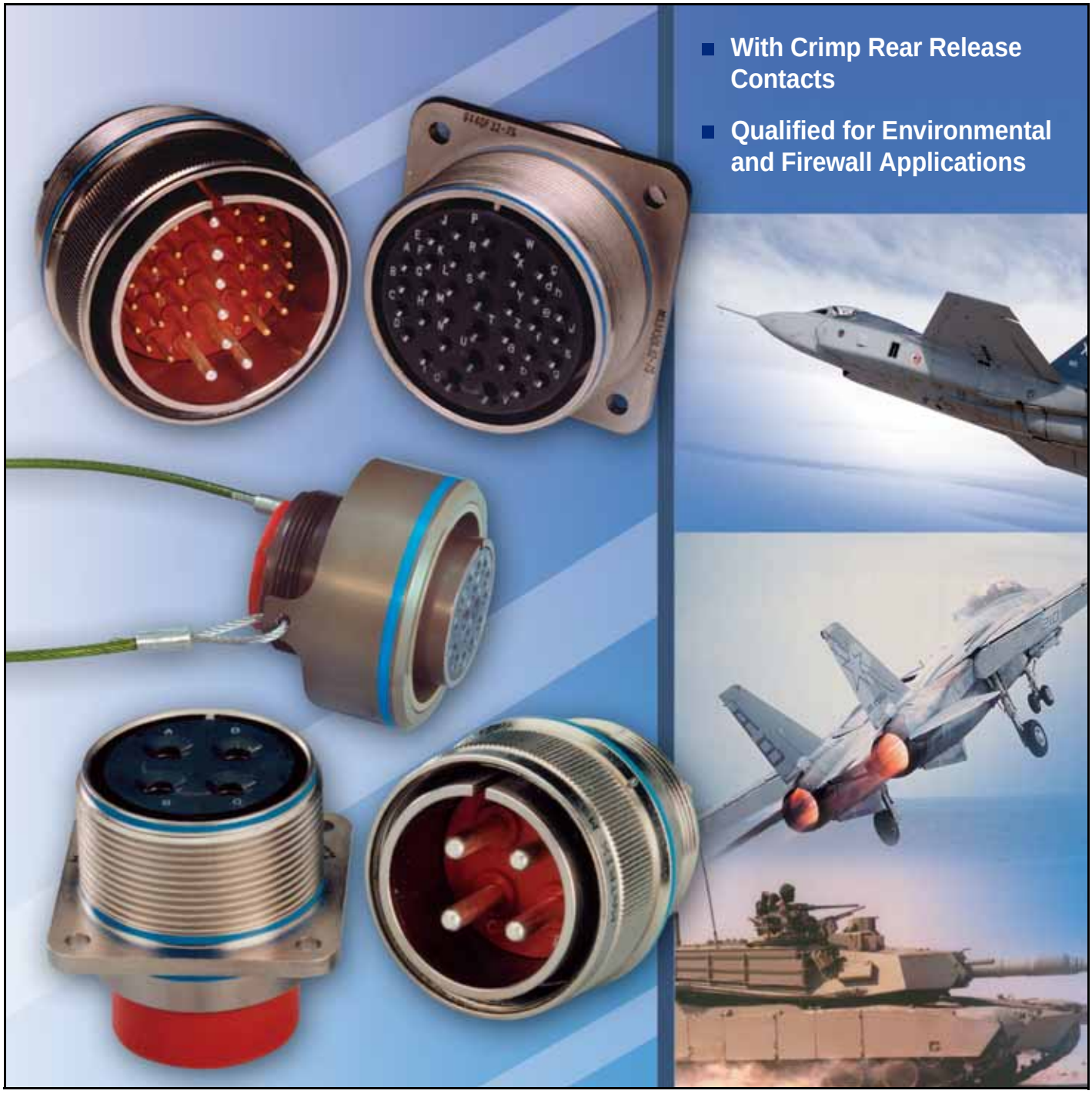
Amphenol® /Matrix® MS/Standard MIL-DTL-5015 Cylindrical Connectors

12-026-4



Amphenol

This catalog covers the Amphenol ® /Matrix ® MIL-DTL-5015 Family of Connectors which incorporate rear release crimp contacts. MIL-C-5015 has been replaced by MIL-DTL-5015 for all Amphenol/Matrix rear release crimp type connectors. These connectors can be ordered through Amphenol, by military or equivalent proprietary part numbers.

Should more information be required concerning the connectors covered in this publication, or if special application needs arise, please contact:

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www.amphenol-aerospace.com

The MIL-DTL-5015 crimp rear release type connector covered in this catalog, completes the MS/Standard family of connectors, so that now Amphenol can provide users with the broadest range of product available in the marketplace.

Catalog 12-020, Amphenol ® MIL-DTL-5015 and MIL-5015 Type Standard Cylindrical Connectors, is also available upon request. This catalog covers the MIL-5015 cylindrical connectors with solder contacts. It also covers the MIL-5015 type connectors with proprietary crimp contacts in a very broad range of insert patterns - up to 280 different arrangements. Within these connector styles, MIL-C-5015 has been replaced as follows: Environmental classes F and R are updated to and produced in strict accordance to MIL-DTL-5015. Classes A, C and E are still produced, but are no longer listed on the qualified products listing (QPL).

Also, ask for these additional Amphenol Product Catalogs:

Amphenol Industrial Connector Brochure, SL-381, for an overview of the industrial family of connectors.

Amphenol Brochure SL-100, which provides an overview of all products, military and industrial, offered through Amphenol Aerospace.

Visit our website www.amphenol-aerospace.com for this catalog and other catalogs of Amphenol products.

TABLE OF CONTENTS

Amphenol ® /Matrix ® MS/Standard Cylindrical MIL-DTL-5015 Connectors with Crimp Rear Release Contacts

Introduction, Table of Contents. 1

General Description, Features and Benefits. 2

Class Descriptions, Performance Specifications 3

Shell Styles, Dimensional Data:

Wall Mounting Receptacle 4

Cable Connecting Receptacle 5

Box Mounting Receptacle, ...6

Jam Nut Receptacle. 7

Straight Plug. 8

Straight Plug with Self-Locking Coupling Nut. 9

Quick Disconnect Plugs, with/without Lanyards. 10

Insert Arrangement Chart 11, 12

Insert Alternate Positions 13

Insert Arrangement Patterns. . . . . 14 - 24

Contact Information, Sealing Plugs, Crimping and Insertion/Removal Tools. 25

Protection Caps 26-28

How to Order 29

Additional MS/Standard Connectors offered by Amphenol. 30

Sales Office Listing

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

Amphenol ®/Matrix ®MS/Standard Cylindrical MIL-DTL-5015 Connectors with crimp rear release contacts

MS3450
wall mounting receptacle

MS3451
cable connecting receptacle

MS3452
box mounting receptacle

MS3454
jam nut receptacle

MS3456
plug with threaded coupling

MS3459
plug with self-locking coupling nut

Proprietary quick disconnect plug with/without lanyard

Amphenol broadens their MS/Standard family of connectors with the MIL-DTL-5015 Crimp Rear Release Series.

This series provides an alternative to the older MIL-C-5015 solder type. It bridges the gap between an old connector standard and the environmental and high performance needs of current technologies.

DESIGN CHARACTERISTICS

- Medium to heavy weight cylindrical
- MS345( ) series intermateable with existing MIL-DTL-5015 solder or crimp versions on existing equipment
- Captive coupling nut mechanism, utilizes retaining rings in combination with “L” washers to prevent inadvertent disassembly
- Multiple interlock systems ensure permanent insert retention
- Positive control of dielectric separation with guaranteed ease of contact insertion
- Positive contact retention provided by a closely toleranced damage-proof metal retention clip
- Completely sealed against environmental extremes with -
  - individual contact seals (conical risers on pin interface)
  - interfacial seals between contacts
  - peripheral gasket shell-to-shell seals
  - redundant rear wire seals and insert-to-shell seals

CUSTOMER OPTIONS

- Seven mounting styles, in shell sizes 8 to 48*
- Threaded coupling or self-locking plug (MS3459) with an internal racheting mechanism to prevent unmating due to vibration and shock, eliminating the need for safety wiring
- Proprietary quick disconnect plug, with or without lanyard available
- Classes include aluminum or stainless steel shells, or firewall capability
- MS and Proprietary versions available
- Some styles are supplied to McDonnell Douglas Specification BAN 7025, DC60 Series
- Accommodation of contact sizes 0 to 16
- Over 100 insert arrangement patterns available, accommodating from a minimum of 1 to a maximum of 85 circuits
- Alternate positioning available
- Thermocouple pin and socket contacts are available**

NOTE: MIL-C-5015 is superceded to MIL-DTL-5015 for all Amphenol/Matrix rear release crimp type contacts.

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

** Consult Amphenol, Sidney, NY for information on thermocouple contacts.

Amphenol ®/Matrix ®MS/Standard Cylindrical MIL-DTL-5015 Connectors
class descriptions, performance specifications

CLASS DESCRIPTIONS

Military MIL-DTL-5015	
Class L*	aluminum shell, electroless nickel finish, fluid resistant insert
Class W	aluminum shell, cadmium olive drab finish, fluid resistant insert
Class LS	stainless steel shell, passivated, fluid resistant insert
Class KT**	firewall, steel shell, cadmium olive drab finish, non-flammable hard dielectric and fluid resistant insert
Class KS	firewall, stainless steel shell, passivated, non-flammable hard dielectric and fluid resistant insert

* Class L inactivates older Class U (aluminum, electroless nickel)

** Class KT (ferrous alloy, cadmium/olive drab) inactivates older Class K (ferrous alloy, electroless nickel)

Amphenol/Matrix	
Class A	aluminum shell, black anodize finish, fluid resistant insert
Class F	aluminum shell, electroless nickel finish, fluid resistant insert
Class W	aluminum shell, cadmium/olive drab finish, fluid resistant insert
Class FS	stainless steel shell, passivated, fluid resistant insert
Class KT	firewall, steel shell, cadmium olive drab finish, non-flammable hard dielectric and fluid resistant insert
Class KS	firewall, stainless steel shell, passivated, non-flammable hard dielectric and fluid resistant insert

PERFORMANCE SPECIFICATIONS

VOLTAGE RATING

Altitude	Inst.	A	D	E	B	C
Sea Level	1000	2000	2800	3500	4500	7000
50,000 ft.	400	600	675	750	825	975
70,000 ft.	260	360	400	440	480	560
110,000 ft.	200	200	200	200	200	200

SHOCK

Wired, mated connectors are subjected to one shock in each of three mutually perpendicular axes with pulse of an approximate half sine wave of 50g magnitude for a duration of 11 milliseconds. All contacts wired in series circuit with 100 ±10 milliamperes of current flow.

OPERATING TEMPERATURE RANGE

Classes L, LS and KS have temperature range of
–55°C (–75°F) to 200°C (392°F)
Classes W and KT have temperature range of
–55°C (–75°F) to 175°C (347°F)

ENVIRONMENTAL SEAL

Wired, mated connectors with the specified accessory attached will meet the altitude immersion test specified in MIL-DTL-5015.

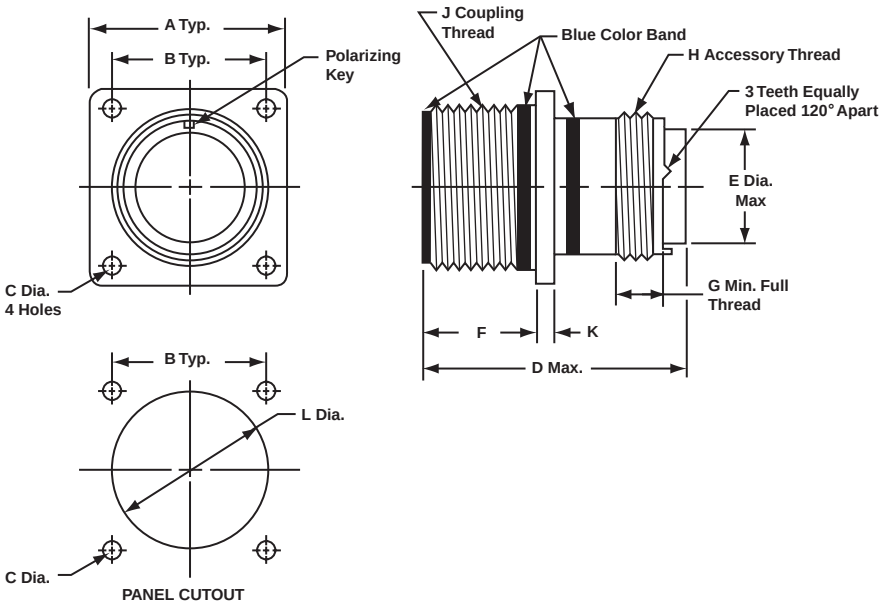
DURABILITY

Minimum of 100 mating cycles.

MS/Standard
MS3450
wall mounting receptacle

Receptacle Shell, Flange Wall Mount, Threaded Coupling

Military No. MS3450
Amphenol/Matrix No. 9440



To complete order number see how to order, page 29.

