

ITT Cannon KPT / KPSE Series MIL-DTL-26482 Series I Connectors



INTERMATEABLE WITH SOURIAU CONNECTORS & ALL MIL-DTL-26482 SERIES I

ITT Cannon KPT / KPSE series MIL-DTL-26482 series I connectors offer high-density contact arrangements in a miniature circular connector. The KPT series (thru-bulkhead) offers a range of solder cup connectors while the KPSE series offers crimp connectors. These series are qualified to MIL-DTL-26482 and are intermateable with VG95328 connectors, Souriau connectors and all MIL-26482 series I connectors. The ITT Cannon KPT / KPSE series is used in a range of harsh environment industrial applications. Mil spec prefixes include: MS3110, MS3112, MS3114, MS3116, MS3119, MS3120, MS3122, MS3124, and MS3126. ITT Cannon proprietary prefixes are KPT and KPSE. For full details on ITT Cannon KPT / KPSE series MIL-DTL-26482 series I connectors, please see the product specifications below.

APPLICATIONS

Military and Industrial environments requiring a miniature, high-density, environmental connector

- Power generators
- Engines
- Sensors
- Motion control
- Off-road vehicles
- Earth-moving equipment
- Ships
- Mobile equipment
- Industrial machinery
- Telecommunications

FEATURES

RUGGED SHELL

Aluminum alloy shell and hardware create a rugged connector with minimal weight. These connectors have been used extensively in commercial, military, and aerospace environments. Standard shells accept all MIL-DTL-26482 accessories.

ENVIRONMENTALLY-SEALED

Complete moisture sealing is achieved by combining four seals: shell, peripheral, interfacial, and wire. Wire seal is accomplished by multiple ripple design, exceeding the wire sealing requirements of MIL-DTL-26482.

RESISTANT TO MILITARY ENVIRONMENTS

These connectors will operate in temperatures from -67° to +257°F (-55° to +125°C) under the harshest possible conditions.

WIDE RANGE OF WIRE GAUGES AND CURRENT-CARRYING CAPABILITY

Up to 22 amps with wire gauges from size 24 up to size 16 AWG.

RESILIENT INSULATOR & GROMMET

A resilient polychloroprene insulator and integrated rear wire sealing grommet guarantees a liquid-tight assembly. Crimp contacts are available that can be inserted from the rear of the connector. Solder contacts are permanently bonded into the insulator.

SOLDER OR CRIMP GOLD-PLATED CONTACTS

Both solder (KPT) and crimp (KPSE) contacts are available. Both are gold-plated per MIL-G-45204 Type II. KPSE crimp contacts are designed to MIL-C-39029 and can be crimped with the standard M22520/1 crimp tool. Socket contacts are closed to eliminate damage from test probes and to help correct misaligned pins during engagement. Contact insertion is from the rear of the connector. When the contact is fully inserted, it snaps securely into metal retention tines embedded in the insulator. Contact extraction is accomplished from the front with the proper extraction tool. Pressing the tool plunger pushes the contact out through the rear of the connector.

AGENCY APPROVALS

- MIL-DTL-26482
- VG95328

MATERIALS & FINISHES

Shell	Aluminum Alloy
Plating	Olive drab chromate coating over cadmium plating, black zinc cobalt or electroless nickel
Contacts	Copper Alloy
Platings	Gold plate, 50 microinches minimum per MIL-G-45204 Type II
Insulator*	Resilient polychloroprene (Neoprene). KPSE insulators also encase a tough plastic wafer which contains metal contact retention tines for high reliability retention of crimp contacts.

*Optional zero halogen and high temperature insulators are available. Contact us for information.

ELECTRICAL DATA

Current Rating:

SERVICE RATING*	TEST ALTITUDE	MAXIMUM OPERATING VOLTAGE		TEST VOLTAGE	
		DC	AC	DC	AC (RMS)
I	SEA LEVEL	850	600	2,100	1,500
II		1,275	1,000	3,200	2,300
I	70,000 FEET	-	300	535	375
II		-	450	770	500

*Each insulator layout has a specific "Service Rating."

The Service Ratings for each layout are listed on [pages 183, 185 - 186](#).

Operating Voltage & Test Voltage:

CONTACT SIZE	RATED CURRENT AMPS	TEST CURRENT AMPS	POTENTIAL DROP (MILLIVOLTS) INITIAL
20	7.5	7.5	<55
16	22	13	<50

Wire Range Sizes 24 to 16 AWG

Contact Resistance When tested to MIL-STD-1344 Method 3004, will not exceed voltage drops listed in table. Consult MIL-DTL-26482, 3.6.4 for details.

Insulation Resistance 5,000 Megohms minimum at 77°F (25°C)

MECHANICAL

Operating Temperature -67°F to +257°F (-55°C to +125°C)

Sealing 48 hours in 6 feet of water per MIL-DTL-26482 4.6.14. Meets 10- and 20-day 50 to 95% humidity testing per MIL-STD-1344 Method 1002.2 per MIL-DTL-26482.

Wire Sealing Range

CONTACT SIZE	AWG WIRE	TEST CURRENT AMPS		
		MIN. (KPT)	MIN. (KPSE)	MAX. (KPT/KPSE)
20	24, 22, AND 20	.060 (1.52)	.047 (1.19)	.083 (2.11)
16	20, 18, AND 16	.066 (1.68)	.066 (1.68)	.109 (2.77)

All dimensions in inches (millimeters in parentheses) unless otherwise stated.

TECH SPECS

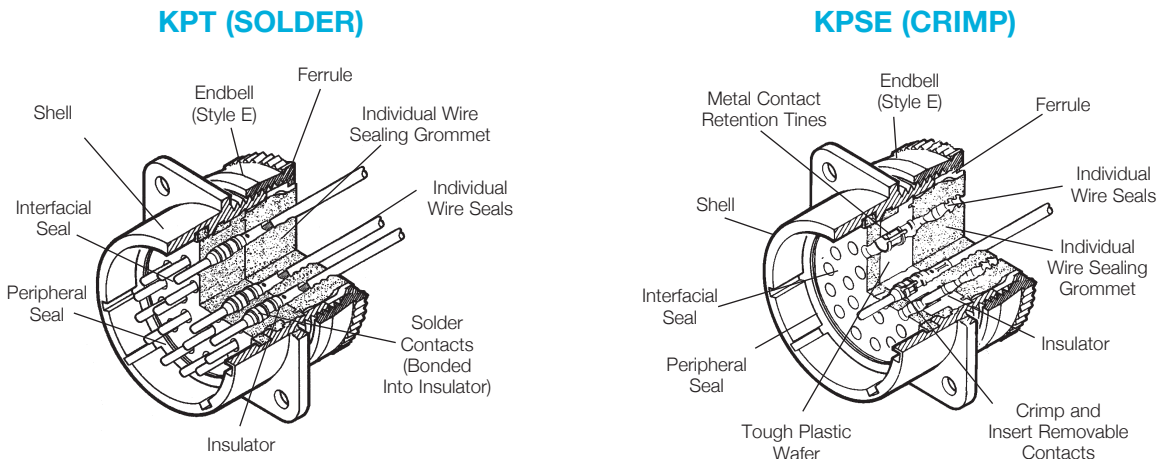
Insulation Strip Lengths:	CONTACT SIZE	WIRE SIZE (AWG)	STRIP LENGTH INCHES (MM)
	20	20-24	.375 (9.5)
	16	16-20	.250 (6.35)

