MilSpecWest LLC

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# 5015 STYLE CONNECTORS





***Specializing in Aerospace, Marine and Defense***





Rev A

# Introduction

MSW 5015 Style Connectors were designed for a wide range of both military and general industrial applications. With advantages of high quality, intermateability. reliability and low price, MSW 5015 Style Connectors are designed, manufactured and tested to the MIL-DTL-5015 Military Detailed Specification

# Applications

- Railroad Equipment
- Industrial Machinery
- Engines
- Battery Systems
- Motion Control
- Power Generators
- Mobile Equipments
- Earth Moving Equipment

# Connector design

MIL-DTL-5015 series applies to the circular threaded electrical solder-contact connectors.
Shell is made through aluminum alloy diecasting with zinc plating and olive drab chromate finish protecting the shell against environmental influences.
These connectors operate in temperatures of -55°C to +125°C(-67°F to +257°F) under the harshest possible conditions.

The various classes and types of MSW connectors are intended for appllication as follows:

MSW3100 Receptacle intended for wall or bulkhead mounting and for use with conduit or cable clamp.

MSW3101 : Plug intended for use at the end of a cable where mounting provisions are not required.

MSW3102 : Receptacle intended for mounting on shielding boxes and equipment cases. They have no fittings and are for use with open wiring. They are nonenvironmental and are intended for use on boxes where environmental seal is achieved by some other means.

MSW3106 : Plug intended for use at the end of a cable to be mated with a receptacle.

MSW3108 : 90° plug intended for use at the end of a cable where space does not permit the use of a straight plug.

Class A connectors are solid shell connectors intended for nonenvironmental applications.

Class B connectors have split shell connectors intended for nonenvironmental applications. The split shell provides greater accessibility to solder connections, as may be needed if the cable is contained in conduit.

# Technical Data

## Electrical Data
## Contact rating
### (Assembled in insulator)

| Contact size | Current [A] |
|---|---|
| 16 | 13 |
| 12 | 23 |
| 8 | 46 |
| 4 | 80 |
| 0 | 150 |

## Insulation resistance

The insulation resistance to be tested per EIA364.21 and MIL-DTL-5015 3.18 test condition B; DC500V/5000MΩ min

## Operating & Test voltage

The dielectric withstanding voltage to be tested per EIA364.20 and MIL-DTL-5015 3.11

| Service rating | Test Voltage AC(rms) | | Operating Voltage | |
|---|---|---|---|---|
| | sea level | 70,000ft | DC | AC(rms) |
| Inst | 1000 | 260 | 250 | 200 |
| A | 2000 | 360 | 700 | 500 |
| D | 2800 | 400 | 1250 | 900 |
| E | 3500 | 440 | 1750 | 1250 |
| B | 4500 | 480 | 2450 | 1750 |
| C | 7000 | 560 | 4200 | 3000 |

## Contact resistance

Voltage drops to be tested with the coupling ring removed per EIA364.06 and MIL-DTL-5015 3.15

| Contact size | Test current [A] | Potential drop max.mV | Contact resistance max.mΩ |
|---|---|---|---|
| 16 | 13 | 49 | 6 |
| 12 | 23 | 42 | 3 |
| 8 | 46 | 26 | 1 |
| 4 | 80 | 23 | 0.5 |
| 0 | 150 | 21 | 0.2 |

## Mechanical Features
## Ambient temperature

-55°C/+125°C

## Humidity

14-day 71°C±2°C to 95%±3% humidity testing per EIA364.31 Method Ⅲ and MIL-DTL-5015 3.14

## Durability

Test mating / unmating 100 times at the speed of max 60 times / hour.
Per EIA364. 09 and MIL-DTL-5015 3.16

## Salt spray

Unmated connectors and contacts meet 48hour exposure per EIA364.26 test condition letter B and MIL-DTL-5015 3.17

## Sine vibration

10㎲ max at 10 to 500Hz(15g) discontinuity per EIA364.28 test condition Ⅱ and MIL-DTL-5015 3.12.1

## Shock

50g's/11ms duration, three major axes 10㎲ max discontinuity per EIA364.27 test condition A and MIL-DTL-5015 3.13

## Contact retention

The contact retention to be tested per EIA364.29 and MIL-DTL-5015 3.10

| Contact size | Test force N (lbs) |
|---|---|
| 16 | 44.5 (10) |
| 12 | 66.7 (15) |
| 8 | 89.0 (20) |
| 4 | 89.0 (20) |
| 0 | 111.2 (25) |

## Contact engagement and separation forces

The Contact engagement and separartion forces to be tested per EIA364.37 and MIL-DTL 5015 3.25

| Contact mating end size | Contact engagement and separartion force | | |
|---|---|---|---|
| | Min N (lbs) | Average N (lbs) | MAX N (lbs) |
| 16 | 0.6 (0.13) | 2.06(0.46) | 13.3 (3) |
| 12 | 0.8 (0.18) | 3.50(0.79) | 22.2 (5) |
| 8 | 1.4 (0.31) | - | 44.5 (10) |
| 4 | 2.8 (0.63) | - | 66.7 (15) |
| 0 | 4.2 (0.94) | - | 89.0 (20) |

