



# Cable to Cable (Rear Panel Mount)

.050"

9 thru 100 Contacts

Rugged Metal

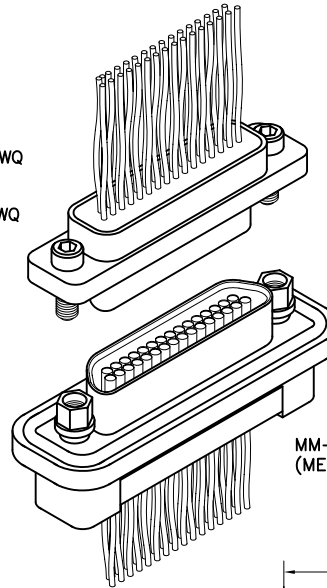
**MM**

Rugged Plastic

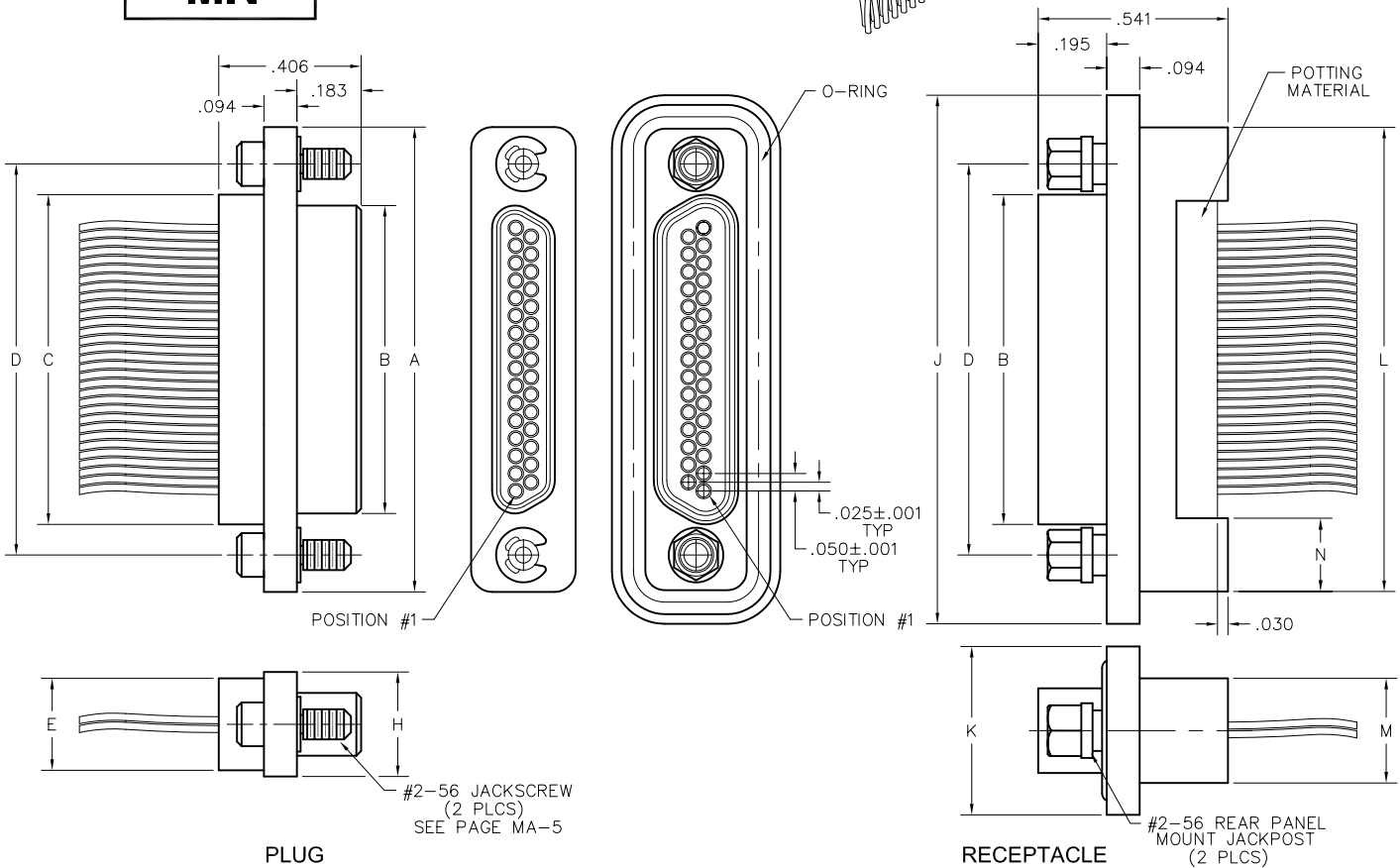
**MN**

MM-212-031-161-41WQ  
(METAL)

