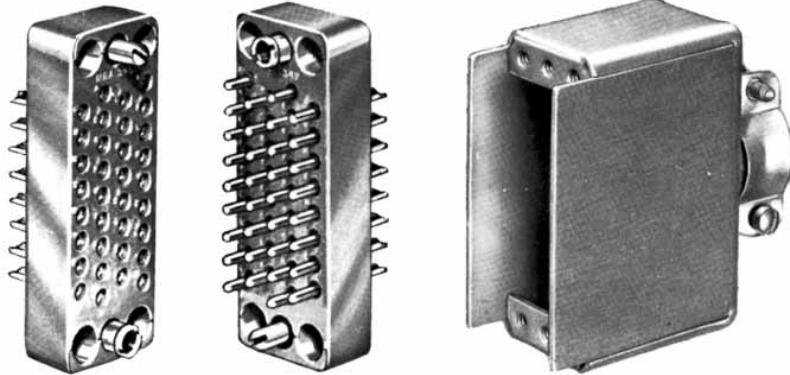


Miniature Rectangular / #16 Contacts / .062" Dia. / 13 Amps



Receptacle MRA 34S-G

Plug MRA 34P-G

Hood

The MRA Series offers compact, lightweight and self-aligning plugs and receptacles with unusually high current and voltage ratings for their size. Performance tests show them to well exceed military standards. Except for

contact size, the MRA and MRE Series share the same hoods, hardware and accessories.

Right angle, dip solder, pin or socket contacts are available. Consult factory.

Dimensions are for reference only and are subject to change. Outline drawings on request.

Specifications

Current Rating: 13 amps

Number of contacts: 9, 14, 20, 34, 41, 42, 50, 50-8, 66, 75, 104

Pin Contacts: .062 diameter, gold plated brass

Socket

Contacts: Phosphor bronze, gold plated

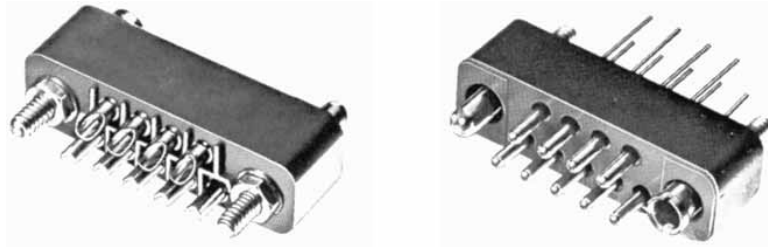
Terminations: .070 dia. solder cup is standard. Will accommodate up to #16 AWG stranded wire. Pin and Socket contacts available with .030 diameter dip solder terminations. Consult Sales Dept. for lengths available.

Electrical Data: Meets high potential performance of MIL-C-28748. Military versions are QPL'd to M28748/1 and M28748/2. The minimum dielectric withstanding voltage is one minute electrification 1000 VAC, sea level.

Dielectric: Gray glass filled diallyl phthalate, per MIL-M-14, SDG-F.

Polarization: Gold plated guides provide polarization. Polarized nickel-plated brass and/or passivated stainless steel jackscrews with anodized aluminum knobs are available.

Hoods: Anodized aluminum. May be applied to either plug or receptacle. Both top and side opening hoods available.



Termination Types

Solder Cup





For pin and socket contacts, .070 diameter solder cup is the standard termination for cable and panel mount applications. Wire accommodation: up to #16 AWG stranded.

Dip Solder

For pin and socket contacts, .030 diameter dip solder terminations, straight or right angle for mounting to printed circuit board or for use with flexible cable.

Guide Sockets

3 Types of Guide Sockets are Available

Guide Socket Code Letter	Application	Actual Size Photo	
G*	The "G" type socket is the standard guide supplied. It has good physical strength and may be used electrically in a low current circuit or as a contact for ground leads.	 G Type For General Use Phosphor	 Standard Guide Pin mates with all types Brass
K	The "K" guide socket is an excellent electrical conductor. Its extra spring-tension provides a high normal force uniformly distributed along the surface of the engaged pilot guide, thus minimizing electrical resistance. The multivolt drop across extreme ends of the engaged pilot and socket guide is 10 mv. at 20 amps.	 K Type For High Electrical Conductivity Beryllium Copper	
N*	The high physical strength of the "N" guide socket allows a greater degree of forcible tightening against a mounting surface than is permitted by the other guide sockets. This feature is particularly desirable for mounting connectors which will be subject to severe vibration in service. "N" guides are not to be used electrically.	 N Type For extra Mechanical Strength Brass	

* For passivated stainless steel add SS suffix

Physical Data

WEIGHT IN OZ.	NUMBER OF CONTACTS										
	9	14	20	34	41	42	50	50-8	66	75	104
PLUG	.5	.5	.5	1.1	1.2	1.2	1.5	1.5	2.0	2.3	3.1
RECEPTACLE	.4	.4	.4	.8	.9	.9	1.1	1.1	1.5	1.7	2.2

