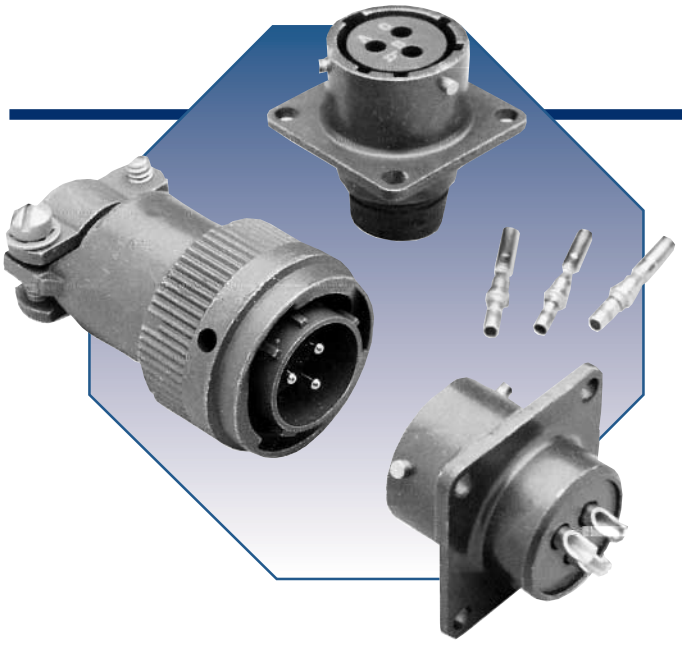


KPT/KPSE

MIL-C-26482 Series 1

KPT & KPSE MIL-C-26482 Series I connectors offer high density contact arrangements in a miniature circular metal shell. The connector is environmentally sealed and comes in two versions: a solder contact version (KPT) and a high performance crimp contact version (KPSE). Both conform to MIL-C-26482 and are intermateable, intermountable, and interchangeable with all MIL-C-26482 connectors, whether solder or crimp style is used. Both styles use a quick disconnect bayonet coupling for rapid positive mating and unmating of the connector. Both types meet all requirements of MIL-C-26482.

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-C-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-C-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 wire.

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-C-26482
- VG 95 328

NEW!

Industrial Platings

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 reliabilty rentention of crimp contacts.

ELECTRICAL DATA

Operating Voltage & Test Voltage:

SERVICE RATING*	TEST ALTITUDE	MAXIMUM OPERATING VOLTAGE		TEST VOLTAGE	
		DC	AC(RMS)	DC	AC(RMS)
1	Sea Level	850	600	2100	1500
2		1,275	1,000	3,200	2,300
1	70,000 feet	-	300	535	375
2		-	450	770	550

*Each insulator layout has a specific "Service Rating". The Service Ratings for each layout are listed on page KPT 13.

Current Rating

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-C-26482, 3.6.4 for details.
Insulation Resistance	5,000 Megohms minimum at 77˚F (25˚C)

MECHANICAL

Operating Temperature	-67° to +257°F (-55˚ to +125˚C)
Sealing	48 hours in 6 feet of water per MIL-C-26482 4.6.14. Meets 10 and 20 day 50-95% humidity testing per MIL-STD-1344 Method 1002.2 per MIL-C-26482.

Wire Sealing Range

CONTACT SIZE	AWG WIRE SIZE	INSULATION O.D. LIMITS: INCHES(mm)		
		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)

Technical Specifications

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 48hour exposure to MIL-STD-1344 Method 1001 per MIL-C-26482. (Cadmium Plating)
Heat	+175˚C (+347˚F) for 1000 hours to MIL-STD-1344 Method 1005.1 per MIL-C-26482.
Chemical Resistance	20 hour full immersion unmated in hydraulic fluid and lubricating oil per MIL-C-26482.
Vibration	10 to 2,000Hz (15g's) 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2005 per MIL-C-26482.
Shock	50g's. 11ms duration, three major axes. 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2004 per MIL-C-26482.
Contact Type	Solder or PC (KPT); Crimp (KPSE)
Number of Circuits	KPT: 2 to 61; KPSE: 3 to 61
Contact Insertion (crimp)	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-C-26482.

CONTACT SIZE	AXIAL LOAD MIN. Newtons (lbs)
20	66.7 (15)
16	111.2 (25)

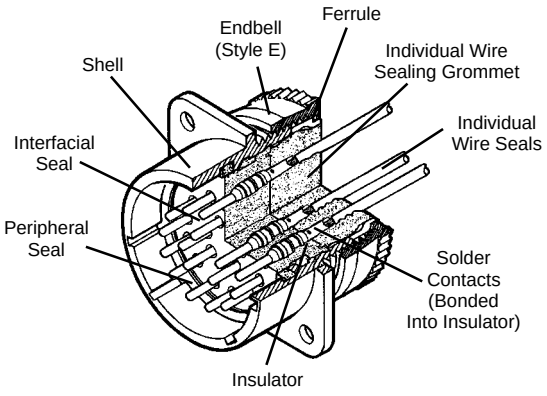
Polarization	Five Keyway, three point bayonet with optional rotational polarization. See page KPT 13.
Approvals	▪MIL-C-26482 ▪VG 95 328

How to Order

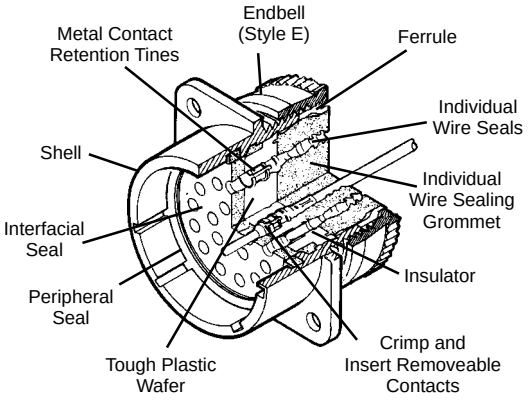
There are three types of MIL-C-26482 Series 1 Connectors. KPT contains solder contacts. KPSE uses high performance crimp contacts and KPTB is a special purpose thru-bulkhead connector. Choose which series is best suited to your application and then construct the part number from the How-To- Order presentation on the next page. Photographs of typical assemblies and dimensions can be found on pages KPT 6 through KPT 13.

Cross Section

KPT (solder)



KPSE (crimp)



How to Order

KPT – Solder Contact Connectors

NEW!

Industrial Platings –
Black zinc cobalt and electroless nickel

MS	3110	E	22 - 36	P	Y	
KPT	00	E	22 - 36	P	Y	**

SERIES PREFIX
SHELL STYLE
CLASS
SHELL SIZE
CONTACT ARRANGEMENT
CONTACT STYLE
ALTERNATE INSERT POSITION
MODIFICATION CODE

SERIES PREFIX
KPT – ITT Cannon prefix
MS – MIL-C-26482 prefix

SHELL STYLE

MS	Cannon KPT	Designation
3110	00	wall mounting receptacle
3111	01	cable connecting receptacle
3112	02	box mounting receptacle (Class E only)
-	03*	wall mounting receptacle without grommet, ferrule and endbell
-	04*	cable connecting receptacle without grommet, ferrule and endbell
-	05*	straight plug without grommet, ferrule and endbell
3116	06	straight plug
3114	07	jam nut receptacle (available in hermetic version also)
-	08	90° angle plug
3119	B	thru-bulkhead receptacle (Class E only)

*Call for details

CLASS
A – general duty (not MS approved)
B – general duty with strain relief without grommet & ferrules (may be used for potting when strain relief is desired) (not MS approved)
E – grommet seal except on 02 and 3112 (MS specification)
F – grommet seal with strain relief (MS specification)
J – water tight gland seal with strain relief for jacketed cable (MS specification)
P – potted (MS specification)

SHELL SIZE
8, 10, 12, 14, 16, 18, 20, 22, and 24

CONTACT ARRANGEMENT
See contact arrangements - Pages KPT 12 and 13.

CONTACT STYLE
P – pin; S – socket

ALTERNATE INSERT POSITION
W, X, Y and Z. (Omit for normal.)

MODIFICATION CODE (NOT MS APPROVED)
A71 - Electroless nickel
A206 - Black zinc cobalt
DN - Shrink boot adapter
DZ - Shrink boot adapter for shielded cable

KPSE – Crimp Contact Connectors

NEW!

Industrial Platings – Black zinc cobalt and electroless nickel

MS	3120	E	18 –	32	P	X	
KPSE	00	E	18 –	32	P	X	**

SERIES PREFIX
SHELL STYLE
CLASS
SHELL SIZE
CONTACT ARRANGEMENT
CONTACT TYPE
ALTERNATE INSERT POSITION
MODIFICATION CODE

SERIES PREFIX
KPSE – ITT Cannon prefix
MS – MIL-C-26482 prefix

SHELL STYLE

MS	Cannon KPSE	Designation
3120	00	wall mounting receptacle
3121	01	cable connecting receptacle
3122	02	box mounting receptacle (E only)
-	03*	wall mounting receptacle without ferrule and endbell
-	04*	cable connecting receptacle without ferrule and endbell
-	05*	straight plug without ferrule and endbell
3126	06	straight plug
3124	07	jam nut receptacle
-	08	90° angle plug

*Call for details

CLASS
A – general duty (not MS approved)
B – general duty with strain relief without grommet & ferrule (not MS approved)
E – grommet seal (MS specification)
F – grommet seal with strain relief (MS specification)
J – gland seal with strain relief for jacketed cable (not MS approved)
P – potted (MS specification)

SHELL SIZE
10, 12, 14, 16, 18, 20, 22, and 24

CONTACT ARRANGEMENT
See contact arrangements - Pages KPT 12 and 13.

CONTACT STYLE
P – pin
S – socket

ALTERNATE INSERT POSITION
W, X, Y and Z. (Omit for normal.)

MODIFICATION CODE
FO - less contacts, not marked on connectors
A71 - Electroless nickel plating
A206- Black zinc cobalt plating
DN - Heat shrink boot adapter
DZ - Heat shrink boot adapter for shielded cable

KPTB – Thru Bulkhead Receptacle Connectors

- General Purpose
- Double ended pin and socket contacts
- Contains KPT socket insert
- Nonremovable contacts

KPTB connectors are a series of general purpose, miniature circular connectors, qualified for use in military applications. They are also widely used in industrial applications. The KPTB is a thru-bulkhead version with double faced pin and socket insert construction, allowing mating from both ends. They contain KPT socket inserts with feed-thru (pin/socket) non-removable contacts.

The thru-bulkhead receptacle is provided for applications requiring the disconnection of a power source from either side of a panel. A typical connector to be used if air leakage requirements are critical.

NEW!