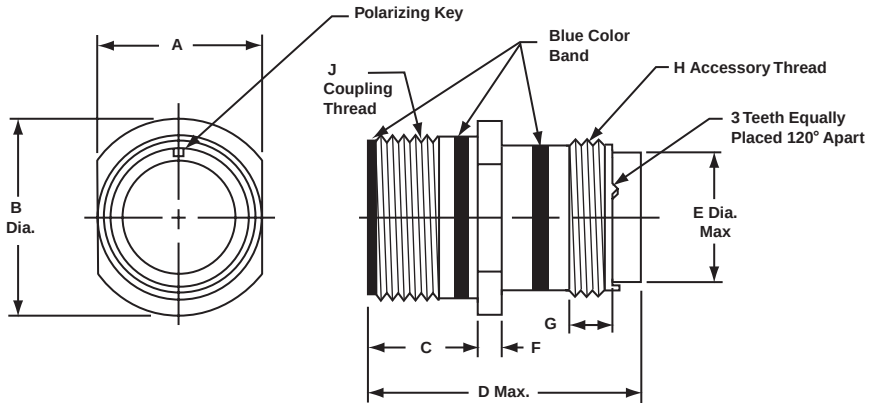
Shell Size*	A ±.031	B	C Dia. +.010 −.005 Class A, F, R, W	C Dia. +.010 −.005 Class K	D Max. Size 16 & 12 Contacts	D Max. Size 8, 4, 0 Contacts	E Dia. Max.	F	G Min.	H Thread Class 2A	J Thread Class 2A	K	L Dia. ±.010
8S	.875	.594	.120	.150	2.031	–	.305	.593/.562	.290	.5000-20 UNEF	.5000-28 UNEF	.083	.562
10S	1.000	.719	.120	.150	2.031	–	.405	.593/.562	.290	.6250-24 UNEF	.6250-24 UNEF	.083	.688
10SL	1.000	.719	.120	.150	2.031	–	.405	.593/.562	.290	.6250-24 UNEF	.6250-24 UNEF	.083	.688
12	1.094	.812	.120	.150	2.125	–	.549	.781/.750	.290	.7500-20 UNEF	.7500-20 UNEF	.083	.812
12S	1.094	.812	.120	.150	2.031	–	.549	.593/.562	.290	.7500-20 UNEF	.7500-20 UNEF	.083	.812
14	1.188	.906	.120	.150	2.125	–	.665	.781/.750	.290	.8750-20 UNEF	.8750-20 UNEF	.083	.938
14S	1.188	.906	.120	.150	2.031	–	.665	.593/.562	.290	.8750-20 UNEF	.8750-20 UNEF	.083	.938
16	1.281	.969	.120	.150	2.125	2.500	.790	.781/.750	.290	1.0000-20 UNEF	1.0000-20 UNEF	.083	1.062
16S	1.281	.969	.120	.150	2.031	–	.790	.593/.562	.290	1.0000-20 UNEF	1.0000-20 UNEF	.083	1.062
18	1.375	1.062	.120	.177	2.125	2.500	.869	.781/.750	.290	1.0625-18 UNEF	1.1250-18 UNEF	.125	1.188
20	1.500	1.156	.120	.177	2.125	2.500	.994	.781/.750	.290	1.1875-18 UNEF	1.2500-18 UNEF	.125	1.312
22	1.625	1.250	.120	.177	2.125	2.500	1.119	.781/.750	.290	1.3125-18 UNEF	1.3750-18 UNEF	.125	1.438
24	1.750	1.375	.147	.177	2.125	2.500	1.244	.843/.812	.290	1.4375-18 UNEF	1.5000-18 UNEF	.125	1.562
28	2.000	1.562	.147	.177	2.125	2.500	1.465	.843/.812	.467	1.7500-18 UNS	1.7500-18 UNS	.125	1.812
32	2.250	1.750	.173	.209	2.125	2.500	1.715	.906/.875	.467	2.0000-18 UNS	2.0000-18 UNS	.125	2.062
36	2.500	1.938	.173	.209	2.125	2.500	1.930	.906/.875	.467	2.2500-16 UN	2.2500-16 UN	.125	2.312
40	2.750	2.188	.173	.209	2.125	2.500	2.145	.906/.875	.467	2.5000-16 UN	2.5000-16 UN	.125	2.562

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

MS/Standard
MS3451
cable connecting receptacle

Receptacle Shell, Cable Connecting, Threaded Coupling

Military No. MS3451
Amphenol/Matrix No. 9441



To complete order number see how to order, page 29.

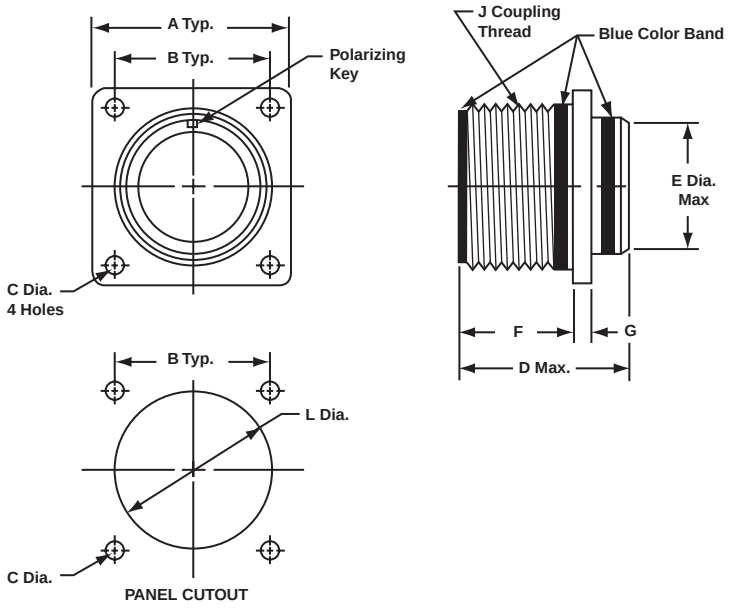
Shell Size	A	B Dia. ±.031	C	D Max. Size 16 & 12 Contacts	D Max. Size 8, 4, 0 Contacts	E Dia. Max.	F ±.015	G Min.	H Thread Class 2A	J Thread Class 2A
8S	.504/.496	.729	.577/.562	2.031	–	.305	.083	.290	.5000-20 UNEF	.5000-28 UNEF
10S	.629/.621	.854	.577/.562	2.031	–	.405	.083	.290	.6250-24 UNEF	.6250-24 UNEF
10SL	.629/.621	.854	.577/.562	2.031	–	.405	.083	.290	.6250-24 UNEF	.6250-24 UNEF
12	.754/.746	.974	.765/.750	2.125	–	.549	.083	.290	.7500-20 UNEF	.7500-20 UNEF
12S	.754/.746	.974	.577/.562	2.031	–	.549	.083	.290	.7500-20 UNEF	.7500-20 UNEF
14	.879/.871	1.099	.765/.750	2.125	–	.665	.083	.290	.8750-20 UNEF	.8750-20 UNEF
14S	.879/.871	1.099	.577/.562	2.031	–	.665	.083	.290	.8750-20 UNEF	.8750-20 UNEF
16	1.005/.996	1.224	.765/.750	2.125	2.500	.790	.083	.290	1.0000-20 UNEF	1.0000-20 UNEF
16S	1.005/.996	1.224	.577/.562	2.031	–	.790	.083	.290	1.0000-20 UNEF	1.0000-20 UNEF
18	1.131/1.121	1.349	.765/.750	2.125	2.500	.869	.125	.290	1.0625-18 UNEF	1.1250-18 UNEF
20	1.256/1.246	1.474	.765/.750	2.125	2.500	.994	.125	.290	1.1875-18 UNEF	1.2500-18 UNEF
22	1.381/1.371	1.599	.765/.750	2.125	2.500	1.119	.125	.290	1.3125-18 UNEF	1.3750-18 UNEF
24	1.506/1.496	1.715	.827/.812	2.125	2.500	1.244	.125	.290	1.4375-18 UNEF	1.5000-18 UNEF
28	1.756/1.746	1.974	.827/.812	2.125	2.500	1.465	.125	.467	1.7500-18 UNS	1.7500-18 UNS
32	2.007/1.996	2.224	.890/.870	2.125	2.500	1.715	.125	.467	2.0000-18 UNS	2.0000-18 UNS
36	2.257/2.246	2.474	.890/.870	2.125	2.500	1.930	.125	.467	2.2500-16 UN	2.2500-16 UN
40	2.511/2.456	2.724	.890/.870	2.125	2.500	2.145	.125	.467	2.5000-16 UN	2.5000-16 UN

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

MS/Standard
MS3452
box mounting receptacle

Receptacle Shell, Flange Box Mount, Threaded Coupling

Military No. MS3452
Amphenol/Matrix No. 9442



To complete order number see how to order, page 29.

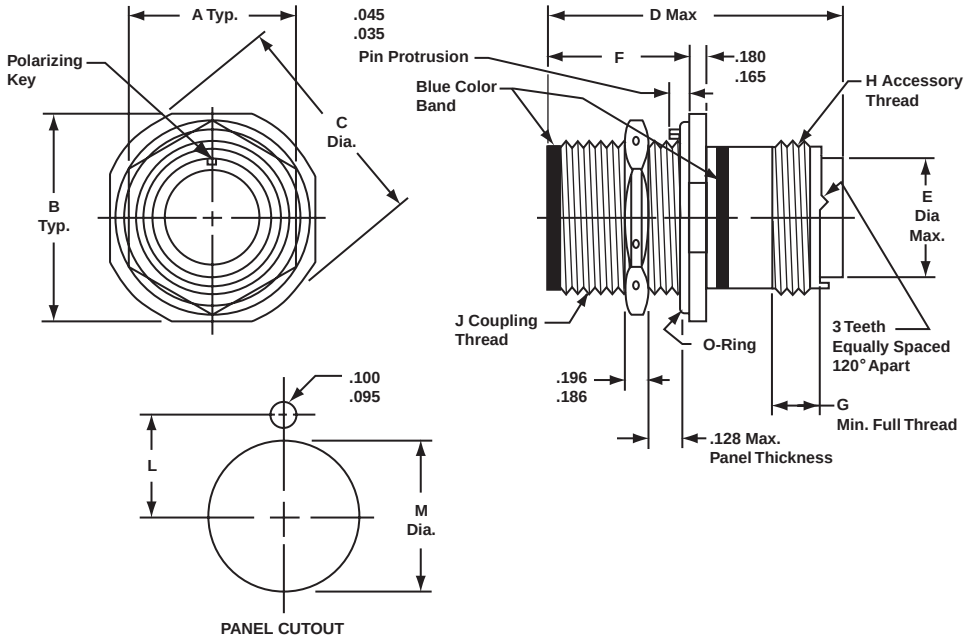
Shell Size*	A ±.031	B	C Dia.	D Max. Size 16 & 12 Contacts	D Max. Size 8, 4, 0 Contacts	E Dia. ±.016	F	G ±.015	J Thread Class 2A	L Dia. ±.010
8S	.875	.594	.130/.115	1.662	–	.500	.578/.562	.083	.5000-28 UNEF	.562
10S	1.000	.719	.130/.115	1.662	–	.625	.578/.562	.083	.6250-24 UNEF	.688
10SL	1.000	.719	.130/.115	1.662	–	.625	.578/.562	.083	.6250-24 UNEF	.688
12	1.094	.812	.130/.115	1.662	–	.750	.765/.750	.083	.7500-20 UNEF	.812
12S	1.094	.812	.130/.115	1.662	–	.750	.578/.562	.083	.7500-20 UNEF	.812
14	1.188	.906	.130/.115	1.662	–	.875	.765/.750	.083	.8750-20 UNEF	.938
14S	1.188	.906	.130/.115	1.662	–	.875	.577/.562	.083	.8750-20 UNEF	.938
16	1.281	.969	.130/.115	1.662	1.937	1.000	.765/.750	.083	1.0000-20 UNEF	1.062
16S	1.281	.969	.130/.115	1.662	–	1.000	.577/.562	.083	1.0000-20 UNEF	1.062
18	1.375	1.062	.130/.115	1.662	1.937	1.062	.765/.750	.125	1.1250-18 UNEF	1.188
20	1.500	1.156	.130/.115	1.662	1.937	1.187	.765/.750	.125	1.2500-18 UNEF	1.312
22	1.625	1.250	.130/.115	1.662	1.937	1.312	.765/.750	.125	1.3750-18 UNEF	1.438
24	1.750	1.375	.157/.142	1.662	1.937	1.437	.827/.812	.125	1.5000-18 UNEF	1.562
28	2.000	1.562	.157/.142	1.662	1.937	1.750	.827/.812	.125	1.7500-18 UNS	1.812
32	2.250	1.750	.183/.168	1.662	1.937	2.000	.988/.875	.125	2.0000-18 UNS	2.062
36	2.500	1.938	.183/.168	1.662	1.937	2.250	.988/.875	.125	2.2500-16 UN	2.312
40	2.750	2.188	.183/.168	1.662	1.937	2.500	.988/.875	.125	2.5000-16 UN	2.562

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

MS/Standard
MS3454
jam nut receptacle

Receptacle Shell, Jam Nut Mount, Threaded Coupling

Military No. MS3454
Amphenol/Matrix No. 9444



To complete order number see how to order, page 29.

