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Amphenol® QWL Series Cylindrical Connectors

12-053-4



Amphenol

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Amphenol Aerospace operates Quality Systems that are Certified to ISO-9001 and AS-9100 by third party Registrars.

For additional information concerning the Amphenol® QWL Series Cylindrical Connector, or if there are special application requirements, contact your local sales office or

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(Most Amphenol catalogs can be viewed, printed and down-loaded from the website)

Amphenol® Heavy Duty Cylindrical Connectors

QWL Series



wall mount receptacle



thru bulkhead receptacle



cable connecting plug



straight plug



box mount receptacle



flange mount plug



jam nut receptacle
(wall mount)



jam nut receptacle
(box mount)

Amphenol® QWL Series Connectors are tailor made for compact, heavy duty industrial use.

The outstanding performance of this series makes it well suited for ship-board installations and ground support power distribution applications where physical strength and dependability are key requirements.

The QWL Series are a versatile, economical alternative to military qualified designs.

Equivalent MS shell sizes and insert arrangements offer compatibility with all standard cable types. MIL-C-22992 environmental connector requirements (see page 1) are used as a performance criteria base for this series to assure reliability under the most severe conditions.

The design features of this connector series provide:

- **Exceptional Service** - high strength aluminum shells with Alumilite 225* hard anodic finish and shock resistant resilient inserts.
- **Foolproof Operation** - rugged double stub coupling threads, left hand accessory threads and simple single keyway mating.
- **Versatility** - both MS and custom insert patterns available for a wide variety of multiconductor cables.

A complete line of accessories is available for use with QWL Series connectors, including cable sealing and clamp adapters, protective covers, flange gaskets and banding clamps.

* Registered trademark of Aluminum Company of America

QWL

the environmental connector

- **HIGH CURRENT CAPACITY** for power distribution network and inputs to large equipment
- **RUGGED CONSTRUCTION** dictated by the working environment, high strength aluminum shells with Alumilite 225* hard anodic finish, shock resistant resilient inserts, gaskets or “O” rings at appropriate surfaces for perfect weather tight connections.
- **SERVICEABILITY AND FOOL-PROOF OPERATION** with fast coupling, easily maintained double stub threads, left hand accessory threads and single keyway mating.
- **VERSATILITY** - both MS and custom insert patterns available to accommodate a wide variety of multi conductor cables.

CONDITION	CONFIGURATION	DESCRIPTION	REFERENCE
THERMAL SHOCK	UNMATED	Five complete one hour temperature cycles of -55°C to +125°C	MIL-STD-1344 method 1003 test condition
MOISTURE RESISTANCE (Cable mounted connectors)	MATED	Ten complete 24 hour cycles of +25°C to +65°C temperature at 90% to 98% humidity	MIL-STD-202 method 106
DURABILITY	MATED	500 complete mating/unmating cycles	MIL-C-22992
SALT SPRAY (Corrosion)	UNMATED	48 hour exposure to atomized 5% saline solution at +35°C	MIL-STD-1344 method 1001
VIBRATION	MATED	10 to 55 Hz, .06 inch total excursion in 1 minute cycles for 6 hours 55 to 2000 Hz, 10G peak amplitude sweep	MIL-STD-1344 method 2005
HIGH IMPACT	MATED	Nine hammer blows from 1, 3 and 5 feet, three each in three axes on mounting panel	MIL-STD-202 method 207
FLUID IMMERSION	UNMATED	20 hours immersion in hydraulic fluid and lubricating oil	MIL-C-22992
WATER IMMERSION	MATED	4 hours immersion at 1 atmosphere pressure differential	MIL-C-22992

* Registered trademark of Aluminum Company of America

QWL

how to order

QWL heavy duty cylindrical connectors are ordered by Amphenol® part number only. To illustrate the ordering procedure, part number 10-107628-5P is shown as follows:

PART NUMBER
 $\frac{10}{1} - \frac{107}{2} \frac{6}{3} \frac{28-5}{4} \frac{P}{5}$

See code below:

1. Base Number Prefix - used to define contact type and finish.

- 10- Solder type contacts, silver plated (Standard)
- 75- Crimp type contacts, silver plated
- 81- Crimp type contacts, plated .0001 gold over silver
- 82- Crimp type contacts for MIL-C-13777 cable, silver plated
- 83- Crimp type contacts for MIL-C-13777 cable, plated .0001 gold over silver
- 85- Crimp type contacts plated .00005 gold over silver

2. Base Number - QWL Series Heavy Duty Cylindrical Connector.

3. Shell Style -

- 0 designates wall mount receptacle
- 1 designates cable connecting plug
- 2 designates box mount receptacle
- 3 designates jam nut receptacle with rear accessory threads (wall mount)
- 4 designates thru bulkhead receptacle
- 6 designates straight plug
- 7 designates flange mount plug
- 9 designates jam nut receptacle (box mount)

4. Shell Size/Insert Arrangement - Amphenol® QWL connectors are available in equivalent MS shell sizes with all current MS insert arrangements as well as a large selection of special arrangements for power and signal circuits. Select the required insert arrangement number from those shown on pages 18-40.

5. Contact Type/Alternate Insert Rotations - P for pin, S for socket. When an alternate position of the connector insert is required to prevent cross mating of connectors, a different letter (other than P or S) is used. Select from the table below the Amphenol® letter which indicates both type of contact, and insert rotation desired. Refer to page 17 for alternate insert rotations.

PIN CONTACTS		SOCKET CONTACTS	
MS LETTERS	AMPHENOL® LETTER	MS LETTERS	AMPHENOL® LETTER
P	P (normal)	S	S (normal)
PW	G	SW	H
PX	I	SX	J
PY	K	SY	L
PZ	M	SZ	N

QWL

how to order, cont.

ACCESSORIES

Cable Sealing Adapters - these are the basic connector accessories which provide moisture proofing and cable strain relief. Selection is made on the basis of accessory style, shell size and cable dimensions. To illustrate the ordering procedure, part number 10-101335-361 is shown as follows:

PART NUMBER
10 - 101335 - 361
1 2

See code below:

- 1. Accessory Base Number** - refer to pages 41 through 52 for descriptions and dimensional data. 10-101332 designates short barrel length with woven strain relief grip
- 10-101333 designates short barrel length without strain relief
 - 10-101334 designates short barrel length with woven strain relief grip and attaching ring for protection cap with bead chain
 - 10-101335 designates short barrel length with attaching ring for protection cap with bead chain
 - 10-101380 designates short barrel length with attaching ring for protection cap with bead chain and clamp type strain relief bars
 - 10-113637 designates long barrel length with woven strain relief and attaching ring for protection cap with bead chain

2. Part Number – represents connector shell size and range of cable diameters accommodated by the sealing adapter. Refer to the page listed below to determine the part number required for the accessory style being used:

Accessory Series	Page
10-10133X	46 - 48
10-130380	44
10-113637	50 - 52

Cable Clamp 10-749XX-() and Adapter 10-113196-XX

Connectors which require weatherproofing on open wire cables are provided with a moisture seal by this cable clamp, a modification of the MS3057B design. A rubber grommet with holes for individual wires is used in place of the sleeve. As the assembly is tightened, the grommet is compressed around each wire, sealing out moisture.

Order this clamp by the part number listed on page 53 to accommodate the connector being used. Suffix the part number with the connector insert arrangement number.

To attach the cable clamp to the left hand accessory threads of QWL connectors, Adapter 10-113196-XX is needed. Finish is non-conductive Alumilite. Order by adapter part number listed on page 53 to accommodate the connector shell size being used. For a moisture proof seal, unused grommet holes must be filled with the appropriate size sealing plug or sealing rod selected from the table on page 53. Sealing plug or sealing rods must be ordered separately.

M85049/1 Cable Clamp and Adapter 10-113138-XX - order this clamp by the M85049()C part number listed on page 55 to accommodate the cable type being used. To attach the cable clamp to the left hand accessory threads of QWL connectors, Adapter 10-113138-XX is needed. Order by adapter part number listed on page 55 to accommodate the connector shell size being used. Standard finish on the clamp is olive drab, cadmium plate. Adapter finish is non-conductive Alumilite. MS3420-()A sleeve, to facilitate sealing on smaller diameter cables, must be ordered separately. MS3420-()A sleeves may be nested to accommodate smaller cable diameters.

Plug Protection Caps -

- 10-101046-() designates plug cover with chain, Alumilite 225 finish
 - 10-101531-() designates plug cover with chain and eyelet end, Alumilite 225 finish
- Order these plug covers by the part number listed on page 57 for the appropriate connector shell size.