## Contact size

| Contact size | Pin O.D [mm] | Solder pot [mm] |
|---|---|---|
| 16 | 1.6 | 2.0 |
| 12 | 2.4 | 3.0 |
| 8 | 3.6 | 5.4 |
| 4 | 5.7 | 8.5 |
| 0 | 9.1 | 12.0 |

## Wire sealing range

| Contact size | Wire range accommodations | | | |
|---|---|---|---|---|
| | Insulation O.D limit | Wire size | Metric [$mm^2$] | Condutor [mm] |
| 16 | 1.6~3.3 | 16~20 | 1.3max | 1.25~1.7 |
| 12 | 2.9~4.3 | 12~14 | 3.5max | 1.95~2.4 |
| 8 | 4.2~6.5 | 8~10 | 8.0max | 4.3~4.8 |
| 4 | 6.9~9.4 | 4~6 | 22.0max | 5.2~6.0 |
| 0 | 10.5~14.0 | 0~2 | 50.0max | 9.6~10.7 |

# Materials

## Shell

| | |
|---|---|
| Material | Aluminum alloy Die Castings & Aluminum alloy |
| Finish | Olive drab chromate coating over zinc plating |
| Alternative finish | Black coating over zinc plating(RoHS)<br>Electroless nickel |

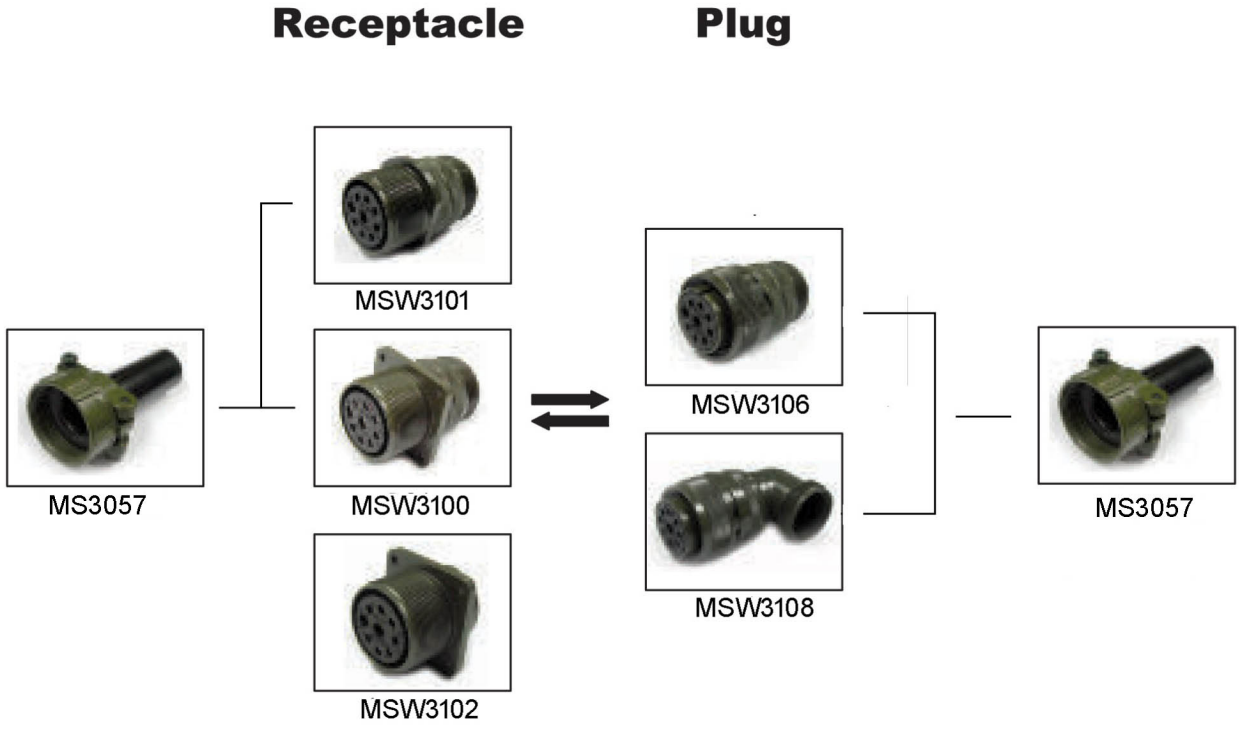
## Insulator and grommet

| | |
|---|---|
| Insulator | Synthetic rubber & polychloroprene<br>Synthetic plastic |
| Grommet | Synthetic rubber & polychloroprene |

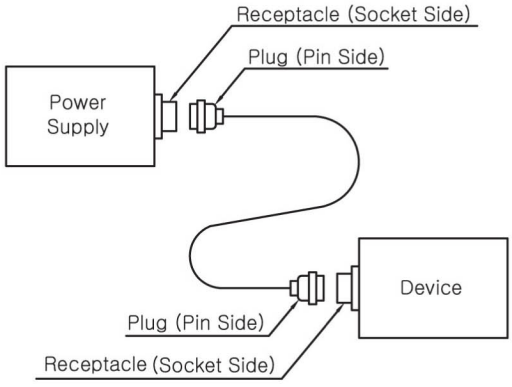
## Contact

| | |
|---|---|
| Material | Copper alloy |
| Finish | Silver plating<br>Gold plating |

