Amphenol® Cylindrical Connectors for Printed Circuit Board Applications

12-170-1

Amphenol

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Amphenol® Cylindrical Connectors for Printed Circuit Board Applications

This catalog has been specifically designed to assist in the critical process of selecting the right cylindrical connector for a printed circuit board application.

Contact arrangements have been carefully selected to guide the designers to the most commonly available and widely used insert patterns. The pin-out location illustrations of these contact insert patterns are shown first, followed by connector shell style drawings in three series: MIL-DTL-38999, MIL-C-26482, and MIL-C-5015 . The mechanical and electrical environments of the application typically determine the choice of the series.

The following key points give a quick overview of the three cylindrical connector series that are provided in this catalog. Catalogs can be requested from Amphenol, Sidney, NY for more detail on each of these series*.

MIL-DTL-38999 CONNECTORS

- Lightweight, compact, high density and high reliability cylindrical
- Operating voltage to 900 VAC (RMS) at sea level
- Environmentally resistant
- Solder or crimp rear release contacts in mating plug
- Series I (LJT) - Bayonet coupling
  - Scoop-proof (recessed pins) offers maximum contact protection
- Series II (JT) - Bayonet coupling
  - For applications requiring maximum weight/space savings and reliability
- Series III (Tri-Start) - Threaded, quick coupling in one complete turn
  - Designed for general duty as well as severe environmental applications
  - Superior EMI shielding with grounding fingers and metal-to-metal mating
  - Filter/Transient protection versions available
  - Scoop-proof contact protection
  - Stainless steel firewall versions, and composite versions

MIL-DTL-38999
Jam nut receptacle

MIL-C-26482 CONNECTORS

- Medium size, widely used cylindrical
- Operating voltage to 1,000 VAC (RMS) at sea level
- Series 1 (PT) - Bayonet coupling - most commonly used in PCB applications
- Environmentally resistant
- Solder or crimp front and rear release contacts in mating plug
- Black/green zinc alloy plating (cadmium-free) available

MIL-C-26482
Box mount receptacle

MIL-C-5015 CONNECTORS

- Medium–heavy weight, time-tested cylindrical
- Operating voltage to 1,500 VAC (RMS) at sea level
- Environmentally resistant or general duty
- Threaded coupling
- Solder or crimp rear insertion contacts in mating plug
- Black/green zinc alloy plating (cadmium-free) available

MIL-C-5015
Box mount receptacle

There is a guide to selecting a cylindrical connector with printed circuit board contacts on the following page to assist you further.

Also provided in this catalog are several additional product options for the designer of PCB board applications. For example: Amphenol's flex assemblies provide solutions for attachment to PCB boards where a self-locking terminal pad is needed or in tight-fitting space requirements. Connectors with compliant pin contacts are available, as well as other connector series which can incorporate PCB contacts. See pages 38 and 39 for these additional cylindrical product offerings, and page 40 which gives information on Amphenol PCB rectangular connectors.

MIL-C-26482
Special with Flex Termination

* Request Catalog 12-090 for MIL-DTL-38999 Series I, II
Request Catalog 12-092 for MIL-DTL-38999 Series III
Request Catalog 12-070 for MIL-C-26482, Series 1, 2
Request Catalog 12-071 for Matrix MIL-C-26482 Series 2
Request Catalog 12-020 for MIL-C-5015

Note: MIL-DTL-38999 supersedes MIL-C-38999.

Guide to Selecting a PCB Cylindrical Connector

The connector selection process is one of the most important engineering decisions to be made in any electronic application. Amphenol has created this catalog specifically to provide the necessary information to select, layout and design both the appropriate Amphenol® cylindrical connector with PCB contacts and the connector footprint (contact locations) on the printed circuit board. The guide that follows is for application of cylindrical connectors on rigid printed circuit boards and also applies if a flex print assembly is being used.

Engineers working on those PCB or flex print applications requiring rectangular connectors are encouraged to refer to page 40 and ask for Amphenol Rectangular Product catalogs.

How To Select A Cylindrical Connector for a PCB Application

The data provided in this catalog is based on three cylindrical connector series: MIL-DTL-38999 Series I, II and III, MIL-C-26482 Series 1, and MIL-C-5015. See page 1 for electrical and environmental features and differences of these three series. The “hot” side of the application determines the choice of pin or socket genders of the contacts.

How to Measure the PCB Tail Length

The tail length of the PCB is the portion of the contact that extends beyond the rear of the shell. This length will vary in relationship to the mounting flange, depending on the series of connector selected. Standard lengths are shown on the connector shell style drawings in this catalog. See pages 26-37. These pages also provide how to order part numbering for standard PCB cylindrical connectors.

When computing the desired tail length, it is important to take into consideration the following factors:

- The connector series and shell style.
- The mounting style of the receptacle; jam nut (D hole) or panel mount (four holes). This can affect the overall length of the tail.
- The extension of the tail beyond the opposite side of the board or the flex.
- The space required to adequately clean flux from between the board or flex and the rear of the connector shell. Connectors that are mounted flush against the board may trap soldering flux which could lead to corrosion of the solder joints.
- Any mechanical methods needed to stabilize the board or flex to the connector and/or the panel. The PCB tails shown in this catalog are of one diameter. Standoffs may be required for certain applications. Stepped tails or PCB tails with an increased diameter on a designated portion may be required for certain applications. Please call Amphenol to discuss any optional designs or any special requirements that are not covered in this catalog.

What Determines the Diameter of the PCB Tail?

The outside diameter of the PCB tail is determined by the inside diameter of the plated through-hole on the board or flex print. The standard or most popular diameters are shown in the following chart and are called out in the connector illustrations in this catalog (Pgs. 26-37).

Standard diameters of PCB tails

Connector Series	Size 16 Contact	Size 20 Contact	Size 22D Contact
MIL-DTL-38999	.062 ±.001	.019 ±.001	.019 ±.001
MIL-C-26482	.030 ±.001	.030 ±.001	Not available
MIL-C-5015	.030 ±.001	Not available	Not available

For availability of other contact diameters, consult Amphenol, Sidney NY.

Should PCB Tails be Gold Plated or Pre-tinned?

The standard PCB tails for MIL-DTL-38999 and MIL-C-26482 receptacles have gold plating, .00050 inches over nickel. PCB tails for MIL-C-5015 receptacles are plated with silver, .00010 inches over copper. Amphenol can substitute a pre-tinned version of these tails to facilitate the termination process. This pre-tinning is a 60/40 lead-tin alloy. Call Amphenol for further information on pre-tinning and any other plating of contacts not covered in this catalog.

Would Flex Assemblies be Necessary or Beneficial for the Application?

Flex print can radically simplify the assembly of a connector to a system, as well as eliminate wiring errors. Consult Amphenol for the choices of flex assemblies. (See page 38 for brief description).

Cylindrical Connectors with PCB contacts
insert availability

The following table lists the most commonly used insert arrangements for printed circuit board application of MIL-DTL-38999, MIL-C-26482 and MIL-C-5015 cylindrical connectors. This represents the most readily available patterns within these series. See illustrations of these selected patterns on the following pages. If you require other arrangements than what are shown here, consult Amphenol for further availability.

MIL-DTL-38999							Contact Size		
JT Series II	LJT Series I	Tri-Start Series III	MIL-C-26482	MIL-C-5015	Service Rating	Total Contacts	22D	20	16
8-3	9-3		8-3		M/I	3		3	
8-35	9-35	9-35			M	6	6		
8-98	9-98	9-98	8-98		I	3		3	
				10SL-3	A	3			3
10-5	11-5	11-5	10-5		I	5		5	
	11-6		10-6		I	6		6	
10-35	11-35	11-35			M	13	13		
12-3	13-3		12-3		II	3			3
			12-10		I	10		10	
12-35	13-35	13-35			M	22	22		
				14S-6	Inst.	6			6
14-18	15-18	15-18	14-18		I	18		18	
14-19	15-19	15-19	14-19		I	19		19	
14-35	15-35	15-35			M	37	37		
				16S-1	A	7			7
16-26	17-26	17-26	16-26		I	26		26	
16-35	17-35	17-35			M	55	55		
				18-1	A/Inst.	10			10
18-11	19-11	19-11	18-11		II	11			11
18-32	19-32	19-32	18-32		I	32		32	
18-35	19-35	19-35			M	66	66		
				20-11	Inst.	13			13
20-27	21-27		20-27		I	27		27	
20-35	21-35	21-35			M	79	79		
20-41	21-41	21-41	20-41		I	41		41	
				22-14	A	19			19
22-35	23-35	23-35			M	100	100		
22-55	23-55	23-55	22-55		I	55		55	
				24-5	A	16			16
				24-28	Inst.	24			24
24-31			24-31		I	31			31
24-35	25-35	25-35			M	128	128		
24-61	25-61	25-61	24-61		I	61		61	
				28-15	A	35			35

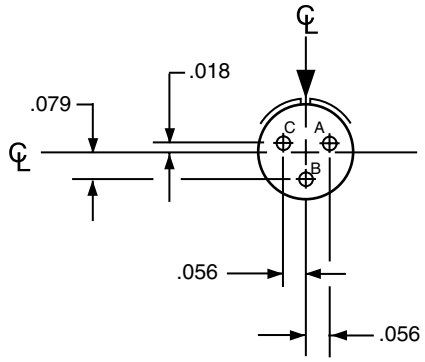
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #8-3 / 9-3

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**8-3**	**9-3**	**NA**	**8-3**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating*
3	20	M/I



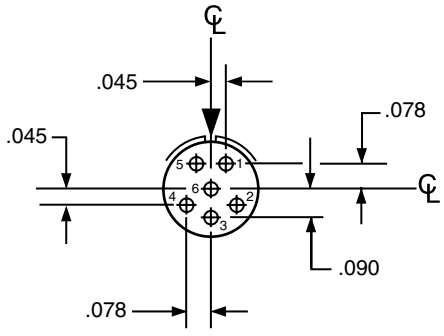
*Service Rating: M for MIL-DTL-38999
I for MIL-C-26482

Insert Arrangement #8-35 /9-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**8-35**	**9-35**	**9-35**	**NA**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
6	22D	M



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

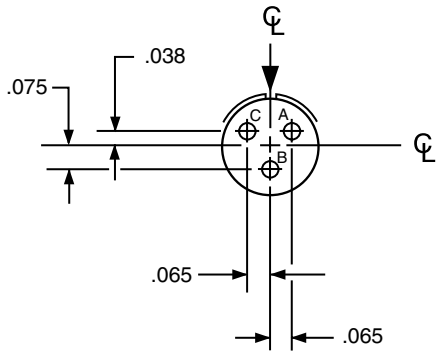
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #8-98 / 9-98

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**8-98**	**9-98**	**9-98**	**8-98**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
3	20	I

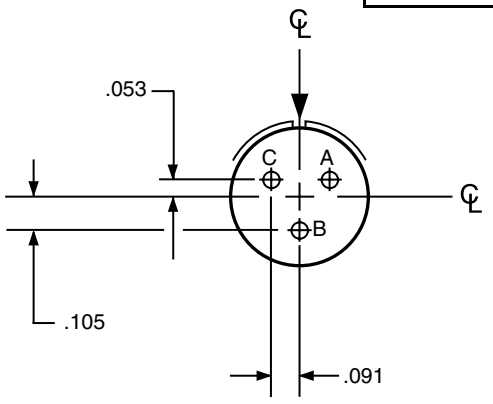


Insert Arrangement #10SL-3

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**NA**	**NA**	**NA**	**NA**	**10SL-3**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
3	16	A



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

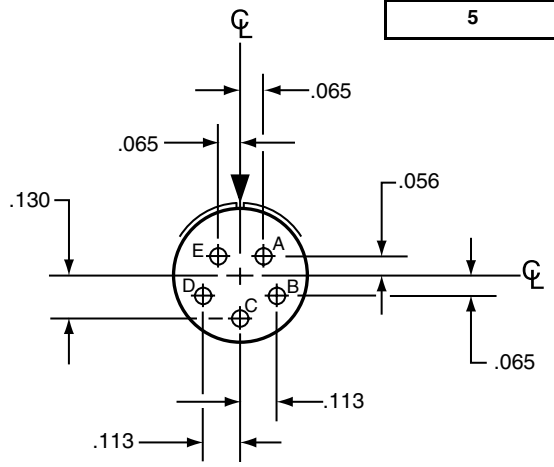
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #10-5 / 11-5

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**10-5**	**11-5**	**11-5**	**10-5**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
5	20	I

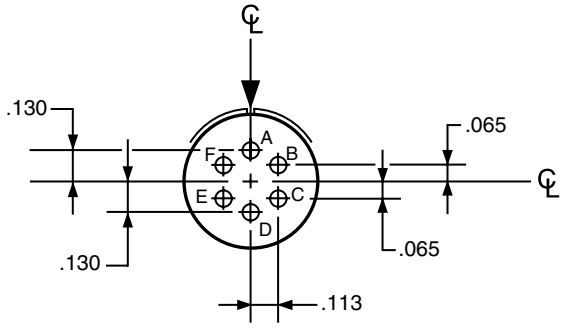


Insert Arrangement #10-6 / 11-6

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**NA**	**11-6**	**NA**	**10-6**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
6	20	I



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

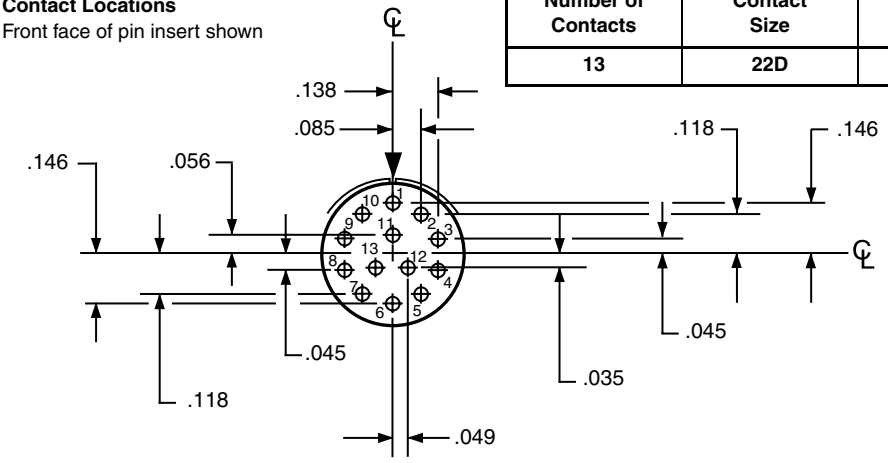
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #10-35 / 11-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**10-35**	**11-35**	**11-35**	**NA**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
13	**22D**	**M**

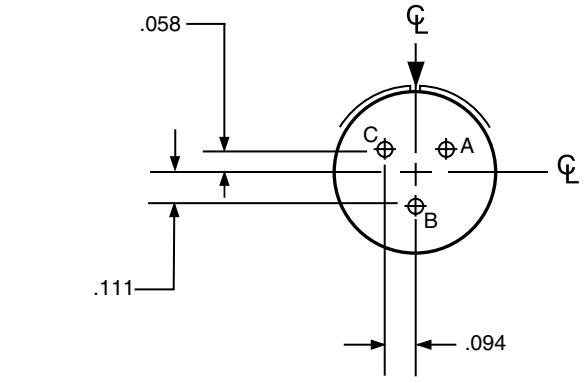


Insert Arrangement #12-3 / 13-3

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**12-3**	**13-3**	**NA**	**12-3**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
3	**16**	**II**



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

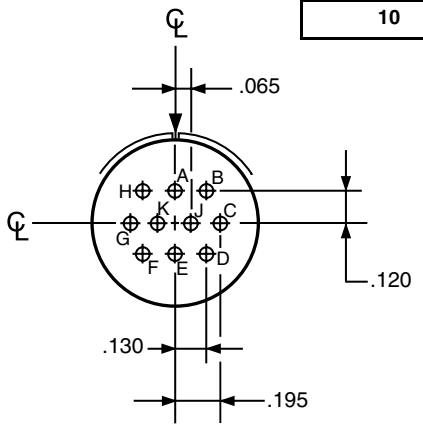
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #12-10

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	12-10	NA

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
10	20	I

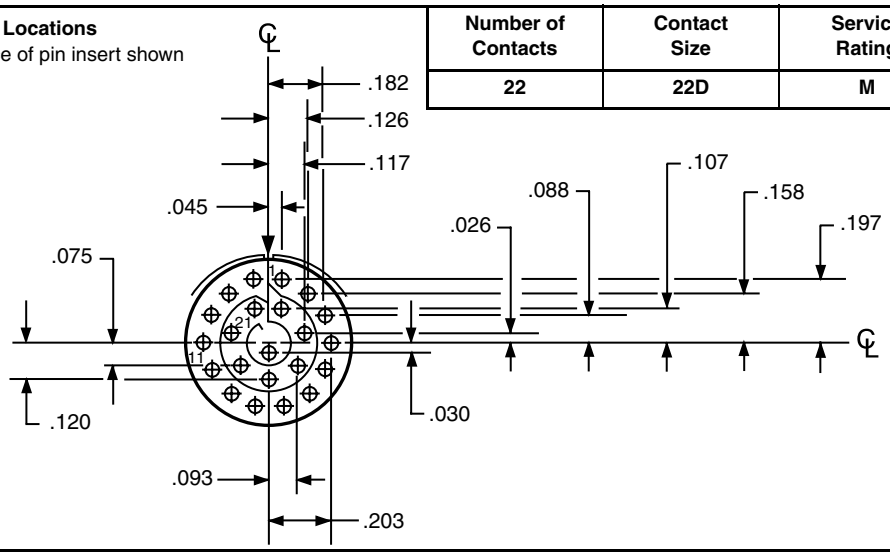


Insert Arrangement #12-35 / 13-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	12-35	13-35	13-35	NA	NA

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
22	22D	M



All dimensions for reference only. For alternate rotations see pages 24 & 25..
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

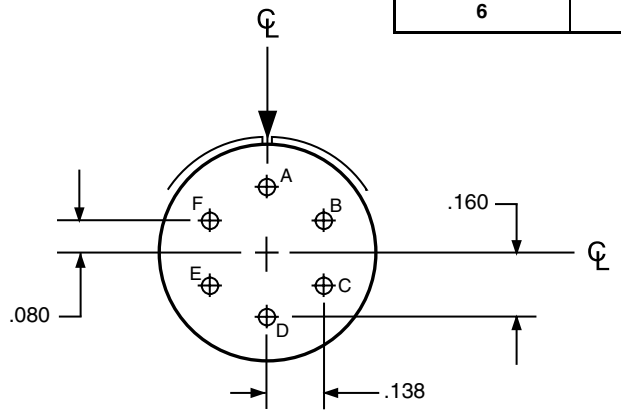
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #14S-6

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**NA**	**NA**	**NA**	**NA**	**14S-6**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
6	16	Inst.