MN-211-031-161-41WQ  
(PLASTIC)



MM-2C2-031-261-26WA-EMI  
(METAL)



SIZE	CONTACT ROWS	DIMENSIONS																		
		A	B		C	D	E	H	HARDWARE	J	K	L	M	N						
			PLUG MAX	RCPT MAX											POTTING WELL MAX					
9	2	.775	.334	.400	.390	.565	.270	.298	#2-56 UNC THD (.092 DIA THRU)	.480	.773	.298	.210							
15		.925	.484	.550	.540	.715								.270	.298	#2-56 UNC THD (.092 DIA THRU)	.480	.773	.298	.210
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	3	1.425	.984	1.050	1.040	1.215	.310	.341	#2-56 UNC THD (.092 DIA THRU)	.523	1.477	.440	.239							
69*		1.725	1.284	1.350	1.340	1.515														
100		2.160	1.384	1.508	1.432	1.800								.360	.384	#4-40 UNC THD (.147 DIA THRU)	.600	2.219	.515	.301

\* = 69 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.

**PLUG:** MM-212-031-161-41WQ  
**RECEPTACLE:** MM-2C2-031-261-26WA-EMI  
**PLUG:** MN-211-031-161-41WQ  
**RECEPTACLE:** MM-2C2-031-261-26WA-EMI  
 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 (MM mates with MK, ML, MM, MN plugs)
--	---

**BODY**

2 2-Row (Sizes 9 thru 37) 3 3-Row (Size 51 or 69) 4 4-Row (Size 100)	2 2-Row (Sizes 9 thru 37) 3 3-Row (Size 51 or 69) 4 4-Row (Size 100)
--	--

<b>BODY STYLE:</b> 1 Plug, straight, with ears	<b>BODY STYLE:</b> C Receptacle, straight, rear panel mount, with fluorosilicone o-ring and interfacial seal
---	---

<b>BODY MATERIAL:</b> 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	<b>BODY MATERIAL:</b> 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
--	---

**SIZE**

XXX 009, 015, 021, 025, 031, 037, 051, 069, 100	XXX 009, 015, 021, 025, 031, 037, 051, 069, 100
---	---

**CONTACTS**

<b>TYPE CONTACTS/TERMINATIONS:</b> 11 Pin, straight, 26 awg solder cup 1A Pin, straight, 24 awg solder cup 14 Pin, straight, .500" pigtails (.018 dia) 15 Pin, straight, 1.000" pigtails (.018 dia) 16 Pin, straight, crimped wire	<b>TYPE CONTACTS/TERMINATIONS:</b> 21 Socket, straight, 26 awg solder cup 2A Socket, straight, 24 awg solder cup 24 Socket, straight, .500" pigtails (.018 dia) 25 Socket, straight, 1.000" pigtails (.018 dia) 26 Socket, straight, crimped wire
---	--

<b>PLATING OPTIONS:</b> 1 50 μ" Au contacts (crimp wire) 3 50 μ" Au contacts: 10 μ" Au terminations (solder cup, pigtail) 5 50 μ" Au contacts; Sn/Pb alloy terminations (pigtail) <input checked="" type="checkbox"/> 7 50 μ" Au contacts; SAC305 terminations (pigtail)	<b>PLATING OPTIONS:</b> 1 50 μ" Au contacts (crimp wire) 3 50 μ" Au contacts: 10 μ" Au terminations (solder cup, pigtail) 5 50 μ" Au contacts; Sn/Pb alloy terminations (pigtail) <input checked="" type="checkbox"/> 7 50 μ" Au contacts; SAC305 terminations (pigtail)
--	--

**HARDWARE**

<b>STYLE OF HARDWARE:</b> 00 None 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*)	<b>STYLE OF HARDWARE:</b> 00 None 24 Two fixed jacknuts, rear panel mount, .040" panel thickness (64*) 26 Two fixed jacknuts, rear panel mount, .060" panel thickness (66*) 28 Two fixed jacknuts, rear panel mount, .070" panel thickness (68*) 29 Two fixed jacknuts, rear panel mount, .080" panel thickness (69*)
---	--

