

Military Cross Reference Chart

-- Continued from previous page



M83513 / 04 (continued)

M83513 / 04-H09C	MM-423-100-261-00Y1-900	M83513 / 04-H11P	MM-425-100-261-00Y3-900	M83513 / 04-H14N	MM-422-100-261-00Y6-900
M83513 / 04-H09N	MM-422-100-261-00Y1-900	M83513 / 04-H12C	MM-423-100-261-00Y4-900	M83513 / 04-H14P	MM-425-100-261-00Y6-900
M83513 / 04-H09P	MM-425-100-261-00Y1-900	M83513 / 04-H12N	MM-422-100-261-00Y4-900	M83513 / 04-H15C	MM-423-100-261-00Y7-900
M83513 / 04-H10C	MM-423-100-261-00Y2-900	M83513 / 04-H12P	MM-425-100-261-00Y4-900	M83513 / 04-H15N	MM-422-100-261-00Y7-900
M83513 / 04-H10N	MM-422-100-261-00Y2-900	M83513 / 04-H13C	MM-423-100-261-00Y5-900	M83513 / 04-H15P	MM-425-100-261-00Y7-900
M83513 / 04-H10P	MM-425-100-261-00Y2-900	M83513 / 04-H13N	MM-422-100-261-00Y5-900	M83513 / 04-H16C	MM-423-100-261-00Y8-900
M83513 / 04-H11C	MM-423-100-261-00Y3-900	M83513 / 04-H13P	MM-425-100-261-00Y5-900	M83513 / 04-H16N	MM-422-100-261-00Y8-900
M83513 / 04-H11N	MM-422-100-261-00Y3-900	M83513 / 04-H14C	MM-423-100-261-00Y6-900	M83513 / 04-H16P	MM-425-100-261-00Y8-900

M83513 / 05

M83513 / 05-02	00-000-000-000-4100
M83513 / 05-03	00-000-000-000-4200
M83513 / 05-05	00-000-000-000-4300
M83513 / 05-06	00-000-000-000-4400
M83513 / 05-07	00-000-000-000-2200
M83513 / 05-12	00-000-000-000-8100
M83513 / 05-13	00-000-000-000-8200
M83513 / 05-15	00-000-000-000-8300
M83513 / 05-16	00-000-000-000-8400
M83513 / 05-17	00-000-000-000-6200

M83513 / 06

M83513 / 06-A	MP-211-009-113-0000
M83513 / 06-B	MP-211-015-113-0000
M83513 / 06-C	MP-211-021-113-0000
M83513 / 06-D	MP-211-025-113-0000
M83513 / 06-E	MP-211-031-113-0000
M83513 / 06-F	MP-211-037-113-0000
M83513 / 06-G	MP-311-051-113-0000

M83513 / 07

M83513 / 07-A	MP-221-009-213-0000
M83513 / 07-B	MP-221-015-213-0000
M83513 / 07-C	MP-221-021-213-0000
M83513 / 07-D	MP-221-025-213-0000
M83513 / 07-E	MP-221-031-213-0000
M83513 / 07-F	MP-221-037-213-0000
M83513 / 07-G	MP-321-051-213-0000