Mating Life	500 cycles minimum
Salt Spray	Unmated connectors and protective covers meet 48-hour exposure to MIL-STD-1344 Method 1001 per MIL-DTL-26482. (Cadmium Plating)
Heat	+347°F (+175°C) for 1,000 hours to MIL-STD-1344 Method 1005.1 per MIL-DTL-26482
Chemical Resistance	20 hour full immersion unmated in hydraulic fluid and lubricating oil per MIL-DTL-26482
Vibration	10 to 2,000Hz (15g's) 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2005 per MIL-DTL-26482.
Shock	50g's, 11ms duration, three major axes. 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2004 per MIL-DTL-26482.
Contact Type	Solder, crimp, printed circuit
Number of Circuits	KPT: 2 to 61; KPSE: 3 to 61
Contact Insertion	Insertion from the rear of connector with simple hand tool. Front release with appropriate extraction tool.
Contact Retention	To MIL-STD-1344 Method 2007 per MIL-DTL-26482

CONTACT SIZE	AXIAL LOAD MIN. NEWTONS (LBS)
20	66.7 (15)
16	111.2 (25)

Polarization	Five keyway, three-point bayonet with optional rotational polarization. ⇒ See page 183, 185.
Approvals/Specifications	• MIL-DTL-26482 • VG95238

CROSS SECTION



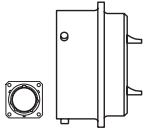
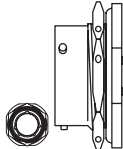
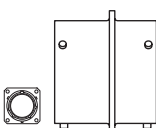
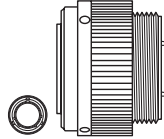
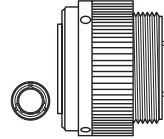
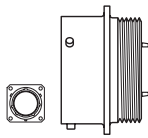
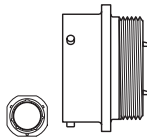
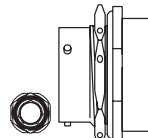
All dimensions in inches (millimeters in parentheses) unless otherwise stated.

HOW TO ORDER SOLDER CONNECTORS

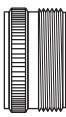
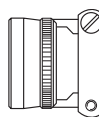
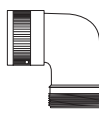
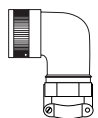
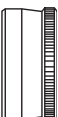



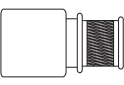
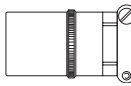

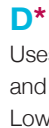

1	2	3	4	5	6
KPT06	F	16-26	P	W	A206
SHELL STYLE (KPTR RoHS)	ENDBELLS	LAYOUT	CONTACT	ROTATION	MODIFIER
(Commercial example)					
1	2	3	4	5	
MS3116	F	16-26	P	W	
SHELL STYLE	ENDBELLS	LAYOUT	CONTACT	ROTATION	
(Military solder example)					

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

← **Mates with** →

 KPT02* MS3112E^o Solder Box Mount	 KPT07A* Solder Jam Nut	 KPTB* MS3119E^o Thru-Bulkhead	 KPT06* MS3116^o KPT05- = KPT06 less rear accessories Solder Cable Plug	 KPT08* Solder Right Angle Cable Plug
 KPT00* MS3110^o KPT03- = KPT00 less rear accessories Solder Wall Mount	 KPT01* MS3111^o KPT04- = KPT01 less rear accessories Solder Cable Mount	 KPT07* MS3114^o Solder Jam Nut		

STEP 2: CHOOSE ENDBELL

 A* General Duty Threaded	 B* Non-Environmental with Clamp	 A* General Duty Non-Environmental	 B* Non- Environmental (with clamp)
 E*^o Environmental No Clamp (mil)	 F*^o Military Environmental with Clamp (mil)	 E* Environmental (no clamp)	 F* Environmental (with clamp)
 U* Potted (preferred)	 J* Environmental with Clamp and Cable Jacket Gland Seal (mil for MS3116 only)	 P* Environmental Potting (not available in size 8)	
 D* Uses grommets and ferrules Low Cost for Shielded or Unshielded Cable → See pages 326 - 327.	 P*^o Environmental Potting (mil) → See pages 330. for epoxy potting compound.		

Part number key: Commercial=(*) Military=(^o)

Note: KPTC special crimp contacts in solder inserts, please contact us.

STEP 3: CHOOSE LAYOUT

LAYOUT	KPT	CONTACT SIZES				ROTATIONS			
		RATING	TOTAL	20	16	W	X	Y	Z
8-2	△	I	2	2		58	122	-	-
8-3	△	I	3	3		60	210	-	-
8-3A	△	I	3	3		60	210	-	-
8-4	△	I	4	4		45	-	-	-
8-33	△	I	3	3		90	-	-	-
10-6	△	I	6	6		90	-	-	-
10-98	△	I	6	6		90	180	240	270
12-3	△	II	3		3	-	-	180	-
12-8	△	I	8	8		90	112	203	292
12-10	△	I	10	10		60	155	270	295
14-5	△	II	5		5	40	92	184	273
14-12	△	I	12	8	4	43	90	-	-
14-15	△	I	15	14	1	17	110	155	234
14-18	△	I	18	18		15	90	180	270
14-19	△	I	19	19		30	165	315	-
16-8	△	II	8		8	54	152	180	331
16-23	△	I	23	22	1	158	270	-	-
16-26	△	I	26	26		60	-	275	338
16-99	△	I	23	21	2	66	156	223	340
18-11	△	II	11		11	62	119	241	340
18-30	△	I	30	29	1	180	193	285	350
18-32	△	I	32	32		85	138	222	265
20-16	△	II	16		16	238	318	333	347
20-24	△	I	24	24		70	145	215	290
20-39	△	I	39	37	2	63	144	252	333
20-41	△	I	41	41		45	126	225	-
22-21	△	II	21		21	16	135	175	349
22-32	△	I	32	32		72	145	215	288
22-34	△	I	34	34		62	142	218	298
22-36	▲	I	36	36		72	144	216	288
22-41	△	I	41	27	14	39	135	264	-
22-55	△	I	55	55		30	142	226	314
24-61	△	I	61	61		90	180	270	324

Series Legend ▲= Commercial Solder
 △= Commercial & Military Solder

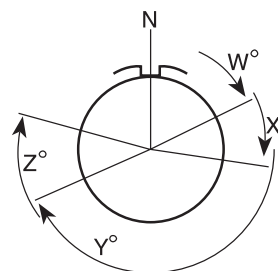
STEP 4: CHOOSE CONTACT

P = Pin **S** = Socket **PS** = KPT B
 (omit for MS3119)

STEP 5: CHOOSE ROTATION

See chart in step 3 (omit for normal)

W, X, Y, Z
 Mating-face view of pin inserts



STEP 6: CHOOSE MODIFIER (COMMERCIAL ONLY)

A71 = Electroless Nickel

A206 = Conductive Black Zinc (RoHS)
 Not needed for KPTR prefix

DN = Shrink Boot Adaptor

DZ = Shrink Boot Adaptor
 for Shielded (Screened) Cable
 (Includes shielding grounding
 finger barrel for plugs)



HOW TO ORDER CRIMP CONNECTORS

1	2	3	4	5	6
KPSE06	F	16-26	P	W	A206
<small>SHELL STYLE KPSR (RoHS)</small>	<small>ENDBELLS</small>	<small>LAYOUT</small>	<small>CONTACT</small>	<small>ROTATION</small>	<small>MODIFIER</small>

