

Amphenol 97 Series MIL-DTL-5015



MATES WITH ALL THREADED MIL-DTL-5015 CONNECTORS

The 97 series is a durable, cost-effective MIL-DTL-5015 available in a variety of shell styles, sizes, contacts, and layouts. Contacts are silver-plated with pre-tinned solder cups. These circular connectors are excellent for industrial applications including robotics, machine tools and welding.

- UL-approved & CSA-certified
- Also called MIL-C-5015 or MS

APPLICATIONS

Industrial, commercial and medical applications where cost-effective, general-duty connectors are required.

- Communications systems
- Medical instrumentation
- Ships
- Conveyors
- Motors
- Trucks
- Factory automation
- Mobile equipment
- Trailers
- Industrial machinery
- Sensors

FEATURES

- Cost-effective
- Wide selection of shell styles and insert patterns
- Threaded coupling, hard dielectric inserts
- Solder termination
- Wide variety of connector finishes
- Solid or split-shell construction
- UL-recognized and CSA-certified

TECHNICAL SPECIFICATIONS

MATERIALS & FINISHES

Shell	Aluminum alloy
Plating	Olive drab chromate or clear chromate coating over cadmium plating to QQ-P-416, Black alloy, conductive black alloy, electroless nickel or green zinc and gray zinc nickel
Contacts	Brass or copper alloy
Contacts Plating	Silver plating to ASTM B700 (solder contacts have tinned solder pot) gold plating to ASTM B488
Insulator	Diallyl phthalate (Blue color)

ELECTRICAL DATA

Operating Voltage/Test Voltage

SERVICE RATING*	TEST VOLTAGE (RMS 60 cps)	SUGGESTED* OPERATING VOLTAGE		AIR SPACING NOM. (INCHES)	CREEPAGE DISTANCE NOM. (INCHES)
		DC	AC (rms)		
I	1,000	250	200	1/32	1/16
A	2,000	700	500	1/16	1/8
D	2,800	1,250	900	1/8	3/16
E	3,500	1,750	1,250	3/16	1/4
B	4,500	2,450	1,750	1/4	5/16
C	7,000	4,200	3,000	5/16	1

* Each insulator has a specific service rating. These numbers should be used by the designer only as a guide. The Service Ratings for each layout are listed on [pages 72-93](#).

97 series connectors show no evidence of breakdown when the given test voltages are applied between the two closest contacts and between the shell and the contacts closest to the shell for a period of one minute, per MIL-STD-1344 Method 3001.

Current Rating & Contact Resistance

CONTACT SIZE	TEST CURRENT (AMPS)	POTENTIAL DROP (MILLIVOLTS)
16	13	49
12	23	42
8	46	26
4	80	23
0	150	21

Maximum total current to be carried per connector in wire bundles as specified in MIL-W-5088. Contact resistance when tested to MIL-C-39029 will not exceed voltage drops listed in above table.

MECHANICAL

Wire Range Sizes	24 to 0 AWG
Contact Resistance	(See table above)
Insulation Resistance	> 5,000 megohms at 77°F (25°C) per MIL-DTL-5015, 3.18
Mating Life	100 cycles minimum per MIL-DTL-5015, 3.16
Salt Spray	MIL-STD-1344 Method 1001 Condition B minimum (Cadmium) 48 hour, Gray Zinc Nickel 500 hours
Heat	+257°F (+125°C) for 60 hours, +185°F (+85°C) for 1,000 hours per MIL-DTL-5015, 4.6.14, minimum
Chemical Resistance	20 hour full immersion (unmated) in hydraulic fluid and lubricating oil per MIL-DTL-5015 minimum
Vibration	10 to 2,000Hz (15g's) 10 microseconds maximum discontinuity to MIL-STD-1344 Method 2005 per MIL-DTL-5015
Shock	50g 11 millisecond duration, three major axes 10 microseconds maximum discontinuity to MIL-DTL-5015, 3.13
Contact Type	Solder (hard silver or gold plating)
Number of Circuits	1 to 52 (See pages 72-82)