Receptacle Protection Caps -

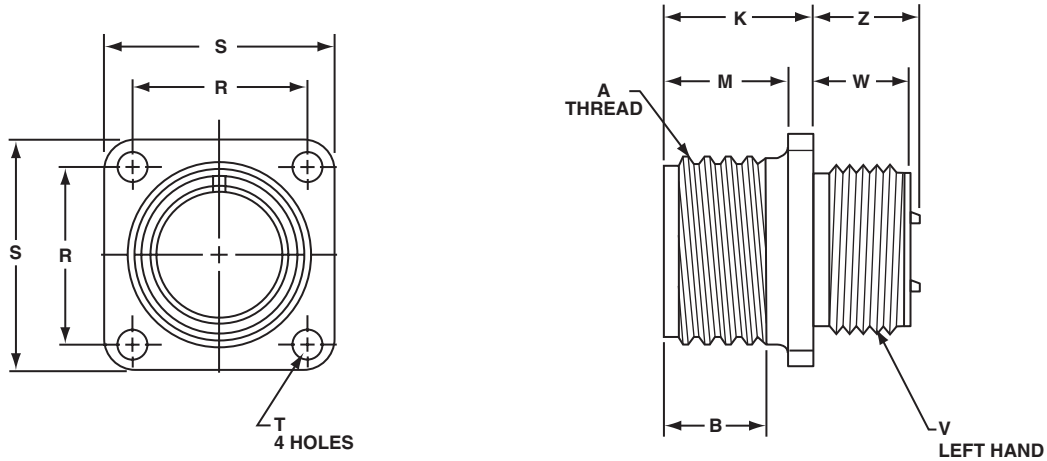
- 10-101063-() designates receptacle cover with chain, Alumilite 225 finish
 - 10-101048-() designates receptacle cover with chain and eyelet, Alumilite 225 finish
- Order these receptacle covers by the part number listed on page 57 for the appropriate connector shell size.

Flange Gasket -

- 10-36675-() for operating temperature range -67° to +275°F
 - 10-40450-() for operating temperature range 0° to +257°F
- Order by part number listed on page 59 for appropriate connector shell size.

10-183249 Grip Banding Clamp - order this stainless steel clamp by part number listed on page 59 to accommodate cable diameter being used.

QWL 10-1070XX wall mount receptacle

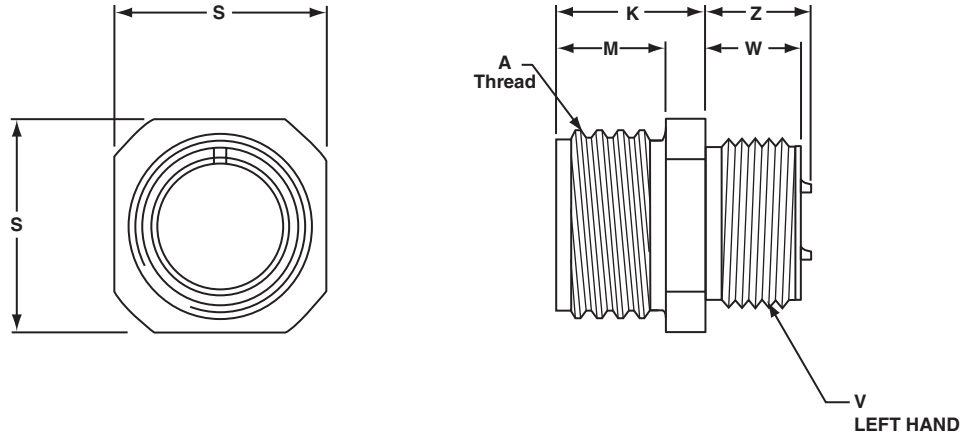


All dimensions for reference only.

Part Number*	Shell Size	A Thread Class 2A	B Min Full Thread	K $\pm .015$	M $+ .016$ $- .000$	R $\pm .005$	S $\pm .020$	T Dia $+ .004$ $- .003$	V Thread Class 2A-LH	W $\pm .010$	Z Max
10-107010	10S	.6250-0.05P-0.1L-DS	.391	.704	.562	.719	1.000	.150	.500-28UNEF	.400	.450
10-107012	12S	.7500-0.1P-0.2L-DS	.391	.704	.562	.812	1.094	.150	.625-24UNEF	.400	.450
10-107013	12	.7500-0.1P-0.2L-DS	.625	.891	.750	.812	1.094	.150	.625-24UNEF	.588	.700
10-107014	14S	.8750-0.1P-0.2L-DS	.391	.704	.562	.906	1.188	.150	.750-20UNEF	.400	.450
10-107015	14	.8750-0.1P-0.2L-DS	.625	.891	.750	.906	1.188	.150	.750-20UNEF	.588	.700
10-107016	16S	1.0000-0.1P-0.2L-DS	.391	.704	.562	.969	1.281	.150	.875-20UNEF	.400	.450
10-107017	16	1.0000-0.1P-0.2L-DS	.625	.891	.750	.969	1.281	.150	.875-20UNEF	.588	.700
10-107018	18	1.1250-0.1P-0.2L-DS	.625	.906	.750	1.062	1.375	.177	1.000-20UNEF	.573	.686
10-107020	20	1.2500-0.1P-0.2L-DS	.625	.906	.750	1.156	1.500	.177	1.125-18NEF	.573	.686
10-107022	22	1.3750-0.1P-0.2L-DS	.625	.906	.750	1.250	1.625	.177	1.250-18NEF	.573	.686
10-107024	24	1.5000-0.1P-0.2L-DS	.625	.968	.812	1.375	1.750	.177	1.375-18NEF	.573	.624
10-107028	28	1.7500-0.1P-0.2L-DS	.625	.968	.812	1.562	2.000	.177	1.625-18NEF	.573	.624
10-107032	32	2.0000-0.1P-0.2L-DS	.625	1.031	.875	1.750	2.250	.209	1.875-16N	.573	.561
10-107036	36	2.2500-0.1P-0.2L-DS	.625	1.031	.875	1.938	2.500	.209	2.0625-16N	.573	.561
10-107040	40	2.5000-0.1P-0.2L-DS	.625	1.031	.875	2.188	2.750	.209	2.3125-16N	.573	.561
10-107044	44	2.7500-0.1P-0.2L-DS	.625	1.031	.875	2.375	3.000	.209	2.625-16UN	.698	.801

*For complete order number see page 4

QWL 10-1071XX cable connecting plug



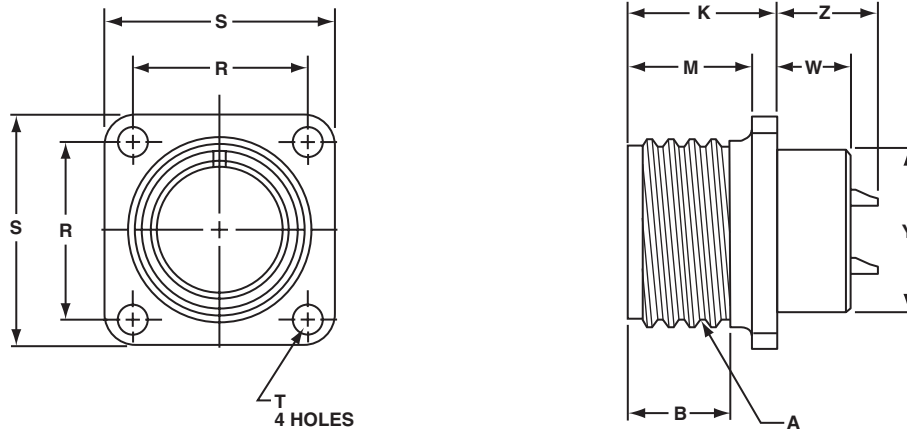
All dimensions for reference only.

