

**MARC 63 Series Connectors RMD63 Performance Data**

MARC 63 Series Connectors, RMD63 Series meet or exceed the performance requirements of specification MIL-C-38300A (USAF) as detailed in the M38300A (USAF) military specification sheets covering the MARC 63 Series Connectors. Tyco Electronics can supply detailed, cross reference information. MARC 63 Series Connectors, RMD63 Series meet the following selected test parameters as specified below:

DESCRIPTION	TEST REQUIREMENTS
<b>Contact Retention</b>	Contacts are to withstand 15 lbs. [66.72 N] axial load and RMD contacts 10 lbs. [44.48 N] axial load without axial displacement in excess of 0.012 [.305] or damage to contacts or inserts when the axial load is applied to the mating end of the contacts in unmated plugs and receptacles at a rate of approximately 1 lb/sec. [4.45 N].
<b>Contact Resistance</b>	The potential drop across normally mated contacts shall not exceed 25 mv under room ambient and high temperature service conditions when measured as specified in MIL-C-26636, Fig. 2, with maximum rated current.
<b>Dielectric Withstanding Voltage, Altitude and Sea Level</b>	No evidence of dielectric breakdown or flashover when mated and unmated plugs are subjected to 645 and 180 volts RMS, respectively, at altitudes up to 110,000 [33,528 m] feet and 1000 volts RMS at sea level.
<b>Insulation Resistance, Room and High Temp.</b>	Insulation resistance of mated plugs and receptacles shall be 5000 megohms, minimum, at room temperature and 1000 megohms, minimum, at 257°F [+125°C] when measured per MIL-STD-202, Method 302, Test Condition B.
<b>Coupling and Uncoupling</b>	Plugs and receptacles shall withstand up to 500 cycles of engagement and separation without detrimental damage to plugs or receptacles or not satisfying subsequent tests of MIL-C-38300.
<b>Fluid Immersion</b>	Mating and unmating forces shall not exceed 27 lbs. [120.10 N], maximum, (15 shell size) after fully wired plugs and receptacles are immersed for 20 hours, each, in hydraulic fluid (MIL-H-5606) and high temperature lubricating oil (MIL-L-9236) followed by a one-hour dry.
<b>Sweep Vibration, Mated</b>	Mated connectors shall show no circuit interruptions greater than one microsecond during 12 hours vibration to include six sweeps in each axis at extreme temperatures of -85°F [-65°C] and 257°F [+125°C] per MIL-STD-202, Method 204, Test Condition D. Post inspection shall show no detrimental cracking, breaking, or loosening of parts.
<b>Moisture Resistance</b>	The insulation resistance of mated connectors shall exceed 1000 megohms after subjection to moisture resistance testing per MIL-STD-202, Method 106, as amended by MIL-C-38300.
<b>Altitude Breathing</b>	The insulation resistance of wired and mated connectors shall be 5000 megohms, minimum, and there shall be no flashover or breakdown at test voltage of 1000 volts RMS after the third cycle and while immersed in 5% salt water solution at 68°F [20°C] and room ambient pressure at 68°F [20°C].
<b>Salt Spray</b>	Unmated plugs and receptacles shall show no excessive corrosion which would detrimentally affect the electrical and mechanical performance of the connectors after subjection to 24 hours exposure to salt spray atmosphere per MIL-STD-202, Method 101.

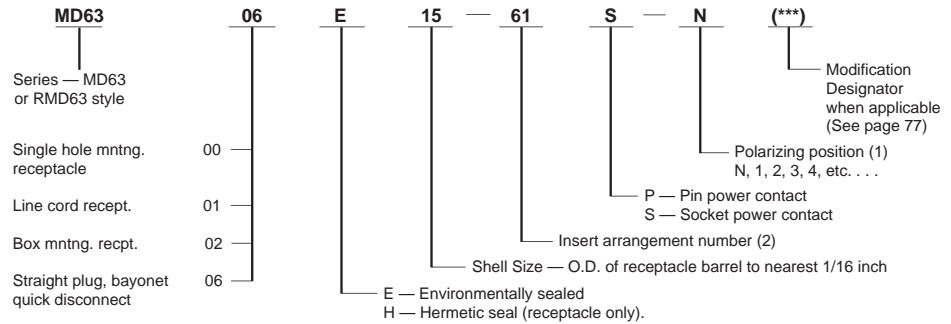
**MARC 63 Series Connectors** (Continued)

**Part Number and Ordering Information**

Connector part numbers indicate size, shape, insert layout, type of seal, style of contact and polarization.

**Note:** Pin or socket (power or coaxial) contacts may be used in either plugs or receptacles. However, it is recommended that pins be placed in the receptacle when possible to take advantage of our "scoop-proof" design.