Industrial Platings – Black zinc cobalt and electroless nickel

KPTB	22 –	55	PS	Y	**	

SERIES PREFIX
SHELL SIZE
CONTACT ARRANGEMENT
CONTACT STYLE (pin & socket)
ALTERNATE INSERT POSITION
MODIFICATION CODE

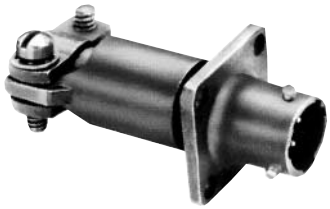
MODIFICATION CODE (NOT MS APPROVED)
A71 - Electroless nickel
A206 - Black zinc cobalt

MS3119	E	22 –	55	Y	

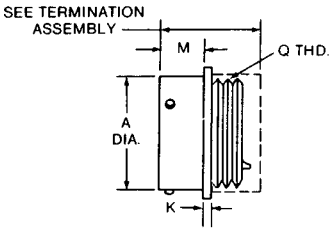
MIL-C-26482 PREFIX
CLASS
SHELL SIZE
CONTACT ARRANGEMENT
ALTERNATE INSERT POSITION

Wall Mounting Receptacles

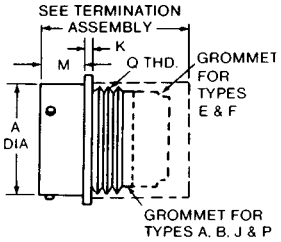
MS3110 (MS service class E, F, J, P) **KPT00**
MS3120 (MS service class E, F, P) **KPSE00**



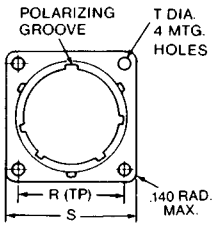
"F" Endbell Shown



SOLDER
KPT00/MS3110



CRIMP
KPSE00/MS3120

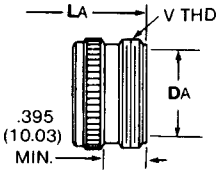


RECEPTACLE ASSEMBLY

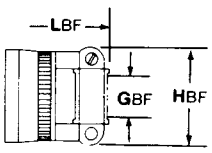
Shell Size	A ±.003 (±.08)	K ±.016 (±.41)	M +.031 (+.79) −.000 (−.00)	R* (TP)	S Max.	T ±.005 (±.13)	Q Thread Class 2A
‡8	.471 (11.96)	.062 (1.57)	.431 (10.95)	.594 (15.09)	.828 (21.03)	.120 (3.05)	7/16-28UNEF
10	.588 (14.96)	.062 (1.57)	.431 (10.95)	.719 (18.26)	.954 (24.23)	.120 (3.05)	9/16-24UNEF
12	.748 (19.00)	.062 (1.57)	.431 (10.95)	.812 (20.62)	1.047 (26.59)	.120 (3.05)	11/16-24UNEF
14	.873 (22.17)	.062 (1.57)	.431 (10.95)	.906 (23.01)	1.141 (28.98)	.120 (3.05)	13/16-20UNEF
16	.998 (25.35)	.062 (1.57)	.431 (10.95)	.969 (24.61)	1.234 (31.34)	.120 (3.05)	15/16-20UNEF
18	1.123 (28.52)	.062 (1.57)	.431 (10.95)	1.062 (26.97)	1.328 (33.73)	.120 (3.05)	1-1/16-18UNEF
20	1.248 (31.70)	.094 (2.39)	.556 (14.12)	1.156 (29.36)	1.453 (36.91)	.120 (3.05)	1-3/16-18UNEF
22	1.373 (34.87)	.094 (2.39)	.556 (14.12)	1.250 (31.75)	1.578 (40.08)	.120 (3.05)	1-5/16-18UNEF
24	1.498 (38.05)	.094 (2.39)	.589 (14.96)	1.375 (34.92)	1.703 (43.26)	.147 (3.73)	1-7/16-18UNEF

‡ Not available in KPSE * (TP) located within .010 T.P. with respect to diameter A and master keyway.

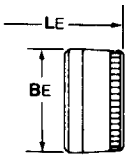
Endbells for Above



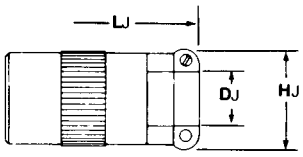
TYPE A



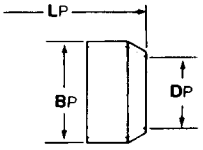
TYPE B AND F



TYPE E

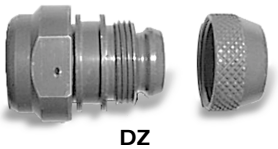


TYPE J



TYPE P

DN



DZ

Call for details

Shell Size	TYPE A DA Min.	TYPE A LA Max.	TYPE A V Thread Class 2A	TYPE B and F GBF Min.	TYPE B and F HBF Max.	TYPE B and F LBF Max.	TYPE E BE Max.	TYPE E LE Max.
‡8	.335 (8.51)	1.444 (36.68)	1/2-28UNEF	.115 (2.92)	.828 (21.03)	1.922 (48.82)	.608 (15.44)	1.328 (33.73)
10	.466 (11.84)	1.444 (36.68)	5/8-24UNEF	.178 (4.52)	.891 (22.63)	1.922 (48.82)	.734 (18.64)	1.328 (33.73)
12	.591 (15.01)	1.444 (36.68)	3/4-20UNEF	.302 (7.67)	1.016 (25.81)	1.922 (48.82)	.858 (21.79)	1.328 (33.73)
14	.705 (19.05)	1.444 (36.68)	7/8-20UNEF	.365 (9.27)	1.141 (28.98)	1.922 (48.82)	.984 (24.99)	1.328 (33.73)
16	.830 (21.08)	1.444 (36.68)	1-20UNEF	.490 (12.45)	1.203 (30.56)	2.047 (51.99)	1.110 (28.19)	1.328 (33.73)
18	.948 (24.08)	1.444 (36.68)	1-3/16-18UNEF	.615 (15.62)	1.469 (37.31)	2.078 (52.78)	1.234 (31.34)	1.328 (33.73)
20	1.043 (26.49)	1.728 (43.89)	1-3/16-18UNEF	.615 (15.62)	1.469 (37.31)	2.344 (59.54)	1.360 (34.54)	1.531 (38.89)
22	1.198 (30.43)	1.728 (43.89)	1-7/16-18UNEF	.740 (18.80)	1.656 (42.06)	1.344 (59.54)	1.484 (37.69)	1.531 (38.89)
24	1.293 (32.84)	1.738 (44.15)	1-7/16-18UNEF	.790 (20.07)	1.750 (44.45)	2.406 (61.11)	1.610 (40.89)	1.594 (40.49)

Shell Size	TYPE J DJ Max./Min.	TYPE J HJ Max.	TYPE J LJ Max.	TYPE P BP Max.	TYPE P DP Min.	TYPE P LP Max.
‡8	.230/.168 (5.84/ 4.27)	.828 (21.03)	2.271 (57.68)	.608 (15.44)	.317 (8.05)	1.453 (36.91)
10	.312/.205 (7.92/ 5.21)	.891 (22.63)	2.271 (57.68)	.734 (18.64)	.434 (11.02)	1.453 (36.91)
12	.442/.338 (11.23/ 8.59)	1.016 (25.81)	2.411 (61.24)	.858 (21.79)	.548 (13.92)	1.453 (36.91)
14	.539/.416 (13.56/10.57)	1.141 (28.98)	2.599 (66.01)	.984 (24.99)	.673 (17.09)	1.453 (36.91)
16	.616/.550 (15.65/13.97)	1.203 (30.56)	2.943 (74.75)	1.110 (28.19)	.798 (20.27)	1.453 (36.91)
18	.672/.600 (17.07/15.24)	1.469 (37.31)	3.172 (80.57)	1.234 (31.34)	.899 (22.83)	1.453 (36.91)
20	.747/.635 (18.97/16.13)	1.469 (37.31)	3.610 (91.69)	1.360 (34.54)	1.024 (26.01)	1.672 (42.47)
22	.846/.670 (21.49/17.02)	1.656 (42.06)	3.766 (95.66)	1.484 (37.69)	1.149 (29.18)	1.672 (42.47)
24	.894/.740 (22.71/18.80)	1.750 (44.45)	3.985 (101.22)	1.610 (40.89)	1.274 (32.36)	1.734 (44.04)

‡ Not available in KPSE

Performance Specifications – Page KPT 2.
Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.
Contact Arrangements – Page KPT 12.
Potting Compound – Page ACC 5.
Mounting Hardware – Page ACC 1.
Heat Shrink Boots – Pages ACC 2-3.

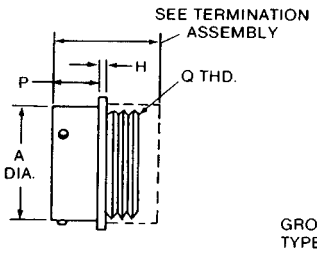
Dimensions are shown in inches (millimeters).
Dimensions subject to change

Cable Connecting Receptacle

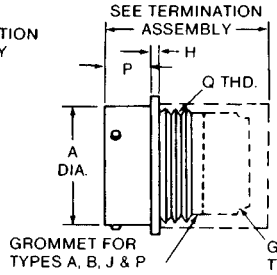
MS3111 (MS service class E, F, J, P) **KPT01**
MS3121 (MS service class E, F, P) **KPSE01**

KPSE01

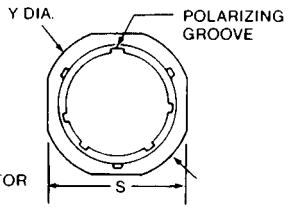
"E" Endbell Shown



SOLDER
KPT01/MS3111



CRIMP
KPSE01/MS3121

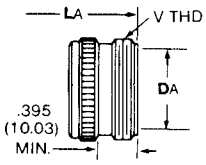


PLUG ASSEMBLY

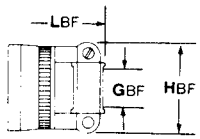
Shell Size	A ±.003 (±.08)	H ±.016 (±.41)	P +.031 (+.79) −.000 (−.00)	S Max.	Y Max.	Q Thread Class 2A
‡8	.471 (11.96)	.094 (2.39)	.400 (10.16)	.828 (21.03)	.958 (24.33)	7/16-28UNEF
10	.588 (14.94)	.094 (2.39)	.400 (10.16)	.954 (24.23)	1.082 (27.48)	9/16-24UNEF
12	.748 (19.00)	.094 (2.39)	.400 (10.16)	1.047 (26.59)	1.176 (29.87)	11/16-24UNEF
14	.873 (22.17)	.094 (2.39)	.400 (10.16)	1.141 (28.98)	1.270 (32.26)	13/16-20UNEF
16	.998 (25.35)	.094 (2.39)	.400 (10.16)	1.234 (31.34)	1.364 (34.65)	15/16-20UNEF
18	1.123 (28.52)	.094 (2.39)	.400 (10.16)	1.328 (33.73)	1.458 (37.03)	1-1/16-18UNEF
20	1.248 (31.70)	.115 (2.92)	.535 (13.59)	1.453 (36.91)	1.582 (40.18)	1-3/16-18UNEF
22	1.373 (34.87)	.115 (2.92)	.535 (13.59)	1.578 (40.08)	1.708 (43.38)	1-5/16-18UNEF
24	1.498 (38.05)	.115 (2.92)	.568 (14.43)	1.703 (43.26)	1.832 (46.53)	1-7/16-18UNEF

‡Not available in KPSE *(TP) located within .010 T.P. with respect to diameter A and master keyway.