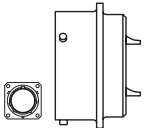
(Commercial example)

1	2	3	4	5	6
MS3126	F	16-26	P	W	-L C
<small>SHELL STYLE</small>	<small>ENDBELLS</small>	<small>LAYOUT</small>	<small>CONTACT</small>	<small>ROTATION</small>	<small>MODIFIER</small>

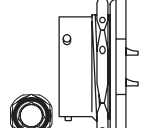
(Military Crimp example)

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

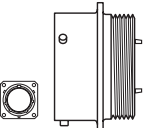
↓ Mates with ↓



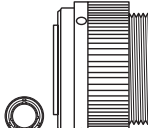
KPSE02E*
MS3122E°
Crimp Style



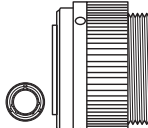
KPSE07A*
Crimp Style



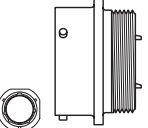
KPSE00*
MS3120°
Crimp Style
KPSE03- = KPSE00
less rear accessories



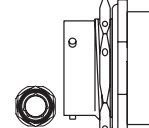
KPSE06*
MS3126°
Crimp Style
KPSE05- = KPSE06
less rear accessories



KPSE08*
Crimp Style

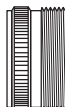


KPSE01*
MS3121°
Crimp Style
KPSE04- = KPSE01
less rear accessories

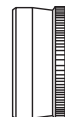


KPSE07*
MS3124°
Crimp Style

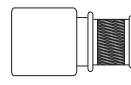
STEP 2: CHOOSE ENDBELL



A*
General Duty
Threaded

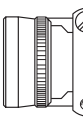


E*°
Environmental
no Clamp (mil)




U*
Potted (preferred)


D*
Uses grommets
and ferrules
Low Cost for Shielded
or Unshielded Cable
⇒ See pages 326 - 327.



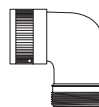
B*
Non-Environmental
with Clamp




F*°
Military
Environmental with
Clamp (mil)




P*°
Environmental
Potting (mil)
⇒ See pages 328.
for epoxy potting
compound.



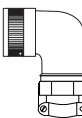
A*
General Duty
Non-Environmental




E*
Environmental
(no clamp)



P*
Environmental Potting
(not available in size 8)



B*
Non-
Environmental
(with clamp)



F*
Environmental
(with clamp)

Part number key: Commercial=(*) Military=(°)

STEP 3: CHOOSE LAYOUT

LAYOUT	KPSE	CONTACT SIZES				ROTATIONS			
		RATING	TOTAL	20	16	W	X	Y	Z
8-3A	◆	I	3	3		60	210	-	-
10-6	◇	I	6	6		90	-	-	-
12-3	◇	II	3		3	-	-	180	-
12-10	◇	I	10	10		60	155	270	295
14-5	◇	II	5		5	40	92	184	273
14-12	◇	I	12	8	4	43	90	-	-
14-15	◇	I	15	14	1	17	110	155	234
14-19	◇	I	19	19		30	165	315	-
16-8	◇	II	8		8	54	152	180	331
16-26	◇	I	26	26		60	-	275	338
18-11	◇	II	11		11	62	119	241	340
18-32	◇	I	32	32		85	138	222	265
20-16	◇	II	16		16	238	318	333	347
20-39	◇	I	39	37	2	63	144	252	333
20-41	◇	I	41	41		45	126	225	-
22-21	◇	II	21		21	16	135	175	349
22-55	◇	I	55	55		30	142	226	314
24-61	◇	I	61	61		90	180	270	324

Series Legend ◆ = Commercial Crimp
 ◇ = Commercial & Military Crimp

STEP 4: CHOOSE CONTACT

↓

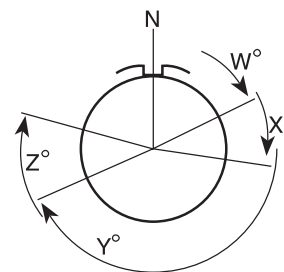
P = Pin **S** = Socket

STEP 5: CHOOSE ROTATION

↓

See chart in step 3 (omit for normal)

W, X, Y, Z
 Mating-face view of pin inserts



STEP 6: CHOOSE MODIFIER

↓

A71 = Electroless Nickel (Commercial only) **A206** = Conductive Black Zinc (RoHS) Not needed for KPTR prefix (Commercial only) **-LC** = Less Crimp Contacts **DN** = Shrink Boot Adaptor Not available for KPSE08 (Commercial only) **DZ** = Shrink Boot Adaptor for Shielded (Screened) Cable (Includes shielding grounding finger barrel for plugs) Not available for KPSE08 (Commercial only)



LAYOUTS BY NUMBER OF CONTACTS

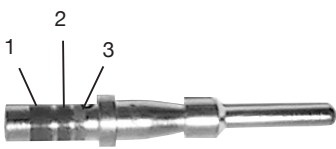
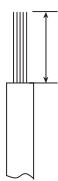




CONTACT LEGEND ○=20 ●=16
Mating-face view of pin inserts

Series Legend ▲ = Commercial Solder △ = Commercial & Military Solder
◆ = Commercial Crimp ◇ = Commercial & Military Crimp

	2	3 CONTACTS				4	5	6 CONTACTS	
LAYOUT									
# OF CONTACTS	8-2	8-3	8-3A	8-33	12-3	8-4	14-5	10-6	10-98
SERIES	△	△	△◆	△	△◇	△	△◇	△◇	△
SERVICE RATING	I	I	I	I	II	I	II	I	I
	8 CONTACTS		10	11	12	15	1		
LAYOUT									
# OF CONTACTS	12-8	16-8	12-10	18-11	14-12	14-15	20-16	16-16	
SERIES	△	△◇	△◇	△◇	△◇	△◇	△◇	△◇	
SERVICE RATING	I	I	I	II	I	II	I	I	
	18	19	21	23 CONTACTS		24	26		
LAYOUT									
# OF CONTACTS	14-18	14-19	22-21	16-23	16-99	20-24	16-26	16-26	
SERIES	△	△◇	△◇	▲◆	△	△	△◇	△◇	
SERVICE RATING	I	I	II	I	I	I	I	I	
	30 CONTACTS		32 CONTACTS		34 CONTACTS		36 CONTACTS		
LAYOUT									
# OF CONTACTS	18-30	18-32	22-32	22-34	22-36	34-#20	36-#20	36-#20	
SERIES	△	△◇	△	△	▲	△	▲	▲	
SERVICE RATING	I	I	I	I	I	I	I	I	
	39 CONTACTS		41 CONTACTS		55 CONTACTS		61 CONTACTS		
LAYOUT									
# OF CONTACTS	20-39	20-41	22-41	22-55	24-61	24-61	61-#20	61-#20	
SERIES	△◇	△◇	△	△◇	△◇	△◇	△◇	△◇	
SERVICE RATING	I	I	I	I	I	I	I	I	

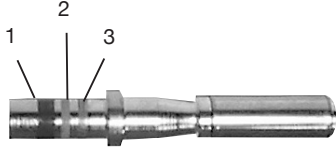
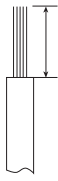




Drawings not to scale.

