

INCH-POUND

MS27613G
7 August 2015
SUPERSEDING
MS27613F
14 August 2009

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, RECEPTACLE,
PANEL MOUNT, FIREWALL SERIES

Inactive for new design after 14 November 1977.
For new design, use MIL-DTL-83723, series III, class K.

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein
shall consist of this specification sheet and MIL-DTL-26500.

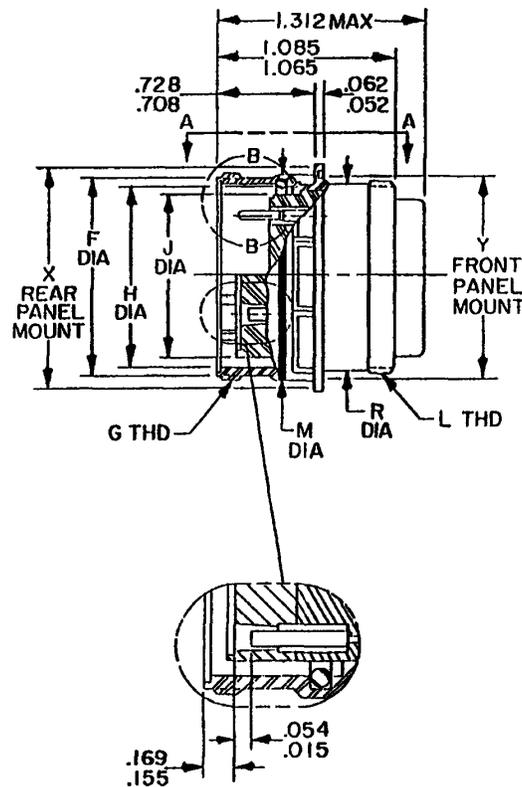


FIGURE 1. Receptacle dimensions.



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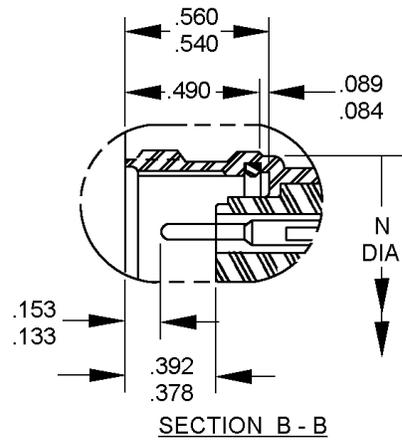
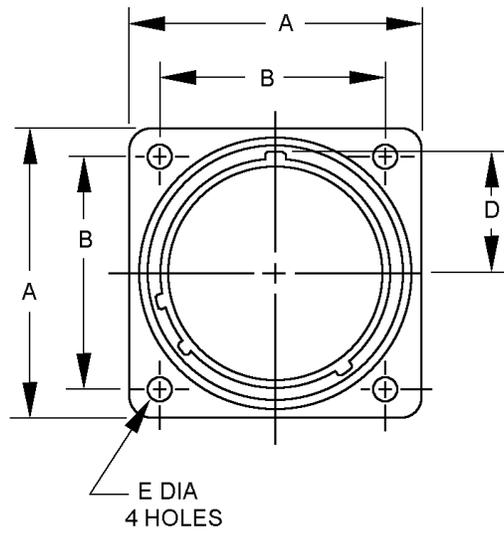
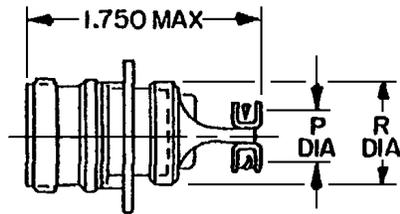
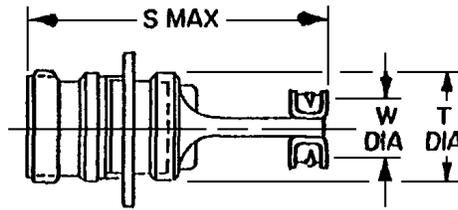


FIGURE 1. Receptacle dimensions – Continued.

