![AirBorn logo]

Cable to Board
(Standard Footprint)
.050"
9 thru 100 Contacts
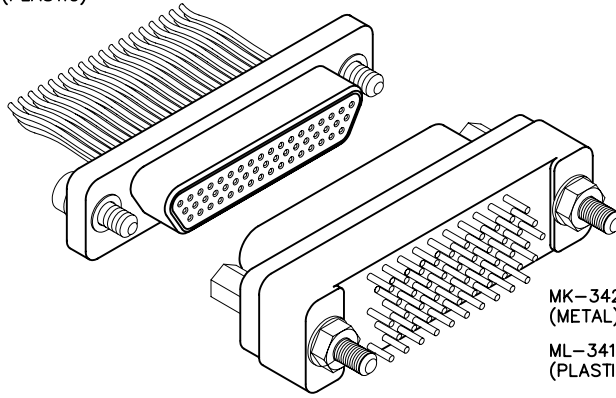
Rugged Cable

MM, MN

Rugged Board Mount

MK, ML

MM−312−051−161−45WP
(METAL)

MN−311−051−161−45WP
(PLASTIC)

MK−342−051−225−2200
(METAL)

ML−341−051−225−2200
(PLASTIC)

.406
.183
.094

D C B A

.025±.001 TYP
.050±.001 TYP

POSITION #1

.195 Y P

A D B

.020±.001 DIA TYP

.109

POSITION #1

E

H

#2−56 CAPTIVE
JACKSCREW (2 PLCS)
SEE PAGE MA−5

PLUG

H

X

#2−56 JACKPOST
(2 PLCS)
SEE PAGE MA−5

RECEPTACLE

DIMENSIONS											
		B				E					
SIZE	CONTACT ROWS	A	PLUG MAX	RCPT MAX	C	D	POTTING WELL MAX	H	P	X	Y	HARDWARE
9	2	.775	.334	.400	.390	.565	.270	.298	.210	.298	.280	#2−56 UNC THD (.092 DIA THRU OR #2−56 UNC THREADED INSERT)
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			.214		.330**	
51	3	1.425	.984	1.050	1.040	1.215	.310	.341	.219	.390	.325	
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	.216	.490	.379	#4−40 UNC THD (.147 DIA THRU OR #4−40 UNC THREADED INSERT)

* = 69 POSITION CONNECTORS ARE AVAILABLE IN METAL ONLY.
** = 37 POSITION WITH TURNING HARDWARE "Y" DIMENSION IS .280.

PLUG: MM−312−051−161−45WP
RECEPTACLE: MK−342−051−225−2200
PLUG: MN−311−051−161−45WP
RECEPTACLE: ML−341−051−225−2200
XX−XXX−XXX−XXX−XXXX−XXX

PLUG	RECEPTACLE

SERIES

PLUG	RECEPTACLE
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 ML .050" Rugged Plastic PC Board Mount Connector (MK & ML mate with MK, ML, MM, MN plugs)

BODY

PLUG	RECEPTACLE
2 2-Row (Sizes 9 thru 37) 3 3-Row (Size 51 & 69***) 4 4-Row (Size 100)	2 2-Row (Sizes 9 thru 37) 3 3-Row (Size 51 & 69***) 4 4-Row (Size 100)
BODY STYLE: 1 Plug, straight, with ears	BODY STYLE: 4 Receptacle, straight, standard footprint
BODY MATERIAL: 1 Polyphenylene Sulfide (MN only) 2 Polyphenylene Sulfide with electroless nickel shell 3 Polyphenylene Sulfide with electrodeposited cadmium shell ☒ 4 Polyphenylene Sulfide with hard anodized black shell 5 Polyphenylene Sulfide with stainless steel shell	BODY MATERIAL: 1 Polyphenylene Sulfide (ML only) 2 Polyphenylene Sulfide with electroless nickel shell 3 Polyphenylene Sulfide with electrodeposited cadmium shell ☒ 4 Polyphenylene Sulfide with hard anodized black shell 5 Polyphenylene Sulfide with stainless steel shell

SIZE

PLUG	RECEPTACLE
XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100	XXX 009, 015, 021, 025, 031, 037, 051, 069***, 100

CONTACTS

PLUG	RECEPTACLE
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) ☒ 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 ☒ 7 50 μ" Au contacts; SAC305 terminations