PINS

SIZE	WIRE SIZE AWG	PIN	COLOR BANDS			WIRE STRIP LENGTHS	WIRE SEALING RANGE		WIRE HOLE FILLER	CRIMP TOOLS	USE TURRET HEAD LOCATOR COLOR	INSERTION/EXTRACTION TOOL M81969
			1	2	3		MIN	MAX				
20	20-24	M39029/31-240	RED	YELLOW	BLACK	.250 (6.4)	.047 (1.2)	.083 (2.1)	MS27488-20-2	AF8 HAND TOOL WA27F AIR POWERED TH1A TURRET HEAD	RED	/17-03 (INS) /19-07 (EXT)
16	16-20	M39029/31-228	RED	RED	GREY	.250 (6.4)	.066 (1.7)	.109 (2.7)	MS27488-16-2		BLUE	/17-04 (INS) /19-08 (EXT)

SOCKETS

SIZE	WIRE SIZE AWG	PIN	COLOR BANDS			WIRE STRIP LENGTHS	WIRE SEALING RANGE		WIRE HOLE FILLER	CRIMP TOOLS	USE TURRET HEAD LOCATOR COLOR	INSERTION/EXTRACTION TOOL M81969
			1	2	3		MIN	MAX				
20	20-24	M39029/32-259	RED	GREEN	WHITE	.250 (6.4)	.047 (1.2)	.083 (2.1)	MS27488-20-2	AF8 HAND TOOL WA27F AIR POWERED TH1A TURRET HEAD	RED	/17-03 (INS) /19-07 (EXT)
16	16-20	M39029/32-247	RED	YELLOW	VIOLET	.250 (6.4)	.066 (1.7)	.109 (2.7)	MS27488-16-2		BLUE	/17-04 (INS) /19-08 (EXT)



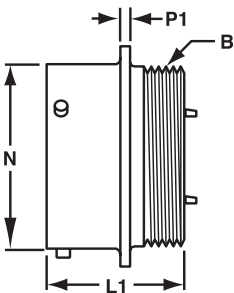
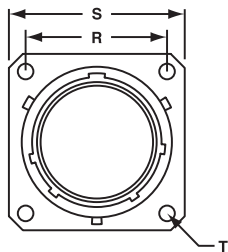
KPSE CRIMP KIT INCLUDES:

- Crimp Tool
- Locator
- Insertion Tools 16 + 20
- Extraction Tools 16 + 20
- Assembly Instructions
- Rugged Case

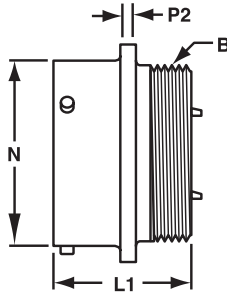
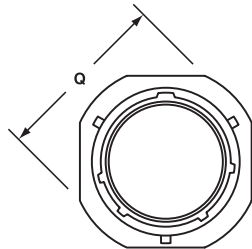
All dimensions in inches (millimeters in parentheses) unless otherwise stated.

RECEPTACLE STYLES

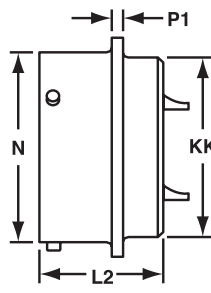
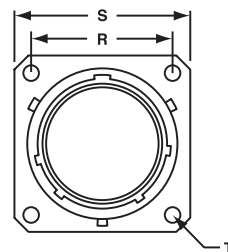
KPT00
KPSE00
MS3110
MS3120
KP_03



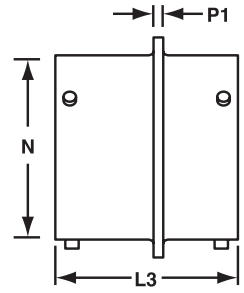
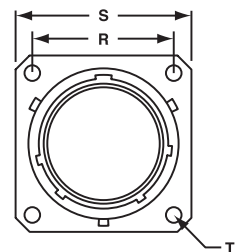
KPT01
KPSE01
MS3111
MS3121
KP_04



KPT02
KPSE02
MS3112
MS3122



KPTB
MS3119

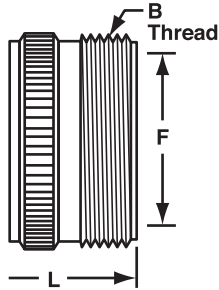


SHELL SIZE	ALL TYPES	00/02/B			01			00/01		02		B
	N DIA. +.003 (+/- 0.1)	R (TP)	S MAX.	T DIA.	P1	P2	Q MAX.	L1 MAX.	B THREAD CLASS 2A	L2 MAX.	KK DIA. MAX.	L3 MAX.
8	0.471 (12.0)	0.594 (15.1)	0.828 (21.0)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	0.958 (24.3)	0.850 (21.6)	.4375-28 UNEF	0.791 (20.1)	0.469 (11.9)	1.125 (38.6)
10	0.588 (14.9)	0.719 (18.3)	0.954 (24.2)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	1.082 (27.5)	0.850 (21.6)	.5625-24 UNEF	0.791 (20.1)	0.593 (15.1)	1.125 (38.6)
12	0.748 (19.0)	0.812 (20.6)	1.047 (26.6)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	1.176 (29.9)	0.850 (21.6)	.6875-24 UNEF	0.791 (20.1)	0.719 (18.3)	1.125 (38.6)
14	0.873 (22.2)	0.906 (23.0)	1.141 (29.0)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	1.270 (32.3)	0.850 (21.6)	.8125-20 UNEF	0.791 (20.1)	0.843 (21.4)	1.125 (38.6)
16	0.998 (25.3)	0.969 (24.6)	1.234 (31.3)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	1.364 (34.6)	0.850 (21.6)	.9375-20 UNEF	0.791 (20.1)	0.969 (24.6)	1.125 (38.6)
18	1.123 (28.5)	1.062 (27.0)	1.328 (33.7)	0.120 (3.0)	0.062 (1.6)	0.094 (2.4)	1.458 (37.0)	0.850 (21.6)	1.0625-18 UNEF	0.791 (20.1)	1.093 (27.8)	1.125 (38.6)
20	1.248 (31.7)	1.156 (29.4)	1.453 (36.9)	0.120 (3.0)	0.094 (2.4)	0.115 (2.9)	1.582 (40.2)	1.057 (26.8)	1.1875-18 UNEF	0.891 (22.6)	1.219 (31.0)	1.406 (35.7)
22	1.373 (34.9)	1.250 (31.8)	1.578 (40.1)	0.120 (3.0)	0.094 (2.4)	0.115 (2.9)	1.708 (43.4)	1.057 (26.8)	1.3125-18 UNEF	0.891 (22.6)	1.343 (34.1)	1.406 (35.7)
24	1.498 (38.0)	1.375 (34.9)	1.703 (43.3)	0.147 (3.7)	0.094 (2.4)	0.115 (2.9)	1.832 (46.5)	1.057 (26.8)	1.4375-18 UNEF	0.891 (22.6)	1.469 (37.3)	1.406 (35.7)

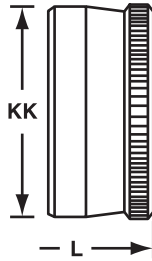
All dimensions in inches (millimeters in parentheses) unless otherwise stated.

