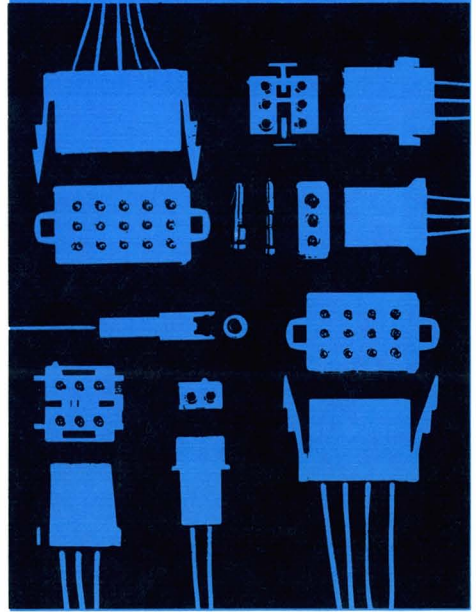
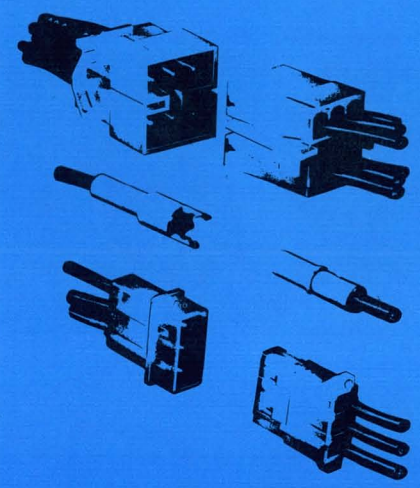


6

GENERAL-PURPOSE CONNECTORS

Multiple Connectors to provide for easy circuit disconnection, available in a wide choice of circuit configurations for commercial and consumer equipment applications.

Connectors with self-cleaning contacts	6-3
AMP-LOK Connectors	
Tab-and-receptacle-type connectors	6-6
AMPEEZ Connectors	
Connectors with hermaphroditic contacts	6-8
AMP-UNYT Connectors	
Connectors with hermaphroditic housings and contact design	6-10
Power Lock Connectors	
Non-circuit breaking connectors	6-16
AMP High Current Connectors	
Cross Reference	6-18



General Purpose Connectors



AMP-LOK connectors provide a fast, economical means of making reliable multiple-circuit connections, plus ease of assembly and servicing. The connectors eliminate the need for supplementary mounting devices in through-panel applications, and they can also be used as safe, free-hanging connectors. Snap-in mounting wings permit mounting in panels .025" to .065" thick. Positive lock housings prevent accidental disconnection and subsequent

loss of circuit continuity.

AMP-LOK connectors are suitable for general purpose applications in such equipment as business machines, television, major home appliances, motors, X-ray equipment, juke boxes, vending machines, etc. These connectors reduce the number of assembly operations, permit separate harness preparation, and provide increased production through automatic machine application of contacts to leads.

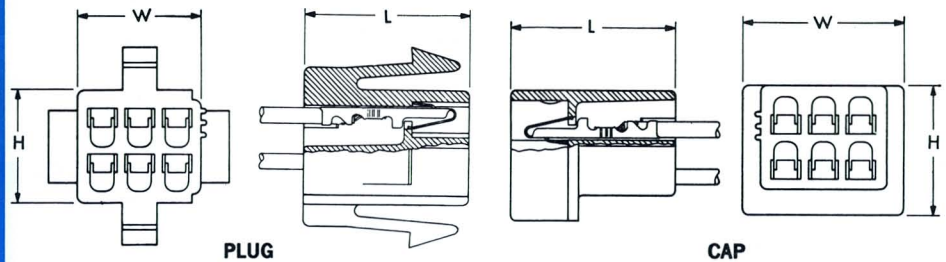
AMP-LOK Connectors

Features

- Hermaphroditic, self-cleaning crimp contacts are recessed for safety
- Built in anti-overstress contact design for longer life
- Continuous strip contacts allow high speed application with AMP automatic terminating machines using quick-change miniature applicators
- Removable crimp snap-in contacts.
- Contacts can be internally commoned
- Positive polarization prevents mismatching
- Recognized under Component Recognition Program of Underwriters' Laboratories, Incorporated, File No. E-28476
- Choice of contact material: brass or phosphor bronze with tin or gold plating
- Two wire ranges: No. 22-18 AWG and No. 20-14 AWG
- Insulation support in all wire ranges
- Choice of 3, 4, 6, 9 and 12 circuit housing configurations

Housing Specifications

General Purpose Housings



Housing Material: Nylon

Panel Thickness .025-.065

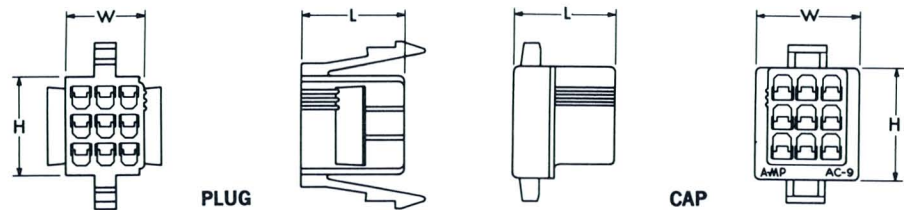
No. of Contacts	Max. Ins. Diameter	W	H	L	Housing Part Number
3 Circuit	One .130 Wire	.630	.310	.855	Plug 480149-1, 480179-1*
		.810	.355	.850	Cap 480150-1
4 Circuit †	One .130 Wire or Two .115 Stacked	.840	.410	.855	Plug 480134-1*
		.940	.355	1.030	Cap 480135-1
6 Circuit	One .130 Wire or Two .115 Stacked	.640	.560	.850	Plug 480083-1, 1-480333-1*
		.850	.670	.855	Cap 480084-1
9 Circuit	One .130 Wire or Two .115 Stacked	.645	.805	.860	Plug 480085-1, 480180-1*
		.850	.915	.860	Cap 480086-1
12 Circuit	One .130 Wire or Two .115 Stacked	.645	1.040	.860	Plug 480087-1, 1-480197-0*
		.860	1.150	.860	Cap 480088-1

† Can be mounted through panel, or with the wires exiting at a 90° angle to the panel.

* Plug without mounting wings and legs.

- NOTES:** 1. Blocks are available in nine (9) RETMA colors in addition to natural color as listed in the above table.
 2. Blocks are available with or without printed numerical and/or alphabetical circuit identification.
 3. 480101-1 Nylon Keying Plug available and can be used in all AMP-LOK Housings except 3 circuit.