Special

MRA-50-8 with 8, 20 amp solder cup contacts and 50, 13 amp solder cup contacts

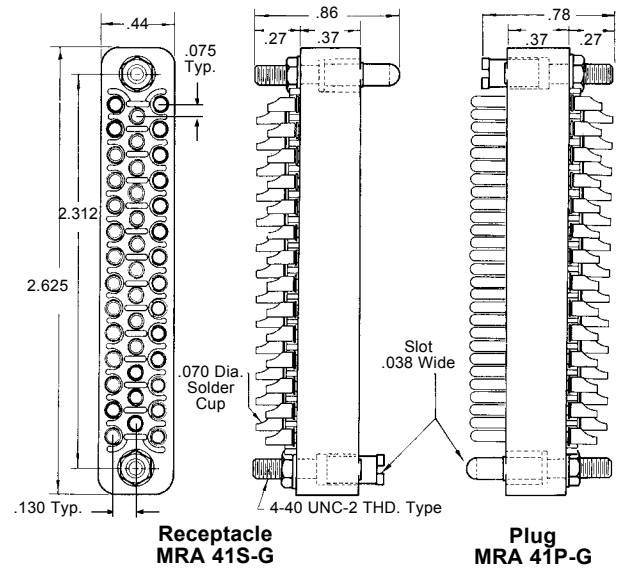
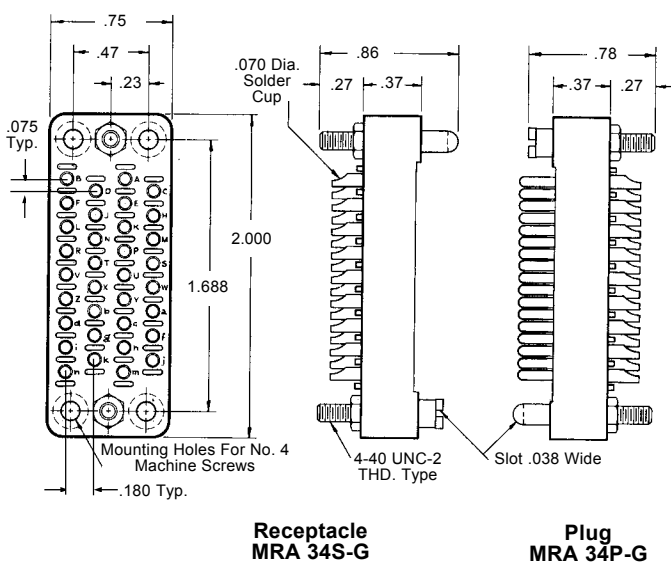
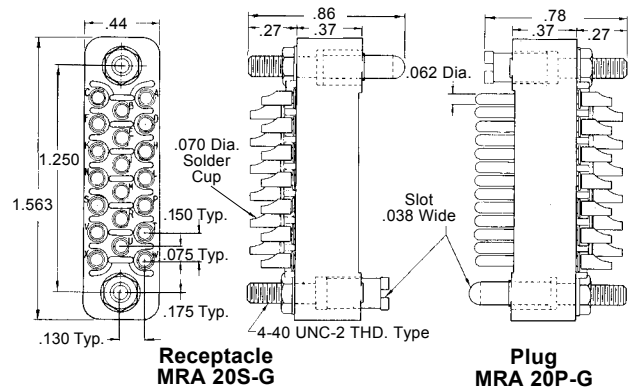
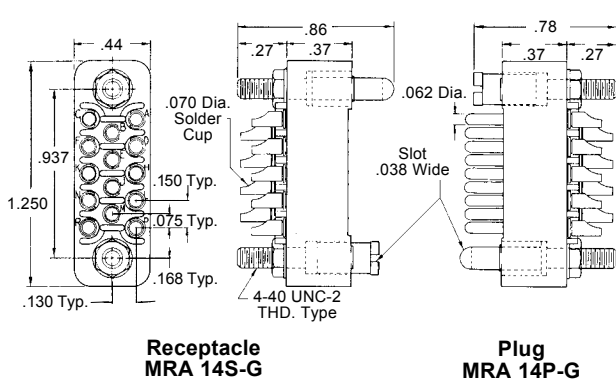
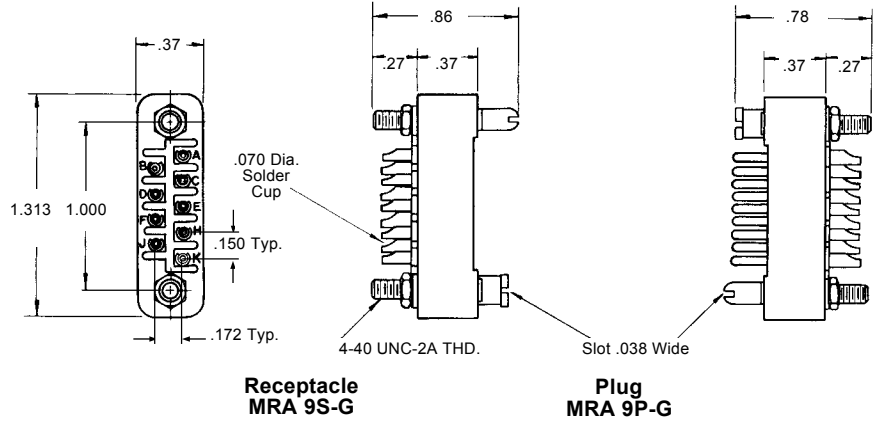
CONTACTS	CURRENT RATING	PIN DIAMETER	MAX. WIRE SIZE	SOLDER CUP DIA
8	20 amps	.093	#12 AWG	.106 D
.50	13 amps	.062	#16 AWG	.070 D

MRA Series

Outline

Dimensions are for reference only and are subject to change. Outline drawings on request.

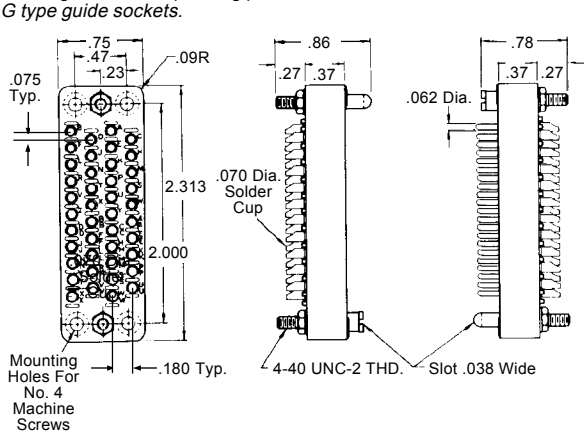
Drawings and corresponding part numbers show G type guide sockets.



