 100 ft minimums required for stainless steel braiding
- 2-3 week turnaround is typical

Custom Printing Services

• Making a Great Impression Every Time!

Whatever you need printed on your cable, our custom printing services can make it happen. Everything from graphics, logos, serial numbers, lot numbers – the choice is entirely up to you. Our custom printing design experts will find out exactly what you want and create the perfect product for you.

From low to high volume orders, our custom printing services will be executed quickly, packaged appropriately and arrive on time. These products ultimately save you time and money for their identification value will avoid costly mistakes on the job. All of our custom printed products are a great investment and a cost-effective method to run a more efficient operation.



FEATURES & BENEFITS

1. PERSONALIZED PRINTING OF CUSTOMER SELECTED LEGENDS, INCLUDING TRADE NAMES AND LOGOS — Provides company identification, advertises corporate identity, is an excellent deterrent to theft and will eliminate ownership confusion such as with subcontractors on the job.

2. NO CHARACTER LIMIT — Character height is adjusted based on O.D. of cable.

3. BEST RESULTS USING TPC'S SUPER-TREX® OR TREX-ONICS® BRAND CABLES

4. BLACK INK ON YELLOW CABLE PROVIDES HIGH CONTRAST — High visibility, easy to read and identify.

5. DIGITAL FILE SAVED FOR FUTURE USE

APPLICATIONS

- In wind harness applications, custom printing is used to identify which generator each wind harness matches up to
- Used by construction companies to identify their equipment against subcontractor equipment
- Ability to print custom bar codes and data codes
- Mark cable by the foot to quickly identify how much is left on the reel

SPECIFICATIONS

- Character height is adjusted by cable O.D.
- Legend repeat is approximately every foot
- Can print multiple lines of text if needed
- Black ink only

ORDERING INFORMATION *(Call for pricing & availability)*

PART NO.	DESCRIPTION
61843	Custom Ink Jet Printing *(Please Note: Custom printed cord and cable is non-returnable.)*

Technical Data & Part Number Index

Temperature Conversion Chart

This table is for converting from degrees Celsius to degrees Fahrenheit or from degrees Fahrenheit to degrees Celsius. The relation between degrees Fahrenheit and degrees Celsius may be expressed by: **°C = 0.556(°F-32) or °F = 1.8(°C)+32**

°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
-100	-73	95	35	480	249	870	466	1260	682	1650	899
-95	-71	100	38	490	254	880	471	1270	688	1660	904
-90	-68	110	43	500	260	890	477	1280	693	1670	910
-85	-65	120	49	510	266	900	482	1290	699	1680	916
-80	-62	130	54	520	271	910	488	1300	704	1690	921
-75	-59	140	60	530	277	920	493	1310	710	1700	927
-70	-57	150	66	540	282	930	499	1320	716	1710	932
-65	-54	160	71	550	288	940	504	1330	721	1720	938
-60	-51	170	77	560	293	950	510	1340	727	1730	943
-55	-48	180	82	570	299	960	516	1350	732	1740	949
-50	-46	190	88	580	304	970	521	1360	738	1750	954
-45	-43	200	93	590	310	980	527	1370	743	1760	960
-40	-40	210	99	600	316	990	532	1380	749	1770	966
-35	-37	220	104	610	321	1000	538	1390	754	1780	971
-30	-34	230	110	620	327	1010	543	1400	760	1790	977
-25	-32	240	116	630	332	1020	549	1410	766	1800	982
-20	-29	250	121	640	338	1030	554	1420	771	1810	988
-15	-26	260	127	650	343	1040	560	1430	777	1820	993
-10	-23	270	132	660	349	1050	566	1440	782	1830	999
-5	-21	280	138	670	354	1060	571	1450	788	1840	1,004
0	-18	290	143	680	360	1070	577	1460	793	1850	1,010
5	-15	300	149	690	366	1080	582	1470	799	1860	1,016
10	-12	310	154	700	371	1090	588	1480	804	1870	1,021
15	-9	320	160	710	377	1100	593	1490	810	1880	1,027
20	-7	330	166	720	382	1110	599	1500	816	1890	1,032
25	-4	340	171	730	388	1120	604	1510	821	1900	1,038
30	-1	350	177	740	393	1130	610	1520	827	1910	1,043
35	2	360	182	750	399	1140	616	1530	832	1920	1,049
40	4	370	188	760	404	1150	621	1540	838	1930	1,054
45	7	380	193	770	410	1160	627	1550	843	1940	1,060
50	10	390	199	780	416	1170	632	1560	849	1950	1,066
55	13	400	204	790	421	1180	638	1570	854	1960	1,071
60	16	410	210	800	427	1190	643	1580	860	1970	1,077
65	18	420	216	810	432	1200	649	1590	866	1980	1,082
70	21	430	221	820	438	1210	654	1600	871	1990	1,088
75	24	440	227	830	443	1220	660	1610	877	2000	1,093
80	27	450	232	840	449	1230	666	1620	882		
85	29	460	238	850	454	1240	671	1630	888		
90	32	470	243	860	460	1250	677	1640	893		

Chemical Resistance of Common Insulation Materials

CHEMICAL	RUBBER	SILICONE	FLUOROPOLYMER
Oxidation Resistance	Fair	Excellent	Outstanding
Oil Resistance	Poor	Fair-Good	Outstanding
UV Resistance	Fair	Outstanding	Outstanding
Water Resistance	Good	Good-Excellent	Excellent
Acid Resistance	Fair-Good	Fair-Good	Excellent
Alkali Resistance	Fair-Good	Fair-Good	Excellent
Gasoline Kerosene	Poor	Poor-Fair	Excellent
Benzol Toluene	Poor	Poor	Excellent
Degreaser Solvent	Poor	Poor-Good	Excellent
Alcohol Resistance	Good	Good	Excellent

Fraction, Decimal & Millimeter Equivalents

INCHES		mm
FRACTIONS	DECIMALS	
	0.0004	0.01
	0.004	0.10
	0.01	0.25
1/64	0.0156	0.397
	0.0197	0.50
	0.0295	0.75
1/32	0.03125	0.794
	0.0394	1
3/64	0.0469	1.191
	0.059	1.5
1/16	0.062	1.588
5/64	0.0781	1.984
3/32	0.0787	2
	0.094	2.381
7/64	0.984	2.5
	0.109	2.778
1/8	0.1181	3
	0.125	3.175
	0.1378	3.5
9/64	0.141	3.572
5/32	0.156	3.969
	0.1575	4
11/64	0.172	4.366
	0.177	4.5
3/16	0.1875	4.763
	0.1969	5
13/64	0.203	5.159
	0.2165	5.5
7/32	0.219	5.556
15/64	0.234	5.953
	0.2362	6
1/4	0.250	6.350
	0.2559	6.5
17/64	0.2656	6.747
	0.2756	7
9/32	0.281	7.144
	0.2953	7.5
19/64	0.297	7.541
5/16	0.312	7.938
	0.315	8
21/64	0.328	8.334
	0.335	8.5
11/32	0.344	8.731
	0.3543	9
23/64	0.359	9.128
	0.374	9.5
3/8	0.375	9.525
25/64	0.391	9.922
	0.3937	10
13/32	0.406	10.319
	0.413	10.5
27/64	0.422	10.716
	0.4331	11
7/16	0.438	11.113
29/64	0.453	11.509

INCHES		mm
FRACTIONS	DECIMALS	
15/32	0.469	11.906
0.4724	12	
31/64	0.484	12.303
	0.492	12.5
1/2	0.500	12.700
	0.5118	13
33/64	0.5156	13.097
17/32	0.531	13.494
35/64	0.547	13.891
	0.5512	14
9/16	0.563	14.288
	0.571	14.5
37/64	0.578	14.684
	0.5906	15
19/32	0.594	15.081
39/64	0.609	15.478
5/8	0.625	15.875
	0.6299	16
41/64	0.6406	16.272
	0.6496	16.5
21/32	0.656	16.669
	0.6693	17
43/64	0.672	17.066
11/16	0.6875	17.463
45/64	0.703	17.859
	0.7087	18
23/32	0.719	18.256
	0.7283	18.5
47/64	0.734	18.653
	0.7480	19
3/4	0.750	19.050
49/64	0.7656	19.447
25/32	0.781	19.844
	0.7874	20
51/64	0.797	20.241
13/16	0.8125	20.638
	0.8268	21
53/64	0.828	21.034
27/32	0.844	21.431
55/64	0.859	21.828
	0.8661	22
7/8	0.875	22.225
57/64	0.8906	22.622
	0.9055	23
29/32	0.9062	23.019
59/64	0.922	23.416
15/16	0.9375	23.813
	0.9449	24
61/64	0.953	24.209
31/32	0.969	24.606
	0.9843	25
63/64	0.9844	25.003
1	1.000	25.400
	1.0236	26
1-1/32	1.0312	26.194

INCHES		mm
FRACTIONS	DECIMALS	
1-1/16	1.062	26.9
1.063	27	688
1-3/32	1.094	27.781
	1.1024	28
1-1/8	1.125	28.575
	1.1417	29
1-5/32	1.156	29.369
	1.1811	30
1-3/16	1.1875	30.163
1-7/32	1.219	30.956
	1.2205	31
1-1/4	1.250	31.750
	1.2598	32
1-9/32	1.281	32.544
	1.2992	33
1-5/16	1.312	33.338
	1.3386	34
1-11/32	1.344	34.131
1-3/8	1.375	34.925
	1.3779	35
1-13/32	1.406	35.917
	1.4173	36
1-7/16	1.438	36.513
	1.4567	37
1-15/32	1.469	37.306
	1.4961	38
1-1/2	1.500	38.100
1-17/32	1.531	38.894
	1.5354	39
1-9/16	1.562	39.688
	1.5748	40
1-19/32	1.594	40.481
	1.6142	41
1-5/8	1.625	41.275
	1.6535	42
1-21/32	1.6562	42.069
1-11/16	1.6875	42.863
	1.6929	43
1-23/32	1.719	43.65
	1.7323	44
1-3/4	1.750	44.450
	1.7717	45
1-25/32	1.781	45.244
	1.8110	46
1-13/16	1.8125	46.038
1-27/32	1.844	46.831
	1.8504	47
1-7/8	1.875	47.625
	1.8898	48
1-29/32	1.9062	48.419
	1.9291	49
1-15/16	1.9375	49.213
	1.9685	50
1-31/32	1.969	50.006
2	2.000	50.800

Conversion Factors

Centimeters	X	0.3937	=	Inches
Circular Mils	X	0.7854	=	Square Mils
	X	5.061×10^{-4}	=	Square Millimeters
Cubic Centimeters	X	0.0610	=	Cubic Inches
Cubic Inches	X	16.386	=	Cubic Centimeters
Inches	X	2.54	=	Centimeters
Kilograms	X	2.2046	=	Pounds
Kilograms/Kilometer	X	0.6720	=	Pounds/1000 Feet
Kilometers	X	0.6214	=	Miles
	X	3280.8	=	Feet
Meters	X	3.2808	=	Feet
Mils	X	0.001	=	Inches
	X	0.0254	=	Millimeters
Miles	X	1.6093	=	Kilometers
Millimeters	X	0.03937	=	Inches
Ohms/Kilometer	X	0.3048	=	Ohms/1000 Feet
Ohms/1000 Feet	X	3.2808	=	Ohms/Kilometer
Pounds	X	0.4536	=	Kilograms
Pounds/1000 Feet	X	1.4881	=	Kilograms/Kilometer
Square Centimeters	X	1.97×10^{5}	=	Circular Mils
Square Inches	X	1.2732×10^{6}	=	Circular Mils
Square Millimeters	X	1973.5	=	Circular Mils

Metric (mm^2) to AWG Conductor Conversion

METRIC SIZE mm^2	CIRCULAR Mill AREA	NEAREST AWG SIZE	ACTUAL CMA OF AWG
0.05	98.7	30	100
0.08	158	28	159
0.14	276	26*	253
0.22	434	24*	405
0.25	493	24*	405
0.30	591	22	643
0.34	671	22*	643
0.35	690	22*	643
0.38	750	21	812
0.50	987	20	1,020
0.75	1,480	18	1,620
0.80	1,579	18	1,620
1.00	1,974	17	2,050
1.25	2,467	16	2,580
1.5	2,960	15	3,260
2	3,948	14	4,110
2.5	4,934	13	5,180
3	5,922	12	6,530
3.5	6,907	12*	6,530
4	7,894	11	8,230
5	9,867	10	10,380
5.5	10,853	10*	10,380

METRIC SIZE mm^2	CIRCULAR Mill AREA	NEAREST AWG SIZE	ACTUAL CMA OF AWG
8	15,788	8	16,533
10	19,735	7	20,820
12	23,682	6	26,218
14	27,629	6*	26,218
16	31,576	5	33,090
22	43,417	4*	41,799
25	49,338	3	52,620
35	69,073	2*	66,357
38	74,993	1	83,690
42	82,888	1	83,690
50	98,676	1/0	104,500
60	118,411	2/0	133,000
70	138,147	2/0*	133,000
90	177,617	3/0*	167,613
95	187,485	4/0	210,400
120	236,823	250 MCM	
150	96,029	300 MCM	
185	365,102	350 MCM*	
240	473,646	500 MCM	
300	592,058	600 MCM	
400	789,410	750 MCM*	
500	986,763	1,000 MCM	

When converting from mm^2 to AWG, nearest LARGER AWG should be used whenever possible — NEVER drop to a smaller-cma wire.