Positive Lock Housings



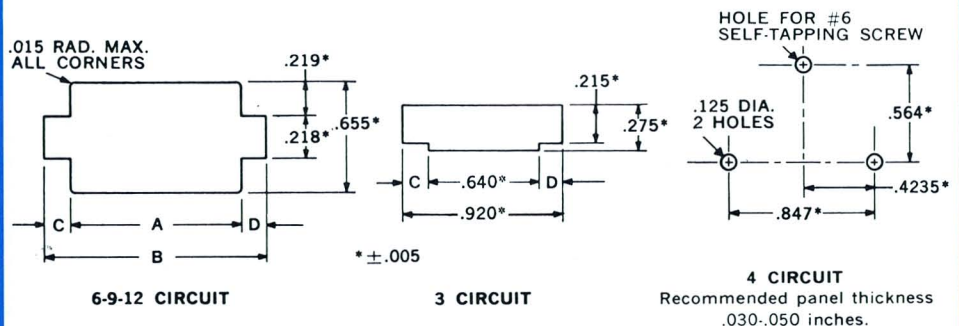
Housing Material: Nylon

Panel Thickness .025-.065

No. of Contacts	Max. Ins. Diameter	W	H	L	Housing Part Number
6 Circuit	One .130 Wire or Two .115 Stacked	.640	.560	.855	Plug 1-480262-0
		.850	.670	.860	Cap 1-480263-0
9 Circuit	One .130 Wire or Two .115 Stacked	.645	.805	.860	Plug 1-480257-0
		.850	.915	.860	Cap 1-480258-0
12 Circuit	One .130 Wire or Two .115 Stacked	.645	1.040	.860	Plug 1-480264-0
		.850	1.150	.860	Cap 1-480265-0

- NOTES:** 1. Blocks are available in nine (9) RETMA colors in addition to natural color as listed in the above table.
 2. Blocks are available with or without printed numerical and/or alphabetical circuit identification.
 3. 480101-1 Nylon Keying Plug available and can be used in all AMP-LOK Housings except 3 circuit.

Recommended Mounting Holes for Plug Housings



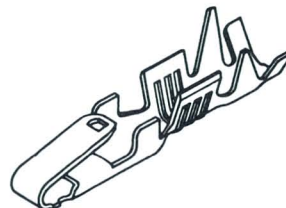
Mounting Information

1. Recommended panel thickness .025-.065 inches.
2. Both locking legs to be squeezed together and housing to be inserted "straight in," as opposed to a rocking manner of insertion.
3. The panel must be punched so that the housing enters the panel in the same direction as the punch.
4. Dimensions "C" and "D" to be equal within .005 inches.

Plug	A	B
6 Circuit	.575/.570	.850*
9 Circuit	.815/.810	1.085*
12 Circuit	1.050/1.045	1.320*

*Tolerance, ±.005

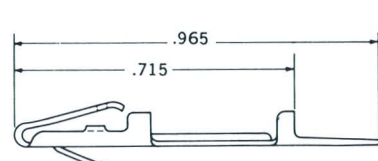
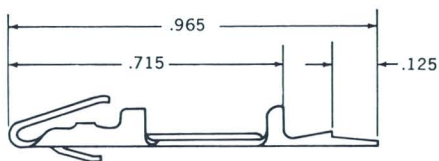
Crimp Contacts



Wire Size Range (AWG)	Ins. Dia. Range	Material	Finish	Strip Form Contact No.		Loose Piece Contact No.	Hand Tool No.
				Standard Applicator	Miniature Applicator		
22-18	.050-.100	Brass	Tin	42859-1	60535-1	42970-1	90091
			Gold	42859-5	—	—	
			None	42859-6	—	—	
		Phosphor Bronze	Tin	42859-2	60535-2	42970-2	
			Gold	42859-3	—	42970-3	
			Beryllium Copper	None	60889-1	—	
20-14	.130 max.	Brass	Tin	60016-1	60172-1	60064-1	90099
			Phosphor	60016-2	60172-2	60064-2	
			Bronze	60016-3	—	60064-3	

Extraction Tool (plug housing only): 693597-1

Printed Circuit Solder Contacts

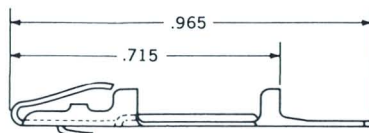


Part No. 60905-1
(Hole size: .051 ± .003)

Part No. 42686-1
(Hole size: .057 ± .003)

- NOTES:**
1. Board thickness: .062 max.
 2. Material: tin plated brass.
 3. Request customer print for pc board layout dimensions.

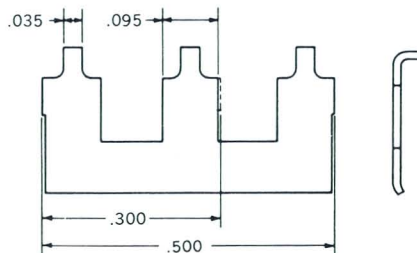
Solder Tab Contact



- NOTES:**
1. Contact 42885-1 to be used only in housings 480059 and 480060.
 2. Contact 42889-1 to be used in all housings except 480059 and 480060.
 3. Material: tin plated brass.