**Typical Part Number**



(1) For polarizing key positions see MARC 53 Series Connectors.

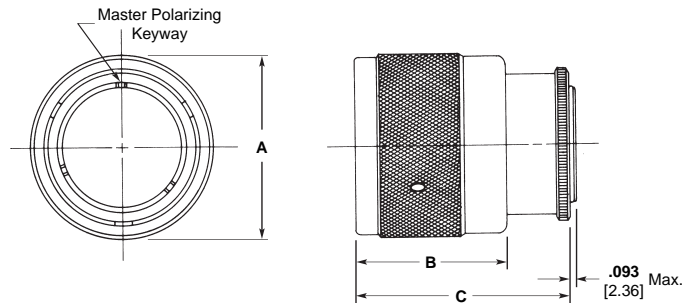
(2) For contact arrangements see MARC 53 Series Connectors.

**Note:** If P or S does not appear in the numbering system, no contacts will be supplied with order (order separately).

**Configurations**

**MD63-06E/RMD63-06E**

Straight Plug, Bayonet Coupling, Environmental and Non-Environmental (Mates with Receptacles 02, 00 and 01)



Shell Size	Dimensions		
	A	B (Max.)	C (Max.)
9	.813 20.65	1.000 25.4	1.288 32.72
12	1.000 25.40	1.000 25.4	1.288 32.72
15	1.125 28.58	1.000 25.4	1.288 32.72
18	1.594 40.49	1.000 25.4	1.288 32.72

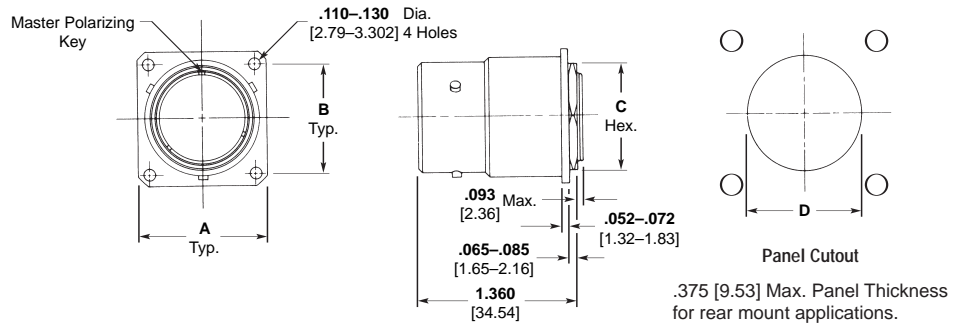
**Electronics**

**MARC 63 Series Connectors (Continued)**

**Configurations (Continued)**

**MD63-02E/RMD63-02E**

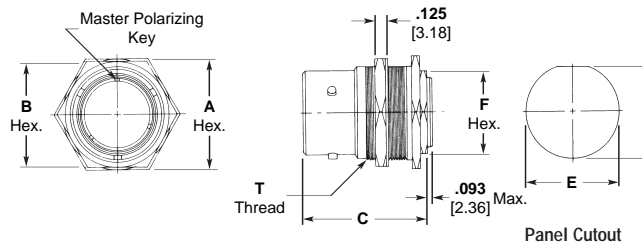
Receptacle, Box Mounting, Environmental and Non-Environmental (Mates with Plug, Type 06)



Shell Size	Dimensions			
	A	B	C	D
9	.875 22.23	.662 16.81	.562 14.27	.693-.697 17.60-17.70
12	1.000 25.40	.786 19.96	.75 19.05	.881-.885 22.38-22.48
15	1.125 28.58	.906 23.01	.875 22.23	1.006-1.011 25.55-25.68
18	1.344 34.14	1.062 26.97	1.125 28.58	1.250-1.260 30.48-32.00

**MD63-00E/RMD63-00E**

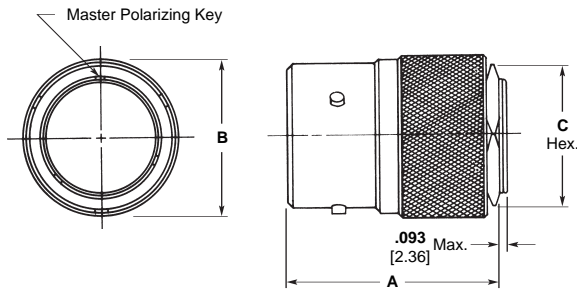
Receptacle, Single Hole Mounting, Environmental and Non-Environmental (Mates with Plug, Type 06)