ENDBELL STYLES

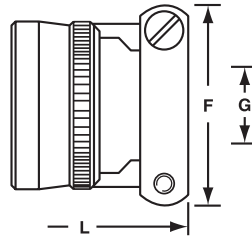
A (NOT MS)



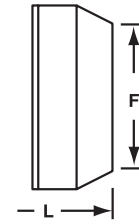
E (MS)



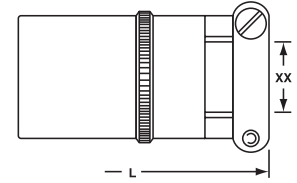
F (MS)
B (NOT MS)



P (MS)



J (MS)



A ENDBELL		B THREAD UNEF-2A
F MIN.	L MAX.	
0.335 (8.5)	1.444 (36.7)	.5000-28
0.466 (11.8)	1.444 (36.7)	.6250-24
0.591 (15.0)	1.444 (36.7)	.7500-20
0.705 (17.9)	1.444 (36.7)	.8750-20
0.830 (21.1)	1.444 (36.7)	1.0000-20
0.948 (24.1)	1.444 (36.7)	1.1875-18
1.043 (26.5)	1.728 (43.9)	1.1875-18
1.198 (30.4)	1.728 (43.9)	1.4375-18
1.293 (32.8)	1.738 (44.1)	1.4375-18

E ENDBELL	
L MAX.	KK MAX.
1.328 (33.7)	0.608 (15.4)
1.328 (33.7)	0.734 (18.6)
1.328 (33.7)	0.858 (21.8)
1.328 (33.7)	0.984 (25.0)
1.328 (33.7)	1.110 (28.2)
1.328 (33.7)	1.234 (31.3)
1.531 (38.9)	1.360 (34.5)
1.531 (38.9)	1.484 (37.7)
1.594 (40.5)	1.610 (40.9)

F/B ENDBELL		
F MIN.	G MIN.	L
0.828 (21.0)	0.115 (2.9)	1.922 (48.8)
0.891 (22.6)	0.178 (4.5)	1.922 (48.8)
1.016 (25.8)	0.302 (7.7)	1.922 (48.8)
1.141 (29.0)	0.365 (9.3)	1.922 (48.8)
1.203 (30.6)	0.490 (12.4)	2.047 (52.0)
1.469 (37.3)	0.615 (15.6)	2.078 (52.8)
1.469 (37.3)	0.615 (15.6)	2.344 (59.5)
1.656 (42.1)	0.740 (18.8)	2.344 (59.5)
1.750 (44.5)	0.790 (20.1)	2.406 (61.1)

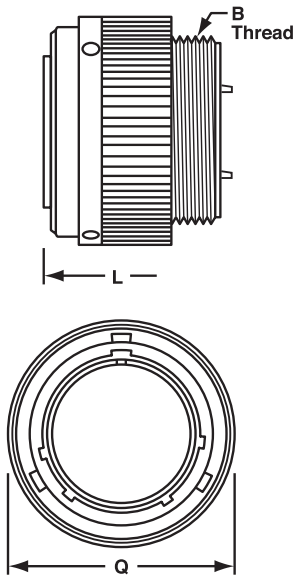
P ENDBELL	
F	L MAX.
0.317 (8.1)	1.453 (36.9)
0.434 (11.0)	1.453 (36.9)
0.548 (13.9)	1.453 (36.9)
0.673 (17.1)	1.453 (36.9)
0.798 (20.3)	1.453 (36.9)
0.899 (22.8)	1.453 (36.9)
1.024 (26.0)	1.672 (42.5)
1.149 (29.2)	1.672 (42.5)
1.274 (32.4)	1.734 (44.0)

J ENDBELL		
L	XX MIN.	XX MAX.
2.271 (57.7)	0.168 (4.3)	0.230 (5.8)
2.271 (57.7)	0.205 (5.2)	0.312 (7.9)
2.411 (61.2)	0.338 (8.6)	0.442 (11.2)
2.599 (66.0)	0.416 (10.6)	0.539 (13.7)
2.943 (74.8)	0.550 (14.0)	0.616 (15.6)
3.172 (80.6)	0.600 (15.2)	0.672 (17.1)
3.610 (91.7)	0.635 (16.1)	0.747 (19.0)
3.766 (95.7)	0.670 (17.0)	0.846 (21.5)
3.985 (101.2)	0.740 (18.8)	0.894 (22.7)

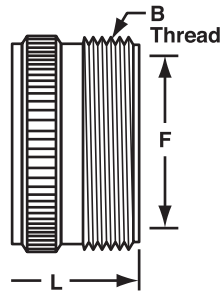
All dimensions in inches (millimeters in parentheses) unless otherwise stated.

STRAIGHT PLUGS

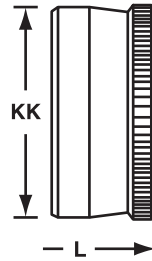
**KPT06
KPSE06
MS3116
MS3126
KP__05**



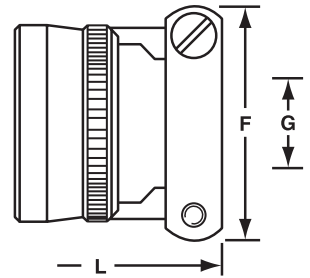
**KPT06A
KPSE06A**



**KPT06E
KPSE06E
MS3116E
MS3126E**



**KPT06F
KPSE06F
MS3116F
MS3126F**

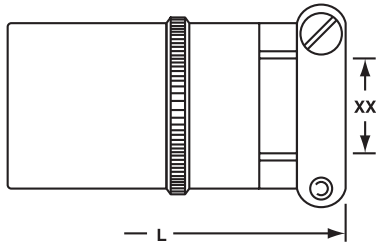


SHELL SIZE	06			06A			06E		06F		
	Q MAX.	L MAX.	B THREAD 2A	F MIN.	L MAX.	B THREAD UNEF-2A	L MAX.	KK MAX.	F MAX.	G MIN.	L MAX.
8	.782	0.841 (21.4)	.4375-28 UNEF	0.335 (8.5)	1.440 (36.6)	.5000-28	1.328 (33.7)	0.608 (15.4)	0.828 (21.0)	0.115 (2.9)	1.906 (48.4)
10	.926	0.841 (21.4)	.5625-24 UNEF	0.466 (11.8)	1.440 (36.6)	.6250-24	1.328 (33.7)	0.734 (18.6)	0.891 (22.6)	0.178 (4.5)	1.906 (48.4)
12	1.043	0.841 (21.4)	.6875-24 UNEF	0.591 (15.0)	1.440 (36.6)	.7500-20	1.328 (33.7)	0.858 (21.8)	1.016 (25.8)	0.302 (7.7)	1.906 (48.4)
14	1.183	0.841 (21.4)	.8125-20 UNEF	0.705 (17.9)	1.440 (36.6)	.8750-20	1.328 (33.7)	0.984 (25.0)	1.141 (29.0)	0.365 (9.3)	1.906 (48.4)
16	1.305	0.841 (21.4)	.9375-20 UNEF	0.830 (21.1)	1.440 (36.6)	1.0000-20	1.328 (33.7)	1.110 (28.2)	1.203 (30.6)	0.490 (12.4)	2.047 (52.0)
18	1.391	0.841 (21.4)	1.0625-18 UNEF	0.948 (24.1)	1.662 (42.2)	1.1875-18	1.328 (33.7)	1.234 (31.3)	1.469 (37.3)	0.615 (15.6)	2.078 (52.8)
20	1.531	0.986 (25.0)	1.1875-18 UNEF	1.043 (26.5)	1.662 (42.2)	1.1875-18	1.453 (36.9)	1.360 (34.5)	1.469 (37.3)	0.615 (15.6)	2.250 (57.2)
22	1.656	0.986 (25.0)	1.3125-18 UNEF	1.198 (30.4)	1.662 (42.2)	1.4375-18	1.453 (36.9)	1.484 (37.7)	1.656 (42.1)	0.740 (18.8)	2.250 (57.2)
24	1.770	0.986 (25.0)	1.4375-18 UNEF	1.293 (32.8)	1.672 (42.5)	1.4375-18	1.510 (38.4)	1.610 (40.9)	1.750 (44.5)	0.790 (20.1)	2.312 (58.7)

All dimensions in inches (millimeters in parentheses) unless otherwise stated.