Part Number*	Shell Size	A Thread (plated) Class 2A	K ±.015	M +.016 - .000	S ±.020	V Thread Class 2A-LH	W ±.010	Z Max
10-107110	10S	.6250-0.05P-0.1L-DS	.704	.453	.750	.500-28UNEF	.400	.450
10-107112	12S	.7500-0.1P-0.2L-DS	.704	.453	.875	.625-24UNEF	.400	.450
10-107113	12	.7500-0.1P-0.2L-DS	.891	.641	.875	.625-24UNEF	.588	.701
10-107114	14S	.8750-0.1P-0.2L-DS	.704	.453	1.000	.750-20UNEF	.400	.450
10-107115	14	.8750-0.1P-0.2L-DS	.891	.641	1.000	.750-20UNEF	.588	.701
10-107116	16S	1.0000-0.1P-0.2L-DS	.704	.453	1.094	.875-20UNEF	.400	.450
10-107117	16	1.0000-0.1P-0.2L-DS	.891	.641	1.094	.875-20UNEF	.588	.701
10-107118	18	1.1250-0.1P-0.2L-DS	.906	.656	1.281	1.000-20UNEF	.573	.686
10-107120	20	1.2500-0.1P-0.2L-DS	.906	.656	1.375	1.125-18UNEF	.573	.686
10-107122	22	1.3750-0.1P-0.2L-DS	.906	.656	1.500	1.250-18UNEF	.573	.686
10-107124	24	1.5000-0.1P-0.2L-DS	.968	.719	1.625	1.375-18UNEF	.573	.624
10-107128	28	1.7500-0.1P-0.2L-DS	.968	.719	1.875	1.625-18UNEF	.573	.624
10-107132	32	2.0000-0.1P-0.2L-DS	1.031	.656	2.125	1.875-16UN	.573	.561
10-107136	36	2.2500-0.1P-0.2L-DS	1.031	.656	2.375	2.0625-16UNS	.573	.561
10-107140	40	2.5000-0.1P-0.2L-DS	1.031	.656	2.625	2.3125-16UNS	.573	.561
10-107144	44	2.7500-0.1P-0.2L-DS	1.031	.656	3.000	2.625-16UN	.698	.800
10-107148	48	3.0000-0.1P-0.2L-DS	1.031	.656	3.125	2.875-16UN	.698	.800

*For complete order number see page 4

QWL 10-1072XX

box mount receptacle



All dimensions for reference only.

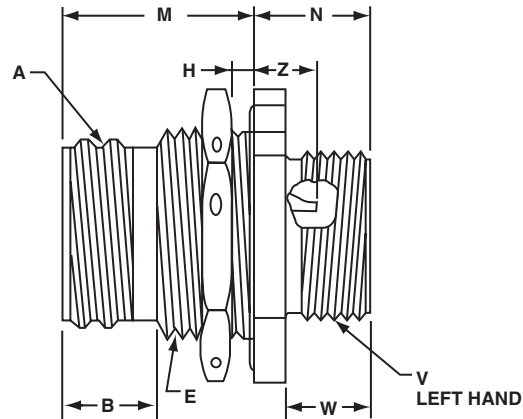
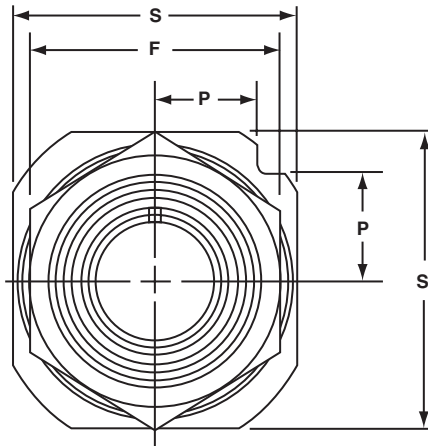
Part Number*	Shell Size	A Thread (Plated) Class 2A	B Min Full Thread	K $+0.026$ -0.010	M $+0.016$ -0.000	R ± 0.005	S ± 0.020	T Dia $+0.004$ -0.003	W $+0.020$ -0.036	Y Dia ± 0.010	Z Max
10-107210	10S	.6250-0.05P-0.1L-DS	.391	.703	.562	.719	1.000	.150	.281	.469	.451
10-107212	12S	.7500-0.1P-0.2L-DS	.391	.703	.562	.812	1.094	.150	.281	.594	.451
10-107213	12	.7500-0.1P-0.2L-DS	.625	.891	.750	.812	1.094	.150	.469	.594	.700
10-107214	14S	.8750-0.1P-0.2L-DS	.391	.703	.562	.906	1.188	.150	.281	.719	.451
10-107215	14	.8750-0.1P-0.2L-DS	.625	.891	.750	.906	1.188	.150	.469	.719	.700
10-107216	16S	1.0000-0.1P-0.2L-DS	.391	.703	.562	.969	1.281	.150	.281	.844	.451
10-107217	16	1.0000-0.1P-0.2L-DS	.625	.891	.750	.969	1.281	.150	.469	.844	.700
10-107218	18	1.1250-0.1P-0.2L-DS	.625	.906	.750	1.062	1.375	.177	.453	.969	.686
10-107220	20	1.2500-0.1P-0.2L-DS	.625	.906	.750	1.156	1.500	.177	.453	1.125	.686
10-107222	22	1.3750-0.1P-0.2L-DS	.625	.906	.750	1.250	1.625	.177	.453	1.250	.686
10-107224	24	1.5000-0.1P-0.2L-DS	.625	1.000	.812	1.375	1.750	.177	.359	1.375	.585
10-107228	28	1.7500-0.1P-0.2L-DS	.625	1.000	.812	1.562	2.000	.177	.359	1.594	.591
10-107232	32	2.0000-0.1P-0.2L-DS	.625	1.063	.875	1.750	2.250	.209	.296	1.844	.528
10-107236	36	2.2500-0.1P-0.2L-DS	.625	1.063	.875	1.938	2.500	.209	.296	2.031	.528
10-107240	40	2.5000-0.1P-0.2L-DS	.625	1.063	.875	2.188	2.750	.209	.296	2.281	.528
10-107244	44	2.7500-0.1P-0.2L-DS	.625	1.063	.875	2.375	3.000	.209	.546	2.562	.769
10-107248	48	3.0000-0.1P-0.2L-DS	.625	1.063	.875	2.625	3.250	.209	.546	2.812	.769

*For complete order number see page 4

QWL

10-1073XX

jam nut receptacle (wall mount)



Shell Size	K Dia +.005 -.000	G ±.003	U ±.005
10	.880	.518	.625
12, 13	1.005	.562	.688
14, 15	1.130	.606	.750
16, 17	1.255	.699	.875
18	1.380	.739	.938
20	1.505	.783	1.000
22	1.630	.830	1.062
24	1.880	.919	1.188
28	2.130	1.007	1.312
32	2.380	1.096	1.438
36	2.630	1.183	1.562
40	2.880	1.292	1.703

mounting dimensions

Mounting dimensions diagram showing dimensions: U (width of the mounting flange), G (width of the mounting flange), and K (overall width).

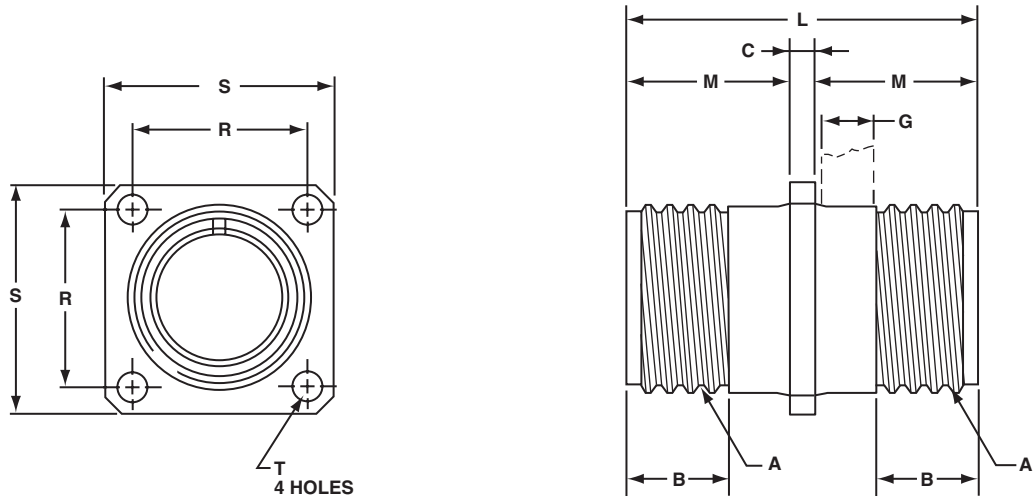
All dimensions for reference only.