Copper Conductor Data

AWG[1]	STRANDING	TYPE STRANDING[2]	DIAMETER[3]		AREA		WEIGHT		D.C. RESISTANCE @ 20°C[4]			
									TIN COATING[5]		BARE OR SILVER COATING	
			in	mm	circ. mils	sq. mm	lbs/M'	kg/km	ohms/M'	ohms/km	ohms/M'	ohms/km
32	7/40	Co or Bu	0.010	0.254	100	0.051	0.21	0.31	176	577		
30	Solid		0.010	0.254	100	0.051	0.30	0.45	113	371	102	340
30	Solid[6]		0.010	0.254	100	0.051	0.30	0.45			122	400
30	7/38	Bu	0.012	0.305	112	0.057	0.35	0.52	106	348	92.6	303
30	7/38[7]	Bu	0.012	0.305	112	0.057	0.35	0.52				
29	Solid[6]		0.011	0.287	128	0.065	0.39	0.58			95.9	315
28	Solid		0.013	0.320	159	0.081	0.48	0.72	70.8	232	65.3	214
28	7/36	Co	0.015	0.381	175	0.089	0.55	0.82	67.5	221	59.3	194
28	7/36[6]	Co	0.015	0.381	175	0.089	0.58	0.86			71.4	234
27	Solid		0.014	0.361	202	0.102	0.61	0.91	55.6	182	51.4	169
27	7/35	Co or Bu	0.018	0.455	220	0.111	0.69	1.04	53.8	176		
27	65/44	Bu	0.018	0.455	260	0.131	0.70	1.05			42.0	138
26	Solid		0.016	0.404	253	0.128	0.77	1.14	44.5	146	41.0	135
26	Solid[6]		0.016	0.404	253	0.128	0.77	1.14			48.4	159
26	7/34	Co or Bu	0.019	0.483	278	0.141	0.87	1.29	42.5	139	37.3	122
26	10/36	Bu	0.019	0.483	250	0.127	0.78	1.15	47.3	155	40.4	133
26	19/38	Bu or Co	0.021	0.533	304	0.154	0.97	1.44	38.9	128	34.1	112
26	19/38[6]	Co, Eq or Un	0.021	0.533	304	0.154	0.97	1.44		37.3	122	
24	Solid		0.020	0.511	404	0.205	1.22	1.82	27.2	89.2	25.7	84.2
24	7/32	Co or Bu	0.024	0.610	448	0.227	1.38	2.05	25.7	84.2	23.1	75.9
24	16/36	Bu	0.023	0.609	400	0.201	1.25	1.64	29.5	96.8	27.5	90.2
24	19/36	Co or Bu	0.025	0.635	475	0.241	1.48	2.20	24.9	81.7	21.8	71.6
22	Solid		0.025	0.643	643	0.324	1.94	2.89	16.7	54.8	16.2	53.2
22	7/30	Co or Bu	0.031	0.787	700	0.355	2.19	3.26	16.6	54.4	14.8	48.6
22	19/34	Bu or Eq	0.032	0.813	754	0.382	2.35	3.50	15.5	50.8	13.8	45.1
20	Solid		0.032	0.813	1.020	0.519	3.10	4.61	10.5	34.4	10.1	33.2
20	7/28	Co or Bu	0.038	0.965	1.111	0.562	3.49	5.19	10.3	33.8	9.33	30.6
20	10/30	Bu	0.036	0.914	1.000	0.507	3.14	4.67	11.4	37.4	10.4	34.0
20	19/32	Co, Bu or Eq	0.040	1.02	1.216	0.616	3.84	5.71	9.48	31.1	8.53	28.0
20	19/.0071[8]	Eq	0.036	0.914	957	0.485	2.95	4.39	12.6	41.3		
20	26/34	Bu	0.037	0.940	1.032	0.523	3.28	4.88	11.3	37.1		
20	42/36	Bu	0.038	0.965	1.050	0.532	3.34	4.97	11.2	36.7		
19	Solid		0.036	0.912	1.290	0.653	3.90	5.80			8.05	26.4
18	Solid		0.040	1.02	1.620	0.823	4.92	7.32	6.77	22.2	6.39	21.0
18	7/26	Co or Bu	0.048	1.22	1.770	0.897	5.55	8.26	6.45	21.2	5.86	19.2
18	16/30	Bu	0.046	1.17	1.600	0.810	5.01	7.45	7.15	23.4	6.48	21.3
18	19/30	Co, Bu or Eq	0.050	1.27	1.900	0.963	5.95	8.85	6.10	20.0	5.46	17.9
18	19/.0092	Bu	0.046	1.17	1.608	0.814	5.10	7.59			5.10	16.7
18	41/34	Bu	0.047	1.19	1.627	0.824	5.09	7.08	7.08	23.2	6.60	21.6
16	Solid		0.051	1.29	2.580	1.31	7.81	11.6	4.47	14.7	4.16	13.6
16	7/.0192	Bu	0.058	1.47	2.581	1.31	7.90	11.8			4.16	13.6
16	19/29[8]	Bu or Eq	0.057	1.45	2.426	1.23	7.52	11.2	4.82	15.8	4.27	14.0
16	19/.0117	Bu	0.059	1.50	2.601	1.32	8.02	11.9	4.39	14.4	4.13	13.5
16	26/30	Bu	0.060	1.52	2.600	1.32	8.15	12.1	4.39	14.4	3.99	13.1
16	65/34	Bu	0.060	1.52	2.580	1.31	7.98	11.9	4.47	14.7	4.16	13.6
14	Solid		0.064	1.63	4.110	2.08	12.4	18.5	2.68	8.79	2.52	8.28
14	7/.0242	Bu	0.073	1.85	4.100	2.08	12.7	18.9			2.61	8.56
14	19/27[8]	Co, Eq or Un	0.071	1.80	3.831	1.94	12.1	18.0	3.05	10.00	2.71	8.88
14	19/.0147	Bu	0.074	1.88	4.106	2.08	12.7	18.9			2.61	8.56
14	41/30	Bu	0.069	1.75	4.100	2.08	12.9	19.2	2.81	9.22	2.53	8.30

Copper Conductor Data *(Continued)*

AWG[1]	STRANDING	TYPE STRANDING[2]	DIAMETER[3]		AREA		WEIGHT		D.C. RESISTANCE @ 20°C[4]			
									TIN COATING[5]		BARE OR SILVER COATING	
			in	mm	circ. mils	sq. mm	lbs/M'	kg/km	ohms/M'	ohms/km	ohms/M'	ohms/km
12	Solid		0.081	2.05	6.530	3.31	19.8	29.5	1.69	5.54	1.59	5.21
12	7/.0305	Co	0.092	2.34	6.512	3.30	20.2	30.1			1.64	5.38
12	19/25[8]	Co, Eq or Un	0.090	2.29	6.088	3.08	19.04	28.9	1.87	6.13	1.70	5.59
12	19/.0185	Bu	0.093	2.36	6.503	3.30	20.2	30.1			1.60	5.23
12	65/30	Bu	0.091	2.31	6.500	3.29	20.8	31.1	1.82	5.97	1.60	5.23
10	Solid		0.102	2.59	10.380	5.26	31.4	46.8			1.00	3.28
10	7/.0385	Co	0.116	2.95	10.376	5.25	32.0	47.6			1.00	3.28
10	19/.0234	Bu	0.117	2.97	10.404	5.27	32.0	47.6			0.98	3.21
10	37/.0169	Co	0.112	2.84	9.361	4.74	29.2	43.4			1.25	4.10
10	49.27[8]	Ro 7x7/27	0.120	3.04	9.880	5.01	32.4	48.2			1.28	4.20
10	105/30	Bu	0.130	3.30	10.500	5.32	33.1	49.2	1.10	3.61	0.99	3.24
9	7/.0432	Co	0.130	3.30	13.064	6.61	43.0	64.0			0.82	2.69
8	Solid		0.129	3.26	16.510	8.37	49.9	74.3			0.62	2.06
8	7/.0486	Co	0.146	3.71	16.534	8.38	50.1	74.5			0.65	2.13
8	19/.0295	Bu or Eq	0.144	3.66	16.535	8.38	50.0	74.4			0.65	2.13
8	133.29	Ro 19x7/29	0.167	4.24	16.983	8.61	54.0	80.4	0.71	2.33		
8	168.30	Ro 7x24/30	0.174	4.42	16.800	8.51	53.1	79.0	0.70	2.30		
6	Solid		0.162	4.12	26.240	13.30	79.4	118			0.40	1.30
6	7/.0612	Co	0.184	4.67	26.218	13.28	81.1	121			0.41	1.34
6	19/.0372	Bu	0.186	4.72	26.293	13.33	81.1	121			0.40	1.30
6	133/27	Ro 19x7/27	0.210	5.33	26.818	13.60	84.1	125	0.43	1.41		
6	266/30	Ro 7x38/30	0.204	5.18	26.600	13.49	83.2	124	0.44	1.44		
4	Solid		0.204	5.19	41.740	21.15	126	188			0.25	0.82
4	7/.0772	Co	0.232	5.89	41.719	21.15	129	192			0.26	0.85
4	19/.0469	Co	0.235	5.97	41.793	21.19	129	192			0.24	0.79
4	133/25	Ro 19x7/25	0.257	6.53	42.615	21.61	135	201	0.29	0.95		
4	420/30	Ro 7x60/30	0.257	6.53	42.000	21.29	140	208	0.28	0.92		
2	19/.0591	Co	0.292	7.42	66.407	33.67	205	205			0.17	0.56
2	665/30	Ro 19x35/30	0.338	8.59	66.500	33.72	213	317	0.18	0.59		
1	19/.0664	Co	0.332	8.43	83.771	42.47	266	396			0.13	0.43
1/0	19/.0745	Eq	0.373	9.47	105.455	53.47	326	485			0.11	0.36
1/0	37/.0534	Eq	0.370	9.40	105.508	53.49	326	485			0.10	0.33
1/0	259/24	Ro 7x37/24	0.424	10.77	104.639	53.05	331	493	0.11	0.36		
1/0	1045/30[8]	Ro 19x55/30	0.410	10.41	104.500	52.98	335	498	0.12	0.39		
2/0	37/.0600	Co	0.420	10.67	133.200	67.53	411	612			0.08	0.26
2/0	259/.0227	Ro 7x37/.0227	0.456	11.58	129.956	65.89	430	640	0.09	0.30		
2/0	1330/30	Ro 19x70/30	0.496	12.60	133.300	67.58	430	640	0.09	0.30		
3/0	37/.0673	Co	0.470	11.94	167.584	84.97	518	771			0.07	0.23
4/0	37/.0756	Eq	0.530	13.46	211.468	107.23	653	972			0.05	0.16
4/0	427/.0223	Ro 61x71/.0223	0.602	15.29	212.343	107.65	676	1.006	0.06	0.20		
4/0	2107/30	Ro 7x7x43/30	0.608	15.44	210.700	106.82	674	1.003	0.06	0.20		

(1) In stranded conductors, nearest AWG size.

(2) Bu – Bunched; Co – Concentric; EQ – Equilay; Ro – Rope; Un – Unilay

(3) Actual nominal diameter for solid wires, theoretical average diameter for stranded wires.

(4) Typical DC. Resistance values of uninsulated wires. Multiply by 104 for typical values after insulation.

(5) Values are for tinned, heavy tinned, prefused, overcoated or topcoated conductors

(6) Alloy 135 (High strength cadmium chromium copper)

(7) Copper-covered steel, hard drawn, 40% conductivity

(8) Does not meet UL conductor stranding requirements.

Cable Application & Installation Guide

There are many different types of Multi-Conductor cables designed for a wide variety of applications. By definition, multi-conductor cables consist of two or more conductors primarily used for remote control, although power can be provided in some applications.