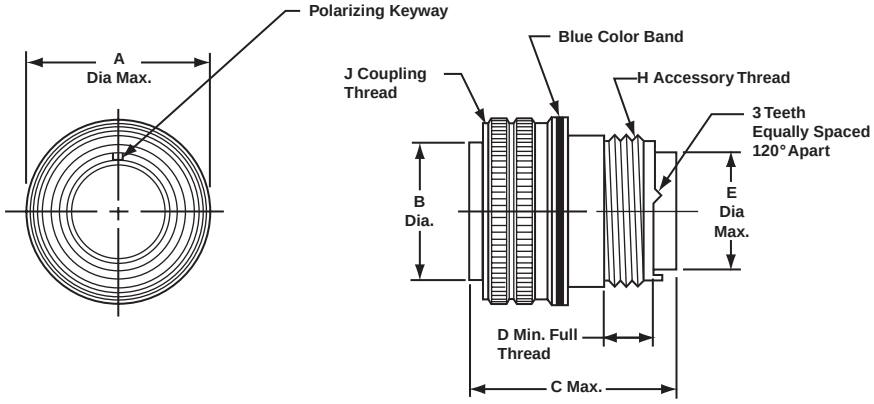
Shell Size*	A ±.010	B ±.005	C Dia. ±.005	D Max. Size 16 & 12 Contacts	D Max. Size 8, 4, 0 Contacts	E Dia. Max.	F ±.005	G Mln.	H Thread Class 2A	J Thread Class 2A	Panel Cutout Dimensions L ±.005	Panel Cutout Dimensions M Dia. +.015 −.000
8S	.687	1.187	1.272	2.031	–	.305	.720	.290	.5000-20 UNEF	.5000-28 UNEF	.323	.505
10S	.812	1.312	1.397	2.031	–	.405	.720	.290	.6250-24 UNEF	.6250-24 UNEF	.385	.630
10SL	.812	1.312	1.397	2.031	–	.405	.720	.290	.6250-24 UNEF	.6250-24 UNEF	.385	.630
12	.937	1.437	1.522	2.125	–	.549	.970	.290	.7500-20 UNEF	.7500-20 UNEF	.448	.755
12S	.937	1.437	1.522	2.031	–	.549	.720	.290	.7500-20 UNEF	.7500-20 UNEF	.448	.755
14	1.125	1.562	1.647	2.125	–	.665	.970	.290	.8750-20 UNEF	.8750-20 UNEF	.510	.880
14S	1.125	1.562	1.647	2.031	–	.665	.720	.290	.8750-20 UNEF	.8750-20 UNEF	.510	.880
16	1.250	1.687	1.772	2.125	2.500	.790	.970	.290	1.0000-20 UNEF	1.0000-20 UNEF	.573	1.005
16S	1.250	1.687	1.772	2.031	–	.790	.720	.290	1.0000-20 UNEF	1.0000-20 UNEF	.573	1.005
18	1.375	1.812	1.897	2.125	2.500	.869	.970	.290	1.0625-18 UNEF	1.1250-18 UNEF	.635	1.130
20	1.500	1.937	2.022	2.125	2.500	.994	.970	.290	1.1875-18 UNEF	1.2500-18 UNEF	.698	1.255
22	1.625	2.156	2.241	2.125	2.500	1.119	.970	.290	1.3125-18 UNEF	1.3750-18 UNEF	.760	1.380
24	1.750	2.281	2.366	2.125	2.500	1.244	.970	.290	1.4375-18 UNEF	1.5000-18 UNEF	.823	1.505
28	2.000	2.531	2.616	2.125	2.500	1.465	.970	.467	1.7500-18 UNS	1.7500-18 UNS	.948	1.755
32	2.375	2.781	2.866	2.125	2.500	1.715	.970	.467	2.0000-18 UNS	2.0000-18 UNS	1.073	2.005
36	2.625	3.031	3.116	2.125	2.500	1.930	.970	.467	2.2500-16 UN	2.2500-16 UN	1.198	2.255
40	2.875	3.281	3.366	2.125	2.500	2.145	.970	.467	2.5000-16 UN	2.5000-16 UN	1.323	2.505

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

MS/Standard
MS3456
straight plug

Plug Shell,
Threaded Coupling

Military No. MS3456
Amphenol/Matrix No. 9446



To complete order number see how to order, page 29.

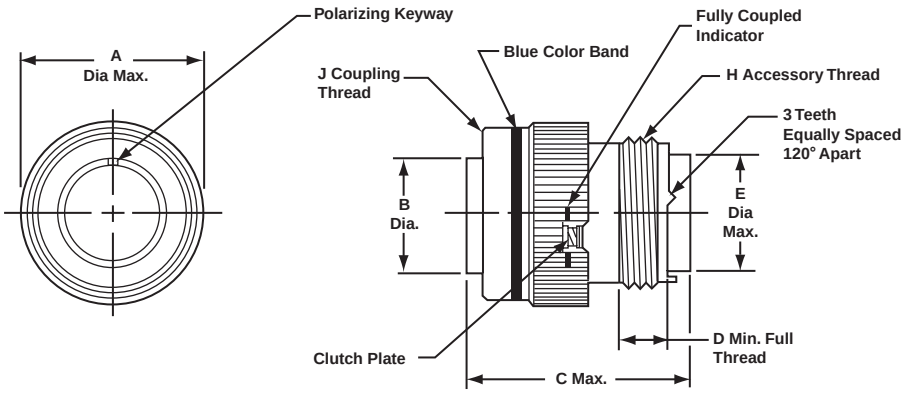
Shell Size*	A Dia. Max.	B Dia. ±.005	C Max. Size 16 & 12 Contacts	C Max. Size 8, 4, 0 Contacts	D Min.	E Dia. Max.	H Thread Class 2A	J Thread Class 2B
8S	.844	.360	2.031	–	.290	.305	.5000-20 UNF	.5000-28 UNEF
10S	.969	.435	2.031	–	.290	.405	.6250-24 UNEF	.6250-24 UNEF
10SL	.969	.441**	2.031	–	.290	.405	.6250-24 UNEF	.6250-24 UNEF
12	1.062	.550	2.125	–	.290	.549	.7500-20 UNEF	.7500-20 UNEF
12S	1.062	.550	2.031	–	.290	.549	.7500-20 UNEF	.7500-20 UNEF
14	1.156	.670	2.125	–	.290	.665	.8750-20 UNEF	.8750-20 UNEF
14S	1.156	.670	2.031	–	.290	.665	.8750-20 UNEF	.8750-20 UNEF
16	1.250	.800	2.125	2.500	.290	.790	1.0000-20 UNEF	1.0000-20 UNEF
16S	1.250	.800	2.031	–	.290	.790	1.0000-20 UNEF	1.0000-20 UNEF
18	1.344	.925	2.125	2.500	.290	.869	1.0625-18 UNEF	1.1250-18 UNEF
20	1.469	1.045	2.125	2.500	.290	.994	1.1875-18 UNEF	1.2500-18 UNEF
22	1.594	1.170	2.125	2.500	.290	1.119	1.3125-18 UNEF	1.3750-18 UNEF
24	1.719	1.295	2.125	2.500	.290	1.244	1.4375-18 UNEF	1.5000-18 UNEF
28	1.969	1.515	2.125	2.500	.467	1.465	1.7500-18 UNS	1.7500-18 UNS
32	2.219	1.765	2.125	2.500	.467	1.715	2.0000-18 UNS	2.0000-18 UNS
36	2.469	1.975	2.125	2.500	.467	1.930	2.2500-16 UN	2.2500-16 UN
40	2.719	2.225	2.125	2.500	.467	2.145	2.5000-16 UN	2.5000-16 UN

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.
** Tolerance on this dimension is +.000 –.006

MS/Standard
MS3459
straight plug with self-locking coupling nut

Plug Shell, Self-Locking,
Threaded Coupling

Military No. MS3459
Amphenol/Matrix No. 9816



To complete order number see how to order, page 29.

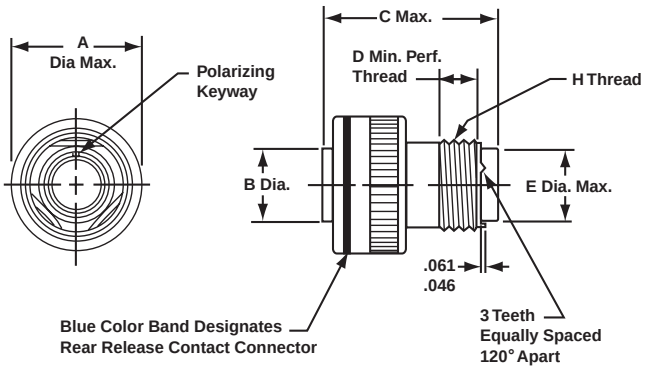
Shell Size*	A Dia. Max.	B Dia. ±.005	C Max. Size 16 & 12 Contacts	C Max. Size 8, 4, 0 Contacts	D Min.	E Dia. Max.	H Thread Class 2A	J Thread Class 2B
8S	.963	.360	1.510	–	.290	.305	.5000-20 UNEF	.5000-28 UNEF
10S	1.088	.435	1.510	–	.290	.405	.6250-24 UNEF	.6250-24 UNEF
10SL	1.088	.441**	1.510	–	.290	.405	.6250-24 UNEF	.6250-24 UNEF
12	1.213	.550	1.780	–	.290	.549	.7500-20 UNEF	.7500-20 UNEF
12S	1.213	.550	1.510	–	.290	.549	.7500-20 UNEF	.7500-20 UNEF
14	1.358	.670	1.780	–	.290	.665	.8750-20 UNEF	.8750-20 UNEF
14S	1.358	.670	1.510	–	.290	.665	.8750-20 UNEF	.8750-20 UNEF
16	1.463	.800	1.780	2.500	.290	.790	1.0000-20 UNEF	1.0000-20 UNEF
16S	1.463	.800	1.510	–	.290	.790	1.0000-20 UNEF	1.0000-20 UNEF
18	1.588	.925	1.850	2.500	.290	.869	1.0625-18 UNEF	1.1250-18 UNEF
20	1.713	1.045	1.850	2.500	.290	.994	1.1875-18 UNEF	1.2500-18 UNEF
22	1.788	1.170	1.850	2.500	.290	1.119	1.3125-18 UNEF	1.3750-18 UNEF
24	1.963	1.295	1.850	2.500	.290	1.244	1.4375-18 UNEF	1.5000-18 UNEF
28	2.213	1.515	1.850	2.500	.467	1.465	1.7500-18 UNS	1.7500-18 UNS
32	2.463	1.765	1.850	2.500	.467	1.715	2.0000-18 UNS	2.0000-18 UNS
36	2.713	1.975	1.850	2.500	.467	1.930	2.2500-16 UN	2.2500-16 UN
40	2.963	2.225	1.850	2.500	.467	2.145	2.5000-16 UN	2.5000-16 UN

* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.
** Tolerance on this dimension is +.000 –.006

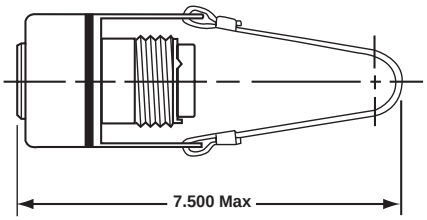
MS/Standard
9817, 9818
quick disconnect plug, with/without lanyard

Plug Shell, Quick Disconnect,
Push-pull Coupling

Amphenol/Matrix No. 9817 with lanyard
Amphenol/Matrix No. 9818 without lanyard



9818 Connector



9817 Connector with Lanyard

To complete order number see how to order, page 29.

Shell Size*	A Dia. Max.	B Dia.	C Max. Size 16 & 12 Contacts	C Max. Size 8, 4, 0 Contacts	D MIn.	E Dia. Max.	H Thread Class 2A	Amphenol/ Matrix Part Number for Adapter Ring
8S	1.087	.360	2.031	–	.290	.305	.5000-20 UNF	2500-008-0X08
10S	1.224	.435	2.031	–	.290	.405	.6250-24 UNEF	2500-008-0X10
10SL	1.224	.441	2.031	–	.290	.405	.6250-24 UNEF	2500-008-0X10
12	1.355	.550	2.125	–	.290	.549	.7500-20 UNEF	2500-008-0X12
12S	1.355	.550	2.031	–	.290	.549	.7500-20 UNEF	2500-008-0X13
14	1.482	.670	2.125	–	.290	.665	.8750-20 UNEF	2500-008-0X14
14S	1.482	.670	2.031	–	.290	.665	.8750-20 UNEF	2500-008-0X15
16	1.609	.800	2.125	2.500	.290	.790	1.0000-20 UNEF	2500-008-0X16
16S	1.609	.800	2.031	–	.290	.790	1.0000-20 UNEF	2500-008-0X17
18	1.817	.925	2.125	2.500	.290	.869	1.0625-18 UNEF	2500-008-0X18
20	1.942	1.045	2.125	2.500	.290	.994	1.1875-18 UNEF	2500-008-0X20
22	2.075	1.170	2.125	2.500	.290	1.119	1.3125-18 UNEF	2500-008-0X22
24	2.203	1.295	2.125	2.500	.290	1.244	1.4375-18 UNEF	2500-008-0X24
28	2.516	1.515	2.125	2.500	.467	1.465	1.7500-18 UNS	2500-008-0X28
32	2.735	1.765	2.125	2.500	.467	1.715	2.0000-18 UNS	2500-008-0X32
36	3.015	1.975	2.125	2.500	.467	1.930	2.2500-16 UN	2500-008-0X36
40	3.306	2.225	2.125	2.500	.467	2.145	2.5000-16 UN	2500-008-0X40

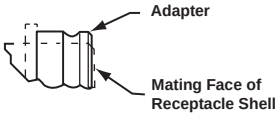
* Consult Amphenol, Sidney, NY for availability of shell sizes 44 and 48.

