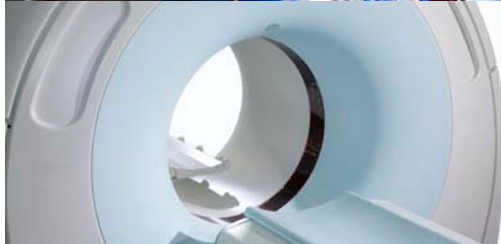


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®



## PT Series

Miniature Cylindrical Connectors

12-070-19

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# 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.

CHARACTERISTICS		Solder			Crimp	
		PT	MS/PT	SP	MS/ PT-SE	PT-SE
Intermateable†		O	O	O	O	O
Contacts	Solder	•	•	•		
	Crimp Ri/FR				•	•
Contact Retention System	Non-Removable	•	•	•		
	Removable				•	•
Coupling	Bayonet	•	•	•	•	•
Standard Finishes††	Olive Drab Cadmium (003)	•	•		•	•
	Anodic Coated (005)			•		
Temperature Range	Resilient Dielectric (-55°C to +125°C)	•	•	•	•	•
Wide Mounting Flange				•		
Hermetic Seal		•	•	•		
SHELL STYLE AVAILABILITY						
Wall Mounting Receptacle "00"		•	•	•	•	**•
Cable Connecting Receptacle "01"***		•	•		•	•
Box Mounting Receptacle "02"		*•	•	•	•	**•
Straight Plug "06"		•	•	•	•	•
Jam Nut receptacle "07"		*•	*•	•	•	•
thru-bulkhead Receptacle "TB"		•		•		
Solder Mount Receptacle "I"		*•	*•			
90° Plug "08"		•		•		•

RI/FR = Rear Insertion/Front 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.

# Miniature Cylindrical

## insert availability

Insert Arrangement	Solder Termination				Crimp Termination	Screw Termination	Total Contacts	Contact Size							
	MS/PT	PT	SP	Hermetic PT MS-PT	MS/PT-SE PT-SE SP-SE	PT		20	16	12	10	8	Coax		Service Rating
													12	8	
6-1		X	X	X*			1	1							I
8-2	X	X	X	X			2	2							I
8-3	X	X	X	X			3	3							I
8-4	X	X	X	X			4	4							I
8-33	X	X	X	X	X		3	3							I
8-98		X	X				3	3							I
10-2		X	X				2		2						I
10-5		X	X	X*			5	5							I
10-6	X	X	X	X	X		6	6							I
10-7		X	X	X			7	7							I
10-70		X	X				1						1	Coax	
10-98	X	X	X	X*			6	6							I
12-3*	X	X	X	X	X		3		3						II
12-4		X	X	X*			4		4						I
12-8	X	X	X	X*	X		8	8							I
12-10	X	X	X	X	X		10	10							I
12-14		X	X				14	14							I
12-98		X	X				10	10							I
14-2		X	X				2			2					II
14-4		S	S	X			4			4					I
14-5	X	X	X	X	X		5		5						II
14-8		X	X				8	6		2					I
14-12	X	X	X	X	X		12	8	4						I
14-15	X	X	X	X	X		15	14	1						I
14-18	X	X	X	X*	X		18	18							I
14-19	X	X	X	X	X		19	19							I
14-22					X*		5	1		4					I
14-71		P	X				4		3						I
14-91 HV		S	X		X*		3	3					1	**	
14-AA		X	X	X			4			4					I
16-8	X	X	X	X	X		8		8						II
16-23	X	X	X		X		23	22	1						I
16-26	X	X	X	X	X		26	26							I
16-70		X	X				15	14					1	N/A	
16-76†††					X*		14	8		1			5	***	
16-99	X	X	X		X		23	21	2						I
18-2		X	X	X			2				2				II
18-3		X	X	X		X	3				3				II
18-5		X	X		X*		5			5					II
18-8							8			8					I
18-11	X	X	X	X	X		11		11						II
18-30	X	X	X	X*	X		30	29	1						I

\*Not available in MS version  
 \*\*Flashover voltage 5,000 VAC (RMS)  
 \*\*\*1500 VAC (RMS)  
 S designates Socket insert only.

P designates Pin insert only.  
 †Size 12 contacts for #10 wire  
 ††Not presently tooled  
 †††Contacts must be ordered separately

# Miniature Cylindrical

insert availability, cont.