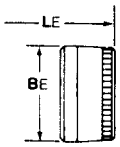
Endbells for Above



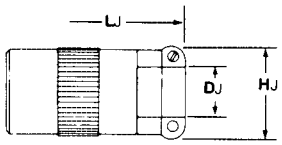
TYPE A



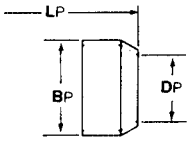
TYPE B AND F



TYPE E



TYPE J



TYPE P

With Termination Assemblies

Shell Size	TYPE A DA Min.	TYPE A LA Max.	TYPE A V Thread Class 2A	TYPE B and F GBF Min.	TYPE B and F HBF Max.	TYPE B and F LBF Max.	TYPE E BE Max.	TYPE E LE Max.
‡8	.335 (8.51)	1.444 (36.68)	1/2-28UNEF	.115 (2.92)	.828 (21.03)	1.922 (48.82)	.608 (15.44)	1.328 (33.73)
10	.466 (11.84)	1.444 (36.68)	5/8-24UNEF	.178 (4.52)	.891 (22.63)	1.922 (48.82)	.734 (18.64)	1.328 (33.73)
12	.591 (15.01)	1.444 (36.68)	3/4-20UNEF	.302 (7.67)	1.016 (25.81)	1.922 (48.82)	.858 (21.79)	1.328 (33.73)
14	.705 (19.05)	1.444 (36.68)	7/8-20UNEF	.365 (9.27)	1.141 (28.98)	1.922 (48.82)	.984 (24.99)	1.328 (33.73)
16	.830 (21.08)	1.444 (36.68)	1-20UNEF	.490 (12.45)	1.203 (30.56)	2.047 (51.99)	1.110 (28.19)	1.328 (33.73)
18	.948 (24.08)	1.444 (36.68)	1-3/16-18UNEF	.615 (15.62)	1.469 (37.31)	2.078 (52.78)	1.234 (31.34)	1.328 (33.73)
20	1.043 (26.49)	1.728 (43.89)	1-3/16-18UNEF	.615 (15.62)	1.469 (37.31)	2.344 (59.54)	1.360 (34.54)	1.531 (38.89)
22	1.198 (30.43)	1.728 (43.89)	1-7/16-18UNEF	.740 (18.80)	1.656 (42.06)	1.344 (59.54)	1.484 (37.69)	1.531 (38.89)
24	1.293 (32.84)	1.738 (44.15)	1-7/16-18UNEF	.790 (20.07)	1.750 (44.45)	2.406 (61.11)	1.610 (40.89)	1.594 (40.49)

Shell Size	TYPE J DJ Max./Min.	TYPE J HJ Max.	TYPE J LJ Max.	TYPE P BP Max.	TYPE P DP Min.	TYPE P LP Max.
‡8	.230/.168 (5.84/ 4.27)	.828 (21.03)	2.271 (57.68)	.608 (15.44)	.317 (8.05)	1.453 (36.91)
10	.312/.205 (7.92/ 5.21)	.891 (22.63)	2.271 (57.68)	.734 (18.64)	.434 (11.02)	1.453 (36.91)
12	.442/.338 (11.23/ 8.59)	1.016 (25.81)	2.411 (61.24)	.858 (21.79)	.548 (13.92)	1.453 (36.91)
14	.539/.416 (13.56/10.57)	1.141 (28.98)	2.599 (66.01)	.984 (24.99)	.673 (17.09)	1.453 (36.91)
16	.616/.550 (15.65/13.97)	1.203 (30.56)	2.943 (74.75)	1.110 (28.19)	.798 (20.27)	1.453 (36.91)
18	.672/.600 (17.07/15.24)	1.469 (37.31)	3.172 (80.57)	1.234 (31.34)	.899 (22.83)	1.453 (36.91)
20	.747/.635 (18.97/16.13)	1.469 (37.31)	3.610 (91.69)	1.360 (34.54)	1.024 (26.01)	1.672 (42.47)
22	.846/.670 (21.49/17.02)	1.656 (42.06)	3.766 (95.66)	1.484 (37.69)	1.149 (29.18)	1.672 (42.47)
24	.894/.740 (22.71/18.80)	1.750 (44.45)	3.985 (101.22)	1.610 (40.89)	1.274 (32.36)	1.734 (44.04)

‡Not available in KPSE

NEW!

DN

DZ

Call for details

Performance Specifications – Page KPT 2.

Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.

Contact Arrangements – Page KPT 12.

Potting Compound – Page ACC 5.

Mounting Hardware – Page ACC 1.

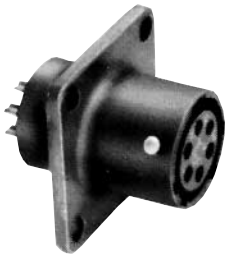
Heat Shrink Boots – Pages ACC 2-3.

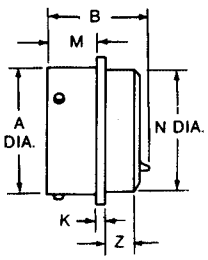
Dimensions are shown in inches (millimeters).
Dimensions subject to change

Box Mounting Receptacles

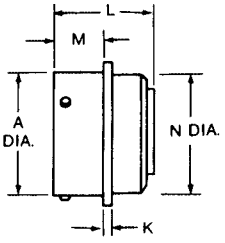
MS3112 (MS service class E)
MS3122 (MS service class E)

KPT02
KPSE02

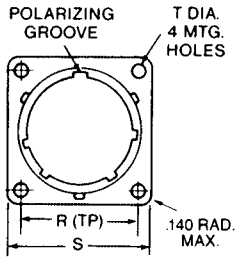




SOLDER
KPT02/MS3112



CRIMP
KPSE02/MS3122



RECEPTACLE ASSEMBLY

‡Connector does not accommodate backshell.

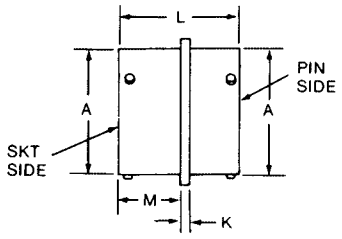
Shell Size	A ±.003 (±.08)	B Max	K ±.016 (±.41)	L Max.	M +.031 (+.79) −.000 (.00)	N Dia. Max.	R* (TP)	S Max.	T ±.005	Z Max.
‡8	.471 (11.96)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	.469 (11.91)	.594 (15.09)	.828 (21.03)	.120 (3.05)	.354 (8.99)
10	.588 (14.96)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	.593 (15.06)	.719 (18.26)	.954 (24.23)	.120 (3.05)	.354 (8.99)
12	.748 (19.00)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	.719 (18.26)	.812 (20.62)	1.047 (26.59)	.120 (3.05)	.354 (8.99)
14	.873 (22.17)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	.843 (21.41)	.906 (23.01)	1.141 (28.98)	.120 (3.05)	.354 (8.99)
16	.998 (25.35)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	.969 (24.61)	.969 (24.61)	1.234 (31.34)	.120 (3.05)	.354 (8.99)
18	1.123 (28.52)	.978 (12.14)	.062 (1.57)	1.320 (33.07)	.431 (10.95)	1.093 (27.76)	1.062 (26.97)	1.328 (33.73)	.120 (3.05)	.354 (8.99)
20	1.248 (31.70)	1.196 (30.38)	.094 (2.39)	1.367 (34.72)	.556 (14.12)	1.219 (30.96)	1.156 (29.36)	1.453 (36.91)	.120 (3.05)	.417 (10.59)
22	1.373 (34.87)	1.196 (30.38)	.094 (2.39)	1.367 (34.72)	.556 (14.12)	1.343 (34.11)	1.250 (31.75)	1.578 (40.08)	.120 (3.05)	.417 (10.59)
24	1.498 (38.05)	1.196 (30.98)	.094 (2.39)	1.418 (36.02)	.589 (14.96)	1.469 (37.31)	1.375 (34.92)	1.703 (43.26)	.147 (3.73)	.445 (11.30)

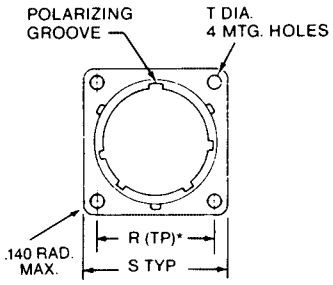
‡Not available in KPSE *(TP) located within .010 T.P. with respect to diameter A and master keyway.

Thru Bulkhead Receptacles

MS3119 (MS service class E)

KPTB





*(T.P.) located within .010 T.P. with respect to diameter A and master keyway.

Shell Size	A Dia. ±.003 (±.08)	K ±.016 (±.406)	L Max.	M +.031 (+.79) −.000 (−.00)	R* (TP)	S Max.	T ±.005 (±.127)
8	.471 (11.96)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	.594 (15.09)	.828 (21.03)	.120 (3.05)
10	.588 (14.94)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	.719 (18.26)	.954 (24.23)	.120 (3.05)
12	.748 (18.00)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	.812 (20.62)	1.047 (26.59)	.120 (3.05)
14	.873 (22.17)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	.906 (23.01)	1.141 (28.98)	.120 (3.05)
16	.998 (25.35)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	.969 (24.61)	1.234 (31.34)	.120 (3.05)
18	1.123 (28.52)	.062 (1.57)	1.125 (28.58)	.562 (14.27)	1.062 (26.97)	1.328 (33.73)	.120 (3.05)
20	1.248 (31.70)	.094 (2.39)	1.406 (35.71)	.688 (17.48)	1.156 (29.36)	1.453 (36.91)	.120 (3.05)
22	1.373 (34.87)	.094 (2.39)	1.406 (35.71)	.688 (17.48)	1.250 (31.76)	1.578 (40.08)	.120 (3.05)
24	1.498 (38.05)	.094 (2.39)	1.406 (35.71)	.688 (17.48)	1.375 (34.92)	1.703 (43.26)	.147 (3.73)

Performance Specifications – Page KPT 2.

Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.

Contact Arrangements – Page KPT 12.

Mounting Hardware – Page ACC 1.

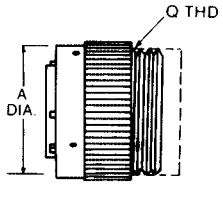
Dimensions are shown in inches (millimeters).
Dimensions subject to change

Straight Plugs

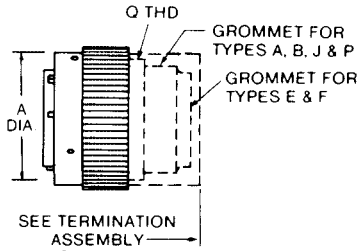
MS3116 (MS service class E, F, J, P)
MS3126 (MS service class E, F, P)

"F" Endbell Shown

KPT06
KPSE06



SOLDER
KPT06/MS3116

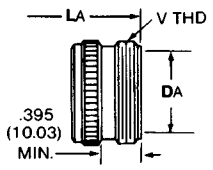


CRIMP
KPSE06/MS3126

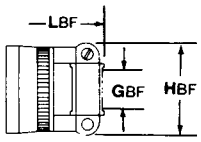
Shell Size	A dia. Max	G Max	J ±.010 (±0.25)	Q Thread Class 2A
‡8	.765 (19.43)	.782 (19.86)	.353 (8.99)	7/16-28UNEF
10	.840 (21.34)	.926 (23.52)	.353 (8.99)	9/16-24UNEF
12	.999 (25.38)	1.043 (26.49)	.353 (8.99)	11/16-24UNEF
14	1.139 (28.93)	1.183 (30.05)	.353 (8.99)	13/16-20UNEF
16	1.261 (32.03)	1.305 (33.15)	.353 (8.99)	15/16-20UNEF
18	1.337 (33.96)	1.391 (35.33)	.353 (8.99)	1-1/16-18UNEF
20	1.477 (37.52)	1.531 (38.89)	.415 (10.54)	1-3/16-18UNEF
22	1.602 (40.69)	1.656 (42.06)	.415 (10.54)	1-5/16-18UNEF
24	1.723 (43.76)	1.777 (45.14)	.415 (10.54)	1-7/16-18UNEF