TYPICAL MULTI-CONDUCTOR TYPES

- Small Diameter
- Tray Cables
- High Temperature
- Payout & Retractile
- Control
- Low Temperature

TYPICAL MULTI-CONDUCTOR APPLICATIONS

The decision to use one type over another is dependent upon the application and the applicable codes.

- Forced Directional Reeling and Pulling Applications
- Bending Applications such as Cable Carriers
- Robotic Applications – Twisting and Bending
- Pendant Applications – Pulling

TPC PRODUCT ADVANTAGES

- Engineered for maintenance to reduce usage and eliminate costly repairs and downtime through performance
    - Continual Research and Development
    - Extensive Inventories – Available in a wide variety of put-ups
- Complete range of product sizes cut to order
- Innovative product solutions to solve customer problems with specific products for a specific need

PRODUCT APPLICATION GUIDE

Forced Directional Reeling — is one of the toughest dynamic applications for a multi-conductor cable. This application places tremendous stresses on the jacket and conductors. If the correct cable is not used and installed properly, the cable will quickly begin to cork screw and ultimately fail.

Application	• Any type of reeling application where the cable is being pulled.
Cable Design Characteristics	**Typically these cables have the following design characteristics:** • Reinforced jacket or strength member. • Hard Durometer jacket. • Constructed on a Planetary Cabler to eliminate conductor stress. • Conductor insulation has a very low coefficient of friction – allowing the conductors to slide freely within the conductor jacket. • A short lay length – a shorter lay length is preferred for bending applications. These cables typically fail when the jacket begins to stretch because of the pulling tension. When the jacket begins to stretch, the conductors are pulled out of their lay within the cable, and the cable begins to corkscrew. When the jacket has stretched enough, the conductors begin bearing the weight of the pull tension. At this point the individual conductors begin to work harder and fail.
Installation Keys	• Select a cable with reinforced jacket or strength member. • Do not exceed the cable's rated pull tension (spring loaded reel tension increases as reel pays-out). • Select a reel drum diameter large enough for cable being used (the reel drum diameter should be at least 16 times cable O.D.). • Before installing on reel, pre-cut cable to length and hang for 24 hours to relieve spool storage memory. • Use a mesh strain relief at both ends of cable. This will spread jacket load and helps prevent jacket stretch.

TPC RECOMMENDED PRODUCTS:

- **Super-Trex®** P&R Cables, Type W Portable Power & Automation, Triple-Gard™, 4/0 Type TC Power, Type G and Extra Heavy-Duty All Weather Reeling Cables
- **Trex-Onics® Multi-Conductor Cables and Individually Shielded Pair Cables — All Configurations**

Cable Application & Installation Guide *(Continued)*

Bending Applications Such As Cable Carriers — Constant bending applications such as cable carriers are abusive on multi-conductor cables because of both the bend radius of the application and the repetition of the motion. This application places stresses on the conductors as they are forced to move with the bend. If the correct cable is not used and installed properly, the conductors will begin to quickly work harden and break.

Application	• Any type of bending application, such as a cat-track. • Where there is constant bending motion but no direct pulling of the cable.
Cable Design Characteristics	**Typically these cables have the following design characteristics:** • Smaller overall cable OD is preferred. • Reinforcement of the jacket is not necessary. • Softer jacket with a lower Durometer. • Constructed on a Planetary Cabler to eliminate conductor stress. • Conductor insulation that has a very low coefficient of friction– allowing the conductors to slide freely within the conductor jacket. • The construction cannot have a single center conductor or drain wire. • A short lay length – a shorter lay length is preferred for bending applications. **Cables typically fail in bending applications for two reasons:** the movement of the cable is restricted or the bend radius is too small for the cable. Wire tying the cables to the cable tray or to each other restricts constricts the movement of the conductors within the jacket, resulting in premature failure. Using too small a bend radius causes the conductors to be overstressed, resulting in work hardening of the conductors and ultimately conductor failure.
Installation Keys	• Allow the cable to hang freely for 24 hours so that any tensions from being stored on a reel are released. • Do not exceed the cable's bend radius. • Use a mesh strain relief at both ends of the cable. This will help spread the load on the jacket, helping to prevent jacket stretch.

TPC RECOMMENDED PRODUCTS:

- **Super-Trex®** Reduced Diameter Control Cables and P&R Cables
- **Trex-Onics®** Multi-Conductor and Individually Shielded Pair Cables

Robotic Applications — These types of applications expose the cable to both bending and twisting motions. This is one of the tougher applications for a cable since the cable is moving in multiple axes. This type of motion requires a cable design similar to the cat-track cable but with a modified lay length to accommodate the twisting motion.

Application	• Robotic – where there is a constant bending and twisting of the cable. • No direct pulling of the cable.
Cable Design Characteristics	**Typically these cables have the following design characteristics:** • Smaller overall cable OD is preferred. • Reinforcement of the jacket is not necessary. • Often has a softer jacket with a lower Durometer – allows the cable to bend more freely. • Constructed on a Planetary Cabler to eliminate conductor stress. • Conductor insulation has a very low coefficient of friction – allowing the conductors to slide freely within the conductor jacket. • The construction cannot have a single center conductor or drainwire. • A medium lay length – a shorter lay length is preferred for bending applications – a longer lay length is preferred for twisting applications. **These Cables typically fail because:** • The cable bend exceeds the cable design – this is typically an equipment design flaw. • The cable was tied down with wire ties. If applied too tightly, wire ties can constrict the movement of the conductors within the jacket causing work hardening of the conductors and failure.
Installation Keys	• Allow the cable to hang freely for 24 hours so that any tensions from being stored on a reel are released. • Use a cable with a small overall OD. • Do not exceed the cables bend radius. • Use a mesh strain relief at both ends of the cable. This will help spread the load on the jacket, helping to prevent jacket stretch.

TPC RECOMMENDED PRODUCTS:

- **Super-Trex®** Reduced Diameter Control Cables, P&R Cables and Power Cables
- **Trex-Onics®** Multi-Conductor and Individually Shielded Pair Cables and Power Cables

Cable Application & Installation Guide

Pendant Applications — These applications appear to be a very light duty application for a cable but in reality can be one of the most abusive. The cables are typically hanging from a junction box 15-20' up. They have a pendant box on the end that may weight 5-10 lbs. They have an operator pulling on the pendant box adding another 20-30 lbs of force to cable. This application places tremendous stresses on the jacket and conductors. If the correct cable is not used and installed properly, the cable will quickly begin to cork screw and ultimately fail.

Application	• Any type of reeling application where the cable is being pulled. • Pendant applications where the weight of the cable and or the pendant box can cause the cable jacket to potentially stretch.
Cable Design Characteristics	**Typically these cables have the following design characteristics:** • Reinforced jacket or Strength member. • Hard Durometer jacket. • Constructed on a Planetary Cabler to eliminate conductor stress. • Conductor insulation has a very low coefficient of friction – allowing the conductors to slide freely within the conductor jacket. • A short lay length – a shorter lay length is preferred for bending applications. These cables typically fail when the jacket begins to stretch because of the pulling tension. When the jacket begins to stretch, the conductors are pulled out of their lay within the cable, and the cable begins to corkscrew. When the jacket has stretched enough, the conductors begin bearing the weight of the pull tension. At this point the individual conductors begin to work harden and fail.
Installation Keys	• Select a cable with a reinforced jacket or strength member. • Do not exceed the cable's rated pull tension. • Use a mesh strain relief at both ends of the cable. This will help spread the jacket load, helping to prevent jacket stretch. • For a quick pendant change option, use a TPC connectorized pendant. This allows for an immediate swap out of a broken pendant box with no downtime.

TPC RECOMMENDED PRODUCTS:

- **Super-Trex®** P&R Cables and Extra Heavy-Duty All Weather Reeling Cables
- **Trex-Onics®** Multi-Conductor and Individually Shielded Pair Cables

INSTALLATION GUIDE FOR CABLE CARRIERS

1. **Correct Track Size Measure** diameter of all track cables/hoses. Cables require 10% min. clearance from sides, separators, and other cables/hoses. Hoses require 20% min. clearance from sides, separators, and other cables/hoses. A larger track is required for application if these min. clearances can not be met.
2. **Correct Minimum Bend Radius** Verify track has bend radius large enough to accommodate largest cable in carrier. Minimum track height must be at least 16 times O.D. of largest cable in carrier (see FIG.1 below).
3. **Correctly Prepare Cable** Hang cables for 24 hours before installing in track to relieve spool storage memory.
4. **Plan the Correct Layout** Cable/hose weight should be distributed evenly across track window. Heavier cables should be placed toward outside of carrier.
5. **Load Cables/Hoses Correctly** Using the planned layout, load each cable/hose individually. They should not weave in between or around each other. Do not attach cables/hoses to each other or track. Now secure cable/hoses ONLY at fixed end bracket using grip seals or machined capture block. Zip Ties are not recommended.
6. **Test Cycle/Fine Tune Cycle** track 2-5 times to allow cables/hoses to self center properly inside track. Cables/hoses should follow centerline of track curve, not touching inside or outside crossbars around the curve. Manual adjustment may be required. Do not pull cables taught or allow any slack. Once completed, secure cables/hoses to the moving end bracket with grip seals or machined capture block. Zip Ties are not recommended.

TPC RECOMMENDED PRODUCTS:

- **Super-Trex®** Reduced Diameter, Portable Power and Automation, P&R Cables and Control Cables
- **Trex-Onics®** Multi-Conductor and Individually Shielded Pair Cables, C-Flex and VFD

Cable Application & Installation Guide *(Continued)*

INSTALLATION GUIDE FOR REELING & PENDANT APPLICATIONS

1. Cable Preparation

i) As in the case with rolling up a garden hose, reeling cable is best done with the natural "set" of the cable. The natural set occurs during the manufacturing of the cable. The cable is curved in one direction with a definite tendency to be reeled one way as opposed to another. The cable must be put on the reel using its natural set with care exercised not to have the reel oppose the natural set.

ii) Ideally the cable should be pre-cut and hung suspended for 24 hours to develop its most natural set prior to installation.

iii) Measure off the cable and cut to the desired length. The length should allow for the cable carrier length plus extra for routing and termination.

2. Bend Radius

i) See bend radius calculations for cable carrier applications.

3. Cable Tension

i) Cable tension plays a very important role in determining cable life in reeling and pendant applications. The copper conductors are the principal strength members in flexible cable construction. The following chart can be used as a guide in determining the proper cable tension and to prevent the cable from being overstressed.

ii) The primary symptom of too much tension on a cable is called "corkscrewing". This is characterized by the conductors bunching or twisting under the jacket. In severe cases it is possible for the conductors to punch through the jacket. This condition will ultimately result in cable failure.

iii) The lower the reeling tension, the longer the cable life, all other things being equal.

4. Reeling Speed & Temperature

i) Reeling speed and temperature are not as controllable as drum size and reel tension. If the reeling speed and/or temperature are extreme in any way, other considerations must be applied. A cold weather application might call for a larger drum diameter, whereas a high temperature may dictate a larger AWG size to reduce inner conductor temperatures.

ii) In general, the slower the reeling speed and/or the warmer the temperature, the longer the cable life.

iii) Cable speed normally should not exceed 400 feet per minute.

GENERAL GUIDELINES FOR CABLE SELECTION & INSTALLATION

1. **DO NOT** exceed the bend radius of the cable! 8-10 times the O.D. of the cable is an optimum bend radius.
2. **DO NOT** restrict cable movement with wire ties or clamps.
3. Where possible, always use some type of Strain Relief.
4. **ALWAYS** use a cable with a reinforced jacket or strength member in reeling or pendant application.
5. Allow the cable to hang for **24 HOURS** before installation.
6. **DO NOT** confuse flex life with flexibility. A cable may be very flexible but if it is not designed properly for the application it may have a very short flex life.
7. All things considered, use the smallest O.D. cable you can.

