Amphenol® Miniature Cylindrical

Proprietary/MIL-C-26482, Series 1



DESIGN CHARACTERISTICS

- · Medium size, widely used cylindrical
- · Operating voltage to 1,000 VAC (RMS) at sea level
- Environment resistant
- Quick positive three point bayonet lock coupling system
- · Visual confirmation of complete coupling
- Five key/keyway polarization
- PT solder is UL Recognized under file #E115497, Vol. 1, Section 5

CUSTOMER OPTIONS

- Seven mounting styles provide optimum design flexibility
- Ten shell sizes 6 through 24
- · Solder or crimp front or rear release contacts
- Size 20 through 12 contacts accept wire sizes 20 through 12 AWG
- Various finishes provide protection in a wide variety of corrosive and mechanical environments
 - Availability of zinc cobalt* non-cadmium plating
- Coaxial and thermocouple contact options
- · Hermetic seal (glass fused) receptacles
- Double stub threaded coupling series available
- · Alternate positioning

Amphenol® Miniature Cylindrical connectors offer twice the number of contacts in just half the size of a Standard connector. These miniature connectors, are available in several series, each with varying design characteristics and customer options to meet cost considerations and provide maximum design flexibility. Two of the Miniature Family series, MS/PT and MS/PT-SE, are MS approved and qualified to MIL-C-26482, Series 1.

The Miniature family consists of three basic series: PT, SP and PC. In all series, pin and socket contacts are machined from low loss copper alloy and gold plated to eliminate contact corrosion and provide an indefinite shelf life. All series incorporate closed entry socket contacts. The PT, SP and PC series are provided with factory installed solder contacts. Printed circuit board contacts are available in the PT Series box mount and jam nut style receptacles.

The PT, SP and PC series are also available with removable crimp contacts incorporating either of two types of retention systems. The suffix "SE" or "CE" refers to the type of retention system employed. MS approved "SE" types utilize a spring tower retention system, while the proprietary "CE" types utilize a nylon wafer retention system to maintain contact position.

Hermetically sealed receptacles are available in the PT and PC series.

Note:

Please refer to page 54 for a brief description of the Amphenol®/Matrix® MIL-C-26482, Series 2 bayonet coupling connectors with crimp, rear insertable and rear releasable contacts, and ask for catalog 12-071 for detailed information on this series

* For more information on zinc cobalt plating for connectors ask for Amphenol Product Data Sheet #172.

Amphenol® Miniature Cylindrical

connector selection guide

The accompanying chart is provided to assist the user in selecting the appropriate type of miniature connector to meet the application requirements. Further information can be found in specific sections of this catalog.

			Sol	der					Crimp			
CHARACTERISTICS		PT	MS/PT	SP	PC	MS/ PT-SE	PT-SE	SP-SE	PC-SE	PT-CE	SP-CE	PC-CE
Intermateable†		0	0	0	Х	0	0	0	Х	0	0	Х
Contacts	Solder	•	•	•	•							
	Crimp RI/FR					•	•	•	•	•	•	•
	Crimp RI/RR											
Contact Retention	Non-Removable	•	•	•	•							
System	Removable					•	•	•	•	•	•	•
Coupling	Bayonet	•	•	•		•	•	•		•	•	
	Threaded				•				•			•
Standard Finishes††	Olive Drab Cadmium (003)	•	•			•	•			•		
	Electroless Nickel (023)					1						
	Anodic Coated (005)			•				•			•	
	Bright Cadmium (001)				•				•		•	•
Temperature Range	Resilient Dielectric (125°C)	•	•	•	•	•	•	•	•	•	•	•
	Hard Dielectric (175°C & 200°C)											
Wide Mounting Flange	•			•				•			•	
Hermetic Seal		•	•	•	•							
SHELL STYLE AVAILA												
Wall Mounting Recepta		•	•	•	•	•	**•	•	•	•	•	
Cable Connecting Rec	eptacle "01" ***	•	•		•	•	•		•	•		•
Box Mounting Recepta	acle "02"	*•	•	•	*•	•	**•	•	•	•	•	
Straight Plug "06"		•	•	•	•	•	•	•	•	•	•	•
Jam Nut Receptacle "C)7"	*•	*•	•	*•	•	•	•	•	•	•	•
Thru-bulkhead Recept	u-bulkhead Receptacle "TB"			•								
Solder Mount Recepta	*•	*•		*•								
90° Plug "08"	•		•	•	1	•	•	•	•	•		

RI/FR = Rear Insertion/Front Releasable RI/RR = Rear Insertion/Rear Releasable

† o intermates with o

- †† Optional finishes available. See "how to order" sections.
- * Available in hermetic version
- ** Dual mounting holes
- *** This connector style is sometimes referred to as a cable connecting "plug." It does, however, mate with either a straight or 90 degree plug.