Insert Arrangement	Solder Termination				Crimp Termination		Total Contacts	Contact Size				
	MS/PT	PT	SP	Hermetic PT MS-PT	MS/PT-SE PT-SE SP-SE	20		16	12	Coax		Service Rating
										12	8	
18-32	X	X	X	X	X	32	32				I	
18-71					X*	9		8		1	Coax, II	
18-72		X	X			14	10		4		N/A	
18-75		X	X			4				4	Coax	
18-76						4			3	1	II	
18-80		X	X			8	6			2	Coax, I	
18-91 HV					X*	6	6				**	
20-16	X	X	X	X	X	16		16			II	
20-24	X	X	X			24	24				I	
20-25		X	X			25	25				I	
20-26		X	X			26	26		6		I	
20-27	X	X	X			27	27				I	
20-39	X	X	X	X	X	39	39	2			I	
20-41	X	X	X	X	X	41	41				I	
20-70						14	10			4	Coax	
20-90 HV		X	X			7	7				Hi-Voltage	
22-7		X	X		X*	7				7	Coax	
22-21	X	X	X	X	X	21		21			II	
22-25					X*	25		25			I	
22-32	X	X	X		X	32	32				I	
22-34		X	X			34	34				I	
22-36		X	X			36	36				I	
22-41	X	X	X	X	X	41	27	14			I	
22-55	X	X	X	X	X	55	55				I	
22-70		X	X			19	13			6	I, Coax	
22-71						9	2			7	I, Coax	
22-72		X	X			19	12	4		3	N/A	
22-78†††					X*	7				7	Coax	
22-96					X*	7			7†		II	
24-31		X	X			31		31			I	
24-51†††					X*	51	47		4		I	
24-61	X	X	X	X	X	61	61				I	
24-71		X	X			49	45	2		2	N/A	
24-79						1	1			5	Coax	

\*Not available in MS version  
 \*\*Flashover voltage 5,000 VAC (RMS)  
 \*\*\*1500 VAC (RMS)

†Size 12 contacts for #10 wire  
 ††Not presently tooled  
 †††Contacts must be ordered separately

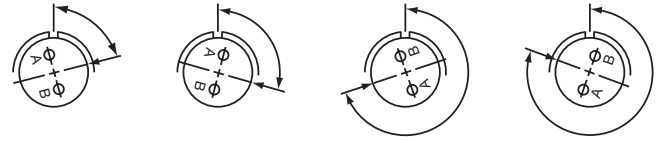
# Miniature Cylindrical

## alternate positioning

### Alternate Positioning

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

As shown in the diagram at right, the front face of the pin insert is rotated within the shell in a clockwise direction from the normal shell key. The socket insert would be rotated counterclockwise the same number of degrees in respect to the normal shell key.



**Position W      Position X      Position Y      Position Z**

Views looking into front face of pin insert or rear of socket insert.

Shell Size	Insert Arrangement	Insert Rotation			
		Degrees			
		W	X	Y	Z
6	6-1	-	-	-	-
8	8-2*	58	122	-	-
8	8-3	60	210	-	-
8	8-4*	45	97	184	-
8	8-33*	90	-	-	-
8	8-98	-	-	-	-
10	10-2	45	90	315	-
10	10-5*	45	151	180	270
10	10-6*	90	-	-	-
10	10-7	90	-	-	-
10	10-70	-	-	-	-
10	10-98*	90	180	240	270
12	12-3	-	-	180	-
12	12-4*	38	-	-	-
12	12-8	90	112	203	292
12	12-10*	60	155	270	295
12	12-14	-	-	-	-
12	12-98*	61	135	189	340
14	14-2	58	122	-	-
14	14-4*	45	-	-	-
14	14-5*	40	92	184	273
14	14-8	48	162	189	312
14	14-12*	43	90	-	-
14	14-15*	17	110	155	234
14	14-18*	15	90	180	270
14	14-19*	30	165	315	-
14	14-22	45	-	-	-
14	14-71	-	-	-	-
14	14-91HV	-	60	-	-
14	14-AA*	45	-	-	-
16	16-8*	54	152	180	331
16	16-23	158	270	-	-
16	16-26*	60	-	275	338
16	16-70	41	122	216	286
16	16-76	-	-	-	-
16	16-99*	66	156	223	340
18	18-2	58	122	-	-
18	18-3	-	-	180	-

