

**Board SMT
to Cable**

.050"
9 thru 51 Contacts

Rugged Metal

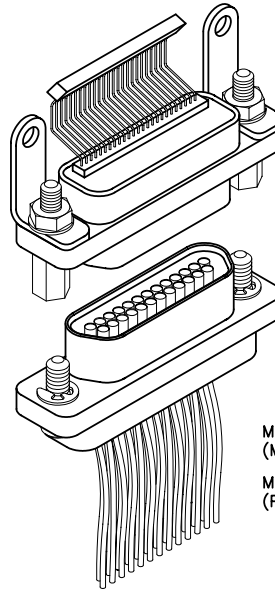
MM

Rugged Plastic

MN

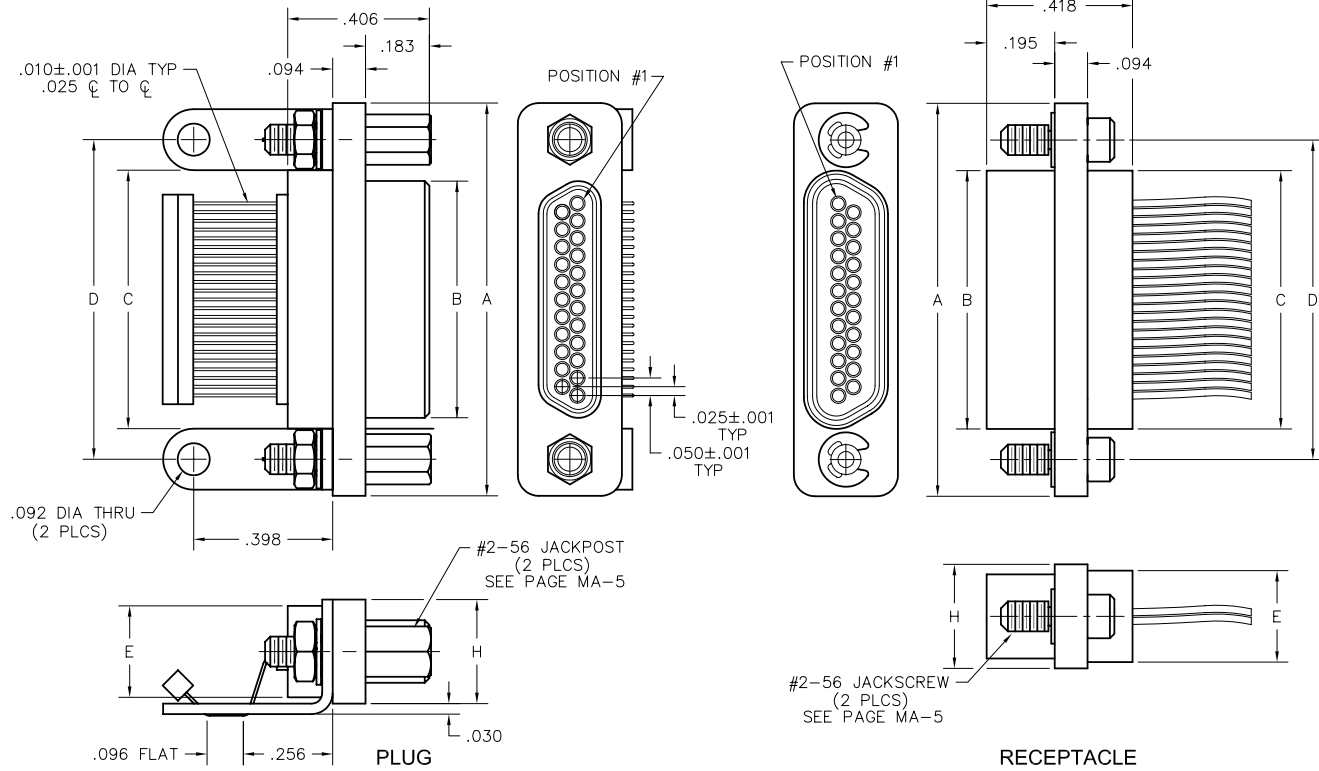
MM-212-025-175-320S
(METAL)

MN-211-025-175-320S
(PLASTIC)



MM-222-025-261-41WQ
(METAL)

MN-221-025-261-41WQ
(PLASTIC)



SIZE	CONTACT ROWS	DIMENSIONS							
		A	B		C	D	E	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 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.