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TYPE P ASSEMBLY SHORT CABLE SUPPORT



TYPE D ASSEMBLY LONG CABLE SUPPORT

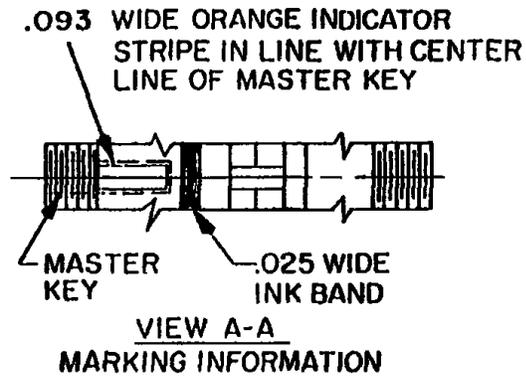


FIGURE 1. Receptacle dimensions – Continued.

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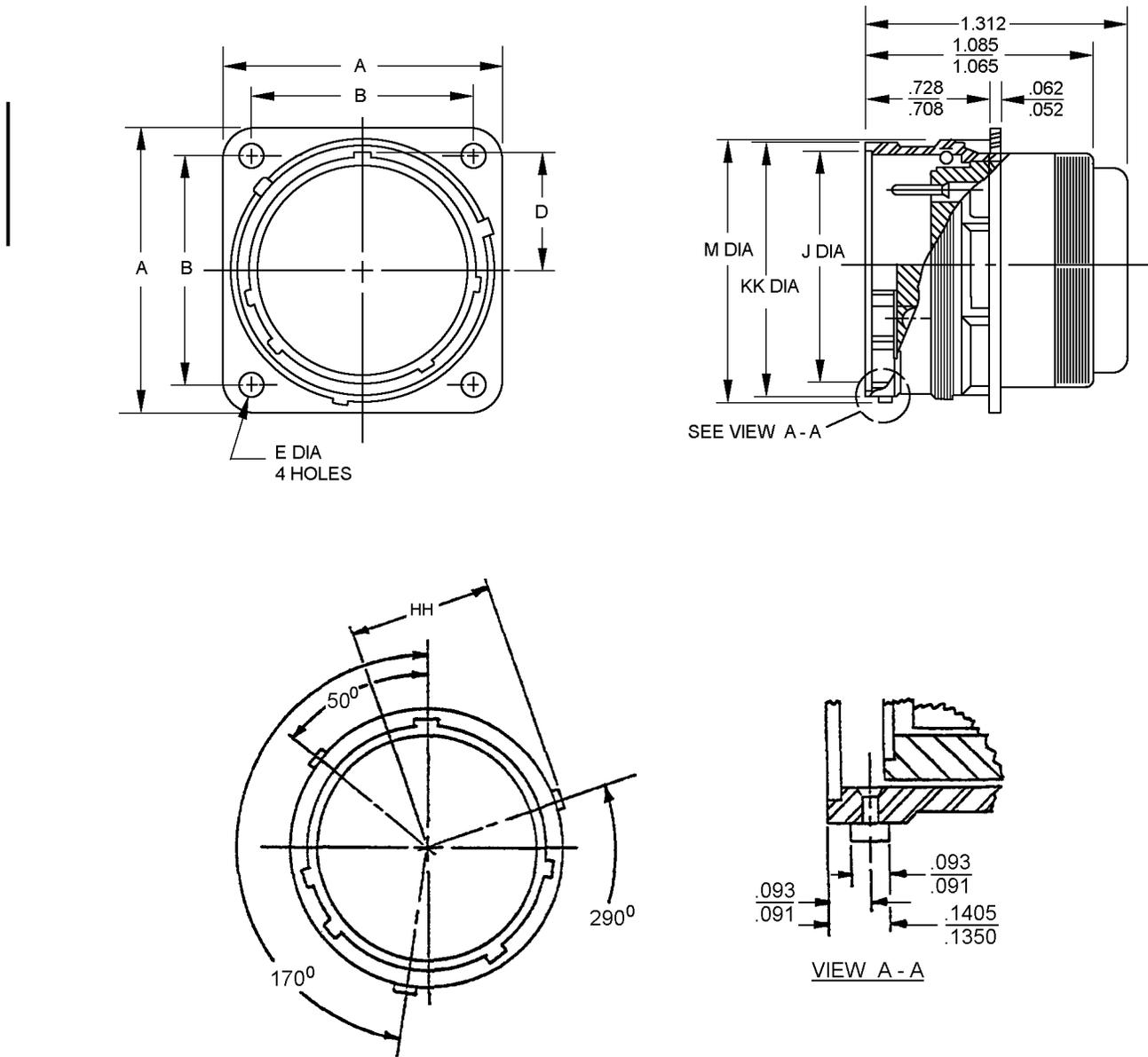


FIGURE 1. Receptacle dimensions – Continued.