HARDWARE

PLUG	RECEPTACLE
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*) 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

OPTIONS

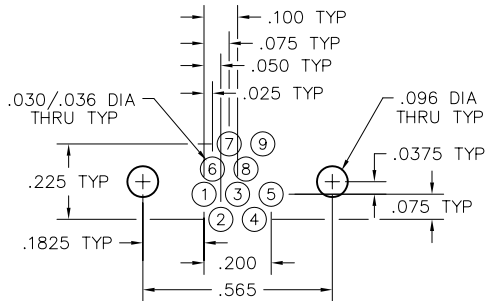| PLUG	RECEPTACLE
KSXX Two turning jackscrews. See page MA-6 for keying options (KJ*)	KPXX Two fixed jacknuts and interfacial sealing gasket. See page MA-6 for keying options (KN*) 900 Interfacial sealing gasket 0B7 Threaded inserts and interfacial sealing gasket

* = Use numbers or letters in parenthesis when ordering size 100.   *** = 69 position connectors are available in metal only.
** = Captive hardware is factory installed and non-removable.   **** = Connector body has no mounting holes.
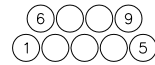☒ = Option not RoHS compliant

Recommended PC Board Layout

Straight, Standard Footprint

RECEPTACLE PC BOARD LAYOUT COMPONENT SIDE

.100 TYP
.075 TYP
.050 TYP
.025 TYP
.030/.036 DIA THRU TYP
.096 DIA THRU TYP
.225 TYP
.0375 TYP
.1825 TYP
.075 TYP
.200
.565

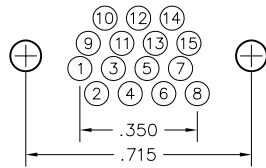.350
.715

.500
.865

.600
.965
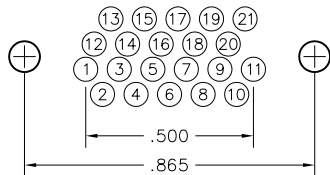
.750
1.115

.900
1.265

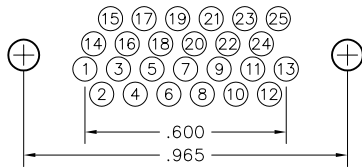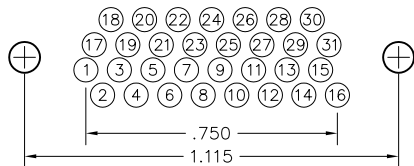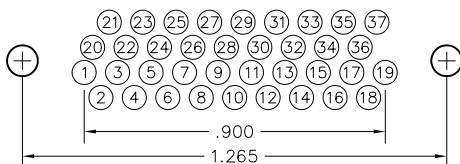## CONNECTOR MATING FACE (RECEPTACLE)
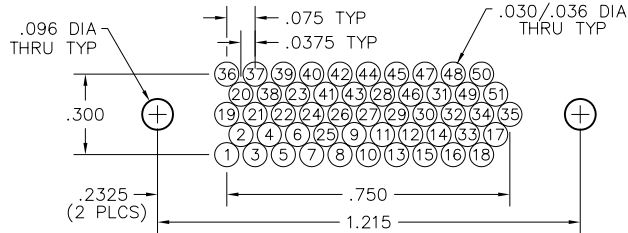
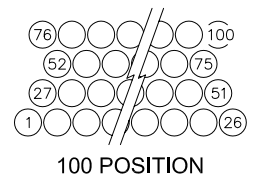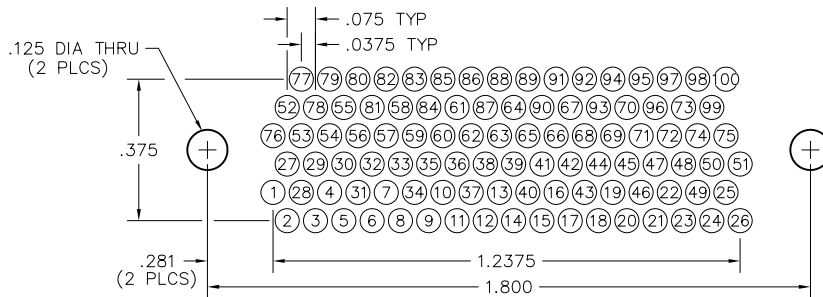9 POSITION