# Mating guide:



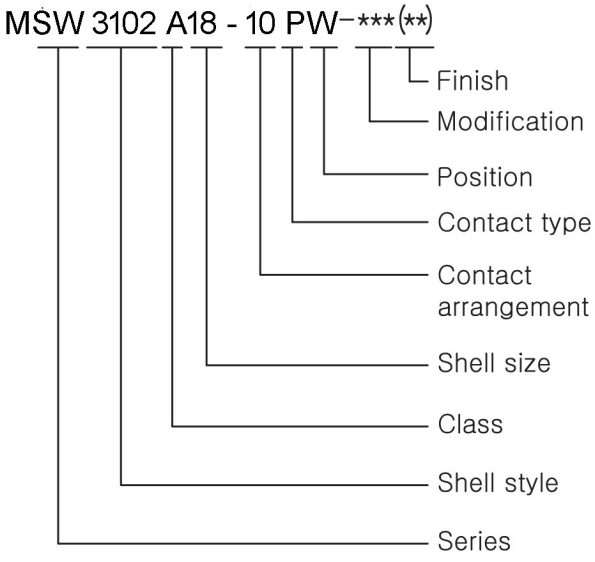

# Pin or Socket Inserts



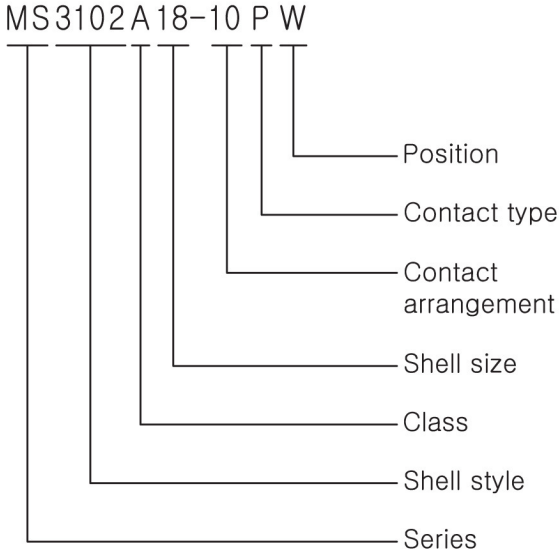

Connector combinations are formed with plugs and receptacles that are connected with pin and socket contacts.
Either the receptacle or the plug can be provided with pin inserts or socket inserts.
However, if one side is a pin insert, the mating side should be a socket insert.
The type to use will be determined by the state of the equipment but it is generally recommended to use the socket on the output side of the equipment and pin on the input side.

# How to order

## KD Order Reference




## MS Order Reference




## Series

| | |
|---|---|
| MSW | Milspecwest circular connectors with threaded coupling |
| MS | Military Standard to latest MIL-DTL-5015 revision |

## Shell style

| | |
|---|---|
| 3100 | Wall mounting receptacle |
| 3101 | Cable connecting plug |
| 3102 | Box mounting receptacle |
| 3106 | Straight plug |
| 3108 | 90° plug |
| 25183 | Potting seal plug |

## Class

| | |
|---|---|
| A | Solid shell solder contact connectors. |
| B | Split shell solder contact connectors. |
| E/F | Environmental with resilient insulators and integral cable clamp. |
| P | Environment resistant potted solder contact connectors. |
| R | Environmental with resilient insulators and shortened lightweight endbell. |

## Shell size

10SL, 12s, 12, 14s, 16s, 16, 18
20, 22, 24, 28, 32, 36, 40

## Contact arrangement

See page 7~19

## Contact type

P - Pin contact
S - Socket contact

## Position

Alternate insert position(W,X,Y or Z)
Leave Blank for Normal position
See page 7~9

## Modification

| | |
|---|---|
| No code | Threaded Coupling Nut (with Solder contacts) |
| B | Bayonet Coupling Nut (with Solder contacts) |
| F80 | Threaded Coupling Nut (with Crimp AWG contacts) |
| B-F80 | Bayonet Coupling Nut (with Crimp AWG contacts) |

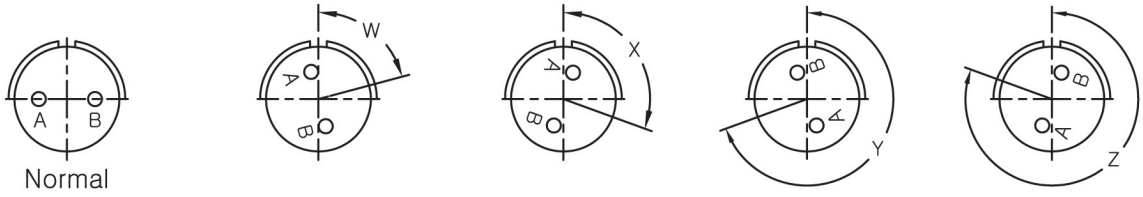
## Finish

| | |
|---|---|
| No code | Cadmium Olive Drab over Electroless Nickel |
| 689 | Electroless NIckel |
| 623 | Black Zinc Alloy |
| | Consult factory for other finishes. |