M83513 / 08

M83513 / 08-A01	MP-211-009-161-00W1	M83513 / 08-C01	MP-211-021-161-00W1	M83513 / 08-E01	MP-211-031-161-00W1
M83513 / 08-A02	MP-211-009-161-00W2	M83513 / 08-C02	MP-211-021-161-00W2	M83513 / 08-E02	MP-211-031-161-00W2
M83513 / 08-A03	MP-211-009-161-00V1	M83513 / 08-C03	MP-211-021-161-00V1	M83513 / 08-E03	MP-211-031-161-00V1
M83513 / 08-A04	MP-211-009-161-00V2	M83513 / 08-C04	MP-211-021-161-00V2	M83513 / 08-E04	MP-211-031-161-00V2
M83513 / 08-A05	MP-211-009-143-0000	M83513 / 08-C05	MP-211-021-143-0000	M83513 / 08-E05	MP-211-031-143-0000
M83513 / 08-A06	MP-211-009-153-0000	M83513 / 08-C06	MP-211-021-153-0000	M83513 / 08-E06	MP-211-031-153-0000
M83513 / 08-A07	MP-211-009-145-0000	M83513 / 08-C07	MP-211-021-145-0000	M83513 / 08-E07	MP-211-031-145-0000
M83513 / 08-A08	MP-211-009-155-0000	M83513 / 08-C08	MP-211-021-155-0000	M83513 / 08-E08	MP-211-031-155-0000
M83513 / 08-A09	MP-211-009-161-00Y1	M83513 / 08-C09	MP-211-021-161-00Y1	M83513 / 08-E09	MP-211-031-161-00Y1
M83513 / 08-A10	MP-211-009-161-00Y2	M83513 / 08-C10	MP-211-021-161-00Y2	M83513 / 08-E10	MP-211-031-161-00Y2
M83513 / 08-A11	MP-211-009-161-00Y3	M83513 / 08-C11	MP-211-021-161-00Y3	M83513 / 08-E11	MP-211-031-161-00Y3
M83513 / 08-A12	MP-211-009-161-00Y4	M83513 / 08-C12	MP-211-021-161-00Y4	M83513 / 08-E12	MP-211-031-161-00Y4
M83513 / 08-A13	MP-211-009-161-00Y5	M83513 / 08-C13	MP-211-021-161-00Y5	M83513 / 08-E13	MP-211-031-161-00Y5
M83513 / 08-A14	MP-211-009-161-00Y6	M83513 / 08-C14	MP-211-021-161-00Y6	M83513 / 08-E14	MP-211-031-161-00Y6
M83513 / 08-A15	MP-211-009-161-00Y7	M83513 / 08-C15	MP-211-021-161-00Y7	M83513 / 08-E15	MP-211-031-161-00Y7
M83513 / 08-A16	MP-211-009-161-00Y8	M83513 / 08-C16	MP-211-021-161-00Y8	M83513 / 08-E16	MP-211-031-161-00Y8

M83513 / 08-B01	MP-211-015-161-00W1	M83513 / 08-D01	MP-211-025-161-00W1	M83513 / 08-F01	MP-211-037-161-00W1
M83513 / 08-B02	MP-211-015-161-00W2	M83513 / 08-D02	MP-211-025-161-00W2	M83513 / 08-F02	MP-211-037-161-00W2
M83513 / 08-B03	MP-211-015-161-00V1	M83513 / 08-D03	MP-211-025-161-00V1	M83513 / 08-F03	MP-211-037-161-00V1
M83513 / 08-B04	MP-211-015-161-00V2	M83513 / 08-D04	MP-211-025-161-00V2	M83513 / 08-F04	MP-211-037-161-00V2
M83513 / 08-B05	MP-211-015-143-0000	M83513 / 08-D05	MP-211-025-143-0000	M83513 / 08-F05	MP-211-037-143-0000
M83513 / 08-B06	MP-211-015-153-0000	M83513 / 08-D06	MP-211-025-153-0000	M83513 / 08-F06	MP-211-037-153-0000
M83513 / 08-B07	MP-211-015-145-0000	M83513 / 08-D07	MP-211-025-145-0000	M83513 / 08-F07	MP-211-037-145-0000
M83513 / 08-B08	MP-211-015-155-0000	M83513 / 08-D08	MP-211-025-155-0000	M83513 / 08-F08	MP-211-037-155-0000
M83513 / 08-B09	MP-211-015-161-00Y1	M83513 / 08-D09	MP-211-025-161-00Y1	M83513 / 08-F09	MP-211-037-161-00Y1
M83513 / 08-B10	MP-211-015-161-00Y2	M83513 / 08-D10	MP-211-025-161-00Y2	M83513 / 08-F10	MP-211-037-161-00Y2
M83513 / 08-B11	MP-211-015-161-00Y3	M83513 / 08-D11	MP-211-025-161-00Y3	M83513 / 08-F11	MP-211-037-161-00Y3
M83513 / 08-B12	MP-211-015-161-00Y4	M83513 / 08-D12	MP-211-025-161-00Y4	M83513 / 08-F12	MP-211-037-161-00Y4
M83513 / 08-B13	MP-211-015-161-00Y5	M83513 / 08-D13	MP-211-025-161-00Y5	M83513 / 08-F13	MP-211-037-161-00Y5
M83513 / 08-B14	MP-211-015-161-00Y6	M83513 / 08-D14	MP-211-025-161-00Y6	M83513 / 08-F14	MP-211-037-161-00Y6
M83513 / 08-B15	MP-211-015-161-00Y7	M83513 / 08-D15	MP-211-025-161-00Y7	M83513 / 08-F15	MP-211-037-161-00Y7
M83513 / 08-B16	MP-211-015-161-00Y8	M83513 / 08-D16	MP-211-025-161-00Y8	M83513 / 08-F16	MP-211-037-161-00Y8