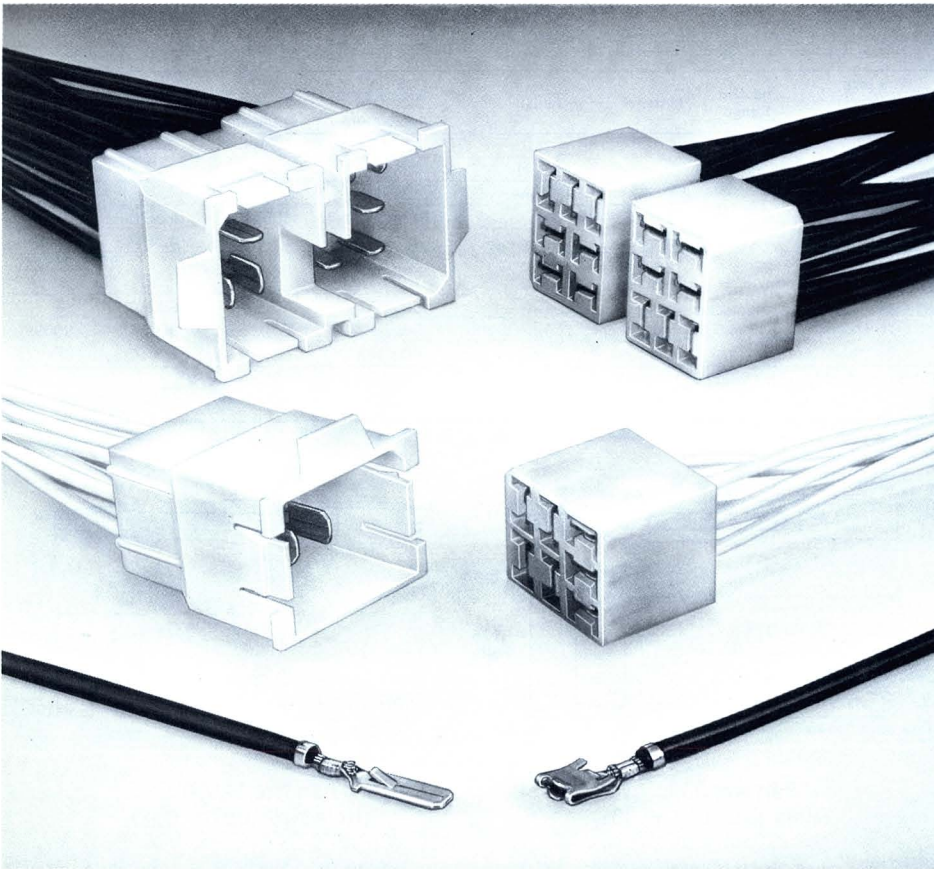
Part Nos. 42885-1 and 42889-1

Commoning Bar



Part Nos.
60014-1 (two pronged)
60013-1 (three pronged)
Material:
Tin Plated Brass

General Purpose Connectors



Designed especially for conductors with heavy insulation, AMPEEZ connectors provide a reliable and economic means of grouping circuit terminations in such major appliances as washers and dryers as well as refrigeration and air conditioning equipment. Wire cavities in the connector housings will accept either a single wire with a .170" maximum insulation diameter, or two wires with insulation diameters of up to .120" each.

The receptacle and tab contacts for the AMPEEZ connectors are structurally strong and are sized to provide a large surface contact area with low mating force. These crimp snap-in contacts are designed to accommodate a wire size range of No. 18-14 AWG and will carry a current of up to 15 amperes

(using No. 14 AWG wire). They are available in .016" thick brass, plain or pre-tinned. Half-thickness tabs also are available for commoning two conductors in one cavity of a tab housing. AMP supplies both receptacle and tab contacts in loose piece form for hand tool crimping and on reel-stored strips for high-speed application to wire using AMP automatic terminating machines and quick-change miniature applicators.

The connector housings are made of nylon and are available in 7- and 14-circuit sizes for free-hanging and panel mount applications. The snap lock built into these housings holds the connectors firmly together to reduce accidental disconnections, yet will permit quick and easy separation when required.

AMPEEZ Connectors

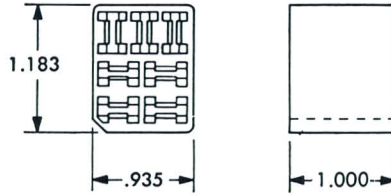
Features

- Recognized under the Component Program of Underwriters' Laboratories, Incorporated and certified by Canadian Standards Assoc.; housings made of recognized, type 6, SE nylon material
- Plain or pre-tinned brass contacts
- Heavy contact stock thickness of .016" provides heat dissipation design for high current
- Large contact surface areas in each connection
- Low mating force
- Half-thickness tabs available for circuit commoning in same housing cavity
- Contacts accept No. 18-14 AWG wire size range and insulation diameters from .120" to .170"
- Choice of 7- or 14-circuit housings; either can be used free-hanging or panel mounted
- Polarized housings for accurate mating
- Special snap lock prevents accidental disengagement, yet allows fast, easy separation when required
- Removable, crimp snap-in contacts
- Continuous strip tabs and receptacles permit high-speed application to wire with AMP's automatic terminating machines and quick-change miniature applicators

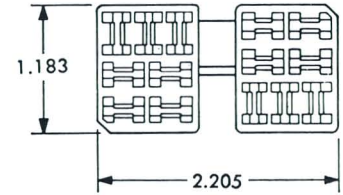
Specifications

Receptacle Housings

Housing Material: Nylon

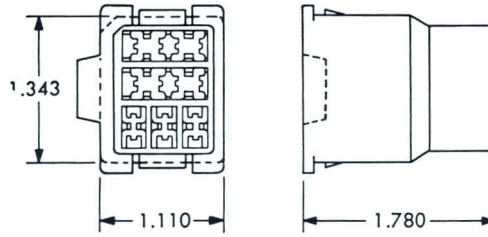


7-Circuit
Part No. 480176

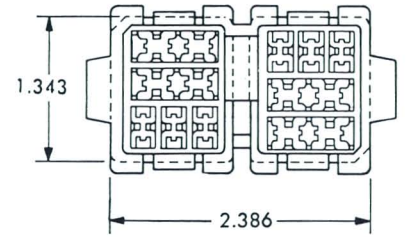


14-Circuit
Part No. 480172

Tab Housings

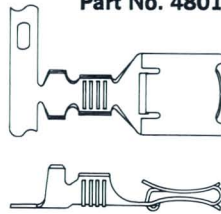


7-Circuit
Part No. 480175

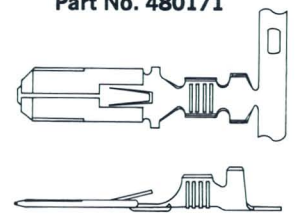


14-Circuit
Part No. 480171

Contacts



Receptacle



Tab

Wire Size Range: 18-14 AWG
Material: Brass

Ins. Dia. Range: .120"-.170" or (2) .120" Max.

Contact Type	Stock Thickness	Finish	Contact Part No.	Hand Crimping Tool Part No.
Receptacle	.016"	None	60086-1	90013
		Pre-Tinned	60086-2 60776-2*	
Tab	.016"	None	60087-1	90011
		Pre-Tinned	60087-2	
	.016"	None	42099-1**	

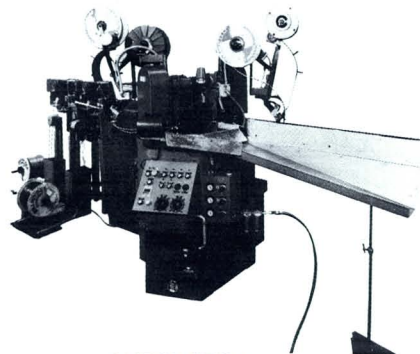
*This receptacle is reeled for application by the AMP-O-MATIC Stripper/Crimper machine. All others are reeled for application by AMP machines using miniature applicators.

**These tabs are for use back-to-back with a combined thickness of .032".

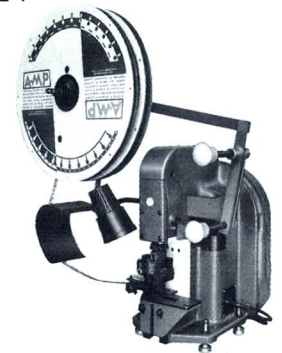
Application Tooling



Hand Crimping Tool



AMPOMATOR
Automatic Lead Making Machine



AMP-O-LECTRIC
Terminating Machine

The AMPOMATOR machine produces up to 5,700 doubly terminated leads per hour, and the AMP-O-LECTRIC machine applies contacts to wire at rates up to 4,000 an hour. Both use AMP miniature quick-change applicators which can be changed in minutes to afford maximum flexibility and minimum production downtime. Crimping height on both wire barrel and insulation support barrel for a given wire size is simply "dialed in." Since all adjustments are made with the applicator in the machine, there is no major interruption in production.