STRAIGHT PLUGS

KPT06J
KPSE06J
MS3116J



06P	
J	L MIN.
0.317 (8.1)	1.500 (38.1)
0.434 (11.0)	1.500 (38.1)
0.548 (13.9)	1.500 (38.1)
0.673 (17.1)	1.500 (38.1)
0.798 (20.3)	1.500 (38.1)
0.899 (22.8)	1.500 (38.1)
1.024 (26.0)	1.609 (40.9)
1.149 (29.2)	1.609 (40.9)
1.274 (32.4)	1.687 (42.8)

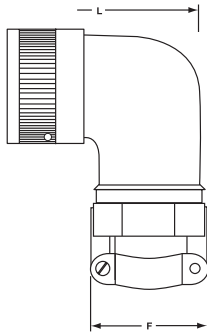
KPT06J
KPSE06J
MS3116J



06J		
L	CABLE Q0	
	XX MIN.	XX MAX.
2.271 (57.7)	0.168 (4.3)	0.230 (5.8)
2.271 (57.7)	0.205 (5.2)	0.312 (7.9)
2.411 (61.2)	0.338 (8.6)	0.442 (11.2)
2.599 (66.0)	0.416 (10.6)	0.539 (13.7)
2.943 (74.8)	0.550 (14.0)	0.616 (15.6)
3.172 (80.6)	0.600 (15.2)	0.672 (17.1)
3.610 (91.7)	0.635 (16.1)	0.747 (19.0)
3.766 (95.7)	0.670 (17.0)	0.846 (21.5)
3.985 (101.2)	0.740 (18.8)	0.849 (21.6)

RIGHT ANGLE PLUGS

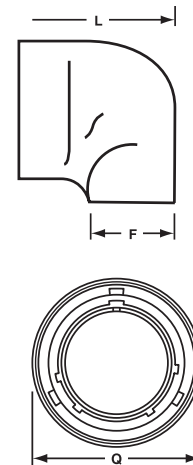
KPT08A, B, E, F
KPSE08A, B, E, F



08 STYLE	WITH CLAMP	WITH WIRE SEAL
A		
B	●	
E		●
F	●	●

SHELL SIZE	08E/A/B/F		
	Q MAX.	F MAX.	L MAX.
8	0.765 (19.4)	0.812 (20.6)	1.842 (46.8)
10†	0.840 (21.3)	0.875 (22.2)	1.937 (49.2)
12	0.999 (25.4)	1.062 (27.0)	1.937 (49.2)
14	1.139 (28.9)	1.156 (29.4)	2.124 (53.9)
16	1.261 (32.0)	1.250 (31.8)	2.203 (56.0)
18	1.337 (34.0)	1.469 (37.3)	2.380 (60.5)
20	1.477 (37.5)	1.469 (37.3)	2.629 (66.8)
22	1.602 (40.7)	1.680 (42.7)	2.629 (66.8)
24†	1.723 (43.8)	1.688 (42.9)	2.895 (73.5)

KPT08P
KPSE08P

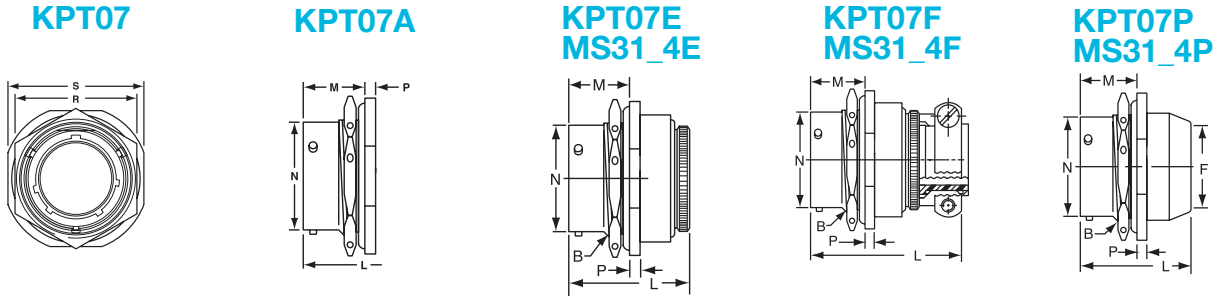


08P	
F MAX.	L MIN.
-	-
0.252 (6.4)	1.380 (35.1)
0.252 (6.4)	1.567 (39.8)
0.283 (7.2)	1.567 (39.8)
0.355 (9.0)	1.567 (39.8)
0.530 (13.5)	1.755 (44.6)
0.562 (14.3)	1.782 (45.3)
0.562 (14.3)	1.782 (45.3)
0.610 (15.5)	2.087 (53.0)

➔ See page 330 for epoxy potting compound.

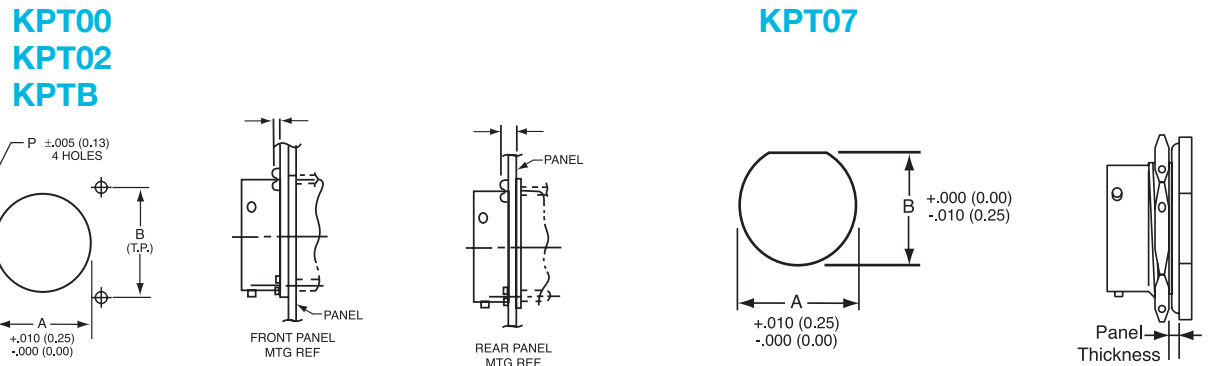
† A 2-piece backshell maybe used, contact us for details
All dimensions in inches (millimeters in parentheses) unless otherwise stated.

