

Cable to Board (Rear Panel Mount)

.050"

9 thru 100 Contacts

Rugged Board Mount

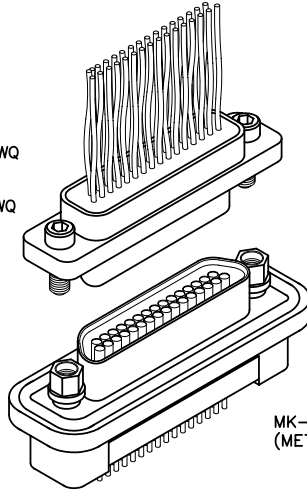
MK

Rugged Cable

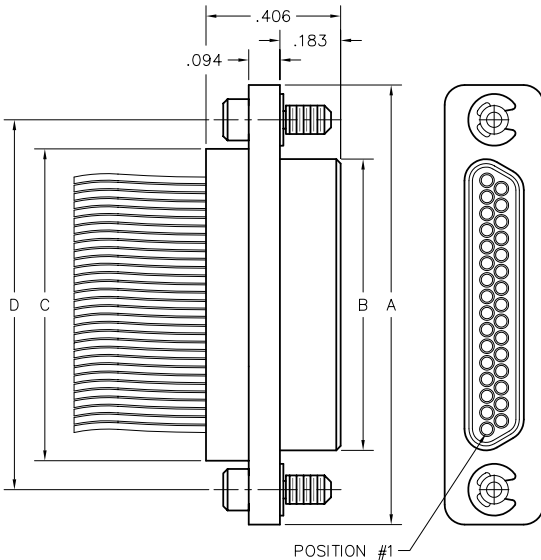
MM, MN

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

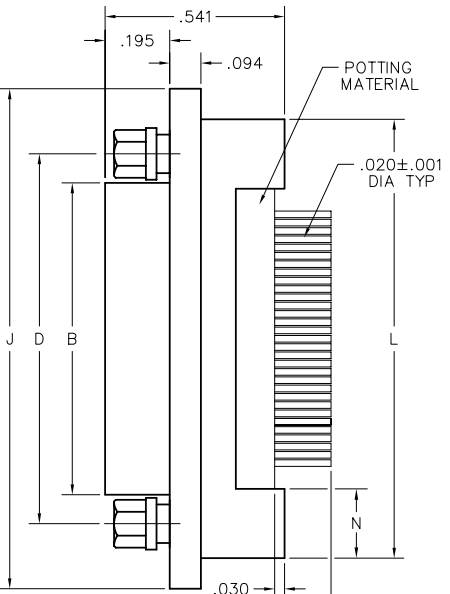
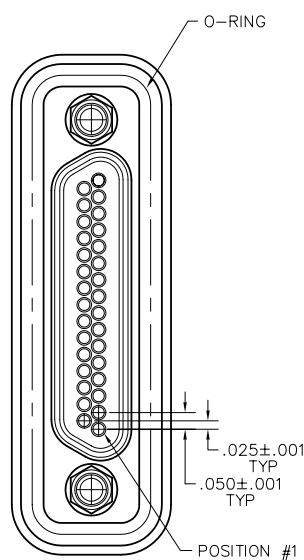
MN-211-031-161-41WQ
(PLASTIC)



MK-2C2-031-235-2600
(METAL)



PLUG



RECEPTACLE

#2-56 REAR PANEL MOUNT JACKPOST (2 PLCS)

DIMENSIONS														
SIZE	CONTACT ROWS	A	B		C	D	E	H	HARDWARE	J	K	L	M	N
			PLUG MAX	RCPT MAX										
9	2	.775	.334	.400	.390	.565	.270	.298	#2-56 UNC THD (.092 DIA THRU)	.957	.480	.773	.298	.210
15		.925	.484	.550	.540	.715				1.107		.923		
21		1.075	.634	.700	.690	.865				1.257		1.073		
25		1.175	.734	.800	.790	.965				1.357		1.173		
31		1.325	.884	.950	.940	1.115				1.507		1.323		
37		1.475	1.034	1.100	1.090	1.265				1.657		1.473		
51	3	1.425	.984	1.050	1.040	1.215	.310	.341	1.657	.523	1.477	.440	.239	
69*		1.725	1.284	1.350	1.340	1.515					1.957			1.777
100	4	2.160	1.384	1.508	1.432	1.800	.360	.384	#4-40 UNC THD (.147 DIA THRU)	2.383	.600	2.219	.515	.301

* = 69 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.