<b>POLARIZATION / WIRING:</b> 00 None XX For wiring codes, see page MA-3 & MA-4	<b>POLARIZATION / WIRING</b> 00 None XX For wiring codes, see page MA-3 & MA-4
---	--

**OPTIONS**

EMI EMI o-ring (in lieu of fluorosilicone o-ring)
---

\* = Use number in parenthesis when ordering size 100.  
 \*\* = Captive hardware is factory installed and non-removable.  
 = Option not RoHS compliant

## Performance - Rear Panel Mount Connectors

<b>Contact Rating:</b>	3-amperes maximum
<b>Solderability:</b>	Terminals (except crimp) tested in accordance with MIL-STD-202, Method 208
<b>Wire Size:</b>	Stranded #26 AWG or solid #25 AWG standard (consult factory for other sizes and types)
<b>Test Voltage:</b>	600 V, RMS, 60 Hz
<b>Operating Temperature:</b>	-55° C to +125° C
<b>Insulation Resistance:</b>	5,000 megohms minimum @ 500 VDC
<b>Durability:</b>	500 connector mating cycles
<b>Vibration:</b>	Tested in accordance with MIL-STD-1344, Method 2005, Condition IV, according to MIL-83513
<b>Shock:</b>	Tested in accordance with MIL-STD-1344, Method 2004, Condition E, according to MIL-83513
<b>Salt Spray:</b>	Mated connectors tested in accordance with MIL-STD-1344, Method 1001, Test Condition B
<b>Humidity:</b>	Mated connectors tested in accordance with MIL-STD-1344, Method 1002, Type II (except steps 7a and 7b)
<b>Thermal Shock:</b>	Tested to the temperature extremes of MIL-STD-1344, Method 1003, Test Condition A (except step 3, temperature shall be 125° C)
<b>Contact Resistance:</b>	0.065 volt maximum drop @ 2.5 amps (.026 ohms)
<b>Contact Engaging Force:</b>	6.0 ounce maximum, with .0221 diameter test sleeve
<b>Contact Separating Force:</b>	0.5 ounce minimum, with .0230 diameter test sleeve
<b>Crimp Strength:</b>	5 pound minimum tensile strength
<b>Sealing:</b>	When mated, AirBorn rear panel mount connectors provide an environmental seal to water, moisture and certain chemicals as well as a dust and dirt barrier.

# Specifications - Rear Panel Mount Connectors

## Materials and Finishes \*

<b>Contacts:</b>	Pins: BeCu alloy strip per ASTM B194 Sockets: Brass per ASTM B121 / B121M or ASTM B453
<b>Contact Finish:</b>	Gold plate per ASTM B488
<b>Shells:</b>	Aluminum Alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
<b>Aluminum Shell Finishes:</b>	Electroless Nickel per SAE AMS2404 Electrodeposited Cadmium per SAE AMS-QQ-P-416 Black Anodized per MIL-A-8625
<b>Molded Insulators:</b>	Glass filled polyphenylene sulfide per MIL-M-24519
<b>Embedment:</b>	Insulating compound per MIL-I-16923
<b>Jackscrows, Jackposts and Nuts:</b>	Corrosion resistant steel per ASTM A320 or ASTM A484 / A484M and ASTM A582 / A582M Passivated per SAE AMS2700
<b>Clips and Washers:</b>	Corrosion resistant steel per ASME 18.24 or NASM35333 Passivated per ASME 18.24 or NASM35333
<b>Gaskets:</b>	Interfacial: Fluorosilicone per SAE AMS-R-25988 Flange: Fluorosilicone per SAE AMS-R-25988 Flange EMI: Conductive Elastomer per MIL-DTL-83528, Type D
<b>Tolerances:</b>	Unless otherwise specified: Fractions = $\pm 1/64$ " Decimals = $\pm .010$ " Angles = $\pm 5^\circ$ Wire lengths: insulated/stranded = $+1.0"/-0.0$ " uninsulated/solid = $+0.2"/-0.0$ "

Note: AirBorn can manufacture special configurations for your exact specifications.