JAM NUT RECEPTACLES



SHELL SIZE	B THREAD UNEF -2A	07					PANEL THICKNESS		07A L MAX.	07E/F		07P	
		M +/- 0.031 (0.79)	N +/- 0.003 (0.08)	P +/- 0.020 (0.51)	R	S	MIN.	MAX.		STYLE E L MAX.	STYLE F L MAX.	F	L
8	.5625-24	0.691 (17.6)	0.471 (12.0)	0.117 (3.0)	0.750 (19.1)	0.954 (24.2)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	1.906 (48.4)	0.317 (8.1)	1.391 (35.3)
10	.6875-24	0.691 (17.6)	0.588 (14.9)	0.117 (3.0)	0.875 (22.2)	1.078 (27.4)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	1.906 (48.4)	0.434 (11.0)	1.391 (35.3)
12	.8750-20	0.691 (17.6)	0.748 (19.0)	0.117 (3.0)	1.062 (27.0)	1.266 (32.2)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	1.906 (48.4)	0.548 (13.9)	1.391 (35.3)
14	1.0000-20	0.691 (17.6)	0.873 (22.2)	0.117 (3.0)	1.188 (30.2)	1.391 (35.3)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	1.906 (48.4)	0.673 (17.1)	1.391 (35.3)
16	1.1250-18	0.691 (17.6)	0.988 (25.1)	0.117 (3.0)	1.312 (33.3)	1.516 (38.5)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	2.047 (52.0)	0.798 (20.3)	1.391 (35.3)
18	1.2500-18	0.691 (17.6)	1.123 (28.5)	0.117 (3.0)	1.438 (36.5)	1.641 (41.7)	0.062 (1.6)	0.125 (3.2)	0.889 (22.6)	1.344 (34.1)	2.078 (52.8)	0.899 (22.8)	1.391 (35.3)
20	1.3750-18	0.879 (22.3)	1.248 (31.7)	0.148 (3.8)	1.562 (39.7)	1.828 (46.4)	0.062 (1.6)	0.250 (6.4)	1.108 (28.1)	1.594 (40.5)	2.328 (59.1)	1.024 (26.0)	1.641 (41.7)
22	1.5000-18	0.879 (22.3)	1.373 (34.9)	0.148 (3.8)	1.688 (42.9)	1.954 (49.6)	0.062 (1.6)	0.250 (6.4)	1.108 (28.1)	1.594 (40.5)	2.328 (59.1)	1.149 (29.2)	1.641 (41.7)
24	1.6250-18	0.912 (23.2)	1.498 (38.0)	0.148 (3.8)	1.812 (46.0)	2.078 (52.8)	0.062 (1.6)	0.250 (6.4)	1.141 (29.0)	1.641 (41.7)	2.453 (62.3)	1.274 (32.4)	1.703 (43.3)

PANEL CUTOUTS/THICKNESS



SHELL SIZE	A	B	P +/- .005	SCREW SIZE	PANEL THICKNESS	
					KPT/KPSE 00/02	KPTB
8	0.618 (15.7)	0.594 (15.1)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
10	0.735 (18.7)	0.719 (18.3)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
12	0.859 (21.8)	0.812 (20.6)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
14	0.985 (25.0)	0.906 (23.0)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
16	1.113 (28.3)	0.969 (24.6)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
18	1.235 (31.4)	1.062 (27.0)	0.125 (3.2)	#4	0.087 (2.2)	0.218 (5.5)
20	1.361 (34.6)	1.156 (29.4)	0.125 (3.2)	#4	0.212 (5.4)	0.334 (8.5)
22	1.485 (37.7)	1.250 (31.8)	0.125 (3.2)	#4	0.212 (5.4)	0.334 (8.5)
24	1.611 (40.9)	1.375 (34.9)	0.155 (3.9)	#6	0.212 (5.4)	0.311 (7.9)

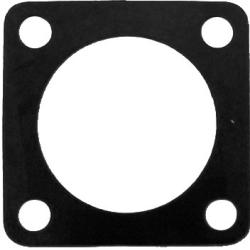
SHELL SIZE	A +010-.000 (+.25-.00)	B +.000-.010 (+.00-.25)	PANEL THICKNESS	
			MIN.	MAX.
8	0.578 (14.7)	0.540 (13.7)	0.062 (1.6)	0.125 (3.2)
10	0.703 (17.9)	0.665 (16.9)	0.062 (1.6)	0.125 (3.2)
12	0.890 (22.6)	0.828 (21.0)	0.062 (1.6)	0.125 (3.2)
14	1.015 (25.8)	0.952 (24.2)	0.062 (1.6)	0.125 (3.2)
16	1.140 (29.0)	1.076 (27.3)	0.062 (1.6)	0.125 (3.2)
18	1.265 (32.1)	1.201 (30.5)	0.062 (1.6)	0.125 (3.2)
20	1.390 (35.3)	1.326 (33.7)	0.062 (1.6)	0.250 (6.4)
22	1.515 (38.5)	1.451 (36.9)	0.062 (1.6)	0.250 (6.4)
24	1.640 (41.7)	1.576 (40.0)	0.062 (1.6)	0.250 (6.4)

All dimensions in inches (millimeters in parentheses) unless otherwise stated.

	PLUGS		RECEPTACLES	
	KPT	KPSE	KPT	KPSE
O-RING				
BARREL / SHELL				
WAVE SPRING				
COUPLING NUT				
INSERT/INSULATOR				
CONTACTS				
WIRE SEALING GROMMET				
FERRULE / COMPRESSION RING				
ENDBELL / CABLE CLAMP				

FLANGE MOUNT RECEPTACLE ACCESSORIES

GASKET



NUT PLATE



SEALING SCREWS



DUMMY RECEPTACLE



DUST CAPS

PLUG DUST CAP



RECEPTACLE FLANGE DUST CAP



RECEPTACLE JAM NUT DUST CAP



CABLE CLAMP



FLANGE MOUNT RECEPTACLE

DUST CAPS

SHELL SIZE	GASKET	NUT PLATE	SEALING SCREWS	DUMMY RECEPTACLE	PLUGS	RECEPTACLES		CABLE CLAMP FOR A ENDBELLS
						FLANGED	JAM NUT	
8	CMD02-8*	M85049/95-8A	S440-1/2	MS3115-8**	MS3180-8CA	MS3181-8CA	MS3181-8NA	MS3057-3A
10	CMD02-10*	M85049/95-10A	S440-1/2	MS3115-10**	MS3180-10CA	MS3181-10CA	MS3181-10NA	MS3057-4A
12	CMD02-12*	M85049/95-12A	S440-1/2	MS3115-12**	MS3180-12CA	MS3181-12CA	MS3181-12NA	MS3057-6A
14	CMD02-14*	M85049/95-14A	S440-1/2	MS3115-14**	MS3180-14CA	MS3181-14CA	MS3181-14NA	MS3057-8A
16	CMD02-16*	M85049/95-16A	S440-1/2	MS3115-16**	MS3180-16CA	MS3181-16CA	MS3181-16NA	MS3057-10A
18	CMD02-18*	M85049/95-18A	S440-1/2	MS3115-18**	MS3180-18CA	MS3181-18CA	MS3181-18NA	MS3057-12A
20	CMD02-20*	M85049/95-20A	S440-1/2	MS3115-20**	MS3180-20CA	MS3181-20CA	MS3181-20NA	MS3057-12A
22	CMD02-22*	M85049/95-22A	S440-1/2	MS3115-22**	MS3180-22CA	MS3181-22CA	MS3181-22NA	MS3057-16A
24	CMD02-24*	M85049/95-24B	S632-1/2	MS3115-24**	MS3180-24CA	MS3181-24CA	MS3181-24NA	MS3057-16A