X intermates with X

PT, SP Service Classes

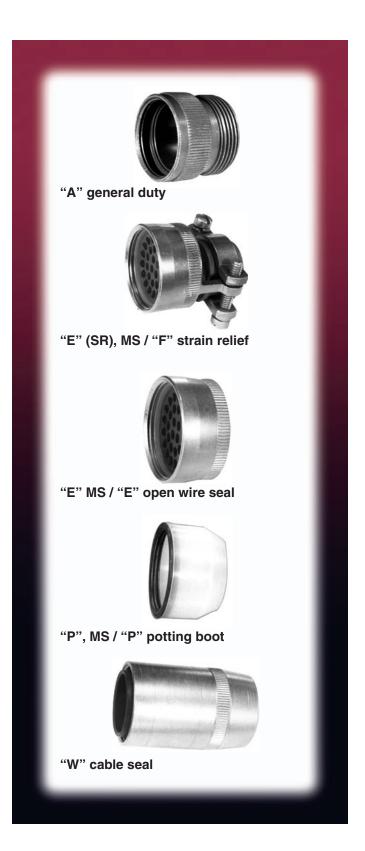
PT and SP connectors are available in the service classes listed below. Each class, with the exception of hermetic, offers one or more means of terminating or supporting a cable or wire bundle. Class "W" is not available in the SP Series.

- "A" General duty; back shell is threaded for conduit attachment of MS3057 cable clamp
- "A" (SR) General duty, with strain relief clamp for cable or wire bundle support
- "C" Pressurized receptacle; less than 1 cu. in. per hour leakage at 30 psi over a temperature range of -65°F to +257°F
- "E" Environmental resistant connectors supplied with a multi-holed grommet and clamping nut for moisture-proofing individual open wires
- "E" (SR) Environmental resistant strain relief clamp and grommet for moisture proofing individual wires; provides added wire bundle support
- "J" Same as "W" class except with strain relief
- "P" Translucent nylon boot for retaining customer-applied potting compounds; held in place by a threaded ring
- "P" (SR) Strain relief clamp suitable for retaining customer applied potting compounds, with provision for wire support
- "W" Compressing clamp and neoprene gland for moisture proofing multi-conductor jacketed cables. Telescoping sleeves (MS 3420A) can be used to adapt to cables smaller than minimum close-down.
- "H"* Hermetically sealed with compression glass inserts

MS/PT Service Classes

The MS/PT Miniature connector is available in the following certified service classes:

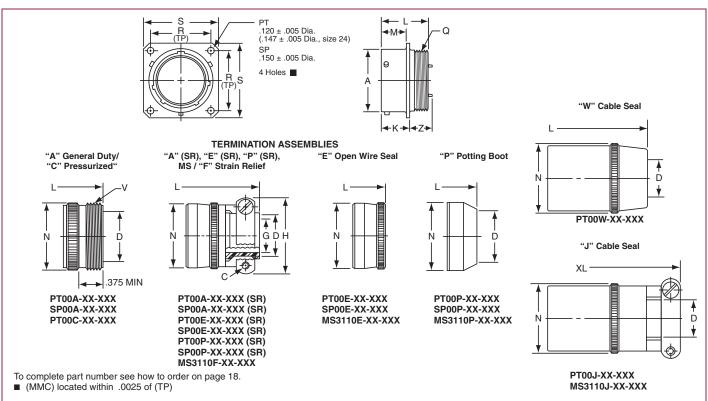
- "E" Environmental resistant connectors supplied with a multi-holed grommet and clamping nut for moisture-proofing individual open wires
- "F" Grommet seal with strain relief clamp
- "P" Translucent nylon boot for retaining customer-applied potting compounds; held in place by a threaded ring



^{*} Refer to pages 14-17 for Hermetic versions.