Part Number*	Shell Size	A Thread Class 2A	B ±.010	E Thread Class 2A	F Hex ±.010	H Panel Thickness		M ±.010	N ±.015	P ±.010	S ±.010	V Thread Class 2A-LH	W ±.010	Z Max
						Min	Max							
10-107310	10S	.6250-0.5-0.1L-DS	.385	.6875-24UNEF	.875	.094	.227	.844	.469	.375	1.062	.500-28UNEF	.344	.295
10-107312	12S	.7500-0.1P-0.2L-DS	.385	.875-20UNEF	1.062	.094	.200	.906	.469	.442	1.250	.625-24UNEF	.344	.232
10-107313	12	.7500-0.1P-0.2L-DS	.585	.875-20UNEF	1.062	.094	.188	1.094	.641	.442	1.250	.625-24UNEF	.516	.483
10-107314	14S	.8750-0.1P-0.2L-DS	.385	1.000-20UNEF	1.250	.094	.200	.906	.469	.486	1.376	.750-20UNEF	.344	.232
10-107315	14	.8750-0.1P-0.2L-DS	.585	1.000-20UNEF	1.250	.094	.188	1.094	.641	.486	1.376	.750-20UNEF	.516	.483
10-107316	16S	1.0000-0.1P-0.2L-DS	.385	1.125-18UNEF	1.312	.094	.200	.906	.469	.530	1.500	.875-20UNEF	.344	.232
10-107317	16	1.0000-0.1P-0.2L-DS	.585	1.125-18UNEF	1.312	.094	.188	1.094	.641	.530	1.500	.875-20UNEF	.516	.483
10-107318	18	1.1250-0.1P-0.2L-DS	.585	1.250-18UNEF	1.500	.094	.203	1.109	.704	.623	1.750	1.000-20UNEF	.516	.467
10-107320	20	1.2500-0.1P-0.2L-DS	.585	1.375-18UNEF	1.562	.094	.203	1.109	.704	.663	1.875	1.125-18UNEF	.516	.467
10-107322	22	1.3750-0.1P-0.2L-DS	.585	1.500-18UNEF	1.750	.094	.203	1.109	.704	.707	2.000	1.250-18UNEF	.516	.467
10-107324	24	1.5000-0.1P-0.2L-DS	.585	1.625-18UNEF	1.875	.094	.265	1.172	.704	.751	2.125	1.375-18UNEF	.516	.404
10-107328	28	1.7500-0.1P-0.2L-DS	.585	1.875-16UNEF	2.125	.094	.265	1.172	.704	.840	2.375	1.625-18UNEF	.516	.404
10-107332	32	2.0000-0.1P-0.2L-DS	.585	2.125-16UNEF	2.375	.094	.203	1.172	.735	.928	2.625	1.875-16UN	.516	.404
10-107336	36	2.2500-0.1P-0.2L-DS	.585	2.375-16UN	2.625	.094	.203	1.172	.735	1.017	2.875	2.0625-16UN	.516	.404
10-107340	40	2.5000-0.1P-0.2L-DS	.585	2.625-16UN	2.875	.094	.203	1.172	.735	1.104	3.125	2.3125-16UN	.516	.404
10-107344	44	2.7500-0.1P-0.2L-DS	.585	2.875-16UN	3.125	.094	.265	1.234	.922	1.213	3.406	2.625-16UN	.703	.593
10-107348	48	3.0000-0.1P-0.2L-DS	.585	3.125-16UN	3.375	.094	.265	1.234	.922	1.299	3.656	2.875-16UN	.703	.593

*For complete order number see page 4.

QWL 10-1074XX

thru bulkhead receptacle

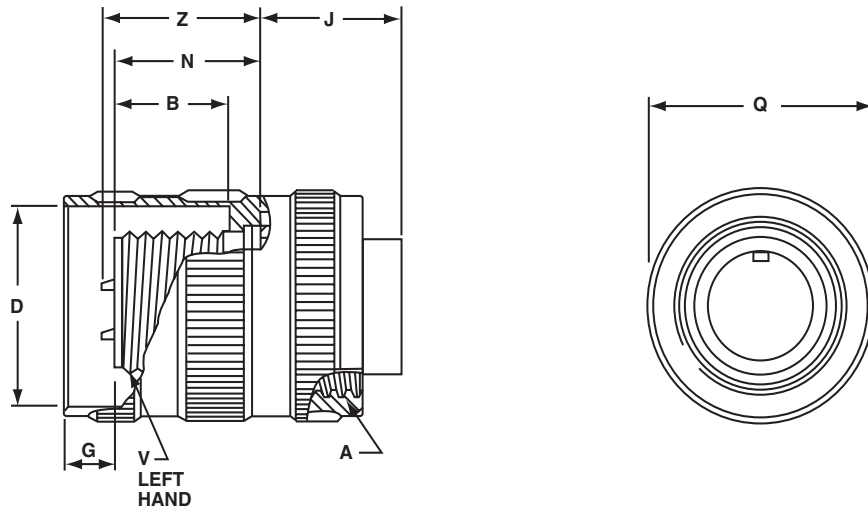


All dimensions for reference only.

Part Number*	Shell Size	A Thread Class 2A	B Min Full Thread	C Ref	G Max Bulkhead Thickness	L ±.015	M +.000 - .010	R ±.005	S ±.020	T Dia +.004 - .003
10-107410	10S	.6250-0.05P-0.1L-DS	.406	.141	.266	1.563	.711	.719	1.000	.120
10-107412	12S	.7500-0.1P-0.2L-DS	.406	.141	.266	1.563	.711	.812	1.094	.120
10-107413	12	.7500-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	.812	1.094	.120
10-107414	14S	.8750-0.1P-0.2L-DS	.406	.141	.266	1.563	.711	.906	1.188	.120
10-107415	14	.8750-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	.906	1.188	.120
10-107416	16S	1.0000-0.1P-0.2L-DS	.406	.141	.266	1.563	.711	.969	1.281	.120
10-107417	16	1.0000-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	.969	1.281	.120
10-107418	18	1.1250-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.062	1.375	.120
10-107420	20	1.2500-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.156	1.500	.120
10-107422	22	1.3750-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.250	1.625	.120
10-107424	24	1.5000-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.375	1.750	.147
10-107428	28	1.7500-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.562	2.000	.147
10-107432	32	2.0000-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.750	2.250	.173
10-107436	36	2.2500-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	1.938	2.500	.173
10-107440	40	2.5000-0.1P-0.2L-DS	.625	.155	.312	2.125	.985	2.188	2.750	.173
10-107444	44	2.7500-0.1P-0.2L-DS	.625	.155	.438	2.375	1.110	2.375	3.000	.209

*For complete order number see page 4

QWL 10-1076XX straight plug



All dimensions for reference only.

Part Number*	Shell Size	A Thread Class 2B	B ±.020	D Dia +.010 - .000	G ±.030	J ±.005	N ±.010	Q Dia Max	V Thread (Plated) Class 2A-LH	Z Max
10-107610	10S	.6250-0.05P-0.1L-DS	.406	.735	.053	.531	.563	.882	.500-28UNEF	.603
10-107612	12S	.7500-0.1P-0.2L-DS	.406	.859	.109	.531	.563	1.010	.625-24UNEF	.603
10-107613	12	.7500-0.1P-0.2L-DS	.578	.859	.077	.719	.750	1.010	.625-24UNEF	.852
10-107614	14S	.8750-0.1P-0.2L-DS	.406	.985	.234	.531	.563	1.137	.750-20UNEF	.603
10-107615	14	.8750-0.1P-0.2L-DS	.578	.985	.077	.719	.750	1.137	.750-20UNEF	.852
10-107616	16S	1.0000-0.1P-0.2L-DS	.406	1.109	.234	.531	.563	1.264	.875-20UNEF	.603
10-107617	16	1.0000-0.1P-0.2L-DS	.578	1.109	.141	.719	.750	1.264	.875-20UNEF	.852
10-107618	18	1.1250-0.1P-0.2L-DS	.578	1.235	.266	.719	.750	1.455	1.000-20UNEF	.852
10-107620	20	1.2500-0.1P-0.2L-DS	.578	1.359	.266	.719	.750	1.551	1.1250-18UNEF	.852
10-107622	22	1.3750-0.1P-0.2L-DS	.578	1.485	.266	.719	.750	1.678	1.2500-18UNEF	.852
10-107624	24	1.5000-0.1P-0.2L-DS	.594	1.609	.266	.719	.812	1.806	1.375-18UNEF	.852
10-107628	28	1.7500-0.1P-0.2L-DS	.594	1.859	.266	.719	.812	2.060	1.625-18UNEF	.852
10-107632	32	2.0000-0.1P-0.2L-DS	.594	2.109	.266	.719	.875	2.315	1.875-16UN	.852
10-107636	36	2.2500-0.1P-0.2L-DS	.556†	2.359	.285**	.719	.875	2.569	2.0625-16UNS	.852
10-107640	40	2.5000-0.1P-0.2L-DS	.556†	2.609	.285**	.719	.875	2.824	2.3125-16UNS	.852
10-107644	44	2.7500-0.1P-0.2L-DS	.700††	2.922	.141***	.719	1.000	3.142	2.625-16UN	1.103
10-107648	48	3.0000-0.1P-0.2L-DS	.719	3.172	.141	.719	1.000	3.381	2.875-16UN	1.093