AMP-UNYT Connectors

Features

- Hermaphroditic style contacts
- Low mating force
- Heavy stock thickness of .014" permits heat dissipation design for high current
- Redundant contact areas in each connection
- Choice of two wire ranges: No. 20-16 AWG and No. 16-14 AWG
- Accepts heavy insulation wires: a single wire with insulation O.D. from .090" to .190" or two wires with insulation O.D. up to .125" max.
- Plain or pre-tin brass contacts
- Recognized under Component Recognition Program of Underwriters' Laboratories, Incorporated: Housings made of U.L. listed fire resistant, self-extinguishing, SE-2 rated nylon material
- Choice of two- or four-circuit housings
- Polarized housings for accurate mating
- Special snap-lock prevents accidental disengagement, yet allows easy manual separation
- Molded ribs on housing for circuit identification
- Removable crimp snap-in contacts
- Continuous strip contacts allow high speed application with AMP automatic terminating machines using quick-change miniature applicators

AMP-UNYT Connectors with hermaphroditic contacts are designed for conductors which have heavier-than-average insulation, primarily for refrigeration and air conditioning applications. The wire cavities in the connector housings accept either a single wire with a .190" max. insulation diameter or two wires with .125" max. insulation diameters.

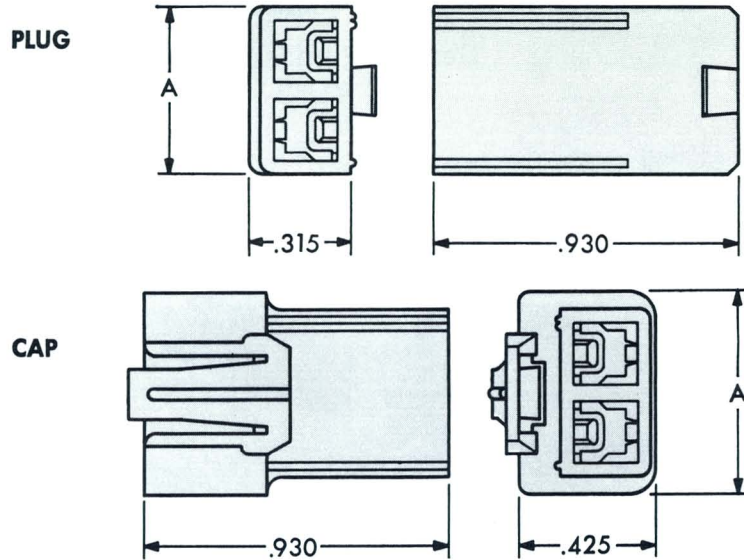
The contacts in the AMP-UNYT Connector are identical, structurally strong, and sized to provide a large surface contact area. They are manufactured in a continuous strip for

high speed application to wire with AMP automatic terminating machines using quick-change miniature applicators. The contacts are designed for a maximum wire size of No. 14 AWG, and carry a current of up to 15 amperes.

The connector housings are made of nylon and are available in 2- and 4-circuit sizes. The snap-lock built into these housings holds the connection firmly in place to reduce accidental disconnections, yet permits quick and easy separation when required.

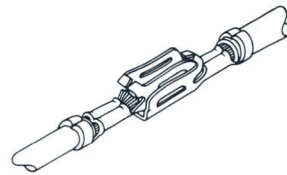
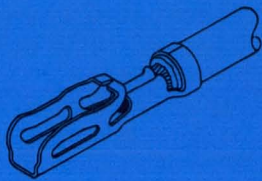
Housings

Specifications



Circuits	PLUG		CAP		Color
	Part No.	A	Part No.	A	
2	1-480248-0	.515	1-480247-0	.620	Natural
4	1-480250-0	.995	1-480249-0	1.100	Natural
	1-480250-1	.995	1-480249-1	1.100	Black

Contacts



Wire Size Range (AWG)	Ins. Dia. Range	Material and Finish	Contact Part No.
20-16	.090-.190	Tin Plated Brass	60332-1
	or (2) .125 max.	Brass	60332-2
16-14	.090-.190	Tin Plated Brass	60333-1
	or (2) .125 max.	Brass	60333-2