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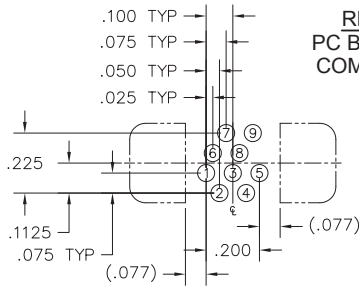
PLUG: MM-212-031-161-41WQ
RECEPTACLE: MK-2C2-031-235-2600-EMI
PLUG: MN-211-031-161-41WQ
RECEPTACLE: MK-2C2-031-235-2600-EMI
XX-XXX-XXX-XXX-XXXX-XXX

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)		MK .050" Rugged Metal PC Board Mount Connector (MK mates with MK, ML, MM, MN plugs)	
BODY			
2 2-Row (Sizes 9 thru 37)	3 3-Row (Size 51 or 69)	2 2-Row (Sizes 9 thru 37)	3 3-Row (Size 51 or 69)
3 3-Row (Size 51 or 69)	4 4-Row (Size 100)	4 4-Row (Size 100)	
BODY STYLE: 1 Plug, straight, with ears		BODY STYLE: C Receptacle, straight, standard footprint, rear panel mount with fluorosilicone o-ring and interfacial seal	
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		BODY MATERIAL: 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			
TYPE CONTACTS/TERMINATIONS: 11 Pin, straight, solder cup 14 Pin, straight, .500" pigtails (.018 dia) 15 Pin, straight, 1.000" pigtails (.018 dia) 16 Pin, straight, crimped wire		TYPE CONTACTS/TERMINATIONS: 22 Socket, straight, PCB leads, .109" 23 Socket, straight, PCB leads, .140" 24 Socket, straight, PCB leads, .172"	
PLATING OPTIONS: 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)		PLATING OPTIONS: 3 50 μ" Au contacts; 10 μ" Au terminations 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 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*)		STYLE OF HARDWARE: 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*)	
POLARIZATION / WIRING: 00 None XX For wiring codes, see page MA-3 & MA-4		POLARIZATION / WIRING: 00 None	
OPTIONS			
		EMI EMI o-ring (in lieu of fluorosilicone o-ring)	

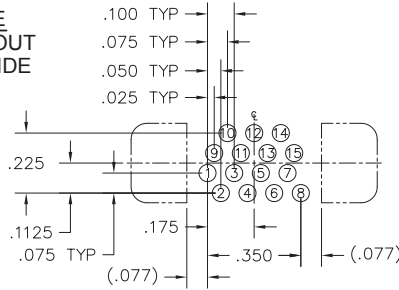
* = Use number in parenthesis when ordering size 100.
** = Captive hardware is factory installed and non-removable.
 = Option not RoHS compliant

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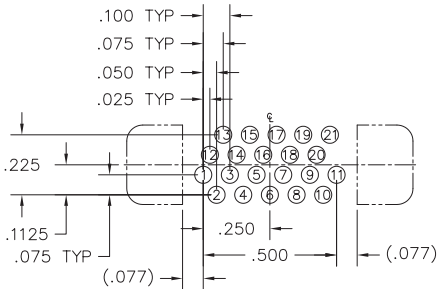
**RECEPTACLE
PC BOARD LAYOUT
COMPONENT SIDE**