PLUG: MM-212-031-161-41WA
 RECEPTACLE: MM-222-031-2G3-4500
 PLUG: MN-211-031-161-41WA
 RECEPTACLE: MN-221-031-2G3-4500
 XX-XXX-XXX-XXX-XXXX-XXX

PLUG		RECEPTACLE	
SERIES			
MM .050" Rugged Metal I/O Connector MN .050" Rugged Plastic I/O Connector (MM & MN mate with MK, ML, MM, MN receptacles)		MM .050" Rugged Metal I/O Connector MN .050" Rugged Plastic I/O Connector (MM & MN mate with MK, ML, MM, MN plugs)	
BODY			
2 2-Row (Sizes 9 thru 51****) 3 3-Row (Size 51 & 69****) 4 4-Row (Size 100)		2 2-Row (Sizes 9 thru 51****) 3 3-Row (Size 51 & 69****) 4 4-Row (Size 100)	
BODY STYLE: 1 Plug, straight, with ears		BODY STYLE: 2 Receptacle, straight, with ears	
BODY MATERIAL: 1 Polyphenylene Sulfide (MN only) 2 Polyphenylene Sulfide with electroless nickel shell 3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/> 4 Polyphenylene Sulfide with hard anodized black shell 5 Polyphenylene Sulfide with stainless steel shell		BODY MATERIAL: 1 Polyphenylene Sulfide (MN only) 2 Polyphenylene Sulfide with electroless nickel shell 3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/> 4 Polyphenylene Sulfide with hard anodized black shell 5 Polyphenylene Sulfide with stainless steel shell	
SIZE			
XXX 009, 015, 021, 025, 031, 037, 051****, 069****, 100		XXX 009, 015, 021, 025, 031, 037, 051****, 069****, 100	
CONTACTS			
TYPE CONTACTS/TERMINATIONS: 11 Pin, straight, 26 awg solder cup 1A Pin, straight, 24 awg solder cup 1D Pin, straight, .109" Lead Length (.018 dia) 1E Pin, straight, .125" Lead Length (.018 dia) 1F Pin, straight, .140" Lead Length (.018 dia) 1G Pin, straight, .156" Lead Length (.018 dia) 1H Pin, straight, .172" Lead Length (.018 dia) 1J Pin, straight, .187" Lead Length (.018 dia) 13 Pin, straight, .250" Lead Length (.018 dia) 1K Pin, straight, .375" Lead Length (.018 dia) 14 Pin, straight, .500" Lead Length (.018 dia) 15 Pin, straight, 1.000" Lead Length (.018 dia) 16 Pin, straight, crimped wire		TYPE CONTACTS/TERMINATIONS: 21 Socket, straight, 26 awg solder cup 2A Socket, straight, 24 awg solder cup 2D Socket, straight, .109" Lead Length (.018 dia) 2E Socket, straight, .125" Lead Length (.018 dia) 2F Socket, straight, .140" Lead Length (.018 dia) 2G Socket, straight, .156" Lead Length (.018 dia) 2H Socket, straight, .172" Lead Length (.018 dia) 2J Socket, straight, .187" Lead Length (.018 dia) 23 Socket, straight, .250" Lead Length (.018 dia) 2K Socket, straight, .375" Lead Length (.018 dia) 2L Socket, straight, .500" Lead Length (.018 dia) 2M Socket, straight, 1.000" Lead Length (.018 dia) 26 Socket, straight, crimped wire	
PLATING OPTIONS: 1 50 µ" Au contacts (crimp wire) 3 50 µ" Au contacts (solder cup, pigtail) 5 50 µ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/> 7 50 µ" Au contacts; SAC305 terminations		PLATING OPTIONS: 1 50 µ" Au contacts (crimp wire) 3 50 µ" Au contacts (solder cup, pigtail) 5 50 µ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/> 7 50 µ" Au contacts; SAC305 terminations	
HARDWARE			
STYLE OF HARDWARE: 00 None 22 Two fixed jacknut assemblies (62") 41 Two turning jackscrews, allen head, retaining ring (81") 42 Two long turning jackscrews, allen head, retaining ring (82") 43 Two turning jackscrews, slot head, retaining ring (83") 44 Two long turning jackscrews, slot head, retaining ring (84") 45 Two turning jackscrews, allen head, captivated** (85") 99 Keying hardware, see options below. (Body material 2, 3 and 4 only)		STYLE OF HARDWARE: 00 None 22 Two fixed jacknut assemblies (62") 41 Two turning jackscrews, allen head, retaining ring (81") 42 Two long turning jackscrews, allen head, retaining ring (82") 43 Two turning jackscrews, slot head, retaining ring (83") 44 Two long turning jackscrews, slot head, retaining ring (84") 45 Two turning jackscrews, allen head, captivated** (85") 99 Keying hardware, see options below. (Body material 2, 3 and 4 only)	
POLARIZATION / WIRING 00 None XX For wiring codes, see page MA-3 & MA-4		POLARIZATION / WIRING 00 None XX For wiring codes, see page MA-3 & MA-4	
OPTIONS			
KSXX Two turning jackscrews. See page MA-6 for keying options (KJ*) KPXX Two fixed jacknuts. See page MA-6 for keying options (KN*)		KSXX Two turning jackscrews and interfacial sealing gasket. See page MA-6 for keying options (KJ*) KPXX Two fixed jacknuts and interfacial sealing gasket. See page MA-6 for keying options (KN*) 900 Interfacial sealing gasket	