15 POSITION

21 POSITION

25 POSITION

31 POSITION

37 POSITION

RECEPTACLE
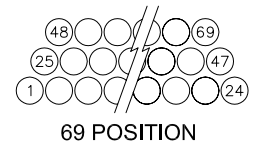## PC BOARD LAYOUT
COMPONENT SIDE

.096 DIA THRU TYP

.075 TYP
.0375 TYP

.030/.036 DIA THRU TYP

.300

.2325 (2 PLCS)

.750

1.215

36	37	39	40	42	44	45	47	48	50
20	38	23	41	43	28	46	31	49	51
19	21	22	24	26	27	29	30	32	34	35
2	4	6	25	9	11	12	14	33	17
1	3	5	7	8	10	13	15	16	18

CONNECTOR MATING FACE (RECEPTACLE)

51 POSITION
36 ... 51
19 ... 35
1 ... 18

.075 TYP
.0375 TYP

.300

.2325 (2 PLCS)

1.050

1.515

48	49	51	53	54	56		61	63	64	66	68	69
26	50	52	31	55	57	58	59	60	62	41	65	67	46
25	27	28	30	32	33	35	36	37	39	40	42	44	45	47
2	4	29	7	9	34	12	13	38	16	18	43	21	23
1	3	5	6	8	10	11		14	15	17	19	20	22	24

69 POSITION
48 ... 69
25 ... 47
1 ... 24

.125 DIA THRU (2 PLCS)

.075 TYP
.0375 TYP

.375

.281 (2 PLCS)

1.2375

1.800

77	79	80	82	83	85	86	88	89	91	92	94	95	97	98	00
52	78	55	81	58	84	61	87	64	90	67	93	70	96	73	99
76	53	54	56	57	59	60	62	63	65	66	68	69	71	72	74	75
27	29	30	32	33	35	36	38	39	41	42	44	45	47	48	50	51
1	28	4	31	7	34	10	37	13	40	16	43	19	46	22	49	25
2	3	5	6	8	9	11	12	14	15	17	18	20	21	23	24	26

100 POSITION
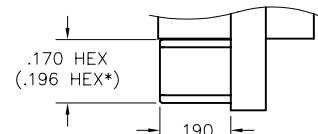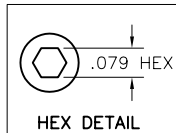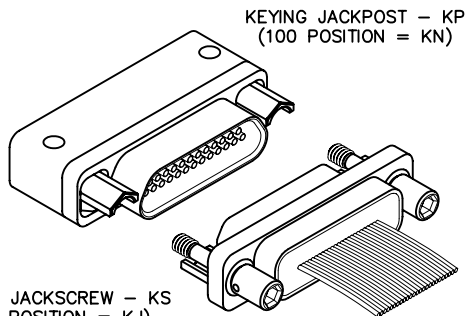76 ... 100
52 ... 75
27 ... 51
1 ... 26

Select the appropriate two digit number above and include as the last two digits of the hardware code in the part number.
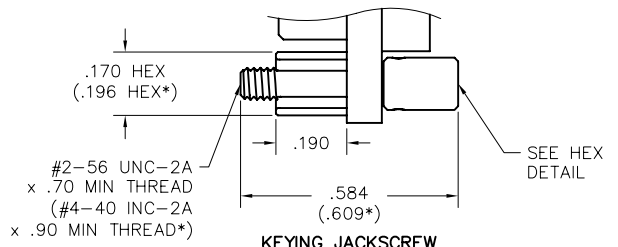(Keying hardware is factory installed and non-removable).

Example:
MM-213-025-161-99WA-KS11
MK-263-025-435-990S-KP11

KEYING JACKPOST — KP
(100 POSITION = KN)

KEYING JACKSCREW — KS
(100 POSITION = KJ)

HEX DETAIL
.079 HEX

KEYING JACKPOST
.170 HEX
(.196 HEX*)
.190

KEYING JACKSCREW
.170 HEX
(.196 HEX*)
.190
.584
(.609*)
#2-56 UNC-2A
x .70 MIN THREAD
(#4-40 INC-2A
x .90 MIN THREAD*)
SEE HEX DETAIL

* = Dimensions for 100 position connectors

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