*For complete order number see page 4

**Applicable Tolerance is ±.033

***Applicable Tolerance is +.030

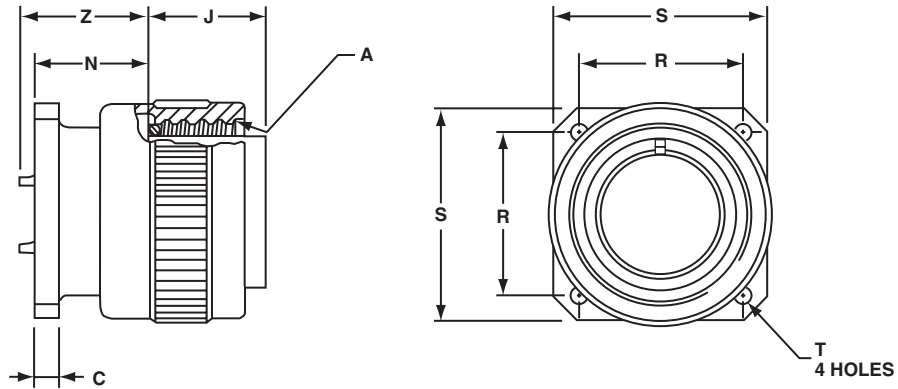
-.020

†Applicable Tolerance is ±.026

††Applicable Tolerance is +.013

-.023

QWL 10-1077XX flange mount plug



All dimensions for reference only.

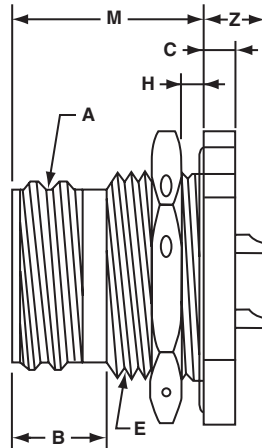
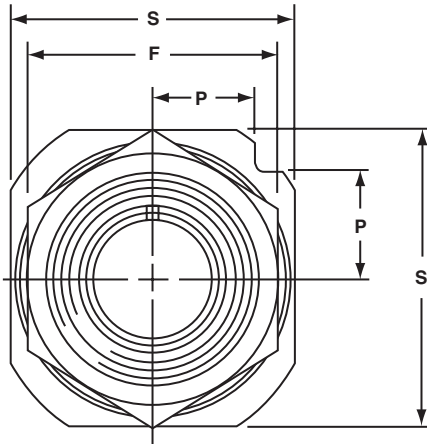
Part Number*	Shell Size	A Thread Class 2B	C ±.005	J ±.005	N ±.020	R ±.005	S ±.020	T Thread	Z Max
10-107710	10S	.6250-0.05P-0.1L-DS	.125	.531	.438	.562	.781	4-40 NC	.602
10-107712	12S	.7500-0.1P-0.2L-DS	.156	.531	.438	.812	1.062	4-40 NC	.602
10-107713	12	.7500-0.1P-0.2L-DS	.156	.719	.688	.812	1.062	4-40 NC	.852
10-107714	14S	.8750-0.1P-0.2L-DS	.156	.531	.438	.812	1.062	4-40 NC	.602
10-107715	14	.8750-0.1P-0.2L-DS	.156	.719	.688	.812	1.062	4-40 NC	.852
10-107716	16S	1.0000-0.1P-0.2L-DS	.156	.531	.438	1.000	1.312	6-32 NC	.602
10-107717	16	1.0000-0.1P-0.2L-DS	.156	.719	.688	1.000	1.312	6-32 NC	.852
10-107718	18	1.1250-0.1P-0.2L-DS	.156	.719	.688	1.000	1.312	6-32 NC	.852
10-107720	20	1.2500-0.1P-0.2L-DS	.188	.719	.688	1.250	1.625	10-32 NF	.852
10-107722	22	1.3750-0.1P-0.2L-DS	.188	.719	.688	1.250	1.625	10-32 NF	.852
10-107724	24	1.5000-0.1P-0.2L-DS	.188	.719	.688	1.562	2.000	10-32 NF	.852
10-107728	28	1.7500-0.1P-0.2L-DS	.188	.719	.688	1.562	2.000	10-32 NF	.852
10-107732	32	2.0000-0.1P-0.2L-DS	.250	.719	.781	1.812	2.500	10-32 NF	.852
10-107736	36	2.2500-0.1P-0.2L-DS	.250	.719	.781	1.812	2.500	10-32 NF	.852
10-107740	40	2.5000-0.1P-0.2L-DS	.250	.719	.781	2.250	3.031	10-32 NF	.852
10-107744	44	2.7500-0.1P-0.2L-DS	.250	.719	1.000	2.375	3.031	10-32 NF	.852
10-107748	48	3.0000-0.1P-0.2L-DS	.250	.719	1.000	2.562	3.250	10-32 NF	.852

*For complete order number see page 4

QWL

10-1079XX

jam nut receptacle (box mount)



Shell Size	K Dia +.005 -.000	G ±.003	U ±.005
10	.693	.451	.531
12, 13	.880	.518	.625
14, 15	1.005	.562	.688
16, 17	1.130	.606	.750
18	1.255	.699	.875
20	1.380	.739	.938
22	1.505	.783	1.000
24	1.630	.830	1.062
28	1.880	.919	1.188
32	2.130	1.007	1.312
36	2.380	1.096	1.438
40	2.630	1.183	1.562
44	2.880	1.292	1.703
48	3.130	1.378	1.828

mounting dimensions

Mounting dimensions diagram showing dimensions: U (mounting hole diameter), G (mounting hole offset), K (shell diameter), and a .125 ±.002 DIA. PIN.

All dimensions for reference only.

Part Number*	Shell Size	A Thread Class 2A	B ±.010	C ±.005	E Thread Class 2A (Plated)	F Hex ±.016	H Panel Thickness		M ±.010	P ±.010	S ±.010	Z Max
							Min	Max				
10-107910	10S	.6250-0.05P-0.1L-DS	.385	.125	.6875-24NEF	.875	.094	.227	.844	.375	1.062	.295
10-107912	12S	.7500-0.1P-0.2L-DS	.385	.125	.875-20UNEF	1.062	.094	.200	.906	.442	1.250	.232
10-107913	12	.7500-0.1P-0.2L-DS	.585	.125	.875-20UNEF	1.062	.094	.282	1.188	.442	1.250	.389
10-107914	14S	.8750-0.1P-0.2L-DS	.385	.125	1.000-20UNEF	1.250	.094	.200	.906	.486	1.376	.232
10-107915	14	.8750-0.1P-0.2L-DS	.585	.125	1.000-20UNEF	1.250	.094	.282	1.188	.486	1.376	.389
10-107916	16S	1.0000-0.1P-0.2L-DS	.385	.125	1.125-18NEF	1.312	.094	.200	.906	.530	1.500	.232
10-107917	16	1.0000-0.1P-0.2L-DS	.585	.125	1.125-18NEF	1.312	.094	.282	1.188	.530	1.500	.389
10-107918	18	1.1250-0.1P-0.2L-DS	.585	.188	1.250-18NEF	1.500	.094	.250	1.156	.623	1.750	.420
10-107920	20	1.2500-0.1P-0.2L-DS	.585	.188	1.375-18NEF	1.562	.094	.250	1.156	.663	1.875	.420
10-107922	22	1.3750-0.1P-0.2L-DS	.585	.188	1.500-18NEF	1.750	.094	.250	1.156	.707	2.000	.420
10-107924	24	1.5000-0.1P-0.2L-DS	.585	.188	1.625-18NEF	1.875	.094	.312	1.219	.751	2.125	.357
10-107928	28	1.7500-0.1P-0.2L-DS	.585	.188	1.875-16UN	2.125	.094	.312	1.219	.840	2.375	.357
10-107932	32	2.0000-0.1P-0.2L-DS	.585	.219	2.125-16UN	2.375	.094	.282	1.250	.928	2.625	.326
10-107936	36	2.2500-0.1P-0.2L-DS	.585	.219	2.375-16UN	2.625	.094	.282	1.250	1.017	2.875	.326
10-107940	40	2.5000-0.1P-0.2L-DS	.585	.219	2.625-16UN	2.875	.094	.282	1.250	1.104	3.125	.326
10-107944	44	2.7500-0.1P-0.2L-DS	.585	.219	2.875-16UN	3.125	.094	.422	1.390	1.213	3.406	.436
10-107948	48	3.0000-0.1P-0.2L-DS	.585	.219	3.125-16UN	3.375	.094	.422	1.390	1.299	3.656	.436

*For complete order number see page 4.