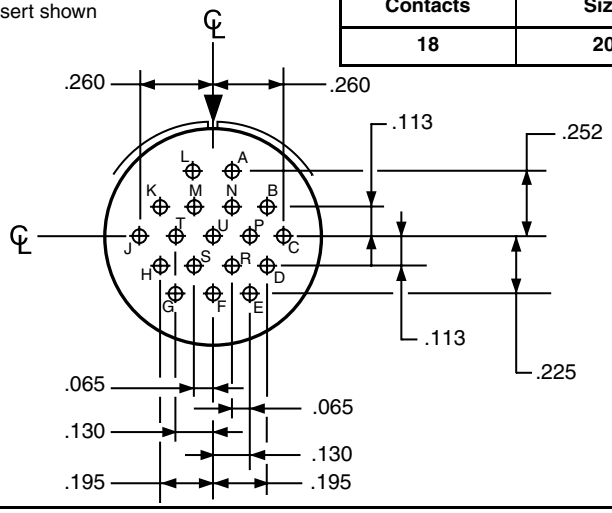


Insert Arrangement #14-18 / 15-18

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**14-18**	**15-18**	**15-18**	**14-18**	**NA**

Contact Locations
Front face of pin insert shown

Number of Contacts	Contact Size	Service Rating
18	20	I



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

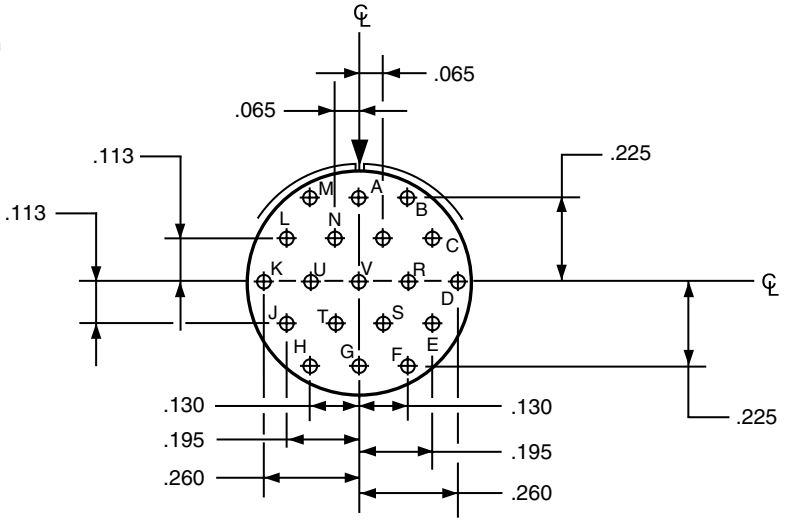
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #14-19 / 15-19

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	14-19	15-19	15-19	14-19	NA

Number of Contacts	Contact Size	Service Rating
19	20	I

Contact Locations
Front face of pin insert shown

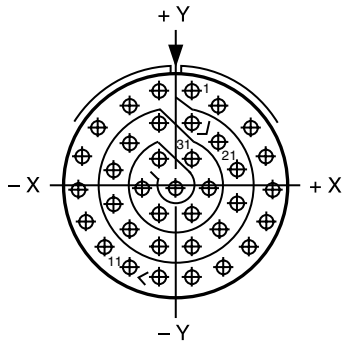


Insert Arrangement #14-35 / 15-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	14-35	15-35	15-35	NA	NA

Number of Contacts	Contact Size	Service Rating
37	22D	M

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location X Axis	Location Y Axis
1	+.045	+.262
2	+.123	+.217
3	+.211	+.160
4	+.254	+.080
5	+.266	–.010
6	+.247	–.098
7	+.200	–.175
8	+.130	–.232
9	+.045	–.262
10	–.045	–.262
11	–.130	–.232
12	–.200	–.175
13	–.247	–.098
14	–.266	–.010
15	–.254	+.080
16	–.211	+.160
17	–.123	+.217
18	–.045	+.262
19	+.045	+.172
20	+.123	+.119

Contact Hole Locations		
Contact Number	Location X Axis	Location Y Axis
21	+.170	+.040
22	+.170	–.050
23	+.123	–.127
24	+.045	–.172
25	–.045	–.172
26	–.123	–.127
27	–.170	–.050
28	–.170	+.040
29	–.123	+.119
30	–.045	+.172
31	+.045	+.074
32	+.090	–.004
33	+.045	–.082
34	–.045	–.082
35	–.090	–.004
36	–.045	+.074
37	.000	–.004

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

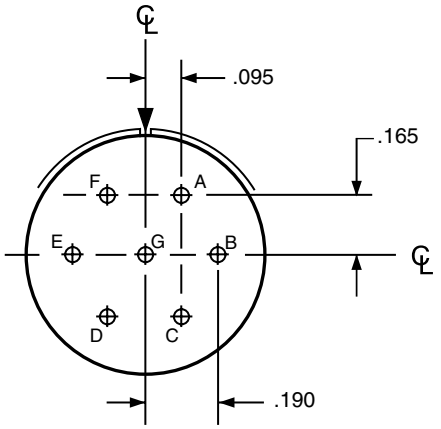
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #16S-1

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	16S-1

Number of Contacts	Contact Size	Service Rating
7	16	A

Contact Locations
Front face of pin insert shown

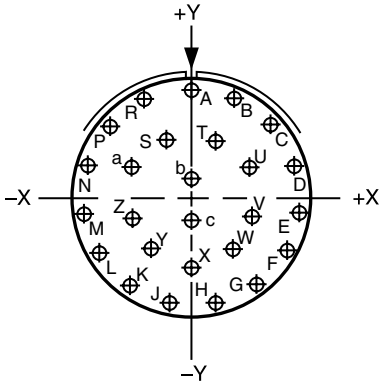


Insert Arrangement #16-26 / 17-26

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	16-326	17-26	17-26	16-26	NA

Number of Contacts	Contact Size	Service Rating
26	20	I

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
A	.000	+.321
B	+.131	+.293
C	+.239	+.214
D	+.305	+.099
E	+.319	–.034
F	+.278	–.161
G	+.189	–.260
H	+.067	–.314
J	–.067	–.314
K	–.189	–.260
L	–.278	–.161
M	–.319	–.034
N	–.305	+.099
P	–.239	+.214

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
R	–.131	+.293
S	–.070	+.177
T	+.070	+.177
U	+.175	+.094
V	+.178	–.036
W	+.119	–.151
X	.000	–.203
Y	–.119	–.151
Z	–.178	–.036
a	–.175	+.094
b	.000	+.065
c	.000	–.065

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

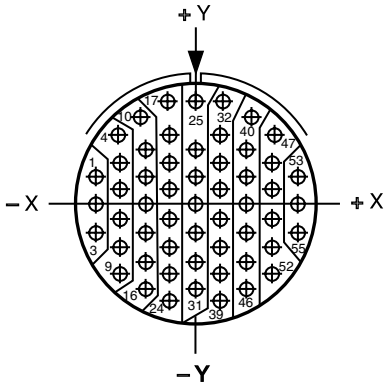
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #16-35 / 17-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	16-35	17-35	17-35	NA	NA

Number of Contacts	Contact Size	Service Rating
55	22D	M

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
1	–.312	+.086
2	–.312	–.004
3	–.312	–.094
4	–.242	+.221
5	–.234	+.131
6	–.234	+.041
7	–.234	–.049
8	–.234	–.139
9	–.234	–.229
10	–.172	+.279
11	–.156	+.176
12	–.156	+.086
13	–.156	–.004
14	–.156	–.094
15	–.156	–.184
16	–.156	–.274
17	–.089	+.316
18	–.078	+.221
19	–.078	+.131
20	–.078	+.041
21	–.078	–.049
22	–.078	–.139
23	–.078	–.229
24	–.078	–.319
25	.000	+.329
26	.000	+.176
27	.000	+.086
28	.000	–.004
29	.000	–.094
30	.000	–.184
31	.000	–.274

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
32	+.089	+.316
33	+.078	+.221
34	+.078	+.131
35	+.078	+.041
36	+.078	–.049
37	+.078	–.139
38	+.078	–.229
39	+.078	–.319
40	+.172	+.279
41	+.156	+.176
42	+.156	+.086
43	+.156	–.004
44	+.156	–.094
45	+.156	–.184
46	+.156	–.274
47	+.242	+.221
48	+.234	+.131
49	+.234	+.041
50	+.234	–.049
51	+.234	–.139
52	+.234	–.229
53	+.312	+.086
54	+.312	–.004
55	+.312	–.094

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

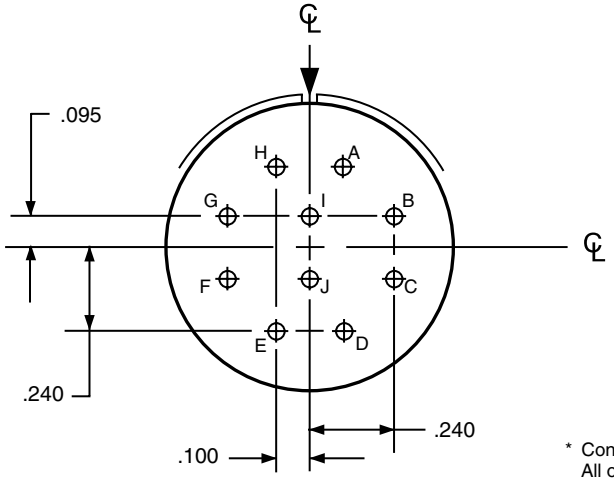
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #18-1

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	18-1

Number of Contacts	Contact Size	Service Rating*
10	16	A/Inst.

Contact Locations
Front face of pin insert shown



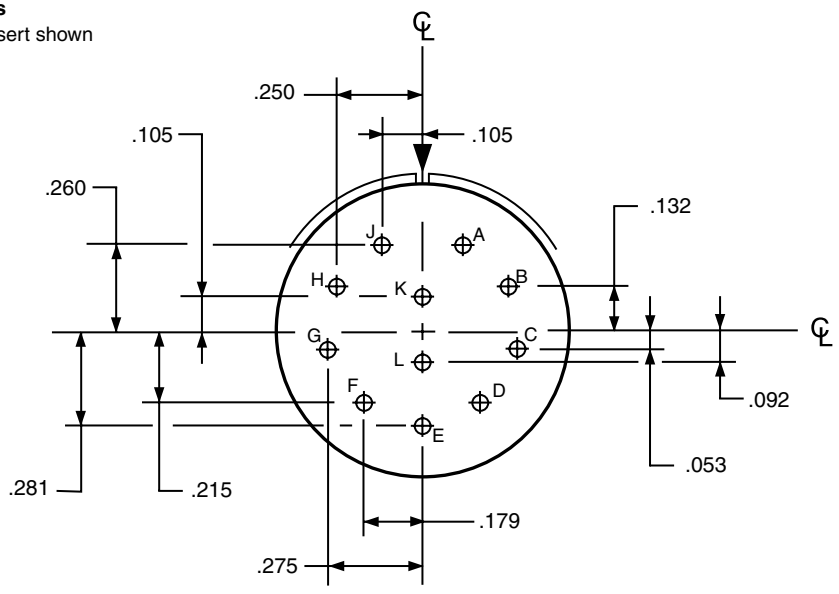
* Contact Locations B, C, F, G are Service Rating A.
All other contact locations are Service Rating Inst.

Insert Arrangement #18-11 / 19-11

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	18-11	19-11	19-11	18-11	NA

Number of Contacts	Contact Size	Service Rating
11	16	II

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

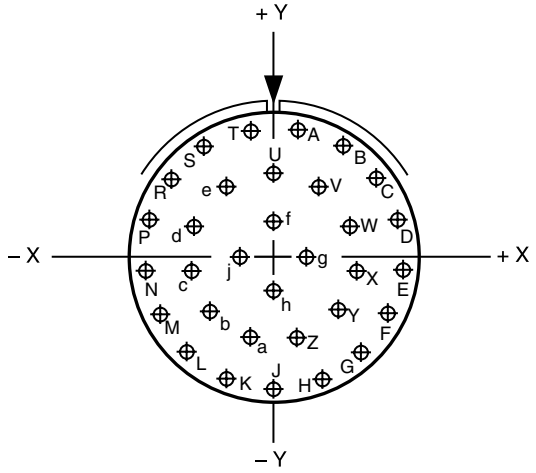
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #18-32 / 19-32

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	18-32	19-32	19-32	18-32	NA

Number of Contacts	Contact Size	Service Rating
32	20	I

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Letter	Location	
	X Axis	Y Axis
A	+.066	+.353
B	+.189	+.305
C	+.286	+.217
D	+.345	+.098
E	+.357	–.033
F	+.321	–.160
G	+.242	–.265
H	+.130	–.335
J	.000	–.359
K	–.130	–.335
L	–.242	–.265
M	–.321	–.160
N	–.357	–.033
P	–.345	+.098
R	–.286	+.217
S	–.189	+.305
T	–.066	+.353
U	.000	+.230

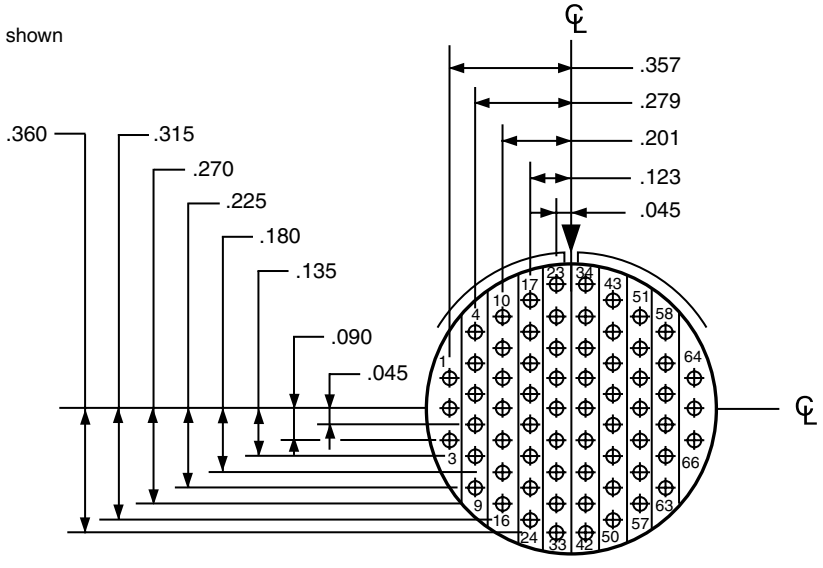
Contact Hole Locations		
Contact Letter	Location	
	X Axis	Y Axis
V	+.124	+.193
W	+.209	+.095
X	+.228	–.033
Y	+.174	–.151
Z	+.065	–.221
a	–.065	–.221
b	–.174	–.151
c	–.228	–.033
d	–.209	+.095
e	–.124	+.193
f	.000	+.096
g	+.096	.000
h	.000	–.095
j	–.096	.000

Insert Arrangement #18-35 / 19-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	18-35	19-35	19-35	NA	NA

Number of Contacts	Contact Size	Service Rating
66	22D	M

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

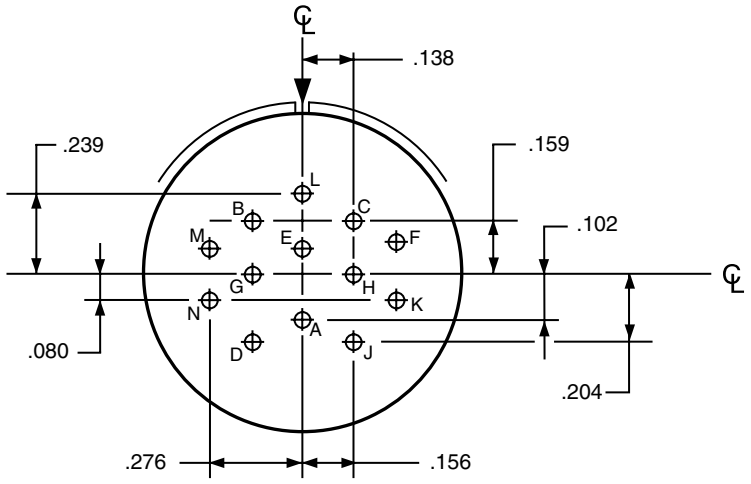
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #20-11

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	20-11

Number of Contacts	Contact Size	Service Rating
13	16	Inst.

