

MS-K firewall connectors have met and are qualified to the fireproof test of MIL-C-5015. This test requires that a connector mounted to a firewall will continue to operate for 5 minutes in case of fire and

prevent the passage of flame for 20 minutes. These connectors are not environmentally sealed but operate continuously at temperature up to +177°C (+350°F). MS-K connectors have crimp type con-

tacts; thermocouple contacts must be ordered separately and are solder type unless otherwise requested on order. Cavities that will contain the thermocouple contacts and contact material must be specified when ordering.

Performance and Material Specifications

MATERIALS

Shell - Steel
 Insulator - Glass-filled epoxy or glass-filled melamine or melamine glass cloth laminate
 Contacts - Copper alloy

FINISHES

Shell - Olive drab over cadmium plate
 Contacts - Silver plate

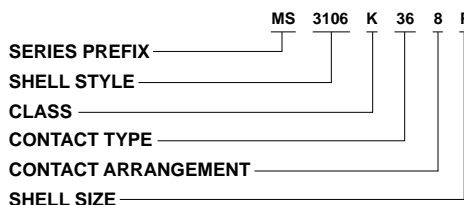
MECHANICAL FEATURES

Shell Size - In sixteenths of an inch
 Coupling - Threaded
 Contact Arrangements - See pages 216-217

ELECTRICAL DATA

Number of Contacts - 1 thru 37

How to Order

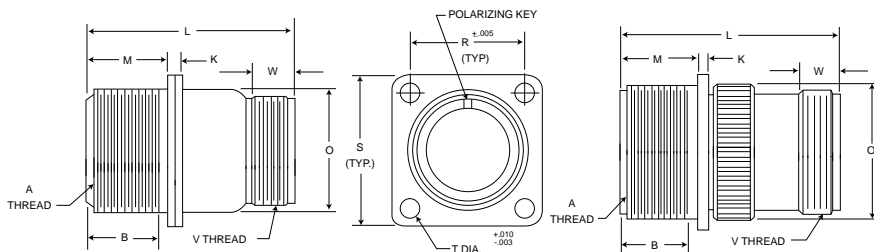


SERIES PREFIX
MS
SHELL STYLE
See pages 202-204
CLASS
K per MIL-C-5015

SHELL SIZE
8S to 36
CONTACT ARRANGEMENT
See pages 216-217
CONTACT TYPE
P for pin; S for socket

Wall Mounting Receptacle

MS3100K



Sizes 8S to 18 have junction shell

Sizes 20 to 36 have endbell

| Part Number | B | K | L | M | O | R | S | T | W |
|----------------|--------------|-------------|---------------|--------------|---------|---------|--------|-------------|--------------|
| MS3100K8S-† | .375 (9.52) | .125 (3.18) | 1.453 (36.91) | .563 (14.30) | 17/32 | 19/32 | 7/8 | .150 (3.81) | .375 (9.52) |
| •MS3100K10SL-† | .375 (9.52) | .125 (3.18) | 1.109 (28.17) | .563 (14.30) | 25/32 | 23/32 | 1 | .150 (3.81) | .375 (9.52) |
| MS3100K12S-† | .375 (9.52) | .125 (3.18) | 1.515 (38.48) | .563 (14.30) | 25/32 | 13/16 | 1-3/32 | .150 (3.81) | .375 (9.52) |
| MS3100K14S-† | .375 (9.52) | .125 (3.18) | 1.515 (38.48) | .563 (14.30) | 29/32 | 29/32 | 1-3/16 | .150 (3.81) | .375 (9.52) |
| MS3100K16S-† | .375 (9.52) | .125 (3.18) | 1.703 (43.26) | .563 (14.30) | 1-1/32 | 31/32 | 1-9/32 | .150 (3.81) | .375 (9.52) |
| MS3100K16-† | .625 (15.88) | .125 (3.18) | 1.703 (43.26) | .750 (19.05) | 1-1/32 | 31/32 | 1-9/32 | .150 (3.81) | .375 (9.52) |
| MS3100K18-† | .625 (15.88) | .125 (3.18) | 1.921 (48.79) | .750 (19.05) | 1-5/32 | 1-1/16 | 1-3/8 | .177 (4.50) | .375 (9.52) |
| MS3100K20-† | .625 (15.88) | .078 (1.98) | 2.109 (53.57) | .750 (19.05) | 1-21/64 | 1-5/32 | 1-1/2 | .177 (4.50) | .375 (9.52) |
| MS3100K22-† | .625 (15.88) | .078 (1.98) | 2.031 (51.59) | .750 (19.05) | 1-25/64 | 1-1/4 | 1-5/8 | .177 (4.50) | .375 (9.52) |
| MS3100K24-† | .625 (15.88) | .078 (1.98) | 2.328 (59.13) | .813 (20.65) | 1-37/64 | 1-3/8 | 1-3/4 | .177 (4.50) | .375 (9.52) |
| MS3100K28-† | .625 (15.88) | .078 (1.98) | 2.025 (51.44) | .813 (20.65) | 1-49/64 | 1-9/16 | 2 | .177 (4.50) | .375 (9.52) |
| MS3100K32-† | .625 (15.88) | .078 (1.98) | 2.453 (62.31) | .875 (22.22) | 2-1/64 | 1-3/4 | 2-1/4 | .209 (5.31) | .438 (11.13) |
| MS3100K36-† | .625 (15.88) | .125 (3.18) | 2.594 (65.89) | .875 (22.22) | 2-17/64 | 1-15/16 | 2-1/2 | .209 (5.31) | .500 (12.70) |