QWL

insert arrangements - selection guide

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
10S-2	A	1					1
12S-3	A	2					2
12S-4	D	1					1
12-5	D	1				1	
14S-1	A	3					3
14S-2	Inst.	4					4
14S-4	D	1					1
14S-5	Inst.	5					5
14S-6	Inst.	6					6
14S-7	A	3					3
14S-9	A	2					2
14S-10	Inst.	4					4
14S-12	A	3					3
14-3	A	1			1		
16S-1	A	7					7
16S-3	B	1					1
16S-4	D	2					2
16S-5	A	3					3
16S-6	A	3					3
16S-8	A	5					5
16-2	E	1				1	
16-7	A	3			1		2
16-9	A	4				2	2
16-10	A	3				3	
16-11	A	2				2	
16-12	A	1		1			
16-13	A	2				2	
18-1	A/Inst.	10					10
18-3	D	2				2	
18-4	D	4					4
18-5	D	3				2	1
18-6	D	1		1			
18-7	B	1			1		
18-8	A	8				1	7
18-9	Inst.	7				2	5
18-10	A	4				4	
18-11	A	5				5	
18-12	A	6					6
18-13	A	4			1	3	
18-14	A	2		1			1
18-15	A	4				4	
18-16	C	1				1	
18-17	Inst.	7				2	5
18-19	A	10					10
18-20	A	5					5
18-22	D	3					3
18-24	A/Inst.	10					10
18-29	A	5					5
18-30	A	5					5
18-31	A	5					5

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
20-2	D	1	1				
20-3	D	3				3	
20-4	D	4				4	
20-6	D	3					3
20-7	D/A	8					8
20-8	Inst.	6			2		4
20-9	D/A	8				1	7
20-11	Inst.	13					13
20-12	A	2		1			1
20-14	A	5			2	3	
20-15	A	7				7	
20-16	A	9				2	7
20-17	A	6				5	1
20-18	A	9				3	6
20-19	A	3			3		
20-20	A	4		1		3	
20-21	A	9				1	8
20-22	A	6			3		3
20-23	A	2			2		
20-24	A	4			2		2
20-25	Inst.	13					13
20-27	A	14					14
20-29	A	17					17
20-30	Inst.	13					13
20-33	A	11					11
22-1	D	2			2		
22-2	D	3			3		
22-4	A	4			2	2	
22-5	D	6				2	4
22-6	D	3			2		1
22-7	E	1	1				
22-8	E	2				2	
22-9	E	3				3	
22-10	E	4					4
22-11	B	2					2
22-12	D	5			2		3
22-13	D/A	5				4	1
22-14	A	19					19
22-15	E/A	6				5	1
22-16	A	9				3	6
22-17	D/A	9				1	8
22-18	D/A	8					8
22-19	A	14					14
22-20	A	9					9
22-21	A	3	1				2
22-22	A	4			4		
22-23	D/A	8				8	
22-24	D/A	6				2	4
22-27	D/A	9			1		8
22-28	A	7				7	

QWL

insert arrangements, cont.

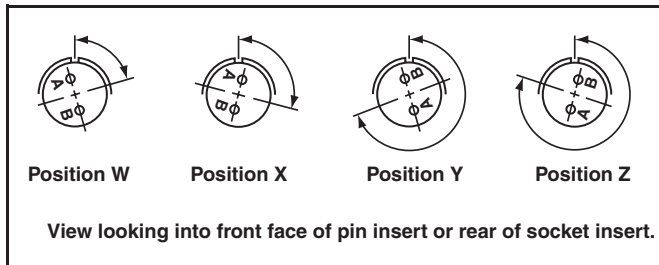
Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
22-33	D/A	7					7
22-34	D	5				3	2
22-36	D/A	8				8	
24-2	D	7				7	
24-3	D	7				2	5
24-5	A	16					16
24-6	D/A	8				8	
24-7	A	16				2	14
24-9	A	2		2			
24-10	A	7			7		
24-11	A	9			3	6	
24-12	A	5		2		3	
24-16	D/A	7			1	3	3
24-17	D	5				2	3
24-20	D	11				2	9
24-21	D	10			1		9
24-22	D	4			4		
24-27	E	7					7
24-28	Inst.	24					24
28-1	D/A	9			3	6	
28-2	D	14				2	12
28-3	E	3			3		
28-4	E/D	9				2	7
28-5	D	5		2		1	2
28-6	D	3		3			
28-7	D	2		2			
28-8	E/D/A	12				2	10
28-9	D	12				6	6
28-10	D/A	7		2	2	3	
28-11	A	22				4	18
28-12	A	26					26
28-13	A	26					26
28-15	A	35					35
28-16	A	20					20
28-17	B/D/A	15					15
28-18	C/D/A/Inst.	12					12
28-19	B/D/A	10				4	6
28-20	A	14				10	4
28-21	A	37					37
28-22	D	6		3			3

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
32-1	E/D	5	2			3	
32-2	E	5		3			2
32-3	D	9	1	2		2	4
32-4	A/D	14				2	12
32-5	D	2	2				
32-6	A	23		2	3	2	16
32-7	Inst./A	35				7	28
32-8	A	30				6	24
32-9	D	14		2			12
32-10	E/B/D/A	7		2	2		3
32-12	A/D	15				5	10
32-13	D	23				5	18
32-15	D	8	2			6	
32-16	A	23		2	3	2	16
32-17	D	4		4			
32-22	A	54					54
36-1	D	22				4	18
36-3	D	6	3			3	
36-4	D/A	3	3				
36-5	A	4	4				
36-6	A	6	2	4			
36-7	A	47				7	40
36-8	A	47				1	46
36-9	A	31		1	2	14	14
36-10	A	48					48
36-11	A	48					48
36-12	A	48					48
36-13	E/A	17				2	15
36-14	D	16			5	5	6
36-15	D/A	35					35
36-16	A	47				7	40
36-17	A	47				7	40
36-18	A	31		1	2	14	14
36-20	A	34			2	2	30
36-52	A	52					52
40-1	D	30				6	24
40-9	A	47			1	22	24
40-56	A	85					85
48-62	D	85					85

QWL alternate positioning

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

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



The following insert arrangements have the same alternate insert rotations for W, X, Y and Z, which are:

Degrees			
W	X	Y	Z
80	110	250	280

16-7	20-22	22-29	24-17	28-16	32-13
18-5	22-6	22-33	24-20	28-17	32-22
18-9	22-12	22-34	24-21	28-19	32-AF
18-13	22-14	24-1	24-28	28-20	36-1
18-14	22-15	24-3	28-1	28-21	36-7
20-7	22-16	24-4	28-4	32-1	36-8
20-8	22-17	24-5	28-8	32-3	36-13
20-9	22-18	24-6	28-9	32-4	40-AR
20-12	22-19	24-7	28-10	32-6	40-AS
20-14	22-21	24-12	28-11	32-9	40-AT
20-16	22-24	24-14	28-14	32-10	40-AU
20-20	22-25	24-16	28-15	32-12	

Insert Arrangement	Degrees			
	W	X	Y	Z
10SL-4	63	-	-	-
12S-3	70	145	215	290
14S-2	-	120	240	-
14S-5	-	110	-	-
14S-7	90	180	270	-
14S-9	70	145	215	290
16-9	35	110	250	325
16-10	90	180	270	-
16-11	35	110	250	325
16-13	35	110	250	325
16S-1	80	-	-	280
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-6	90	180	270	-
16S-8	-	170	265	-
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-8	70	-	-	290
18-10	-	120	240	-
18-11	-	170	265	-
18-12	80	-	-	280
18-15	-	120	240	-
18-20	90	180	270	-
18-22	70	145	215	290
18-29	90	180	270	-
20-3	70	145	215	290
20-4	45	110	250	-
20-5	35	110	250	325
20-6	70	145	215	290
20-15	80	-	-	280
20-17	90	180	270	-