— CLICK HERE —

REQUEST QUOTE

www.geminelec.com

PAGE 1 OF 7 PAGES

(800) 882-6414 | sales@geminelec.com



PLUG: MM-212-025-175-320S
RECEPTACLE: MM-222-025-261-41WQ
PLUG: MN-211-025-175-320S
RECEPTACLE: MN-221-025-261-41WQ
 XX-XXX-XXX-XXX-XXXX-XXX

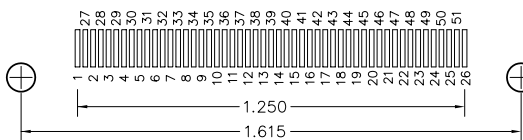
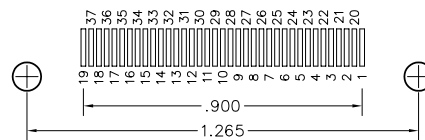
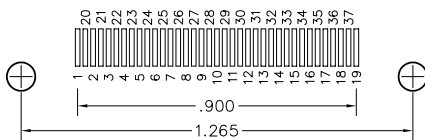
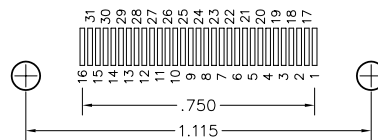
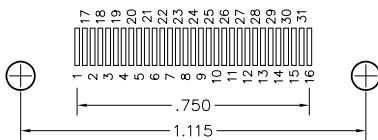
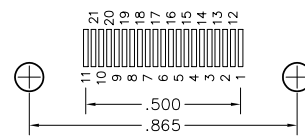
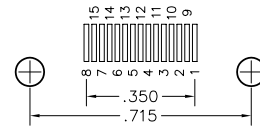
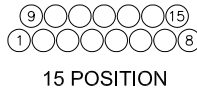
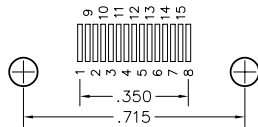
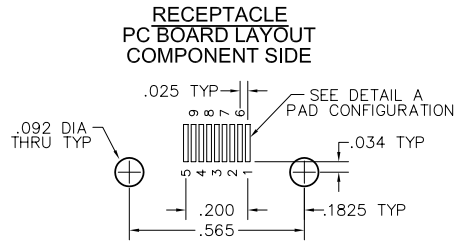
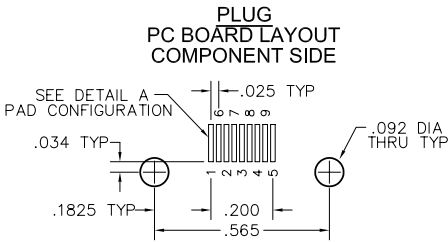
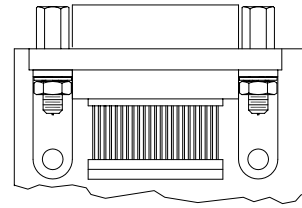
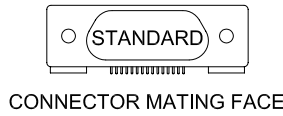
PLUG		RECEPTACLE	
SERIES			
MM .050" Rugged Metal PC Board Mount, SMT Connector	MN .050" Rugged Metal I/O Connector	MN .050" Rugged Plastic I/O Connector	
MN .050" Rugged Plastic PC Board Mount, SMT Connector (MM & MN mate with MK, ML, MM, MN receptacles)	(MM & MN mate with MK, ML, MM, MN plugs)		
BODY			
2 2-Row (Sizes 9 thru 51***)	2 2-Row (Sizes 9 thru 51***)		
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***	XXX 009, 015, 021, 025, 031, 037, 051***		
CONTACTS			
TYPE CONTACTS/TERMINATIONS: 17 Pin, Surface Mount		TYPE CONTACTS/TERMINATIONS: 21 Socket, straight, solder cup 24 Socket, straight, .500" pigtailed (.018 dia) 25 Socket, straight, 1.000" pigtailed (.018 dia) 26 Socket, straight, crimped wire	
PLATING OPTIONS: 5 50 μ" Au contacts; Sn/Pb alloy terminations <input checked="" type="checkbox"/> 8 50 μ" Au contacts; Sn plated terminations		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)	
HARDWARE			
STYLE OF HARDWARE: 00 None 32 Two fixed jacknut assemblies with mounting bracket 46 Two turning jackscrews, allen head, captivated** with mounting bracket		STYLE OF HARDWARE: 00 None 22 Two fixed jacknut assemblies 41 Two turning jackscrews, allen head, retaining ring 42 Two long turning jackscrews, allen head, retaining ring 43 Two turning jackscrews, slot head, retaining ring 44 Two long turning jackscrews, slot head, retaining ring 45 Two turning jackscrews, allen head, captivated**	
POLARIZATION / WIRING: 0R Reverse Body Polarization 0S Standard Body Polarization		POLARIZATION / WIRING: 00 None XX For wiring codes, see page MA-3 & MA-4	
OPTIONS			
	900 Interfacial sealing gasket		

** = Captive hardware is factory installed and non-removable.
 *** = 51 position connectors are available in metal only (non Mil-Spec interface).
 = Option not RoHS compliant

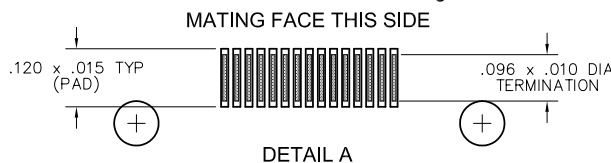
— CLICK HERE —

Recommended PC Board Layout

Surface Mount
Standard Polarization



* For pin (plug) connectors, the contact numbers are reversed left to right.