* Receptacles in size 10SL are available with pin inserts only.

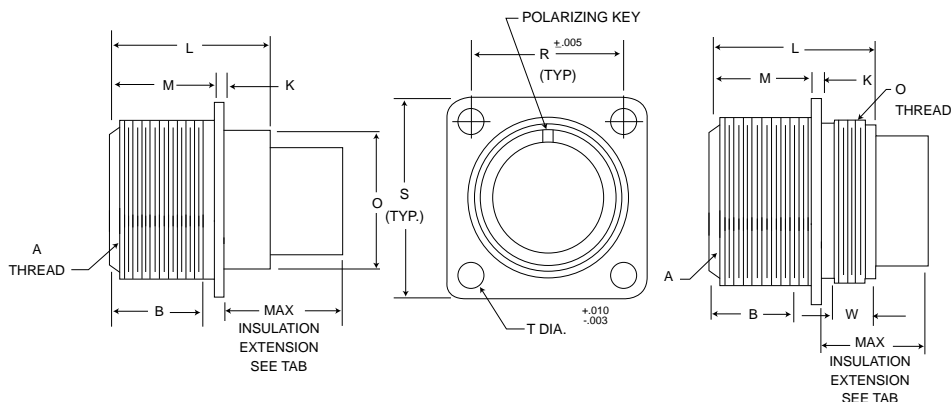
* Add contact arrangement. See pages 216-217.

† Add contact type: P - pin; S - socket.

| Part Number | A Thread | V Thread |
|---------------|-----------------|------------------|
| MS3100K8S-† | 1/2-28UNEF-2A | 1/2-28UNEF-2A |
| MS3100K10SL-† | 5/8-24UNEF-2A | 5/8-24UNEF-2A |
| MS3100K12S-† | 3/4-20UNEF-2A | 5/8-24UNEF-2A |
| MS3100K14S-† | 7/8-20UNEF-2A | 3/4-20UNEF-2A |
| MS3100K16S-† | 1-20UNEF-2A | 7/8-20UNEF-2A |
| MS3100K16-† | 1-20UNEF-2A | 7/8-20UNEF-2A |
| MS3100K18-† | 1-1/8-18UNEF-2A | 1-20UNEF-2A |
| MS3100K20-† | 1-1/4-18UNEF-2A | 1-3/16-18UNEF-2A |
| MS3100K22-† | 1-3/8-18UNEF-2A | 1-3/16-18UNEF-2A |
| MS3100K24-† | 1-1/2-18UNEF-2A | 1-7/16-18UNEF-2A |
| MS3100K28-† | 1-3/4-18UNS-2A | 1-7/16-18UNEF-2A |
| MS3100K32-† | 2-18UNS-2A | 13/4-18UNS-2A |
| MS3100K36-† | 2-1/4-16UN-2A | 2-18UNS-2A |