PT00 (MS3110) SP00

wall mounting receptacle

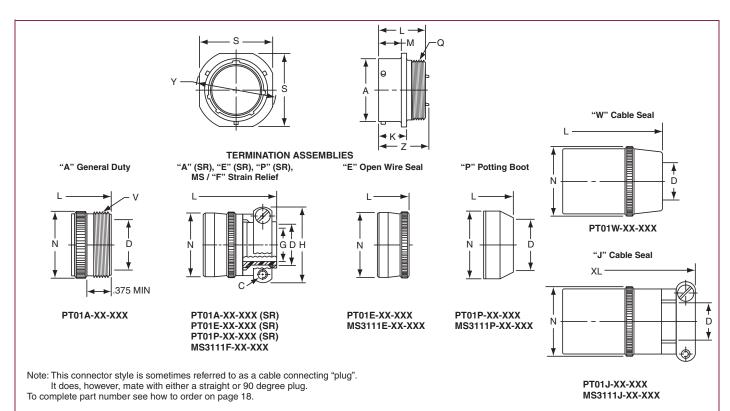


	Rec	eptacle	Front \	/iew				Re	eceptac	le Side	View				CI	ass "A"	, "C"
Shell	F (T	-	Ma	-	A +.001		.020 .010	L		.010 .000	Q Thread	Z Ma	Z IX.	D	L	N	V Thread
Size	PT	SP	PT	SP	005	PT	SP	Max.	PT	SP	Class 2A	PT	SP	Min.	Max.	Max.	Class A
6	.469	.641	.688	.953	.348	.493	.524	.906	.431	.462	.3125-32 NEF	.468	.438	.175	1.553	.462	.3750-32 NEF
8	.594	.734	.812	1.047	.473	.493	.524	.906	.431	.462	.4375-28 UNEF	.468	.438	.297	1.553	.590	.5000-28 UNEF
10	.719	.812	.938	1.125	.590	.493	.524	.906	.431	.462	.5625-24 NEF	.468	.438	.421	1.553	.717	.6250-24 NEF
12	.812	.938	1.031	1.250	.750	.493	.524	.906	.431	.462	.6875-24 NEF	.468	.438	.546	1.553	.834	.7500-20 UNEF
14	.906	1.031	1.125	1.344	.875	.493	.524	.906	.431	.462	.8125-20 UNEF	.468	.438	.663	1.553	.970	.8750-20 UNEF
16	.969	1.125	1.219	1.438	1.000	.493	.524	.906	.431	.462	.9375-20 UNEF	.468	.438	.787	1.553	1.088	1.0000-20 UNEF
18	1.062	1.203	1.312	1.516	1.125	.493	.524	.906	.431	.462	1.0625-18 NEF	.531	.438	.879	1.553	1.216	1.1875-18 NEF
20	1.156	1.297	1.438	1.672	1.250	.650	.650	1.125	.556	.556	1.1875-18 NEF	.531	.531	1.014	1.703	1.332	1.1875-18 NEF
22	1.250	1.375	1.562	1.750	1.375	.650	.650	1.125	.556	.556	1.3125-18 NEF	.531	.531	1.134	1.703	1.460	1.4375-18 NEF
24	1.375	1.500	1.688	1.875	1.500	.683	.683	1.188	.589	.589	1.4375-18 NEF	.498	.498	1.259	1.765	1.585	1.4375-18 NEF

	Clas	s "A" (S	R), "E" ((SR), "P"	(SR), MS	/ "F"	Class "E"	, MS / "E"	Class	"P", MS	/ "P"		С	lass "W",	"J"	
Shell	С	D	G	Н	L	N	L	N	D	L	N)	L	N	XL
Size	Thread	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Closed	Free	Max.	Max.	Max.
6	-	_	_	_	_	_	1.266	.440	.192	1.438	.484	-	_	-	_	_
8	6-32	.240	.125	.812	1.922	.550	1.266	.560	.317	1.438	.608	.168	.230	1.705	.547	2.271
10	6-32	.302	.188	.875	1.922	.675	1.266	.685	.434	1.438	.734	.205	.312	1.705	.675	2.271
12	6-32	.428	.312	1.000	1.922	.803	1.266	.813	.548	1.438	.858	.338	.442	1.848	.812	2.411
14	6-32	.552	.375	1.125	1.922	.920	1.266	.930	.673	1.438	.984	.416	.539	2.040	.940	2.599
16	6-32	.615	.500	1.188	2.047	1.047	1.266	1.057	.798	1.438	1.110	.550	.616	2.256	1.067	2.943
18	8-32	.740	.625	1.438	2.078	1.165	1.266	1.175	.899	1.438	1.234	.600	.672	2.486	1.194	3.172
20	8-32	.740	.625	1.438	2.344	1.290	1.516	1.301	1.024	1.656	1.360	.635	.747	2.922	1.322	3.610
22	8-32	.928	.750	1.625	2.344	1.418	1.516	1.430	1.149	1.656	1.484	.670	.846	3.086	1.449	3.766
24	8-32	.990	.800	1.719	2.406	1.543	1.578	1.555	1.274	1.717	1.610	.740	.894	3.310	1.576	3.985