Contact Locations
Front face of pin insert shown

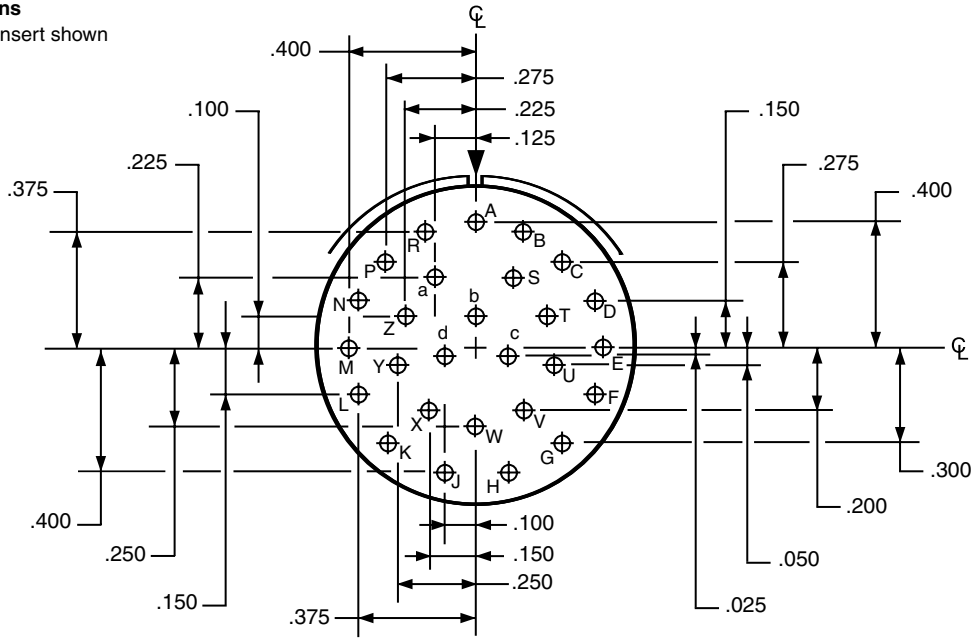


Insert Arrangement #20-27 / 21-27

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	20-27	21-27	NA	20-27	NA

Number of Contacts	Contact Size	Service Rating
27	20	I

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

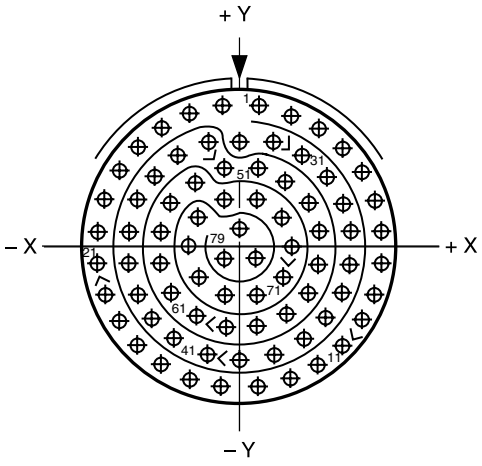
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #20-35 / 21-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	20-35	21-35	21-35	NA	NA

Number of Contacts	Contact Size	Service Rating
79	22D	M

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
1	+.053	+.426
2	+.146	+.404
3	+.232	+.362
4	+.306	+.302
5	+.365	+.227
6	+.406	+.141
7	+.427	+.048
8	+.427	–.048
9	+.406	–.141

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
10	+.365	–.227
11	+.306	–.302
12	+.232	–.362
13	+.146	–.404
14	+.053	–.426
15	–.053	–.426
16	–.146	–.404
17	–.232	–.362
18	–.306	–.302
19	–.365	–.227
20	–.406	–.141
21	–.427	–.048
22	–.427	+.048
23	–.406	+.141
24	–.365	+.227
25	–.306	+.302
26	–.232	+.362
27	–.146	+.404
28	–.053	+.426
29	.000	+.323
30	+.098	+.322
31	+.184	+.280
32	+.258	+.220
33	+.311	+.141
34	+.332	+.048
35	+.332	–.048
36	+.311	–.141
37	+.258	–.220
38	+.184	–.280
39	+.098	–.322
40	.000	–.347
41	–.098	–.322
42	–.184	–.280
43	–.258	–.220
44	–.311	–.141

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
45	–.332	–.048
46	–.332	+.048
47	–.311	+.141
48	–.258	+.220
49	–.184	+.280
50	–.098	+.322
51	–.048	+.241
52	+.048	+.241
53	+.134	+.199
54	+.208	+.139
55	+.237	+.048
56	+.237	–.048
57	+.208	–.139
58	+.134	–.199
59	+.048	–.241
60	–.048	–.241
61	–.134	–.199
62	–.208	–.139
63	–.237	–.048
64	–.237	+.048
65	–.208	+.139
66	–.134	+.199
67	–.048	+.146
68	+.048	+.146
69	+.125	+.090
70	+.155	.000
71	+.125	–.090
72	+.048	–.146
73	–.048	–.146
74	–.125	–.090
75	–.155	.000
76	–.125	+.090
77	.000	+.053
78	+.048	–.029
79	–.048	–.029

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

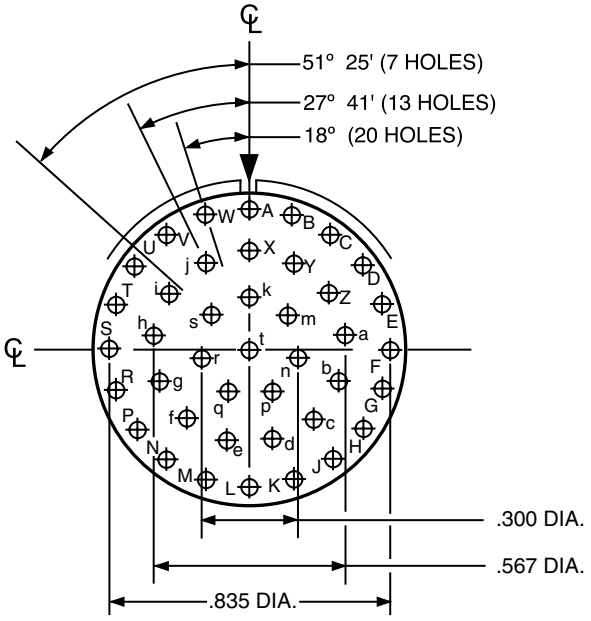
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #20-41 / 21-41

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	20-41	21-41	21-41	20-41	NA

Number of Contacts	Contact Size	Service Rating
41	20	I

Contact Locations
Front face of pin insert shown

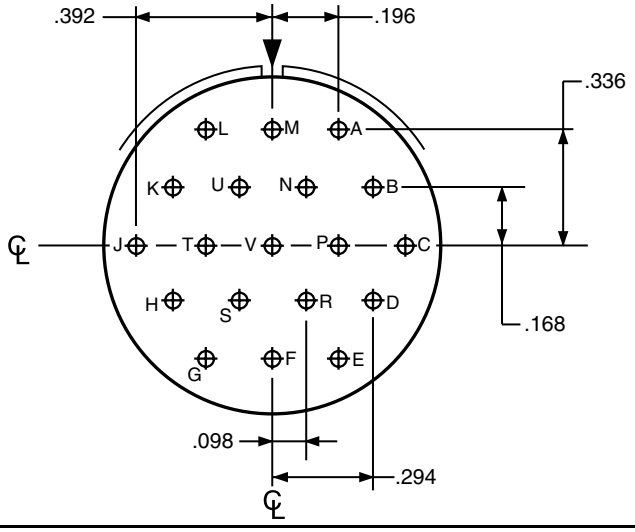


Insert Arrangement #22-14

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	22-14

Number of Contacts	Contact Size	Service Rating
19	16	A

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

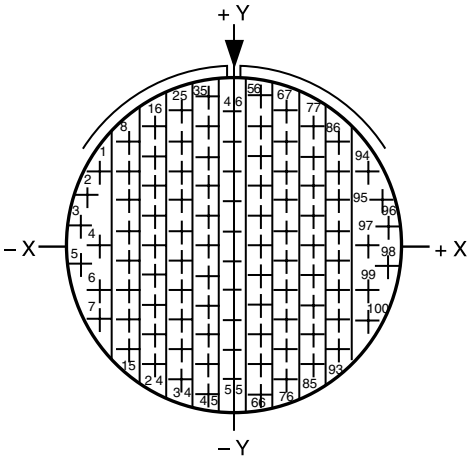
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #22-35 / 23-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	22-35	23-35	23-35	NA	NA

Number of Contacts	Contact Size	Service Rating
100	22D	M

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
1	–.428	+.241
2	–.467	+.154
3	–.488	+.061
4	–.415	.000
5	–.488	–.061
6	–.428	–.142
7	–.428	–.237
8	–.332	+.333
9	–.332	+.238
10	–.332	+.143
11	–.332	+.048
12	–.332	–.047
13	–.332	–.142
14	–.332	–.237
15	–.332	–.332
16	–.249	+.380
17	–.249	+.285
18	–.249	+.190

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
19	–.249	+.095
20	–.249	.000
21	–.249	–.095
22	–.249	–.190
23	–.249	–.285
24	–.249	–.380
25	–.166	+.428
26	–.166	+.333
27	–.166	+.238
28	–.166	+.143
29	–.166	+.048
30	–.166	–.047
31	–.166	–.142
32	–.166	–.237
33	–.166	–.332
34	–.166	–.427
35	–.083	+.475
36	–.083	+.380
37	–.083	+.285
38	–.083	+.190
39	–.083	+.095
40	–.083	.000
41	–.083	–.095
42	–.083	–.190
43	–.083	–.285
44	–.083	–.380
45	–.083	–.475
46	.000	+.428
47	.000	+.333
48	.000	+.238
49	.000	+.143
50	.000	+.048
51	.000	–.047
52	.000	–.142
53	.000	–.237
54	.000	–.332
55	.000	–.427
56	+.083	+.475
57	+.083	+.380
58	+.083	+.285
59	+.083	+.190
60	+.083	+.095

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
61	+.083	.000
62	+.083	–.095
63	+.083	–.190
64	+.083	–.285
65	+.083	–.380
66	+.083	–.475
67	+.166	+.428
68	+.166	+.333
69	+.166	+.238
70	+.166	+.143
71	+.166	+.048
72	+.166	–.047
73	+.166	–.142
74	+.166	–.237
75	+.166	–.332
76	+.166	–.427
77	+.249	+.380
78	+.249	+.285
79	+.249	+.190
80	+.249	+.095
81	+.249	.000
82	+.249	–.095
83	+.249	–.190
84	+.249	–.285
85	+.249	–.380
86	+.332	+.333
87	+.332	+.238
88	+.332	+.143
89	+.332	+.048
90	+.332	–.047
91	+.332	–.142
92	+.332	–.237
93	+.332	–.332
94	+.428	+.241
95	+.467	+.154
96	+.488	+.061
97	+.415	.000
98	+.488	–.061
99	+.428	–.142
100	+.428	–.237

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

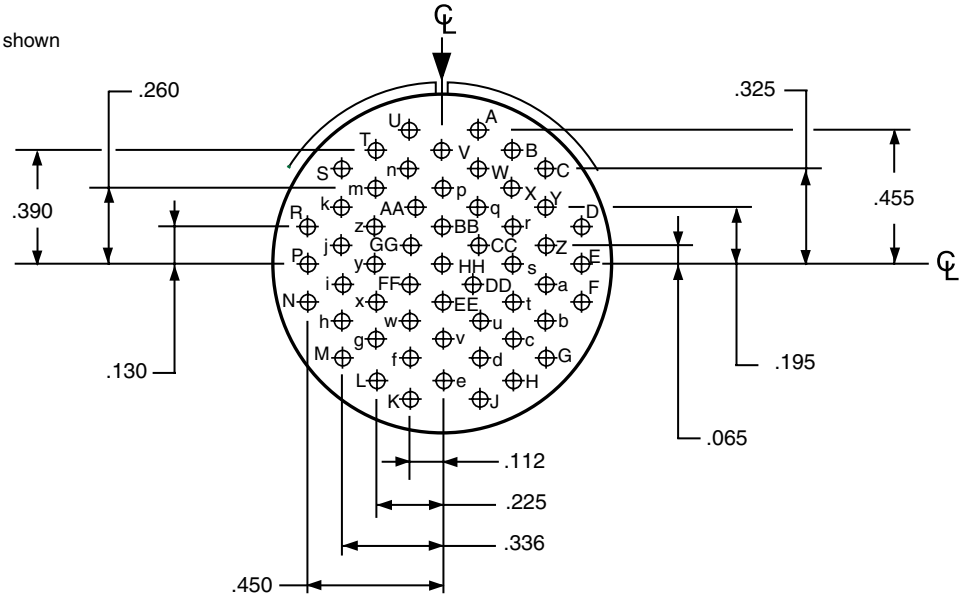
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #22-55 / 23-55

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	22-55	23-55	23-55	22-55	NA

Number of Contacts	Contact Size	Service Rating
55	20	I

Contact Locations
Front face of pin insert shown

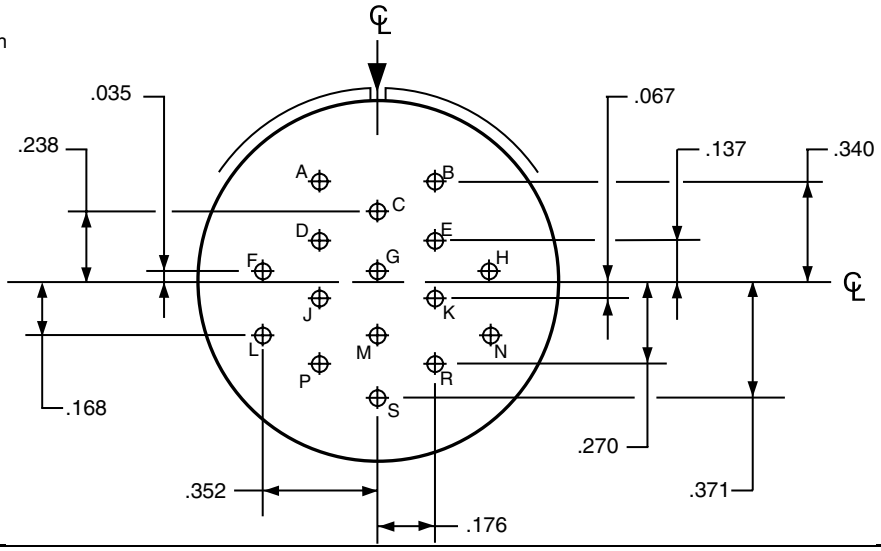


Insert Arrangement #24-5

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	24-5

Number of Contacts	Contact Size	Service Rating
16	16	A

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

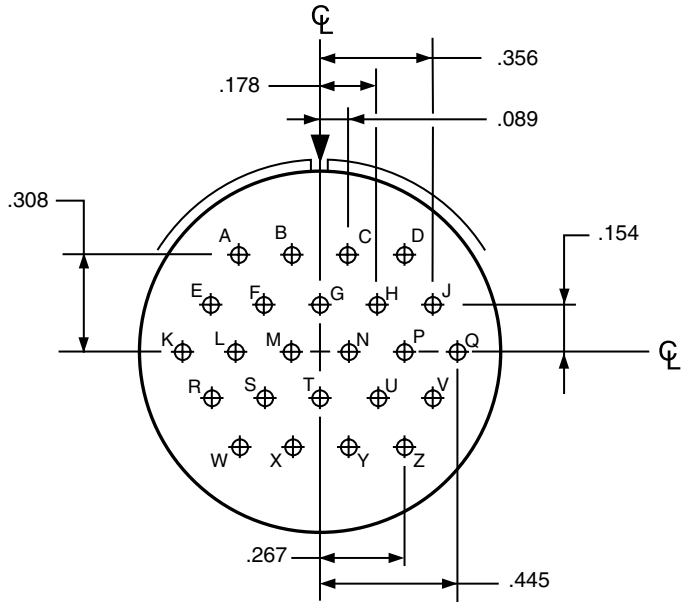
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #24-28

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	24-28

Number of Contacts	Contact Size	Service Rating
24	16	Inst.