Shell Size	Insert Arrangement	Insert Rotation			
		Degrees			
		W	X	Y	Z
18	18-5	55	97	263	315
18	18-8	180	-	-	-
18	18-11*	62	119	241	340
18	18-30*	180	193	285	350
18	18-32*	85	138	222	265
18	18-71	18	108	127	215
18	18-72	53	102	213	293
18	18-75	45	-	-	-
18	18-76	-	-	-	-
18	18-80	45	90	135	160
18	18-91HV	90	180	240	270
20	20-16*	238	318	333	347
20	20-24	70	145	215	290
20	20-25	72	144	216	288
20	20-26	13	107	210	322
20	20-27	72	144	216	288
20	20-39*	63	144	252	333
20	20-41*	45	126	225	-
20	20-70	63	135	222	335
20	20-90	45	135	225	315
22	22-7	19	41	-	-
22	22-21*	16	135	175	349
22	22-25	60	125	211	336
22	22-32	72	145	215	288
22	22-34	62	142	218	298
22	22-36	72	144	216	288
22	22-41	39	135	264	-
22	22-55*	30	142	226	314
22	22-70	30	82	218	312
22	22-71	33	191	236	270
22	22-72	42	200	277	339
22	22-78	19	41	-	-
22	22-96*	19	41	-	-
24	24-31	90	225	255	-
24	24-51	22	171	313	-
24	24-61*	90	180	270	324
24	24-71	39	131	205	281
24	24-79	-	-	-	-

# Miniature Cylindrical

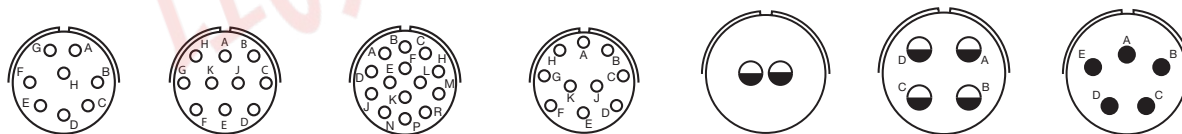
## insert arrangements



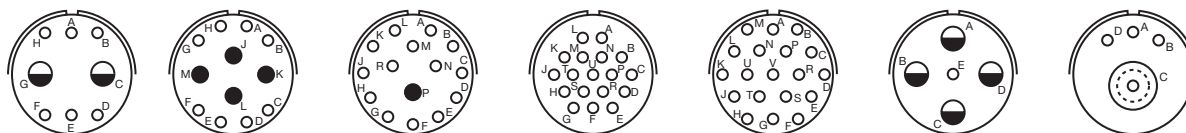
Insert Arrangement	6-1	8-2	8-3	8-4	8-33	8-98	10-2
Service Rating	I	I	I	I	I	I	I
Number of Contacts	1	2	3	4	3	3	2
Contact Size	20	20	20	20	20	20	16



Insert Arrangement	10-5	10-6	10-7	10-70	10-98	12-3	12-4
Service Rating	I	I	I	COAX	I	II	I
Number of Contacts	5	6	7	1	6	3	4
Contact Size	20	20	20	8 COAX	20	16	16



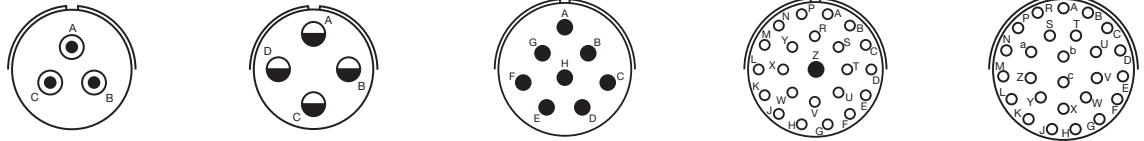
Insert Arrangement	12-8	12-10	12-14	12-98	14-2	14-4	14-5
Service Rating	I	I	I	I	II	I	II
Number of Contacts	8	10	14	10	2	4	5
Contact Size	20	20	20	20	12	12	16