# Contact Arrangements [ For Class A, E/F, P, R ]

## Alternate Insert Positions

※ View shows pin front side or socket rear side




| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 10SL | 10SL-3 | 3 | | 3 | | | | | | | | |
| | 10SL-4 | 2 | | 2 | | | | | | | | |
| 12s | 12s-3 | 2 | | 2 | | | | | 70 | 145 | 215 | 290 |
| | 12s-4 | 1 | | 1 | | | | | | | | |
| | 12SA10 | 4 | | 4 | | | | | | | | |
| 12 | 12-5 | 1 | | | 1 | | | | | | | |
| 14s | 14s-1 | 3 | | 3 | | | | | | | | |
| | 14s-2 | 4 | | 4 | | | | | | 120 | 240 | |
| | 14s-4 | 1 | | 1 | | | | | | | | |
| | 14s-5 | 5 | | 5 | | | | | | 110 | | |
| | 14s-6 | 6 | | 6 | | | | | | | | |
| | 14s-7 | 3 | | 3 | | | | | 90 | 180 | 270 | |
| | 14s-9 | 2 | | 2 | | | | | 70 | 145 | 215 | 290 |
| | 14SA7 | 7 | | 7 | | | | | | | | |
| | 14SA10 | 10 | 10 | | | | | | | | | |
| 14 | 14-3 | 1 | | | | 1 | | | | | | |
| 16s | 16s-1 | 7 | | 7 | | | | | 80 | | | 280 |
| | 16s-4 | 2 | | 2 | | | | | 35 | 110 | 250 | 325 |
| | 16s-5 | 3 | | 3 | | | | | 70 | 145 | 215 | 290 |
| | 16s-8 | 5 | | 5 | | | | | | 170 | 265 | |
| | 16s-01 | 8 | 8 | | | | | | | | | |
| 16 | 16-9 | 4 | | 2 | 2 | | | | 35 | 110 | 250 | 325 |
| | 16-10 | 3 | | | 3 | | | | 90 | 180 | 270 | |
| | 16-11 | 2 | | | 2 | | | | 35 | 110 | 250 | 325 |
| 18 | 18-1 | 10 | | 10 | | | | | 70 | 145 | 215 | 290 |
| | 18-3 | 2 | | | 2 | | | | 35 | 110 | 250 | 325 |
| | 18-4 | 4 | | 4 | | | | | 35 | 110 | 250 | 325 |
| | 18-5 | 3 | | 1 | 2 | | | | 80 | 110 | 250 | 280 |
| | 18-8 | 8 | | 7 | 1 | | | | 70 | | | 290 |
| | 18-9 | 7 | | 5 | 2 | | | | 80 | 110 | 250 | 280 |

| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 18 | 18-10 | 4 | | | 4 | | | | | 120 | 240 | |
| | 18-11 | 5 | | | 5 | | | | | 170 | 265 | |
| | 18-12 | 6 | | 6 | | | | | 80 | | | 280 |
| | 18-19 | 10 | | 10 | | | | | | 120 | 240 | |
| | 18-20 | 5 | | 5 | | | | | 90 | 180 | 270 | |
| | 18-21 | 3 | | | 3 | | | | | | | |
| | 18-22 | 3 | | 3 | | | | | 70 | 145 | 215 | 290 |
| 20 | 20-2 | 1 | | | | | | 1 | | | | |
| | 20-3 | 3 | | | 3 | | | | 70 | 145 | 215 | 290 |
| | 20-4 | 4 | | | 4 | | | | 45 | 110 | 250 | |
| | 20-7 | 8 | | 8 | | | | | 80 | 110 | 250 | 280 |
| | 20-11 | 13 | | 13 | | | | | | | | |
| | 20-15 | 7 | | | 7 | | | | 80 | | | 280 |
| | 20-16 | 9 | | 7 | 2 | | | | 80 | 110 | 250 | 280 |
| | 20-17 | 6 | | 1 | 5 | | | | 90 | 180 | 270 | |
| | 20-18 | 9 | | 6 | 3 | | | | 35 | 110 | 250 | 325 |
| | 20-19 | 3 | | | | 3 | | | 90 | 180 | 270 | |
| | 20-22 | 6 | | 3 | | 3 | | | 80 | 110 | 250 | 280 |
| | 20-23 | 2 | | | | 2 | | | 35 | 110 | 250 | 325 |
| | 20-24 | 4 | | 2 | | 2 | | | 35 | 110 | 250 | 325 |
| | 20-27 | 14 | | 14 | | | | | 35 | 110 | 250 | 325 |
| | 20-29 | 17 | | 17 | | | | | 80 | | | 280 |
| | 20-33 | 11 | | 11 | | | | | | | | |
| | 20-01 | 10 | | 10 | | | | | | | | |
| | 20A24 | 24 | 24 | | | | | | | | | |
| | 20A48 | 19 | | 19 | | | | | | 80 | 280 | |
| 22 | 22-1 | 2 | | | | 2 | | | 35 | 110 | 250 | 325 |
| | 22-2 | 3 | | | | 3 | | | 70 | 145 | 215 | 290 |
| | 22-5 | 6 | | 4 | 2 | | | | 35 | 110 | 250 | 325 |
| | 22-7 | 1 | | | | | | 1 | | | | |