Receptacle Adapter Ring

Required to mate the quick disconnect plug with receptacle.

Not furnished with the quick disconnect plug and must be ordered separately.

Note: Use Locktite Material on the threads for a permanent installation to the shell.



How to Order Adapter Ring

Part Number
2500-008-0 X XX

Shell Size (varies from connector shell size designation, see last column of table at left)

Finish
0 - Electroless Nickel
1 - Black Anodize
2 - Cadmium/olive drab
3 - Stainless steel, passivated

MS/Standard
insert arrangements

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
8S-1	A	1					1
10S-2	A	1					1
10SL-3	A	3					3
10SL-4	A	2					2
12S-1	A	2					2
12S-2	A	2					2
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
14-3	A	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-11	Inst.	4					4
14S-12	A	3					3
14S-13	A	3					3
16S-1	A	7					7
16-2*	E	1				1	
16S-3*	B	1					1
16S-4*	D	2					2
16-7*	A	3			1		2
16S-8	A	5					5
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
18-4	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
18-18	Inst.	7				2	5
18-19**	A	10					10
18-22**	D	3					3

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
18-23	A/Inst.	10					10
18-24	A/Inst.	10					10
18-27	D	3				2	1
18-28	D	3				2	1
20-2	D	1	1				
20-4	D	4				4	
20-7	D/A	8					8
20-8	Inst.	6			2		4
20-9*	D/A	8				1	7
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		
20-21	A	9				1	8
20-22	A	6			3		3
20-24	A	4			2		2
20-27	A	14					14
20-29	A	17					17
20-32	D/A	8					8
20-33	A	11					11
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				
22-9*	E	3				3	
22-10*	E	4					4
22-11*	B	2					2
22-12*	D	5			2		3
22-14	A	19					19
22-15*	E/A	6				5	1
22-17*	D/A	9				1	8
22-18*	D/A	8					8
22-19	A	14					14
22-21	A	3	1				2
22-22	A	4			4		
22-23	D/A	8				8	
22-27*	D/A	9			1		8
22-30	A	19					19
22-32	D	6				2	4
22-36*	D/A	8				8	
24-1**	D	2	1			1	
24-2	D	7				7	
24-4*	D	4	1				3
24-5**	A	16					16
24-6*	D/A	8				8	

* Consult Amphenol, Sidney, NY for availability

** Inactive for new design

MS/Standard
insert arrangements

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
24-7	A	16				2	14
24-10	A	7			7		
24-11	A	9			3	6	
24-12	A	5		2		3	
24-15	A	16					16
24-16*	D/A	7			1	3	3
24-20	D	11				2	9
24-21*	D	10			1		9
24-22	D	4			4		
24-24	A	16					16
24-27*	E	7					7
24-28	Inst.	24					24
24-80*	Inst.	23					23
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
28-8*	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
32-1	E/D	5	2			3	
32-2*	E	5		3			2
32-3*	D	9	1	2		2	4
32-6	A	23		2	3	2	16
32-7	Inst./A	35				7	28
32-9	D	14		2			12
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			
32-19*	E/D	5	2			3	
32-20	A	23		2	3	2	16

Insert Arrangement	Service Rating	Total Contacts	Contact Size				
			0	4	8	12	16
32-22*	A	54					54
32-63	D	5		5			
32-73	A	46					46
36-3	D	6	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
36-15	D/A	35					35
36-16	A	47				7	40
36-17	A	47				7	40
36-18	A	31		1	2	14	14
36-21	A	31		1	2	14	14
36-52	A	52					52
36-66*	A	56				4	52
40-1	D	30				6	24
40-2*	D	23					23
40-3*	D	23		1		4	18
40-4*	D	23		2	3	2	16
40-5*	A	15	3	2	4	6	
40-6*	D	26	1			1	24
40-7*	A/D	22	2			2	18
40-9	A	47			1	22	24
40-10*	A	29		4	9		16
40-11*	D	25	1	1	1	4	18
40-56*	A	85					85
40-62*	A	60					60

* Consult Amphenol, Sidney, NY for availability

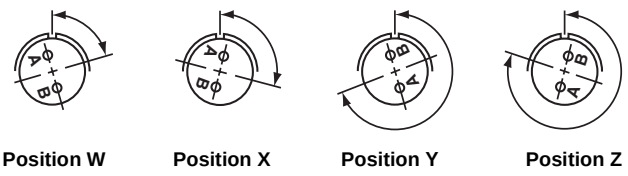
** Inactive for new design

MS/Standard
insert 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 charts give the W, X, Y, Z positions for the alternate rotations available for the insert arrangements of the rear release MIL-DTL-5015 series of connectors. If an insert arrangement number is not given, then there is no available alternate rotation for that pattern.



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

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

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	24-4	28-4	28-21	40-3
18-5	22-6	24-5	28-8	32-1	40-4
18-9	22-12	24-6	28-9	32-3	40-5
18-13	22-14	24-7	28-10	32-6	40-6
18-14	22-15	24-12	28-11	32-9	40-7
20-7	22-17	24-16	28-15	32-13	40-11
20-8	22-18	24-20	28-16	32-22	
20-9	22-19	24-21	28-17	36-7	
20-14	22-21	24-28	28-19	36-8	
20-16	24-1	28-1	28-20	40-2	

Insert Arrangement	Degrees			
	W	X	Y	Z
12S-3	70	145	215	290
14S-2	–	120	240	–
14S-5	–	110	–	–
14S-7	90	180	270	–
14S-9	70	145	215	290
16S-1	80	–	–	280
16S-4	35	110	250	325
16S-8	–	170	265	–
16-9	35	110	250	325
16-10	90	180	270	–
16-11	35	110	250	325
16-13	35	110	250	325
18-1	70	145	215	290
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	–
18-19	–	120	240	–
18-22	70	145	215	290
20-4	45	110	250	–
20-15	80	–	–	280

Insert Arrangement	Degrees			
	W	X	Y	Z
20-17	90	180	270	–
20-18	35	110	250	325
20-19	90	180	270	–
20-21	35	110	250	325
20-24	35	110	250	325
20-27	35	110	250	325
20-29	80	–	–	280
22-2	70	145	215	290
22-4	35	110	250	325
22-5	35	110	250	325
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-22	–	110	250	–
22-23	35	–	250	–
22-27	80	–	250	280
22-36	90	–	270	–
24-2	80	–	–	280
24-10	80	–	–	280
24-11	35	110	250	325
24-22	45	110	250	–
24-27	80	–	–	280
24-80	35	145	240	300

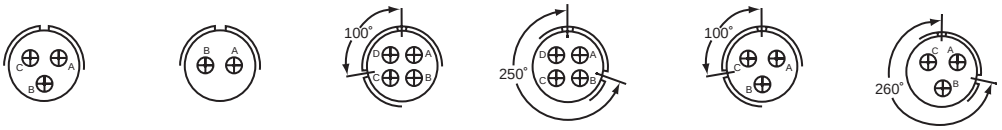
Insert Arrangement	Degrees			
	W	X	Y	Z
28-2	35	110	250	325
28-3	70	145	215	290
28-5	35	110	250	325
28-12	90	180	270	–
28-18	70	145	215	290
28-22	70	145	215	290
32-2	70	145	215	290
32-7	80	125	235	280
32-15	35	110	250	280
32-17	45	110	250	–
32-73	36	–	–	–
36-3	70	145	215	290
36-5	–	120	240	–
36-6	35	110	250	325
36-9	80	125	235	280
36-10	80	125	235	280
36-15	60	125	245	305
36-52	72	144	216	288
36-66	110	250	260	280
40-1	65	130	235	300
40-9	65	125	255	310
40-10	65	125	255	310
40-56	72	144	216	288
40-62	30	130	220	290

MS/Standard
contact arrangements

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

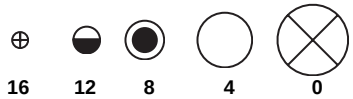
					100° Rotation of 12S-3	250° Rotation of 12S-3	
Insert Arrangement	**8S-1**	**10S-2**	**10SL-3**	**10SL-4**	**12S-1**	**12S-2**	**12S-3**
Service Rating	**A**	**A**	**A*** **	**A**	**A**	**A**	**A**
Number of Contacts	**1**	**1**	**3**	**2**	**2**	**2**	**2**
Contact Size	**16**	**16**	**16**	**16**	**16**	**16**	**16**

Insert Arrangement	**12S-4**	**12-5**	**14S-1****	**14S-2**	**14-3**	**14S-5**	**14S-6**
Service Rating	**D**	**D**	**A**	**Inst.**	**A**	**Inst.**	**Inst.**
Number of Contacts	**1**	**1**	**3**	**4**	**1**	**5**	**6**
Contact Size	**16**	**12**	**16**	**16**	**8**	**16**	**16**



			100° Rotation of 14S-2	250° Rotation of 14S-2	100° Rotation of 14S-1	260° Rotation of 14S-1
Insert Arrangement	**14S-7**	**14S-9****	**14S-10**	**14S-11**	**14S-12**	**14S-13**
Service Rating	**A**	**A**	**Inst.**	**Inst.**	**A**	**A**
Number of Contacts	**3**	**2**	**4**	**4**	**3**	**3**
Contact Size	**16**	**16**	**16**	**16**	**16**	**16**

Insert Arrangement	**16S-1**	**16-2***	**16S-3***	**16S-4***	**16-7***	**16S-8**
Service Rating	**A**	**E**	**B**	**D**	**A**	**A**
Number of Contacts	**7**	**1**	**1**	**2**	**1 2**	**5**	
Contact Size	**16**	**12**	**16**	**16**	**8 16**	**16**

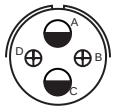


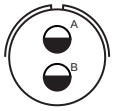
CONTACT LEGEND **16** **12** **8** **4** **0**

* Consult Amphenol, Sidney, NY for availability.
** Inactive for new design
*** Service rating Inst. Class K

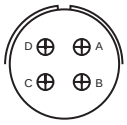
MS/Standard
contact arrangements

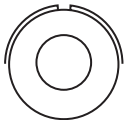
front face of pin insert or rear face of socket insert illustrated



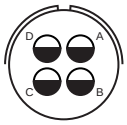


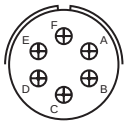
Insert Arrangement	**16-9**	**16-10**	**16-11**	**16-12**	**16-13**	**18-1**
Service Rating	**A**	**A**	**A**	**A**	**A**	**B, C, F, G = A; Bal. = Inst.**
Number of Contacts	**2 2**	**3**	**2**	**1**	**2††**	**10**
Contact Size	**12 16**	**12**	**12**	**4**	**12**	**16**

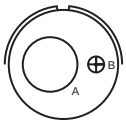
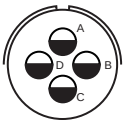




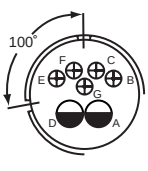
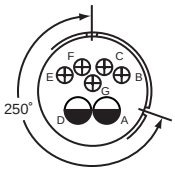
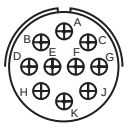
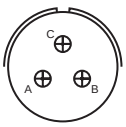
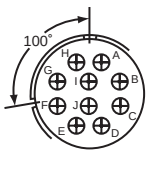
Insert Arrangement	**18-4**	**18-5**	**18-6***	**18-7***	**18-8**	**18-9**
Service Rating	**D**	**D**	**D**	**B**	**A**	**Inst.**
Number of Contacts	**4**	**2 1**	**1**	**1**	**1 7**	**2 5**
Contact Size	**16**	**12 16**	**4**	**8**	**12 16**	**12 16**





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**

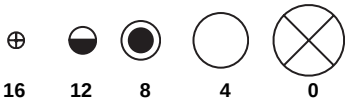
100° Rotation of 18-9

250° Rotation of 18-9

100° Rotation of 18-1

Insert Arrangement	**18-16***	**18-17**	**18-18**	**18-19****	**18-22****	**18-23**
Service Rating	**C**	**Inst.**	**Inst.**	**A**	**D**	**B, C, F, G = A; Bal. = Inst.**
Number of Contacts	**1**	**2 5**	**2 5**	**10**	**3**	**10**
Contact Size	**12**	**12 16**	**12 16**	**16**	**16**	**16**

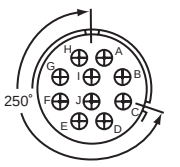
* Consult Amphenol, Sidney, NY for availability.
** Inactive for new design
† one alumel contact and one chromel contact
†† A, C = Iron; B, D = Constantan



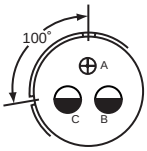
CONTACT LEGEND **16 12 8 4 0**

MS/Standard
contact arrangements

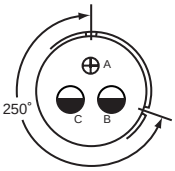
front face of pin insert or rear face of socket insert illustrated