CABLE SIZE AWG/COND	MAX. CONTINUOUS TENSION (LBS)
20/2 20/1 pr	5
20/6 20/3 pr	16
20/12 20/6 pr	33
20/18 20/9 pr	49
20/24 20/12 pr	65
18/2 18/1 pr	10
18/6 18/3 pr	25
18/12 18/6 pr	51
18/18 18/9 pr	76
18/24 18/12 pr	102
18/5	19
18/12	45
18/19	71
18/25	93

CABLE SIZE AWG/COND	MAX. CONTINUOUS TENSION (LBS)
18/33	123
18/49	182
18/65	242
16/5	30
16/6	35
16/7	41
16/8	47
16/10	59
16/12	71
16/16	94
16/19	113
16/20	118
16/22	128
16/24	141

CABLE SIZE AWG/COND	MAX. CONTINUOUS TENSION (LBS)
16/25	148
16/30	177
16/31	180
16/33	196
16/36	212
16/41	239
16/47	279
16/49	291
16/60	350
16/65	386
14/6	56
14/7	65
14/8	75
14/10	93

CABLE SIZE AWG/COND	MAX. CONTINUOUS TENSION (LBS)
14/12	112
14/16	150
14/20	187
14/24	224
12/6	89
12/8	119
12/12	179
12/16	238
12/20	297
12/30	446
10/6	143
10/8	191
10/12	286

All values are nominal. Maximum Continuous Tension based on the following formula: $MCT = \frac{2.3 \times CMA}{1000} \times Cn$

Where: **MCT =** Maximum Continuous Tension **CMA =** Circular Mill Area **Cn =** Number of Conductors

Environmental Ratings

CODE LETTERS (Ingress Protection)	FIRST INDEX FIGURE (Foreign Bodies Protection)	SECOND INDEX FIGURE (Water Protection)
IP	6	5

INDEX FIGURE	DEGREE OF PROTECTION
0	No Protection.
1	Protection Against Large Foreign Bodies.
2	Protection Against Medium Sized Foreign Bodies.
3	Protection Against Small Solid Foreign Bodies.
4	Protection Against Grain-Shaped Foreign Bodies.
5	Protection Against Injurious Deposits of Dust.
6	Protection Against Ingress of Dust.

INDEX FIGURE	DEGREE OF PROTECTION
0	No Protection.
1	Drip-Proof, Against Vertical Water Drips.
2	Drip-Proof, Against Water Drips, Up to a 15° Angle.
3	Spray-Proof.
4	Splash-Proof.
5	Hose-Proof.
6	Protected Against Flooding.
7	Protected Against Immersion.
8	Watertight.
9K	Protected Against High-Pressure Liquids.

What Does IP69K Mean?

IP69K is an environmental rating for products being used where high pressure and high temperature spray may be used to sanitize equipment. The test specification was originally developed to test electrical connections used on road vehicles like dump trucks, cement mixers, snow plows, etc. In recent years this test has been widely adopted by the food and beverage industry to test electrical connectors that must withstand sanitary wash down.

How are the products tested?

Products that carry the IP69K rating are subject to a heated high pressure spray and must not allow any ingress of water that might interfere with the correct operation of equipment. The water is heated to 78°C and sprayed at a pressure of 1,500 PSI for 2 minutes on the mated connection. During the two minute process the connected assembly is rotated and subjected to the heated high pressure spray positioned at angles of 0°, 30°, 60° and 90° for 30 seconds each. The goal of the testing is to simulate high pressure, high temperature cleaning conditions that exist on the plant floor in the food and beverage industry.

Hazardous Locations

CLASS	HAZARDOUS MATERIAL IN SURROUNDING ATMOSPHERE
Class I	Hazardous because flammable gases or vapors are present in the air in quantities sufficient to produce explosive or ignitable mixtures.
Class II	Hazardous because combustible or conductive dusts are present.
Class III	Hazardous because ignitable fibers or flying's are present, but not likely to be in suspension in sufficient quantities to produce ignitable mixtures. (Group class-ifications are not applied to this class.)

DIVISION	PRESENCE OF HAZARDOUS MATERIAL
Division 1	The substance referred to by class is present during normal conditions.
Division 2	The substance referred to by class is present only in abnormal conditions, such as a container failure or system breakdown.

TPC cables rated as "Extra-Hard Usage" are suitable for Class I, II and III, Division 1 and 2 when installed per NEC articles 501, 502 and 503.

GROUP	HAZARDOUS MATERIAL IN SURROUNDING ATMOSPHERE
Group A	Acetylene
Group B	Hydrogen, fuel and combustible process gases containing more than 30% hydrogen by volume or gases of equivalent hazard such as butadiene, ethylene, oxide, propylene oxide and acrolein.
Group C	Ethyl and ethylene or gases of equivalent hazard.
Group D	Gasoline, acetone, ammonia, benzene, butane, cyclopropane, ethanol, hexane, methanol, methane, natural gas, naphtha, propane or gases of equivalent hazard.
Group E	Combustible metal dusts, including aluminum, magnesium and their commercial alloys or other combustible dusts whose particle size, abrasiveness and conductivity present similar hazards in connection with electrical equipment.
Group F	Carbonaceous dusts, coal black, charcoal, coal or coke dusts that have more than 8% total entrapped volatiles or dusts that have been sensitized by other material so they present an explosion hazard.
Group G	Flour dust, grain, wood, plastic and chemicals.

Ethernet Chart

CHARACTERISTIC	CATAGORY 3	CATAGORY 5E	CATAGORY 6A	CATAGORY 7A
Frequency Bandwidth	16 MHz	100 MHz	500 MHz	1,000 MHz
Digital Bandwidth	10 MB/s	1,000 MB/s	10,000 MB/s	20,000 MB/s
Attenuation (Min. @100 MHz)	N/A	32db	29 db	27 db
Characteristic Impedance	100 Ohms	100 Ohms	100 Ohms	100 Ohms
Compatibility	CAT3	CAT 5E CAT 5 CAT 3	CAT 6A/CAT 6 CAT 5E/CAT 5 CAT 3	CAT 7/CAT 6A CAT 6/CAT 5E CAT 5/CAT 3
Standards Committee	TIA/EIA	TIA/EIA	ISO/IEC	ISO/IEC

Frequency Bandwidth — Measured in MegaHertz (MHz), is a measure of how big the opening is to get data through. A larger value equates to a faster data rate.

Digital Bandwidth — Measured in Megabits (MB/s), is a measure of the speed that the data moves. A larger value indicates a faster data rate.

Attenuation — Measured in decibels (db), is a measure of the relative differences in signal strength. A smaller value indicates less signal loss.

Characteristic Impedance — Measured in Ohms, is the input impedance (AC resistance) of the circuit. When impedances are matched, it provides the best data transfer.

Standards — TIA/EIA is the American standards organization for data communications. ISO/IEC is the international standards organization for data communications.

Cable Selection Guide For Maximum Horsepower

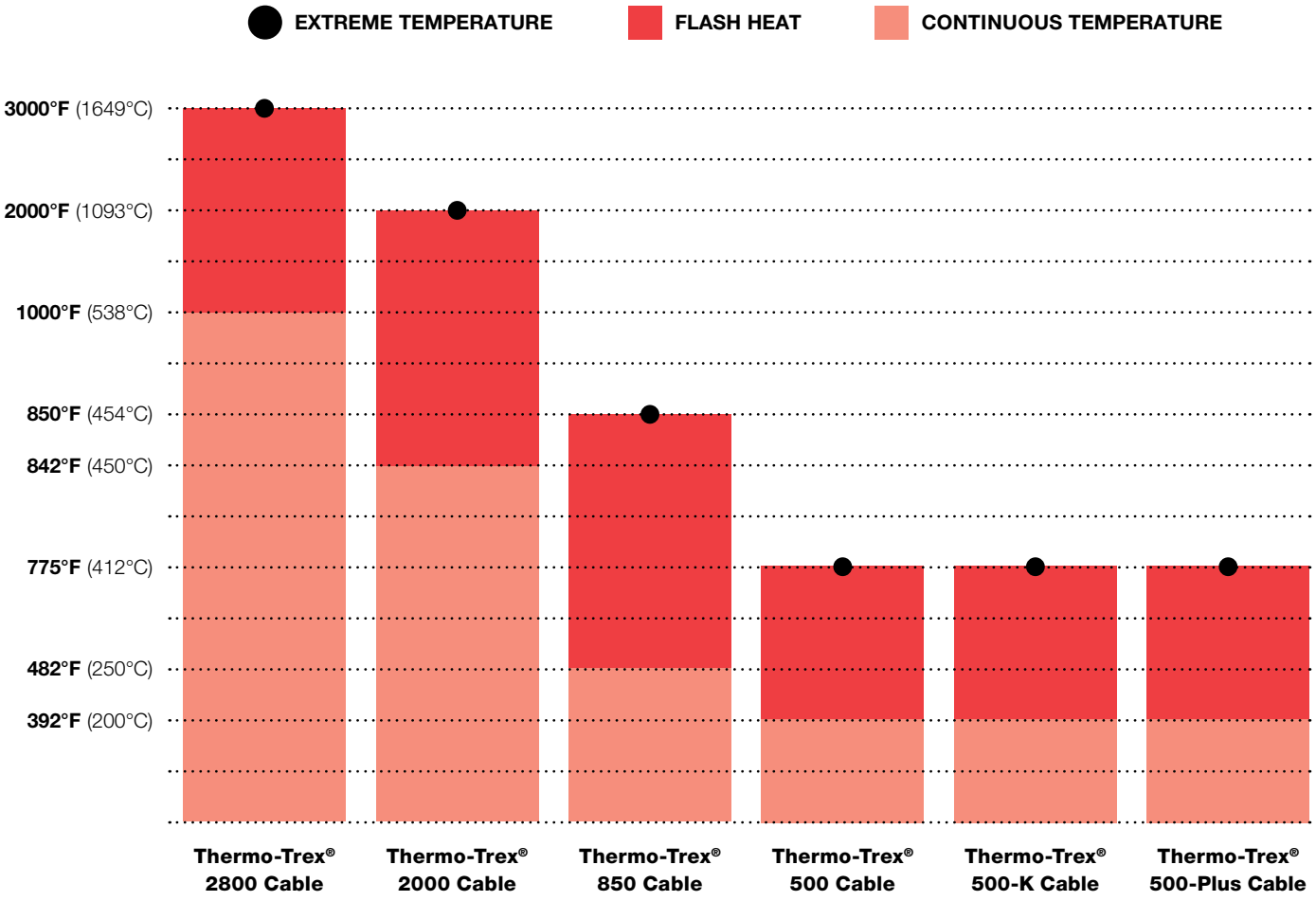
PRODUCT FAMILY	CONDUCTOR SIZE	AMPACITY @ 30°C	2011 NEC TABLE	220–240 VOLT 3-PHASE	440–480 VOLT 3-PHASE	550–600 VOLT 3-PHASE
Trex-Onics®	16	18	310.15(B)(16)	0.120	10 HP	10 HP
Trex-Onics®	14	25	310.15(B)(16)	0.120	10 HP	10 HP
Trex-Onics®	12	30	310.15(B)(16)	0.120	15 HP	20 HP
Trex-Onics®	10	40	310.15(B)(16)	0.120	20 HP	30 HP
Trex-Onics®	8	55	310.15(B)(16)	0.260	30 HP	40 HP
Trex-Onics®	6	75	310.15(B)(16)	0.120	40 HP	50 HP
Trex-Onics®	4	85	310.15(B)(16)	25 HP	50 HP	60 HP
Super-Trex®	4	114	B310.15(B)(2)(3)	30 HP	60 HP	75 HP
Super-Trex®	2	152	B310.15(B)(2)(3)	40 HP	75 HP	100 HP
Super-Trex®	1/0	205	B310.15(B)(2)(3)	60 HP	125 HP	150 HP
Super-Trex®	2/0	237	B310.15(B)(2)(3)	60 HP	150 HP	200 HP
Super-Trex®	4/0	316	B310.15(B)(2)(3)	100 HP	200 HP	250 HP
Super-Trex®	262	362	B310.15(B)(2)(3)	100 HP	200 HP	300 HP
Super-Trex®	373	449	B310.15(B)(2)(3)	125 HP	250 HP	350 HP
Super-Trex®	444	497	B310.15(B)(2)(3)	150 HP	300 HP	400 HP
Super-Trex®	535	555	B310.15(B)(2)(3)	150 HP	350 HP	450 HP

**Recommended horsepower is based on full-load current in Table 430.250 for the 2011 NEC Handbook and multiplied by 1.25 according to Article 430.22A and 430.122. Cable ampacities are based on 90°C conductor temperature and 30°C ambient temperature per the specified NEC Table.*

Actual horsepower is subject to the drive/motor manufacturers nameplate full-load current, and the local Authority Having Jurisdiction (AHJ).

Thermo-Trex® Cable Selection Guide for High Temperature Environments

TPC's Thermo-Trex® brand cable is the source for a high temperature resistant cable available in many configurations that offers gauge sizes for power or control applications. Flexibility is achieved by using finely stranded, nickel-plated copper conductors and a specially woven glass-braid jacket impregnated with abrasion resistant finishing compounds. These cables are a specialized family of high temperature wire and cable for your maintenance applications. Choosing the right product for high-heat environments reduces unnecessary replacements and avoids downtime. Use the chart below to make the best choice for your high temperature environment. If you have any questions, please contact your sales representative or call us at 800-521-7935.