Outline

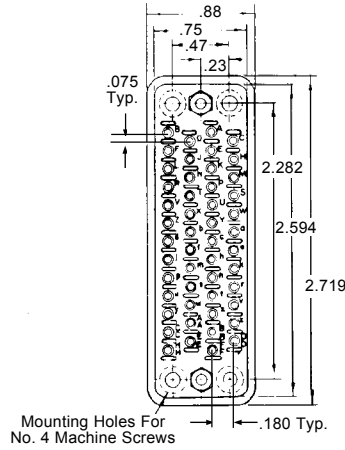
Dimensions are for reference only and are subject to change. Outline drawings on request.

Drawings and corresponding part numbers show G type guide sockets.

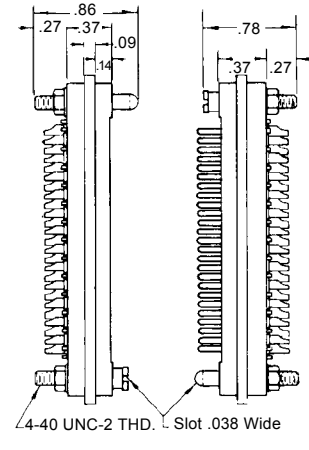


**Receptacle
MRA 42S-G**

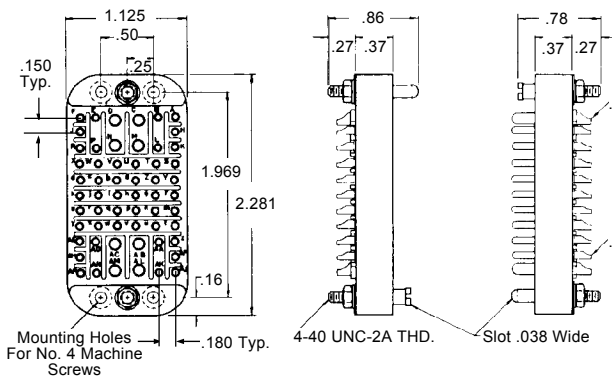
**Plug
MRA 42P-G**



**Receptacle
MRA 50S-G**

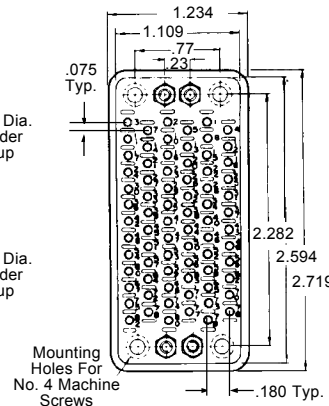


**Plug
MRA 50P-G**

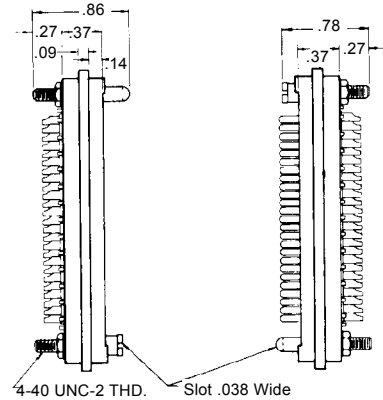


**Receptacle
MRA 50-8S-G**

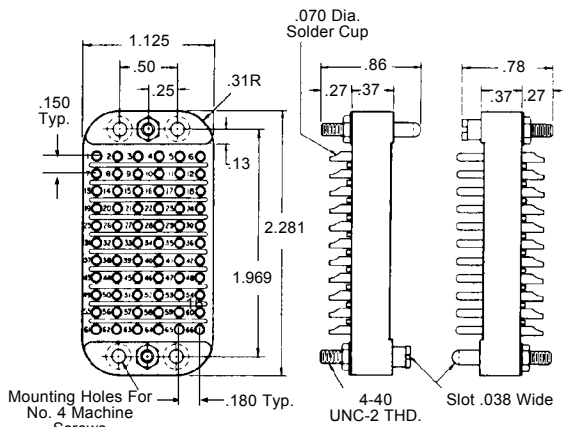
**Plug
MRA 50-8P-G**



**Receptacle
MRA 75S-G**

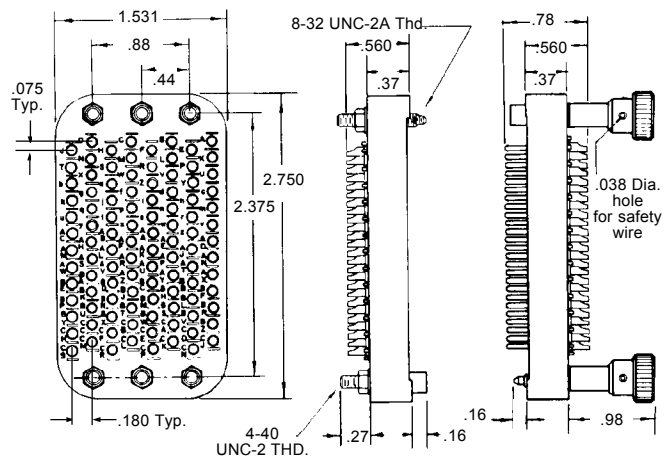


**Plug
MRA 75P-G**



**Receptacle
MRA 66S-G**

**Plug
MRA 66P-G**



**Receptacle
MRA 104S-J**

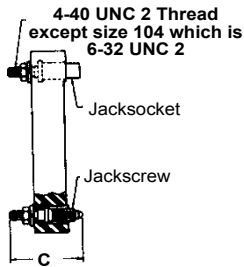
**Plug
MRA 104P-JT**

MRA Series

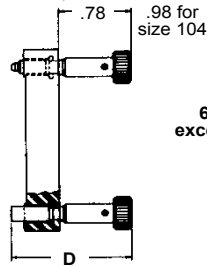
Polarized jackscrews give the ease and assurance of threaded positive coupling. The actuating side consists of two turnable screws, one male and one female, each with knurled and slotted knobs. On the mating half are the two fixed screws required to complete the locking action. When mated, the jackscrews may be locked with a safety wire through the hole in the self-locking pin (in the jackscrew shaft).