Contact Locations
Front face of pin insert shown

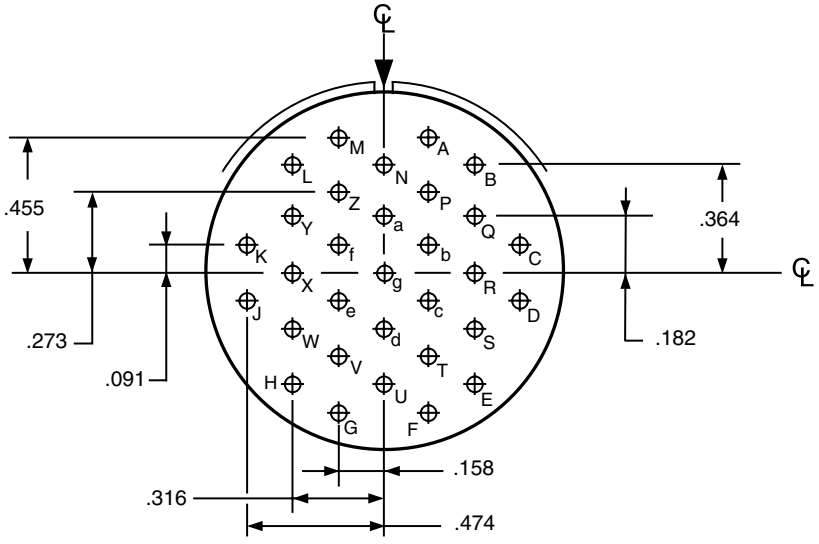


Insert Arrangement #24-31 / 25-31

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	24-31	NA	NA	24-31	NA

Number of Contacts	Contact Size	Service Rating
31	16	I

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

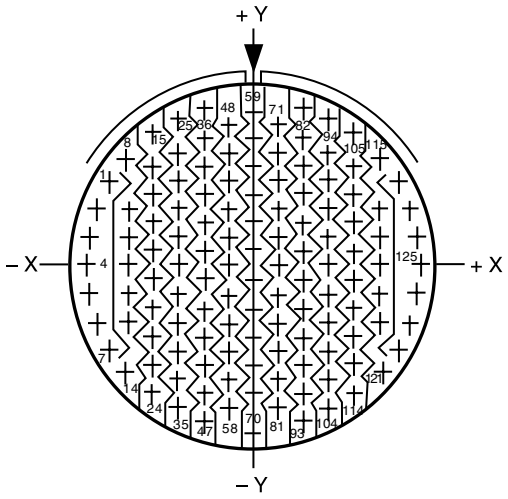
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #24-35 / 25-35

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	24-35	25-35	25-35	NA	NA

Number of Contacts	Contact Size	Service Rating
128	22D	M

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
1	–.479	+.279
2	–.520	+.190
3	–.546	+.095
4	–.555	.000
5	–.546	–.095
6	–.520	–.190
7	–.479	–.279
8	–.424	+.357
9	–.415	+.190
10	–.415	+.095
11	–.415	.000
12	–.415	–.095
13	–.415	–.190
14	–.424	–.357
15	–.332	+.444
16	–.332	+.332
17	–.332	+.237
18	–.332	+.142
19	–.332	+.047
20	–.332	–.047
21	–.332	–.142
22	–.332	–.237
23	–.332	–.332
24	–.332	–.427
25	–.249	+.496
26	–.249	+.380
27	–.249	+.285

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
28	–.249	+.190
29	–.249	+.095
30	–.249	.000
31	–.249	–.095
32	–.249	–.190
33	–.249	–.285
34	–.249	–.380
35	–.249	–.475
36	–.160	+.531
37	–.166	+.427
38	–.166	+.332
39	–.166	+.237
40	–.166	+.142
41	–.166	+.047
42	–.166	–.047
43	–.166	–.142
44	–.166	–.237
45	–.166	–.332
46	–.166	–.427
47	–.166	–.522
48	–.083	+.475
49	–.083	+.380
50	–.083	+.285
51	–.083	+.190
52	–.083	+.095
53	–.083	.000
54	–.083	–.095
55	–.083	–.190
56	–.083	–.285
57	–.083	–.380
58	–.083	–.475
59	.000	+.522
60	.000	+.427
61	.000	+.332
62	.000	+.237
63	.000	+.142
64	.000	+.047
65	.000	–.047
66	.000	–.142
67	.000	–.237
68	.000	–.332
69	.000	–.427
70	.000	–.555
71	+.083	+.475
72	+.083	+.380
73	+.083	+.285
74	+.083	+.190
75	+.083	+.095
76	+.083	.000
77	+.083	–.095

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
78	+.083	–.190
79	+.083	–.285
80	+.083	–.380
81	+.083	–.475
82	+.160	+.531
83	+.166	+.427
84	+.166	+.332
85	+.166	+.237
86	+.166	+.142
87	+.166	+.047
88	+.166	–.047
89	+.166	–.142
90	+.166	–.237
91	+.166	–.332
92	+.166	–.427
93	+.166	–.522
94	+.249	+.496
95	+.249	+.380
96	+.249	+.285
97	+.249	+.190
98	+.249	+.095
99	+.249	.000
100	+.249	–.095
101	+.249	–.190
102	+.249	–.285
103	+.249	–.380
104	+.249	–.475
105	+.332	+.444
106	+.332	+.332
107	+.332	+.237
108	+.332	+.142
109	+.332	+.047
110	+.332	–.047
111	+.332	–.142
112	+.332	–.237
113	+.332	–.332
114	+.332	–.427
115	+.424	+.357
116	+.415	+.190
117	+.415	+.095
118	+.415	.000
119	+.415	–.095
120	+.415	–.190
121	+.424	–.357
122	+.479	+.279
123	+.520	+.190
124	+.546	+.095
125	+.555	.000
126	+.546	–.095
127	+.520	–.190
128	+.479	–.279

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications. For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

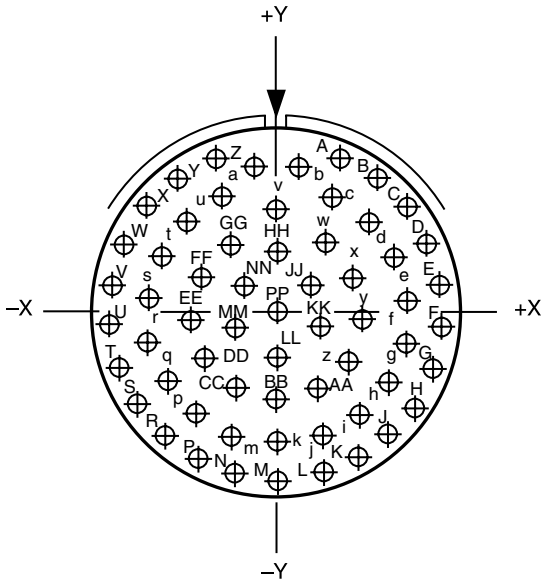
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #24-61 / 25-61

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	**24-61**	**25-61**	**25-61**	**24-61**	**NA**

Number of Contacts	Contact Size	Service Rating
61	**20**	**I**

Contact Locations
Front face of pin insert shown



Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
A	+.196	+.500
B	+.314	+.435
C	+.413	+.343
D	+.485	+.230
E	+.527	+.101
F	+.536	–.030
G	+.511	–.164
H	+.454	–.287
J	+.368	–.391
K	+.259	–.470
L	+.134	–.519
M	.000	–.537
N	–.134	–.519
P	–.259	–.470
R	–.368	–.391
S	–.454	–.287
T	–.511	–.164
U	–.536	–.030
V	–.527	+.101
W	–.485	+.230
X	–.413	+.343
Y	–.314	+.435
Z	–.196	+.500
a	–.068	+.454
b	+.068	+.454
c	+.173	+.363
d	+.285	+.283
e	+.362	+.175
f	+.399	+.046
g	+.392	–.088

Contact Hole Locations		
Contact Number	Location	
	X Axis	Y Axis
h	+.341	–.213
i	+.251	–.314
j	+.133	–.379
k	.000	–.402
m	–.133	–.379
n	–.251	–.314
p	–.341	–.213
q	–.392	–.088
r	–.399	+.046
s	–.362	+.175
t	–.285	+.283
u	–.173	+.363
v	.000	+.338
w	+.147	+.223
x	+.237	+.122
y	+.267	–.010
z	+.228	–.139
AA	+.131	–.233
BB	.000	–.267
CC	–.131	–.233
DD	–.228	–.139
EE	–.267	–.010
FF	–.237	+.122
GG	–.147	+.223
HH	.000	+.200
JJ	+.105	+.094
KK	+.135	–.041
LL	.000	–.132
MM	–.135	–.041
NN	–.105	+.094
PP	.000	.000

All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

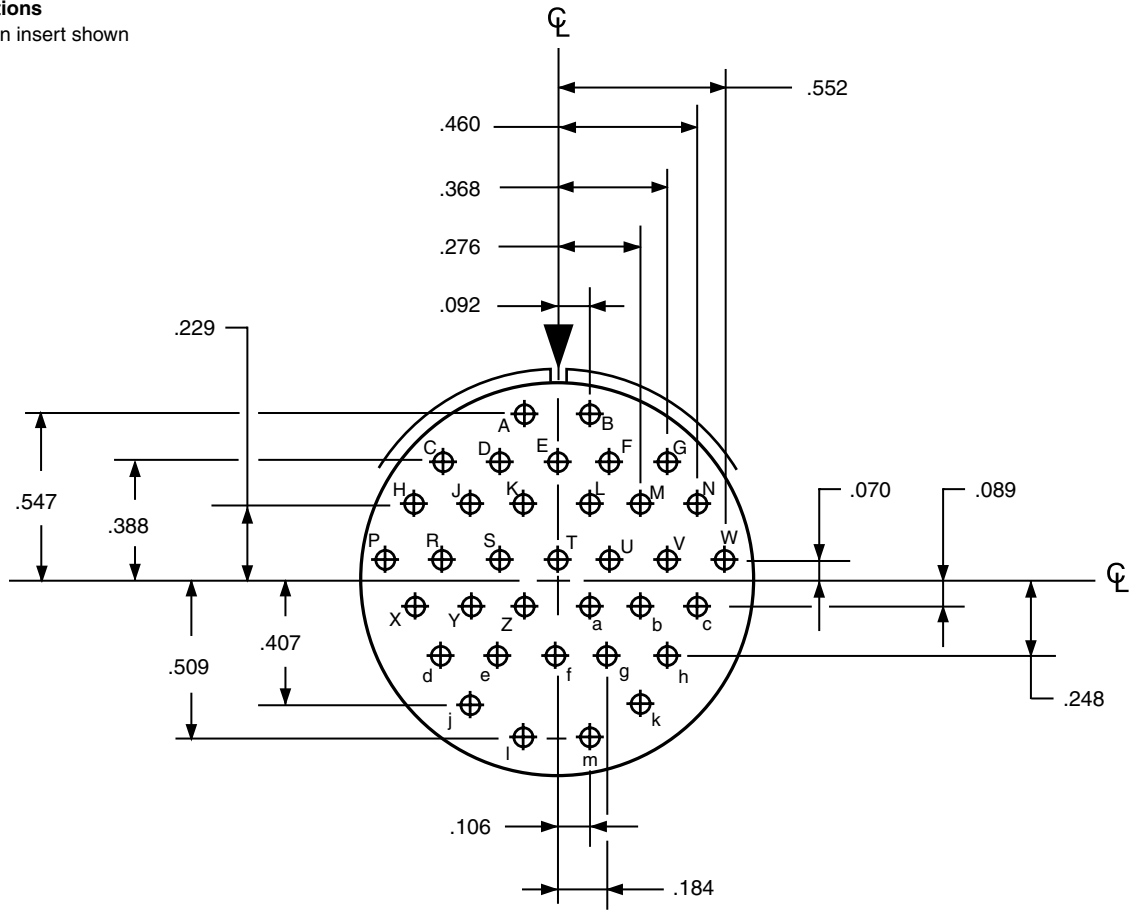
Cylindrical Connectors with PCB contacts
insert arrangements, cont.

Insert Arrangement #28-15

Connector Type:	JT MIL-DTL-38999 Series II	LJT MIL-DTL-38999 Series I	Tri-Start MIL-DTL-38999 Series III	MIL-C-26482 Series 1 & 2	MIL-C-5015
Insert Designation:	NA	NA	NA	NA	28-15

Number of Contacts	Contact Size	Service Rating
35	16	A

Contact Locations
Front face of pin insert shown



All dimensions for reference only. For alternate rotations see pages 24 & 25.
Note: Shown in this catalog are the most common insert patterns for PCB applications.
For availability of other arrangements, consult Amphenol Corp., Sidney, NY.

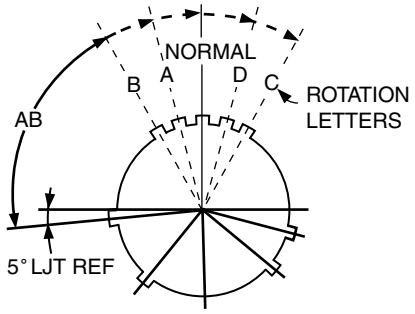
Cylindrical Connectors with PCB contacts
alternate positioning available for MIL-DTL-38999 connectors

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same series, size and arrangement, alternate rotations are available as indicated in the accompanying charts.

In MIL-DTL-38999 Series I, II and III connectors the rotation is based on rotating the master key/keyway in the connector shell. A plug with a given rotation letter will mate with a receptacle with the same rotation letter. Only the master key/keyway rotates in the shell, and the insert always remains in the same position relative to the minor keys. Refer to diagrams below for each connector series.