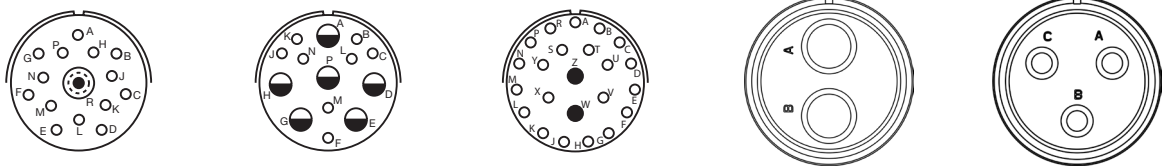
Insert Arrangement	14-8	14-12	14-15	14-18	14-19	14-22	14-71
Service Rating	I	I	I	I	I	I	I
Number of Contacts	6	2	8	4	14	1	3
Contact Size	20	12	20	16	20	20	16
							8 COAX

# Miniature Cylindrical

## insert arrangements



<b>Insert Arrangement</b>	14-91HV	14-AA	16-8	16-23	16-26
<b>Service Rating</b>	Flashover 5,000 VAC (RMS)	I	II	I	I
<b>Number of Contacts</b>	3	4	8	22   1	26
<b>Contact Size</b>	20	12	16	20   16	20



<b>Insert Arrangement</b>	16-70	16-76	16-99	18-2	18-3
<b>Service Rating</b>	N/A	Flashover 1,500 VAC (RMS)	I	II	II
<b>Number of Contacts</b>	14   1	8   1   5	21   2	2	3
<b>Contact Size</b>	20   12 COAX	20   12*   2 COAX	20   16	8	10

\*Contact Positions Optional



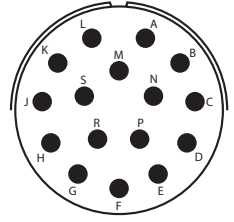
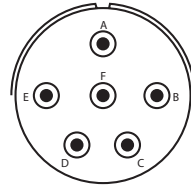
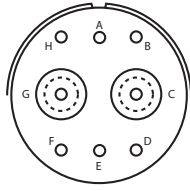
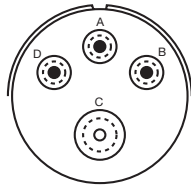
<b>Insert Arrangement</b>	18-5	18-8	18-11	18-30
<b>Service Rating</b>	II	I	II	I
<b>Number of Contacts</b>	5	8	11	29   1
<b>Contact Size</b>	12	12	16	20   16



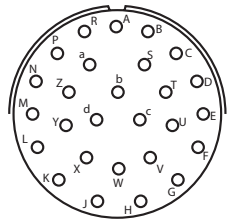
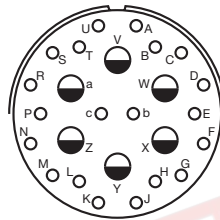
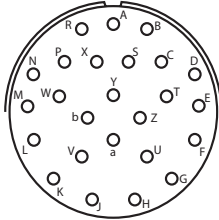
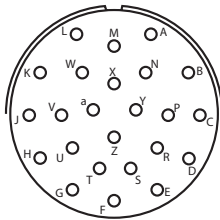
<b>Insert Arrangement</b>	18-32	18-71	18-72	18-75
<b>Service Rating</b>	I	II, COAX	N/A	COAX
<b>Number of Contacts</b>	32	8   1	10   4	4
<b>Contact Size</b>	20	16   8 COAX	20   12 COAX	8 COAX

# Miniature Cylindrical

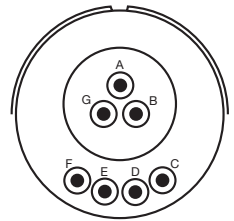
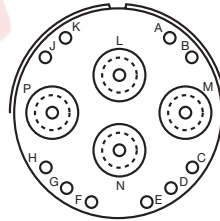
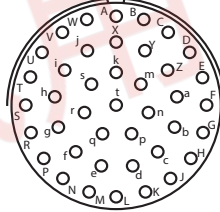
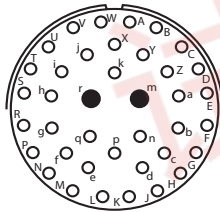
## insert arrangements



