Amphenol® 97 Series Standard Cylindrical Connector

12-022-14

MIL-5015 Style Connectors widely used for:

- **Factory Automation, Robotics**
- **Machine Tool, Instrumentation**
- **Welding Equipment**
- **Medical Equipment**

Amphenol® 97 Series Connectors are UL recognized and CSA recognized.

Amphenol

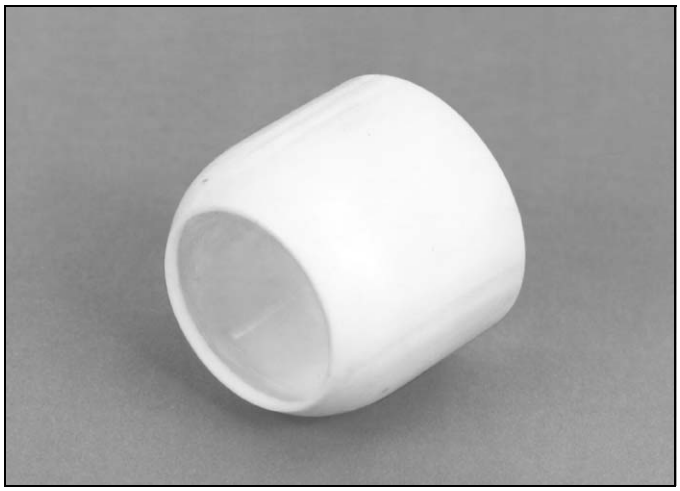
97 series
special purpose connectors

Potting (438 Construction)

Potting constructions actually exceed the Type “E” requirements of military specifications for moisture-proof connectors. These constructions replace the back shell completely with a lightweight threaded retainer ring permanently staked to the shell.

To seal the back of the connector, potting compound is injected into an expendable polyethylene potting form and allowed to cure or set. When the form is removed, the resilient hemispherical shaped insulation extends well into the connector. It forms a chemical bond to the inner and outer walls of the plug, to the back of the insert, around the soldered connections and well out along the leads.

Not only is the back shell eliminated, but also the cable clamp. The solder joints are completely and individually protected by the resilient mass which surrounds them and resists transmittal of vibration to the soldered connections. The completed assembly is not only moisture-proof, but also pressurized and resistant to salt water, aircraft lubricating oil and jet fuels.



Expendable Potting Forms

For companies not using their own potting molds, expendable polyethylene forms can be provided. These expendable forms need no treatment before use. Though designed to be discarded, they can be left on assemblies after potting. Nylon potting forms to be left permanently on the assembly are also available. These forms are supplied with construction (824) and (871).

How to Order

To order connectors in constructions for potting, use the standard MS nomenclature (MS3100A, MS3101A, and MS3106A constructions are available), but substitute “97” for “MS”, drop the “A” suffix for type of back shell, and add the application deviation (XXX) as shown on the chart. Example: 97-3106-28-16S (438).

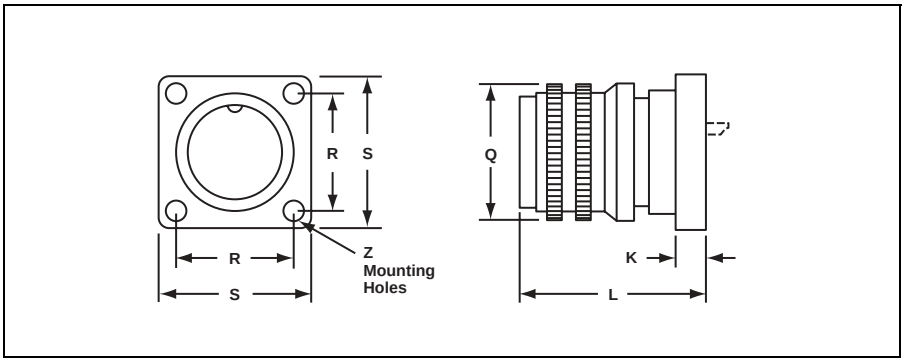
Deviation	Explanation	Shell Styles	
438	Modified “MS”, for potting where back shell is replaced by threaded retainer ring. A type “W” washer is included under 3106 coupling ring. (Boot is not included).	3100 3101	3106 3107
541	Consists of (438) construction with 9755-255-XX expendable poly potting form, and type “W” washer. Connectors are marked “97-310X-XX-XX(541).”	3100 3101	3106 3107
824	Consists of (438) construction plus nylon potting form and type “W” washer; bagged, marked MS25183.	3106	
826	Consists of (517) construction plus nylon potting form and type “W” washer; marked MS25183A.	3106	
871	Consists of (438) construction with 9755-271-XX nylon potting form, and type “W” washer; bagged. Connectors are marked “97-310X-XX-XX(871).”	3100 3101	3106 3107

97 series
special purpose connectors

Box Type Plugs
(97-5105 construction)

Mounts directly on box or housing. For direct connection of two pieces of equipment without interconnecting wires. Available in all sizes; male or female inserts. To order, complete part number (97-5105) by adding proper insert number.