The drawings show the extension of the jackscrew knobs beyond a typical MRA connector and beyond the connector-and-hood assembly (center drawings). Dimensions given are constant for all connectors except as noted. Other dimensions applicable to various hood styles are detailed in the chart.

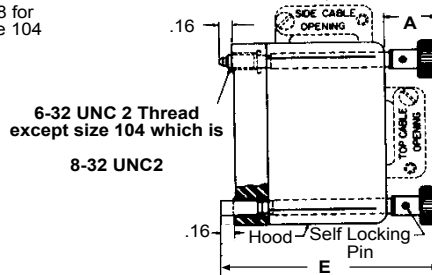
Jackscrews & Jacksockets



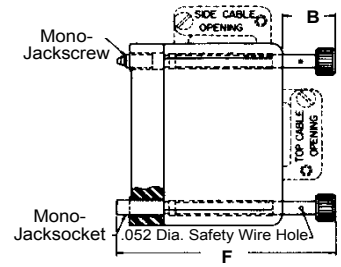
Connector with fixed Jackscrews.
Code designation: J



Mating connector half with turnable Jackscrews-with-Knobs.
Code designation: JT



Mating connector half with Hood and turnable Long Jackscrews-with-Knobs. Code designation: JTCH, JTCH1



Mating connector half with Hood and turnable Monojacks.
Code designation: JTDH, JTDH1

Dimensions

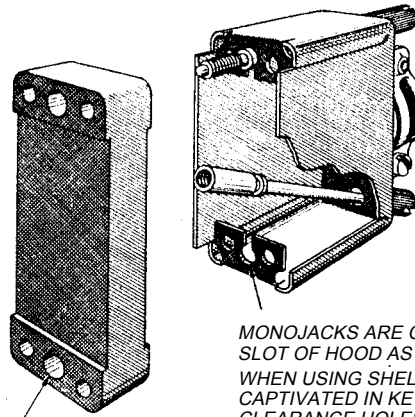
Dimensions are for reference only and are subject to change. Outline drawings on request.

Connector Size	Dimension A				Dimension B				Dimen C	Dimen D	Dimension E				Dimension F			
	H	H1	H8	H9	H	H1	H8	H9			H	H1	H8	H9	H	H1	H8	H9
MRA 9	—	.59	.58	.59	—	—	—	—	.80	1.31	—	2.41	2.09	2.41	—	—	—	—
MRA 14	—	.59	.58	.59	—	—	—	—	.80	1.31	—	2.41	1.84	2.41	—	—	—	—
MRA 20	—	.59	.58	.59	—	—	—	—	.80	1.31	—	2.41	1.84	2.41	—	—	—	—
MRA 34	.63	.63	.63	.63	.63	.63	.63	.63	.80	1.31	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41
MRA 41	.63	.63	—	—	—	—	—	—	.80	1.31	2.41	2.41	—	—	—	—	—	—
MRA 42	.58	.58	.58	.58	.58	.58	.58	.58	.80	1.31	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41
MRA 50	.58	.58	.58	.58	.58	.58	.58	.58	.80	1.31	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41
MRA 50-8	.77	—	—	.70	.50	—	—	.50	.80	1.31	2.47	—	—	2.41	2.19	—	—	2.19
MRA 66	.77	—	—	.70	.50	—	—	.50	.80	1.31	2.47	—	—	2.41	2.19	—	—	2.19
MRA 75	.56	.56	.56	.56	.56	.56	.56	.56	.80	1.31	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41
MRA 104	.67	—	—	.67	.50	—	—	.50	.80	1.52	3.42	—	—	3.42	3.25	—	—	3.25

New Monojacks Assemble and Disassemble With Remarkable Ease and Speed

To free the connector from the hood, simply remove four screws. Monojacks may be used on miniature rectangular connectors with from

34 to 104 contacts, molds have 2 center thru holes and 4 mounting holes.