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Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
.015	0.38	.084	2.13	.1350	3.429	.378	9.60	.708	17.98
.025	0.64	.089	2.26	.1405	3.569	.392	9.96	.728	18.49
.052	1.32	.091	2.31	.153	3.39	.490	12.45	1.065	27.05
.054	1.37	.093	2.36	.155	3.94	.540	12.85	1.085	27.56
.062	1.57	.133	3.38	.169	4.29	.560	13.72	1.750	44.45

Shell size (see note 1)	A dia ± .005 (0.13)	B dia ± .005 (0.13)	C dia ± .003 (0.08)	D + .005 (0.13) - 0.000 (0.00)	E dia + .009 (0.23) - .000 (0.00)
12	1.031 (26.19)	.812 (20.62)	.094 (2.39)	.373 (9.52)	.116 (2.95)
14	1.125 (28.58)	.906 (24.38)	.094 (2.39)	.408 (10.36)	.116 (2.95)
16	1.250 (31.75)	.969 (24.62)	.471 (11.96)	.471 (11.96)	.116 (2.95)
18	1.343 (34.11)	1.062 (26.97)	.524 (13.31)	.524 (13.31)	.116 (2.95)
22	1.562 (39.67)	1.250 (31.75)	.649 (16.48)	.649 (16.48)	.116 (2.95)
24	1.703 (43.26)	1.375 (34.92)	.713 (18.11)	.713 (18.11)	.145 (3.68)
28	2.000 (50.80)	1.562 (39.67)	.838 (21.28)	.838 (21.28)	.145 (3.68)

FIGURE 1. Receptacle dimensions – Continued.

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Shell size (see note 1)	F dia ± .005 (0.13)	G UNEF-2A	H dia + .005 (0.13) - .000 (0.00)	HH + .002 (0.05) - .005 (-0.13)	J dia max
12	.808 (20.52)	.875-20 (22.22)	.700 (17.78)	N/A	.558 (14.94)
14	.871 (22.12)	.937-20 (23.80)	.769 (19.53)	.4900 (12.45)	.627 (15.92)
16	.969 (24.61)	1.0625-18 (26.97)	.896 (22.75)	.5535 (14.06)	.754 (19.15)
18	1.114 (28.30)	1.187-18 (30.15)	1.002 (25.95)	.6065 (15.40)	.860 (21.84)
22	1.364 (34.64)	1.437-18 (36.50)	1.252 (31.80)	.7315 (18.58)	1.110 (28.19)
24	1.489 (37.82)	1.562-18 (39.67)	1.377 (34.98)	.7965 (20.23)	1.235 (31.36)
28	1.738 (44.17)	1.812-16 (49.20)	1.627 (41.32)	N/A	1.488 (37.80)

Shell size (see note 1)	K dia max	KK dia - .002 (0.05) + .005 (0.13)	L 36NS-2A	M dia + .000 (0.00) - .010 (0.25)	N dia ± .005 (0.13)	P dia ± .006 (0.15)
12	.710 (18.03)	N/A	.7334 (19.644)	.866 (22.00)	.806 (20.47)	N/A
14	.779 (19.79)	.898 (22.81)	.8032 (20.40)	.935 (23.75)	.875 (22.23)	.382 (9.70)
16	.906 (23.01)	1.025 (26.04)	.9302 (23.627)	1.062 (26.97)	1.002 (25.45)	.462 (11.73)
18	1.012 (25.70)	1.131 (28.73)	1.0362 (26.319)	1.177 (29.90)	1.108 (28.14)	.556 (14.12)
22	1.262 (32.05)	1.381 (35.08)	1.2862 (32.669)	1.427 (36.24)	1.358 (34.47)	.608 (15.94)
24	1.387 (35.23)	1.506 (38.25)	1.4111 (35.842)	1.552 (39.42)	1.483 (37.67)	N/A
28	1.647 (41.83)	N/A	1.6611 (42.192)	1.780 (45.21)	1.733 (40.02)	N/A

FIGURE 1. Receptacle dimensions – Continued.