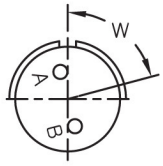
# Contact Arrangements [ For Class A, E/F, P, R ]

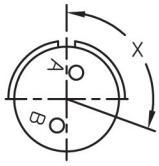
## Alternate Insert Positions

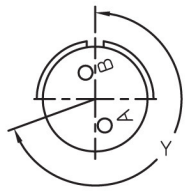
※ View shows pin front side or socket rear side

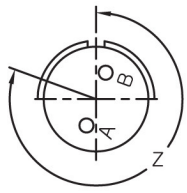


Normal



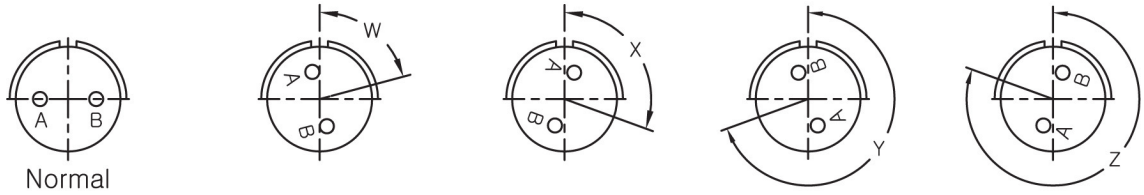

| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 22 | 22-8 | 2 | | | 2 | | | | 35 | 110 | 250 | 325 |
| | 22-9 | 3 | | | 3 | | | | 70 | 145 | 215 | 290 |
| | 22-10 | 4 | | 4 | | | | | 35 | 110 | 250 | 325 |
| | 22-14 | 19 | | 19 | | | | | 80 | 110 | 250 | 280 |
| | 22-19 | 14 | | 14 | | | | | 80 | 110 | 250 | 280 |
| | 22-22 | 4 | | | | 4 | | | | 110 | 250 | |
| | 22-23 | 8 | | | 8 | | | | 35 | | 250 | |
| 24 | 24-2 | 7 | | | 7 | | | | 80 | | | 280 |
| | 24-5 | 16 | | 16 | | | | | 80 | 110 | 250 | 280 |
| | 24-7 | 16 | | 14 | 2 | | | | 80 | 110 | 250 | 280 |
| | 24-9 | 2 | | | | | 2 | | 35 | 110 | 250 | 325 |
| | 24-10 | 7 | | | | 7 | | | 80 | | | 280 |
| | 24-11 | 9 | | | 6 | 3 | | | 35 | 110 | 250 | 325 |
| | 24-12 | 5 | | | 3 | | 2 | | 80 | 110 | 250 | 280 |
| | 24-20 | 11 | | 9 | 2 | | | | 80 | 110 | 250 | 280 |
| | 24-21 | 10 | | 9 | | 1 | | | 80 | 110 | 250 | 280 |
| | 24-22 | 4 | | | | 4 | | | 45 | 110 | 250 | |
| | 24-28 | 24 | | 24 | | | | | 80 | 110 | 250 | 280 |
| | 24-67 | 19 | | | 19 | | | | 80 | | | 335 |
| | 24B24 | 12 | | | 12 | | | | | | | |
| 28 | 28-2 | 14 | | 12 | 2 | | | | 35 | 110 | 250 | 325 |
| | 28-3 | 3 | | | | 3 | | | 70 | 145 | 215 | 290 |
| | 28-5 | 5 | | 2 | 1 | | 2 | | 35 | 110 | 250 | 325 |
| | 28-6 | 3 | | | | | 3 | | 70 | 145 | 215 | 290 |
| | 28-9 | 12 | | 6 | 6 | | | | 80 | 110 | 250 | 280 |
| | 28-10 | 7 | | | 3 | 2 | 2 | | 80 | 110 | 250 | 280 |
| | 28-11 | 22 | | 18 | 4 | | | | 80 | 110 | 250 | 280 |
| | 28-12 | 26 | | 26 | | | | | 90 | 180 | 270 | |
| | 28-15 | 35 | | 35 | | | | | 80 | 110 | 250 | 280 |
| | 28-16 | 20 | | 20 | | | | | 80 | 110 | 250 | 280 |

| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 28 | 28-17 | 15 | | 15 | | | | | 80 | 110 | 250 | 280 |
| | 28-19 | 10 | | 6 | 4 | | | | 80 | 110 | 250 | 280 |
| | 28-20 | 14 | | 4 | 10 | | | | 80 | 110 | 250 | 280 |
| | 28-21 | 37 | | 37 | | | | | 80 | 110 | 250 | 280 |
| | 28-22 | 6 | | 3 | | | 3 | | 70 | 145 | 215 | 290 |
| | 28-51 | 12 | | | 12 | | | | 80 | 135 | 195 | |
| | 28-72 | 72 | 72 | | | | | | 72 | 144 | 216 | 288 |
| | 28A16 | 9 | | 5 | | | 4 | | | | | |
| 32 | 32-1 | 5 | | | 3 | | | 2 | 80 | 110 | 250 | 280 |
| | 32-3 | 9 | | 4 | 2 | | 2 | 1 | 80 | 110 | 250 | 280 |
| | 32-5 | 2 | | | | | | 2 | 35 | 110 | 250 | 325 |
| | 32-6 | 23 | | 16 | 2 | 3 | 2 | | 80 | 110 | 250 | 280 |
| | 32-7 | 35 | | 28 | 7 | | | | 80 | 125 | 235 | 280 |
| | 32-8 | 30 | | 24 | 6 | | | | 80 | 125 | 235 | 280 |
| | 32-15 | 8 | | | 6 | | | 2 | 35 | 110 | 250 | 280 |
| | 32-17 | 4 | | | | | 4 | | 45 | 110 | 250 | |
| | 32-59 | 42 | | 40 | | 2 | | | | | | |
| | 32-63 | 5 | | | | | 5 | | | | | |
| | 32-101 | 101 | 101 | | | | | | 30 | 142 | | |
| | 32A10 | 54 | | 54 | | | | | | | | |
| 36 | 36-1 | 22 | | 18 | 4 | | | | 80 | 110 | 250 | 280 |
| | 36-3 | 6 | | | 3 | | | 3 | 70 | 145 | 215 | 290 |
| | 36-4 | 3 | | | | | | 3 | 70 | 145 | 215 | 290 |
| | 36-5 | 4 | | | | | | 4 | | 120 | 240 | |
| | 36-8 | 47 | | 46 | 1 | | | | 80 | 110 | 250 | 280 |
| | 36-9 | 31 | | 14 | 14 | 2 | 1 | | 80 | 125 | 235 | 280 |
| | 36-10 | 48 | | 48 | | | | | 80 | 125 | 235 | 280 |
| | 36-77 | 7 | | | | | 7 | | | | | |
| | 36-78 | 14 | | 2 | | 12 | | | 35 | 106 | 254 | 325 |
| 40 | 40-56 | 85 | | 85 | | | | | 72 | 144 | 216 | 288 |

# Contact Arrangements [ For Class B ]

## Alternate Insert Positions

※ View shows pin front side or socket rear side




| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 14s | 14s-2 | 4 | | 4 | | | | | | 120 | 240 | |
| | 14s-5 | 5 | | 5 | | | | | | 110 | | |
| | 14s-6 | 6 | | 6 | | | | | | | | |
| 16 | 16-10 | 3 | | | 3 | | | | 90 | 180 | 270 | |
| 18 | 18-1 | 10 | | 10 | | | | | 70 | 145 | 215 | 290 |
| | 18-8 | 8 | | 7 | 1 | | | | 70 | | | 290 |
| | 18-10 | 4 | | | 4 | | | | | 120 | 240 | |
| | 18-12 | 6 | | 6 | | | | | 80 | | | 280 |
| | 18-19 | 10 | | 10 | | | | | | 120 | 240 | |
| 20 | 20-4 | 4 | | | 4 | | | | 45 | 110 | 250 | |
| | 20-7 | 8 | | 8 | | | | | 80 | 110 | 250 | 280 |
| | 20-15 | 7 | | | 7 | | | | 80 | | | 280 |
| | 20-16 | 9 | | 7 | 2 | | | | 80 | 110 | 250 | 280 |
| | 20-18 | 9 | | 6 | 3 | | | | 35 | 110 | 250 | 325 |
| | 20-27 | 14 | | 14 | | | | | 35 | 110 | 250 | 325 |
| | 20-29 | 17 | | 17 | | | | | 80 | | | 280 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

| Shell Size | Insert Number | Contacts | | | | | | | Alternate pos. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Tot | 20 | 16 | 12 | 8 | 4 | 0 | W | X | Y | Z |
| 22 | 22-14 | 19 | | 19 | | | | | 80 | 110 | 250 | 280 |
| | 22-19 | 14 | | 14 | | | | | 80 | 110 | 250 | 280 |
| | 22-22 | 4 | | | | 4 | | | | 110 | 250 | |
| | 22-23 | 8 | | | 8 | | | | 35 | | 250 | |
| 24 | 24-2 | 7 | | | 7 | | | | 80 | | | 280 |
| | 24-5 | 16 | | 16 | | | | | 80 | 110 | 250 | 280 |
| | 24-10 | 7 | | | | 7 | | | 80 | | | 280 |
| | 24-11 | 9 | | | 6 | 3 | | | 35 | 110 | 250 | 325 |
| | 24-28 | 24 | | 24 | | | | | 80 | 110 | 250 | 280 |
| 28 | 28-2 | 14 | | 12 | 2 | | | | 35 | 110 | 250 | 325 |
| | 28-11 | 22 | | 18 | 4 | | | | 80 | 110 | 250 | 280 |
| | 28-15 | 35 | | 35 | | | | | 80 | 110 | 250 | 280 |
| | 28-16 | 20 | | 20 | | | | | 80 | 110 | 250 | 280 |
| | 28-20 | 14 | | 4 | 10 | | | | 80 | 110 | 250 | 280 |
| | 28-21 | 37 | | 37 | | | | | 80 | 110 | 250 | 280 |
| 32 | 32-7 | 35 | | 28 | 7 | | | | 80 | 125 | 235 | 280 |
| | 32-17 | 4 | | | | | 4 | | 45 | 110 | 250 | |
| | 32-22 | 54 | | 54 | | | | | | | | |
| 36 | 36-10 | 48 | | 48 | | | | | 80 | 125 | 235 | 280 |