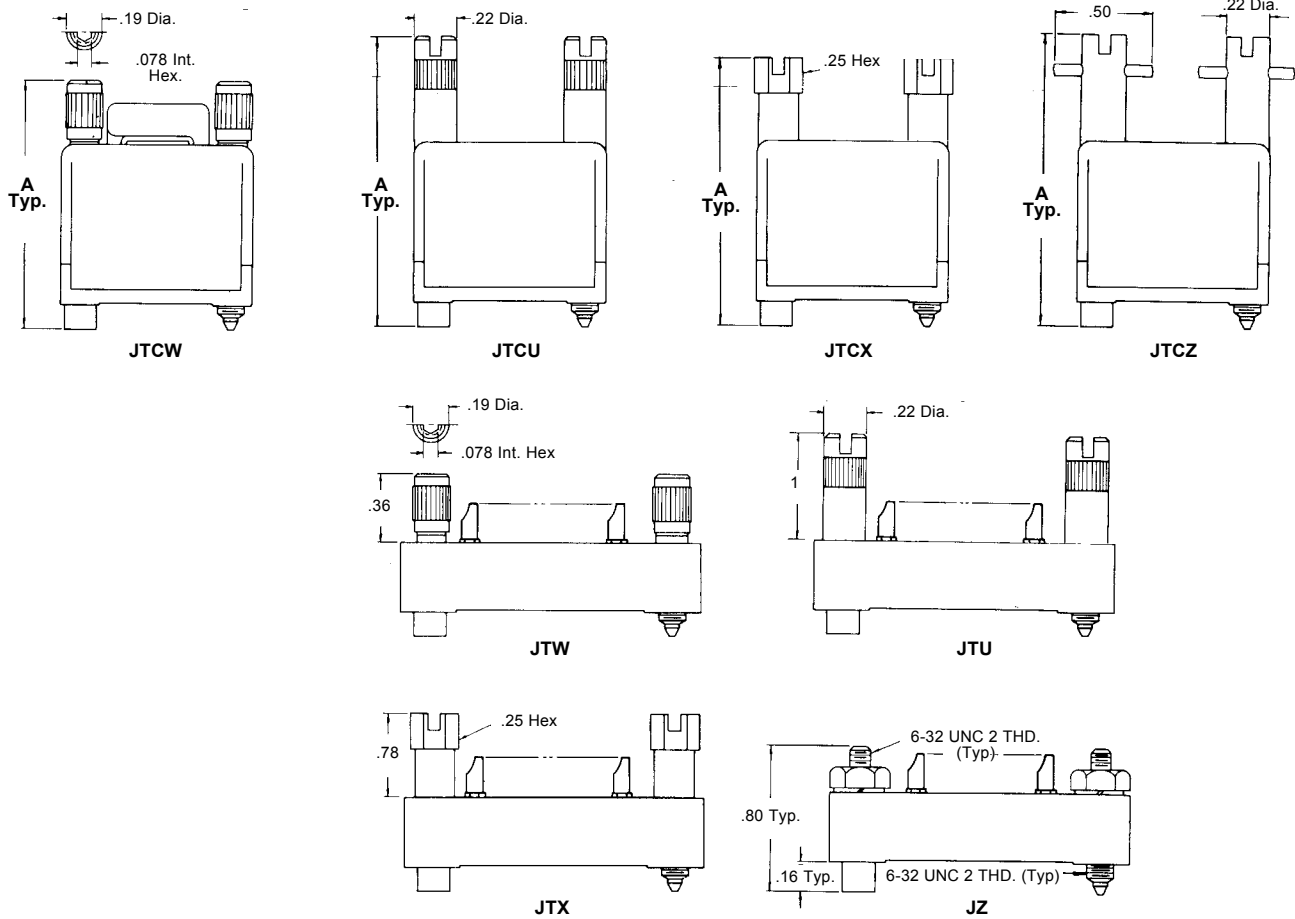


MONOJACKS ARE CAPTIVATED IN KEYHOLE SLOT OF HOOD AS SHOWN ABOVE.
WHEN USING SHELLS, MONOJACKS ARE CAPTIVATED IN KEYHOLE OF SHELL AND CLEARANCE HOLES ARE PLACED IN HOODS.

MOLDINGS HAVE STRAIGHT THRU HOLES

Outline Jackscrews & Jacksockets

Dimensions are for reference only and are subject to change. Outline drawings on request.



Dimensions

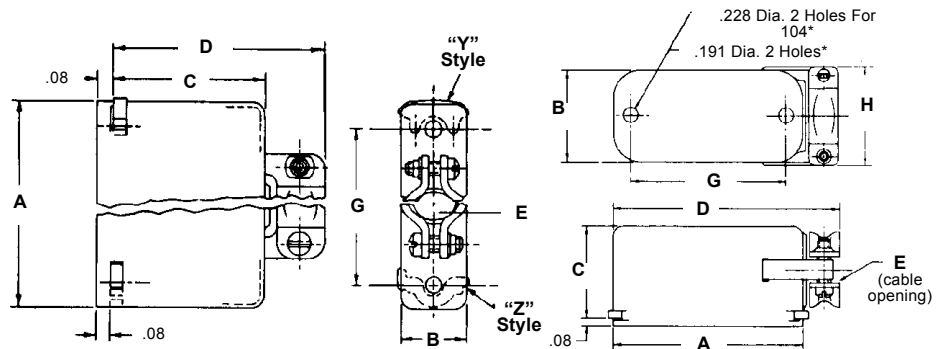
All jackscrews and sockets are stainless steel, passivated, except J & JTD which are nickel-plated brass. All knobs are aluminum, anodized except JTW and JTCW which are stainless steel, passivated.

Hood Type

Size	Type JTCW				Size	Type JTCU				Size	Type JTCX				Size	Type JTCZ			
	H	H1	H8	H9		H	H1	H8	H9		H	H1	H8	H9		H	H1	H8	H9
Dimension A				Dimension A				Dimension A				Dimension A							
9	—	2.22	1.91	2.22	9	—	2.47	2.16	2.47	9	—	2.34	2.03	2.34	9	—	2.47	2.16	2.47
14	—	2.22	1.66	2.22	14	—	2.47	1.91	2.47	14	—	2.34	1.78	2.34	14	—	2.47	1.91	2.47
20	—	2.22	1.66	2.22	20	—	2.47	1.91	2.47	20	—	2.34	1.78	2.34	20	—	2.47	1.91	2.47
34	2.22	2.22	2.22	2.22	34	2.47	2.47	2.47	2.47	34	2.34	2.34	2.34	2.34	34	2.47	2.47	2.47	2.47
41	2.22	2.22	—	—	41	2.47	2.47	—	—	41	2.34	2.34	—	—	41	2.47	2.47	—	—
42	2.22	2.22	2.22	2.22	42	2.47	2.47	2.47	2.47	42	2.34	2.34	2.34	2.34	42	2.47	2.47	2.47	2.47
50	2.22	2.22	2.22	2.22	50	2.47	2.47	2.47	2.47	50	2.34	2.34	2.34	2.34	50	2.47	2.47	2.47	2.47
50-8	2.22	—	—	2.22	50-8	2.47	—	—	2.47	50-8	2.34	—	—	2.34	50-8	2.47	—	—	2.47
66	2.22	—	—	2.22	66	2.47	—	—	2.47	66	2.34	—	—	2.34	66	2.47	—	—	2.47
75	2.22	2.22	2.22	2.22	75	2.47	2.47	2.47	2.47	75	2.34	2.34	2.34	2.34	75	2.47	2.47	2.47	2.47

Outline Hoods- Drawn Aluminum

Dimensions are for reference only and are subject to change. Outline drawings on request.