\* = Reference the above listed specifications or an equivalent industry standard when applicable

## Wire Codes

### SAE AS22759/11-24

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	5A	5B	5C	5D	5E	5F	5G	5H	5J	5K	5L	5M	5N	5P	5Q	5R
MIL-STD-681*	CA	CB	CC	CD	CE	CF	CG	CH	CJ	CK	CL	CM	CN	CP	CQ	CR
WHITE	DA	DB	DC	DD	DE	DF	DG	DH	DJ	DK	DL	DM	DN	DP	DQ	DR

### SAE AS22759/11-26

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	6A	6B	V1	6D	6E	V2	6G	6H	6J	6K	6L	Y6	6N	6P	6Q	6R
MIL-STD-681*	X3	X4	W3	ED	EE	W4	EG	EH	EJ	EK	EL	EM	EN	EP	EQ	ER
WHITE	X1	X2	W1	FD	FE	W2	FG	FH	FJ	FK	FL	Y5	FN	FP	FQ	FR

### SAE AS22759/33-24\*\*\* ☒

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	LA	LB	LC	LD	LE	LF	LG	LH	LJ	LK	LL	LM	LN	LP	LQ	LR
WHITE	MA	MB	MC	MD	ME	MF	MG	MH	MJ	MK	ML	MM	MN	MP	MQ	MR

### SAE AS22759/33-26\*\*\* ☒

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	NA	NB	Y3	ND	NE	Y4	NG	NH	NJ	NK	NL	Y8	NN	NP	NQ	NR
WHITE	PA	PB	Y1	PD	PE	Y2	PG	PH	PJ	PK	PL	Y7	PN	PP	PQ	PR

\* = Connectors with more than 100 contacts will repeat color code after 100 colors.

\*\* = Wire colors per M83513 are ten solid colors repeating.

\*\*\* = Per M83513, corrosion has been experienced on connectors that are pre-wired with 22759/33 and stored in sealed environments.

Caution should be exercised when using this wire.

☒ = Option not RoHS compliant

## Wire Codes

### NEMA HP3-EXBEB (Formerly M16878/4-24 TFE 7 strand)

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	WA	WB	WC	UD	UE	WD	UG	UH	UJ	UK	UL	UM	UN	UP	UQ	UR
WHITE	WE	WF	WG	VD	VE	WH	VG	VH	VJ	VK	VL	VM	VN	VP	VQ	VR
YELLOW	WJ	WK	WL			WM										

### NEMA HP3-EXBDB (Formerly M16878/4-26 TFE 7 strand)

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	WN	WP	WQ	YD	YE	WR	YG	YH	YJ	YK	YL	YM	YN	YP	YQ	YR
WHITE	WS	WT	WU	ZD	ZE	WV	ZG	ZH	ZJ	ZK	ZL	ZM	ZN	ZP	ZQ	ZR
YELLOW	WW	WX	WY			WZ										

### NEMA HP3-EXBCB (Formerly M16878/4-28 TFE 7 strand)

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	XA	XB	XC	1D	1E	XD	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R
WHITE	XE	XF	XG	2D	2E	XH	2G	2H	2J	2K	2L	2M	2N	2P	2Q	2R
YELLOW	XJ	XK	XL			XM										

### TWISTED PAIR per NEMA WC27500-XXRC2U00 (SAE AS22759/11)

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
24 AWG	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR
26 AWG	BA	BB	BC	BD	BE	BF	BG	BH	BJ	BK	BL	BM	BN	BP	BQ	BR

### TWISTED PAIR per NEMA WC27500-XXSC2U00 (SAE AS22759/33)\*\*\* ☒

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
24 AWG	JA	JB	JC	JD	JE	JF	JG	JH	JJ	JK	JL	JM	JN	JP	JQ	JR
26 AWG	KA	KB	KC	KD	KE	KF	KG	KH	KJ	KK	KL	KM	KN	KP	KQ	KR

For twisted pair wire connect charts, see page MA-9  
Twisted pair wire not available on MA, MC or Hybrid connectors

\* = Connectors with more than 100 contacts will repeat color code after 100 colors.

\*\*\* = Per M83513, corrosion has been experienced on connectors that are pre-wired with 22759/33 and stored in sealed environments.  
Caution should be exercised when using this wire.

☒ = Option not RoHS compliant

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## AirBorn:

[MM-212-015-113-0000](#) [MM-212-015-1A3-0000](#) [MM-412-100-113-0000](#) [MM-213-015-113-0000](#) [MM-212-015-145-0000](#) [MM-212-015-153-0000](#) [MM-212-037-113-0000](#) [MM-212-037-1A3-0000](#) [MM-213-031-1A3-0000](#) [MM-312-051-1A3-0000](#) [MM-312-069-113-0000](#) [MM-312-069-1A3-0000](#) [MM-212-009-113-0000](#) [MM-213-009-113-0000](#)