Box Mounting Receptacle

MS3102K



Sizes 8S to 18 have plain rear skirt

Sizes 20 to 36 have threaded rear skirt

Maximum Insulation Extensions

| Shell Size | Contact Size | | | |
|------------|--------------|-------|-------|---------------|
| | 16 | 12 | 8 | 4 0 |
| 8S | 11/16 | - | - | - |
| 10SL-16S | 51/64 | 7/8 | - | - |
| 16-18 | 13/16 | 7/8 | 7/8 | 1-3/32 |
| 20-22 | 13/16 | 7/8 | 7/8 | 1-3/32 1-9/64 |
| 24 | 47/64 | 13/16 | 13/16 | 1-3/32 1-3/32 |
| 28 | 47/64 | 13/16 | 13/16 | 1-3/32 1-3/32 |
| 32 | 47/64 | 47/64 | 47/64 | 61/64 1-1/32 |
| 36 | 39/64 | 43/64 | 43/64 | 57/64 61/64 |

| Part Number | A Thread | B | K | L | M | O Thread | R | S | T | W |
|----------------|-----------------|--------------|-------------|---------|--------------|------------------|---------|--------|-------------|-------------|
| MS3102K8S-† | 1/2-28UNEF-2A | .375 (9.52) | .063 (1.90) | 59/64 | .563 (14.30) | 7/16 | 19/32 | 7/8 | .150 (3.81) | - |
| •MS3102K10SL-† | 5/8-24UNEF-2A | .375 (9.52) | .063 (1.90) | 61/64 | .563 (14.30) | 39/64 | 23/32 | 1 | .150 (3.81) | - |
| MS3102K12S-† | 3/4-20UNEF-2A | .375 (9.52) | .063 (1.90) | 61/64 | .563 (14.30) | 21/32 | 13/16 | 1-3/32 | .150 (3.81) | - |
| MS3102K14S-† | 7/8-20UNEF-2A | .375 (9.52) | .063 (1.90) | 61/64 | .563 (14.30) | 23/32 | 29/32 | 1-3/16 | .150 (3.81) | - |
| MS3102K16S-† | 1-20UNEF-2A | .375 (9.52) | .063 (1.90) | 61/64 | .563 (14.30) | 27/32 | 31/32 | 1-9/32 | .150 (3.81) | - |
| MS3102K16-† | 1-20UNEF-2A | .625 (15.88) | .063 (1.90) | 1-9/64 | .750 (19.05) | 27/32 | 31/32 | 1-9/32 | .150 (3.81) | - |
| MS3102K18-† | 1-1/8-18UNEF-2A | .625 (15.88) | .063 (1.90) | 1-9/64 | .750 (19.05) | 31/32 | 1-1/16 | 1-3/8 | .177 (4.50) | - |
| MS3102K20-† | 1-1/4-18UNEF-2A | .625 (15.88) | .078 (1.98) | 1-15/64 | .750 (19.05) | 1-3/16-18UNEF-2A | 1-5/32 | 1-1/2 | .177 (4.50) | .141 (3.58) |
| MS3102K22-† | 1-3/8-18UNEF-2A | .625 (15.88) | .078 (1.98) | 1-18/64 | .750 (19.05) | 1-1/4-18UNEF-2A | 1-1/4 | 1-5/8 | .177 (4.50) | .141 (3.58) |
| MS3102K24-† | 1-1/2-18UNEF-2A | .625 (15.88) | .078 (1.98) | 1-18/64 | .813 (20.65) | 1-7/16 18UNEF-2A | 1-3/8 | 1-3/4 | .177 (4.50) | .141 (3.58) |
| MS3102K28-† | 1-3/4-18UNS-2A | .625 (15.88) | .078 (1.98) | 1-18/64 | .813 (20.65) | 1-5/8-18UNEF-2A | 1-9/16 | 2 | .177 (4.50) | .141 (3.58) |
| MS3102K32-† | 2-18UNS-2A | .625 (15.88) | .078 (1.98) | 1-3/8 | .875 (22.22) | 1-7/8-16UN-2A | 1-3/4 | 2-1/4 | .209 (5.31) | .313 (7.95) |
| MS3102K36-† | 2-1/4-16UN-2A | .625 (15.88) | .125 (3.18) | 1-29/64 | .875 (22.22) | 2-1/8-16UN-2A | 1-15/16 | 2-1/2 | .209 (5.31) | .344 (8.74) |

• Receptacles in size 10SL are available with pin inserts only.