Dimensions

Top Cable Opening

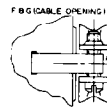
Side Cable Opening

Catalog No.	DIMENSIONS - TOP OPENING							Wt. Oz.	Fits Connector	Style
	A	B	C	D	E	F	G			
MRA 34H-491	2.09	.84	1.17	1.59	.66 x .75	-	1.688	.6	MRA 34P MRA 34S	"Z"
MRA 50-8H	2.38	1.22	1.17	1.69	1.03D	-	1.969	.8	MRA 50-8P MRA 50-8S	"Y"
MRA 66H	2.38	1.22	1.17	1.69	1.03	-	1.969	.8	MRA 66P MRA 66S	"Y"
MRA 104H	2.84	1.63	2.23	2.75	1.19D	-	2.375	1.0	MRA 104P MRA 104S	"Y"

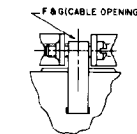
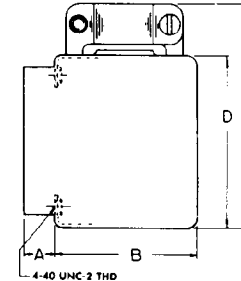
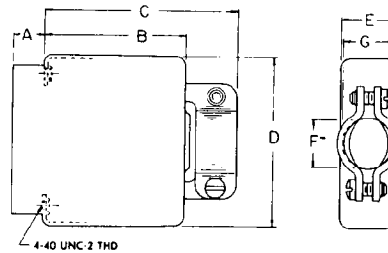
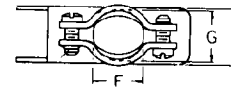
Catalog No.	DIMENSIONS - SIDE OPENING							Wt. Oz.	Fits Connector	Style
	A	B	C	D	E	H	G			
MRA 34H9-491	2.09	.84	1.17	1.59	.64 x .75	1.06	1.688	.6	MRA 34P MRA 34S	"Z"
MRA 50-8H9	2.38	1.22	1.17	2.92	.84D	1.34	1.969	.8	MRA 50-8P MRA 50-8S	"Y"
MRA 66H9	2.38	1.22	1.17	2.92	.84D	1.34	1.969	.8	MRA 66P MRA 66S	"Y"
MRA 104H9	2.84	1.63	2.23	3.39	1.19D	1.63	2.375	1.0	MRA 104P MRA 104S	"Y"

Outline Hoods- Formerd Aluminum

MRE Series hoods for use with MRA Series connectors



H-8 Hoods are identical to H Hood except for cable clamp style and cable opening in the hood.



H-9 Hood is identical to H-1 Hood except for cable clamp style and cable opening in the hood.

Dimensions

Top Cable Opening

Side Cable Opening

H and H-8 Cable Clamps (Top Opening)

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 9H*	.28	1	1.31	1.31	.44	.31D	-	.3	MRA 9 (P or S)
MRE 9H-8	.28	1	1.30	1.31	.44	.31	.59	.3	MRA 9 (P or S)
MRE 14H*	.28	.75	1.19	1.25	.5	.44D	-	.3	MRA 14 (P or S)
MRE 14H-8	.28	.75	1.05	1.25	.5	.38	.59	.3	MRA 14 (P or S)
MRE 20H*	.25	.75	1.19	1.56	.5	.44D	-	.3	MRA 20 (P or S)
MRE 20H-8	.25	.75	1.05	1.56	.5	.38	.66	.3	MRA 20 (P or S)
MRE 34H	.28	1.25	1.67	2	.83	.66D	-	.6	MRA 34 (P or S)
MRE 34H-8	.28	1.25	1.75	2	.83	1.06	.56	.6	MRA 34 (P or S)
MRE 41H	.28	1.25	1.67	2.63	.5	.66	.44	.6	MRA 41 (P or S)
MRE 42H	.09	1.30	1.72	2.31	.83	.63D	-	.7	MRA 42 (P or S)
MRE 42H-8	.09	1.30	1.80	2.31	.83	1.06	.56	.7	MRA 42 (P or S)
MRE 50H	.09	1.30	1.72	2.59	.83	.63D	-	.8	MRA 50 (P or S)
MRE 50H-8	.09	1.30	1.80	2.59	.83	1.06	.56	.8	MRA 50 (P or S)
MRE 75H	.09	1.31	1.73	2.59	1.19	.63	.88	1.0	MRA 75 (P or S)
MRE 75H-8	.09	1.31	1.86	2.59	1.19	1	.88D	1.0	MRA 75 (P or S)

H-1 and H-9 Cable Clamps (Side Opening)

