

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



Amphenol broadens their MS/Standard family of connectors with the MIL-C-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-C-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 USE-tention
- 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 ratcheting 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**

* 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-C-5015 Connectors

class descriptions, performance specifications

CLASS DESCRIPTIONS

Military MIL-C-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

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

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

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

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

-55°C (-75°F) to 200°C (392°F)

ENVIRONMENTAL SEAL

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

DURABILITY

Minimum of 100 mating cycles.

MS/Standard how to order

HOW TO ORDER BY MILITARY PART NUMBER MIL-C-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-C-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-C-5015 Type Connectors

MS/Standard MIL-C-5015 Type Connectors

Amphenol has long been the accepted leader in providing MS/Standard MIL-C-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

Within the 3100 Series there are five classes of connectors to meet different requirements.

Class designations and brief descriptions are listed below.

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-C-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-C-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-C-5015 Type Connectors