HIGH TEMPERATURE CABLES

Thermo-Trex® 2800: High heat resistance allows this cable to withstand continuous temperatures up to 1,000°F and flash heat up to 3,000°F.

Thermo-Trex® 2000: High heat resistance allows this cable to withstand continuous temperatures up to 850°F and flash heat up to 2,000°F.

Thermo-Trex® 850 Cable: High heat resistance allows this cable to withstand continuous temperatures up to 500°F and flash heat up to 850°F.

Thermo-Trex® 500 Cable: High heat resistance allows this cable to withstand continuous temperatures up to 392°F and flash heat up to 775°F.

Thermo-Trex® 500-K Cable: High heat resistance allows this cable to withstand continuous temperatures up to 392°F and flash heat up to 775°F. The aramid fiber braid jacket adds tensile strength and added protection against abrasion. It is available in single or multi-conductors.

Thermo-Trex® 500-Plus Silicone Cable: Thermo-Trex® 500-Plus Silicone Cable is designed with a tear resistant silicone jacket and rated at a conductor temperature of 200°C (392°F). It is an ideal choice for applications exposed to high temperatures, UV light and mechanical abuse. This is a low smoke zero halogen (LSZH) product.

Case Study: Abrasion

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for abrasion environments!

STEEL PLANT UPDATES WELDING CABLE ON TRIPPER MACHINE

CUSTOMER PROBLEM: A steel plant customer had a 150' run of 600 volt welding cable that was only lasting 6 months before needing to replace it. It would get pretty beat up when it would get dragged over sharp metal pieces. They also needed it to stay flexible in the outdoor application.

TPC SOLUTION: Even though TPC cable was almost double the price per foot, they replaced the cable in 20 welding units with TPC's 600 volt 2/0 welding cable.

CUSTOMER'S RESULT: The customer hasn't had to replace the cable in the welding/tripper machine applications for 70 months! This is a material cost savings of over $172,000 and a labor cost savings of over $150,000. Over a nearly 6-year time frame, it saved over 5,560 production hours.

TPC PRODUCT: Super-Trex® 600 Volt Welding Cable

Total Savings in Material and Labor = $322,530 and Increased Production by 5,560 Hours

Source: TPC Cost Value Analysis Report #1130

Case Study: Chemicals

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for chemical environments!

POND AERATION CABLE AT A PAPER MILL

CUSTOMER PROBLEM: Aeration ponds are caustic and are constantly exposed to harsh UV light. The customer was using an ordinary 4/4 power cable that kept deteriorating due the exposure of the chemicals and UV light. Switching out cable in this application takes a lot of time, especially if you have multiple aeration ponds. It's also a two-man job to change out the cable.

TPC SOLUTION: The customer tested TPC 4/4 Super-Trex® power cable in one of his pond aeration units.

CUSTOMER'S RESULT: The Super-Trex® power cable performed three times longer than the previous cable and saved the customer $3,375 in material costs and $1,440 in labor costs. This also increased their production by 16 hours. Imagine the savings for multiple units!

TPC PRODUCT: Type W /Type TC Portable Power & Automation Cable

Total Savings in Material and Labor = $4,815 and Increased Production by 16 Hours

Source: TPC Cost Value Analysis Report #2497

Case Study: Extreme Temperature

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for abrasion environments!

DRYING OVENS / HIGH TEMPERATURE CABLE

CUSTOMER PROBLEM: The customer had to replace cable on a weekly basis because the ordinary cable being used would burn out too quickly in the extremely hot environment.

TPC SOLUTION: Since the cable was exposed to temperatures as high as 600ºC, TPC's Thermo-Trex® 2000 cable was suggested. They replaced 98.5 feet of cable on one oven.

CUSTOMER'S RESULT: The customer was able to keep his oven going 2-1/2 times longer using Thermo-Trex® 2000. The maintenance supervisor saved his company $328.80 and 108 hours of production over a 10 week period.

TPC PRODUCT: Thermo-Trex® 2000

Total Savings in Material and Labor = $328.80 and Increased Production by 108 Hours

Source: TPC Cost Value Analysis Report #CMP1

Case Study: Flexing

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for chemical environments!

TOP DRIVE APPLICATION IN OIL DRILLING

CUSTOMER PROBLEM: The customer's drill rig top drive has been exposed to flexing, twisting and abrasion as well as exposure to fluids and extreme weather conditions. The cable they were using failed too quickly.

TPC SOLUTION: This customer (oil and gas contract driller) replaced 185 feet of cable in a top drive application with TPC's Super-Trex® 16/25 Reduced Diameter Control Cable.

CUSTOMER'S RESULT: The customer saved $2,448.80 in material and labor costs by switching to TPC cable as well as saving 100 hours in labor. If they would have continued with the previous cable, they would have changed out the cable 3 times, but using TPC cable allowed them to continue production for 15 straight months without failure.

TPC PRODUCT: Super-Trex® 16 AWG Reduced Diameter Control Cable

Total Savings in Material and Labor = $2,448.80 and Increased Production by 100 Hours

Source: TPC Cost Value Analysis Report #2510

Case Study: Impact

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for impact environments!

NEW CABLE ASSEMBLY FOR THE FOOD AND BEVERAGE MARKET

CUSTOMER PROBLEM: A revo machine at a protein processing plant was used a lot and was plugged and unplugged repeatedly. Heavy equipment was being rolled over the electrical cord/plug assembly. Plus, the cable was being used to pull the plug out of the electrical socket causing damage to the conductors and connection.

TPC SOLUTION: TPC designed a new assembly with upgraded cable that has required no maintenance since installation and the writing of this report, approximately 6 months.

CUSTOMER'S RESULT: The customer saved $200 in material cost and $425 in labor savings and has been able to continue the use of the machine without failure for 6 months. They've gained 8 hours in production time.

TPC PRODUCT: Custom Assembly (MA101597F02)

Total Savings in Material and Labor = $625 and Increased Production by 8 Hours

Source: TPC Cost Value Analysis Report #2511

Case Study: Tension

Visit us online at **www.tpcwire.com/company/case-studies** to learn more about TPC solutions for chemical environments!

STOKER CABLE FAILS DUE TO STRESS FROM REEL

CUSTOMER PROBLEM: A metal manufacturing customer was having trouble with the cable near the stoker furnace failing due to the stress from the reel. They were replacing and/or repairing the cable once a month.

TPC SOLUTION: We knew two things about the environment — it had to withstand an ambient temperature of 150ºF and withstand the pinch points on the reeling system. TPC suggested using our Super-Trex® brand Type W/Type TC portable power and automation cable. The specially compounded TSE double pass jacket defends against tearing, abrasion, impact, oil, ozone and most chemicals while being flame and heat resistant.

CUSTOMER'S RESULT: We are happy to report that this customer has had TPC cable in this application for 9 months! In this time frame, it's saved the customer over $12K in material and labor costs as well as 33 hours of increased production time.

TPC PRODUCT: Super-Trex® Type W/Type TC Portable Power & Automation Cable

Total Savings in Material and Labor = $12,000 and Increased Production by 33 Hours

Source: TPC Cost Value Analysis Report #2438

Glossary

A

A — Common abbreviation for ampere (See ampere).

AC Motor — An electric motor that is operated on an AC (Alternating Current) circuit is an AC motor. The circuit and motor will be either single phase or three phase. Voltages will be 114V, 208V, 230V single phase; or 208V, 230V, 460V, 575V, three phase.

AAR — 589-591 Diesel locomotive. (American Association of Railroads)

AB — High voltage butyl cable.

ABC — Armored bushed cable.BX-armored building wire with polyvinyl chloride insulation, 600V.

ABP — Butyl polyethylene high voltage cable, 75°.

Abrasion Resistance — Ability of material or cable to resist surface wear.

AC — Branch circuit and feeder cables with flexible metal tape armor.

ACA — Synthetic tapes, felted asbestos, glazed cotton or glass braid, 1000V, 90°C.

Accelerated Aging — A test in which voltage, temperature, etc. are increased above normal values to obtain observable deterioration over a short period of time.

ACR — Corona resisting insulation.

ACSR — Aluminum cable, steel reinforced.

ACT — Armored cable continuing plastic conductors.

ACU — Armored cable containing latex rubber-insulated conductors.

ACV — Varnished cambric insulation, polyvinyl chloride interlocked armor, 5000V.

Alloy — A combination of two or more metals to form a new or different metal.

Alternating Current — An electrical current that continually reverses its direction, expressed in cycles per second.

Ambient Temperature — The temperature of a medium surrounding an object.

American Wire Gauge (AWG) — A standard system for designating wire diameter. Also referred to as the Brown and Sharpe (B&S) wire gauge.

Ampacity — The maximum current an insulated wire or cable can safely carry without exceeding either the insulation or jacket material limits.

Ampere — The unit of current. One ampere is the current flowing through one ohm resistance at one volt potential.

Anneal — To subject to high heat and then slowly cooled. This softens the metal and renders it less brittle.

Appendix B — United States Nuclear Regulatory Commission Quality Assurance (QA) criteria for New Reactor Licensing and Vendor QA within 10 CFR 50 Appendix B.

Aramid — Aramid fibers are a class of heat-resistant and strong synthetic fibers. They are used in aerospace and military applications for ballistic rated body armor and as a strength member to support cable designs.

AWM — Designation for appliance wiring material.

B

Bearing — A bearing is the device that supports the motor shaft. The shaft rotates in the bearing. The bearing may be a frequent source of trouble for maintenance and the motor may have to be replaced because of bearing problems.

Binder or Serve — A spirally served tape or thread used for holding assembled cable components in place awaiting subsequent manufacturing operations.

Breakout — The point at which a conductor or group of conductors is separated for a multi-conductor cable to complete circuits at various points along the new cable.

Building Wire — Wire used for light and power in permanent installation using 600V or less. Usually in an enclosure which would not be exposed to the outdoors.

Bunch Stranding — A group of wires of the same diameter twisted together without a predominant pattern.

C

Cable Assembly — A completed cable and its associated hardware ready to install.

Canadian Standards Association — see CSA.

Capacitance — The ratio of the eletrostatic charge on a conductor to the potential difference between the conductors required to maintain that charge.

CAT — Category.

Catenary — The curve made by a flexible material (cord, rope, etc.) suspended between two points.

CE — Abbreviation for the French phrase "Conformite Europeenne". Marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation in practice by many of the so-called Product Directives.

Ceramic — Ceramic is a heat and corrosion resistant, hard material made by firing clay or other minerals consisting of one or more metals in combination with a non-metal, usually oxygen. Ceramics can withstand continuous temperatures of 2600°F and short-term exposure to 3000°F without losing flexibility.

Circular Mil — The area of a circle one mil (0.001") in diameter; 7,845 x 10-7 sq. in. Used in expressing wire cross section of area.

Color Code — A system for circuit identification through use of solid colors and contrasting tracers.

Concentric "Lay" Strand — A group of uninsulated strands twisted together and containing a center core of (usually) six over one to form a seven strand with subsequent layers spirally wrapped. Normally, the adjacent layers have a reverse direction of lay. Concentric conductors are generally formed in a layer pattern consisting of 7, 19, 37, 61 and 91 strands. Control cables commonly use 7 and 19 strands while power cables tend to facilitate the use of 7 through 91 strands depending on application and size.

Concentricity — In wire and cable, the measurement of the location of the center of the conductor with respect to the geometric center of the circular insulation.

Conductor Types —

Copper — Excellent conductivity. Copper is rated at 100% conductivity. Most copper used in high temperature applications is OFHC (Oxygen Free High Conductivity) as opposed to the more common ETP (Electrolytic Tough Pitch). OFHC will not oxidize in high temperature environments and, therefore, offers an improved signal carrying capability.

Aluminum — 61% of the conductivity of copper and 13% of the weight. The most commonly used in the wire industry.

Copperweld — A thin coating of copper fused to a steel core. Used in line wire for strength.

Copperclad — A thin coating of copper fused to an aluminum core. Sometimes used in building wire in larger sizes of #12 and up.

AWG — A system for specifying wire size. AWG stands for the "American Wire Gauge." An increase of three gauge numbers: doubles area and weight and cuts in half the DC resistance. In general, the larger the AWG size, the smaller the wire, except when the size exceeds #1 AWG. Then the larger the number means the larger the wire size.

Contactor — A contactor is a motor controller that can be either remotely operated or has a start/stop push button in the cover of its enclosure. It is used to turn an electrical device on and off.

Glossary *(Continued)*

Continuous Usage Temperature — The product can survive for an indefinite period of time/years.

Continuous Vulcanization — Simultaneously extruding and curing of elastometric wire coating materials.

Control Cable — A multi-conductor cable made for operation in control or signal circuits.