† Add contact type: P - pin; S - socket.

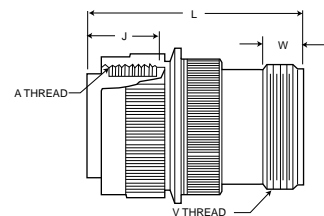
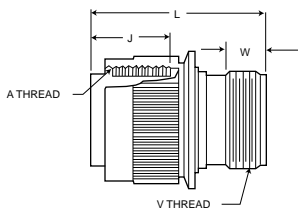
* Add contact arrangements. See pages 216-217.

Straight Plug

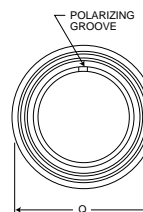
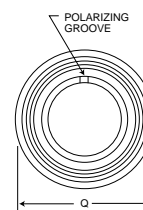
MS3106K Pin Insert



Socket Insert



Sizes 8S to 16 - one piece construction



Sizes 18 to 36 - two piece construction

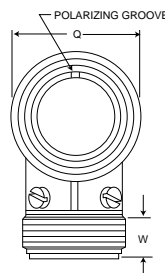
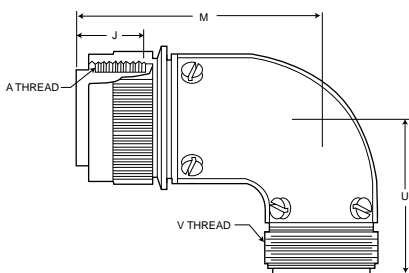
| Part Number | A Thread | J | L | Q | V Thread | W |
|---------------|-----------------|--------------|---------|---------|------------------|--------------|
| MS3106K8S-† | 1/2-28UNEF-2B | .531 (13.49) | 1-1/4 | 3/4 | 1/2-28UNEF-2A | .375 (9.52) |
| MS3106K10SL-† | 5/8-24UNEF-2B | .531 (13.49) | 1-7/16 | 31/32 | 5/8-24UNEF-2A | .375 (9.52) |
| MS3106K12S-† | 3/4-20UNEF-2B | .531 (13.49) | 1-7/16 | 1 | 5/8-24UNEF-2A | .375 (9.52) |
| MS3106K14S-† | 7/8-20UNEF-2B | .531 (13.49) | 1-7/16 | 1-1/8 | 3/4-20UNEF-2A | .375 (9.52) |
| MS3106K16S-† | 1-20UNEF-2B | .531 (13.49) | 1-7/16 | 1-1/4 | 7/8-20UNEF-2A | .375 (9.52) |
| MS3106K16-† | 1-20UNEF-2B | .719 (18.26) | 1-5/8 | 1-1/4 | 7/8-20UNEF-2A | .375 (9.52) |
| MS3106K18-† | 1-1/8-18UNEF-2B | .719 (18.26) | 2-1/16 | 1-11/32 | 1-20UNEF-2A | .375 (9.52) |
| MS3106K20-† | 1-1/4-18UNEF-2B | .719 (18.26) | 2-11/64 | 1-15/32 | 1-3/16-18UNEF-2A | .375 (9.52) |
| MS3106K22-† | 1-3/8-18UNEF-2B | .719 (18.26) | 2-5/32 | 1-19/32 | 1-3/16-18UNEF-2A | .375 (9.52) |
| MS3106K24-† | 1-1/2-18UNEF-2B | .719 (18.26) | 2-21/64 | 1-23/32 | 1-7/16-18UNEF-2A | .375 (9.52) |
| MS3106K28-† | 1-3/4-18UNS-2B | .719 (18.26) | 2-5/16 | 1-31/32 | 1-7/16-18UNEF-2A | .375 (9.52) |
| MS3106K32-† | 2-18UNS-2B | .719 (18.26) | 2-25/64 | 2-7/32 | 1-3/4-18UNS-2A | .438 (11.13) |
| MS3106K36-† | 2-1/4-16UN-2B | .719 (18.26) | 2-17/32 | 2-15/32 | 2-18UNS-2A | .500 (12.70) |

• Plugs in size 10SL are available with socket inserts only.
* Add contact arrangements. See pages 216-217.

† Add contact type: P - pin; S - socket.