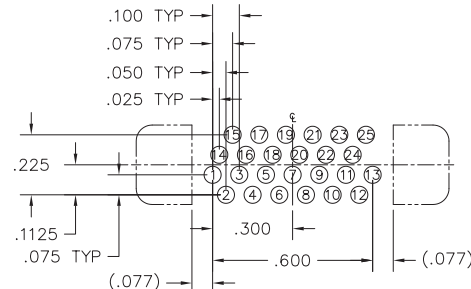
9 POSITION



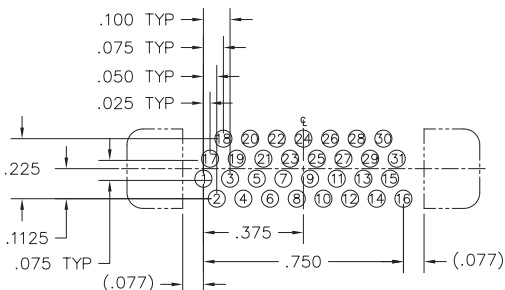
15 POSITION



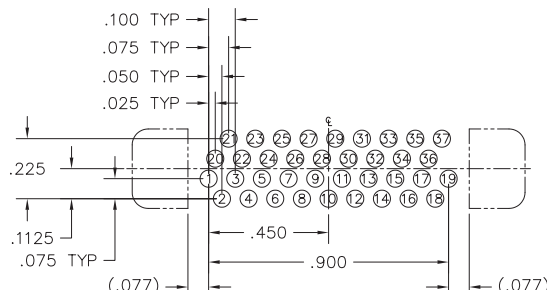
21 POSITION



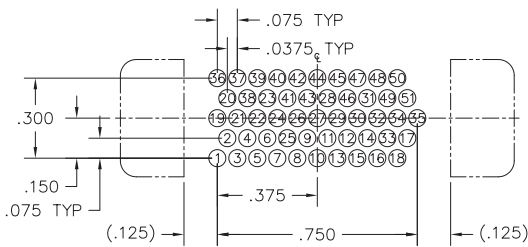
25 POSITION



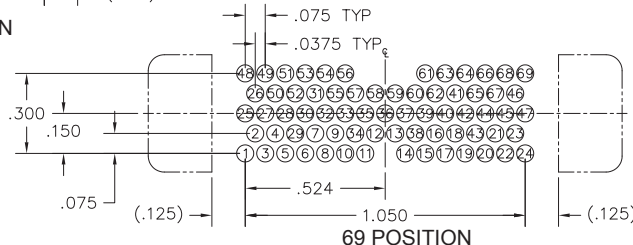
31 POSITION



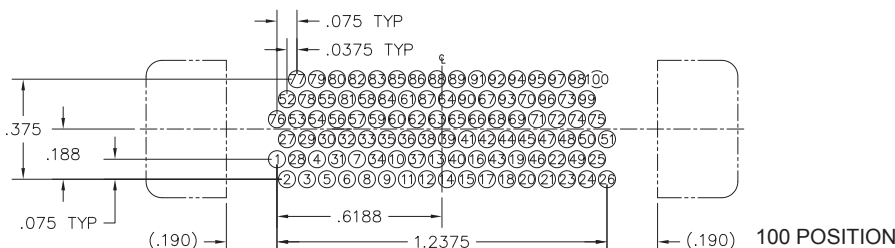
37 POSITION



51 POSITION



69 POSITION



100 POSITION

**Recommended PC
Board Layout**
Straight, Standard Footprint

**CONNECTOR
MATING FACE
(RECEPTACLE)**



9 POSITION



15 POSITION



21 POSITION



25 POSITION



31 POSITION



37 POSITION



51 POSITION



69 POSITION



100 POSITION

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Mating Matrix for AirBorn "M" Series Connectors

RECEPTACLES

P L U G S	MA (Strip)	MC (Circular)	MM (Hybrid)	MK (Metal) PC Board	ML (Plastic) PC Board	MM (Metal) I/O	MN (Plastic) I/O	MP (Plastic) I/O	MQ (Metal) I/O	MR (Plastic) PC Board	MS (Metal) PC Board	
	MA (Strip)	XX										
	MC (Circular)		XX									
	MM (Hybrid)			XX								
	MK (Metal) PC Board				BB	BB	BI	BI				
	ML (Plastic) PC Board				BB	BB	BI	BI				
	MM (Metal) I/O				IB	IB	II	II				
	MN (Plastic) I/O				IB	IB	II	II				
	MP (Plastic) I/O								II	II	IB	IB
	MQ (Metal) I/O								II	II	IB	IB
	MR (Plastic) PC Board								BI	BI	BB	BB
MS (Metal) PC Board								BI	BI	BB	BB	

I/O Connectors

MM-MN-MP-MQ

PC Board Mounted Connectors

MK-ML-MR-MS

Inter-mateable Connectors

MK-ML-MM-MN
MP-MQ-MR-MS

KEY:

BB = PC Board Mounted Plug with PC Board Mounted Receptacle

BI = PC Board Mounted Plug with I/O Receptacle

IB = I/O Plug with PC Board Mounted Receptacle

II = I/O Plug with I/O Receptacle

For Military Configurations, See pages MIL-1 thru MIL-22

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Specifications - Rear Panel Mount Connectors Materials and Finishes *

Contacts:	Pins: BeCu alloy strip per ASTM B194 Sockets: Brass per ASTM B121 / B121M or ASTM B453
Contact Finish:	Gold plate per ASTM B488
Shells:	Aluminum Alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Aluminum Shell Finishes:	Electroless Nickel per SAE AMS2404 Electrodeposited Cadmium per SAE AMS-QQ-P-416 Black Anodized per MIL-A-8625
Molded Insulators:	Glass filled polyphenylene sulfide per MIL-M-24519
Embedment:	Insulating compound per MIL-I-16923
Jackscrews, Jackposts and Nuts:	Corrosion resistant steel per ASTM A320 or ASTM A484 / A484M and ASTM A582 / A582M Passivated per SAE AMS2700
Clips and Washers:	Corrosion resistant steel per ASME 18.24 or NASM35333 Passivated per ASME 18.24 or NASM35333
Gaskets:	Interfacial: Fluorosilicone per SAE AMS-R-25988 Flange: Fluorosilicone per SAE AMS-R-25988 Flange EMI: Conductive Elastomer per MIL-DTL-83528, Type D
Tolerances:	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

Performance - Rear Panel Mount Connectors

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