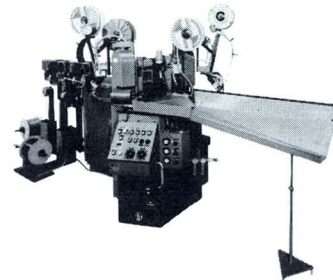
Application Tooling



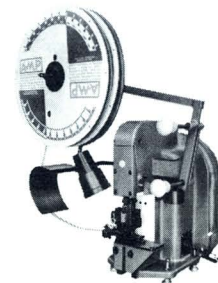
Extraction Tool No.
811315-1

Tip No.
811297-1

AMPOMATOR
Automatic Lead Making Machine

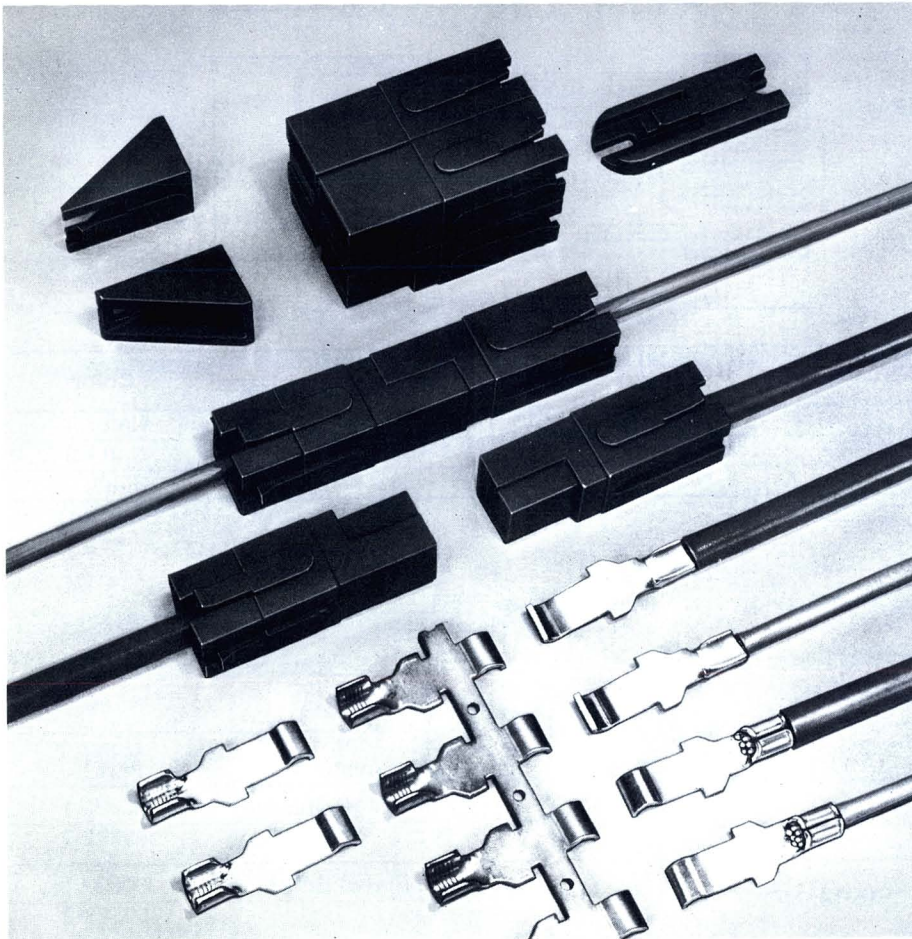


The AMPOMATOR machine produces up to 5,700 doubly terminated leads per hour, and the AMP-O-LECTRIC machine applies contacts to wire at rates up to 4,000 an hour. Both use AMP miniature applicators which can be changed in a matter of minutes to afford maximum flexibility and minimum production downtime. Crimping height on both terminal barrel and insulation support barrel for a given wire size is simply "dialed in". Since all adjustments are made with the applicator in the machine, there is no major interruption in production.

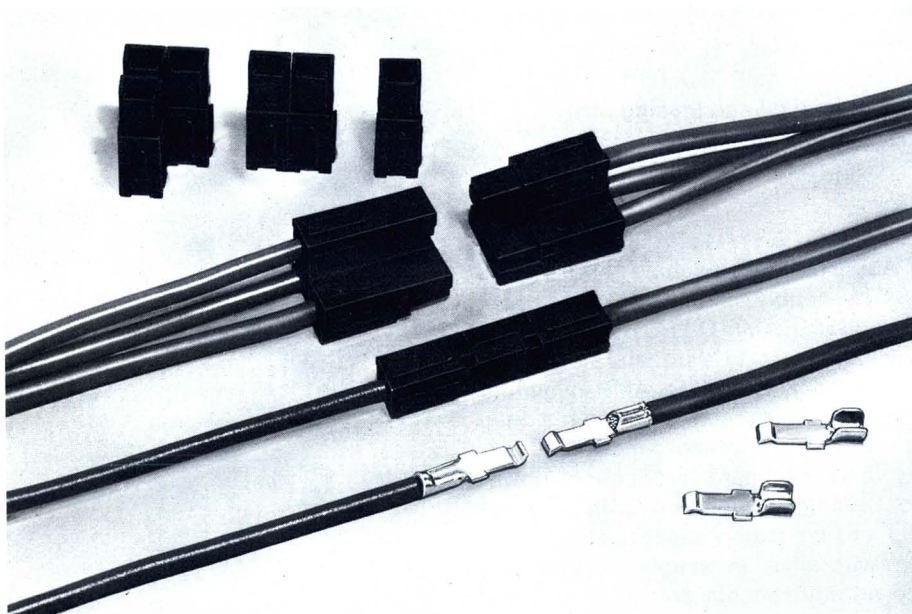


AMP-O-LECTRIC
Terminating Machine

General Purpose Connectors



75 amp Connector



30 amp Connector

Power Lock Connectors (30 and 75 amps)

Features

- High current handling capability—30 or 75 amps
- Hermaphroditic housing and contact design
- Minimum of inventory parts
- Modular housings for multiple connector applications
- Complete assortment of mounting accessories
- Positive interlock between adjacent housings
- Precision formed contacts available in strip form for high speed automatic machine application or loose piece for hand tool application
- Integral stainless steel locking spring in housing for contact retention and reliable contact performance
- Choice of silver, tin or gold plated copper contacts
- Housings of impact resistant thermoplastic
- Accepts wire size range 16–6 AWG
- Positive electrical continuity provided by self-cleaning wiping action of mated contacts
- Recognized under the Component Program of Underwriters' Laboratories, Incorporated



Note: All dimensions in inches

Specifications subject to change. Consult AMP Incorporated for latest design specifications.

AMP Power Lock Connectors have hermaphroditic housing and contact design and are completely intermateable with other type power connectors of similar design. Two basic versions are available depending on current requirements—75 amps and 30 amps—each with rated current handling capability with less than 30°C temperature rise.

The hermaphroditic housings are modular in design and permit interlocking many connectors of the same amperage rating. Housings are made of impact resistant thermoplastic with stainless steel locking springs for contact stability. Terminals are available in strip and loose piece form with a choice of silver, tin or gold plated copper. They accept wire size range 16–6

AWG and insert easily into the housing where the integral locking spring provides positive retention.

AMP Power Connectors can be adapted for most high current applications and may be used as a free-hanging, surface, thru-panel mounted connector or when posted contacts are used it can become a printed circuit connector.

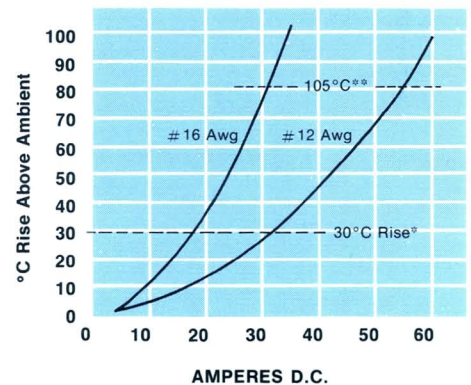
AMP applied cost savings are realized through precision formed contacts, in strip form for semi-automatic machine application providing maximum production and minimum assembly time.

For more information on AMP Power Lock Connectors contact the local AMP Sales Engineer or AMP Incorporated, Harrisburg, Pa.

**30 Ampere AMP Power Lock
Temperature Rise vs Current**

Test Parameters

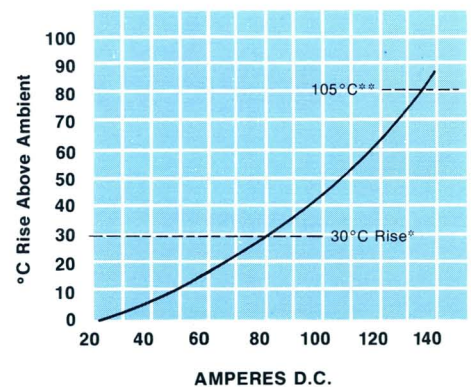
Housing Assembly # 53894
Tin Plated Contact # 53892
12 and # 16 AWG common wire
Tested as single in-line connectors
** UL Materials temperature limit.
* UL temperature limit to establish current rating.