90° Angle Plug

MS3108K



| Part Number | A Thread | J | M | Q | U | V Thread | W |
|---------------|-----------------|--------------|---------|---------|---------|------------------|--------------|
| MS3108K10SL-† | 5/8-24UNEF-2B | .531 (13.49) | 1-41/64 | 31/32 | 1-21/64 | 5/8-24UNEF-2A | .375 (9.52) |
| MS3108K12S-† | 3/4-20UNEF-2B | .531 (13.49) | 1-41/64 | 1 | 1-21/64 | 5/8-24UNEF-2A | .375 (9.52) |
| MS3108K14S-† | 7/8-20UNEF-2B | .531 (13.49) | 1-29/32 | 1-1/8 | 1-27/64 | 3/4-20UNEF-2A | .375 (9.52) |
| MS3108K16S-† | 1-20UNEF-2B | .531 (13.49) | 1-29/32 | 1-1/4 | 1-27/64 | 7/8-20UNEF-2A | .375 (9.52) |
| MS3108K16-† | 1-20UNEF-2B | .719 (18.26) | 2-3/32 | 1-1/4 | 1-27/64 | 7/8-20UNEF-2A | .375 (9.52) |
| MS3108K18-† | 1-1/8-18UNEF-2B | .719 (18.26) | 2-15/64 | 1-11/32 | 1-31/64 | 1-20UNEF-2A | .375 (9.52) |
| MS3108K20-† | 1-1/4-18UNEF-2B | .719 (18.26) | 2-19/32 | 1-15/32 | 1-21/32 | 1-3/16-18UNEF-2A | .375 (9.52) |
| MS3108K22-† | 1-3/8-18UNEF-2B | .719 (18.26) | 2-19/32 | 1-19/32 | 1-21/32 | 1-3/16-18UNEF-2A | .375 (9.52) |
| MS3108K24-† | 1-1/2-18UNEF-2B | .719 (18.26) | 2-49/64 | 1-23/32 | 1-63/64 | 1-7/16-18UNEF-2A | .375 (9.52) |
| MS3108K28-† | 1-3/4-18UNS-2B | .719 (18.26) | 2-49/64 | 1-31/32 | 1-63/64 | 1-7/16-18UNEF-2A | .375 (9.52) |
| MS3108K32-† | 2-18UNS-2B | .719 (18.26) | 3-1/4 | 2-7/32 | 2-7/32 | 1-3/4-18UNS-2A | .438 (11.13) |
| MS3108K36-† | 2-1/4-16UN-2B | .719 (18.26) | 3-1/4 | 2-15/32 | 2-9/32 | 2-18-UNS-2A | .500 (12.70) |

• Plugs in size 10SL are available with socket inserts only.
* Add contact arrangement. See pages 216-217.

† Add contact type: P - pin; S - socket.

Assembly Instructions

Recommended Procedures

- * 1. Remove Formica retaining ring (or the ceramic retaining ring) from contact (Figure 1).
2. Crimp contact to wire.
3. Slip endbell (or junction shell), retaining ring, and washer over wire bundle.
4. Push contact thru rear insulator. (Contact should extend sufficiently to accomplish Step 5.)
5. Attach Formica retaining ring onto the contact (see Figure 1).
6. Seat each contact securely in rear insulator.
7. Assemble front insulator on engaging end of contact.
8. Slide insulator assembly into hardware.
9. Slide washer and insulator retaining in place, making sure that insulator retaining is fully seated in groove.
10. Slide endbell or junction shell down wire bundle and attach to shell (or barrel).