PT01 (MS3111)

cable connecting receptacle

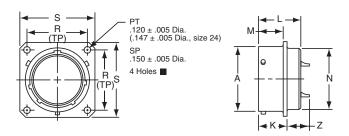


	Recept. F	ront View			Recep	tacle Side	View				Class "A",	
Shell Size	S ±.020	Y ±.020	A +.001 005	K +.020 010	L Max.	M +.016 000	Q Thread Class 2A	Z Max.	D Min.	L Max.	N Max.	V Thread Class A
6	.688	.812	.348	.494	.906	.400	.3125-32 NEF	.948	.175	1.553	.462	.3750-32 NEF
8	.812	.938	.473	.494	.906	.400	.4375-28 UNEF	.948	.297	1.553	.590	.5000-28 UNEF
10	.938	1.062	.590	.494	.906	.400	.5625-24 NEF	.948	.421	1.553	.717	.6250-24 NEF
12	1.031	1.156	.750	.494	.906	.400	.6875-24 NEF	.948	.546	1.553	.834	.7500-20 UNEF
14	1.125	1.250	.875	.494	.906	.400	.8125-20 UNEF	.948	.663	1.553	.970	.8750-20 UNEF
16	1.219	1.344	1.000	.494	.906	.400	.9375-20 UNEF	.948	.787	1.553	1.088	1.0000-20 UNEF
18	1.312	1.438	1.125	.494	.906	.400	1.0625-18 NEF	.948	.879	1.553	1.216	1.1875-18 NEF
20	1.438	1.562	1.250	.650	1.125	.535	1.1875-18 NEF	1.166	1.041	1.703	1.332	1.1875-18 NEF
22	1.562	1.688	1.375	.650	1.125	.535	1.3125-18 NEF	1.166	1.135	1.703	1.460	1.4375-18 NEF
24	1.688	1.812	1.500	.683	1.188	.568	1.4375-18 NEF	1.166	1.259	1.765	1.585	1.4375-18 NEF

	Class	"A" (SF	R), "E" (S	SR), "P"	(SR), MS	6 / "F"	Class "E"	, MS / "E"	Class	"P", MS	/ "P"		C	lass "W",	"J"	
Shell	С	D	G	Н	L	N	L	N	D	L	N)	L	N	XL
Size	Thread	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Closed	Free	Max.	Max.	Max.
6	_	_	_	_	-	_	1.266	.440	.192	1.438	.484	-	_	_	_	_
8	6-32	.240	.125	.812	1.922	.550	1.266	.560	.317	1.438	.608	.168	.230	1.705	.547	2.271
10	6-32	.302	.188	.875	1.922	.675	1.266	.685	.434	1.438	.734	.205	.312	1.705	.675	2.271
12	6-32	.428	.312	1.000	1.922	.803	1.266	.813	.548	1.438	.858	.338	.442	1.848	.812	2.411
14	6-32	.552	.375	1.125	1.922	.920	1.266	.930	.673	1.438	.984	.416	.539	2.040	.940	2.599
16	6-32	.615	.500	1.188	2.047	1.047	1.266	1.057	.798	1.438	1.110	.550	.616	2.256	1.067	2.943
18	8-32	.740	.625	1.438	2.078	1.165	1.266	1.175	.899	1.438	1.234	.600	.672	2.486	1.194	3.172
20	8-32	.740	.625	1.438	2.344	1.290	1.516	1.301	1.024	1.656	1.360	.635	.747	2.922	1.322	3.610
22	8-32	.928	.750	1.625	2.344	1.418	1.516	1.430	1.149	1.656	1.484	.670	.846	3.086	1.449	3.766
24	8-32	.990	.800	1.719	2.406	1.543	1.578	1.555	1.274	1.717	1.610	.740	.894	3.310	1.576	3.985