* Add C for conductive type

** Select Plating

W = Olive drab over cadmium

A = Anodized

L = Electroless nickel

KPT SOLDER CONTACTS

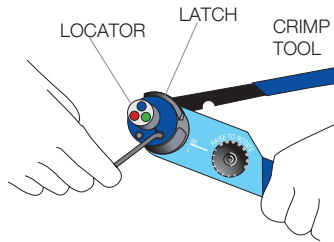
<p>STEP 1: Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule and, if used, coupling nut.</p>	<p>STEP 2: Insert individual wires through the proper holes in the grommet.</p>	<p>STEP 3: Solder wires to appropriate contacts on the rear of the connector. ITT Cannon document RPI234 covers standard soldering practices and is available upon request.</p>	<p>STEP 4: Fixture the connector for re-assembly using the endbell assembly tools or a mating connector with contacts installed.</p>	<p>STEP 5: Slide the grommet down the wires (lubricating the grommet with isopropyl alcohol will help).</p>	<p>STEP 6: Fill all unused grommet cavities with a wire hole filler to maintain the sealing integrity of the connector.</p>	<p>STEP 7: Slide coupling nut, ferrule, and endbell accessories over rear of the connector and tighten. Torque as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>SHELL SIZE</th> <th>GASKET</th> </tr> </thead> <tbody> <tr> <td>8, 10, 12, 14</td> <td>10-15</td> </tr> <tr> <td>16, 18</td> <td>15-25</td> </tr> <tr> <td>20, 22, 24</td> <td>25-35</td> </tr> </tbody> </table>	SHELL SIZE	GASKET	8, 10, 12, 14	10-15	16, 18	15-25	20, 22, 24	25-35
SHELL SIZE	GASKET													
8, 10, 12, 14	10-15													
16, 18	15-25													
20, 22, 24	25-35													

KPSE CRIMP TOOL OPERATION

STEP 1: Strip the wires to the appropriate length.

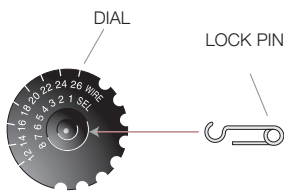
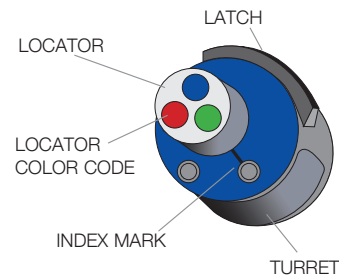
CONTACT SIZE	STRIP LENGTH
20	1/4" (6.4MM)
16	1/4" (6.4MM)

STEP 2: Open the AF8 (M22520/1-01) crimp tool by squeezing the handles. Push the latch on TH1A (M22520/1-02) to pop up the locator on the turret. Attach the turret to the AF8 crimp tool using the two captive hex bolts in the turret.



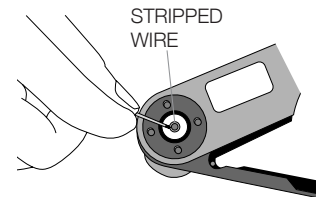
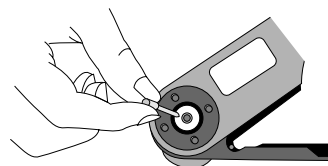
STEP 3: Select the proper locator position for your contact by rotating the locator until the proper color is aligned with the index mark. Push locator back down until it snaps into position.

CONTACT SIZE	LOCATOR COLOR
20	RED
16	BLUE



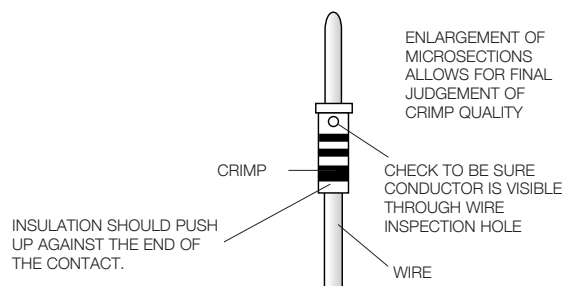
STEP 4: Adjust dial for proper wire gauge. To change the dial setting, remove the lock pin and lift center of dial. Turn to the desired wire gauge. Replace lock pin on dial.

STEP 5: Cycle the tool before inserting the contact to be sure the tool is in the open position. Drop the contact, mating end first, into the crimp cavity of the tool. Squeeze the tool handle just enough to grip the contact without actually crimping it.



STEP 6: Insert the stripped wire into the contact with a slight twisting motion. Be sure all wire strands are inside the contact. Squeeze the handle to cycle the tool. The handle will not release until the contact is completely crimped.

STEP 7: Remove the crimped contact. Pull on the wire slightly to be sure it is properly crimped. Be sure the contact is not bent or damaged in any way. Visually inspect the crimp:



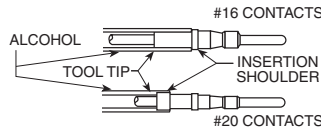
INSERTION OF CONTACTS

STEP 1:

Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule, and coupling nut.

STEP 2:

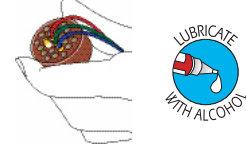
Using the proper insertion tool, slide the tool over the wire side of the contact until the tool bottoms on the contact.



The tool for size 16 contacts pushes against the shoulder of the contact. The rear, or insulation support, of the size 20 contacts presses against an internal shoulder in the tool tip.

STEP 3:

Dip the contact and tool tip in isopropyl alcohol (do not use any lubricant other than isopropyl alcohol). Hold the tool perpendicular to the rear of the connector. Beginning with the center cavity and working outward in a circular pattern, insert the wired contact into the rear of the connector until the contact snaps into place. A light pull on the wire will assure that the contact is locked securely.

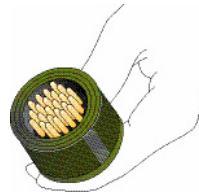


STEP 4:

Fill any unused cavities with contacts. A wire hole filler must be inserted into the grommet behind the unused contacts to maintain the sealing integrity of the connector. Trim off excess.

STEP 5:

Check the mating face of the connector to ensure that all the same size contacts are on the same plane (fully inserted). If not, the contact is not fully inserted. Remove the contact using the proper extraction tool and procedure and reinsert. Do not attempt to reinsert the insertion tool to correct the problem.



The tool for size 16 contacts presses against the shoulder of the contact. The rear, or insulation support, of the size 20 contacts presses against an internal shoulder in the tool tip.

STEP 6:

Fixture the connector for re-assembly using the endbell assembly tools or a mating connector with contacts installed. Slide the connector accessories back down the cable over the rear of the connector and tighten. Torque as follows:

SIZE	TORQUE (INCH/LBS)
8, 10, 12, 14	10-15
16, 18	15-25
20, 22, 24	25-35

EXTRACTION OF CONTACTS

STEP 1:

Remove the endbell accessories and slide them back over the wires.

STEP 2:

Use the proper extraction tool.

STEP 3:

On the mating face of the connector, insert the tool over the contact and into the insulator until the tool bottoms. While keeping an even pressure against the tool, push the plunger on the tool shaft forward with your thumb and index finger. This will release the contact from the retention tine and push it toward the rear of the connector.

STEP 4:

Carefully remove extraction tool from the connector. Pull the wire by hand to completely remove the contact from the rear of the connector.