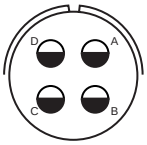
250° Rotation of 18-1

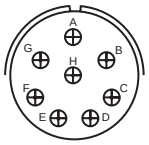


100° Rotation of 18-5

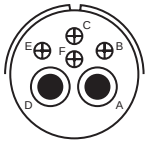


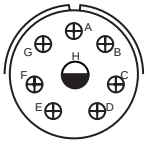
250° Rotation of 18-5

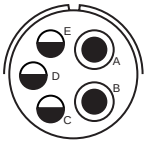


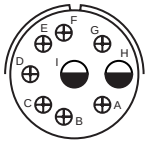


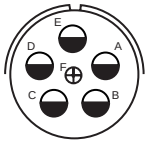
Insert Arrangement	**18-24**	**18-27**	**18-28**	**20-2**	**20-4**	**20-7**
Service Rating	**B, C, F, G = A; Bal. = Inst.**	**D**	**D**	**D**	**D**	**A, B, G, H = D; C, D, E, F = A**
Number of Contacts	**10**	**2 1**	**2 1**	**1**	**4**	**8**
Contact Size	**16**	**12 16**	**12 16**	**0**	**12**	**16**



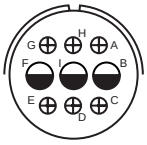


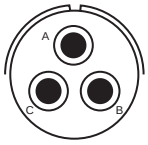


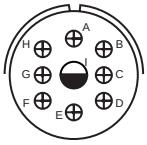


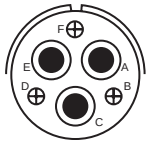


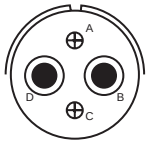
Insert Arrangement	**20-8***	**20-9***	**20-14**	**20-15**	**20-16**	**20-17**
Service Rating	**Inst.**	**H = D; Bal. = A**	**A**	**A**	**A**	**A**
Number of Contacts	**2 4**	**1 7**	**2 3**	**7**	**2 7**	**5 1**
Contact Size	**8 16**	**12 16**	**8 12**	**12**	**12 16**	**12 16**

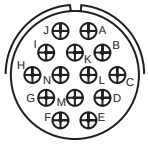












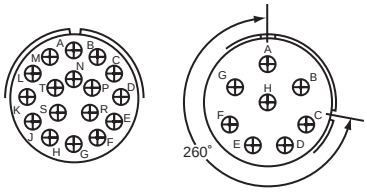
Insert Arrangement	**20-18**	**20-19**	**20-21**	**20-22**	**20-24**	**20-27**
Service Rating	**A**	**A**	**A**	**A**	**A**	**A**
Number of Contacts	**3 6**	**3**	**1 8**	**3 3**	**2 2**	**14**	
Contact Size	**12 16**	**8**	**12 16**	**8 16**	**8 16**	**16**

* Consult Amphenol, Sidney, NY for availability.

CONTACT LEGEND	**16**	**12**	**8**	**4**	**0**

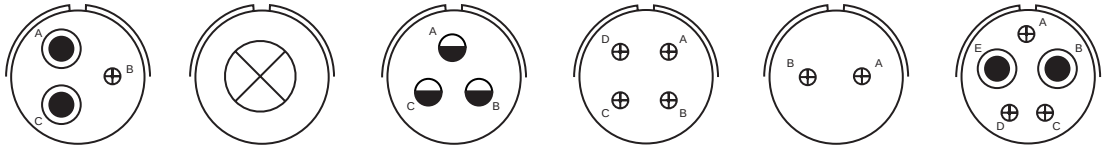
MS/Standard
contact arrangements

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

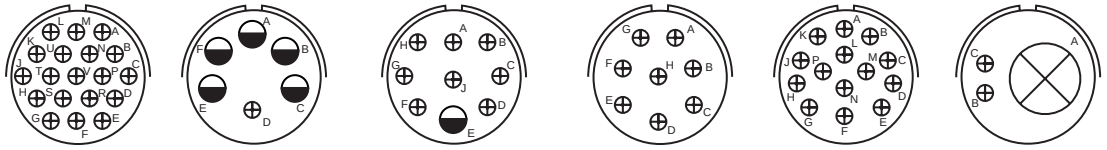


260° Rotation
of 20-7

Insert Arrangement	20-29	20-32	20-33	22-2	22-4**	22-5
Service Rating	A	A, B, G, H = D; Bal. = A	A	D	A	D
Number of Contacts	17	8	11	3	2 2	2 4
Contact Size	16	16	16	8	8 12	12 16

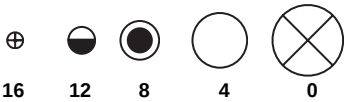


Insert Arrangement	22-6**	22-7*	22-9*	22-10*	22-11*	22-12*
Service Rating	D	E	E	E	B	D
Number of Contacts	2 1	1	3	4	2	2 3
Contact Size	8 16	0	12	16	16	8 16



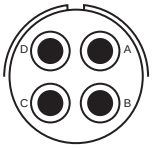
Insert Arrangement	22-14	22-15*	22-17*	22-18*	22-19	22-21
Service Rating	A	D = 3; Bal. = A	A = D; Bal. = A	C, D, E = A: Bal. = D	A	A
Number of Contacts	19	5 1	1 8	8	14	1 2
Contact Size	16	12 16	12 16	16	16	0 16

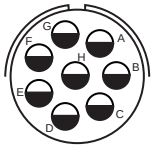
* Consult Amphenol, Sidney, NY for availability.
** Inactive for new design

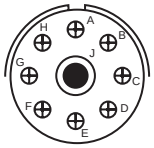


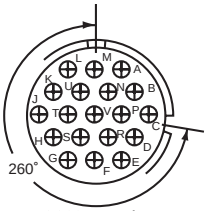
MS/Standard
contact arrangements

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

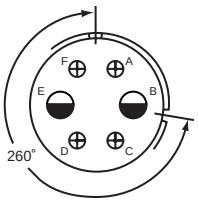






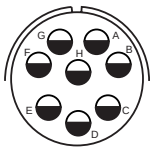


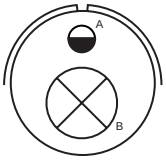
260° Rotation of 22-14

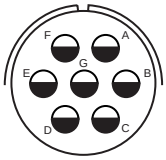


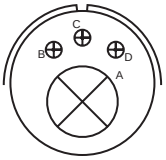
260° Rotation of 22-5

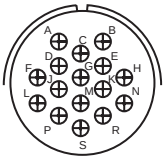
Insert Arrangement	**22-22**	**22-23**	**22-27***	**22-30**	**22-32**
Service Rating	**A**	**H = D; Bal. = A**	**J = D; Bal. = A**	**A**	**D**
Number of Contacts	**4**	**8**	**1 8**	**19**	**2 4**
Contact Size	**8**	**12**	**8 16**	**16**	**12 16**



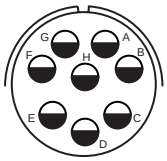


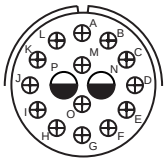


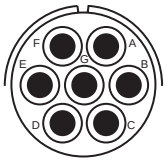


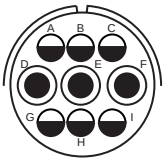


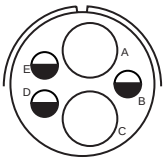
Insert Arrangement	**22-36***	**24-1****	**24-2**	**24-4***	**24-5****
Service Rating	**H = D; Bal. = A**	**D**	**D**	**D**	**A**
Number of Contacts	**8**	**1 1**	**7**	**1 3**	**16**
Contact Size	**12**	**0 12**	**12**	**0 16**	**16**





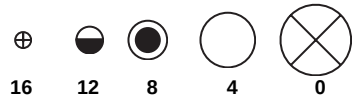






Insert Arrangement	**24-6***	**24-7**	**24-10**	**24-11**	**24-12**
Service Rating	**A, G, H = D; Bal. = A**	**A**	**A**	**A**	**A**
Number of Contacts	**8**	**2 14**	**7**	**3 6**	**2 3**
Contact Size	**12**	**12 16**	**8**	**8 12**	**4 12**

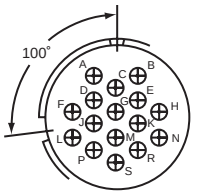
* Consult Amphenol, Sidney, NY for availability.
** Inactive for new design



CONTACT LEGEND	**16**	**12**	**8**	**4**	**0**

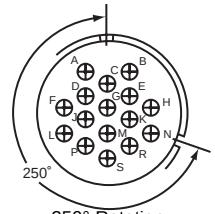
MS/Standard
contact arrangements

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



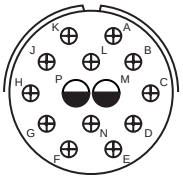
100° Rotation of 24-5

Insert Arrangement	24-15	24-16*	24-20	24-21*	24-22
Service Rating	A	A, B, F, G = D; C, D, E = A	D	D	D
Number of Contacts	16	1 3 3	2 9	1 9	4
Contact Size	16	8 12 16	12 16	8 16	8



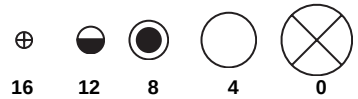
250° Rotation of 24-5

Insert Arrangement	24-24	24-27*	24-28	24-80*	28-1
Service Rating	A	E	Inst.	Inst.	A, J, E = D; Bal. = A
Number of Contacts	16	7	24	23	3 6
Contact Size	16	16	16	16	8 12



Insert Arrangement	28-2	28-3*	28-4*	28-5*	28-8*
Service Rating	D	E	G, P, S = E; Bal. = D	D	L, M = E; B = D; Bal. = A
Number of Contacts	2 12	3	2 7	2 1 2	2 10
Contact Size	12 16	8	12 16	4 12 16	12 16

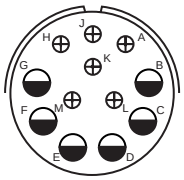
* Consult Amphenol, Sidney, NY for availability.



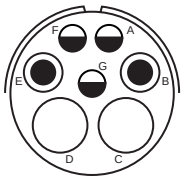
CONTACT LEGEND	16	12	8	4	0

MS/Standard
contact arrangements

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



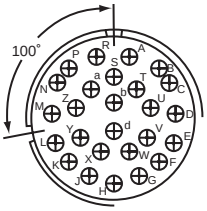
Insert Arrangement	**28-9**
Service Rating	**D**
Number of Contacts	**6 6**
Contact Size	**12 16**



Insert Arrangement	**28-10**
Service Rating	**G = D, Bal. = A**
Number of Contacts	**2 2 3**
Contact Size	**4 8 12**

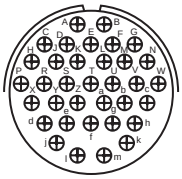
Insert Arrangement	**28-11**
Service Rating	**A**
Number of Contacts	**4 18**
Contact Size	**12 16**

Insert Arrangement	**28-12**
Service Rating	**A**
Number of Contacts	**26**
Contact Size	**16**

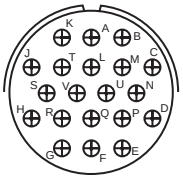


100° Rotation
of 28-12

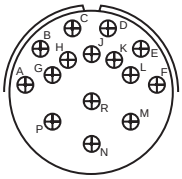
Insert Arrangement	**28-13**
Service Rating	**A**
Number of Contacts	**26**
Contact Size	**16**



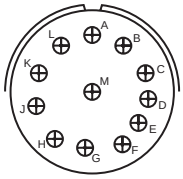
Insert Arrangement	**28-15**
Service Rating	**A**
Number of Contacts	**35**
Contact Size	**16**



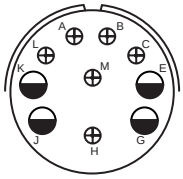
Insert Arrangement	**28-16****
Service Rating	**A**
Number of Contacts	**20**
Contact Size	**16**



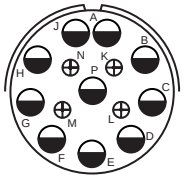
Insert Arrangement	**28-17**
Service Rating	**R = B; M, N, P = D; Bal. = A**
Number of Contacts	**15**
Contact Size	**16**



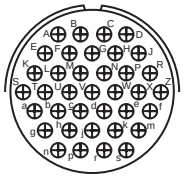
Insert Arrangement	**28-18***
Service Rating	**M = C; G, H, J, K, L = D; A, B = A; Bal. = Inst.**
Number of Contacts	**12**
Contact Size	**16**



Insert Arrangement	**28-19***
Service Rating	**H, M = B; A, B = D; Bal. = A**
Number of Contacts	**4 6**
Contact Size	**12 16**



Insert Arrangement	**28-20**
Service Rating	**A**
Number of Contacts	**10 4**
Contact Size	**12 16**



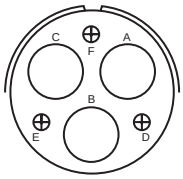
Insert Arrangement	**28-21**
Service Rating	**A**
Number of Contacts	**37**
Contact Size	**16**

* Consult Amphenol, Sidney, NY for availability.
** Inactive for new design

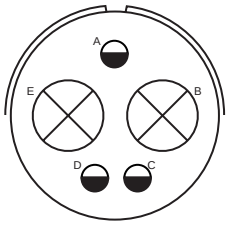
CONTACT LEGEND **16 12 8 4 0**

MS/Standard
contact arrangements

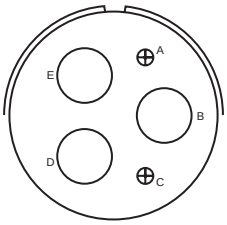
front face of pin insert or rear face of socket insert illustrated