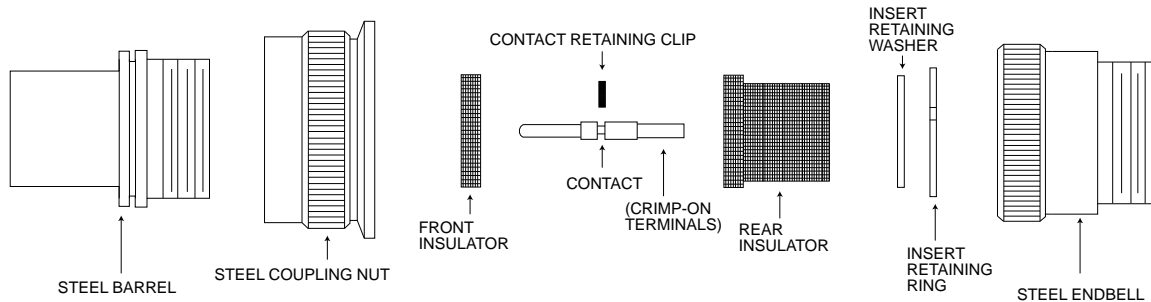


FIGURE 1

*NOTE: For MS-K Assembly it is not necessary to remove the ceramic retaining ring used on sizes 16 and 12 contacts for MS-K **providing** that the crimp tool M22520/1-01 is used with the TH119 turret. However, the formica ring must be removed if using the crimp tools listed below.

When using the MS3191-1 (or CCT-1612) crimp tool with property locator, both the ceramic or formica retaining ring for sizes 16 and 12 contacts must be removed. For sizes 8, 4, and 0 contacts, the ceramic or formica retaining rings must be removed before crimping.

Contacts, Crimp Tools, Contact Kit Part Numbers

MS-K Contacts and Crimp Tools can be ordered separately

MS-K Contacts Assembly Kit With Contact and Retaining Ring

| Contact Size | Part Number | Wire Accom. | Crimp Tool | Locator | Crimp Head† | Contact Size | Kit Part Number |
|--------------|--------------|-------------|-------------------|--------------|-------------|--------------|-----------------|
| 16-Pin | 330-0187-000 | 16-18-20 | MS22520/1-01 | TH119 Turret | - | 16-Pin | 320-0002-000 |
| 8S-36 | | | MS3191-1 | L16-3191-8 | | 8S-36 | |
| 16 Pin* | 030-1154-000 | 16-18-20 | MS22520/1-01 | TH119 Turret | - | 16 Pin* | 320-0001-000 |
| 8S-36 | | | MS3191-1 | L16-3191-8 | | 8S-36 | |
| 16 Socket | 031-0497-000 | 16-18-20 | MS22520/1-01 | TH119 Turret | - | 16 Socket | 320-0013-000 |
| 8S-16S | | | MS3191-1 | L16-3191-8 | | 8S-16S | |
| 16 Socket | 031-0498-000 | 16-18-20 | MS22520/1-01 | TH119 Turret | - | 16 Socket | 320-0005-000 |
| 12-36 | | | MS3191-1 | L16-3191-7 | | 12-36 | |
| 16 Socket* | 031-0728-000 | 16-18-20 | MS22520/1-01 | TH119 Turret | - | 16 Socket* | 320-0008-000 |
| 12-36 | | | MS3191-1 | L16-3191-7 | | 12-36 | |
| 12 Pin | 330-0188-000 | 12-14 | MS22520/1-01 | TH119 Turret | - | 12 Pin | 320-0009-000 |
| | | | MS3191-1 | L12-3191-4 | | | |
| 12 Socket | 031-0499-000 | 12-14 | MS22520/1-01 | TH119 Turret | - | 12 Socket | 320-0007-000 |
| | | | MS3191-1 | L12-3191-4 | | | |
| 8 Pin | 330-0189-000 | 8 | CBT600B or CBT600 | CCHP8 | CCH8-1 | 8 Pin | 320-0010-000 |
| 8 Socket | 031-0500-000 | 8 | CBT600B or CBT600 | CCHP8 | CCH8-1 | 8 Socket | 320-0014-000 |
| 4 Pin | 330-0190-000 | 4 | CBT600B or CBT600 | CCHP4 | CCH4-1 | 4 Pin | 320-0011-000 |
| 4 Socket | 031-0501-000 | 4 | CBT600B or CBT600 | CCHP4 | CCH4-1 | 4 Socket | 320-0006-000 |
| 0 Pin | 330-0191-000 | 0 | CBT600B | CCHP0-6 | CCH0-1 | 0 Pin | 320-0012-000 |
| 0 Socket | 031-0502-000 | 0 | CBT600B | CCHP0-6 | CCH0-1 | 0 Socket | 320-0015-000 |

*These contacts must be used when ordering contact arrangements 24-28 pin or socket, 28-21 pin or socket, and 20-27 socket only.

†Crimp heads are only applicable for contact sizes 8, 4, and 0.