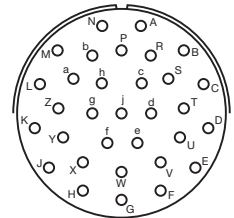
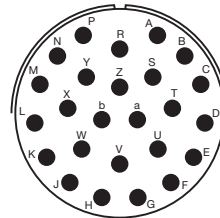
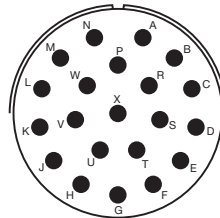
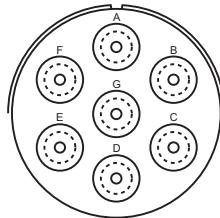
Insert Arrangement	18-76		18-80		18-91 HV		20-16
Service Rating	II		I, COAX		Flashover 5,000 VAC (RMS)		II
Number of Contacts	3	1	6	2	6		16
Contact Size	12 COAX	8 COAX	20	8 COAX	20		16



Insert Arrangement	20-24		20-25		20-26		20-27
Service Rating	I		I		I		I
Number of Contacts	24		25		20	6	27
Contact Size	20		20		20	12	20



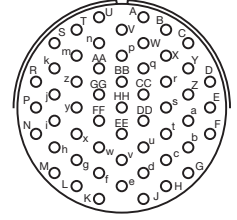
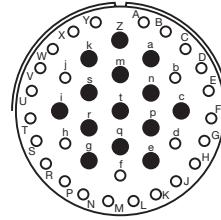
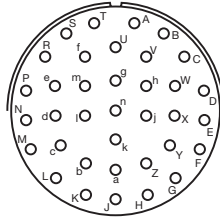
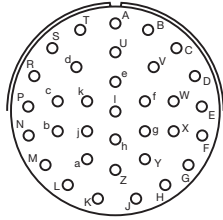
Insert Arrangement	20-39		20-41		20-70		20-90
Service Rating	I		I		COAX		HI-VOLTAGE
Number of Contacts	37	2	41		10	4	7
Contact Size	20	16	20		20	8 COAX	20



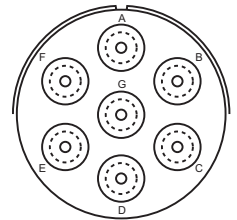
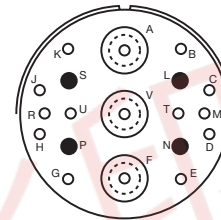
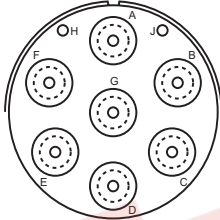
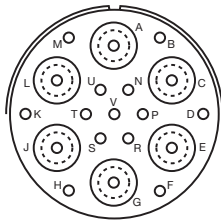
Insert Arrangement	22-7		22-21		22-25		22-32
Service Rating	COAX		II		I		I
Number of Contacts	7		21		25		32
Contact Size	8 COAX		16		16		20

# Miniature Cylindrical

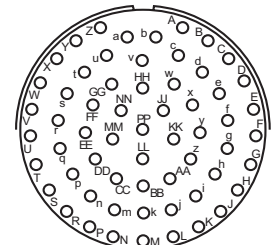
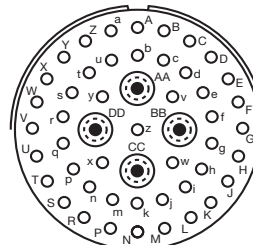
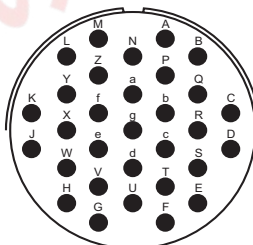
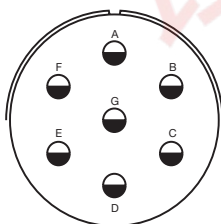
## insert arrangements



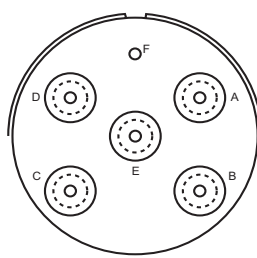
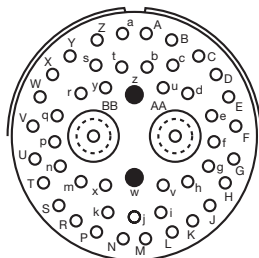
Insert Arrangement	22-34	22-36	22-41		22-55
Service Rating	I	I	I		I
Number of Contacts	34	36	27	14	55
Contact Size	20	20	20	16	20