PT02 (MS3112) SP02

box mounting receptacle



- PT02A-XX-XXX
- SP02A-XX-XXX
- * PT02C-XX-XXX * SP02C-XX-XXX
- * PT02E-XX-XXX
- * SP02E-XX-XXX MS3112E-XX-XXX
- * PT02P-XX-XXX
- * SP02P-XX-XXX
- MS3112P-XX-XXX
- * PT02W-XX-XXX
- * SP02W-XX-XXX

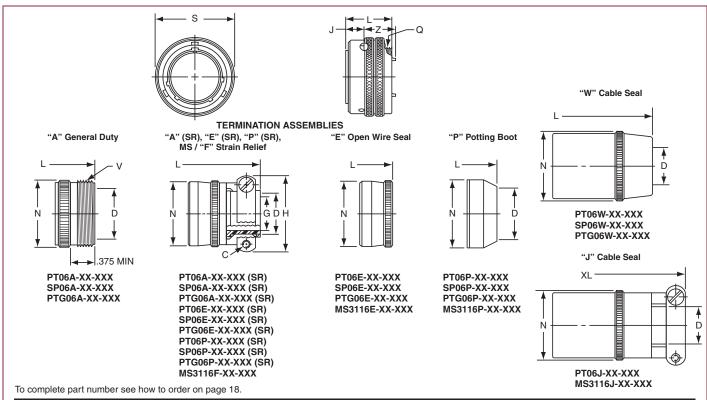
To complete part number see how to order on page 18.

- (MMC) located within .0025 of (TP)
- * The PT02 and SP02 box mounting receptacles are made only to complete a series; no provision is made for accessories or potting on the rear skirt.

	F	Receptacle	Front Vie	w				Rece	otacle Side	e View			
Shell	II .	R P)	s		A +.001	+.0	K 020 010	L	+.0	И 010 000	N Dia.		Z ax.
Size	PT	SP	PT	SP	005	PT	SP	Max.	PT	SP	Max.	PT	SP
6	.469	.641	.688	.953	.348	.493	.524	.825	.431	.462	.323	.465	.438
8	.594	.734	.812	1.047	.473	.493	.524	.825	.431	.462	.449	.465	.438
10	.719	.812	.938	1.125	.590	.493	.524	.825	.431	.462	.573	.465	.438
12	.812	.938	1.031	1.250	.750	.493	.524	.825	.431	.462	.699	.465	.438
14	.906	1.031	1.125	1.344	.875	.493	.524	.825	.431	.462	.823	.465	.438
16	.969	1.125	1.219	1.438	1.000	.493	.524	.825	.431	.462	.949	.465	.438
18	1.062	1.203	1.312	1.516	1.125	.493	.524	.825	.431	.462	1.073	.465	.438
20	1.156	1.297	1.438	1.672	1.250	.650	.650	1.076	.556	.556	1.199	.526	.531
22	1.250	1.375	1.562	1.750	1.375	.650	.650	1.076	.556	.556	1.323	.526	.531
24	1.375	1.500	1.688	1.875	1.500	.683	.683	1.109	.589	.589	1.449	.493	.497