Corona (Effect) — In electricity, a corona discharge will occur when the strength (potential gradient) of the electric field around the conductor is high enough to form a conductive region, but not high enough to cause electrical breakdown or arcing to nearby objects.

Corrosion — The destruction of the surface of a metal by chemical reaction.

Coupling — A coupling (with reference to motors) is a mechanical linkage connecting the shaft to the device that the motor is driving.

Crazing — The minute cracks on the surface of plastic materials.

CSA — Abbreviation for Canadian Standards Association, a non-profit, independent organization which operates a listing service for electrical and electronic materials and equipment. The Canadian counterpart of the Underwriters Laboratories.

cUL — UL Mark for Canada, indicates a product is Listed to Canadian Standards, and has used Canadian standards to evaluate the product. See UL.

Current Carrying Capacity — The maximum current an insulated conductor can safely carry without exceeding its insulation and jacket temperature limitations.

CV — Continuous vulcanization.

D

DC Motor — An electric motor that is operated on a DC (Direct Current) circuit is a DC motor. There is no reference to “phase” in a DC circuit. The voltage, in applications for Quick-Connects, will be 90V or 180V. Either 2 or 4 leads come out of the motor for motors that can be adapted to the Quick-Connect cord set.

Dead Front — This term refers to the fact that no “live” metallic electrical parts, such as contacts or blades are exposed when the male and female elements are disengaged.

Derating Factor — A factor used to reduce the current carrying capacity of a wire when used in environments other than that for which the value was established.

Dielectric — A nonconducting substance; insulator.

Direct Current — An electrical current that flows in one direction only.

DLO Cable — Diesel Locomotive cable is a 2000 volt, CT rated cable suitable for use in conduit and cable trays.

Drain Wire — In a cable, the uninsulated wire laid over the component or components and used as a ground connection.

Drive — A drive is the system for converting the power generated by the rotating shaft of the motor to its usable form for the particular application.

Durometer — A device used to measure the hardness of a substance.

E

Elastomer — An elastic rubber-like substance such as natural or synthetic rubber.

Electrical Service — This term describes how the electricity is delivered by the local public utility to the facility.

Elongation — The fractional increase in length of a material stressed in tension.

Enclosure — A box that houses electrical devices or connections is called an enclosure. It normally is manufactured of steel, aluminum or fiberglass. Sizes can range from very small (2" x 4" x 2") to very large (48" x 72" x 18" or larger). They are rated by NEMA for various applications such as Type 1 (general purpose), Type 1A (dust-tight), Type 4 (water resistant), Type 12 (oil-tight).

ETL — abbreviation for ETL Testing Laboratories. The ETL Listed Mark is an alternative to UL and CSA marks and is used when denoting compliance with nationally recognized standards such as ANSI, IEC, UL and CSA.

Explosion Proof — This term refers to the classification of electrical devices that are permitted to be installed and operated in hazardous locations as defined in Articles 500 through 503 in the National Electrical Code (NEC). Such locations are where fire or explosion hazards may exist due to flammable gasses or vapors, flammable liquids, combustible dust, or ignitable fibers or filings.

Extreme Temperature Usage — The product is capable of surviving in this environment for only a few minutes after which it must be replaced.

F

F — Flat band metallic armor.

Farad — The unit of capacitance equal to a capacitor having a potential of 1 volt when charged with 1 coulomb of electricity.

FEP — Fluorinated ethylene propylene insulated wire.

FEPB — Fluorinated ethylene propylene insulated wire but with glass or asbestos braid.

FF-1 — Fixture wire, flexible, rubber insulated, single conductor, 300V, 60°C.

FF-2 — Same as FF-1, with 600V rating.

FFH-1 — Heat resistant fixture wire other wise same as FF01, 300V.

FFH-2 — Same as FF-1 with 600V rating.

Flex Life — The measurement of the ability of a conductor or cable to withstand repeated bending.

Flexibility — The quality of a cable which allows bend under the influence of an outside force, as opposed to limpness which is bending due to the cables overweight.

Fluoropolymer — Three fluoropolymers are commonly used in wire construction; tetrafluoroethylene (TFE) and two conventionally extruded materials, fluorinated ethylene propylene (FEP) and perfluoroalkoxy (PFA). Since TFE is difficult to extrude in long continuous lengths, it is often applied in the form of a tape wrap, or as a fluid dispersion used for impregnating fiberglass braids. Due to the excellent insulating properties of these compounds lead wire insulated with these materials can be half the size of conventional wire. Temperature ranges for these compounds: FEP – 200°C, PFA – 250°C, TFE – 250°C.

FRMR — Flame retarding, moisture resisting finish.

FT Ratings — Flame test ratings indicate how readily fire will spread along wire and cable. The tests are a complex formula of time, distance, diameter and set-up, but the following gives a general idea of what happens.

FT-1 – A Bunsen burner flame is applied to a vertical sample for five 15 second applications. Burning must cease within 60 seconds of removal of the burner with no more than 25% of a paper indicator charred. FT1 is applicable for wires such as NMD90 and TW75, which are used in combustible buildings. UL VW1 is similar to CSA FT-1.

FT-2 – A Bunsen burner flame is applied to a horizontal sample for five 15 second applications. The charred portion must not exceed 100mm from end to end and there shall be no flaming particles dropping from the sample. Products such as some S, SJ and HPN cords, as well as SIS wire, are rated FT-2.

Glossary *(Continued)*

FT-4 – Cables are strapped to an 8 ft vertical section of ladder tray and burned at 70,000 BTU for 20 minutes. The charred portion shall not exceed 1.5 meters. The FT-4 test is used on cable intended for tray or shaft applications.

FT-5 – Flame is applied to a horizontal sample, similar to the FT-2 fire test but with a much larger burner. The flame must extinguish in less than 4 minutes and the burn length shall not exceed 150mm. The FT-5 test is applicable to portable cables used in underground work areas such as mines and tunnels.

FT-6 – Cable samples on a horizontal tray in a tunnel type of chamber are burned at 300,000 BTU for 20 minutes. Flame spread not to exceed 1.5 meters, with a smoke density during the test of (a) 0.5 peak and 0.15 maximum average. FT-6 is used for cable in return air plenums.

FX — Single rubber insulated Christmas tree wire with outer braid, 125V, 60°C.

FXT — Single plastic insulated Christmas tree wire. 125V, 60°C.

G

G — Rubber insulated, neoprene jacketed, portable power cable with two to five #8 AWG or larger conductors with ground wires.

GFI — Ground Fault Interrupter. A protective device that detects abnormal current flowing to ground and then interrupts the circuit.

G-GC — A UL cable type. A portable power cable similar to Type G but also having a ground check conductor to monitor the continuity of the grounding circuit.

Glass — Glass is used in many high temperature wires as a jacket and as a filler. Since glass has low abrasion resistance, it is typically impregnated with silicone or fluoropolymer material. Glass is not a great insulator and its uses are usually restricted to the jacket. Glass melts at about 1800°F. When cooled, glass loses its flexibility and becomes brittle. Therefore, when the melting point of glass is reached, the cable most likely cannot be flexed although the cable has survived. Glass braids are also porous so they are typically finished with a fluoropolymer, silicone or aramid compound to improve moisture, chemical and heat resistance.

GOR — Gasoline and oil resistant wire.

Greenfield — This is a flexible, metallic conduit of circular cross-section that is used as a raceway to protect electrical conductors that run through it. Greenfield can be manufactured from steel or aluminum.

Ground — The connection between an electrical circuit and the earth or other large connecting body thus making a complete electrical circuit.

GTO — Gas tube sign and oil burner ignition cable. 5,000V – 15,000V.

H

H — Shielded power cable. Multi-conductor cables have paper or varnished cambric insulations applied directly over individual conductors. Spiraled metallic shielding tape over insulations with overall protective covering.

Hazardous Locations — These locations are defined in Articles 500 through 503 in the National Electrical Code 9 NEC). They are described as those locations where fire or explosion hazards may exist due to flammable gasses or vapors, flammable liquids, combustible dust, or ignitable fibers or filings.

HC — Two or more conductor heater cord, asbestos and rubber insulation with cotton braid over each conductor. Twisted, no overall covering.

HF — Polyethylene insulated radio hookup wire with or without braid.

HiPot — A test to determine the highest voltage that can be applied to a conductor without breaking down the insulation.

Horsepower — The amount of energy that the motor can deliver to the job it must do is measured in units of horsepower. For a rough calculation, in a DC circuit, one horsepower equals 746 watts. Since a watt = volts x amps, then 1 hp = 746 watts = 110 volts x 6.78 amps. This same calculation cannot be used for AC circuits, however, since the motor is an "inductive" load and a simple calculation is not possible.

HPN — Two conductor, neoprene insulated heater cord. Parallel construction. For use in damp locations.

HS — Rubber insulated heater cord. Cotton serve and rubber-jacketed overall. For use in damp locations #14 or #12 conductors. Also made with neoprene insulated inners.

HSJ — Same as type HS but with #18 or #16 conductors and differing thickness or jacket.

HSJO — Same as type HSJ but with neoprene jacket.

HSO — Neoprene jacketed heater cord.

HW — Radio hookup wire with polyvinyl insulation. With or without nylon jacket, braid or shield, 2500V.

Hydroscopic — Readily absorbing and retaining moisture.

I

I — Interlocked armor of aluminum, bronze or steel.

ICEA — Abbreviation for Insulated Cable Engineers Association, a pro-fessional not-for-profit organization dedicated to developing cable standards for electrical power, control and telecommunications industries.

ICEA 210,000 BTU Vertical Tray Flame Test (ICEA T-29-5200) —Though not a UL test, this test is similar to the 70,000 BTU per hour UL 1581 vertical tray test but with the heat source increased to 210,000 BTU per hour. This rating is not required by the NEC or CEC but sometimes required by end users.

ICEA Type G — A ground conductor for every primary conductor as well as two additional grounds. 90°C 2000V.

ICEA Type W — No ground conductors. 90°C 2000V.

IEEE — Institute of Electrical and Electronic Engineers.

Impedance —The measure of which an electric circuit resists the flow of electric current when an alternating current (AC) is applied. The impedance is affected by the resistance, inductance and capacitance in the circuit. Impedance is measured in Ohms.

Intrinsically Safe Circuit —A circuit in which any spark or thermal effect is incapable of causing ignition of a mixture of flammable or combustible material.

IPE — Irradiated polyethylene tape.

J

J — Asphalted jute, non-metallic armor.

K

K — Constant used to denote insulation resistance.

KCML — A newer term used to denote 1,000 circular mils.

L

L — Denotes lead sheath.

Glossary *(Continued)*

Lay — The length measured along the axis of a wire required for a single strand to make one complete turn about the axis of the cable. Left hand lay – Counterclockwise. Right hand lay – Clockwise.

Leads — This is the term that is used to describe electrical wires where the ends have been prepared or must be prepared for connection to either another wire (splicing), wire connector, or wire terminal.

LESCW — Low energy safety circuit wire.

Liquid-Tight Flexible Metal Conduit — This is a raceway of circular cross-section having an outer liquid-tight, non-metallic, resistant jacket over an inner flexible metal or plastic core with associated couplings, connectors, and fitting approved for the installation of electric conductors. Article 351 of the National Electrical Code (NEC) covers this device.

Long-Term Usage Temperature — The product can survive a brief exposure to this temperature (several days to several weeks) before replacement is required.

LW — Radio hookup wire with poly- vinyl insulation. With or without nylon jacket, braid, or shielding braid 300V.

M

M — Suffix indicating two or more insulated, twisted conductors under an outer, non-metallic covering.

MC — Denotes cable with interlocking metal tape or corrugated tube enclosure.

MCM — One thousand circular mils.

MI — One or more conductors insulated with highly compressed refractory minerals and enclosed in a liquid-tight and gas-tight metallic tube sheathing.

Mica — Mica is an element with unique crystalline properties that allow for making very thin shavings. The highest rated mica has long term heat resistance of 1800°F and will melt at 2200°F. Due to its flaking characteristics, mica is usually bonded with a glass braid. Mica has good electrical properties and is used as both an insulator and a heat barrier in cable.

Mil — A unit used for measuring the diameter of a wire or thickness of insulation. One-one thousandth of an inch (0.001").

MIL — Military Specifications.

ML — Single conductor, paper lead cables twisted together without overall covering. Type A – AVC mine locomotive cable; Type B – Motor lead wire.

MM — Mining machine cable.

Modulus of Elasticity — The ratio of stress to strain in an elastic material.

Mold Cured — Cable which is first extruded with a mold unit onto a reel, then the whole reel is cured.