LJT (MIL-DTL-38999 Series I) KEY/KEYWAY ROTATION

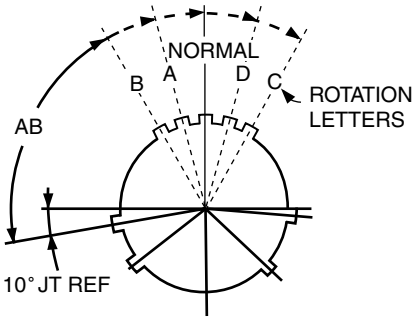
AB ANGLE OF ROTATION (Degrees)					
Shell Size	Normal°	A°	B°	C°	D°
9	95	77	–	–	113
11	95	81	67	123	109
13	95	75	63	127	115
15	95	74	61	129	116
17	95	77	65	125	113
19	95	77	65	125	113
21	95	77	65	125	113
23	95	80	69	121	110
25	95	80	69	121	110



RELATIVE POSSIBLE POSITION
OF ROTATED MASTER KEYWAY
(front face of LJT connector receptacle shown)

JT (MIL-DTL-38999 Series II) KEY/KEYWAY ROTATION

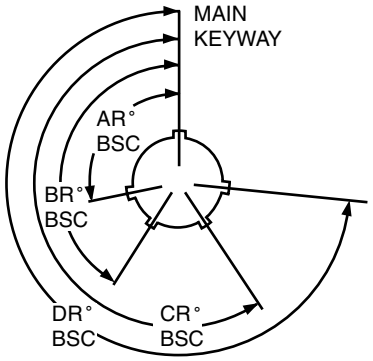
AB ANGLE OF ROTATION (Degrees)					
Shell Size	Normal°	A°	B°	C°	D°
8	100	82	–	–	118
10	100	86	72	128	114
12	100	80	68	132	120
14	100	79	66	134	121
16	100	82	70	130	118
18	100	82	70	130	118
20	100	82	70	130	118
22	100	85	74	126	115
24	100	85	74	126	115



RELATIVE POSSIBLE POSITION
OF ROTATED MASTER KEYWAY
(front face of JT connector receptacle shown)

Tri-Start (MIL-DTL-38999 Series III) KEY/KEYWAY ROTATION

Shell Size	Key & Keyway Arrangement Identification Letter	AR° BSC	BR° BSC	CR° BSC	DR° BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
	E	91	131	197	240
11, 13, and 15	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242
17 and 19	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
21, 23, and 25	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272



RELATIVE POSSIBLE POSITION
OF ROTATED MASTER KEYWAY
(front face of Tri-Start connector receptacle shown)

Cylindrical Connectors with PCB contacts
alternate positioning available for MIL-C-26482 and MIL-C-5015 connectors

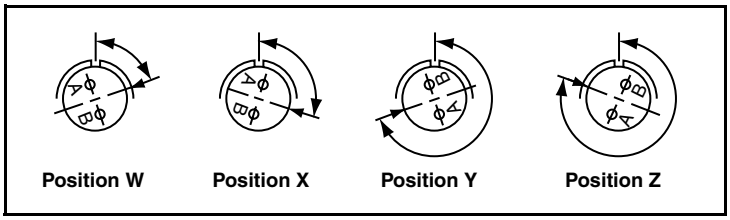
To avoid cross-plugging problems in applications requiring the use of more than one connector of the same series, size and arrangement, alternate rotations are available as indicated in the accompanying charts.

In MIL-C-26482 and MIL-C-5015 connectors the rotation is based on rotation of the insert within the connector.

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The front face of the pin insert is rotated within the shell in a clockwise direction from the normal shell key. Refer to diagram below for both MIL-C-26482 and MIL-C-5015 connectors.

MIL-C-26482 INSERT ROTATION

Insert Rotation					
Shell Size	Insert Arrangement	Degrees			
		W	X	Y	Z
8	8-3	60	210	–	–
8	8-98	–	–	–	–
10	10-5	45	151	180	270
14	14-18	15	90	180	270
14	14-19	30	165	315	–
16	16-26	60	–	275	338
18	18-32	85	138	222	265
20	20-41	45	126	225	–
22	22-36	72	144	216	288
24	24-31	90	225	255	–
24	24-61	90	180	270	324



RELATIVE POSSIBLE POSITION
OF ROTATED INSERT
(front face of connector receptacle shown)
(MIL-C-26482 and MIL-C-5015)

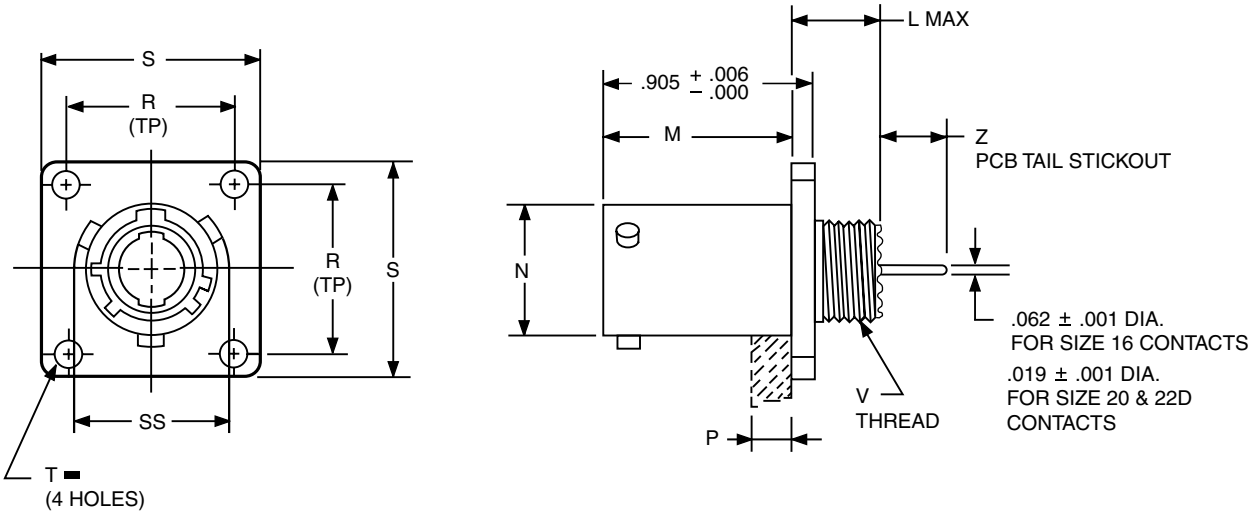
MIL-C-5015 INSERT ROTATION

Insert Rotation					
Shell Size	Insert Arrangement	Degrees			
		W	X	Y	Z
10	10SL-3	–	–	–	–
14	14S-6	–	–	–	–
16	16S-1	80	–	–	280
18	18-1	70	145	215	290
20	20-11	–	–	–	–
22	22-14	80	110	250	280
24	24-28	80	110	250	280
28	28-15	80	110	250	280

MIL-DTL-38999 Series I Type Connectors with PCB contacts

LJTPQ00R wall mounting receptacle

(back panel mounting)



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

▬ Ⓟ .005 DIA Ⓜ

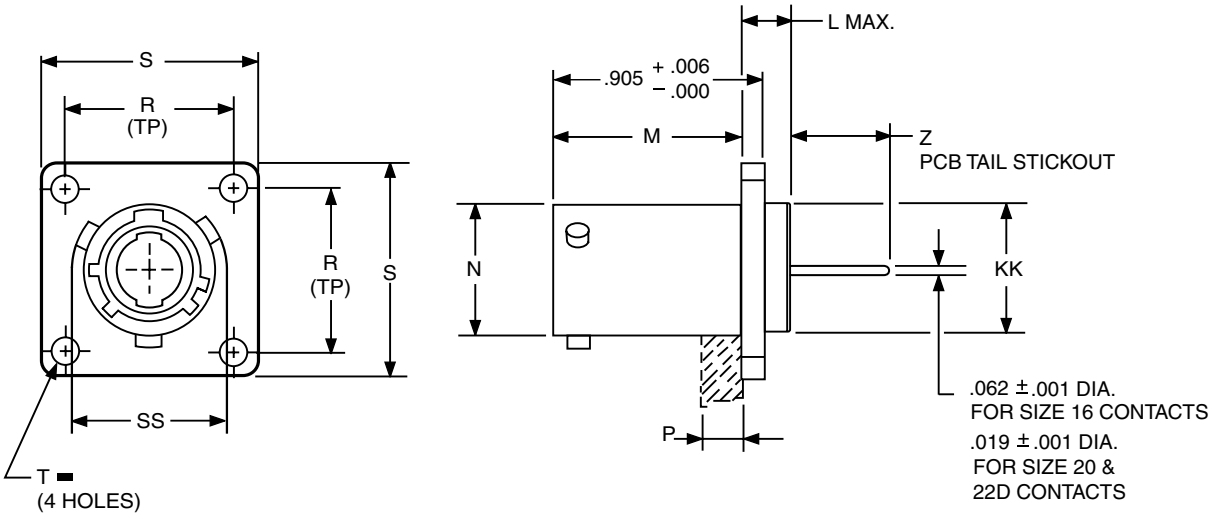
Shell Size	Part Number	L Max.	M +.000 –.005	N Dia.	P Max. Panel Thickness	R (TP)	S +.011 –.010	T Dia. ±.005	V Thread Class 2A (Plated)	SS Dia. +.000 –.016	Z	
											Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569701-XXX	.453	.820	.572	.234	.719	.938	.128	.4375-28 UNEF	.662	.281 – .235	.249 – .188
11	702-XXX	.453	.820	.700	.234	.812	1.031	.128	.5625-24 UNEF	.810	.281 – .235	.249 – .188
13	703-XXX	.453	.820	.850	.234	.906	1.125	.128	.6875-24 UNEF	.960	.281 – .235	.249 – .188
15	704-XXX	.453	.820	.975	.234	.969	1.219	.128	.8125-20 UNEF	1.085	.281 – .235	.249 – .188
17	705-XXX	.453	.820	1.100	.234	1.062	1.312	.128	.9375-20 UNEF	1.210	.281 – .235	.249 – .188
19	706-XXX	.453	.820	1.207	.234	1.156	1.438	.128	1.0625-18 UNEF	1.317	.281 – .235	.249 – .188
21	707-XXX	.484	.790	1.332	.204	1.250	1.562	.128	1.1875-18 UNEF	1.442	.281 – .235	.249 – .188
23	708-XXX	.484	.790	1.457	.204	1.375	1.688	.147	1.3125-18 UNEF	1.567	.281 – .235	.249 – .188
25	709-XXX	.484	.790	1.582	.193	1.500	1.812	.147	1.4375-18 UNEF	1.692	.281 – .235	.249 – .188

All dimensions for reference only.

MIL-DTL-38999 Series I Type Connectors with PCB contacts

LJTP02R box mounting receptacle

(back panel mounting)



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

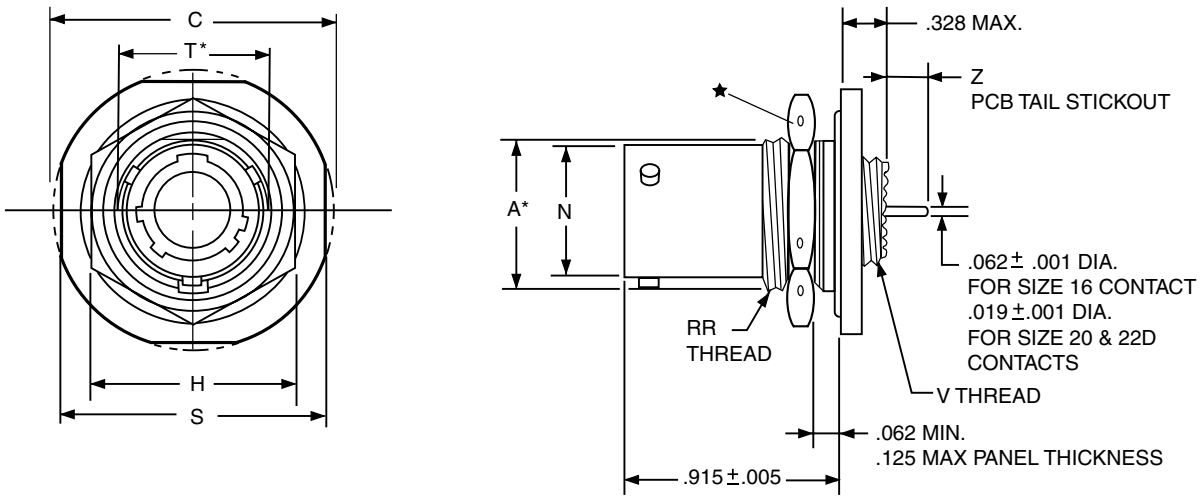
▬ Ⓟ .005 DIA Ⓜ

Shell Size	Part Number	L Max.	M +.000 –.005	N +.001 –.005	P Max. Panel Thickness	R (TP)	S +.011 –.010	T Dia. ±.005	KK Dia. +.006 –.005	SS Dia. +.000 –.016	Z	
											Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569711-XXX	.203	.820	.572	.234	.719	.938	.128	.433	.662	.454 – .401	.468 – .406
11	712-XXX	.203	.820	.700	.234	.812	1.031	.128	.557	.810	.454 – .401	.468 – .406
13	713-XXX	.203	.820	.850	.234	.906	1.125	.128	.676	.960	.454 – .401	.468 – .406
15	714-XXX	.203	.820	.975	.234	.969	1.219	.128	.801	1.085	.454 – .401	.468 – .406
17	715-XXX	.203	.820	1.100	.234	1.062	1.312	.128	.926	1.210	.454 – .401	.468 – .406
19	716-XXX	.203	.820	1.207	.234	1.156	1.438	.128	1.032	1.317	.454 – .401	.468 – .406
21	717-XXX	.234	.790	1.332	.204	1.250	1.562	.128	1.157	1.442	.454 – .401	.468 – .406
23	718-XXX	.234	.790	1.457	.204	1.375	1.688	.147	1.282	1.567	.454 – .401	.468 – .406
25	719-XXX	.234	.790	1.582	.193	1.500	1.812	.147	1.407	1.692	.454 – .401	.468 – .406

All dimensions for reference only.

MIL-DTL-38999 Series I Type Connectors with PCB contacts

LJT07R jam nut receptacle



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

★.059 dia. min. 3 lockwire holes.
Formed lockwire hole design (6 holes) is optional.
* "D" shaped mounting hole dimensions

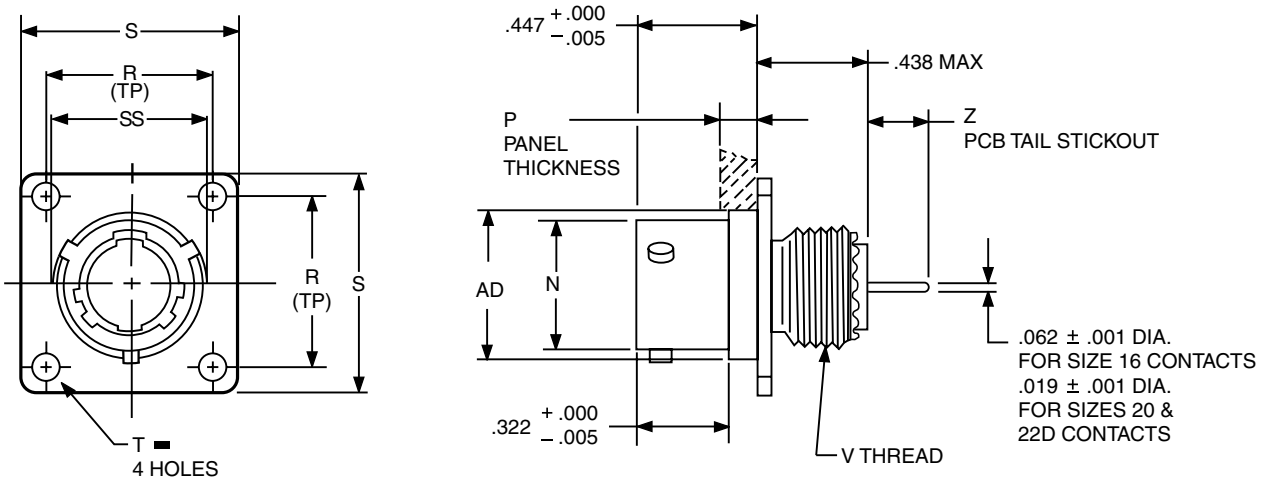
Shell Size	Part Number	A* +.000 –.010	C Max.	H Hex +.017 –.016	L Max.	N +.001 –.005	S ±.016	T* +.010 –.000	V Thread Class 2A (Plated)	RR Thread Class 2A (Plated)	Z	
											Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569721-XXX	.669	1.199	.875	.625	.572	1.062	.697	.4375-28 UNEF	.6875-24 UNEF	.229 – .175	.243 – .182
11	722-XXX	.769	1.386	1.000	.625	.700	1.250	.822	.5625-24 UNEF	.8125-20 UNEF	.229 – .175	.243 – .182
13	723-XXX	.955	1.511	1.188	.625	.850	1.375	1.007	.6875-24 UNEF	1.0000-20 UNEF	.229 – .175	.243 – .182
15	724-XXX	1.084	1.636	1.312	.625	.975	1.500	1.134	.8125-20 UNEF	1.1250-18 UNEF	.229 – .175	.243 – .182
17	725-XXX	1.208	1.761	1.438	.625	1.100	1.625	1.259	.9375-20 UNEF	1.2500-18 UNEF	.229 – .175	.243 – .182
19	726-XXX	1.333	1.949	1.562	.656	1.207	1.812	1.384	1.0625-18 UNEF	1.3750-18 UNEF	.207 – .158	.221 – .165
21	727-XXX	1.459	2.073	1.688	.750	1.332	1.938	1.507	1.1875-18 UNEF	1.5000-18 UNEF	.207 – .158	.221 – .165
23	728-XXX	1.580	2.199	1.812	.750	1.457	2.062	1.634	1.3125-18 UNEF	1.6250-18 UNEF	.207 – .158	.221 – .165
25	729-XXX	1.709	2.323	2.000	.750	1.582	2.188	1.759	1.4375-18 UNEF	1.7500-18 UNS	.207 – .158	.221 – .165

All dimensions for reference only.