PT06 (MS3116) SP06

straight plug



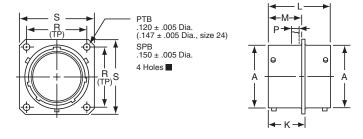
	Plug Front View		PI	ug Side View				Class "A"	
Shell Size	S Max.	J	L Max.	Q Thread Class 2A	Z Max.	D Min.	L Max.	N Max.	V Thread Class A
6	.625	.353	.906	.3125-32 NEF	.594	.175	1.609	.462	.3750-32 NEF
8	.750	.353	.906	.4375-28 UNEF	.594	.297	1.609	.590	.5000-28 UNEF
10	.859	.353	.906	.5625-24 NEF	.594	.421	1.609	.717	.6250-24 NEF
12	1.013	.353	.906	.6875-24 NEF	.594	.546	1.609	.834	.7500-20 UNEF
14	1.156	.353	.906	.8125-20 UNEF	.594	.663	1.609	.970	.8750-20 UNEF
16	1.281	.353	.906	.9375-20 UNEF	.594	.787	1.609	1.088	1.0000-20 UNEF
18	1.319	.353	.906	1.0625-18 NEF	.594	.879	1.609	1.216	1.1875-18 NEF
20	1.531	.415	1.062	1.1875-18 NEF	.672	1.014	1.656	1.332	1.1875-18 NEF
22	1.656	.415	1.062	1.3125-18 NEF	.672	1.135	1.656	1.460	1.4375-18 NEF
24*	1.776	.415	1.125	1.4375-18 NEF	.672	1.259	1.750	1.587	1.4375-18 NEF

	Clas	ss "A" (\$	SR), "E"	(SR), "P"	(SR), MS	/ "F"	Class "E"	, MS / "E"	Class	"P", MS	/ "P"		CI	ass "W", '	'J"	
Shell	С	D	G	Н	L	N	L	N	D	L	N)	L	N	XL
Size	Thread	Min.	±.010	Max.	Max.	Max.	Max.	Max.	Min.	Max.	Max.	Closed	Free	Max.	Max.	Max.
6	-	_	_	_	_	_	1.266	.440	.192	1.526	.484	-	-	_	_	-
8	6-32	.240	.125	.812	1.906	.550	1.266	.560	.317	1.526	.608	.168	.230	1.705	.547	2.271
10	6-32	.302	.188	.875	1.906	.675	1.266	.685	.434	1.526	.734	.205	.312	1.705	.675	2.271
12	6-32	.428	.312	1.000	1.906	.803	1.266	.813	.548	1.526	.858	.338	.442	1.848	.812	2.411
14	6-32	.552	.375	1.125	1.906	.920	1.266	.930	.673	1.526	.984	.416	.539	2.040	.940	2.599
16	6-32	.615	.500	1.188	2.047	1.047	1.266	1.057	.798	1.526	1.110	.550	.616	2.256	1.067	2.943
18	8-32	.740	.625	1.438	2.078	1.165	1.266	1.175	.899	1.526	1.234	.600	.672	2.486	1.194	3.172
20	8-32	.740	.625	1.438	2.250	1.290	1.438	1.301	1.024	1.546	1.360	.635	.747	2.844	1.322	3.610
22	8-32	.928	.750	1.625	2.250	1.418	1.438	1.430	1.149	1.546	1.484	.670	.846	3.000	1.449	3.766
24*	8-32	.990	.800	1.750	2.312	1.543	1.500	1.555	1.274	1.656	1.610	.740	.894	3.210	1.576	3.985

^{*} Available in PT06 only All dimensions for reference only.

PTB SPB

thru bulkhead receptacle

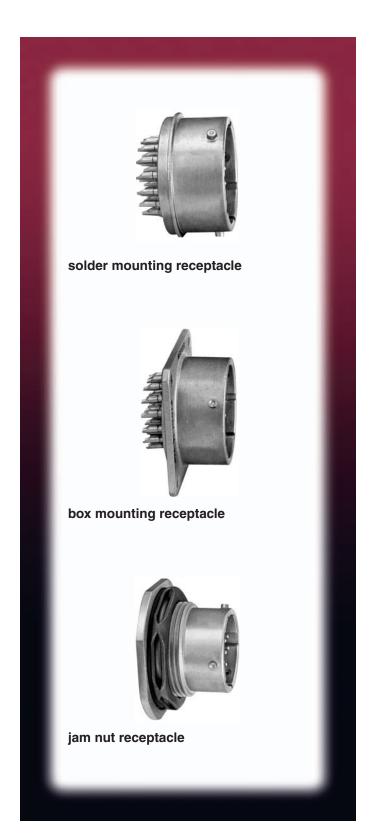


- * PTB-XX-XXX
- * SPB-XX-XXX
- * To complete part number add desired arrangement number (refer to pages 56 and 57 for insert availability) and add "PS"; Example: PTB-18-32PS. If a rotation is required, use PTB-18-32PS and add W, X, Y or Z. Example: PTB-18-32 PSW. The socket end of the insert always appears at the "P" dimension end of shell.
- (MMC) located within .0025 of (TP)