‡Not available in KPSE

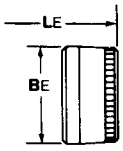
Endbells for Above



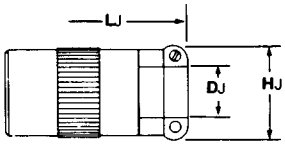
TYPE A



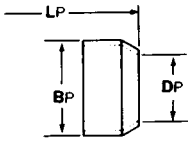
TYPE B AND F



TYPE E



TYPE J



TYPE P

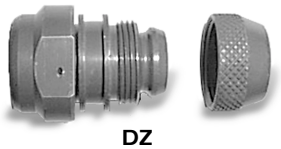
Shell Size	TYPE A LA Max.	DA Min.	V Thread Class 2A	TYPE B and F LBF Max.	HBF Max	GBF Min.	TYPE E BE Max.	LE Max.
‡8	1.440 (36.58)	.335 (8.51)	1/2-28UNEF	1.906 (48.41)	.828 (21.03)	.115 (2.02)	.608 (15.44)	1.328 (33.73)
10	1.440 (36.58)	.466 (11.84)	5/8-24UNEF	1.906 (48.41)	.891 (22.63)	.178 (4.52)	.734 (18.64)	1.328 (33.73)
12	1.440 (36.58)	.591 (15.01)	3/4-20UNEF	1.906 (48.41)	1.016 (25.81)	.302 (7.67)	.858 (21.79)	1.328 (33.73)
14	1.440 (36.58)	.705 (19.05)	7/8-20UNEF	1.906 (48.41)	1.141 (28.98)	.365 (9.27)	.984 (24.99)	1.328 (33.73)
16	1.440 (36.58)	.830 (21.08)	1-20UNEF	2.047 (51.99)	1.203 (30.56)	.490 (12.45)	1.110 (28.19)	1.328 (33.73)
18	1.662 (42.21)	.948 (24.08)	1-3/16-18UNEF	2.078 (52.78)	1.469 (37.31)	.615 (15.62)	1.234 (31.34)	1.328 (33.73)
20	1.662 (42.21)	1.043 (26.49)	1-3/16-18UNEF	2.250 (57.15)	1.469 (37.31)	.615 (15.62)	1.360 (34.54)	1.453 (36.91)
22	1.662 (42.21)	1.198 (30.43)	1-7/16-18UNEF	2.250 (57.15)	1.656 (42.06)	.740 (18.80)	1.484 (37.69)	1.453 (36.91)
24	1.672 (42.47)	1.293 (32.84)	1-7/16-18UNEF	2.312 (58.72)	1.750 (44.45)	.790 (20.07)	1.610 (40.89)	1.510 (38.54)

Shell Size	TYPE J LJ Max.	HJ Max.	DJ Max./Min.	TYPE P LP Max.	DP Min.	BP Max.
‡8	2.271 (57.68)	.828 (21.03)	.230/.168 (5.84/ 4.27)	1.500 (38.10)	.317 (8.05)	.608 (15.44)
10	2.271 (57.68)	.891 (22.63)	.321/.205 (7.92/ 5.21)	1.500 (38.10)	.434 (11.02)	.734 (18.64)
12	2.411 (61.24)	1.016 (25.81)	.442/.338 (11.23/ 8.59)	1.500 (38.10)	.548 (13.92)	.858 (21.79)
14	2.599 (66.01)	1.141 (28.98)	.539/.416 (13.56/10.57)	1.500 (38.10)	.673 (17.09)	.984 (24.99)
16	2.943 (74.75)	1.203 (30.56)	.616/.550 (15.65/13.97)	1.500 (38.10)	.798 (20.27)	1.110 (28.19)
18	3.172 (80.57)	1.469 (37.31)	.672/.600 (17.07/15.24)	1.500 (38.10)	.899 (22.83)	1.234 (31.34)
20	3.610 (91.69)	1.469 (37.31)	.747/.635 (18.97/16.13)	1.609 (40.87)	1.024 (26.01)	1.360 (34.54)
22	3.766 (95.66)	1.656 (42.06)	.846/.670 (21.49/17.02)	1.609 (40.87)	1.149 (29.18)	1.484 (37.69)
24	3.985 (101.22)	1.750 (44.45)	.894/.740 (22.71/18.80)	1.687 (42.85)	1.274 (32.36)	1.610 (40.89)

‡Not available in KPSE

NEW!

DN



DZ

Plug includes grounding finger barrel, call for details.

Performance Specifications – Page KPT 2.

Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.

Contact Arrangements – Page KPT 12.

Potting Compound – Page ACC 5.

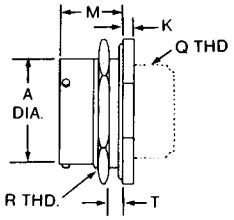
Heat Shrink Boots – Pages ACC 2-3.

Dimensions are shown in inches (millimeters).
Dimensions subject to change

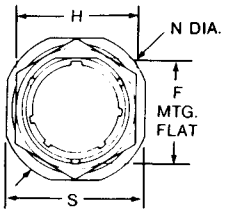
Jam Nut Receptacles

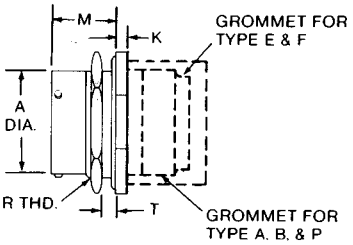
MS3114 (MS service class E, F, P) KPT07
MS3124 (MS service class E, F, P) KPSE07

"E" Endbell Shown



SOLDER
KPT07/MS3114



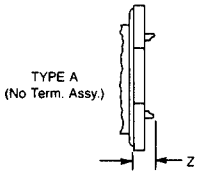


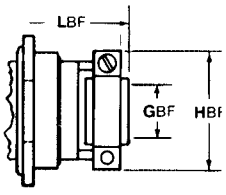
CRIMP
KPSE07/MS3124

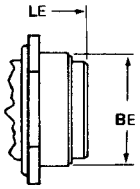
Shell Size	A ±.003 (±0.08)	F ±.005 (.130)	H ±.017 (±0.43)	K ±.020 (±.05)	M +.031 (+.08) −.000 (−.00)	N Max.	S max.	T Panel Thickness Min.	T Panel Thickness Max.	R thread Class 2A
‡8	.471 (11.96)	.525 (13.34)	.750 (19.05)	.117 (2.97)	.691 (17.55)	1.078 (27.38)	.954 (24.23)	.062 (1.57)	.125 (3.17)	9/16-24UNEF
10	.588 (14.93)	.650 (16.51)	.875 (22.22)	.117 (2.97)	.691 (17.55)	1.203 (30.56)	1.078 (27.38)	.062 (1.57)	.125 (3.17)	11/16-24UNEF
12	.748 (19.00)	.813 (20.65)	1.062 (26.97)	.117 (2.97)	.691 (17.55)	1.319 (35.33)	1.266 (32.16)	.062 (1.57)	.125 (3.17)	7/8-20UNEF
14	.873 (22.17)	.937 (23.80)	1.188 (30.17)	.117 (2.97)	.691 (17.55)	1.516 (38.51)	1.391 (35.33)	.062 (1.57)	.125 (3.17)	1-20UNEF
16	.988 (25.35)	1.061 (26.95)	1.312 (33.32)	.117 (2.97)	.691 (17.55)	1.641 (41.68)	1.516 (38.51)	.062 (1.57)	.125 (3.17)	1-1/8-18UNEF
18	1.123 (28.52)	1.186 (30.12)	1.438 (36.25)	.117 (2.97)	.691 (17.55)	1.766 (44.86)	1.641 (41.68)	.062 (1.57)	.125 (3.17)	1-1/4-18UNEF
20	1.248 (31.70)	1.311 (33.30)	1.562 (39.67)	.148 (3.76)	.879 (22.33)	1.954 (49.63)	1.828 (46.43)	.062 (1.57)	.250 (6.35)	1-3/8-18UNEF
22	1.373 (34.87)	1.436 (36.47)	1.688 (42.87)	.148 (3.76)	.879 (22.33)	2.078 (52.78)	1.954 (49.63)	.062 (1.57)	.250 (6.35)	1-1/2-18UNEF
24	1.498 (38.05)	1.561 (39.65)	1.812 (46.02)	.148 (3.76)	.912 (23.16)	2.203 (55.96)	2.078 (52.78)	.062 (1.57)	.250 (6.35)	1-5/8-18UNEF

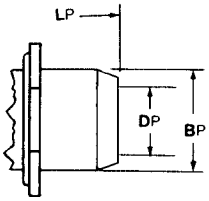
‡Not available in KPSE

Endbells for Above









Shell Size	TYPE A Z Max.	TYPE B AND F HBF Max.	TYPE B AND F GBF Min.	TYPE B AND F LBF Max.	TYPE E BE Max.	TYPE E LE Max.	TYPE P BP Max.	TYPE P DP Min.	TYPE P LP Max.
8	.312 (7.92)	.828 (21.03)	.115 (2.92)	1.906 (48.41)	.608 (15.44)	1.344 (34.14)	.608 (15.44)	.317 (8.05)	1.391 (35.33)
10	.312 (7.92)	.891 (22.63)	.178 (4.52)	1.906 (48.41)	.734 (18.64)	1.344 (34.14)	.734 (18.64)	.434 (11.02)	1.391 (35.33)
12	.312 (7.92)	1.016 (25.81)	.302 (7.67)	1.906 (48.41)	.858 (21.79)	1.344 (34.14)	.858 (21.79)	.548 (13.92)	1.391 (35.33)
14	.312 (7.92)	1.141 (28.98)	.365 (9.27)	1.906 (48.41)	.984 (24.99)	1.344 (34.14)	.984 (24.99)	.673 (17.09)	1.391 (35.33)
16	.312 (7.92)	1.203 (30.56)	.490 (12.45)	2.047 (51.99)	1.110 (28.19)	1.344 (34.14)	1.110 (28.19)	.798 (20.27)	1.391 (35.33)
18	.312 (7.92)	1.469 (37.31)	.615 (15.62)	2.078 (52.78)	1.234 (31.34)	1.344 (34.14)	1.234 (31.34)	.899 (22.83)	1.391 (35.33)
20	.193 (4.90)	1.469 (37.31)	.615 (15.62)	2.328 (59.13)	1.360 (34.54)	1.594 (40.49)	1.360 (34.54)	1.024 (26.01)	1.641 (41.68)
22	.193 (4.90)	1.656 (42.06)	.740 (18.80)	2.328 (59.13)	1.484 (37.69)	1.594 (40.49)	1.484 (37.69)	1.149 (29.18)	1.641 (41.68)
24	.150 (3.81)	1.750 (44.45)	.790 (20.07)	2.453 (62.31)	1.610 (40.89)	1.641 (41.68)	1.610 (40.89)	1.274 (32.36)	1.703 (43.26)

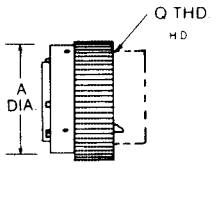
Performance Specifications – Page KPT 2.
Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.
Contact Arrangements – Page KPT 12.
Potting Compound - Page ACC 5.

Dimensions are shown in inches (millimeters).
Dimensions subject to change

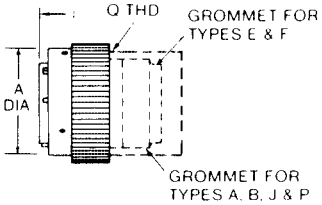
Right Angle Plugs

KPT08
KPSE08

"F" Endbell Shown



Solder KPT08



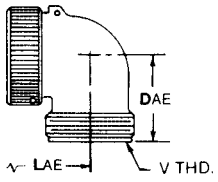
Crimp KPSE08

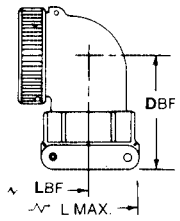
Performance Specifications – Page KPT 2.
Contacts, Wire Hole Fillers, Assembly Tools – Page KPT 14.
Contact Arrangements – Page KPT 12.
Potting Compound - Page ACC 5.