# Contact Arrangements

## Contact Size

20 16 12 8 4 0

## 1 CONTACT



| | | | | |
|---|---|---|---|---|
| Insert number | 12S-4 | 12-5 | 14-3 | 14S-4 |
| No. of contacts | 1 | 1 | 1 | 1 |
| Contact size | 16 | 12 | 8 | 16 |
| Service rating | D | D | A | D |



| | | | |
|---|---|---|---|
| Insert number | 16-12 | 20-2 | 22-7 |
| No. of contacts | 1 | 1 | 1 |
| Contact size | 4 | 0 | 0 |
| Service rating | A | D | E |

## 2 CONTACT



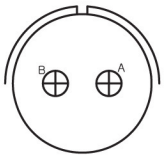
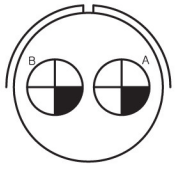
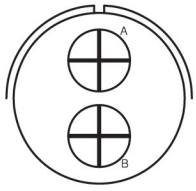

| | | | | |
|---|---|---|---|---|
| Insert number | 10SL-4 | 12S-3 | 14S-9 | 16S-4 |
| No. of contacts | 2 | 2 | 2 | 2 |
| Contact size | 16 | 16 | 16 | 16 |
| Service rating | A | A | A | D |




| | | | | |
|---|---|---|---|---|
| Insert number | 16-11 | 18-3 | 20-23 | 22-1 |
| No. of contacts | 2 | 2 | 2 | 2 |
| Contact size | 12 | 12 | 8 | 8 |
| Service rating | A | D | A | D |

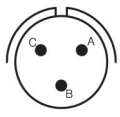
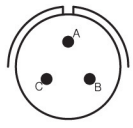
## Contact Size

20 ○ 16 ● 12 ⊕ 8 ◒ 4 ⊕ 0 ⊕

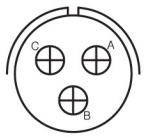
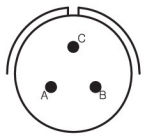
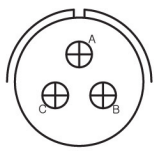
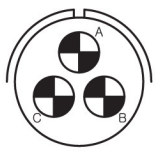




| Insert number | 22-8 | 24-9 | 32-5 |
|---|---|---|---|
| No. of contacts | 2 | 2 | 2 |
| Contact size | 12 | 4 | 0 |
| Service rating | E | A | D |

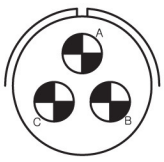
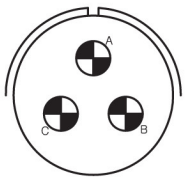
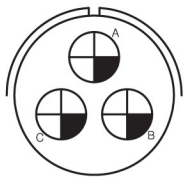
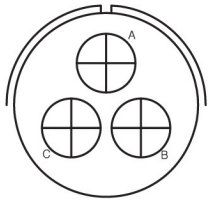
## 3 CONTACT


| Insert number | 10SL-3 | 14S-1 | 16S-5 | 16-10 |
|---|---|---|---|---|
| No. of contacts | 3 | | 3 | 3 |
| Contact size | 16 | MILSPECWEST, LLC | 16 | 12 |
| Service rating | A | | A | A |

| Insert number | 18-21 | 18-22 | 20-3 | 20-19 |
|---|---|---|---|---|
| No. of contacts | 3 | 3 | 3 | 3 |
| Contact size | 12 | 16 | 12 | 8 |
| Service rating | A | D | D | A |

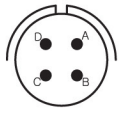





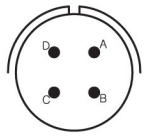
| Insert number | 22-2 | 28-3 | 28-6 | 36-4 |
|---|---|---|---|---|
| No. of contacts | 3 | 3 | 3 | 3 |
| Contact size | 8 | 8 | 4 | 0 |
| Service rating | D | E | D | D(A) A(B,C) |