Insert Arrangement	22-70	22-71	22-72		22-78
Service Rating	i, COAX	I, COAX	N/A		COAX
Number of Contacts	12	2	12	4	7
Contact Size	20	20	20	16	8 COAX



Insert Arrangement	22-96	24-31	24-51		24-61
Service Rating	II	I	I		I
Number of Contacts	7	31	47	4	61
Contact Size	12 for #10 WIRE	16	20	12 COAX	20

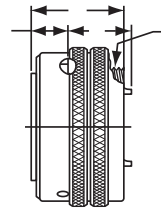
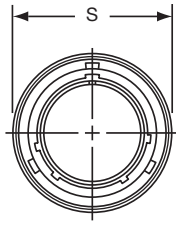


Insert Arrangement	24-71			24-79	
Service Rating	N/A			COAX	
Number of Contacts	45	2	2	1	5
Contact Size	20	16	8 COAX	20	8 COAX

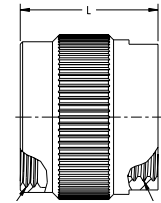
Contact Legend	
Symbol	Contact Size
	20
	16
	12
	HV
	12 COAX
	8 COAX

# PT06 (MS3116)

## SP06 straight plug

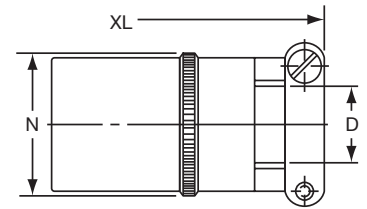


"PG" Cable Gland Seal



PT06PG-XX-XXX

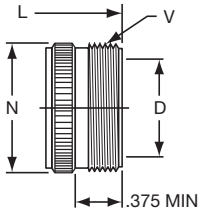
"J" Cable Seal



MS3116J-XX-XXX

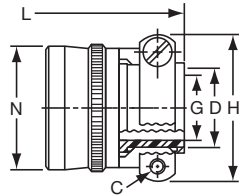
### TERMINATION ASSEMBLIES

"A" General Duty



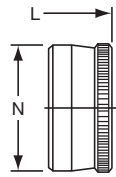
PT06A-XX-XXX  
SP06A-XX-XXX  
PTG06A-XX-XXX

"A" (SR), "E" (SR), "P" (SR),  
MS / "F" Strain Relief



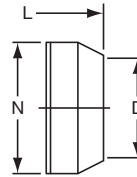
PT06A-XX-XXX (SR)  
SP06A-XX-XXX (SR)  
PTG06A-XX-XXX (SR)  
PT06E-XX-XXX (SR)  
SP06E-XX-XXX (SR)  
PTG06E-XX-XXX (SR)  
PT06P-XX-XXX (SR)  
SP06P-XX-XXX (SR)  
PTG06P-XX-XXX (SR)  
MS3116F-XX-XXX

"E" Open Wire Seal



PT06E-XX-XXX  
SP06E-XX-XXX  
PTG06E-XX-XXX  
MS3116E-XX-XXX

"P" Potting Boot



PT06P-XX-XXX  
SP06P-XX-XXX  
PTG06P-XX-XXX  
MS3116P-XX-XXX

To complete part number see how to order on page 25.

Shell Size	Plug Front View		Plug Side View				Class "A"			
	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	1.4375-18 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	1.391	.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	