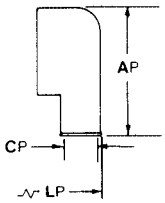
Shell Size	KPT/KPSE A Dia. Max.	KPT/KPSE G Max.	Q Thread Class 2A
‡8	.765 (19.43)	.782 (19.86)	7/16-28UNEF
10	.840 (21.34)	.926 (23.52)	9/16-24UNEF
12	.999 (25.38)	1.043 (26.49)	11/16-24UNEF
14	1.139 (28.93)	1.183 (30.05)	13/16-20UNEF
16	1.261 (32.03)	1.305 (33.15)	15/16-20UNEF
18	1.337 (33.96)	1.391 (35.33)	1-1/16-18UNEF
20	1.477 (37.52)	1.531 (38.89)	1-3/16-18UNEF
22	1.602 (40.69)	1.656 (42.09)	1-5/16-18UNEF
24	1.723 (43.76)	1.777 (45.13)	1-7/16-18UNEF

‡Not available in KPSE.
NOTE: for size 10 and 24 consult factory for availability in type A, B, E and F.
For size 8 consult factory for availability in Type P.

Endbells for Above







Shell Size	TYPE A AND E LAE Max.	DAE Max.	V Thread Class 2A	TYPE B AND F DBF Max.	LBF Max.	L Max.	V Thread Class 2A	TYPE P AP Max.	LP Max.	CP Min.
‡8	1.421 (36.09)	.822 (20.88)	1/2-28UNEF	1.238 (31.44)	1.421 (36.09)	1.842 (46.79)	1/2-28UNEF	— (—)	— (—)	— (—)
10	1.484 (37.69)	.853 (21.67)	5/8-28UNEF	1.269 (32.24)	1.484 (37.69)	1.937 (49.20)	5/8-28UNEF	1.030 (26.16)	1.380 (35.05)	.252 (6.40)
12	1.546 (39.27)	.916 (23.27)	3/4-20UNEF	1.395 (35.43)	1.546 (39.27)	1.937 (49.20)	3/4-20UNEF	1.030 (26.16)	1.567 (39.80)	.252 (6.40)
14	1.577 (40.05)	.978 (24.84)	7/8-20UNEF	1.519 (38.58)	1.577 (40.05)	2.124 (53.95)	7/8-20UNEF	1.030 (26.16)	1.567 (39.80)	.283 (7.19)
16	1.609 (40.87)	1.041 (26.44)	1-20UNEF	1.582 (40.18)	1.609 (40.87)	2.203 (55.96)	1-20UNEF	1.280 (32.51)	1.567 (39.80)	.355 (9.02)
18	1.734 (44.04)	1.103 (28.70)	1-3/16-18UNEF	1.644 (41.76)	1.734 (44.04)	2.380 (60.45)	1-3/16-18UNEF	1.280 (32.51)	1.755 (44.58)	.530 (13.46)
20	1.879 (47.73)	1.166 (29.62)	1-3/16-18UNEF	1.707 (43.36)	1.879 (47.73)	2.629 (66.78)	1-3/16-18UNEF	1.530 (38.86)	1.782 (45.26)	.562 (14.27)
22	2.035 (51.69)	1.245 (31.62)	1-7/16-18UNEF	1.884 (47.85)	2.035 (51.69)	2.629 (66.78)	1-7/16-18UNEF	1.530 (38.86)	1.782 (45.26)	.562 (14.27)
24	2.035 (51.69)	1.322 (33.58)	1-7/16-18UNEF	1.963 (49.86)	2.035 (51.69)	2.895 (73.53)	1-7/16-18UNEF	1.780 (45.21)	2.087 (53.01)	.610 (15.49)

‡Not available in KPSE. NOTE: For size 10 and 24 consult factory for availability in type A, B, E and F. For size 8 consult factory for availability in Type P.

Dimensions are shown in inches (millimeters).
Dimensions subject to change

Layouts by Shell Size

LEGEND

- ▲ KPT
- ◆ KPSE
- △ Authorized per MIL-C-26482 (NAVY)
- ● Not MS approved

Drawing not to scale; mating face view of pin insert shown (socket view is opposite)

Shell Size 8

Series	8-2	8-3	8-4	8-33
Shell Size/Layout	2-#20	3-#20	4-#20	3-#20
No. of Contacts	▲△	▲△	▲△	▲△

Shell Size 10

Series	10-98	10-6	10-7
Shell Size/Layout	6-#20	6-#20	7-#20
No. of Contacts	▲△	▲◆△	△●

Shell Size 12

Series	12-3	12-8	12-10
Shell Size/Layout	3-#16	8-#20	10-#20
No. of Contacts	▲◆△	▲△	▲◆△

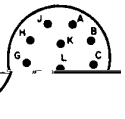
Shell Size 14

Series	14-5	14-12	14-15
Shell Size/Layout	5-#16	8-#20 4-#16	14-#20 1-#16
No. of Contacts	▲◆△	▲◆△	▲◆△

Shell Size 16

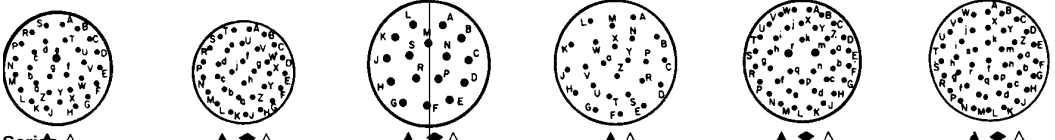
Series	16-8	16-23	16-26	16-99
Shell Size/Layout	8-#16	22-#20 1-#16	26-#20	21-#20 2-#16
No. of Contacts	▲◆△	▲◆△	▲◆△	▲◆△

Shell Size 18



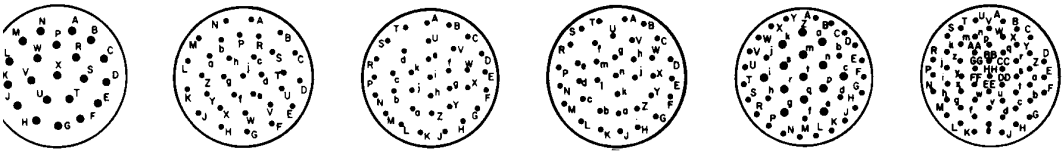
Series	18-11
Shell Size/Layout	11-#16
No. of Contacts	▲◆△

Shell Size 20



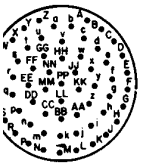
Series	20-16	20-24	20-39	20-41
Shell Size/Layout	16-#16	24-#20	37-#20 2-#16	41-#20
No. of Contacts	▲◆△	▲◆△	▲◆△	▲◆△

Shell Size 22



Series	22-32	22-34	22-36	22-41	22-55
Shell Size/Layout	32-#20	34-#20	36-#20	27-#20 14-#16	55-#20
No. of Contacts	▲△	▲△	▲●	▲△	▲◆△

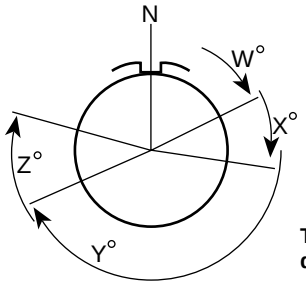
Shell Size 24



Series	24-61
Shell Size/Layout	61-#20
No. of Contacts	▲◆△

Layouts by Number of Contacts

Mating Face view of pin inserts



Alternate Insert Position

The five positions (W, X, Y, Z and Normal) differ in degree of rotation for varous sizes and arrangements.

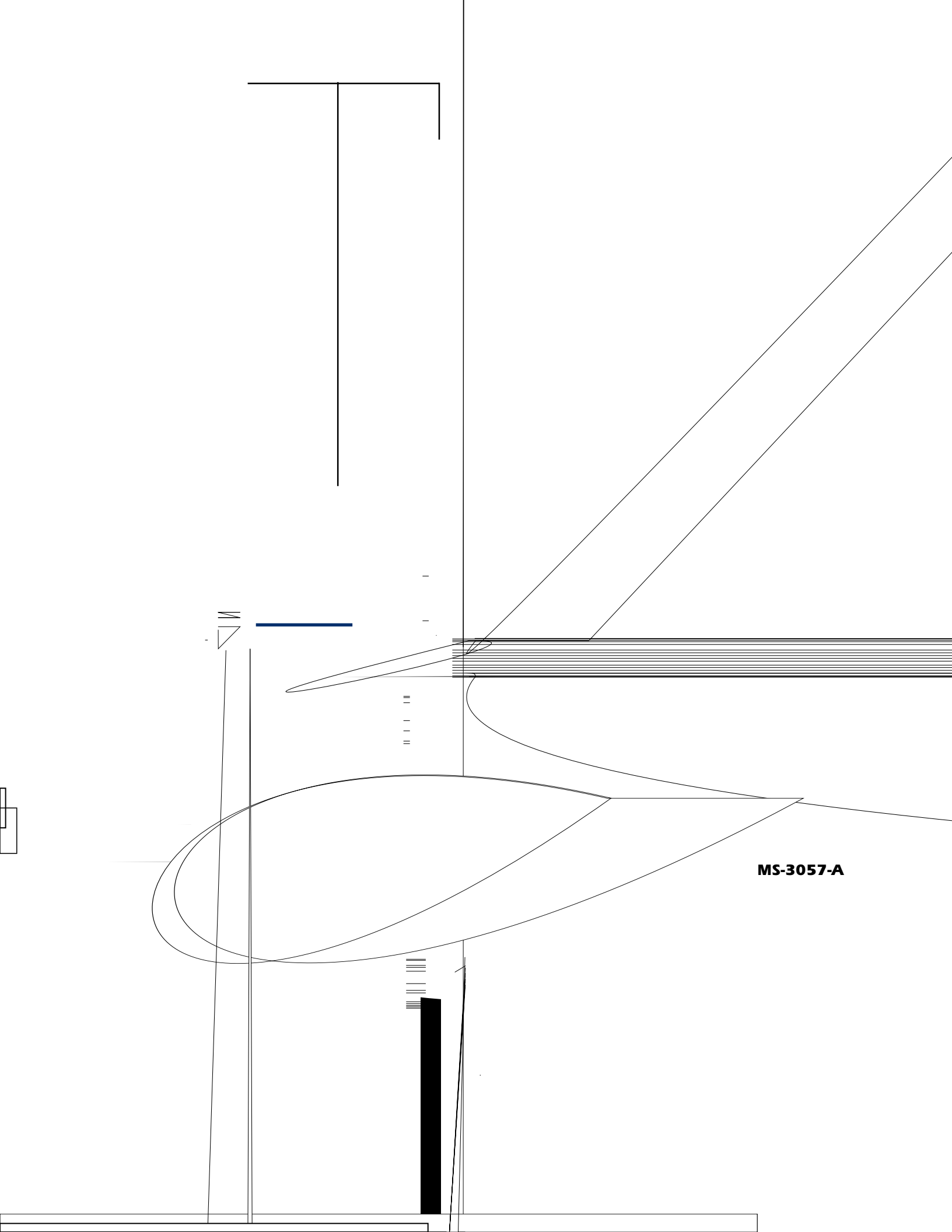
NO. OF CONTACTS			SERIES		SHELL SIZE	LAYOUT	DEGREES OF ROTATION				SERVICE RATING
TOTAL	#20	#16	KPT	KPSE			W	X	Y	Z	
2	2		•		8	8-2	58	122	-	-	1
3	3		•		8	8-3	60	210	-	-	1
3	3		•		8	8-33	90	-	-	-	1
3		3	•	•	12	12-3	-	-	180	-	2
4	4		•		8	8-4	45	-	-	-	1
5		5	•	•	14	14-5	40	92	184	273	2
6	6		•	•	10	10-6	90	-	-	-	1
6	6		•		10	10-98	90	180	240	270	1
7	7		•		10	10-7*	90	-	-	-	1
8	8		•		12	12-8	90	112	203	292	1
8		8	•	•	16	16-8	54	152	180	331	2
10	10		•	•	12	12-10	60	155	270	295	1
11		11	•	•	18	18-11	62	119	241	340	2
12	8	4	•	•	14	14-12	43	90	-	-	1
15	14	1	•	•	14	14-15	17	110	155	234	1
16		16	•	•	20	20-16	238	318	333	347	2
18	18		•		14	14-18	15	90	180	270	1
19	19		•	•	14	14-19	30	165	315	-	1
21		21	•	•	22	22-21	16	135	175	349	2
23	22	1	•		16	16-23	158	270	-	-	1
23	21	2	•		16	16-99	66	156	223	340	1
24	24		•		20	20-24	70	145	215	290	1
26	26		•	•	16	16-26	60	-	275	338	1
30	29	1	•		18	18-30	180	193	285	350	1
32	32		•	•	18	18-32	85	138	222	265	1
32	32		•		22	22-32	72	145	215	288	1
34	34		•		22	22-34	62	142	218	298	1
36	36		•		22	22-36*	72	144	216	288	1
39	37	2	•	•	20	20-39	63	144	252	333	1
41	41		•		20	20-41	45	126	225	-	1
41	27	14	•		22	22-41	39	135	264	-	2
55	55		•	•	22	22-55	30	142	226	314	1
61	61		•	•	24	24-61	90	180	270	324	1