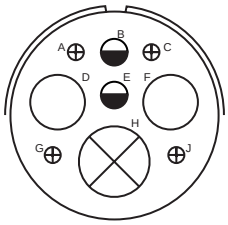
Insert Arrangement	**28-22**
Service Rating	**D**
Number of Contacts	**3 3**
Contact Size	**4 16**



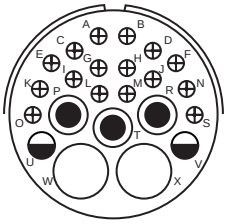
Insert Arrangement	**32-1**
Service Rating	**A = E; B, C, D, E = D**
Number of Contacts	**2 3**
Contact Size	**0 12**



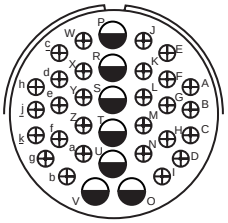
Insert Arrangement	**32-2***
Service Rating	**E**
Number of Contacts	**3 2**
Contact Size	**4 16**



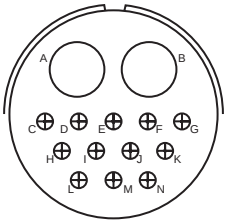
Insert Arrangement	**32-3***
Service Rating	**D**
Number of Contacts	**1 2 2 4**
Contact Size	**0 4 12 16**



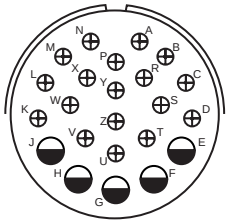
Insert Arrangement	**32-6**
Service Rating	**A**
Number of Contacts	**2 3 2 16**
Contact Size	**4 8 12 16**



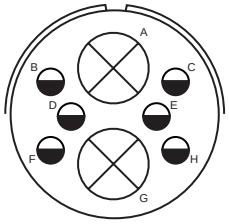
Insert Arrangement	**32-7**
Service Rating	**A, B, h, j = Inst.; Bal. = A**
Number of Contacts	**7 28**
Contact Size	**12 16**



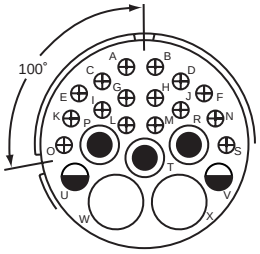
Insert Arrangement	**32-9**
Service Rating	**D**
Number of Contacts	**2 12**
Contact Size	**4 16**



Insert Arrangement	**32-13**
Service Rating	**D**
Number of Contacts	**5 18**
Contact Size	**12 16**

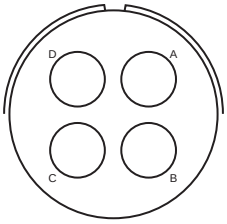


Insert Arrangement	**32-15**
Service Rating	**D**
Number of Contacts	**2 6**
Contact Size	**0 12**

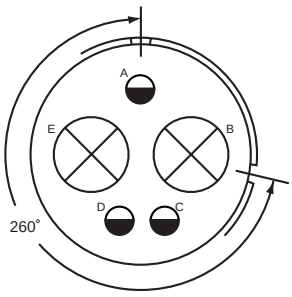


100° Rotation of 32-6

Insert Arrangement	**32-16**
Service Rating	**A**
Number of Contacts	**2 3 2 16**
Contact Size	**4 8 12 16**



Insert Arrangement	**32-17**
Service Rating	**D**
Number of Contacts	**4**
Contact Size	**4**



260° Rotation of 32-1

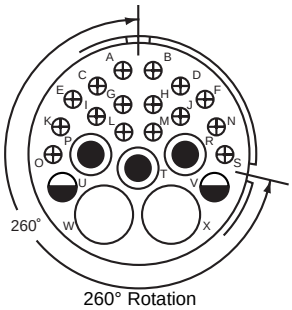
Insert Arrangement	**32-19***
Service Rating	**A = E, Bal. = D**
Number of Contacts	**2 3**
Contact Size	**0 12**

* Consult Amphenol, Sidney, NY for availability.

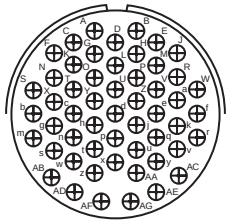
CONTACT LEGEND **16 12 8 4 0**

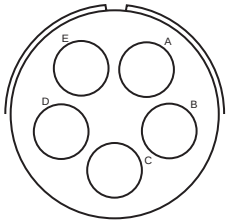
MS/Standard
contact arrangements

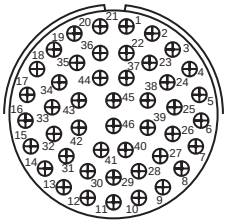
front face of pin insert or rear face of socket insert illustrated



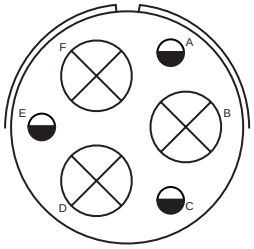
260° Rotation
of 32-6

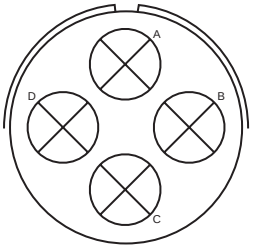


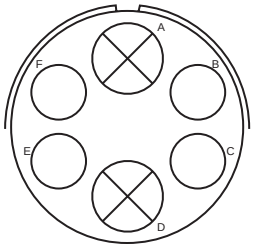


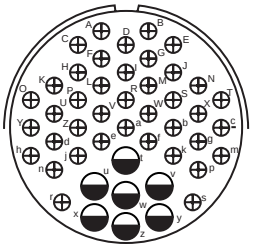


Insert Arrangement	**32-20**	**32-22***	**32-63**	**32-73**
Service Rating	**A**	**A**	**D**	**A**
Number of Contacts	**2 3 2 16**	**54**	**5**	**46**
Contact Size	**4 8 12 16**	**16**	**4**	**16**

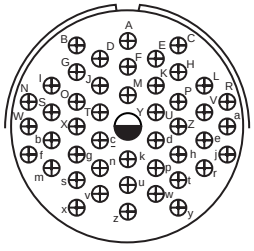


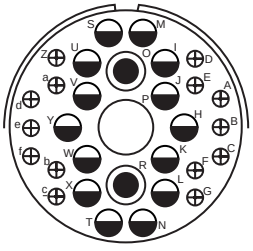


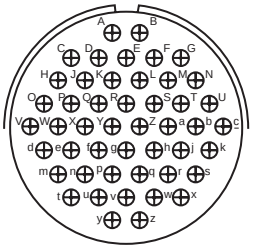


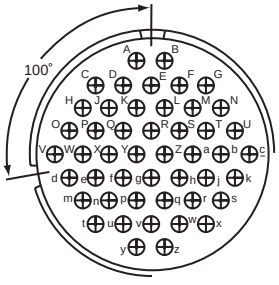


Insert Arrangement	**36-3**	**36-5**	**36-6**	**36-7**
Service Rating	**D**	**A**	**A**	**A**
Number of Contacts	**3 3**	**4**	**2 4**	**7 40**
Contact Size	**0 12**	**0**	**0 4**	**12 16**









100° Rotation
of 36-10

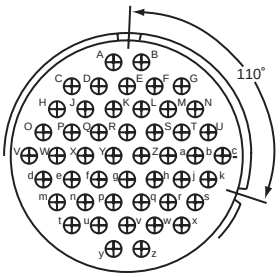
Insert Arrangement	**36-8**	**36-9**	**36-10**	**36-11**
Service Rating	**A**	**A**	**A**	**A**
Number of Contacts	**1 46**	**1 2 14 14**	**48**	**48**
Contact Size	**12 16**	**4 8 12 16**	**16**	**16**

* Consult Amphenol, Sidney, NY for availability.

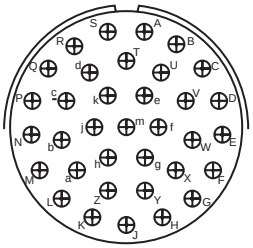
CONTACT LEGEND **16 12 8 4 0**

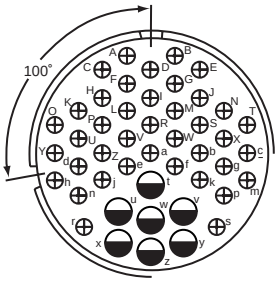
MS/Standard
contact arrangements

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

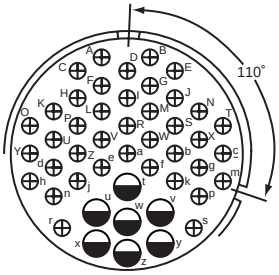


110° Rotation
of 36-10



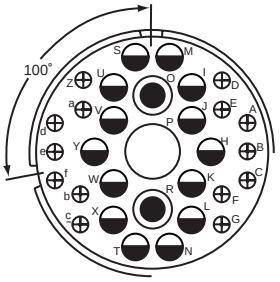


100° Rotation
of 36-7

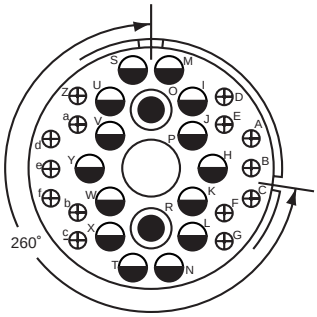


110° Rotation
of 36-7

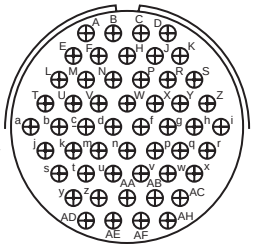
Insert Arrangement	**36-12**	**36-15**	**36-16**	**36-17**
Service Rating	**A**	**M = D, Bal. = A**	**A**	**A**
Number of Contacts	**48**	**35**	**7 40**	**7 40**
Contact Size	**16**	**16**	**12 16**	**12 16**

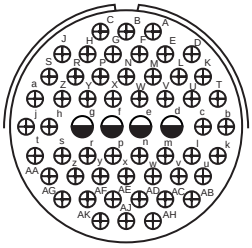


100° Rotation
of 36-9

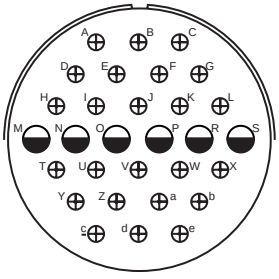


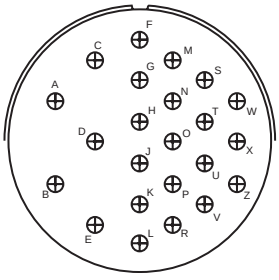
260° Rotation
of 36-9

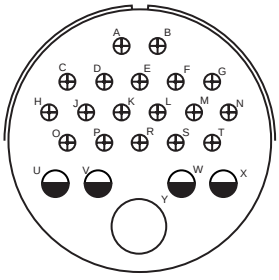




Insert Arrangement	**36-18**	**36-21**	**36-52**	**36-66***
Service Rating	**A**	**A**	**A**	**A**
Number of Contacts	**1 2 14 14**	**1 2 14 14**	**52**	**4 52**
Contact Size	**4 8 12 16**	**4 8 12 16**	**16**	**12 16**







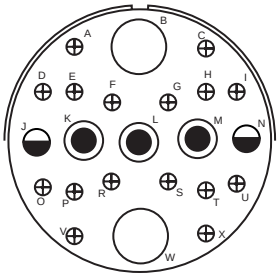
Insert Arrangement	**40-1**	**40-2***	**40-3***
Service Rating	**D**	**D**	**D**
Number of Contacts	**6 24**	**23**	**1 4 18**
Contact Size	**12 16**	**16**	**4 12 16**

* Consult Amphenol, Sidney, NY for availability.