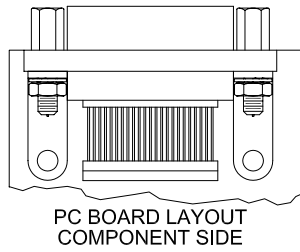
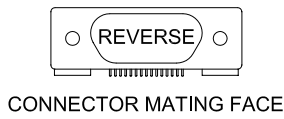
— CLICK HERE —

REQUEST QUOTE

www.geminelec.com

PAGE 3 OF 7 PAGES

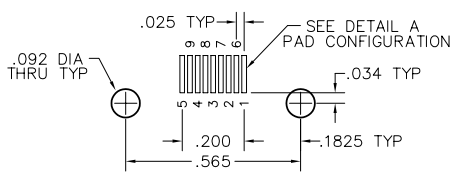
(800) 882-6414 | sales@geminelec.com



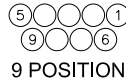
Recommended PC Board Layout

Surface Mount
Reverse Polarization

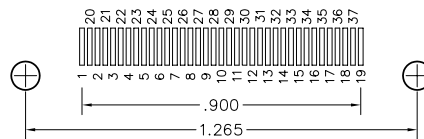
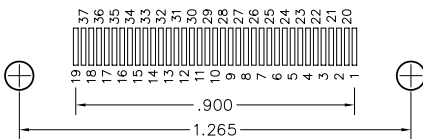
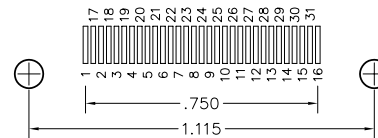
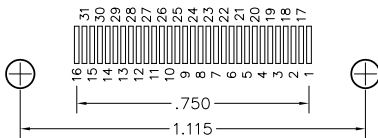
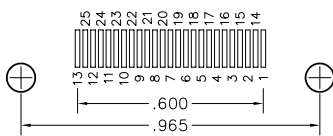
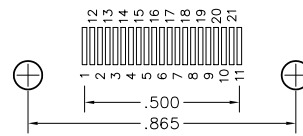
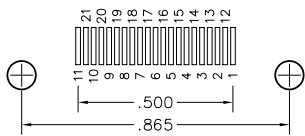
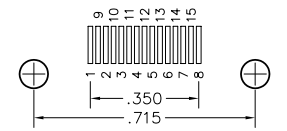
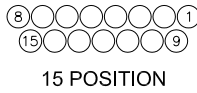
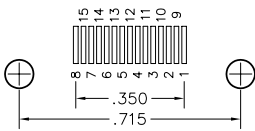
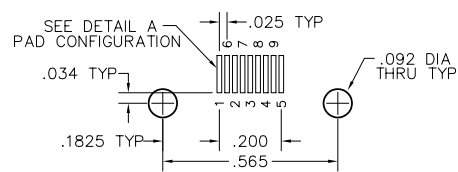
**PLUG
PC BOARD LAYOUT
COMPONENT SIDE**



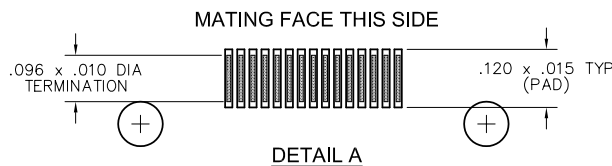
**CONNECTOR
MATING FACE*
(RECEPTACLE)**



**RECEPTACLE
PC BOARD LAYOUT
COMPONENT SIDE**



* For pin (plug) connectors, the contact numbers are reversed left to right.



— CLICK HERE —

REQUEST QUOTE

www.geminelec.com

PAGE 4 OF 7 PAGES

(800) 882-6414 | sales@geminelec.com

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

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

— CLICK HERE —

REQUEST QUOTE

Specifications - Surface Mount Connectors Materials and Finishes *

Contacts:	Pins: BeCu alloy strip per ASTM B194 Sockets: Brass per ASTM B121 / B121M or ASTM B16 / B16M 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 or Stainless Steel 300 series per ASTM A484 / A484M and ASTM A582 / A582M Passivated per SAE AMS2700
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
Jackscrows, 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
Brackets:	Card Edge Mount: Aluminum Alloy 7075-T6 per SAE AMS-QQ-A-250/12 or SAE AMS-QQ-A-200/11 Plating consistent with Aluminum Shell Horizontal Surface Mount: Corrosion resistant steel per ASTM A240 Passivated per SAE AMS2700
Interfacial Seal Gaskets:	Fluorosilicone per SAE AMS-R-25988
Tolerances:	Unless otherwise specified: Fractions = $\pm 1/64$ " Decimals = $\pm .010$ " Angles = $\pm 5^\circ$ Wire lengths: 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 - Surface Mount Connectors

Contact Rating:	3-amperes maximum
Solderability:	Terminals (except crimp) tested in accordance with MIL-STD-202, Method 208
Wire Size:	Solid #30 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