MIL-DTL-38999 Series II Type Connectors with PCB contacts

JTPQ00R wall mounting receptacle

(back panel mounting)



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

▬ Ⓟ .005 DIA Ⓜ

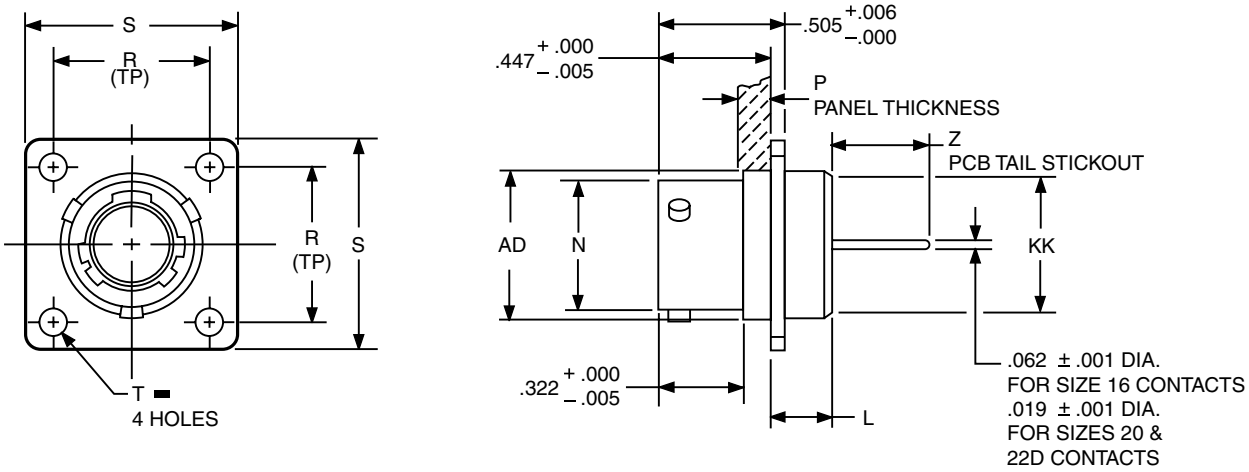
Shell Size	Part Number	N +.001 –.005	P Max. Panel Thickness	R (TP)	S ±.016	T Dia. ±.005	V Thread Class 2A (Plated)	AD Dia. ±.005	SS Dia. +.000 –.016	Z	
										Size 16 & 20 Contacts	Size 22D Contacts
8	88/91-569731-XXX	.473	.142	.594	.812	.120	.4375-28 UNEF	.516	.563	.257 – .200	.268 – .178
10	732-XXX	.590	.142	.719	.938	.120	.5625-24 UNEF	.633	.680	.257 – .200	.268 – .178
12	733-XXX	.750	.142	.812	1.031	.120	.6875-24 UNEF	.802	.859	.257 – .200	.268 – .178
14	734-XXX	.875	.142	.906	1.125	.120	.8125-20 UNEF	.927	.984	.257 – .200	.268 – .178
16	735-XXX	1.000	.142	.969	1.219	.120	.9375-20 UNEF	1.052	1.108	.257 – .200	.268 – .178
18	736-XXX	1.125	.142	1.062	1.312	.120	1.0625-18 UNEF	1.177	1.233	.257 – .200	.268 – .178
20	737-XXX	1.250	.142	1.156	1.438	.120	1.1875-18 UNEF	1.302	1.358	.257 – .200	.268 – .178
22	738-XXX	1.375	.142	1.250	1.562	.120	1.3125-18 UNEF	1.427	1.483	.257 – .200	.268 – .178
24	739-XXX	1.500	.142	1.375	1.688	.147	1.4375-18 UNEF	1.552	1.610	.257 – .200	.268 – .178

All dimensions for reference only.

MIL-DTL-38999 Series II Type Connectors with PCB contacts

JTP02R box mounting receptacle

(back panel mounting)



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

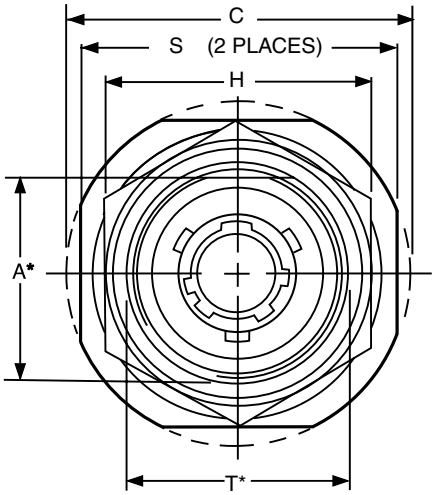
▬ Ⓣ .005 DIA Ⓜ

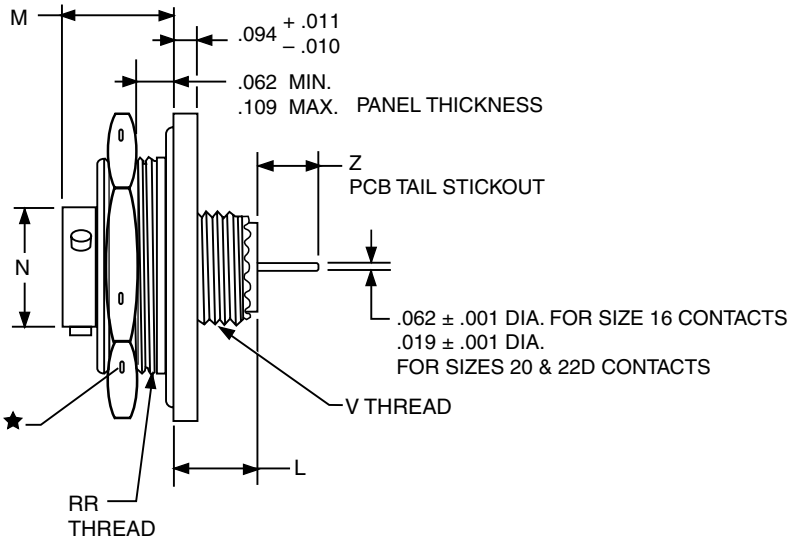
Shell Size	Part Number	L Max.	N +.001 –.005	P Max. Panel Thickness	R (TP)	S ±.016	T Dia. ±.005	AD Dia. ±.005	KK Dia. Max.	Z	
										Size 16 & 20 Contacts	Size 22D Contacts
8	88/91-569741-XXX	.225	.473	.147	.594	.812	.120	.516	.531	.455 – .403	.466 – .409
10	742-XXX	.225	.590	.152	.719	.938	.120	.633	.656	.455 – .403	.466 – .409
12	743-XXX	.225	.750	.152	.812	1.031	.120	.802	.828	.455 – .403	.466 – .409
14	744-XXX	.225	.875	.152	.906	1.125	.120	.927	.953	.455 – .403	.466 – .409
16	745-XXX	.225	1.000	.152	.969	1.219	.120	1.052	1.078	.455 – .403	.466 – .409
18	746-XXX	.225	1.125	.152	1.062	1.312	.120	1.177	1.203	.455 – .403	.466 – .409
20	747-XXX	.225	1.250	.179	1.156	1.438	.120	1.302	1.328	.455 – .403	.466 – .409
22	748-XXX	.225	1.375	.179	1.250	1.562	.120	1.427	1.453	.455 – .403	.466 – .409
24	749-XXX	.225	1.500	.169	1.375	1.688	.147	1.552	1.578	.455 – .403	.466 – .409

All dimensions for reference only.

MIL-DTL-38999 Series II Type Connectors with PCB contacts

JT07R jam nut receptacle





HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

★.059 dia. min. 3 lockwire holes.
Formed lockwire hole design (6 holes) is optional.

* "D" shaped mounting hole dimensions

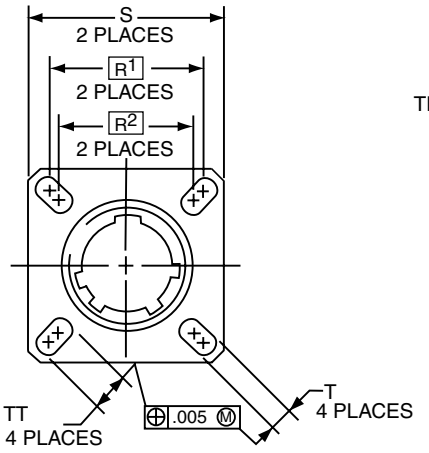
Shell Size	Part Number	A* +.000 –.010	C Max.	H Hex +.017 –.016	L Max.	M ±.005	N +.001 –.005	S ±.016	T* +.010 –.000	V Thread Class 2A (Plated)	RR Thread Class 2A (Plated)	Z	
												Size 16 & 20 Contacts	Size 22D Contacts
8	88/91-569751-XXX	.830	1.390	1.062	.453	.438	.473	1.250	.884	.4375-28 UNEF	.8750-20 UNEF	.272 – .200	.283 – .178
10	752-XXX	.955	1.515	1.188	.453	.438	.590	1.375	1.007	.5625-24 UNEF	1.0000-20 UNEF	.272 – .200	.283 – .178
12	753-XXX	1.084	1.640	1.312	.453	.438	.750	1.500	1.134	.6875-24 UNEF	1.1250-18 UNEF	.272 – .200	.283 – .178
14	754-XXX	1.208	1.765	1.438	.453	.438	.875	1.625	1.259	.8125-20 UNEF	1.2500-18 UNEF	.272 – .200	.283 – .178
16	755-XXX	1.333	1.953	1.562	.453	.438	1.000	1.781	1.384	.9375-20 UNEF	1.3750-18 UNEF	.272 – .200	.283 – .178
18	756-XXX	1.459	2.031	1.688	.453	.438	1.125	1.890	1.507	1.0625-18 UNEF	1.5000-18 UNEF	.272 – .200	.283 – .178
20	757-XXX	1.576	2.156	1.812	.422	.464	1.250	2.016	1.634	1.1875-18 UNEF	1.6250-18 UNEF	.272 – .200	.283 – .178
22	758-XXX	1.701	2.280	2.000	.422	.464	1.375	2.140	1.759	1.3125-18 UNEF	1.7500-18 UNS	.272 – .200	.283 – .178
24	759-XXX	1.826	2.405	2.125	.422	.464	1.500	2.265	1.884	1.4375-18 UNEF	1.8750-16 UN	.272 – .200	.283 – .178

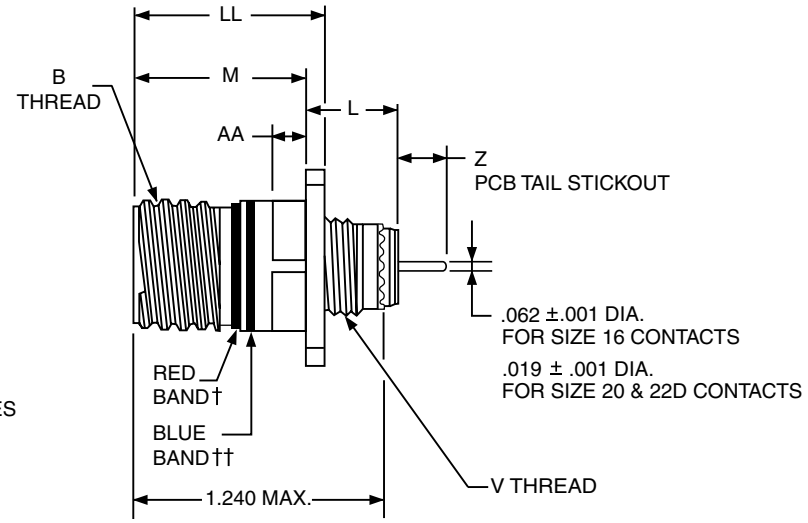
All dimensions for reference only.

MIL-DTL-38999 Series III Type Connectors with PCB contacts

TVP00R wall mounting receptacle

(back panel mounting)





HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

□ Designates true position dimensioning

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system

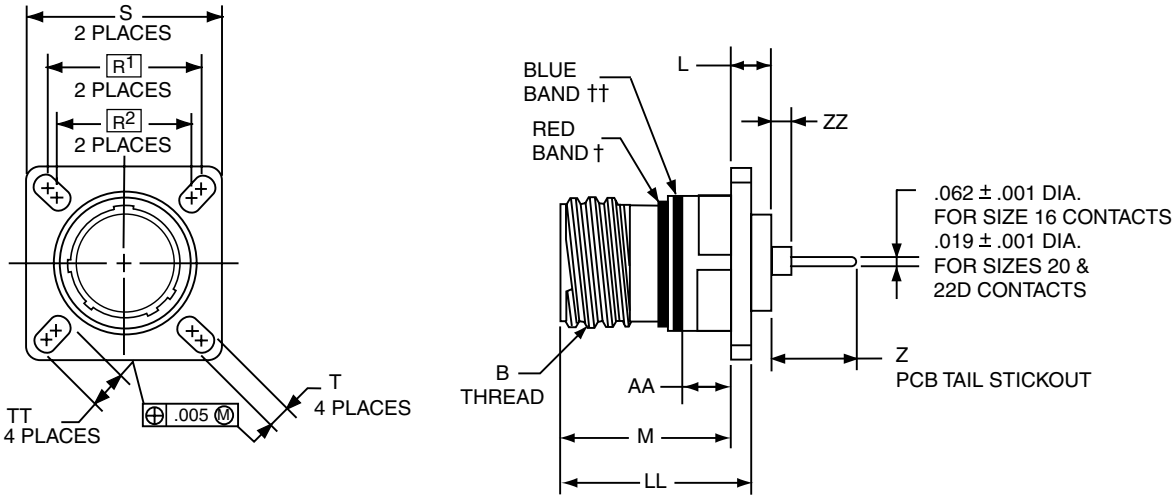
Shell Size	Part Number	B Thread Class 2A (Plated) 0.1P-0.3L-TS	L Max.	M +.000 –.005	R1	R2	S Max.	T +.008 –.006	V Thread Metric	AA Max. Panel Thickness	LL +.006 –.000	TT +.008 –.006	Z	
													Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569761-XXX	.6250	.469	.820	.719	.594	.948	.128	M12X1-6g	.234	.905	.216	.228 – .178	.242 – .181
11	762-XXX	.7500	.469	.820	.812	.719	1.043	.128	M15X1-6g	.234	.905	.194	.228 – .178	.242 – .181
13	763-XXX	.8750	.469	.820	.906	.812	1.137	.128	M18X1-6g	.234	.905	.194	.228 – .178	.242 – .181
15	764-XXX	1.0000	.469	.820	.969	.906	1.232	.128	M22X1-6g	.234	.905	.173	.228 – .178	.242 – .181
17	765-XXX	1.1875	.469	.820	1.062	.969	1.323	.128	M25X1-6g	.234	.905	.194	.228 – .178	.242 – .181
19	766-XXX	1.2500	.469	.820	1.156	1.062	1.449	.128	M28X1-6g	.234	.905	.194	.228 – .178	.242 – .181
21	767-XXX	1.3750	.500	.790	1.250	1.156	1.575	.128	M31X1-6g	.204	.905	.194	.228 – .178	.242 – .181
23	768-XXX	1.5000	.500	.790	1.375	1.250	1.701	.154	M34X1-6g	.204	.905	.242	.228 – .178	.242 – .181
25	769-XXX	1.6250	.500	.790	1.500	1.375	1.823	.154	M37X1-6g	.204	.905	.242	.228 – .178	.242 – .181

All dimensions for reference only.