Code No.	Dimensions					Cable Opening		Wt. Oz.	Fits Connector
	A	B	C	D	E	F	G		
MRE 9H-1	.28	1.28	1.63	1.31	.44	.31D	-	.3	MRA 9 (P or S)
MRE 9H-9	.28	1.28	1.61	1.31	.44	.59	.31	.3	MRA 9 (P or S)
MRE 14H-1	.28	1.28	1.69	1.25	.5	.38D	-	.3	MRA 14 (P or S)
MRE 14H-9	.28	1.28	1.55	1.25	.5	.59	.38	.3	MRA 14 (P or S)
MRE 20H-1	.28	1.28	2	1.56	.5	.38D	-	.3	MRA 20 (P or S)
MRE 20H-9	.28	1.28	1.86	1.56	.5	.66	.38	.3	MRA 20 (P or S)
MRE 34H-1	.28	1.25	2.42	2	.83	.66D	-	.6	MRA 34 (P or S)
MRE 34H-9	.28	1.25	-	2	.83	.81	.56	.6	MRA 34 (P or S)
MRE 41H-1	.28	1.25	3.06	2.63	.5	.66	.44	.6	MRA 41 (P or S)
MRE 42H-1	.09	1.30	2.73	2.31	.83	.63	.5	.7	MRA 42 (P or S)
MRE 42H-9	.09	1.30	-	2.31	.83	.84	.56	.7	MRA 42 (P or S)
MRE 50H-1	.09	1.30	3.02	2.59	.83	.63	.5	.8	MRA 50 (P or S)
MRE 50H-9	.09	1.30	-	2.59	.83	1.06	.56	.8	MRA 50 (P or S)
MRE 75H-1	.09	1.31	3.02	2.59	1.19	.63	.88	1.0	MRA 75 (P or S)
MRE 75H-9	.09	1.31	-	2.59	1.19	1	.88	1.0	MRA 75 (P or S)

* H Hoods for MRA 9, 14, and 20 will not accept JTC hardware. Use H8 hoods.

MRA Series



Hoods - Locking

Lock Tabs (MRE-V shown)

Lever & Pivot Assemblies (MRE-VL shown)

Vibration Locks*

Lever & Pilot Assembly	Lock Tabs (See Note)	Used on Connectors
MRE-VL	MRE-V	MRA 9, 14, 20, 34, 41, 42, 66
MRE-VL2	MRE-V2	MRA 50,75

Vibration locks offer simplicity of design and positive locking in excess of 50G shock impact and 10G vibration acceleration. Mating halves automatically lock when engaged. To unlock, depress the levers. Drilled holes in the levers

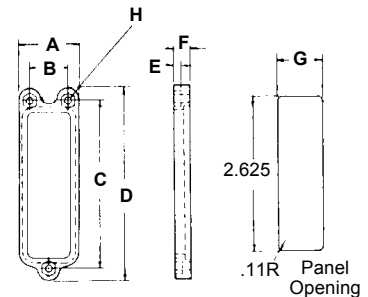
are provided for safety wiring. Vibration locks are available separately for assembly on connectors now in service. Each code number indicates two units: two levers with two pivots, and two lock tabs.

*US Patent Number 2760174

Note: When panel mounting the lock-tab half of a MRA 34, MRA 42 or MRA 50 and MRA 66 connector, flat washers (.033 minimum thickness) should be used on the mounting screws to shim the moulding away from the panel.

Dimensions / Outline Mounting Brackets

Code No.	DIMENSIONS							Wt. Oz.	
	A	B	C	D	E	F	G		
MRE 50B	1.06	.688	3.031	3.44	.13	.28	.72	.128 Dia 3 Holes (No. 4 Mounting Screw)	.4
MRE 75B	1.48	1.047	3.062	3.56	.14	.30	1.14	.150 Dia 3 Holes (No. 6 Mounting Screw)	.6



MRA 50 and MRA 75 connectors use the standard MRE 50 and MRE 75 mounting brackets

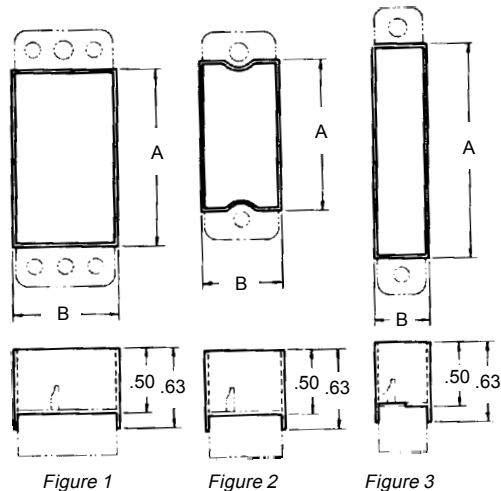
Dimensions / Outline Pre-Shaped Nylon Potting Forms

Dimensions are for reference only and are subject to change. Outline drawings on request.

Each form matches the back opening contour of its appropriate shell, and stays easily in place during the potting operation. Of negligible weight, it need not be removed from the

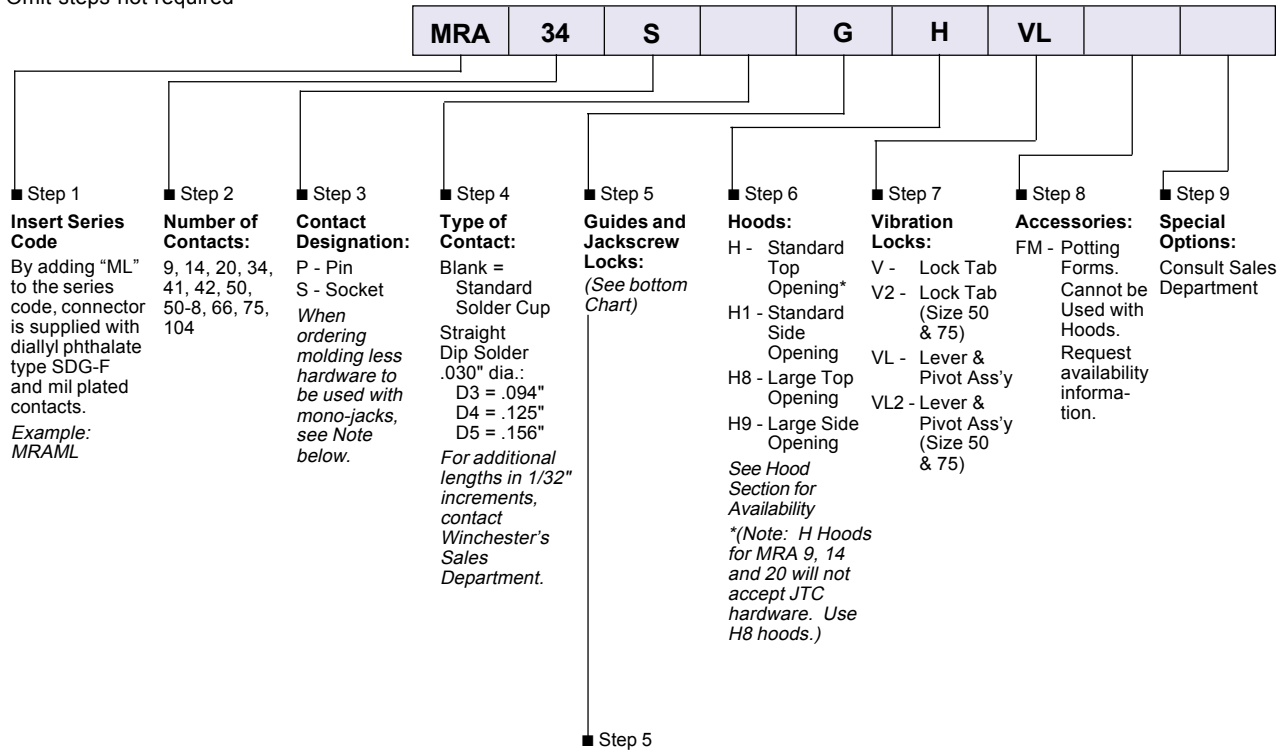
connector after potting. Because of floating contacts, connector halves should always be engaged during the potting operation to preserve contact alignment.