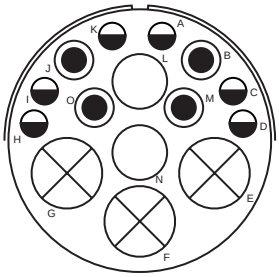
CONTACT LEGEND **16 12 8 4 0**

MS/Standard
contact arrangements

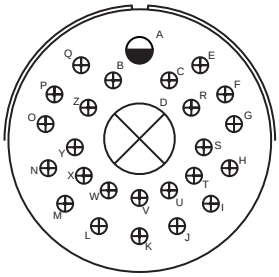
front face of pin insert or rear face of socket insert illustrated



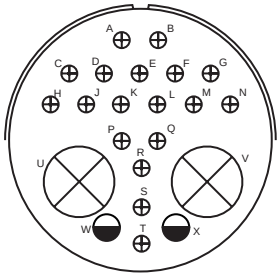
Insert Arrangement	**40-4***
Service Rating	**D**
Number of Contacts	**2 3 2 16**
Contact Size	**4 8 12 16**



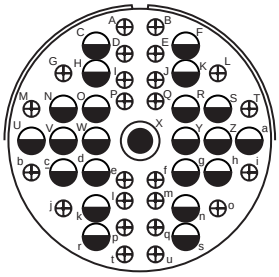
Insert Arrangement	**40-5***
Service Rating	**A**
Number of Contacts	**3 2 4 6**
Contact Size	**0 4 8 12**



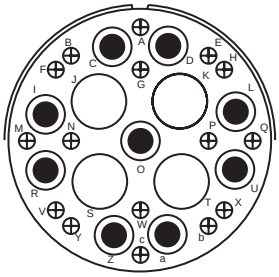
Insert Arrangement	**40-6***
Service Rating	**D**
Number of Contacts	**1 1 24**
Contact Size	**0 12 16**



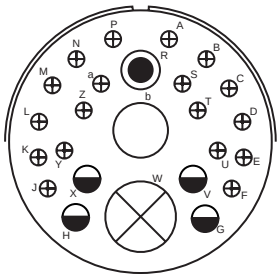
Insert Arrangement	**40-7***
Service Rating	**P, Q, U, V, W, X = A; Bal. = D**
Number of Contacts	**2 2 18**
Contact Size	**0 12 16**



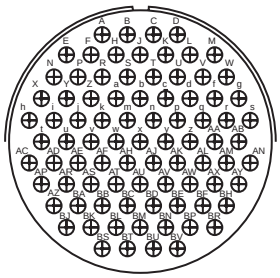
Insert Arrangement	**40-9**
Service Rating	**A**
Number of Contacts	**1 22 24**
Contact Size	**8 12 16**



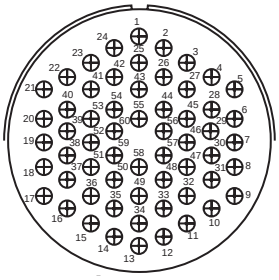
Insert Arrangement	**40-10***
Service Rating	**A**
Number of Contacts	**4 9 16**
Contact Size	**4 8 16**



Insert Arrangement	**40-11***
Service Rating	**D**
Number of Contacts	**1 1 1 4 18**
Contact Size	**0 4 8 12 16**



Insert Arrangement	**40-56***
Service Rating	**A**
Number of Contacts	**85**
Contact Size	**16**



Insert Arrangement	**40-62***
Service Rating	**A**
Number of Contacts	**60**
Contact Size	**16**

* Consult Amphenol, Sidney, NY for availability.

MS/Standard
contact information, sealing plugs, crimping and insertion/removal tools

MS/STANDARD
CRIMP REAR RELEASE CONTACTS

Contact Size	Wire Range		Socket Contacts		Pin Contacts	
	AWG	mm^2	Military Part Number	Amphenol/Matrix Part Number	Military Part Number	Amphenol/Matrix Part Number
16S*	20–16	0.5–1.4	M39029/30-217	M5100-033-1601L	M39029/29-212	M5000-029-0016L
16	20–16	0.5–1.4	M39029/30-218	M5100-033-1602L	M39029/29-212	M5000-029-0016L
12	14–12	2–3	M39029/30-219	M5100-033-0012	M39029/29-213	M5000-029-0012
8	10–8†	5–8.5	M39029/30-220	M5100-033-0008	M39029/29-214	M5000-029-0008
4	6–4†	13–21	M39029/30-221	M5100-033-0004	M39029/29-215	M5000-029-0004
0	2–0†	34–60	M39029/30-222	M5100-033-0000	M39029/29-216	M5000-029-0000

* Shorter wire barrel

† Use MS3348 bushing kit to accommodate smaller wire.

Note: For information on thermocouple contacts, consult Amphenol, Sidney, NY.

CONTACT CURRENT RATING AND RETENTION

Contact Size**	Current Rating		Contact Retention	
	Amperes Max.	Voltage Crop Millivolts	Axial Load	
			lb.	N
16	13	50	25	111.2
12	23	50	30	133.4
8	46	25	50	222.4
4	80	14	60	266.9
0	150	12	75	333.6

** Organize individual circuits to maintain heat rise within operating temperature requirements.

SEALING PLUGS

Contact Size	Sealing Plugs	
	Military Part Number	Amphenol/Matrix Part Number
16S	MS27488-16-1	10-405996-161
16	MS27488-16-1	10-405996-161
12	MS27488-12-1	10-405996-121
8	MS27488-8-1	10-405996-081
4	MS27488-4-1	10-405996-041
0	MS27488-0-1	10-405996-001

CRIMPING TOOLS

Contact Size	Wire Range		Finished Wire Dia. Range		Color Code	Crimping Tool Part Number	Turret or Positioner Part Number
	AWG	mm^2	Inch	mm			
16S	20–16	0.5–1.4	.053–.103	1.34–2.62	Red/White	M22520/1-01	M22520/1-02
16	20–16	0.5–1.4	.053–.103	1.34–2.62	Blue/White	M22520/1-01	M22520/1-02
12	14–12	2–3	.085–.158	2.15–4.01	Yell./White	M22520/1-01	M22520/1-02
8	10–8	5–8.5	.132–.255	3.35–6.48	White/Red	M22520/23-01	M22520/23-02
4	6–4	13–21	.237–.370	6.01–9.40	White/Blue	M22520/23-01	M22520/23-04
0	2–0	34–60	.360–.550	9.14–13.97	White/Yell.	M22520/23-01	M22520/23-05

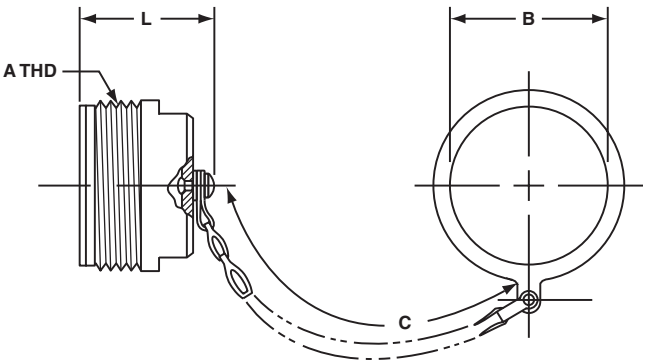
INSERTION/REMOVAL TOOLS

Contact Size	Color Code	Military Part Number	Amphenol/Matrix Part Number
16	Blue/White	M81969/14-03	10-538988-016
12	Yell./White	M81969/14-04	10-538988-012
8	White/Red	M81969/14-06	6500-018-0008
4	White/Blue	M81969/14-07	6500-018-0004
0	White/Yell.	M81969/14-08	6500-018-0000

Amphenol installation instructions, L-2106, gives information on insertion, removal and crimping of contacts for Matrix MIL-DTL-5015 connectors.

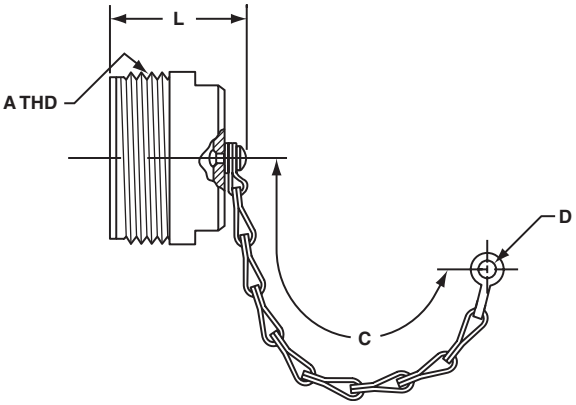
MS/Standard Accessories
protection caps – plug

PLUG PROTECTION CAP 10-329391-XX*



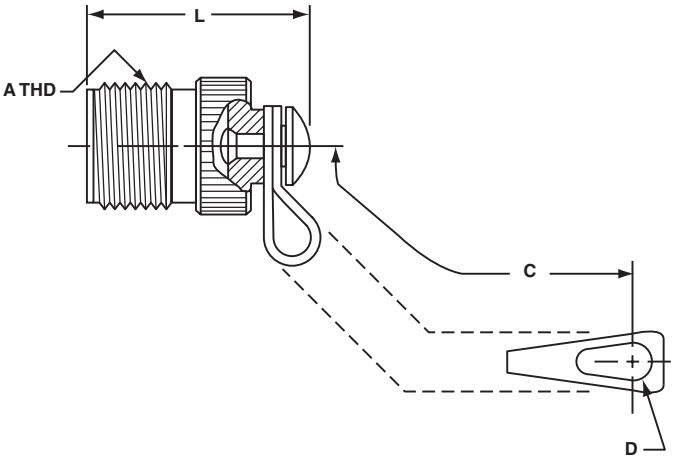
Assembly Number	A Thread Class 2A	B Dia. +.010 –.000	C Approx.	L Max.
10-329391-10	.625-24UNEF	.516	3.5	1.312
10-329391-11	.625-24UNEF	.641	3.5	1.312
10-329391-12	.750-20UNEF	.641	3.5	1.500
10-329391-14	.875-20UNEF	.766	3.5	1.500
10-329391-16	1.000-20UNEF	.891	3.5	1.500
10-329391-18	1.125-18UNEF	1.016	3.5	1.500
10-329391-20	1.250-18UNEF	1.141	4.0	1.500
10-329391-22	1.375-18UNEF	1.266	4.0	1.500
10-329391-24	1.500-18UNEF	1.391	4.5	1.500
10-329391-28	1.750-18UNS	1.641	4.5	1.500
10-329391-32	2.000-18UNS	1.891	5.0	1.500
10-329391-36	2.250-16UN	2.078	5.0	1.500
10-329391-40	2.500-16UN	2.328	5.0	1.500
10-329391-44	2.750-16UN	2.641	6.0	1.500

PLUG PROTECTION CAP 10-229125-XX*



Assembly Number	A Thread Class 2A	C Approx.	D Ref.	L Max.
10-229125-10	.625-24NEF	3.0	.140	1.233
10-229125-12	.750-20UNEF	3.5	.140	1.421
10-229125-14	.875-20UNEF	3.5	.140	1.421
10-229125-16	1.000-20UNEF	3.5	.140	1.421
10-229125-18	1.125-18NEF	3.5	.140	1.421
10-229125-20	1.250-18NEF	3.5	.193	1.421
10-229125-22	1.375-18NEF	3.5	.193	1.421
10-229125-24	1.500-18NEF	4.5	.193	1.421
10-229125-28	1.750-18NS	4.5	.193	1.421
10-229125-32	2.000-18NS	5.0	.193	1.421
10-229125-36	2.250-16UN	5.0	.193	1.421
10-229125-40	2.500-16UN	5.0	.193	1.421

PLUG PROTECTION CAP MS25042-XXDA*

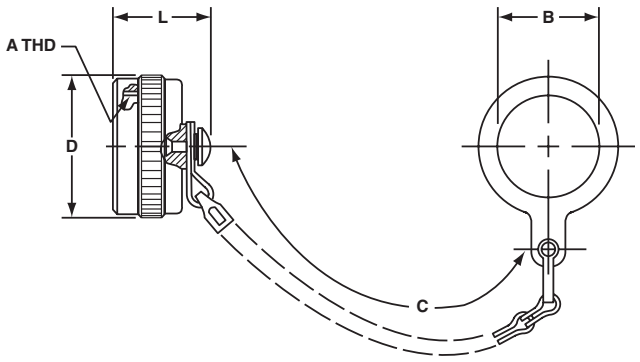


MS Number	A Thread Class 2A	B Dia. +.010 –.005	C Approx.	L Max.
MS25042-8DA	.500-28UNEF	.156	4.00	.969
MS25042-10DA	.625-24UNEF	.156	4.00	.969
MS25042-12DA	.750-20UNEF	.156	4.50	1.156
MS25042-14DA	.875-20UNEF	.156	4.50	1.156
MS25042-16DA	1.000-20UNEF	.156	4.50	1.156
MS25042-18DA	1.125-18UNEF	.156	4.50	1.156
MS25042-20DA	1.250-18UNEF	.187	5.00	1.156
MS25042-22DA	1.375-18UNEF	.187	5.00	1.156
MS25042-24DA	1.500-18UNEF	.187	5.50	1.156
MS25042-28DA	1.750-18UNS	.187	7.75	1.156
MS25042-32DA	2.000-18UNS	.218	7.75	1.156
MS25042-36DA	2.250-16UN	.218	7.75	1.156
MS25042-40DA	2.500-16UN	.218	7.75	1.156

* Protective caps are illustrated with sash chains and are available with beaded chains or without chains. Optional terminations are also available. Consult Amphenol, Sidney, NY when ordering.