* = Use numbers or letters in parenthesis when ordering size 100.
 ** = Captive hardware is factory installed and non-removable.
 *** = 69 position connectors are available in metal only.
 **** = 2 row, 51 position connectors are available in metal only (non Mil-Spec interface).
☒ = Option not RoHS compliant



Cable to Cable

.050"

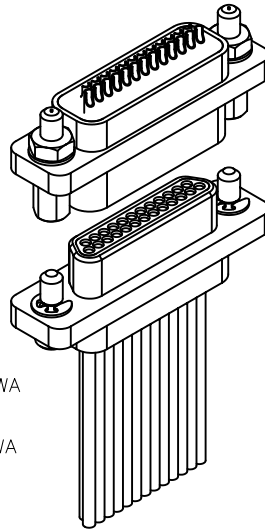
9 thru 100 Contacts

Rugged Metal

MM

Rugged Plastic

MN

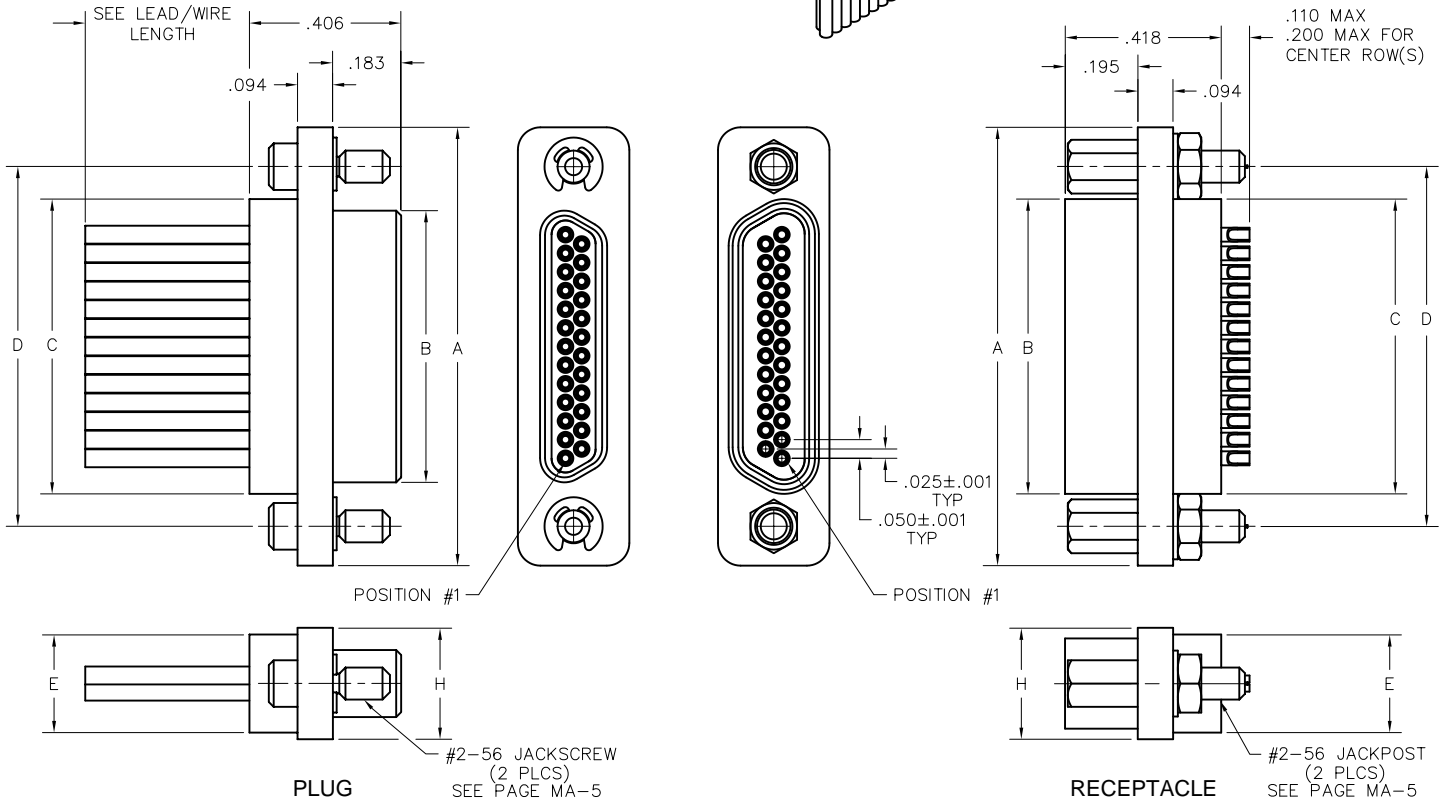


MM-223-025-2A3-2200
(METAL)

MN-221-025-2A3-2200
(PLASTIC)

MM-212-025-161-41WA
(METAL)

MN-211-025-161-41WA
(PLASTIC)



DIMENSIONS									
SIZE	CONTACT ROWS	A	B		C	D	E POTTING WELL MAX	H	HARDWARE
			PLUG MAX	RCPT MAX					
9	2	.775	.334	.400	.390	.565	.270	.298	#2-56 UNC THD (.092 DIA THRU)
15		.925	.484	.550	.540	.715			
21		1.075	.634	.700	.690	.865			
25		1.175	.734	.800	.790	.965			
31		1.325	.884	.950	.940	1.115			
37		1.475	1.034	1.100	1.090	1.265			
51**		1.825	1.384	1.450	1.440	1.615			
51	3	1.425	.984	1.050	1.040	1.215	.310	.341	#2-56 UNC THD (.092 DIA THRU)
69		1.725	1.284	1.350	1.340	1.515			
100	4	2.160	1.384	1.508	1.432	1.800	.360	.384	#4-40 UNC THD (.147 DIA THRU)