Composite connectors available; consult Amphenol, Sidney, NY

MIL-DTL-38999 Series III Type Connectors with PCB contacts

TVP02R box mounting receptacle



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

□ Designates true position dimensioning
† Red band indicates fully mated
†† Blue band indicates rear release contact retention system

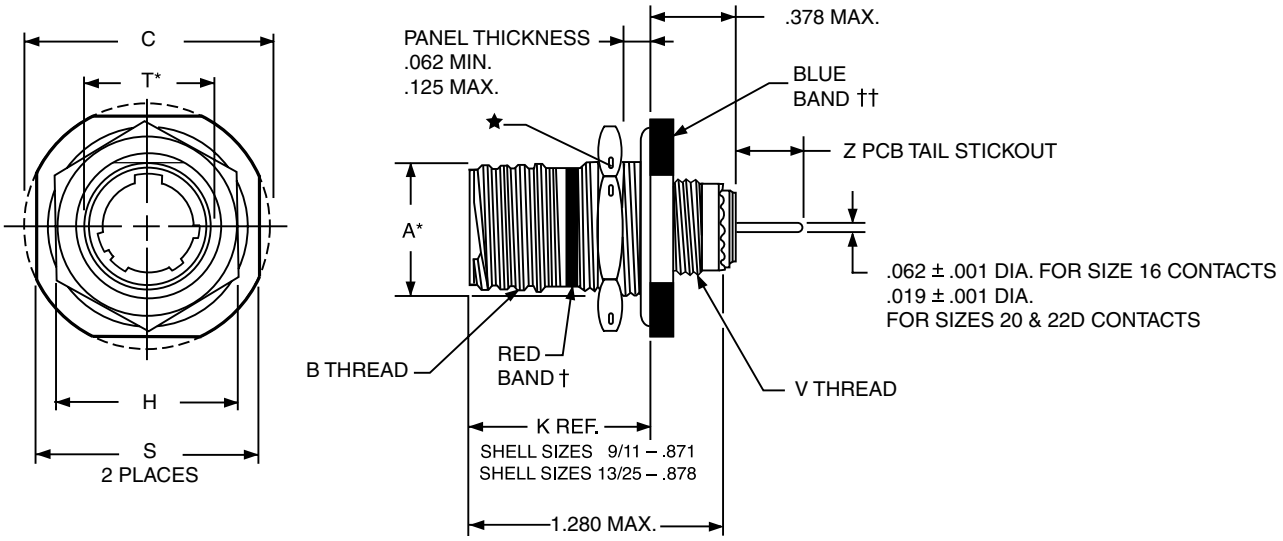
Shell Size	Part Number	B Thread Class 2A (Plated) 0.1P-0.3L-TS	L Max.	M +.000 –.005	R1	R2	S Max.	T +.008 –.006	AA Max. Panel Thickness	LL +.006 –.000	TT +.008 –.006	Z		ZZ	
												Size 16 & 20 Contacts	Size 22D Contacts	Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569771-XXX	.6250	.205	.820	.719	.594	.948	.128	.234	.905	.216	.460 – .375	.471 – .399	.162 – .072	.142 – .022
11	772-XXX	.7500	.205	.820	.812	.719	1.043	.128	.234	.905	.194	.460 – .375	.471 – .399	.162 – .072	.142 – .022
13	773-XXX	.8750	.205	.820	.906	.812	1.137	.128	.234	.905	.194	.460 – .375	.471 – .399	.162 – .072	.142 – .022
15	774-XXX	1.0000	.205	.820	.969	.906	1.232	.128	.234	.905	.173	.460 – .375	.471 – .399	.162 – .072	.142 – .022
17	775-XXX	1.1875	.205	.820	1.062	.969	1.323	.128	.234	.905	.194	.460 – .375	.471 – .399	.162 – .072	.142 – .022
19	776-XXX	1.2500	.205	.820	1.156	1.062	1.449	.128	.234	.905	.194	.460 – .375	.471 – .399	.162 – .072	.142 – .022
21	777-XXX	1.3750	.235	.790	1.250	1.156	1.575	.128	.204	.905	.194	.460 – .375	.471 – .399	.162 – .072	.142 – .022
23	778-XXX	1.5000	.235	.790	1.375	1.250	1.701	.154	.204	.905	.242	.460 – .375	.471 – .399	.162 – .072	.142 – .022
25	779-XXX	1.6250	.235	.790	1.500	1.375	1.823	.154	.204	.905	.242	.460 – .375	.471 – .399	.162 – .072	.142 – .022

All dimensions for reference only.

Composite connectors available; consult Amphenol, Sidney, NY

MIL-DTL-38999 Series III Type Connectors with PCB contacts

TV07R jam nut receptacle



HOW TO ORDER

- Order by applicable 88/91 part number in table below.
  88 prefix designates olive drab cadmium plated connector shell.
  91 prefix designates electroless nickel plated connector shell.
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

† Red band indicates fully mated
†† Blue band indicates rear release contact retention system
★ .059 dia. min. 3 lockwire holes. Formed lockwire hole design (6 holes) is optional.
* "D" shaped mounting hole dimensions

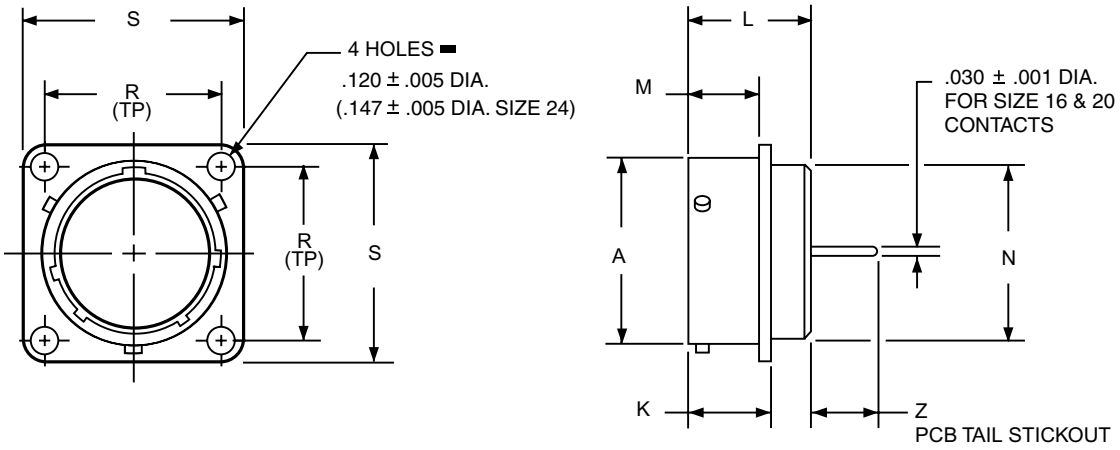
Shell Size	Part Number	A* +.000 –.000	B Thread Class 2A (Plated) 0.1P-0.3L-TS	C Max.	H Hex +.017 –.016	S ±.010	T +.010 –.000	V Thread Metric	Z	
									Size 16 & 20 Contacts	Size 22D Contacts
9	88/91-569781-XXX	.669	.6250	1.199	.875	1.062	.697	M12X1-6g	.244 – .200	.258 – .206
11	782-XXX	.769	.7500	1.386	1.000	1.250	.822	M15X1-6g	.244 – .200	.258 – .206
13	783-XXX	.955	.8750	1.511	1.188	1.375	1.007	M18X1-6g	.244 – .200	.258 – .206
15	784-XXX	1.084	1.0000	1.636	1.312	1.500	1.134	M22X1-6g	.244 – .200	.258 – .206
17	785-XXX	1.208	1.1875	1.761	1.438	1.625	1.259	M25X1-6g	.244 – .200	.258 – .206
19	786-XXX	1.333	1.2500	1.949	1.562	1.812	1.384	M28X1-6g	.222 – .177	.236 – .180
21	787-XXX	1.459	1.3750	2.073	1.688	1.938	1.507	M31X1-6g	.222 – .177	.236 – .180
23	788-XXX	1.575	1.5000	2.199	1.812	2.062	1.634	M34X1-6g	.222 – .177	.236 – .180
25	789-XXX	1.709	1.6250	2.323	2.000	2.188	1.759	M37X1-6g	.222 – .177	.236 – .180

All dimensions for reference only.

Composite connectors available; consult Amphenol, Sidney, NY

MIL-C-26482 Series 1 Type Connectors with PCB contacts

PT02 box mounting receptacle



HOW TO ORDER

- Order by applicable 71 part number in table below.
  71 prefix designates olive drab cadmium plated connector shell.
  (For availability of other finishes consult Amphenol, Sidney, NY)
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

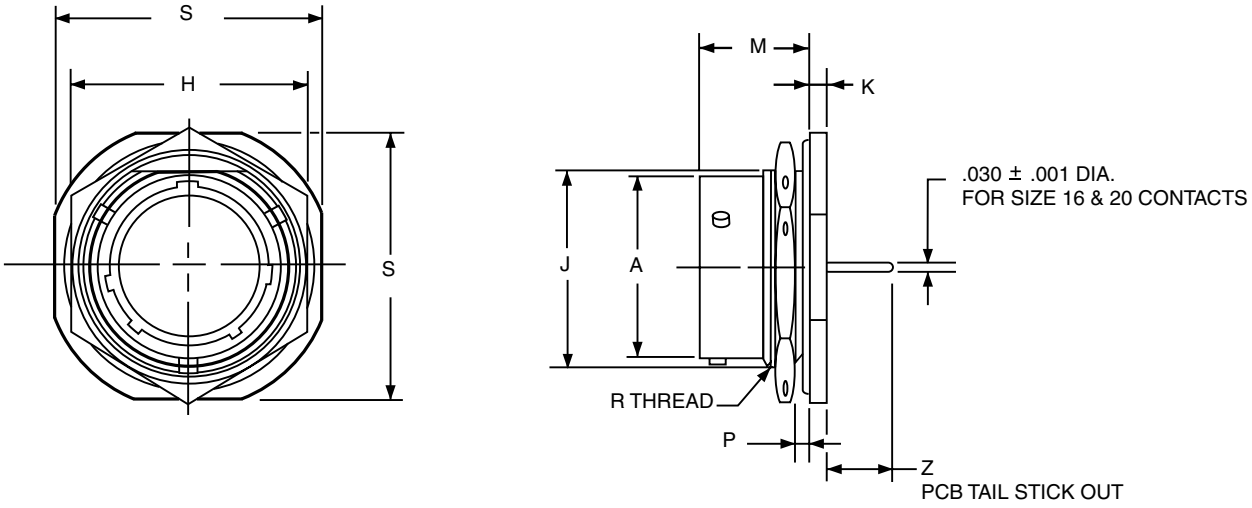
■ (MMC) located within .0025 of (TP)

Shell Size	Part Number	A +.001 –.005	K +.021 –.010	L Max.	M +.010 –.000	N Dia. Max.	R (TP)	S +.011 –.010	Z +.040 –.050 Size 16 & 20 Contacts
6	71-570120-XXX	.348	.493	.825	.431	.323	.469	.688	.380
8	71-570121-XXX	.473	.493	.825	.431	.449	.594	.812	.380
10	71-570122-XXX	.590	.493	.825	.431	.573	.719	.938	.380
12	71-570123-XXX	.750	.493	.825	.431	.699	.812	1.031	.380
14	71-570124-XXX	.875	.493	.825	.431	.823	.906	1.125	.380
16	71-570125-XXX	1.000	.493	.825	.431	.949	.969	1.219	.380
18	71-570126-XXX	1.125	.493	.825	.431	1.073	1.062	1.312	.380
20	71-570127-XXX	1.250	.650	1.076	.556	1.199	1.156	1.438	.286
22	71-570128-XXX	1.375	.650	1.076	.556	1.323	1.250	1.562	.286
24	71-570129-XXX	1.500	.683	1.109	.589	1.449	1.375	1.688	.253

All dimensions for reference only.

MIL-C-26482 Series 1 Type Connectors with PCB contacts

PT07 jam nut receptacle



HOW TO ORDER

- Order by applicable 71 part number in table below.
  71 prefix designates olive drab cadmium plated connector shell.
  (For availability of other finishes consult Amphenol, Sidney, NY)
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

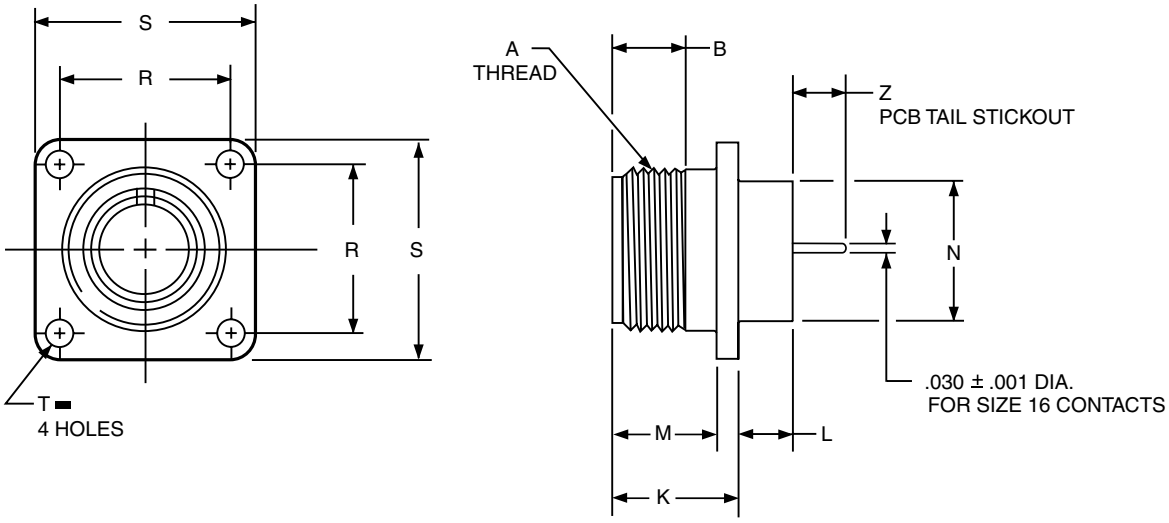
All lockwire holes are .044 dia. min.

Shell Size	Part Number	A Dia. +.001 −.005	H +.017 −.016	J Flat +.000 −.010	K +.011 −.010	M ±.010	P Panel Thickness		R Thread Class 2A	S ±.010	Z +.025 −.035
							Min.	Max.			Size 16 & 20 Contacts
6	71-533720-XXX	.348	.625	.405	.125	.696	.062	.125	.4375-28 UNEF	.812	.376
8	71-533721-XXX	.473	.750	.530	.125	.696	.062	.125	.5625-24 UNEF	.938	.376
10	71-533722-XXX	.590	.875	.655	.125	.696	.062	.125	.6875-24 UNEF	1.062	.376
12	71-533723-XXX	.750	1.062	.818	.125	.696	.062	.125	.8750-20 UNEF	1.250	.376
14	71-533724-XXX	.875	1.188	.942	.125	.696	.062	.125	1.0000-20 UNEF	1.375	.376
16	71-533725-XXX	1.000	1.312	1.066	.125	.696	.062	.125	1.1250-18 UNEF	1.500	.376
18	71-533726-XXX	1.125	1.438	1.191	.125	.696	.062	.125	1.2500-18 UNEF	1.625	.376
20	71-533727-XXX	1.250	1.562	1.316	.156	.884	.062	.250	1.3750-18 UNEF	1.812	.367
22	71-533728-XXX	1.375	1.688	1.441	.156	.884	.062	.250	1.5000-18 UNEF	1.938	.367
24	71-533729-XXX	1.500	1.816	1.566	.156	.917	.062	.250	1.6250-18 UNEF	2.062	.334

All dimensions for reference only.

MIL-C-5015 Type Connectors with PCB contacts

MS3102R box mounting receptacle



HOW TO ORDER

- Order by applicable 10- part number in table below.
  10- prefix designates olive drab cadmium plated connector shell.
  (For availability of other finishes consult Amphenol, Sidney, NY)
- Add insert arrangement to end of number. Refer to insert availability chart on page 3 and pin-out illustrations on pages 3-23.
- Z dimension is determined by contact type in the insert arrangement.
- Most common options are shown; other options are available.