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Shell size (see note 1)	R max	S max	T dia ± .010 (0.25)	V dia front mount	W dia ± .015 (0.38)	X dia rear mount
12	.750 (19.50)	2.014 (51.16)	.788 (20.02)	.760 (19.30)	.435 (11.05)	.913 (23.19)
4	.812 (20.62)	2.114 (53.70)	.862 (21.89)	.822 (20.88)	.504 (12.80)	.980 (24.89)
16	.938 (23.82)	2.214 (56.24)	.989 (25.12)	.948 (24.08)	.686 (17.42)	1.107 (28.12)
18	1.062 (26.97)	2.314 (58.78)	1.095 (27.81)	1.072 (27.23)	.794 (20.17)	1.209 (30.71)
22	1.312 (33.32)	2.514 (63.86)	1.345 (34.16)	1.322 (33.58)	1.038 (26.36)	1.452 (36.88)
24	1.432 (36.37)	2.614 (66.40)	1.595 (40.51)	1.442 (36.63)	1.162 (29.51)	1.577 (40.06)
28	1.675 (42.55)	2.814 (71.48)	1.845 (46.86)	1.700 (43.18)	1.412 (35.86)	1.827 (46.41)

Weight of assembly (max weight, in pounds) less contacts and cable support											
Shell size	12	12	14	14	14	14	16	16	18	18	18
Configuration	03	12	04	07	12	15	10	24	08	14	31
Pin insert	.067	.063	.068	.068	.067	.069	.072	.078	.095	.096	.096
Socket insert	.068	.065	.071	.070	.070	.071	.078	.071	.098	.101	.101

Weight of assembly (max weight, in pounds) less contacts and cable support							
Shell size	22	22	22	24	24	28	28
Configuration	19	12	55	30	43	40	42
Pin insert	.130	.132	.131	.139	.141	.201	.206
Socket insert	.140	.139	.134	.143	.146	.204	.208

FIGURE 1. Receptacle dimensions – Continued.

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NOTES:

1. Shell size 12 and 28: Available in threaded coupling only. Not applicable to bayonet style connectors.
2. Dimensions are in inches.
3. Metric equivalents are given for information only.
4. For new design, use MIL-DTL-83723. Note: MIL-DTL-83723, series III, specifies accessory threads that are not fully compatible with MIL-DTL-26500 connectors.

FIGURE 1. Receptacle dimensions – Continued.

REQUIREMENTS

Dimensions and configurations: See figure 1.

Connector mating: This connector mates with MS24266 and MS27615.

The contacts shall be crimp type contacts and shall conform to SAE-AS39029.

Contacts are not assembled into the connectors, but are furnished separately in containers.

The contacts shall be crimped with a tool conforming to MIL-C-22520/1 crimping tool.

For insert arrangements and alternate insert (keying) positions: See MIL-STD-1554.

The dimensions and weight requirements shall be as specified in the tables shown on figure 1.

Dust caps are supplied for front and back end of the connectors.

When the Part or Identifying Number (PIN) designates a cable support, the connector and cable support shall be furnished unassembled.

Materials and finishes:

- a. The shells shall be stainless steel in accordance with AMS-5640 and with passivation in accordance with AMS-2700.
- b. The contacts shall be in accordance with SAE-AS39029.
- c. The rigid insulation shall be of fired aluminum oxide (ceramic) material.
- d. Cable supports shall be stainless steel in accordance with AMS-5640 and with passivation in accordance with AMS-2700.
- e. Contact retainers: Material optional.
- f. Seals and grommets shall be of silicone rubber.

For class K connectors:

- a. The connectors described herein shall meet all the environmental and electrical requirements of MIL-DTL-26500.
- b. In addition to the requirements of MIL-DTL-26500, the connectors shall meet the following requirements.
 1. Fireproof. A connector plug mated to its applicable receptacle assembly shall be mounted as used in service on a fixture fabricated in accordance of SAE-AS50151 and subjected to a 1,093°C flame for a period of 60 minutes. The flame shall be directed at the connector, and shall completely encompass the connector. The temperature of the flame shall be measured at .250 inch vertical distance from the rear of the connector. The flame shall be produced by using propane fuel with a high air-to-fuel mixture at a flow rate equivalent to an input of 33,000 to 37,000 BTU/HR. The assembly shall be vibrated continuously at 33 Hz with total excursion of .250 inch for 60 minutes. The contacts shall carry the following dc current for the first 5 minutes of the test:

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Contact size	Amperes
12	41
16	22
20	7.5

During the next minute of test, 110/125 volts at 60 Hz shall be applied between adjacent contacts and between contacts and the shell without exceeding 2 amperes of line current. Throughout the test, there shall be no passing of flames through the connector, nor shall there be any secondary combustion at the rear of the panel mounted connector. There shall be no adapters or extensions other than the standard cable clamp assembled to the connectors during the fireproof test.