* indicates contact arrangements are not to MIL-C-26482.

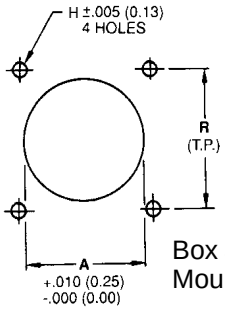
Operating Voltage & Test Voltage:

SERVICE RATING*	TEST ALTITUDE	MAXIMUM OPERATING VOLTAGE		TEST VOLTAGE	
		DC	AC(RMS)	DC	AC(RMS)
1	Sea Level	850	600	2100	1500
2		1,275	1,000	3,200	2,300
1	70,000 feet	-	300	535	375
2		-	450	770	550

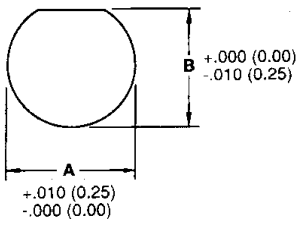
*Each insulator layout has a specific "Service Rating" indicated in last column.


MS-3057-A

Panel Cutouts



Box and Wall Mounting Receptacle



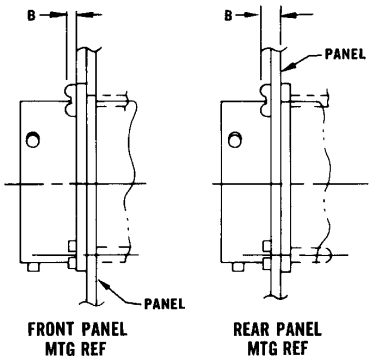
Jam Nut Receptacle

SHELL SIZE	A dia.- inches(mm) FRONT	REAR	R - inches(mm)	H±.005	Screw*	A	B
8‡	.500 (12.70)	.551 (14.0)	.594 (15.09)	.125 (3.17)	#4	.578 (14.68)	.540 (13.72)
10	.630 (16.00)	.669 (17.0)	.719 (18.26)	.125 (3.17)	#4	.703 (17.86)	.665 (16.89)
12	.751 (19.75)	.866 (22.0)	.812 (20.62)	.125 (3.17)	#4	.890 (22.61)	.828 (21.02)
14	.876 (22.25)	.984 (25.0)	.906 (23.01)	.125 (3.17)	#4	1.015 (25.78)	.952 (24.18)
16	1.001 (25.43)	1.102 (28.0)	.969 (24.61)	.125 (3.17)	#4	1.140 (28.96)	1.076 (27.33)
18	1.126 (28.60)	1.220 (31.0)	1.062 (26.97)	.125 (3.17)	#4	1.265 (32.13)	1.201 (30.51)
20	1.251 (31.78)	1.358 (34.5)	1.156 (29.36)	.125 (3.17)	#4	1.390 (35.31)	1.326 (33.68)
22	1.376 (34.95)	1.476 (37.5)	1.250 (31.75)	.125 (3.17)	#4	1.515 (38.48)	1.451 (36.86)
24	1.501 (38.13)	1.614 (41.0)	1.375 (34.92)	.155 (3.94)	#6	1.640 (41.66)	1.576 (40.03)

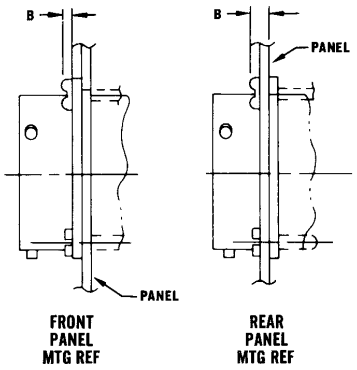
‡ Not available in KPSE connectors. * See Accessories on page ACC 1 for sealing screws.

Panel Thickness

Wall Mounting and Box Mounting Receptacle

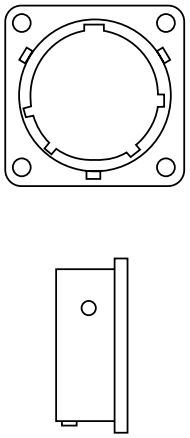


Thru-Bulkhead Receptacle



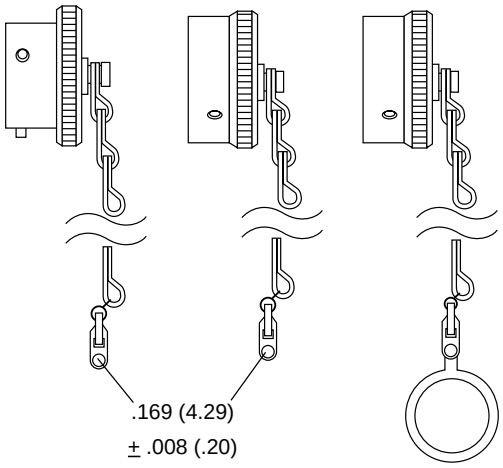
Size	B Max panel and screw head	Size	B Max panel and screw head
8	inches (mm)	8	inches (mm)
10		10	
12	.087	12	.218
14	(2.21)	14	(5.54)
16		16	
18		18	
20	.212	20	.334 (8.74)
22	(5.38)	22	
24		24	.311 (7.90)

Dummy Receptacles



See page KPT 15 for panel cutouts.

Metal Dust Caps*



SHELL SIZE	PART NUMBER	FOR PLUGS	FOR RECEPTACLE	
			Flanged* With Sash Chain	Jam Nut* With Sash Chain and Ring
8	MS3115-8	MS3180-8CA	MS3181-8CA	MS3181-8NA
10	MS3115-10	MS3180-10CA	MS3181-10CA	MS3181-10NA
12	MS3115-12	MS3180-12CA	MS3181-12CA	MS3181-12NA
14	MS3115-14	MS3180-14CA	MS3181-14CA	MS3181-14NA
16	MS3115-16	MS3180-16CA	MS3181-16CA	MS3181-16NA
18	MS3115-18	MS3180-18CA	MS3181-18CA	MS3181-18NA
20	MS3115-20	MS3180-20CA	MS3181-20CA	MS3181-20NA
22	MS3115-22	MS3180-22CA	MS3181-22CA	MS3181-22NA
24	MS3115-24	MS3180-24CA	MS3181-24CA	MS3181-24NA

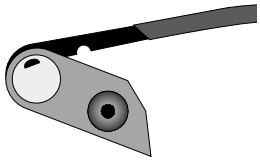
*Sash chain version for attachment to mounting screw on flanged receptacles.
Sash chain with ring for mounting to jam nut receptacle.

KPT Solder Contacts

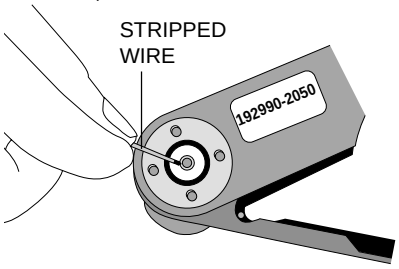
1. Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule, and (if used) the coupling nut.
2. Insert individual wires through the proper holes in the grommet.
3. Solder wires to appropriate contacts on the rear of the connector. ITT Cannon document RPI234 covers standard soldering practices and is available upon request by fax or mail. Please call.
4. Fixture the connector for re-assembly using the endbell assembly tools on page ACC 4 or a mating connector with contacts installed.
5. Slide the grommet down the wires (lubricating the grommet with isopropyl alcohol will help).
6. Fill all unused grommet cavities with a wire hole filler to maintain the sealing integrity of the connector.
7. Slide coupling nut, ferrule, and endbell accessories over 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

KPSE Crimp Tool Operation

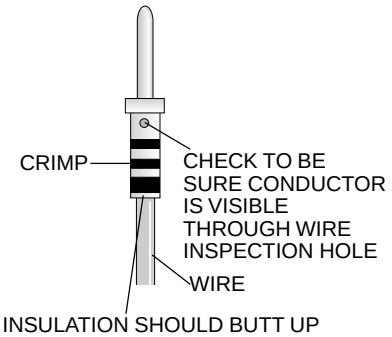


6. Insert the stripped wire into the contact with a slight twisting motion. Be sure all wire strands are inside the contact. Squeeze the handle to cycle the tool. The handle will not release until the contact is completely crimped.



Crimp Tool Operation (continued)

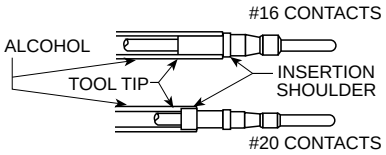
7. Remove the crimped contact. Pull on the wire slightly to be sure it is properly crimped. Be sure the contact is not bent or damaged in any way. Visually inspect the crimp:



Insertion of Contacts

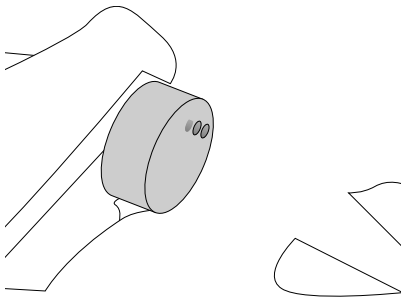
1. Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule, and coupling nut.

2. Using the proper insertion tool from the chart on page KPT 14, slide the tool over the wire side of the contact until the tool bottoms on the contact.