Motor Control — This is the term that covers the family of devices used to start and stop motors, reverse motors, change motor speeds and protect motors.

Motor Nameplate — A Motor Nameplate should be affixed to the housing or frame of the motor. Pertinent information relating to the installation and operation of the motor is normally contained on the nameplate. Such information includes Horsepower, Amperes, Voltage, Phase, Speed (in RPMs), Serial Number, Manufacturer's Name, etc.

Motor Protection — Motor protection is accomplished through the use of fuses, motor starters, thermostats or a combination of the three. The fuse specially designed for motor protection is the dual element fuse, commonly called a fusetron.

Motor Running Current — This is the value, in amperes, of the electrical current running through the motor windings when it is operating and delivering its rated horsepower. This value should be on the motor nameplate.

Motor Starting Current — This is the value, in amperes, of the electrical current running through the motor windings when the motor is started. Because of the inertia of the rotor when rotating from zero revolutions to high speed, the motor starting current is several times higher than the motor running current. The motor protection device (fuse, heater element, relay) must be designed to permit this higher current on starting.

MPF — Mine power feeder. 5-8-15kV.

MRFR — Moisture resistant, flame retardant finish.

MSHA — Mine Safety and Health Administration. The federal enforcement agency for employee safety in mines and mills.

MSHA Flame Test — This test is required by MSHA to ensure adequate fire resistance for cables used in the mining industry. In this test a 3 foot length of cable is mounted horizontally. During the test, all power conductors are connected to a current source to raise the conductor temperature to 400°F (204°C) to simulate overload conditions. A flame source consisting of a Tirrill burner with a heat output of approximately 3,000 BTU per hour is applied to the center of the cable for 60 seconds and then removed. Each of three test specimens must meet the following criteria:

1) The duration of burning must not exceed 240 seconds

2) The length of the burned (charred) area must not exceed 6 inches. Cables that meet this test requirement are printed with an MSHA acceptance number; the CSA FT-5 test is very similar.

MTW — Thermoplastic insulated machine tool wire. 90°C to 105°C, 600V.

Multiconductor — More than one conductor within a single cable complex.

MV — Medium voltage 5kV – 3kV.

MW — Radio hookup wire with polyvinyl insulation and plain or nylon jacket, or braid, or shield.

MYD — Marina yard and dock cable.

N

National Electric Code — A consensus standard published by the National File Protection Agency, the purpose is the practical safeguarding of persons and property from hazards arising from the use of electricity. The NEC is intended to be suitable for mandatory application by governmental bodies exercising legal jurisdiction over electrical insulations and for use by insurance inspections.

National Electrical Manufacturer's Association (NEMA) — This is a voluntary association of the leading US manufacturers of electrical devices and equipment. NEMA has published standards in various important product areas. This standardization has facilitated the inter-change of products and devices by the many manufacturers or similar products.

NBC — (Same properties of EZS.) A blend of acryonitrile butadiene rubber and polyvinyl chloride (PVC). Used for jacketing.

NEC — National Electrical Code.

NEMA — National Electrical Manufacturers Association.

NFPA — National Fire Protection Association.

Nickel — Coating used for conductors that operate at higher temperatures than silver. At these high temperatures, copper oxidizes rapidly if it isn't nickel-plated. However, one drawback of nickel is its poor solderability. Nickel is rated to temperatures to 200°C and above (450°C). The conductor is the metallic component of cable/wire through which electrical power or electrical signals are transmitted.

NM — Non-metallic sheathed cable, braid or plastic covered. For dry use, 60°C.

NMC — Non-metallic sheathed cable, braid or plastic covered. Wet or dry use, 60°C.

NRHW — Moisture and heat-resistant rubber insulation neoprene jacket for use in duets. Dry and wet locations, 600V, 75°C. Also RHWN.

Glossary *(Continued)*

O

OHM — Unit of resistance such that a constant current of one ampere produces a force of one volt.

OSHA — Abbreviation ofOccupational Safety and Health Act. Specifically the Williams-Steiger law passed in 1970 covering all factors relating to safety in places of employment.

P

P — Two or more rubber-insulated stranded conductors with cotton braid over each. Reinforced with overall covering of cotton braid over rubber filler. For pendant or portable use in damp locations. 300V– 600V.

PCG — Portable mine cable with power, control and ground conductors.

PD — Rubber insulated stranded conductors with cotton braid over each. Conductors twisted with braid overall. Light duty, dry locations on appliances, 300V.

Peckerhead — This is the generic term referring to the terminal box that is mounted on the motor frame.

PG — Portable mine cables having power and ground conductors. 600V.

Picofarad (pF) — Capacitance equal to one trillionth (10-12) of a farad.

Picofarad/Foot (pF/Ft) — A common unit of measure used to measure capacitance of electrical cable.

Pilot Light — This is a motor control device that is used to indicate whether a circuit is on or off. It can be housed in the same enclosure as a push button, mounted independently, or in an electrical panel with a family of similar devices.

Plastic Deformation — Change to dimensions under load that is not recovered when the load is removed.

Plenum — The air return path of a central air handling system, either duct work or open space over a dropped ceiling.

Plenum Cable — Cable approved by UL for installations in plenums without the need for conduit.

PLSJ — All rubber, parallel-jacketed, two conductor, light duty cord for pendant or portable use in damp locations. 300V.

PLT — Same as PLSJ except thermoplastic insulations.

PLTC — Power Limited Tray Cable. A multi-conductor control or power cable rated for 300 volts and listed as suitable for use in cable trays per NEC Article 725.

PNA, PNW — Polyethylene insulated control cables with nylon sheath on individual conductors. Cabled tape and polyvinyl chloride jacket. Dry or wet locations, 600V, 75°C.

PO — Two stranded copper conductors with separator code rubber insulation and cotton braid over each. Laid parallel with cotton or rayon braid overall. For use in dry location on small appliances. 300V – 600V.

POSJ — All rubber, parallel, light duty rip cord for use on lamps and small appliances, 300V, 60°C.

POSJX — All rubber, parallel, #20 AWG. rip cord for use in lamps, clocks and Christmas trees. 125V.

POT — Thermoplastic, parallel, light duty rip cord. 300V, 60°C to 105°C.

Power Transmission — This term is used to cover the range of devices and systems that are used in conjunction with motors to accomplish tasks through the power of the motor. Power transmission systems convert the rotating power of the motor to do the particular work that is required.

POXT — Same as POT but #20 AWG for clock and Christmas tree use. 125V.

PS — Thermostat cable with solid conductors, individual rubber insulation and cotton braid. Twisted, rubber jacket and cotton braid overall.

Push Button — This is a motor control device that is used to start, stop, control speed, move up or down, etc. It can be housed in its own enclosure or mounted with other similar devices such as pilot lights, selector switches, etc.

PW — Moisture-proof, reinforced, portable cord with two or more rubber insulated conductors with individual cotton braid. Moisture resistant cotton braid finish over rubber jacket. 300V– 600V.

R

R — Code rubber insulated building wire, 600V, 60°C.

Rated Voltage — The maximum voltage at which an electrical component can operate for extended periods without undue degradation or safety hazard.

RD — Rubber insulated twin conductors, fibrous covered.

Resistance — A measure of the difficulty in moving electrical current through a medium when voltage is applied. Measured in ohms.

Retractile Cable — A cable that returns by its own stored energy from an extended condition to its original form.

Reversing Starter — This is a motor starter that is used to start and run a motor in either direction. Depending on the type of motor, this device is designed differently. Because it is a starter, however, it must also include a motor protection device.

RF — Fixture wire, code or latex rubber insulation and braid over solid or stranded conductor.

RFH — Same as RF but rubber or latex rubber insulation, heat resistant, 75°C.

RH — Rubber insulated, heat resistant building wire. 75°C.

RH/RW — Rubber insulated, heat and moisture resistant building wire. 75°C dry, 60°C wet.

RHD — Rubber insulated, twin conductor, heat resistant, fibrous covered wire.

RHDL — Same as RHD, except lead instead of fibrous covered.

RHH — Rubber insulated, heat resistant building wire. 90°C.

RHL — Same as RHH but with lead sheath overall.

RHM — Rubber insulated multiple conductors, heat resistant and overall fibrous covered.

RHML — Same as RHM but with lead cover overall.

RHW — Rubber insulated building wire, heat and moisture resistant. 75°C dry or wet.

RJ — Rubber insulated and jute covered cable.

RJFJ — Rubber insulated cable with flat band armor.

RJIJ — Rubber insulated with interlocking armor.

RL — Rubber insulated with lead sheath.

RLJFJ — Rubber insulated cable with lead, jute, flat band armor and overall jute covering.

RLJWJ — Rubber insulated cable with lead, jute, steel wire armor and overall jute covering.

RM — Rubber insulated multiple conductors with fibrous covering.

RML — Same as RM but lead instead of fibrous covering.

Glossary *(Continued)*

RoHS — Abbreviation for Restriction of Hazardous Substances. Also known as Directive 2002/95/EC, it originated in the European Union and restricts the use of lead, mercury, cadmium, hexavalent chromium, polybrominate biphenyls and polybrominated diphenyl ethers in new electrical and electronic products.

Rope Lay Bunched Stranded — A conductor formed by assembling 7 or 19 bunch stranded conductors to form a simple core in larger sizes 7, 19 and 37 simple ropes may be assembled to form the complete rope (conductor). For use in flexible power cables, portable power cords and welding cable, where greater flexibility is required.

Rope Lay Concentric Stranded — A conductor formed by assembling 7 or 19 concentric stranded conductors to form the completed conductor. Used in cables where some flexing is to be encountered and ease in bending is required.

RP — Performance grade rubber insulation, 60°C.

RPM — See Speed.

RR — Rubber insulation, neoprene jacket. See type USE.

RS — Integral rubber insulation and jacket on single conductor cables.

RU — Rubber insulated, latex building wire, 60°C.

RUH — Same as RU but heat resistant. 75°C.

RUW — Same as RU but moisture resistant. 60°C

RW — Rubber insulated building wire. Moisture resistant, 60°C.

RWS — Same as RW but synthetic rubber.

S

S — Heavy-duty, rubber insulated portable cord. Stranded copper conductors with separator and individual rubber insulation. Two or more color coded conductor cabled with filler, wrapped with separator and rubber jacketed overall. 600V.

SA — Silicone rubber insulation, asbestos or glass braid, for use in dry locations. Maximum operating temperature for special applications, 125°C.

SB — Slow burning wire. Three cotton braids, impregnated. 90°C.

SD — Service drop cable. Two code-rubber-insulated conductors, tape, laid parallel with neutral conductor concentric thereover. Tape and braid overall. Also round construction.

SDN — Small diameter multi-conductor control cable with neoprene jacket and nylon sheath over polyethylene insulation.

SDT/TC — Thermo plastic 90°C tray cable.

SE — Above ground service entrance cable, not protected against mechanical abuse. Flame retardant, moisture resistant covering. Overall neoprene sheath. 60°C – 75°C.

SEA — Service entrance cable, steel armored under outer braid, one or two rubber insulated conductors with neutral conductor served concentrically, moisture resistant tape, weatherproof braid finish, 300V, 75°C.

Serve — Any filaments or group of filaments, such as wires or fibers vertically wound around a central core.

SEU — Same as SEA but not armored.

SEW, SEWF — Silicone rubber insulated equipment wire (CSA).

SF — Silicone rubber insulated fixture wire, solid or 7 stranded conductor, 200°C.

SG — Same as SW except with ground wires (CSA).

SGO — Same as SWO except with ground wires (CSA).

SH-A — Portable mine power cable, three or four individually shielded conductors. 5000V.

SH-B — Same as SH-A, except shield is overall.

SH-C — Same as SH-B but with grounding conductors.

SH-D — Same as SH-A but with grounding conductors.

Silver-plated — Conductors are used in high temperature environments. It is also used for high frequency applications where silver's high conductivity reduces attenuation at high frequencies. Silver is rated to temperatures up to 250°C.

Silicone — Silicone rubber is used as a heat resistant insulator and as a finisher on glass braids. Silicone has a 40 year life at 125°C, a 5 year life at 150°C, and can survive short-term temperatures of 200°C. Due to Silicone's relatively low price and favorable high temperature characteristics, it is one of the most widely used insulating material for applications below 200°C. Silicone is extremely moisture and chemical resistant, but has very low mechanical abrasion resistance. For this reason, silicone is usually used as a glass braid finisher or covered with a glass braid material.

Single Cable — A cable designed to carry current of usually one ampere or less.

Single Phase — AC (Alternating Current) motors are either single phase or three phase. Single phase motors are installed where single phase electrical service has been provided. Only two conductors (plus a ground) are available in single phase circuits. Single phase AC motors require a starting system such as "capacitor start." Voltages will be either 115V, 208V, or 230V.