2. Insulation resistance, fireproof. After the flame test, the connectors shall be allowed to cool to room temperature, the mated connectors shall then be subjected to a test potential of 500 V dc. The insulation resistance of the connectors shall be greater than 2,000 megohms.
3. Dielectric withstanding voltage, fireproof. After exposure to the flame and insulation resistance tests, the mated connectors shall be subjected to 1500 V ac rms. Applied between adjacent contacts and the contacts closest to the shell, there shall be no evidence of breakdown or flashover.
4. Contact retention, fireproof. After exposure to the flame, insulation resistance and dielectric withstanding tests, the individual contact locking mechanism shall withstand the axial loads specified in the table.

Contact size	Axial load (lbs.) (fireproof)
12	23
16	18
20	12

The load shall be applied to the contact as specified in MIL-DTL-26500 and shall be applied at a rate of one pound per second.

All dimensions shown are in inches and are after plating dimensions.

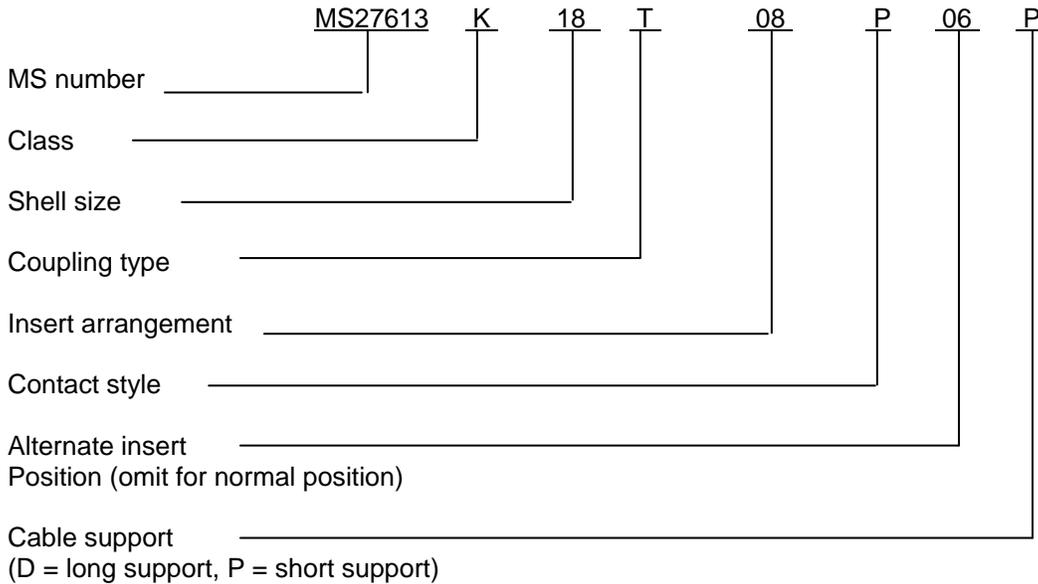
The four keys and/or keyways shall be within .004 of true position relative to the master key.

The connector described in this MS drawing is classified as class K firewall connector.

The shell sizes range from 12 to 28 and shall conform to the applicable portions of MIL-DTL-26500.

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PIN example:



Changes from previous issue. The margins of this specification sheet are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Referenced documents. In addition to MIL-DTL-26500, this document references the following:

- MIL-C-22520/1
- MIL-DTL-83723
- MIL-STD-1554
- MS24266
- MS27615
- AMS-2700
- AMS-5640
- SAE-AS39029
- SAE-AS50151

CONCLUDING MATERIAL

Custodians:

- Army – AV
- Air Force – 85
- DLA – CC

Preparing activity:

DLA – CC

Review activities:

- Army - MI
- Air Force – 99

(Project 5935–2015-182)

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