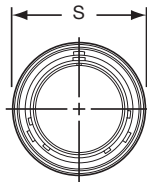
Shell Size	Class "A" (SR), "E" (SR), "P" (SR), MS/"F"						Class "e", MS/"E"		Class "P", MS/"P"			Class "J"				Class "PG"	
	C Thread	D Min.	G Max.	H Max.	L Max.	N Max.	L Max.	N Max.	D Min.	L Max.	N Max.	D		N Max.	XL Max.	B Thread	L Max.
6	-	-	-	-	-	-	1.266	.440	.192	1.438	.484	-	-	-	-	-	-
8	6-32	.240	.125	.812	1.922	.550	1.266	.560	.317	1.438	.608	.168	.230	.547	2.271	M12x1.5-6H	.936
10	6-32	.302	.188	.875	1.922	.675	1.266	.685	.434	1.438	.734	.205	.312	.675	2.271	M16x1.5-6H	.936
12	6-32	.428	.312	1.000	1.922	.803	1.266	.813	.548	1.438	.858	.338	.442	.812	2.411	M16x1.5-6H	.936
14	6-32	.552	.375	1.125	1.922	.920	1.266	.930	.673	1.438	.984	.416	.539	.940	2.599	M18x1.5-6H	.936
16	6-32	.615	.500	1.188	2.047	1.047	1.266	1.057	.798	1.438	1.110	.550	.616	1.067	2.943	M22x1.5-6H	.936
18	8-32	.740	.625	1.438	2.078	1.165	1.266	1.175	.899	1.438	1.234	.600	.672	1.194	3.172	M25x1.5-6H	.936
20	8-32	.740	.625	1.438	2.344	1.290	1.516	1.301	1.024	1.656	1.360	.635	.747	1.322	3.610	M25x1.5-6H	1.180
22	8-32	.928	.750	1.625	2.344	1.418	1.516	1.430	1.149	1.656	1.484	.670	.846	1.449	3.766	M32x1.5-6H	1.180
24	8-32	.990	.800	1.719	2.406	1.543	1.578	1.555	1.274	1.717	1.610	.740	.894	1.576	3.985	M32x1.5-6H	1.180

All dimensions for reference only.

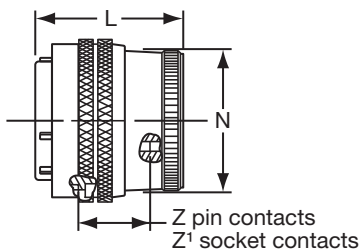
# PT06 SE (MS3126)

## SP06 SE

straight plug



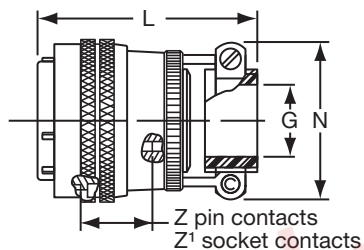
“SE”, MS / “E” Open Wire Seal



PT06SE-XX-XXX  
SP06SE-XX-XXX  
PTG06SE-XX-XXX  
MS3126E-XX-XXX

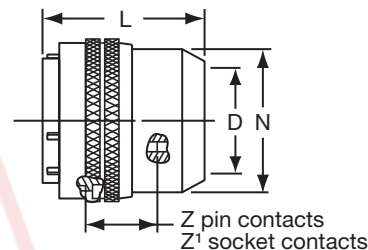
### TERMINATION ASSEMBLIES

“SE” (SR), MS / “F” Strain Relief



PT06SE-XX-XXX (SR)  
SP06SE-XX-XXX (SR)  
PTG06SE-XX-XXX (SR)  
MS3126F-XX-XXX

“SP”, MS / “P” Potting Boot



PT06SP-XX-XXX  
SP06SP-XX-XXX  
PTG06SP-XX-XXX  
MS3126P-XX-XXX

To complete part number see how to order on page 36.

Shell Size	Plug Front View			Plug Side View							
	S Dia. Max.	Z ±.045	Z' ±.045	Class “SE”, MS/“E”		Class “SE” (SR), MS/“F”			Class “SP”, MS/“P”		
				L Max.	N Max.	G Dia.	L Max.	N Max.	D Dia.	L Max.	N Dia. Max.
8*	.734	.640	.579	1.328	.540	.125	2.413	.828	.327	1.750	.578
10	.859	.640	.579	1.328	.685	.188	2.413	.891	.444	1.750	.734
12	1.031	.640	.579	1.328	.813	.312	2.413	1.016	.558	1.750	.858
14	1.156	.640	.579	1.328	.930	.375	2.413	1.141	.683	1.750	.984
16	1.281	.640	.579	1.328	1.057	.500	2.528	1.203	.808	1.750	1.110
18	1.391	.640	.579	1.328	1.175	.625	2.528	1.469	.909	1.750	1.234
20	1.531	.640	.579	1.297	1.301	.625	2.753	1.469	1.034	1.750	1.360
22	1.656	.640	.579	1.297	1.428	.750	2.753	1.656	1.159	1.750	1.484
24	1.777	.640	.579	1.359	1.533	.800	2.830	1.750	1.284	1.766	1.610

\* PT-SE, MS-SE and MS-SP only.  
All dimensions for reference only.