**75 Ampere AMP Powerlock
Temperature rise vs. current**

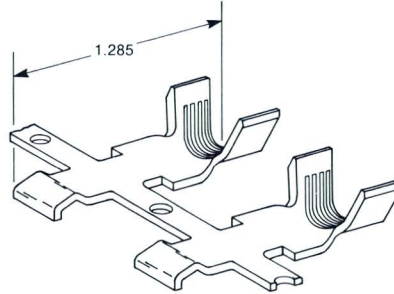
Test Parameters

Housing Assembly # 53884
Tin Plated Contact # 53880
6 common stranded wire
Tested as single in-line connectors
** UL Materials temperature limit.
* UL temperature limit to establish current rating.

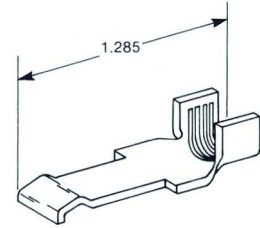


75 amp
Connector
Specifications

Contact



Crimp Contact



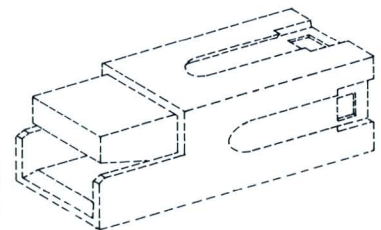
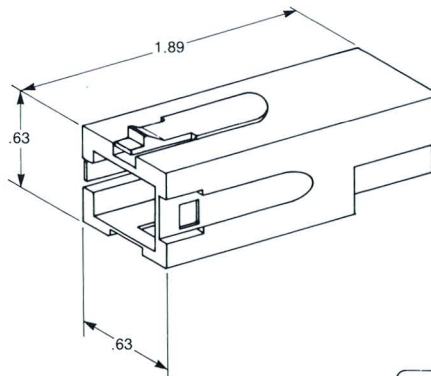
Solder Contact

Contact resistance of mated pair at 10 amperes of current: .250 milliohms

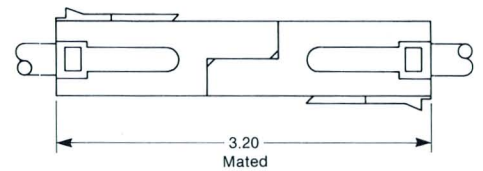
Material: .048 copper

Type	Wire Range	Plating	Part Number	
			Strip Form	Loose Piece
Crimp Contact	12-6	Pre-tin	53880-2	53880-4
		Silver	53880-3	53880-5
Solder Contact	—	Pre-tin	—	54330-1

Connector Housing
Assembly



Material: Polycarbonate, blue
Part Number 53884-1



Typical Values

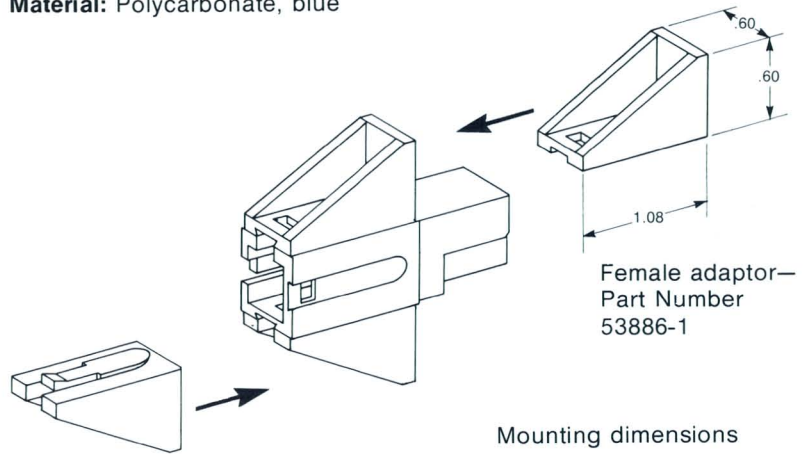
Mating force: 6 lbs. per loaded connector

Unmating force: 6 lbs. per loaded connector

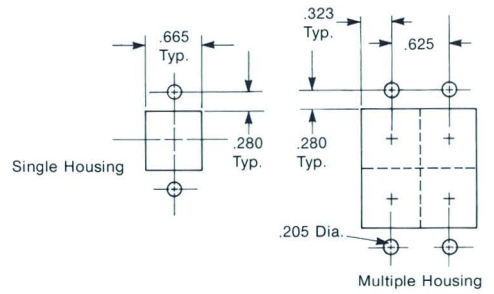
Contact retention in housing: 80 lbs.

Panel Mounting
Adapter

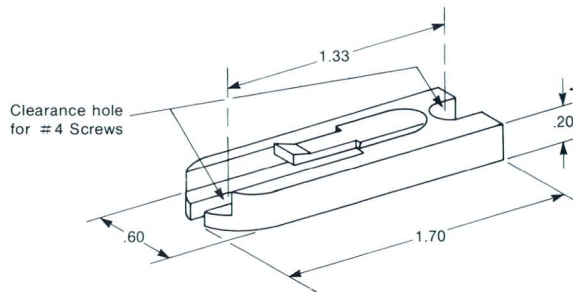
Material: Polycarbonate, blue



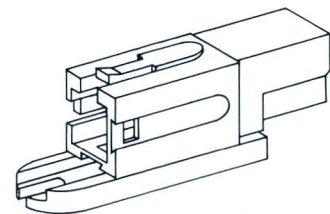
Mounting dimensions



Surface Mounting
Adapter



Material: Polycarbonate, blue
Part Number 53885-1

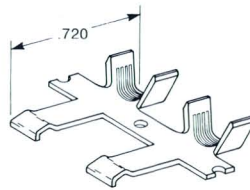


30amp Connector Specifications

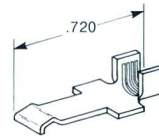
Contact

Contact resistance of mated pair at 10 amps of current:
.250 milliohms

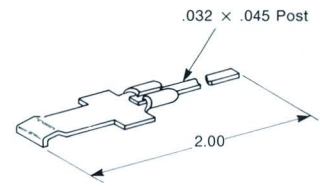
Material: .035 copper



Crimp Contact



Solder Contact



Posted Contact

Type	Wire Range	Plating	Part Number	
			Strip Form	Loose Piece
Crimp Contact	16-12	Pre-tin	53892-2	53892-4
		Silver	53892-3	53892-5
		Gold*	—	53892-7
Solder Contact	—	Pre-tin	—	54329-1
Posted Contact	—	Pre-tin	—	54326-2
		Gold*	—	54326-1

*Gold .000030 over nickel .000050

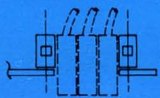
Connector Housing Assembly

Material: Polycarbonate

Color	Part Number
White	53894-1
Black	53894-2
Green	53894-3
Red*	53894-4
Yellow	53894-5
Blue	53894-6