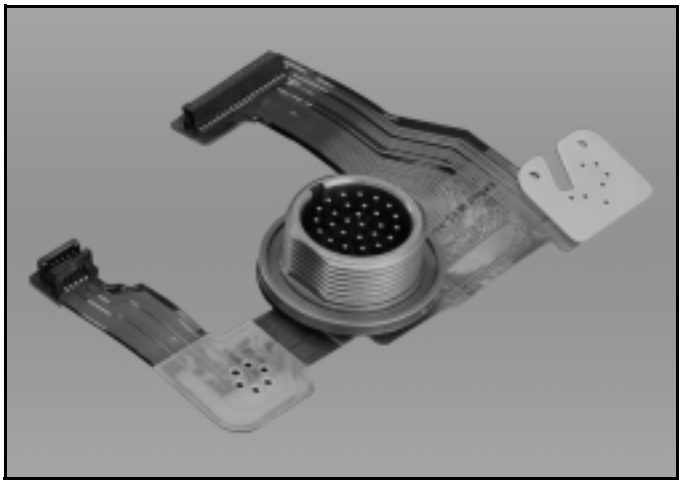
Shell Size	Part Number	A Thread Class 2A	B Min. Full Thread	K +.020 –.010	L +.000 –.010	M +.010 –.000	N Dia. +.010 –.000	R ±.005	S ±.031	T Dia. +.004 –.002	Z ±.045 Size 16 Contacts
8S	10-602460-XXX	.5000-28 UNEF	.391	.672	.297	.562	.375	.594	.875	.120	.188
10S	461-XXX	.6250-24 NEF	.391	.672	.297	.562	.500	.719	1.000	.120	.188
10SL	462-XXX	.6250-24 NEF	.391	.672	.297	.562	.625	.719	1.000	.120	.188
12S	463-XXX	.7500-20 UNEF	.450	.672	.297	.562	.625	.812	1.094	.120	.188
12	464-XXX	.7500-20 UNEF	.625	.860	.484	.750	.625	.812	1.094	.120	.188
14S	465-XXX	.8750-20 UNEF	.450	.672	.297	.562	.750	.906	1.188	.120	.188
14	466-XXX	.8750-20 UNEF	.625	.860	.484	.750	.750	.906	1.188	.120	.188
16S	467-XXX	1.0000-20 UNEF	.450	.672	.297	.562	.875	.969	1.281	.120	.188
16	468-XXX	1.0000-20 UNEF	.625	.860	.484	.750	.875	.969	1.281	.120	.188
18	469-XXX	1.1250-18 NEF	.625	.891	.453	.750	1.000	1.062	1.375	.120	.188
20	470-XXX	1.2500-18 NEF	.625	.891	.453	.750	1.125	1.156	1.500	.120	.188
22	471-XXX	1.3750-18 NEF	.625	.891	.453	.750	1.250	1.250	1.625	.120	.188
24	472-XXX	1.5000-18 NEF	.625	.953	.453	.812	1.375	1.375	1.750	.147	.188
28	473-XXX	1.7500-18 NS	.625	.953	.453	.812	1.625	1.562	2.000	.147	.188
32	474-XXX	2.0000-18 NS	.625	1.031	.438	.875	1.875	1.750	2.250	.173	.188
36	475-XXX	2.2500-16 UN	.625	1.031	.438	.875	2.062	1.938	2.500	.173	.188
40	476-XXX	2.5000-16 UN	.625	1.031	.438	.875	2.312	2.188	2.750	.173	.188

All dimensions for reference only.

Cylindrical Connectors with PCB contacts
additional products

CONNECTOR FLEX ASSEMBLIES
Amphenol offers connector flex assemblies for attachment of cylindrical connectors to PCB boards. Features and benefits include:

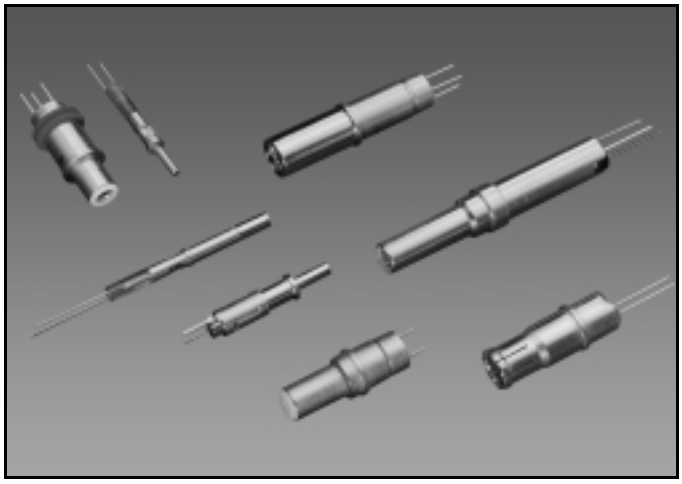
- Available for MIL-DTL-38999 (including filter EMI/EMP types), MIL-C-5015 and MIL-C-26482 cylindrical connectors
- Sculptures® Flexible Circuits with built-in terminations
- Eliminate the failures associated with crimped or solder-on contacts
- Geometrically fit tight space requirements and create a self-locking terminal pad



VARIETY OF PCB CONTACTS
Amphenol can provide a vast array of different types of contacts for PCB board application.

- Coax
- Twinax
- Triax
- Sizes 8, 16, 20, 22

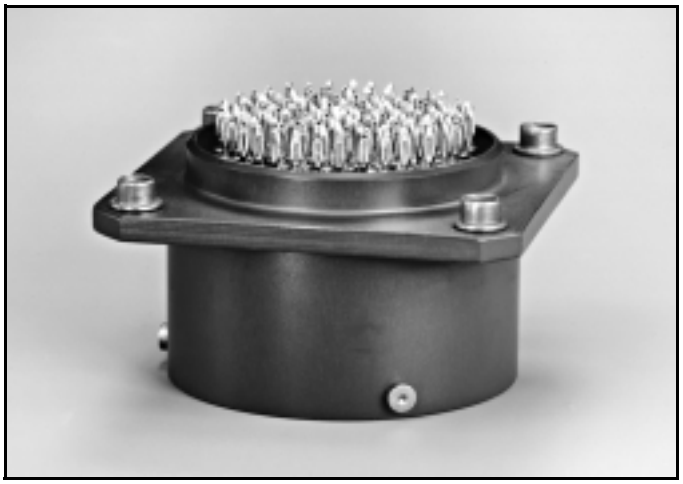
Also see catalog 12-130, Amphenol High Frequency Contacts for Multi-pin Connectors.



CONNECTORS WITH COMPLIANT PIN CONTACTS
Compliant pins engage the plated through-holes in the board without the need for soldering. This optional contact style offers the following benefits:

- Easy board repairability
- Improved board processing time
- Excellent temperature performance
- Ideal for low-lead applications

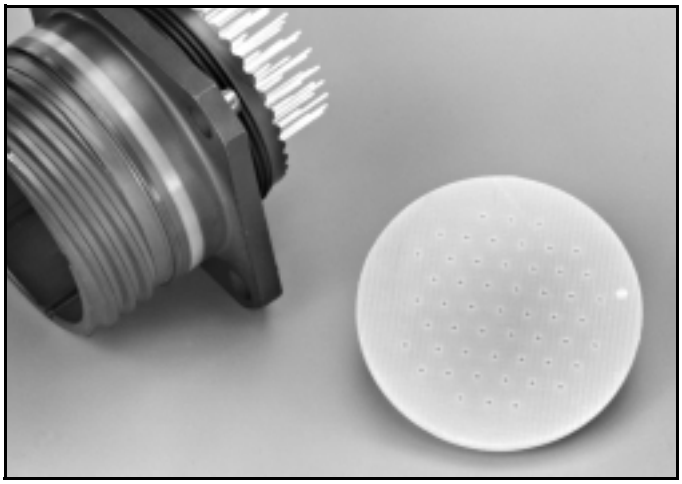
Also see Product Data sheet #188, Amphenol Press-Fit Connectors with Compliant Pins.



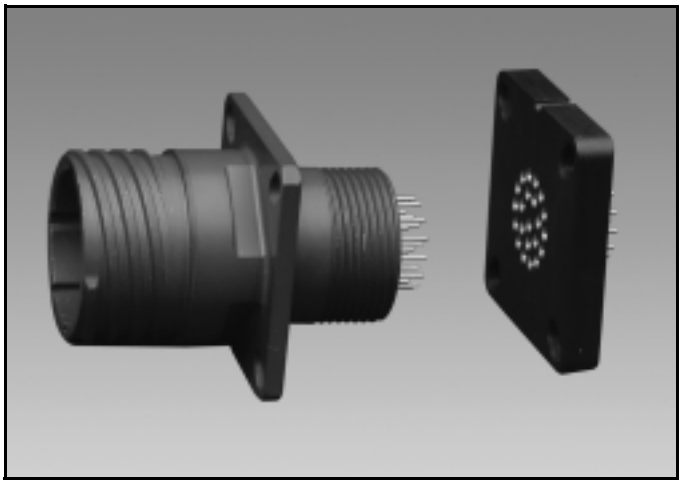
See Amphenol catalogs on-line at
www.amphenol-aerospace.com

Cylindrical Connectors with PCB contacts
additional products

ALIGNMENT DISCS
Amphenol offers alignment discs for attachment of cylindrical connectors to PCB boards. Features and benefits include:
- Simplified installation of boards
- Protection during shipment
- Optimized electrical circuit separation

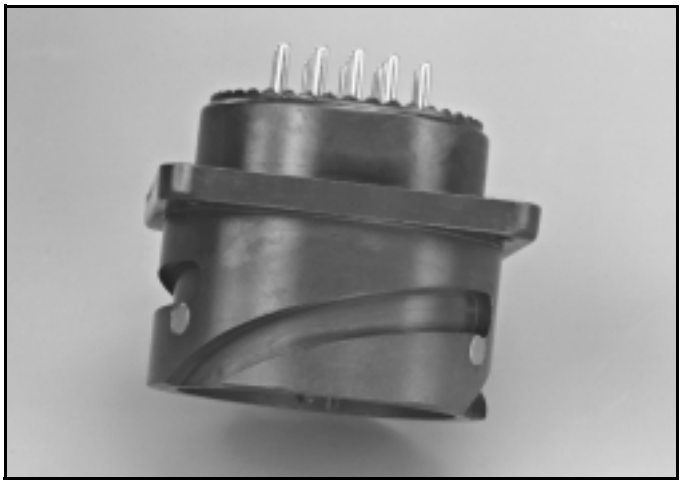


UNIVERSAL HEADER ASSEMBLIES FOR FLEX PRINT/PC BOARD MOUNTING
Amphenol header assemblies provide time and cost saving potentials. They can be vapor phase or wave soldered to flex or printed circuit boards prior to the receipt of an EMI/EMP connector. Headers can be installed to standard connectors, allowing for electrical testing that would adversely affect the sensitive diodes, MOV's or capacitors in the EMI/EMP connectors. Expensive connector assemblies can be easily removed from and reattached to the header assembly as the manufacturing process dictates.
Amphenol universal headers mount to all MIL-DTL-38999 and MIL-C-26482 connectors. For more information on Universal Headers see Amphenol Product Data sheet #169.



REVERSE BAYONET CONNECTORS WITH PCB CONTACTS
Printed circuit board contacts can be supplied on GT Series connectors which feature quick mating reverse bayonet coupling. Widely used in commercial, geophysical, aerospace, ground support and shipboard applications, the features and benefits of the GT Series include:
- Audible, tactile and visual full-mating indicators
- Waterproof to a depth of 33 ft.
- Inserts available in neoprene and Viton* or low smoke/zero halogen materials
- Mating plugs available with crimp or solder termination
- Gold or silver plated contacts
- Zinc alloy (cadmium-free) shell plating available
- Durability of 2000 couplings minimum

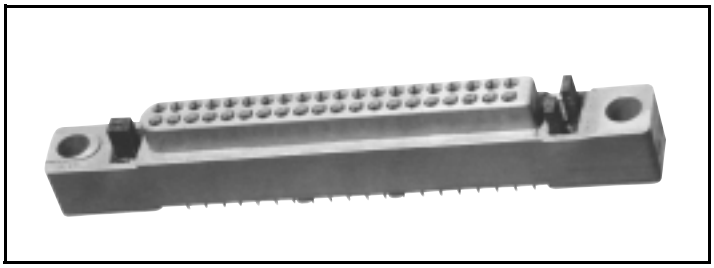
For more information on reverse bayonet GT Series connectors see Amphenol Catalog 12-024.



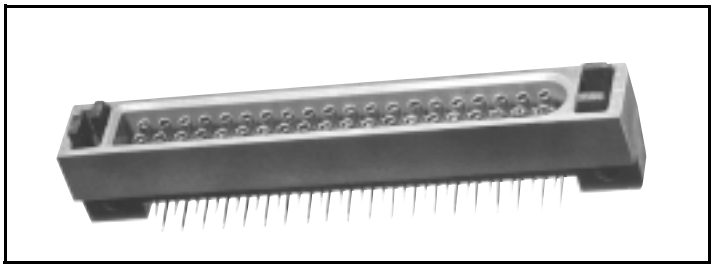
* Viton is a registered trademark of Dupont/Dow Company.

Amphenol® Rectangular Interconnects
additional products for PCB application

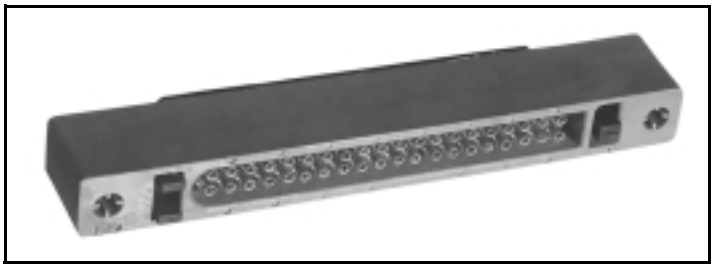
1



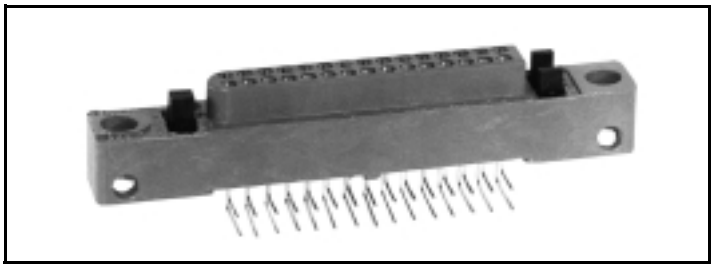
2



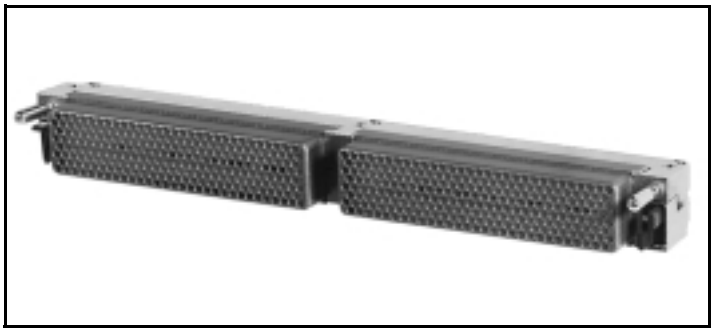
3



4



5



Amphenol Rectangular Product Catalogs available:
12-035 Low Mating Force Connectors
L-2104 LRM Surface Mount Connectors Reference Guide
L-2081 LRM Surface Mount Connectors Users Guide

Amphenol is also a leader in rectangular interconnects for printed circuit board application. Within the rectangular families of Amphenol interconnects are Low Mating Force MIL-C-55302 connectors and LRM Surface Mount Connectors.

LOW MATING FORCE MIL-C-55302 CONNECTORS

- Superior electrical characteristics - redundant current paths, low constrictive resistance, stable time/life contact resistance, uniform current densities
- High performance polyester dielectric moldings
- Over 20,000 mating cycles with B^3 Bristle Brush Bunch contacts®*
- Significant reduction in mating force. Only 1.5 ounce max contact engaging and separating forces
- –65° to +125°C temperature rating
- High circuit count interconnections to 400 contacts per connector
- Two, three and four row patterns, 10 to 100 contacts per row, in one contact per row increments
- 0.100 in. center to center contact spacing, square grid
- Serviceability - removable crimp contacts, repairable PC stud and solder less wrap contacts
- Board support structure - reinforcing reduced
- Variety of contact terminations and platings
- Accessories to suit latching, piloting and polarization variations
- Up to 256 keyed mating polarizations

M55302/166 or 167 Mother Board, M55302/170 Daughter Board

1., 2. Two piece PCB connector featuring PCB stud or solderless wrap contacts in the MB Series and field repairable 90° PCB stud contacts in the DB Series.

M55302/169 Input/Output

3. Rear release, rear removable crimp contacts for discrete wire cabling. I/O connector series mates with standard MB and PC receptacle series to provide external inputs/outputs.

M55302/168 PC

4. 90° PCB stud contacts for side mounting on board. Mates with DB and I/O series.

LRM SURFACE MOUNT CONNECTORS

5. The introduction of high speed integrated circuitry such as VHSIC and MMIC has enabled the Design Engineer to accomplish far more on his printed circuit board than ever before. This, coupled with the emergence of a revolutionary change in avionics packaging - modular avionic architectures - has created the need for a high performance, low insertion force PCB connector with significantly increased contact density.

Designed to meet the high density needs of today's integrated electronic modules, this Straddle Mount connector uses the Amphenol® Bristle Brush Contact and is offered in three design options:

- **GEN-X Grid** - 472 contacts LRM pattern in 8 rows .075 inch spacing along the row with .060 inch between rows, offset .0375 inch (mating force)
- **Staggered Grid** - 360 contacts LRM pattern in 8 rows .100 inch spacing along the row with .050 inch between rows, offset .050 inch (mating force)
- **Chevron Grid** - 300 contacts LRM pattern in 6 rows .075 inch spacing along the row with .075 inch between rows, offset .025 inch (mating force)

*U.S. Patent No: 3,725,844