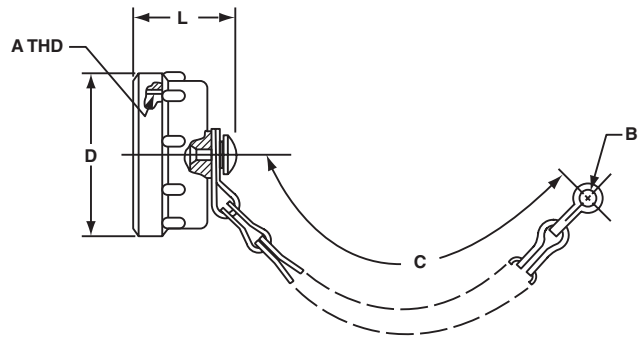
MS/Standard Accessories
protection caps – receptacle

RECEPTACLE PROTECTION CAP 10-329392-XX*



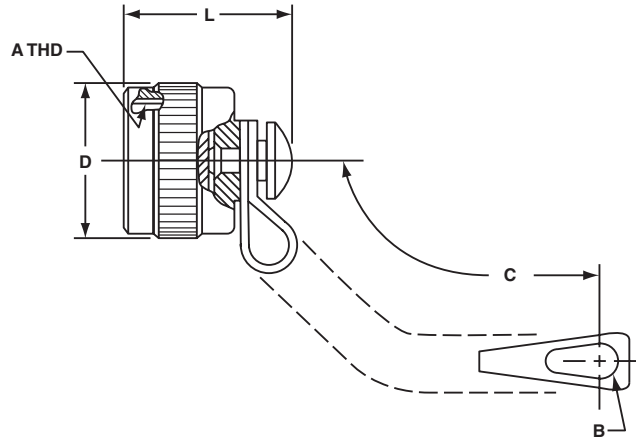
Assembly Number	A Thread Class 2B	B Dia. Min.	C Approx.	D Dia. Max.	L Max.
10-329392-10	.625-24UNEF	.516	3.5	.875	.793
10-329392-12	.750-20UNEF	.641	3.5	1.000	.793
10-329392-14	.875-20UNEF	.766	3.5	1.125	.793
10-329392-16	1.000-20UNEF	.891	3.5	1.250	.793
10-329392-18	1.125-18UNEF	1.016	3.5	1.375	1.024
10-329392-20	1.250-18UNEF	1.141	4.0	1.500	1.024
10-329392-22	1.375-18UNEF	1.266	4.0	1.625	1.024
10-329392-24	1.500-18UNEF	1.391	4.5	1.750	1.024
10-329392-28	1.750-18UNS	1.641	4.5	2.000	1.024
10-329392-32	2.000-18UNS	1.891	5.0	2.250	1.024
10-329392-36	2.250-16UN	2.078	5.0	2.500	1.024
10-329392-40	2.500-16UN	2.328	5.0	2.656	1.024
10-329392-44	2.750-16UN	2.641	6.0	2.938	1.024

RECEPTACLE PROTECTION CAP 10-422905-XXX*



Assembly Number	A Thread Class 2B	B Ref.	C Approx.	D Dia. Max.	L Max.
10-422905-103	.625-24UNEF	.140	3.0	.875	.812
10-422905-123	.750-20UNEF	.140	3.5	1.000	.812
10-422905-143	.875-20UNEF	.140	3.5	1.125	.812
10-422905-163	1.000-20UNEF	.140	3.5	1.250	.812
10-422905-183	1.125-18UNEF	.193	3.5	1.375	1.031
10-422905-203	1.250-18UNEF	.193	4.0	1.500	1.031
10-422905-223	1.375-18UNEF	.193	4.0	1.625	1.031
10-422905-243	1.500-18UNEF	.193	4.5	1.750	1.031
10-422905-283	1.750-18UNS	.193	4.5	2.000	1.031
10-422905-323	2.000-18UNS	.193	5.0	2.250	1.031
10-422905-363	2.250-16UN	.193	5.0	2.500	1.031
10-422905-403	2.500-16UN	.193	5.0	2.656	1.031

RECEPTACLE PROTECTION CAP MS25043-XXDA*

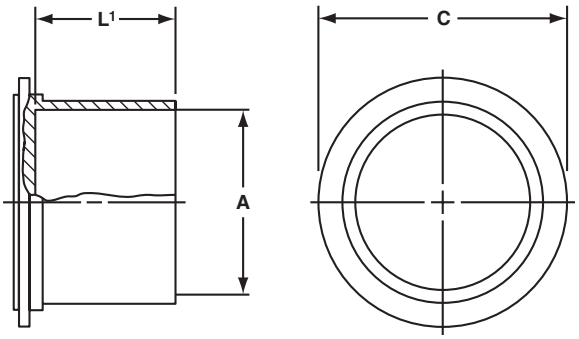


MS Number	A Thread Class 2B	B +.010 –.005	C Approx.	D Dia. Max.	L Max.
MS25043-8DA	.500-28UNEF	.140	4.00	.688	.750
MS25043-10DA	.625-24UNEF	.140	4.00	.815	.750
MS25043-12DA	.750-20UNEF	.140	4.50	1.000	.750
MS25043-14DA	.875-20UNEF	.140	4.50	1.125	.750
MS25043-16DA	1.000-20UNEF	.140	4.50	1.188	.750
MS25043-18DA	1.125-18UNEF	.140	4.50	1.344	.750
MS25043-20DA	1.250-18UNEF	.140	5.00	1.469	.750
MS25043-22DA	1.375-18UNEF	.140	5.00	1.594	.750
MS25043-24DA	1.500-18UNEF	.171	5.50	1.719	.750
MS25043-28DA	1.750-18UNS	.171	7.75	1.969	.812
MS25043-32DA	2.000-18UNS	.187	7.75	2.219	.812
MS25043-36DA	2.250-16UN	.187	7.75	2.469	.812
MS25043-40DA	2.500-16UN	.187	7.75	2.719	.812

* Protective caps are illustrated with sash chains and are available with beaded chains or without chains. Optional terminations are also available. Consult Amphenol, Sidney, NY when ordering.

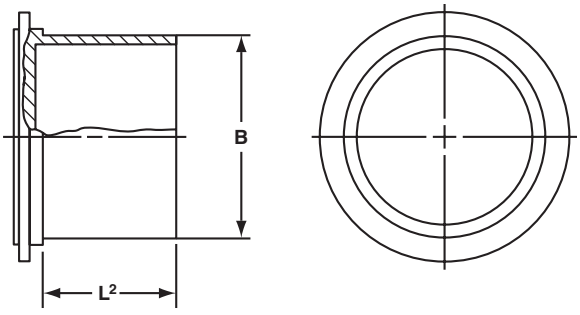
MS/Standard Accessories
dust caps

10-70500 RECEPTACLE DUST CAP
for external threads



MS Shell Size	Order Number	A Dia. Nominal Thread	C Dia. ±.031	L1 ±.062
8S	10-70500-8	.500	.750	.500
10S	10-70500-10	.625	.875	.500
10SL	10-70500-10	.625	.875	.500
12S	10-70500-12	.750	1.000	.500
12	10-70500-12	.750	1.000	.500
14S	10-70500-14	.875	1.125	.500
14	10-70500-14	.875	1.125	.500
16S	10-70500-16	1.000	1.250	.500
16	10-70500-16	1.000	1.250	.500
18	10-70500-18	1.125	1.375	.562
20	10-70500-20	1.250	1.500	.562
22	10-70500-22	1.375	1.625	.562
24	10-70500-24	1.500	1.750	.562
28	10-70500-28	1.750	1.938	.562
32	10-70500-32	2.000	2.250	.562
36	10-70500-36	2.250	2.500	.625
40	10-70500-40	2.500	2.750	.625

10-70506 PLUG DUST CAP
for internal threads



MS Shell Size	Order Number	B Dia. Min.	L2 ±.125
8S	10-70506-8S	.469	.625
10S	10-70506-10S	.587	.625
10SL	10-70506-10S	.587	.625
12S	10-70506-12	.704	.625
12	10-70506-12	.704	.625
14S	10-70506-14	.828	.625
14	10-70506-14	.828	.625
16S	10-70506-16	.953	.625
16	10-70506-16	.953	.625
18	10-70506-18	1.072	.625
20	10-70506-20	1.197	.625
22	10-70506-22	1.322	.625
24	10-70506-24	1.447	.625
28	10-70506-28	1.697	.625
32	10-70506-32	1.947	.625
36	10-70506-36	2.190	.625
40	10-70506-40	2.440	.625

MS/Standard
how to order

HOW TO ORDER BY MILITARY PART NUMBER
MIL-DTL-5015 CONNECTORS
WITH REAR RELEASE CRIMP CONTACTS

MS	3456	L	16S	–	8	P	W
1	**2**	**3**	**4**		**5**	**6**	**7**

1. Connector Type
MS designates Military Standard

2. Connector Style
THREADED COUPLING CONNECTORS
- 3450 wall mounting receptacle
- 3451 cable connecting receptacle
- 3452 box mounting receptacle
- 3454 jam nut receptacle
- 3456 straight plug
- 3459 straight plug with self-locking coupling nut

3. Service Class
- L aluminum shell, electroless nickel finish, fluid resistant insert
- W aluminum shell, cadmium olive drab finish, fluid resistant insert
- LS stainless steel shell, passivated, fluid resistant insert
- KT firewall, steel shell, cadmium olive drab finish, non-flammable hard dielectric and fluid resistant insert
- KS firewall, stainless steel shell, passivated, non-flammable hard dielectric and fluid resistant insert

Note: Class L inactivates older Class U.
Class K is inactive and has been replaced by Class KT for all applications.

4., 5. Shell size and insert arrangement - See tables on pages 11 and 12 and pattern drawings that follow.

6. Contact Types
- P designates pin
- S designates socket
- A designates less pins
- B designates less sockets

Note: Use A & B only when other than a full complement of power contacts is to be installed.

7. Insert Rotation
"W", "X", "Y", "Z" designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 13 for description of alternate positions.

HOW TO ORDER BY PROPRIETARY PART NUMBER
MIL-DTL-5015 CONNECTORS
WITH REAR RELEASE CRIMP CONTACTS

944	6	F	16S	–	8	P	W	***
1	**2**	**3**	**4**		**5**	**6**	**7**	**8**

1. Connector Type
944 designates Amphenol®/Matrix® Series Number

2. Connector Style
THREADED COUPLING CONNECTORS
- 9440 wall mounting receptacle
- 9441 cable connecting receptacle
- 9442 box mounting receptacle
- 9444 jam nut receptacle
- 9446 straight plug
- 9816 straight plug with self-locking coupling nut
- 9817 quick disconnect plug with lanyard
- 9818 quick disconnect plug without lanyard

3. Service Class
- A aluminum shell, black anodize finish, fluid resistant insert (not MIL-Spec)
- F aluminum shell, electroless nickel finish, fluid resistant insert
- W aluminum shell, cadmium olive drab finish, fluid resistant insert
- FS stainless steel shell, passivated, fluid resistant insert
- RS fluid resistant insert
- KT firewall, steel shell, cadmium/olive drab finish, non-flammable hard dielectric and fluid resistant insert
- KS firewall, stainless steel shell, passivated, non-flammable hard dielectric and fluid resistant insert

4., 5. Shell size and insert arrangement - See tables on pages 11 and 12 and pattern drawings that follow.

6. Contact Types
- P designates pin
- S designates socket

7. Insert Rotation
"W", "X", "Y", "Z" designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 13 for description of alternate positions.

8. Modification Number
Consult Amphenol, Sidney, NY for information.
For strain reliefs use the following modification codes:
- (189) E-nut M85049/31 configuration
- (190) Straight strain relief M85049/52 configuration
- (191) 90° strain relief M85049/51 configuration

Additional MS/Standard Connectors offered by Amphenol

MS/Standard 3100 Series, MIL-5015 Type Connectors

MIL-DTL-5015 and MIL-5015 Type Standard Cylindrical Connectors with solder or crimp (non-rear release) contacts

Amphenol has long been the accepted leader in providing MS/Standard MIL-5015 type connectors. These connectors represent well-proven electrical capability at an economical cost for most equipment where durability is important.

The MS/Standard family of connectors (3100 Series) is a very broad range of product with the following features:

- medium to heavy weight cylindrical with resilient inserts
- environmental resistant
- threaded couplings, single key/keyway shell polarization
- operating voltage to 3000 VAC (RMS) at sea level
- 5 shell styles, 19 shell sizes, 280 contact arrangements
- solder or crimp contacts (non-rear-release type), sizes 16–0 accepting 22–0 AWG
- coaxial or thermocouple contact options
- alternate insert positioning
- hermetic configurations available
- zinc alloy plating (cadmium-free) available

The 3100 Series has five classes of connectors to meet different requirements. Within these connector styles, MIL-C-5015 has been replaced as follows: Environmental classes F and R are updated to and produced in strict accordance to MIL-DTL-5015. Classes A, C and E are still produced, but are no longer listed on the qualified products listing (QPL).
Class designations and brief descriptions are as follows:

A – Solid Shell – for general, non-environmental applications.

C – Pressurized – for use on pressurized bulkheads or pressure barriers; limits air leakage regardless of type and class of plug mated with them.

E/F – Environmental Resisting with Strain Relief – designed for applications where the connector will be exposed to moisture, vibration, and rapid changes in pressure and temperature.

R – Lightweight Environmental Resisting – shorter in length, lighter in weight than the E & F classes, the MS-R offers a high degree of reliability under adverse conditions: recommended for new design applications.

Ask for Amphenol catalog 12-020 which gives detailed information on this family of connectors.

MIL-5015 Modifications

In order to supplement standard MS shell styles and provide a greater variety of styles for the electrical connector user, there are several MS and MS Modified cylindrical connectors offered by Amphenol. These types include flange mount plugs, thru bulkhead receptacles, jam nut receptacles, connectors for potting and connectors designed specifically to terminate jacketed cable.

Ask for Amphenol catalog 12-021 for detailed information.

97 Series, MIL-5015 Type Connectors

The low cost, general duty connector used extensively in the machine tool industry, welding industry and numerous other industrial applications, is the Amphenol® 97 Series. Offered in non-environmental styles, these connectors have hard dielectric inserts and threaded coupling. They are Underwriters Laboratories Recognized and Canadian Standards Association Certified.

Recent addition to this family is the 97E environmental styles, still an economical choice. The 97E can be used in a variety of industrial applications where environmental sealing is required, such as automotive and robotics.

Ask for Amphenol catalog 12-022 for detailed information.

97 Series, MIL-5015 Type Connectors