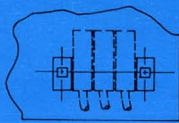
*Standard Color

Typical Mounting Configurations

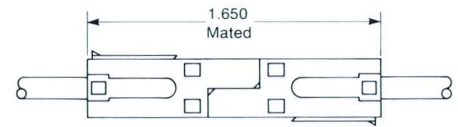


Thru Panel Mount

Vertical Mount



Surface Mount



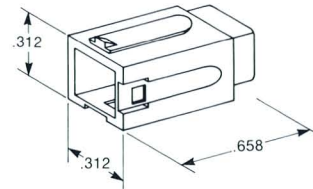
Typical Values

Mating force: 6 lbs. per loaded connector

Unmating force: 4 lbs. per loaded connector

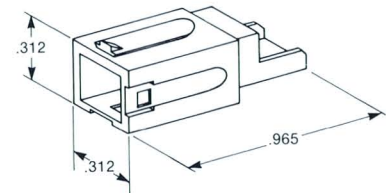
Contact retention in housing: 40 lbs.

Spacer



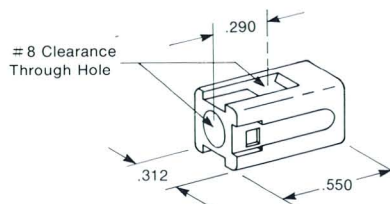
Material: Polycarbonate, red
Part Number 53899-2

Key



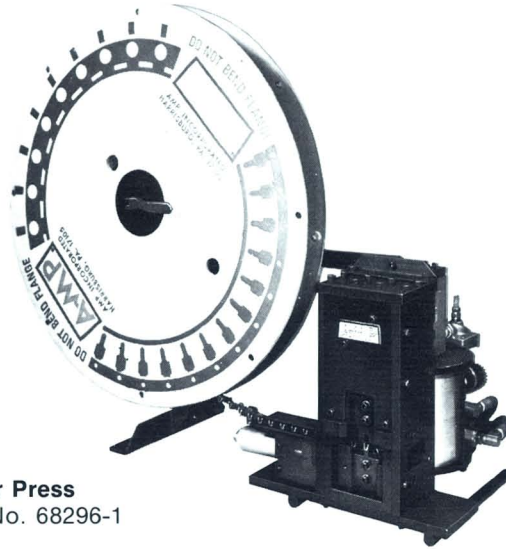
Material: Polycarbonate, red
Part Number 53899-1

Mounting Adapter



Material: Polycarbonate, red
Part Number 54315-1

75 amp
Connector
Tooling



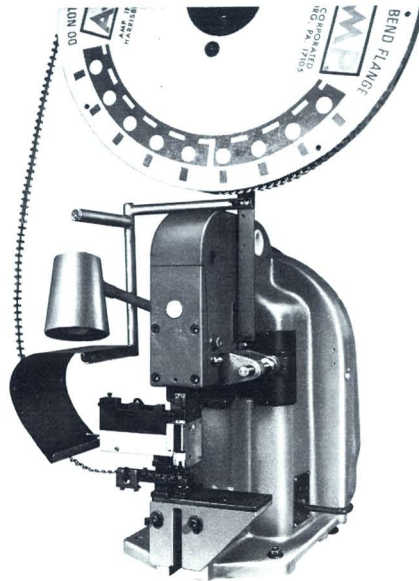
Power Press
Part No. 68296-1

The AMP Semi-Automatic Power Press is designed to produce a carefully controlled uniform pressure crimp while providing a high rate of production. The press features matching dies that fully bottom at the completion of the crimp to assure proper crimp height. The one

die set is fully adjustable to provide the full range of crimp heights for all wire sizes.

For limited application the AMP Hydraulic Hand Tool produces the same uniform crimp.

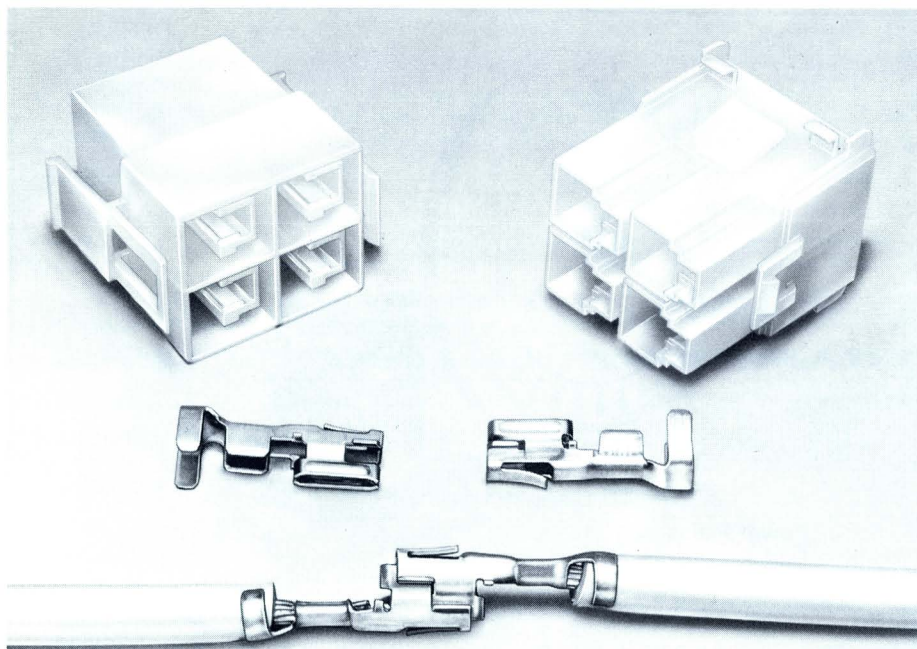
30 amp
Connector
Tooling



Miniature Applicator
Part No. 466516-2
AMP-O-LECTRIC Machine
Part No. 565435-5

The 30 amp Power Lock Contact can be terminated in the industry accepted AMP-O-LECTRIC Automatic Machine. This machine is equipped with a special sidefeed mini-applicator which permits you to "dial-in" the proper crimp height and assures a perfect crimp every time. The AMP CERTI-CRIMP Hand Tool is also available for limited production requirements using loose piece contacts.

Double Action Hand Tool
Part No. 68255-1



This AMP connector offers high reliability and cost savings for high current commercial connector applications. It can handle 16 thru 8 AWG solid or stranded wire with insulation wall thicknesses to 6/64". It is suited for use where harness wiring is not routed through costly conduit. Testing indicates a housing temperature of + 105° C and contact current ratings of 40 amperes (with 12 AWG wire) and 60 amperes (with 10 AWG and 8 AWG wire). See the graph on the reverse side for further explanation. Also, individual contact ratings are available upon request.