Insert Arrangement	Degrees			
	W	X	Y	Z
20-18	35	110	250	325
20-19	90	180	270	-
20-21	35	110	250	325
20-23	35	110	250	325
20-24	35	110	250	325
20-27	35	110	250	325
20-29	80	-	-	280
22-1	35	110	250	325
22-2	70	145	215	290
22-4	35	110	250	325
22-5	35	110	250	325
22-8	35	110	250	325
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-13	35	110	250	325
22-20	35	110	250	325
22-22	-	110	250	-
22-23	35	-	250	-
22-27	80	-	250	280
22-28	80	-	-	280
22-63	20	-	-	-
24-2	80	-	-	280
24-9	35	110	250	325
24-10	80	-	-	280
24-11	35	110	250	325
24-22	45	110	250	-
24-27	80	-	-	280
28-2	35	110	250	325
28-3	70	145	215	290
28-5	35	110	250	325
28-6	70	145	215	290

Insert Arrangement	Degrees			
	W	X	Y	Z
28-7	35	110	250	325
28-12	90	180	270	-
28-18	70	145	215	290
28-22	70	145	215	290
28-AY	45	110	250	-
32-2	70	145	215	290
32-5	35	110	250	325
32-7	80	125	235	280
32-8	80	125	235	280
32-15	35	110	250	280
32-17	45	110	250	-
32-25	60	120	-	-
32-48	80	-	-	-
32-64	80	100	110	250
32-68	30	-	-	-
32-82	30	-	-	-
36-3	70	145	215	290
36-4	70	145	215	290
36-5	-	120	240	-
36-6	35	110	250	325
36-9	80	125	235	280
36-10	80	125	235	280
36-14	90	180	270	-
36-15	60	125	245	305
36-AF	65	-	-	-
40-1	65	130	235	300
40-5	33	-	-	270
40-9	65	125	225	310
40-10	65	125	225	310
40-35	70	130	230	290
40-AD	45	-	-	-
40-AG	37	74	285	322
40-AP	35	110	250	325
40-AV	90	180	270	-

QWL

contact arrangements

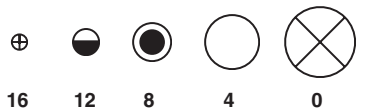
front face of pin insert or rear face of socket insert illustrated

Insert Arrangement	10S-2	12S-3	12S-4	12-5	14S-1	14S-2		
Service Rating	A	A	A	D	A	Inst.		
Number of Contacts	1	2	1	1	3	4		
Contact Size	16	16	16	12	16	16		
Insert Arrangement	14S-4	14S-5	14S-6	14S-7	14S-9	14S-10		
Service Rating	D	Inst.	Inst.	A	A	Inst.		
Number of Contacts	1	5	6	3	2	4		
Contact Size	16	16	16	16	16	16		
Insert Arrangement	14S-12	14-3	16S-1	16S-3	16S-4	16S-5		
Service Rating	A	A	A	B	D	A		
Number of Contacts	3	1	7	1	2	3		
Contact Size	16	8	16	16	16	16		
Insert Arrangement	16S-6	16S-8	16-2	16-7	16-9			
Service Rating	A	A	E	A	A			
Number of Contacts	3	5	1	1 2	2 2			
Contact Size	16	16	12	8 16	12 16			
				16	12	8	4	0

QWL contact arrangements

front face of pin insert or rear face of socket insert illustrated

Insert Arrangement	16-10	16-11	16-12	16-13	18-1	18-3
Service Rating	A	A	A	A	B, C, F, G = A; Bal. = Inst.	D
Number of Contacts	3	2	1	2*	10	2
Contact Size	12	12	4	12	16	12
Insert Arrangement	18-4	18-5	18-6	18-7	18-8	18-9
Service Rating	D	D	D	B	A	Inst.
Number of Contacts	4	2 1	1	1	1 7	2 5
Contact Size	16	12 16	4	8	12 16	12 16
Insert Arrangement	18-10	18-11	18-12	18-13	18-14	18-15
Service Rating	A	A	A	A	A	A
Number of Contacts	4	5	6	1 3	1 1	4**
Contact Size	12	12	16	8 12	4 16	12
Insert Arrangement	18-16	18-17	18-19	18-20	18-22	18-24
Service Rating	C	Inst.	A	A	D	B, C, F, G = A; Bal. = Inst.
Number of Contacts	1	2 5	10	5	3	10
Contact Size	12	12 16	16	16	16	16



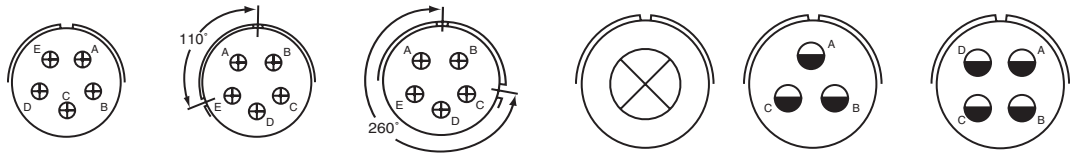
CONTACT LEGEND

16 12 8 4 0

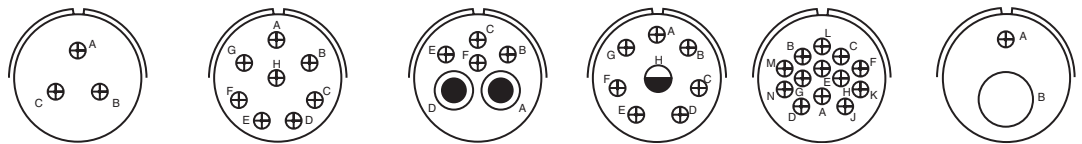
* A = Iron; B = Constantan
** A, C = Iron; B, D = Constantan

QWL contact arrangements

front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	18-29	18-30	18-31	20-2	20-3	20-4
Service Rating	A	A	A	D	D	D
Number of Contacts	5	5	5	1	3	4
Contact Size	16	16	16	0	12	12



Insert Arrangement	20-6	20-7	20-8	20-9	20-11	20-12
Service Rating	D	A, B, H, G = D; C, D, E, F = A	Inst.	H = D; Bal. = A	Inst.	A
Number of Contacts	3	8	2 4	1 7	13	1 1
Contact Size	16	16	8 16	12 16	16	4 16



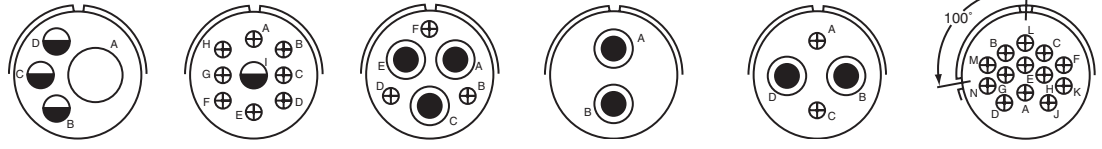
Insert Arrangement	20-14	20-15	20-16	20-17	20-18	20-19
Service Rating	A	A	A	A	A	A
Number of Contacts	2 3	7	2 7	5 1	3 6	3
Contact Size	8 12	12	12 16	12 16	12 16	8



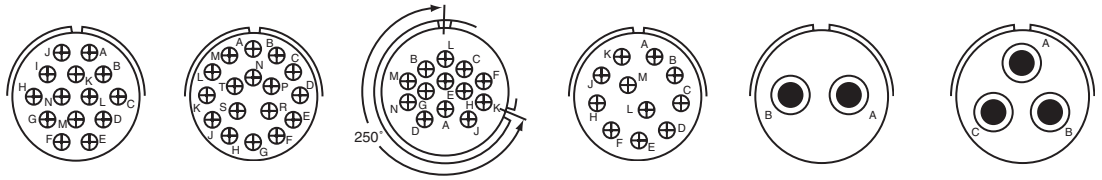
CONTACT LEGEND 16 12 8 4 0

QWL contact arrangements

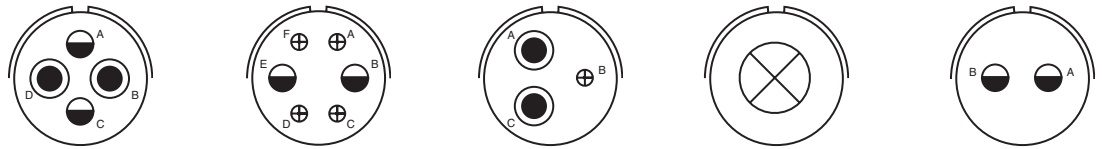
front face of pin insert or rear face of socket insert illustrated