* = 69 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.

** = 2 ROW, 51 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY,
(NON MIL-SPEC INTERFACE).

PLUG: MQ- 212-031-161-41WS
RECEPTACLE: MQ- 222-031-2G3-4500
PLUG: MP- 211-031-161-41WS
RECEPTACLE: MP- 221-031-2G3-4500
 XX-XXX-XXX-XXX-XXXX-XXX

PLUG

RECEPTACLE

SERIES	
MQ .050" Low Profile Metal I/O Connector	MQ .050" Low Profile Metal I/O Connector
MP .050" Low Profile Plastic I/O Connector	MP .050" Low Profile Plastic I/O Connector
(MQ & MP mate with MP, MQ, MR, MS receptacles)	

BODY	
2 2-Row (Sizes 9 thru 37)	2 2-Row (Sizes 9 thru 37)
3 3-Row (Size 51)	3 3-Row (Size 51)
BODY STYLE:	BODY STYLE:
1 Plug, straight, with ears	2 Receptacle, straight, with ears
BODY MATERIAL:	BODY MATERIAL:
1 Polyphenylene Sulfide (MN only)	1 Polyphenylene Sulfide (MN only)
2 Polyphenylene Sulfide with electroless nickel shell	2 Polyphenylene Sulfide with electroless nickel shell
3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/>	3 Polyphenylene Sulfide with electrodeposited cadmium shell <input checked="" type="checkbox"/>
4 Polyphenylene Sulfide with hard anodized black shell	4 Polyphenylene Sulfide with hard anodized black shell