The connector housing is made of nylon material and features positive lock latches to prevent accidental disengagement. The housing also is polarized by silo construction and can be used free-hanging or mounted into a panel .040" to .093" thick.

The contacts, made of .025" thick pretinned copper alloy, are hermaphroditic and can be used in either connector half. Two contact sizes accommodate wire size ranges of 16-12 AWG (.270" max. insulation dia.) and 12-8 AWG (.360" max. insulation dia.). Contacts can be crimped with a hand tool or by a heavy-duty miniature applicator installed in an AMP-O-LECTRIC machine. The same heavy-duty miniature applicator installed in an AMPOMATOR machine also can be used for crimping contacts, except for those being terminated to 8 AWG wire.

Presently, the AMP high current commercial connector is furnished in a 4 position (2 x 2 circuit) size. Other housing sizes can be made available upon request.

AMP High Current Commercial Connector (35 Amperes Circuit Breaking)

Features

- High current capability (individual contacts to 60 A with 8 AWG wire, solid or stranded)
- Insulation wall thicknesses to 6/64"
- Designed to meet following UL requirements:
 - Housing rating for 600 VAC
 - + 105° C material
 - Contact ratings of 25 A (12 AWG wire), 35 A (10 AWG and 8 AWG wire)—all four contacts carrying rated current at + 30° C, T-rise circuit breaking
- Positive locking housings
- Housings used in free-hanging or panel mounted applications
- Hermaphroditic contacts used in both plug and cap halves — inventories minimized
- Contacts terminated by automatic machine for lowest applied cost

Note: All dimensions in inches.

Specifications subject to change.
Consult AMP Incorporated for latest design specifications.

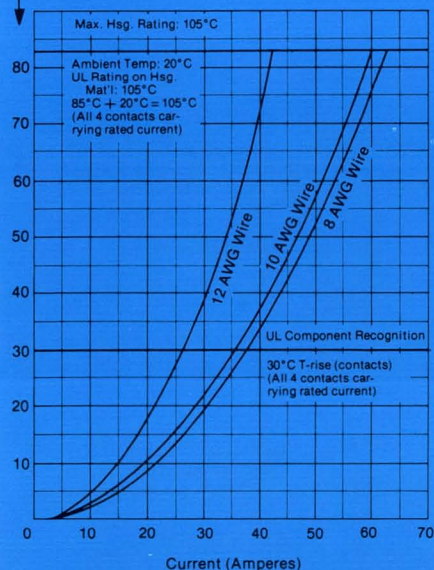
Dimensioning:
All dimensions in inches.

Specifications

Housings

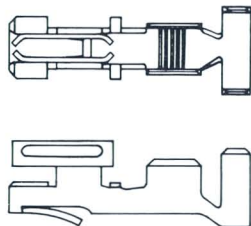
Housing Material:
Nylon; Color, Black**

Contact Temperature
(*°C Above Ambient)



For performance parameters refer to
AMP Incorporated Product
Specification 108-1036.

Hermaphroditic Contacts



Contact Material & Finish:

Copper Alloy, Pretinned

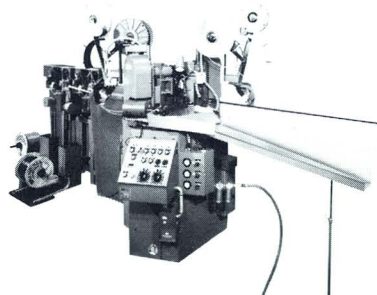
Contact Part Numbers:

350651-1 (for 16-12 AWG wire .270 max. insulation dia.)
350650-1 (for 12-8 AWG wire .360 max. insulation dia.)

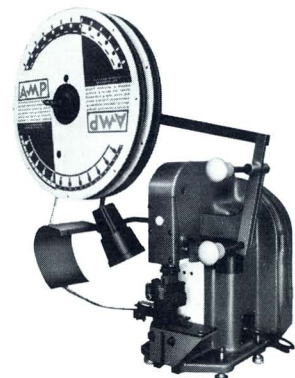
Application Tooling

High current commercial connector contacts may be terminated to wire with a hand crimping tool, or by a heavy-duty miniature applicator installed in one of several AMP machines. The AMPOMATOR machine, a fully automatic high-speed production machine, can produce up to 5700 doubly terminated leads an

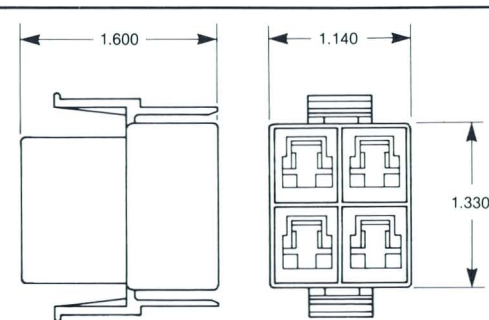
hour, depending upon lead length — from 1.62" to 190". The AMP-O-LECTRIC machine is a bench mounted unit which produces up to 4000 terminations per hour. Consult AMP Incorporated for recommendations based upon your specific application requirements.



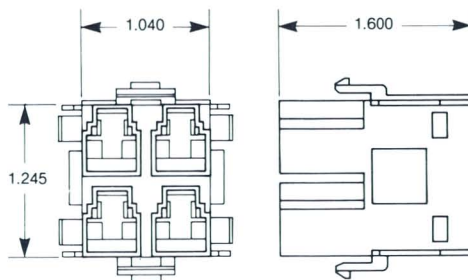
AMPOMATOR Machine



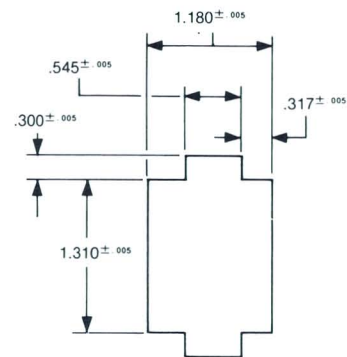
AMP-O-LECTRIC Machine



Cap, 4-Position
Part No. 480767-9



Plug, 4-Position*
Part No. 480766-9



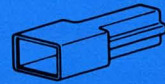
Suggested Panel Cutout for Plug
(.040" to .093" thick panel)

- * Other sizes can be made available, contact AMP Incorporated, Harrisburg, Pa.
- ** Consult AMP Incorporated for availability of colored housings.

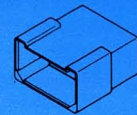
Note: Panel must be punched in the same direction in which the plug housing will be installed.

Cross Reference

FASTIN-FASTON Connectors — Section 4, Pages 4-138 to 4-141. Tab and Receptacle type connectors, choice of 1, 6 and 8 circuit configuration, plus a 3 circuit modular connector for maximum flexibility.



TAB HOUSING



TAB HOUSING



RECEPTACLE
HOUSING