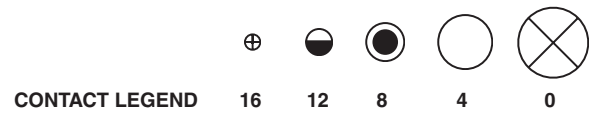
Insert Arrangement	20-20	20-21	20-22	20-23	20-24	20-25
Service Rating	A	A	A	A	A	Inst.
Number of Contacts	1 3	1 8	3 3	2	2 2	13
Contact Size	4 12	12 16	8 16	8	8 16	16



Insert Arrangement	20-27	20-29	20-30	20-33	22-1	22-2
Service Rating	A	A	Inst.	A	D	D
Number of Contacts	14	17	13	11	2	3
Contact Size	16	16	16	16	8	8



Insert Arrangement	22-4	22-5	22-6	22-7	22-8
Service Rating	A	D	D	E	E
Number of Contacts	2 2	2 4	2 1	1	2
Contact Size	8 12	12 16	8 16	0	12



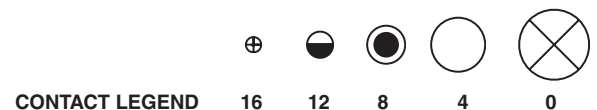
QWL contact arrangements

front face of pin insert or rear face of socket insert illustrated

Insert Arrangement	22-9	22-10	22-11	22-12	22-13
Service Rating	E	E	B	D	E = D; A, B, C, D = A
Number of Contacts	3	4	2	2 3	4 1
Contact Size	12	16	16	8 16	12 16

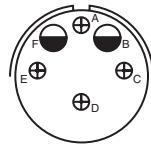
Insert Arrangement	22-14	22-15	22-16	22-17	22-18
Service Rating	A	D = E; A, B, C, E, F = A	A	A = D; Bal. = A	A, B, F, G, H = D; C, D, E = A
Number of Contacts	19	5 1	3 6	1 8	8
Contact Size	16	12 16	12 16	12 16	16

Insert Arrangement	22-19	22-20	22-21	22-22	22-23
Service Rating	A	A	A	A	H = D; Bal. = A
Number of Contacts	14	9	1 2	4	8
Contact Size	16	16	0 16	8	12

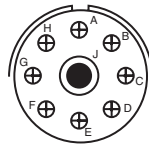


QWL contact arrangements

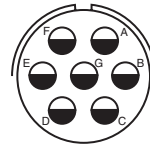
front face of pin insert or rear face of socket insert illustrated



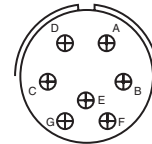
22-24
Service Rating C, D, E = D; A, B, F = A
Number of Contacts 2 4
Contact Size 12 16



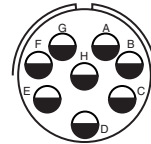
22-27
Service Rating J = D; Bal. = A
Number of Contacts 1 8
Contact Size 8 16



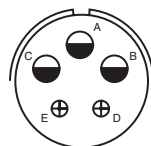
22-28
Service Rating A
Number of Contacts 7
Contact Size 12



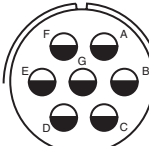
22-33
Service Rating A, B, C, D = D; E, F, G = A
Number of Contacts 7
Contact Size 16



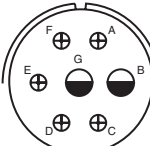
22-36
Service Rating H = D; Bal. = A*
Number of Contacts 8
Contact Size 12



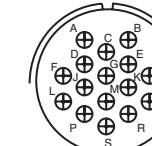
22-34
Service Rating D
Number of Contacts 3 2
Contact Size 12 16



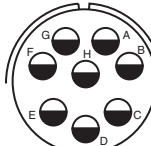
24-2
Service Rating D
Number of Contacts 7
Contact Size 12



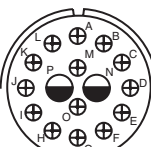
24-3
Service Rating D
Number of Contacts 2 5
Contact Size 12 16



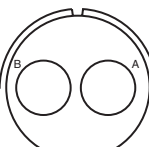
24-5
Service Rating A
Number of Contacts 16
Contact Size 16



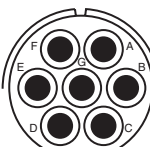
24-6
Service Rating A, G, H = D; Bal. = A
Number of Contacts 8
Contact Size 12



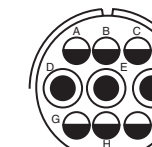
24-7
Service Rating A
Number of Contacts 2 14
Contact Size 12 16



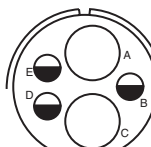
24-9
Service Rating A
Number of Contacts 2
Contact Size 4



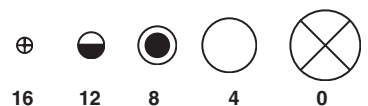
24-10
Service Rating A
Number of Contacts 7
Contact Size 8



24-11
Service Rating A
Number of Contacts 3 6
Contact Size 8 12



24-12
Service Rating A
Number of Contacts 2 3
Contact Size 4 12



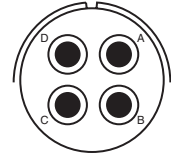
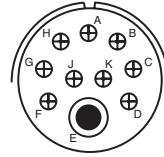
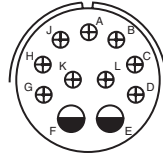
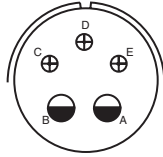
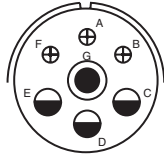
CONTACT LEGEND

16 12 8 4 0

* A, C, E, G = Iron
 B, D, F, H = Constantan

QWL contact arrangements

front face of pin insert or rear face of socket insert illustrated



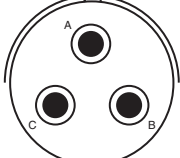
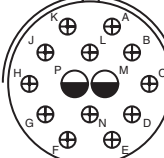
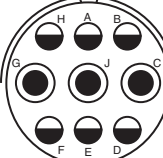
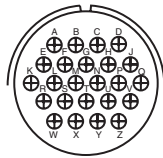
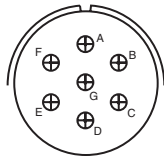
Insert Arrangement	24-16	
Service Rating	A, B, F, G = D; C, D, E, = A	
Number of Contacts	1 3 3	
Contact Size	8 12 16	

Insert Arrangement	24-17	
Service Rating	D	
Number of Contacts	2 3	
Contact Size	12 16	

Insert Arrangement	24-20	
Service Rating	D	
Number of Contacts	2 9	
Contact Size	12 16	

Insert Arrangement	24-21	
Service Rating	D	
Number of Contacts	1 9	
Contact Size	8 16	

Insert Arrangement	24-22	
Service Rating	D	
Number of Contacts	4	
Contact Size	8	



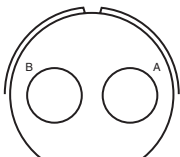
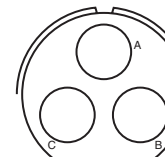
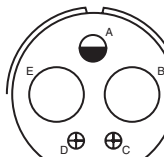
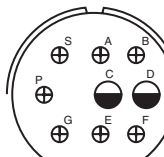
Insert Arrangement	24-27	
Service Rating	E	
Number of Contacts	7	
Contact Size	16	

Insert Arrangement	24-28	
Service Rating	Inst.	
Number of Contacts	24	
Contact Size	16	

Insert Arrangement	28-1	
Service Rating	A, J, E = D; Bal. = A	
Number of Contacts	3 6	
Contact Size	8 12	

Insert Arrangement	28-2	
Service Rating	D	
Number of Contacts	2 12	
Contact Size	12 16	

Insert Arrangement	28-3	
Service Rating	E	
Number of Contacts	3	
Contact Size	8	



Insert Arrangement	28-4	
Service Rating	G, P, S = E; Bal. = D	
Number of Contacts	2 7	
Contact Size	12 16	

Insert Arrangement	28-5	
Service Rating	D	
Number of Contacts	2 1 2	
Contact Size	4 12 16	

Insert Arrangement	28-6	
Service Rating	D	
Number of Contacts	3	
Contact Size	4	

Insert Arrangement	28-7	
Service Rating	D	
Number of Contacts	2	
Contact Size	4	