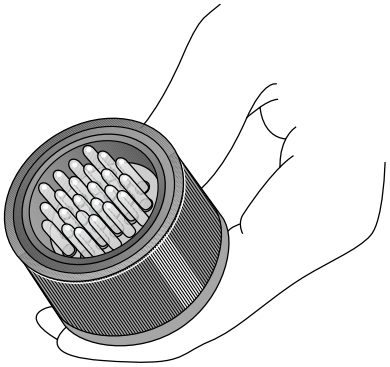
The tool for size 16 contacts butts against the shoulder of the contact. The rear, or insulation support, of the size 20 contacts butts against an internal shoulder in the tool tip.

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 outwards 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.



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.

5. Check the mating face of the connector to insure 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 re-insert. Do not attempt to reinsert the insertion tool to correct the problem.



6. Fixture the connector for re-assembly using the endbell assembly tools on page ACC 4 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:

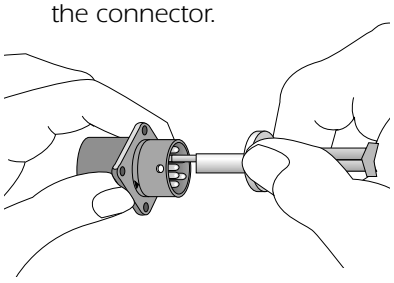
SIZE	TORQUE (INCH/LBS)
8, 10, 12, 14	10 - 15
16, 18	15- 25
20, 22, 24	25 - 35

Extraction of Contacts

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

2. Use the proper extraction tool from the chart on page KPT 14.

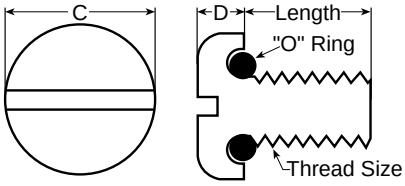
3. On the mating face of the connector, insert the tool over the contact and into the insulator until the tool bottoms. While keeping an even pressure against the tool, push the plunger on the tool shaft forward with your thumb and index finger. This will release the contact from the retention tine and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

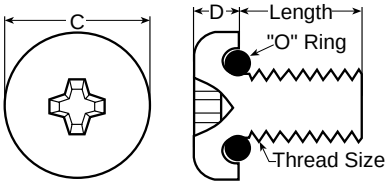


4. Carefully remove extraction tool from the connector. Pull the wire by hand to completely remove the contact from the rear of the connector.

Sealing Screws

Sealing screws are designed with a groove underneath the head to incorporate an O-ring. When tightened, the O-ring is compressed against the connector flange to form an air, water, and gas-tight seal. These screws are also vibration resistant. The reservoir beneath the head confines the O-ring and permits full metal-to-metal contact between the screw and the connector flange. Sealing screws can be reused without spoiling the sealing action. Sealing screws are used in conjunction with the nutplates below.





SLOTTED PAN HEAD						
PART NUMBER	THREAD	LENGTH	C MAX	D MAX	CLEAR HOLE MIN	CLEAR HOLE MAX
S-440-3/8 S-440-1/2 S-440-5/8 S-440-3/4	4-40NC-2A	3/8" 1/2" 5/8" 3/4"	.220"	.069"	.125"	.129"
S-632-3/8 S-632-1/2 S-632-5/8 S-632-3/4	6-32NC-2A	3/8" 1/2" 5/8" 3/4"	.271"	.083"	.147"	.152"
METRIC						
SM4-12MM SM5-12MM	M4 M5	12MM 12MM	CALL CALL	CALL CALL	CALL CALL	CALL CALL

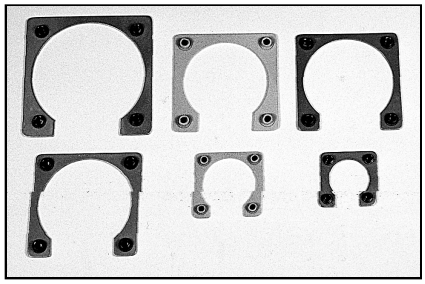
Additional threads, lengths, and styles available. Call for ordering information.

PHILLIPS PAN HEAD (meets MS3212 & MS3213)						
PART NUMBER	THREAD	LENGTH	C MAX	D MAX	CLEAR HOLE MIN	CLEAR HOLE MAX
R-440-3/8 R-440-1/2 R-440-5/8 R-440-3/4	4-40NC-2A	3/8" 1/2" 5/8" 3/4"	.238	.080"	.125"	.129"
R-632-3/8 R-632-1/2" R-632-5/8" R-632-3/4"	6-32NC-2A	3/8" 1/2" 5/8" 3/4"	.294"	.097"	.147"	.152"

Material: Passivated stainless steel screws, silicone rubber O-rings

Nut Plates

Nut plates are flat metal brackets containing four captive nuts that are used to mount flanged receptacles to a panel. They eliminate the nightmare of working with loose nuts in a confined area and effectively distribute the screw tension across the back of the panel. These cost effective devices are "self-wrenching", drawing the bracket up to be automatically aligned. Our plates are a C shape design which allows you to slip the nut plate over the wire bundle just prior to mounting. The bracket is aluminum alloy with Alodine plating and the nuts are steel alloy plated with cadmium. Nut plates mate with above Sealing Screws.

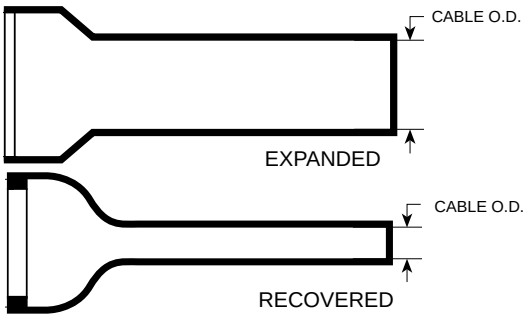


Connector Styles		Commercial Industrial	MIL-C-5015 Style	MIL-C-26482 Style		MIL-C-38999 Style		
Part Number	Thread	Sure-Seal, APD, SLC	CA/MS CB/CR	KPT, KPSE, PV70, MS3470, Trident	PV72, MS3472	KJL Series I	KJ Series II	KJA Series III
M85528/2-8A	4-40		8/8S	8			8	
M85528/2-10A	4-40		10S/10SL	10		9	10	A
M85528/2-10B	6-32				10			
M85528/2-12A	4-40		12/12S	12	10	11	12	B
M85528/2-12B	6-32				12			
M85528/2-14A	4-40	APD1,4,7 SSF2,3,4	14/14S	14		13	14	C
M85528/2-14B	6-32				14			
M85528/2-16A	4-40		16/16S	16		15	14	D
M85528/2-16B	6-32	SLC10			16			
M85528/2-18A	4-40	SSF8,9,10	18	18		17	18	E
M85528/2-18B	6-32				18			
M85528/2-20A	4-40		20	20		19	20	F
M85528/2-20B	6-32				20			
M85528/2-22A	4-40		22	22		21	22	G
M85528/2-22B	6-32				22			
M85528/2-24A	6-32				24	25		J
M85528/2-24B	6-32		24	24		23	24	H
M85528/2-25A	6-32					25		
M85528/2-28A	6-32		28	24 Neptune only				
M85528/2-32A	6-32		32					
M85528/2-36A	6-32		36					

Heat Shrink Boots

Standard Heat Shrink Boots are supplied in flame retardant polyolefin with an adhesive inner liner. A High Shrink Ratio version for sealing smaller wire bundles is also listed. The adhesive liner is heat activated and bonds to the underlying surface filling small voids. When cool, the adhesive forms a barrier against water, moisture, dirt, and other environmental contaminants. The lip on the connector end of the recovered boot fits into the sealing groove on the M and N style endbells used with CA/MS, CB, CR and KPT/KPSE connectors. Operating temperature is -67°F (-55°C) to +275°F (+135°C). These boots are also available in halogen free polyolefin, semi-rigid polyolefin, silicone, or Viton, with or without adhesive liner. Call for ordering information. See page ACC 5 for Heat Shrink Gun.

(Note: Allow at least 20% recovery for proper liner adhesion)

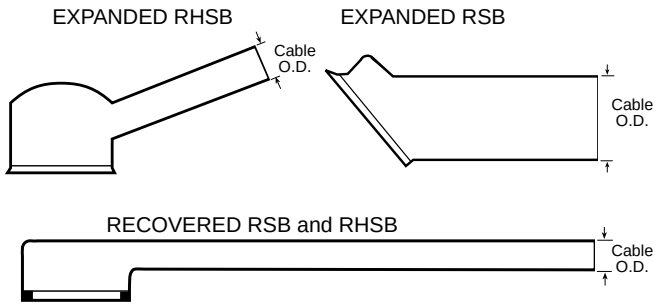


CABLE O.D. INCHES												
MAX (expanded)	0.25	0.30	0.38	0.45	0.88	1.01	1.16	1.34	1.47	1.72	1.97	2.47
MIN	0.08	0.10	0.12	0.14	0.25	0.29	0.33	0.39	0.41	0.44	0.51	0.69
CABLE O.D. MM												
MAX	(6.3)	(7.6)	(9.6)	(11.4)	(22.3)	(25.6)	(29.5)	(34.0)	(37.3)	(43.7)	(50.0)	(62.7)
MIN	(2.1)	(2.6)	(3.0)	(3.6)	(6.3)	(7.4)	(8.4)	(10.0)	(10.4)	(11.1)	(13.0)	(17.5)
PART NUMBER →	**HSB1**	**HSB2**	**HSB3**	**HSB4**	**SB1**	**SB2**	**SB3**	**SB4**	**SB5**	**SB6**	**SB7**	**SB8**
CA-Bayonet N=N Endbell M=M Shielded Endbell												
CB10SL-M	●				●	●						
CB10SL-N	●				●	●						
CB12S-M		●			●	●		●				
CB12S-N	●				●	●						
CB14S-M		●			●	●		●				
CB14S-N	●	●			●	●		●				
CB16-M		●				●		●				
CB16-N		●				●		●				
CB16S-M		●				●		●				
CB16S-N		●			●			●				
CB18-M			●				●	●				
CB18-N		●				●		●				
CB20-M			●	●				●	●	●		
CB20-N			●					●	●			
CB22-M			●	●				●	●	●		
CB22-N			●					●	●			
CB24-M				●						●	●	
CB24-N				●						●	●	
CB28-M				●						●	●	
CB28-N				●						●	●	
CB32-M											●	●
CB32-N											●	●
CB36-M											●	●
CB36-N											●	●
CR40-N												
KPT/KPSE DN/DZ												
KPT08	●				●	●						
KPT10	●				●	●						
KPT12		●				●	●	●				
KPT14		●					●	●				
KPT16			●					●				
KPT18			●					●	●	●		
KPT20				●					●	●		
KPT22				●						●	●	
KPT24				●						●	●	
T=Trident TN=Trident Neptune												
T10	▲				▲	▲						
T12		▲				▲		▲				
T14		▲					▲	▲				
T16			▲				▲	▲	▲			
T18			▲	▲				▲	▲	▲		
T20				▲					▲	▲		
T22				▲						▲	▲	
T24				▲						▲	▲	
TN16	▲				▲	▲						
TN24		▲				▲		▲				

Right Angle Heat Shrink Boots

Right Angle Heat Shrink Boots are supplied in flame retardant polyolefin with an adhesive inner liner. A High Shrink Ratio version for sealing smaller wire bundles is also listed. The adhesive liner is heat activated and bonds to the underlying surface filling small voids. When cool, the adhesive forms a barrier against water, moisture, dirt, and other environmental contaminants. The lip on the connector end of the recovered boot fits into the sealing groove on the M and N style endbells used with CA/MS, CB, CR and KPT/KPSE connectors. Operating temperature is -67°F (-55°C) to +275°F (+135°C). These boots are also available in halogen free polyolefin, semi-rigid polyolefin, silicone, or Viton, with or without adhesive liner. Call for ordering information. See page ACC 5 for Heat Shrink Gun.