		Receptacle	Front View	/			Receptacl	e Side View		
Shell	-	R 'P)		S	A +.001	K +.016	L	M +.010		P ax.
Size	PTB	SPB	PTB	SPB	005	000	±.005	000	PTB	SPB
6	.469	.641	.688	.953	.348	.625	1.050	.562	.125	.188
8	.594	.734	.812	1.047	.473	.625	1.050	.562	.125	.188
10	.719	.812	.938	1.125	.590	.625	1.050	.562	.125	.188
12	.812	.938	1.031	1.250	.750	.625	1.050	.562	.125	.188
14	.906	1.031	1.125	1.344	.875	.625	1.050	.562	.125	.188
16	.969	1.125	1.219	1.438	1.000	.625	1.050	.562	.125	.188
18	1.062	1.203	1.312	1.516	1.125	.625	1.050	.562	.125	.188
20	1.156	1.297	1.438	1.672	1.250	.781	1.330	.688	.125	.312
22	1.250	1.375	1.562	1.750	1.375	.781	1.330	.688	.125	.312
24	1.375	1.500	1.688	1.875	1.500	.781	1.330	.688	.125	.312

PT

hermetic



Three shell styles are available in the hermetic PT series:

• PTIH (MS3113H)

PT02H

PT07H (MS3114H)

These hermetic connectors are only available with solder cup or flat eyelet pin contacts in the MS/PT version. Socket contacts are available in some proprietary PT versions. Other design characteristics of the PT hermetic connector series are as follows:

Shell sizes: 8 through 24 (tin plated)

Contact count: 2 through 61. Refer to pages 56 and 57 for

insert availability for hermetics.

Current: 5.0 amp each #20 contact

10 amp each #16 contact 17 amp each #12 contact

Contacts are tin plated for PT; gold is optional

Dielectric Withstanding Voltage (sea level):

1500 volts (RMS) 60 cps, Service Rating I 2300 volts (RMS) 60 cps, Service Rating II

Compression glass inserts, permanently lettered

Helium Leakage: Less than 1.0 X 10⁻⁶ cc/sec.

at 15 psi differential

Physical Shock: 100 G's

Vibration: Exceeds MIL-E-5272 Procedure II

Thermal Shock: No deterioration or failure after 5 cycles

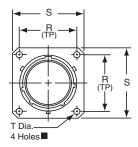
at -55°F to +257°F

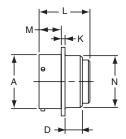
Intermateability: Mates with MS3116 and PT06

Refer to pages 56-61 for insert arrangement availability.

PT02 SE (MS3122) SP02 SE

box mounting receptacle





PT02SE-XX-XXX SP02SE-XX-XXX MS3122E-XX-XXX

To complete part number see how to order on page 30.

■ (MMC) located within .0025 of (TP)

		Re	eceptacle	Front View	ı				R	eceptacle	Side View			
Shell	ı	3	S Ma	S ax.	D	Г ia.)05	A Dia. +.001	E Ma	o ax.	к	L		И 010 000	N Dia. +.011
Size	PT	SP	PT	SP	PT	SP	005	PT	SP	±.016	Max.	PT	SP	000
8	.594	_	.828	-	.120	_	.473	.312	-	.062	1.296	.431	_	.438
10	.719	.812	.954	1.141	.120	.150	.590	.312	.219	.062	1.296	.431	.462	.562
12	.812	.938	1.047	1.266	.120	.150	.750	.312	.219	.062	1.296	.431	.462	.688
14	.906	1.031	1.141	1.360	.120	.150	.875	.312	.219	.062	1.296	.431	.462	.812
16	.969	1.125	1.234	1.453	.120	.150	1.000	.312	.219	.062	1.296	.431	.462	.938
18	1.062	1.203	1.328	1.532	.120	.150	1.125	.312	.219	.062	1.296	.431	.462	1.062
20	1.156	1.297	1.453	1.688	.120	.150	1.250	.406	.344	.094	1.358	.556	.556	1.188
22	1.250	1.375	1.578	1.766	.120	.150	1.375	.406	.344	.094	1.358	.556	.556	1.312
24	1.375	1.500	1.703	1.891	.147	.150	1.500	.406	.344	.094	1.358	.589	.589	1.438