Potting Form Code No.	Fig.	Dimensions	
		A	B
MRA 9 FM	3	.77	.43
MRA 14 FM	2	.93	.49
MRA 20 FM	2	1.12	.49
MRA 26 FM	2	1.18	.61
MRA 34 FM	1	1.38	.80
MRA 41 FM	2	2.18	.49
MRA 42 FM	1	1.69	.80
MRA 50 FM	1	1.97	.80
MRA 75 FM	1	1.98	1.16



Ordering Information

Omit steps not required



■ Step 1

Insert Series Code
By adding "ML" to the series code, connector is supplied with diallyl phthalate type SDG-F and mil plated contacts.
Example: MRAML

■ Step 2

Number of Contacts:
9, 14, 20, 34, 41, 42, 50, 50-8, 66, 75, 104

■ Step 3

Contact Designation:
P - Pin
S - Socket
When ordering molding less hardware to be used with mono-jacks, see Note below.

■ Step 4

Type of Contact:
Blank = Standard Solder Cup
Straight Dip Solder .030" dia.:
D3 = .094"
D4 = .125"
D5 = .156"
For additional lengths in 1/32" increments, contact Winchester's Sales Department.

■ Step 5

Guides and Jackscrew Locks:
(See bottom Chart)

■ Step 6

Hoods:
H - Standard Top Opening*
H1 - Standard Side Opening
H8 - Large Top Opening
H9 - Large Side Opening
See Hood Section for Availability
**(Note: H Hoods for MRA 9, 14 and 20 will not accept JTC hardware. Use H8 hoods.)*

■ Step 7

Vibration Locks:
V - Lock Tab
V2 - Lock Tab (Size 50 & 75)
VL - Lever & Pivot Ass'y
VL2 - Lever & Pivot Ass'y (Size 50 & 75)

■ Step 8

Accessories:
FM - Potting Forms.
Cannot be Used with Hoods.
Request availability information.

■ Step 9

Special Options:
Consult Sales Department

■ Step 5

Guides

- *G Phosphor Bronze Cylindrical Guides*
- K Beryllium Copper Cylindrical Guides
- *N Brass Cylindrical Guides*

Guides are not recommended for Size 104

"P" indicates two guide pins or two jackscrews (EX. JTCP)

"S" indicates two guide sockets or two jacksockets. (Ex. GS)

Jackscrew Locks

- *** J Polarized Fixed Jackscrew and Jacksocket
- JT Polarized Short Turning Jackscrew and Jacksocket
- JTC Polarized Long Turning Jackscrew and Jacksocket
- *** JTD Polarized Long Turning Mono-Jackscrew and Mono-Jacksocket for Sizes 34, 42, 50, 66, 75, and 104 only.

** JZ Same as J but with 6-32 mtg. thd. (Std. on 104)

** JTW Same as JT but with knurled round knob with internal hex (not avail. 104)

** JTV Same as JT but with knurled round knob with screwdriver slot (not avail. 104)

** JTX Same as JT but with hex knob (not avail. 104)

** JTCW Same as JTC but with knurled round knob with internal hex (not avail. 104)

** JTCU Same as JTC but with knurled round knob with screwdriver slot (not avail. 104)

** JTCX Same as JTC but with hex knob (not avail. 104)

** JTCZ Same as JTC but with prybar knob (not avail. 104)

** Request availability information.

*** Material: Nickel-plated brass - standard.

* For passivated stainless steel add SS suffix. (**Example:** MRA34SGSS)

Mounting Note: Connectors MRA 9, MRA 14, MRA 20 and MRA41 use guides or fixed jacks for mounting in a hood or on a panel. Connectors MRA 34, MRA 42, MRA 50, MRA 66, MRA 75 use four #4 machine screws, and MRA 104 uses four #6 machine screws for mounting in a hood or on a panel. Guides are not recommended for use with MRA 104.

Note: When ordering hoods, hardware and connectors separately for use with JTD Monojacks, connectors must be ordered as follows:

Pin connector = MRA34P8, MRA42P8, etc.

Socket connector = MRA34S8, MRA42S8, etc.

The number "8" indicates special housing for use with the JTD Monojack hardware (available on sizes 34, 42, 50, 66, 75 and 104).