SIZE	
XXX 009, 015, 021, 025, 031, 037, 051	XXX 009, 015, 021, 025, 031, 037, 051

CONTACTS	
TYPE CONTACTS/TERMINATIONS:	TYPE CONTACTS/TERMINATIONS:
11 Pin, straight, 26 awg solder cup	21 Socket, straight, 26 awg solder cup
1A Pin, straight, 24 awg solder cup	2A Socket, straight, 24 awg solder cup
1D Pin, straight, .109" Lead Length (.018 dia) SEE NOTE 1	2D Socket, straight, .109" Lead Length (.018 dia)
1E Pin, straight, .125" Lead Length (.018 dia) SEE NOTE 1	2E Socket, straight, .125" Lead Length (.018 dia)
1F Pin, straight, .140" Lead Length (.018 dia) SEE NOTE 1	2F Socket, straight, .140" Lead Length (.018 dia)
12 Pin, straight, .150" Lead Length (.018 dia) SEE NOTE 1	22 Socket, straight, .150" Lead Length (.018 dia)
1G Pin, straight, .156" Lead Length (.018 dia) SEE NOTE 1	2G Socket, straight, .156" Lead Length (.018 dia)
1H Pin, straight, .172" Lead Length (.018 dia) SEE NOTE 1	2H Socket, straight, .172" Lead Length (.018 dia)
1J Pin, straight, .187" Lead Length (.018 dia) SEE NOTE 1	2J Socket, straight, .187" Lead Length (.018 dia)
13 Pin, straight, .250" Lead Length (.018 dia) SEE NOTE 1	23 Socket, straight, .250" Lead Length (.018 dia)
1K Pin, straight, .375" Lead Length (.018 dia) SEE NOTE 1	2K Socket, straight, .375" Lead Length (.018 dia)
14 Pin, straight, .500" Lead Length (.018 dia) SEE NOTE 1	2L Socket, straight, .500" Lead Length (.018 dia)
15 Pin, straight, 1.000" Lead Length (.018 dia) SEE NOTE 1	2M Socket, straight, 1.000" Lead Length (.018 dia)
16 Pin, straight, crimped wire	24 Socket, straight, .500" Lead Length (.018 dia) SEE NOTE 1
	25 Socket, straight, 1.000" Lead Length (.018 dia) SEE NOTE 1
	26 Socket, straight, crimped wire
PLATING OPTIONS:	PLATING OPTIONS:
1 50 μ" Au contacts (crimp wire)	1 50 μ" Au contacts (crimp wire)
3 50 μ" Au contacts (solder cup, pigtail)	3 50 μ" Au contacts (solder cup, pigtail)
5 50 μ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/>	5 50 μ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/>
7 50 μ" Au contacts; SAC305 terminations	7 50 μ" Au contacts; SAC305 terminations

HARDWARE	
STYLE OF HARDWARE:	STYLE OF HARDWARE:
00 None	00 None
22 Two fixed jacknut assemblies (62°)	22 Two fixed jacknut assemblies (62°)
41 Two turning jackscrews, allen head, retaining ring (81°)	41 Two turning jackscrews, allen head, retaining ring (81°)
42 Two long turning jackscrews, allen head, retaining ring (82°)	42 Two long turning jackscrews, allen head, retaining ring (82°)
43 Two turning jackscrews, slot head, retaining ring (83°)	43 Two turning jackscrews, slot head, retaining ring (83°)
44 Two long turning jackscrews, slot head, retaining ring (84°)	44 Two long turning jackscrews, slot head, retaining ring (84°)
45 Two turning jackscrews, allen head, captivated** (85°)	45 Two turning jackscrews, allen head, captivated** (85°)
99 Keying hardware, see options below. (Body material 2, 3 and 4 only)	99 Keying hardware, see options below. (Body material 2, 3 and 4 only)
POLARIZATION / WIRING	POLARIZATION / WIRING
00 None	00 None
XX For wiring codes, see page MA-3 & MA-4	XX For wiring codes, see page MA-3 & MA-4

OPTIONS	
KSXX Two turning jackscrews. See page MA-6 for keying options	KSXX Two turning jackscrews and interfacial sealing gasket. See page MA-6 for keying options
KPXX Two fixed jacknuts. See page MA-6 for keying options	KPXX Two fixed jacknuts and interfacial sealing gasket. See page MA-6 for keying options

** = Captive hardware is factory installed and non-removable.

☒ = Option not RoHS compliant

NOTE 1 = The leads on these contacts are soft copper suitable for forming.