SIS — Indicates single conductors having synthetic thermosetting insulation of heat resistant, moisture resistant, flame retarding grade. Also made with chemically cross-linked polyethylene insulation. Used for switchboard wiring only 90°C.

SJ — Junior hard service, rubber insulated pendant portable cord. Same construction as type S, but 300V. Jacket thickness different.

SJO — Same as SJ, but neoprene, oil resistant compound outer jacket. Can also be made "water resistant," 300V, 60°C.

SJT — Junior hard service thermoplastic or rubber insulated conductors with overall thermoplastic jacket. 300V, 60°C to 105°C.

SJTO — Same as SJT but oil resistant thermoplastic outer jacket. 60°C.

SL — Single conductor paper lead cables twisted together, without overall covering (Same as ML).

SO — Hard service cord, same construction as type S except oil resistant neoprene jacket. 600V, 60°C to 90°C.

SOO — Same construction as SO, with oil resistant insulation.

SOOW — Water resistant neoprene jacketed portable cord (CSA).

SP-1 — All rubber, parallel jacketed, two-conductor light duty cord for pendant use in damp locations. 300V.

SP-2 — Same as SP-1 but heavier construction, with or without third conductor for grounding purposes. 300V.

SP-3 — Same as SP-2 but heavier construction for refrigerators or room air conditioners. 300V.

SPC — Submersible pump cable.

Specific Gravity — The ratio of the density (mass per unit volume) of a material to the density of water.

Speed — The motor speed is normally stated on the Motor Nameplate in RPM's (Revolutions per Minute).

Spiral Wrap — The helical wrap of a tape or thread over a core.

SPT-1 — Same as SP-1 except all thermoplastic, 300V, with or without third conductor for grounding.

Glossary *(Continued)*

SPT-2 — Same as SP-2 except all thermoplastic, 300V, with or without third conductor for grounding.

SPT-3 — Same as SP-3 except all thermoplastic, 300V, with or without third conductor for grounding

SR — Silicone rubber control cable, 600V, 125°C.

SR-AW — Flexible nickel-plated copper conductor, silicone rubber insulation, glass braid. 500V, 200°C.

SR-C — Solid copper conductor, silicone rubber insulation, glass braid, 600V, 125°C.

SR-D — Portable range or dryer cable. Three or four rubber insulated conductors with rubber or neoprene jacket, flat or round construction. 300V, 60°C.

SRDT — Same as SR-D except all thermoplastic with a maximum temperature of 90°C.

SR-H — Silicone rubber insulated, asbestos braid. 500V, 125°C.

SSF — Same as SF except flexible stranding, 150°C.

ST — Hard service cord, jacketed, same as type S except all plastic construction. 600V, 60°C to 105°C.

Starter — A motor starter is used to start and stop a motor and to provide motor protection. It can be either manual or magnetic.

STO — Same as ST but with oil resistant thermoplastic outer jacket. 600V, 60°C.

STOO — Same as STO with oil resistant thermoplastic insulation.

Stranding — A system used to twist together or "lay up" small individual wires to form a single conductor. Stranding provides increased flexibility, flex life, ease of handling and/or vibration resistance.

Surge — A temporary large increase in the voltage or current in an electric circuit or cable.

SV — Vacuum cleaner cord, two or three conductor, rubber insulated. Overall rubber jacket. For light duty in damp locations. 300V, 60°C.

SVO — Same as SV except neoprene jacket, 300V, 60°C.

SVT — Same as SV except all plastic construction. With or without third conductor for grounding purposes only. 300V, 60°C to 90°C.

SVTO — Same as SVT except with oil resistant thermoplastic jacket. 60°C.

SW — Rubber jacket power supply cable (8 AWG to 2 AWG) CSA. 600V.

SWO — Same as SW except neoprene jacketed (CSA).

SWT — Plastic jacketed power supply cable (8 AWG to 2 AWG) CSA. 600V.

T

T — Thermoplastic vinyl building wire, 600°C.

TBS — Switchboard wire, thermo-plastic insulation, flame proof cotton braid, 600V, 90°C.

TBWP — Three cotton braids, weatherproof saturated. No voltage rating.

TC — Tray cable article 340 NEC.

Tear Strength — The force required to initiate or continue a tear in a material under specified conditions.

Temperature Rating — The maximum and minimum temperature at what a material or cable may be used in continuous operation without loss of its basic properties.

Tensile Strength — The pull stress required to break a given specimen.

TEW — Canadian Standards Association type appliance wires. Solid or stranded single conductor, plastic insulated. 600V, 105°C.

TF — Fixture wire, thermoplastic covered solid or 7 strands. 60°C.

TFE — Tetrafluoroethylene.

TFF — Same as TF but flexible stranding.

TFFN — Same as TFF but with nylon sheath.

TG — Flexible nickel or nickel clad copper conductor, fluoropolymer tape, glass braid. 200°C.

TGS — Solid or flexible copper, nickel clad iron or copper, or nickel conductor. Fluoropolymer tape silicon glass braid. 600V, 250°C.

Thermoplastic — A material which softens when heated or reheated and becomes firm upon cooling.

Thermoset — A material that hardens or sets by heat, chemical, or radiation techniques and that, once set, cannot be resoftened by heating.

THHN — 90°C 600V nylon jacketed building wire.

Three Phase — AC (Alternating Current) motors are either single phase or three phase. Three phase motors are installed where three phase electrical service has been provided. Three conductors (plus a ground) are available in three phase circuits. Three phase motors do not require a starting system. Three phase voltages will be either 208V, 230V, 460V or 575V.

THW — Thermoplastic vinyl insulated building wire. Flame retardant, moisture and heat resistant. 75°C. Dry and wet locations.

THWN — Same as THW but with nylon jacket overall. 75°C.

TIA/EIA — Abbreviation for Telecommunications Industry Association/ Electronic Industries Alliance. TIA is a trade association for the information, communications and entertainment technology industry. TIA serves through its leadership in standards development, and domestic and international policy advocacy. TIA represents the communications sector of the Electronic Industries Alliance (EIA).

Tinned Copper — Tin coating added to copper to aid in soldering and inhibit corrosion.

TP — Parallel tinsel cord. All rubber insulation and jacket over two extremely flexible conductors. Light duty, attached to appliances of 50W or less. For use in damp locations in lengths of eight feet or less.

TPE — Thermoplastic Elastomer.

TPO — Same construction as type PO but with extra flexible tinsel conductors. 125V.

TPT — Same as TP but all thermoplastic insulation and jacket. 125V.

Tray — A cable tray system is a unit or assembly of units or sections, made of non-combustible materials forming a rigid structural system used to support cables.

Tray Cable — A multi-conductor control signal, or power cable specifically approved under the NEC for installation in trays only.

Triaxial Cable — A cable construction having three coincident axes such as conductor, first shield and second shield all insulated from one another.

TS — Two or three conductor rubber insulated and jacketed tinsel cord. Light duty, attached to an appliance of 50W or less. For use in damp places in lengths of eight feet or less.

TSO — Same as type TS but with neoprene jacket, 125V.

TST — Same as TS but all thermoplastic insulation and jacket.

TT — Polyvinyl chloride insulation and sheath, aerial and duct.

TW — Thermoplastic vinyl jacketed building wire, moisture resistant, 60°C.

U

UF — Thermoplastic underground feeder and branch circuit cable.

Glossary *(Continued)*

UL — Underwriters Laboratory, a non-profit independent organization, which operates a listing service for electrical and electronic materials and equipment.

cUL – UL Mark for Canada, indicates a product is Listed to Canadian Standards, and has used Canadian standards to evaluate the product.

UL Listed – UL has determined that the manufacturer has demonstrated the ability to produce a product that complies with UL requirements. This may include product compliance testing.

UL Recognized – UL has determined that the manufacturer has demonstrated the ability to produce a component for use in an end product that complies with UL requirements.

UL VW-1 Vertical Wire Flame Test (UL: 1581) — This small-scale test conducted on a single 24 inch length of wire. The flame source is a Tirrill burner (similar to a Bunsen burner) with a heat output of approximately 3,000 BTUs per hour. The flame is applied for 15 seconds and is then reapplied 4 more times each time the wire ceases to burn. If the sample burns longer than 60 seconds after any application, or if the indicator flag or cotton batting is ignited during the test, the cable fails the test.

ULTC (Tray Cable) Flame Test (UL 1581) — This test is conducted on cables lashed to a vertical metal ladder tray 8 feet in height. The combustion source is a ribbon burner with a flame temperature of approximately 1500°F (815°C) which supplies 70,000 BTUs of heat per hour. The flame application time is 20 minutes. This rating requires the cable to self-extinguish prior to reaching the tip of the tray. A "tray rated" cable must meet this test.

URC — Weatherproof wire.

USE — Underground service entrance cable, rubber insulated, neoprene jacketed.

V

V — Varnished cambric insulation with fibrous covering.

VCB — Varnished cambric insulation, lead covered cable. Ends must be hermetically sealed.

VCL — Varnished cambric insulation, lead covered cable. Ends must be hermetically sealed.

VD — Indicates a twin wire having two type V conductors laid parallel under an outer fibrous covering.

Velocity of Propagation — The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

VFD — Variable Frequency Drive.

VG — Varnished glass tape over a flexible copper conductor. Varnished glass or nylon braid. 600V or 3000V, 130°C.

VM — Indicates a cable having two or more type V conductors twisted together under an outer fibrous covering.

Volt — A unit of electromotive force.

Voltage Rating — The highest voltage that may be continuously applied to a wire.

VW-1 — See UL VW-1.

W

W — Heavy-duty portable power cable, one to six conductors, 2000V without grounds.

Watt — A unit of electric power.

Wicking — The longitudinal flow of a liquid in a wire or cable due to capillary action.

WP — Weatherproof construction, two or three impregnated cotton braids, 80ºC.

WTTC — Wind Turbine Tray Cable (NEC Article 336).

X

X — Two FX wires twisted together, color-coded, 125V. 60°C.

XHHW — High temperature (90°C) chemically cross-linked polyethylene jacketed small diameter building wire.

XLPE — Cross-linked polyethylene.

XT — Two FXT wire twisted together, color-coded, 125V. 60°C.

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TPC Wire & Cable Corp.

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14. FORCE MAJEURE: The Company shall not be liable for loss or damage caused by any delay or failure to perform resulting in whole or in part from Acts of God, severe weather conditions, labor disruptions, governmental decrees or controls, insurrections, war, risks, shortages, inability to procure or ship product or obtain permits and licenses, insolvency or other inability to perform by the manufacturer, delay in transportation, any other commercial impracticability and/or any other circumstances beyond the control of the Company.

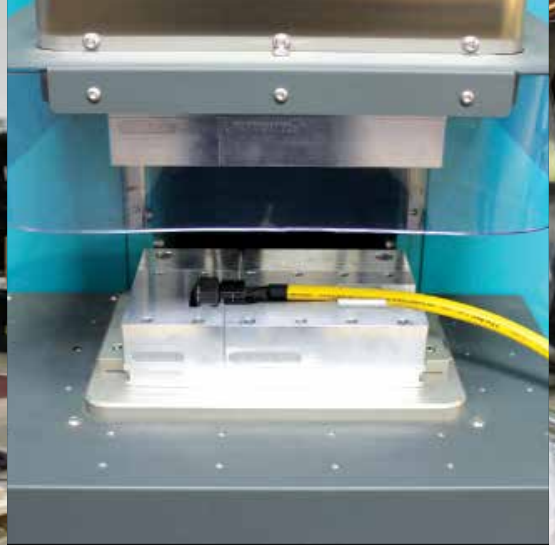
15. GOVERNING LAW: This Agreement and any sales hereunder shall be governed by the laws of the State of Ohio without regard to conflicts of laws rules and venue shall be exclusively in the federal and state courts of Cuyahoga County, State of Ohio, United States of America. The parties expressly exclude the application of the 1980 United Nations Convention of Contracts for the International Sales of Goods, if otherwise applicable.

16. SEVERABILITY: If any provision or provisions of this Agreement shall be held to be invalid, illegal or unenforceable, such provision(s) shall be enforced to the fullest extent permitted by applicable law, and the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

17. WAIVER: The Company's failure to insist on performance of any term or condition contained in this Agreement, or failure to exercise any of the Company's rights hereunder, shall not constitute a waiver of any of the Company's rights or remedies under this Agreement.

18. NO THIRD PARTY BENEFIT: The provisions set forth in these Terms and Conditions of Sale are for the sole benefit of the parties hereto, and confer no rights, benefits or claims upon any person or entity not a party hereto.

Notes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