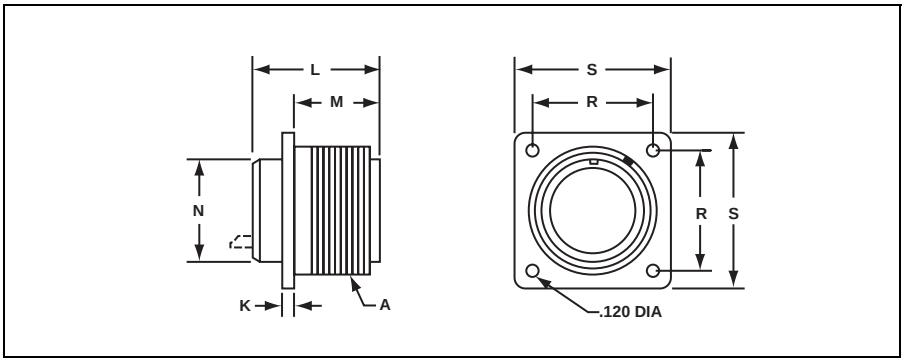
Example: 97-5105-28-20S. To prevent connector from rotating: Order deviation 205 (single stake, with swivel ring pinned) or 206 (double staking, with both swivel plate and swivel ring pinned).
Example: 97-5105-28-20S (205) or 97-5105-28-20S (206).



Connector Size	K		L		Q		R		S		Z Mounting Threads
	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	
8S	1/8	3.18	7/8	22.23	3/4	19.05	9/16	14.27	25/32	19.84	4-36
10S	1/8	3.18	7/8	22.23	7/8	22.23	9/16	14.27	25/32	19.84	4-36
12S	5/32	3.96	31/32	24.59	1	25.40	13/16	20.62	1-1/16	26.97	4-36
12	5/32	3.96	1-3/8	34.93	1	25.40	13/16	20.62	1-1/16	26.97	4-36
14S	5/32	3.96	31/32	24.59	1-1/8	28.56	13/16	20.62	1-1/16	26.97	4-36
14	5/32	3.96	1-3/8	34.93	1-1/8	28.56	13/16	20.62	1-1/16	26.97	4-36
16S	5/32	3.96	31/32	24.59	1-1/4	31.75	1	25.40	1-5/16	33.32	6-32
16	5/32	3.96	1-13/32	35.71	1-1/4	31.75	1	25.40	1-5/16	33.32	6-32
18	5/32	3.96	1-13/32	35.71	1-11/32	34.11	1	25.40	1-5/16	33.32	6-32
20	3/16	4.75	1-13/32	35.71	1-15/32	37.29	1-1/4	31.75	1-5/8	41.28	10-24
22	3/16	4.75	1-13/32	35.71	1-19/32	40.46	1-1/4	31.75	1-5/8	41.28	10-24
24	3/16	4.75	1-13/32	35.71	1-23/32	43.64	1-9/16	39.67	2	50.80	10-24
28	3/16	4.75	1-13/32	35.71	1-31/32	49.99	1-9/16	39.67	2	50.80	10-24

Small Flange Receptacle

Small flange, (115) construction, receptacles are available in sizes 12S and 14S with pin or socket inserts and in size 10SL with pin contacts only.
To order, complete part number (97-3102) by adding proper insert and construction numbers; 97-3102A12S-4S (115).



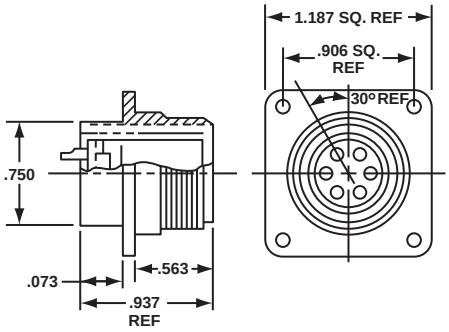
Connector Size	A Coupling Threads	K Ref.		L Max.		M Ref.		N Ref.		R Ref.		S Ref.	
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
10SL	5/8-24	5/64	1.98	61/64	24.21	9/16	14.27	5/8	15.88	.625	15.88	13/16	20.62
12S	3/4-20	3/32	2.36	7/8	21.41	9/16	14.27	5/8	15.88	.664	16.87	7/8	22.23
14S	7/8-20	3/32	2.36	7/8	21.41	9/16	14.27	23/32	18.24	.730	18.54	15/16	23.80

97 series
special purpose connectors

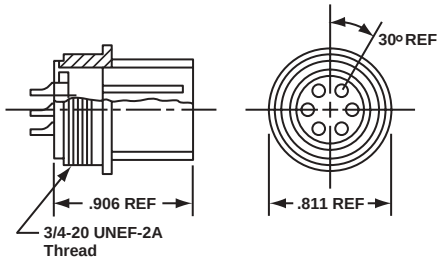
ECG Connectors

Special purpose connectors used for process control and medical instrumentation applications.

7-8905
97-3102A14S-6S (639)
with insert rotated 30° off normal position between contacts “A” and “F”.



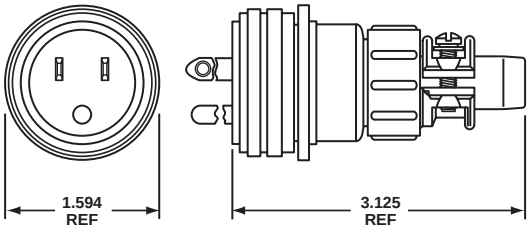
7-8906
97-3106A14S-6P (639)
with insert rotated 30° off normal position between contacts “A” and “F”.

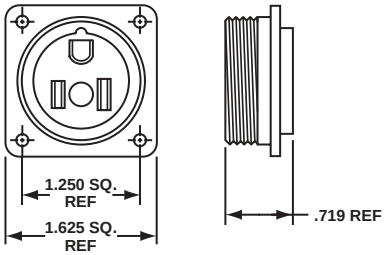


Convenience Outlets

Rated for duty at 15 amps. Provide 1000 VRMS dielectric withstanding voltage and 100 megohms insulation resistance. Will withstand 1000 cycles of use.

7-8649
Convenience plug



7-8648
Convenience outlet

7-8648-5
Convenience outlet with metal cap and chain