Cable to Cable

.050"

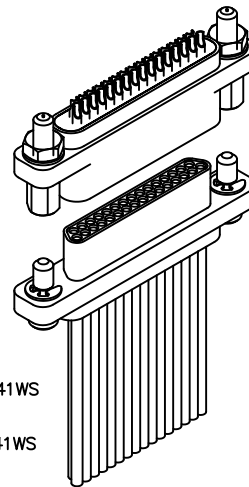
9 thru 51 Contacts

Low Profile Metal

MQ

Low Profile Plastic

MP



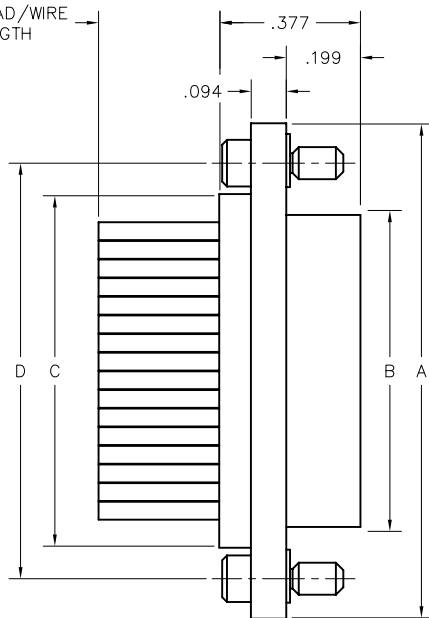
MQ-222-031-2A3-2200
(METAL)

MP-221-031-2A3-2200
(PLASTIC)

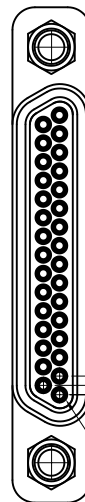
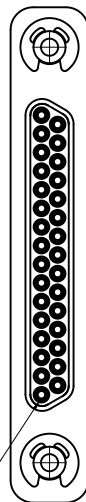
MQ-212-031-161-41WS
(METAL)

MP-211-031-161-41WS
(PLASTIC)

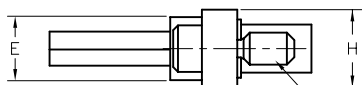
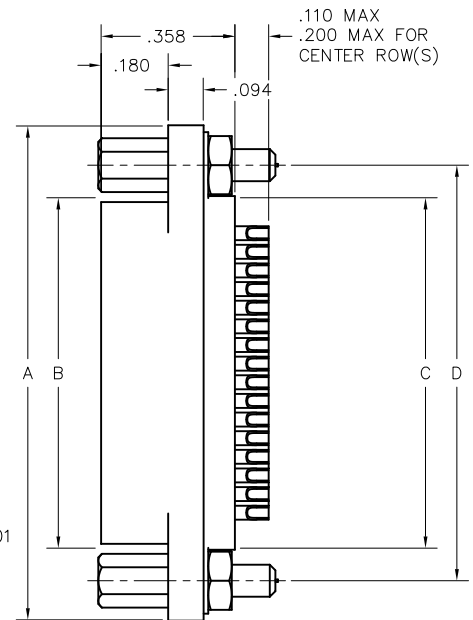
SEE LEAD/WIRE
LENGTH



POSITION #1

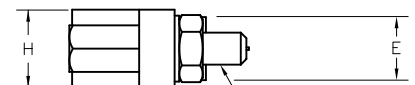


POSITION #1



PLUG

#2-56 JACKSCREW
(2 PLCS)
SEE PAGE MA-5



RECEPTACLE

#2-56 JACKPOST
(2 PLCS)
SEE PAGE MA-5

DIMENSIONS									
SIZE	CONTACT ROWS	A	B		C	D	E	H	HARDWARE
			PLUG MAX	RCPT MAX			POTTING WELL MAX		
9	2	.778	.292	.378	.398	.565	.173	.208	#2-56 UNC THD (.092 DIA THRU)
15		.928	.442	.528	.548	.715			
21		1.078	.592	.678	.698	.865			
25		1.178	.692	.778	.798	.965			
31		1.328	.842	.928	.948	1.115			
37		1.478	.992	1.078	1.098	1.265			
51	3	1.428	.942	1.028	1.048	1.215	.220	.250	