(Note: Allow at least 20% recovery for proper liner adhesion)



CABLE O.D. INCHES												
MAX (expanded)	0.24	0.30	0.38	0.45	0.88	1.01	1.16	1.34	1.47	1.72	1.97	2.47
MIN	0.08	0.10	0.12	0.14	0.25	0.29	0.30	0.38	0.41	0.44	0.56	0.69
CABLE O.D. MM												
MAX	(6.0)	(7.5)	(9.6)	(11.4)	(22.3)	(25.6)	(29.5)	(34.0)	(37.3)	(43.7)	(50.0)	(62.7)
MIN	(2.0)	(2.5)	(3.0)	(3.6)	(6.3)	(7.4)	(7.6)	(9.6)	(10.4)	(11.1)	(14.2)	(17.5)
PART NUMBER →	**RHSB1**	**RHSB2**	**RHSB3**	**RHSB4**	**RSB1**	**RSB2**	**RSB3**	**RSB4**	**RSB5**	**RSB6**	**RSB7**	**RSB8**
CA-Bayonet N=N Endbell M=M Shielded Endbell												
CB10SL-M	●				●	●	●					
CB10SL-N	●				●	●						
CB12S-M		●			●	●	●					
CB12S-N	●				●	●						
CB14S-M		●			●	●	●	●				
CB14S-N		●			●	●	●					
CB16-M		●				●	●	●				
CB16-N		●				●	●	●				
CB16S-M		●				●	●	●				
CB16S-N		●				●	●	●				
CB18-M			●				●	●	●			
CB18-N			●			●	●	●				
CB20-M			●					●	●	●		
CB20-N			●					●	●			
CB22-M			●					●	●	●		
CB22-N			●					●	●	●		
CB24-M				●						●		
CB24-N				●						●		
CB28-M				●						●	●	
CB28-N				●						●	●	
CB32-M											●	●
CB32-N											●	
CB36-M												●
CB36-N												●
CR40-N												■
KPT/KPSE DN/DZ												
KPT08	●				●	●						
KPT10	●				●	●	●					
KPT12		●				●	●	●				
KPT14		●				●	●	●				
KPT16			●					●	●			
KPT18			●					●	●	●		
KPT20				●					●	●		
KPT22				●						●		
KPT24				●						●	●	
T=Trident TN=Trident Neptune												
T10	▲				▲	▲	▲					
T12		▲				▲	▲	▲				
T14		▲				▲	▲	▲				
T16			▲					▲	▲			
T18			▲					▲	▲	▲	▲	
T20				▲					▲	▲	▲	
T22				▲						▲	▲	
T24				▲							▲	
TN16	▲				▲	▲						
TN24		▲				▲	▲	▲				

Connector Tools

TG70 Strap Wrench

The Strap wrench is used to connect or disconnect coupling nuts in a confined space, or to tighten or loosen endbells without damaging the connector plating. A strap wrench also increases torque, allowing you to more easily mate or unmate a connector pair. Substitute tools, such as a pipe wrench or pliers, should never be used due to the high probability of severe damage to the connector plating or the coupling mechanism.

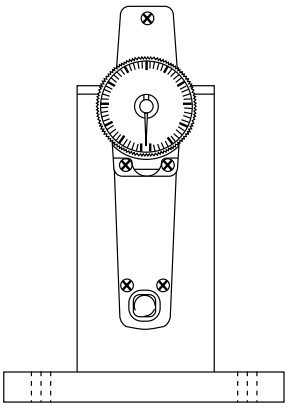
TG69P Non-Marring Adjustable Endbell Pliers For Field Service

The TG69P pliers have resilient jaws and are used to tighten or remove endbells without damaging the connector plating. The pliers are adjustable and will accommodate all of the connector sizes in this catalog. Substitute tools, such as a pipe wrench or metal jaw pliers, should never be used due to the high probability of severe damage to the connector plating.

600 Series Production System

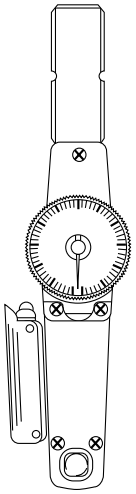
The 600 series is a complete system for the proper assembly and torquing of connector endbells. The System includes a bench mounted or hand-held torque wrench, plug and receptacle holders, and a range of endbell tightening tools. When used together, these tools provide the user with consistent endbell installations.
Each item is shipped with detailed assembly instructions.

600-007



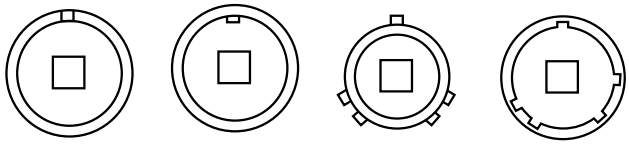
Bench mounted Torque wrench

600-004



Hand held

Plug and receptacle holders

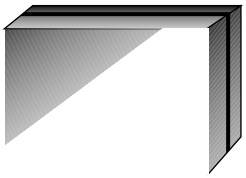


600B005-*R 600B005-*P 600D005-*R 600D005-*P

Size	MIL-C-5015 for MSE, F, B, R, CA, CB, CR		MIL-C-26482 for KPT,KPTSE, PV, MS311_, MS347_	
	Receptacles	Plugs	Receptacles	Plugs
8/8S	600B005-8R	600B005-8P	600D005-8R	600D005-8P
10S/SL	600B005-10R	600B005-10P	600D005-10R	600D005-10P
12/12S	600B005-12R	600B005-12P	600D005-12R	600D005-12P
14/14S	600B005-14R	600B005-14P	600D005-14R	600D005-14P
16/16S	600B005-16R	600B005-16P	600D005-16R	600D005-16P
18	600B005-18R	600B005-18P	600D005-18R	600D005-18P
20	600B005-20R	600B005-20P	600D005-20R	600D005-20P
22	600B005-22R	600B005-22P	600D005-22R	600D005-22P
24	600B005-24R	600B005-24P	600D005-24R	600D005-24P
28	600B005-28R	600B005-28P	-	-
32	600B005-32R	600B005-32P	-	-
36	600B005-36R	600B005-36P	-	-

Size	MIL-C-38999 Series I for KJL		MIL-C-38999 Series II for KJ		MIL-C-38999 Series III for KJA			
	Receptacles	Plugs	Receptacles	Plugs	Shell Size		Receptacles	Plugs
9	600F005-9R	600F005-9P	600FF005-9R	600FF005-9P	A	9	600H005-9R#	600H005-9P#
11	600F005-11R	600F005-11P	600FF005-11R	600FF005-11P	B	11	600H005-11R#	600H005-11P#
13	600F005-13R	600F005-13P	600FF005-13R	600FF005-13P	C	13	600H005-13R#	600H005-13P#
15	600F005-15R	600F005-15P	600FF005-15R	600FF005-15P	D	15	600H005-15R#	600H005-15P#
17	600F005-17R	600F005-17P	600FF005-17R	600FF005-17P	E	17	600H005-17R#	600H005-17P#
19	600F005-19R	600F005-19P	600FF005-19R	600FF005-19P	F	19	600H005-19R#	600H005-19P#
21	600F005-21R	600F005-21P	600FF005-21R	600FF005-21P	G	21	600H005-21R#	600H005-21P#
23	600F005-23R	600F005-23P	600FF005-23R	600FF005-23P	H	23	600H005-23R#	600H005-23P#
25	600F005-25R	600F005-25P	600FF005-25R	600FF005-25P	J	25	600H005-25R#	600H005-25P#

Add polarizations: N, A, B, C, D, E



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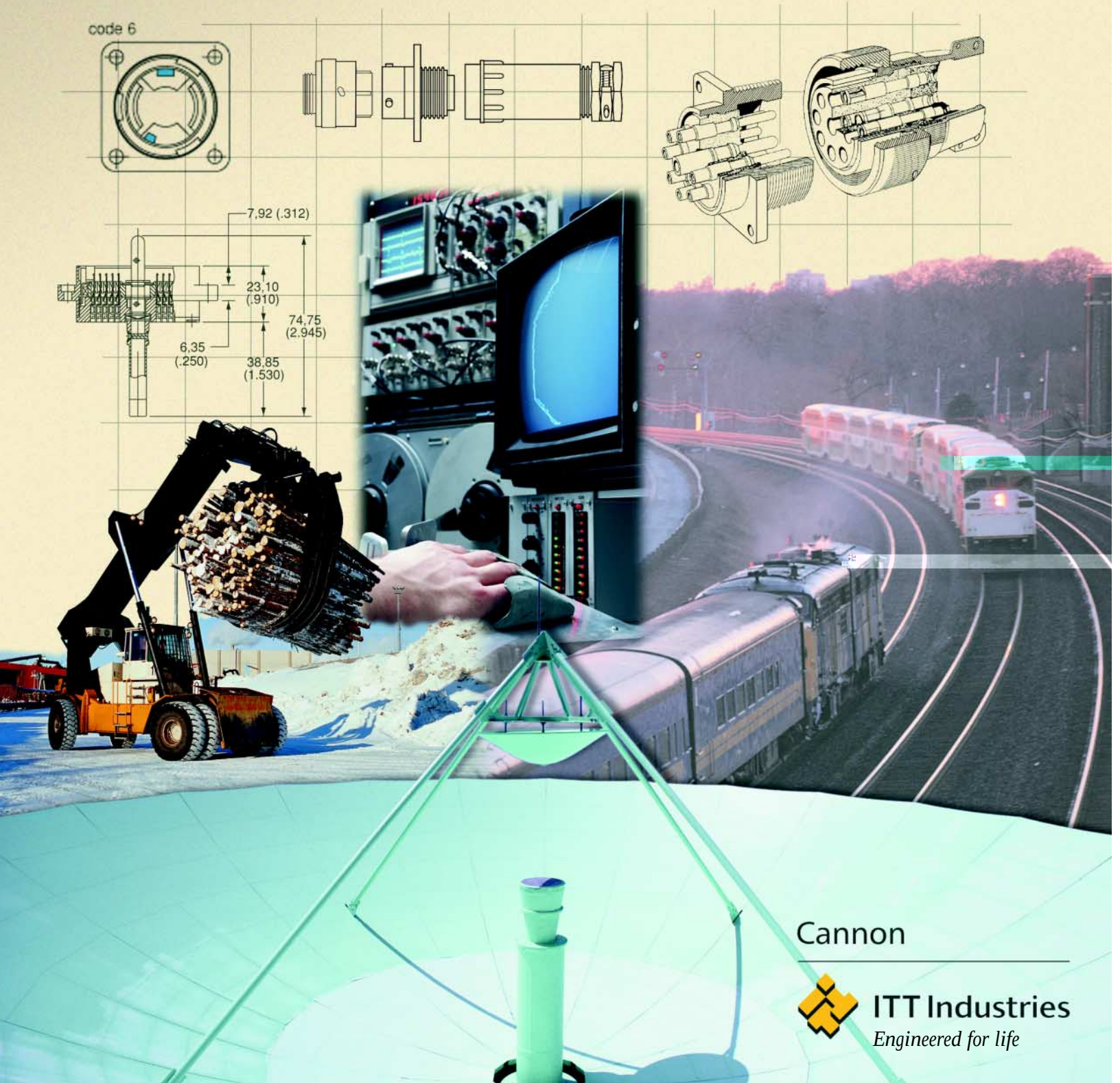

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