Shell Size	Dimensions						
	A	B	C	D	E	F	T (Class 2A)
9	.813 20.65	.75 19.05	1.360 34.54	.669-.673 16.99-17.09	.693-.697 17.60-17.70	.562 14.27	11/16-32UN
12	1.000 25.40	.937 23.80	1.360 34.54	.850-.856 21.59-21.74	.881-.885 22.38-22.48	.75 19.05	7/8-28UN
15	1.125 28.58	1.062 26.97	1.360 34.54	.975-.979 24.76-24.87	1.006-1.010 25.55-25.65	.875 22.23	1-28UN
18	1.625 41.28	1.375 34.93	1.360 34.54	1.212-1.216 30.78-30.88	1.251-1.255 31.78-31.88	1.125 28.58	1-1/4-28UN

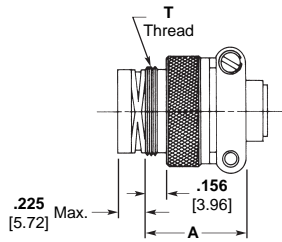
**MD63-01E/RMD63-01E**

Receptacle, Line Cord, Environmental (Mates with Plug, Type 06)

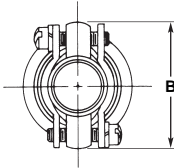


Shell Size	Dimensions		
	A	B (Max.)	C
9	1.360 34.54	.703 17.86	.562 14.27
12	1.360 34.54	.891 22.63	.75 19.05
15	1.360 34.54	1.016 25.81	.875 22.23
18	1.360 34.54	1.203 30.56	1.125 28.58

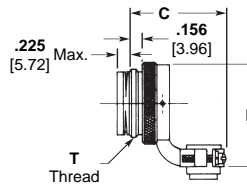
**Accessories**  
**Cable Clamps**



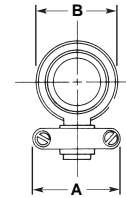
Straight



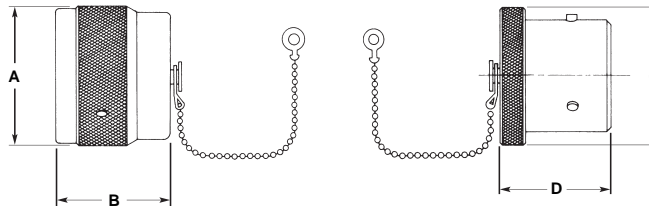
Shell Size	Part No.	A	B	T Thread
9	086-0175-00N1	.704 17.88	.750 19.05	1/2-20UNF-2A
12	086-0176-00N1	.773 19.63	.932 23.67	11/16-24UNEF-2A
15	086-0177-00N1	.829 21.06	1.078 27.38	13/16-20UNEF-2A
18	086-0178-00N1	.890 22.61	1.250 31.75	1-28UN-2A



Angle



Shell Size	Part No.	A	B (Max.)	C (Max.)	D	T Thread
9	086-0179-00N1	.737 18.72	.600 15.24	1.100 27.94	.879 22.32	1/2-20UNF-2A
12	086-0180-00N1	.913 23.19	.785 19.94	1.250 31.75	1.067 27.10	11/16-24UNEF-2A
15	086-0181-00N1	1.048 26.62	.962 24.43	1.469 37.31	1.233 31.21	13/16-20UNEF-2A
18	086-0182-00N1	1.225 31.12	1.185 30.10	1.550 39.37	1.550 39.37	1-28UN-2A



**Protective Covers**

Shell Size	Receptacle Part No.		Plug Part No.		Dimensions			
	Without Chain	With Chain	Without Chain	With Chain	A	B	C	D
9	086-0253-00P2	086-0257-00L6	086-0261-00F5	086-0265-00L6	.813 20.65	.950 24.13	.813 20.65	.913 23.19
12	086-0254-00P2	086-0258-00L6	086-0262-00F5	086-0266-00L6	1.000 25.40	.950 24.13	1.000 25.40	.913 23.19
15	086-0255-00P2	086-0259-00L6	086-0263-00F5	086-0267-00L6	1.125 28.58	.950 24.13	1.125 28.58	.913 23.19
18	086-0256-00P2	086-0260-00L6	086-0264-00F5	086-0268-00L6	1.594 40.49	.950 24.13	1.594 40.49	.913 23.19

Plastic Protective Covers also available; consult Tyco Electronics.

**Modifications**

We offer a unique modification system which provides alteration of standard MARC 63 Series Connectors to include special finishes, accessories, and custom

quality assurance provisions — processing, testing, serialization, traceability. Consult your sales representative or Tyco Electronics for additional modification information.

**Standard modifications include:**

(801): MARC 63 Series Connector, electroless nickel finish

(803): MARC 63 Series Connector including cable clamp, straight type

(804): MARC 63 Series Connector including cable clamp, right-angle type