## Contact Size

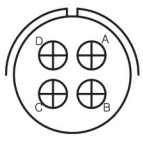
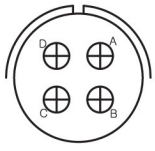
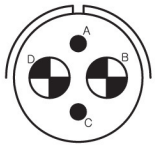
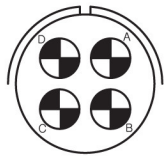
20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

## 4 CONTACT

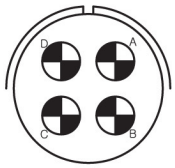
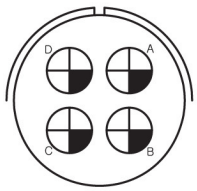
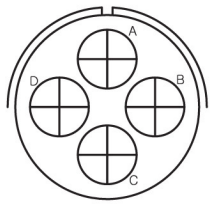





| | | | | |
|---|---|---|---|---|
| Insert number | 12SA10 | 14S-2 | 16-9 | 18-4 |
| No. of contacts | 4 | 4 | 4 | 4 |
| Contact size | 16 | 16 | 2-16, 2-12 | 16 |
| Service rating | INST | INST | A | D |

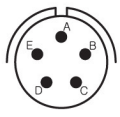
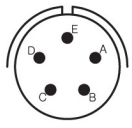
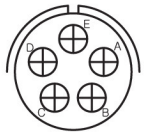
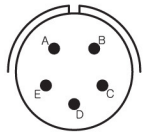





| | | | | |
|---|---|---|---|---|
| Insert number | 18-10 | 20-4 | 20-24 | 22-22 |
| No. of contacts | 4 | 4 | 4 | 4 |
| Contact size | 12 | 12 | 2-16, 2-8 | 8 |
| Service rating | A | D | A | A |

| | | | |
|---|---|---|---|
| Insert number | 24-22 | 32-17 | 36-5 |
| No. of contacts | 4 | 4 | 4 |
| Contact size | 8 | 4 | 0 |
| Service rating | D | D | A |

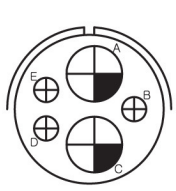
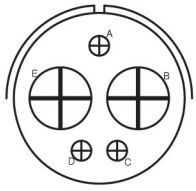
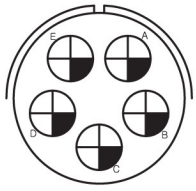
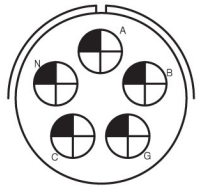
## 5 CONTACT

| | | | | |
|---|---|---|---|---|
| Insert number | 14s-5 | 16s-8 | 18-11 | 18-20 |
| No. of contacts | 5 | 5 | 5 | 5 |
| Contact size | 16 | 16 | 12 | 16 |
| Service rating | INST | A | A | A |

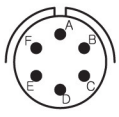
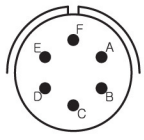
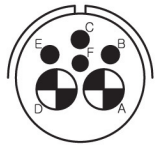
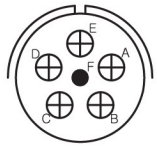
## Contact Size

20 ○ 16 ● 12 ⊕ 8 ◔ 4 ⊕ 0 ⊕

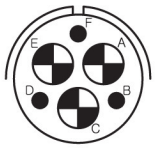
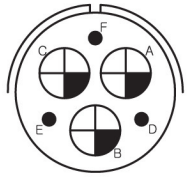
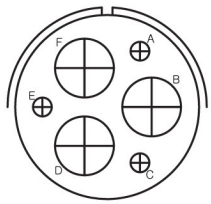





| | | | | |
|---|---|---|---|---|
| Insert number | 24-12 | 32-1 | 32-63 | 32A5 |
| No. of contacts | 5 | 5 | 5 | 5 |
| Contact size | 3-12, 2-4 | 3-12, 2-0 | 4 | 4 |
| Service rating | A | E(A) D(B,C,D,E) | D | D |

## 6 CONTACT

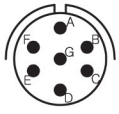
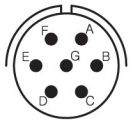
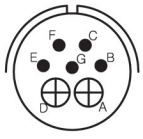
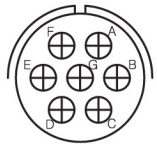





| | | | | |
|---|---|---|---|---|
| Insert number | 14S-6 | 18-12 | 20-8 | 20-17 |
| No. of contacts | 6 | 6 | 6 | 6 |
| Contact size | 16 | 16 | 4-16, 2-8 | 1-16, 5-12 |
| Service rating | INST | A | INST | A |

| | | | |
|---|---|---|---|
| Insert number | 20-22 | 28-22 | 36-3 |
| No. of contacts | 6 | 6 | 6 |
| Contact size | 3-16, 3-8 | 3-16, 3-4 | 12-3, 3-0 |
| Service rating | A | D | D |

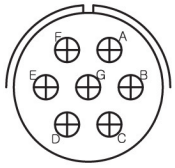
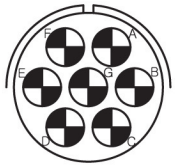
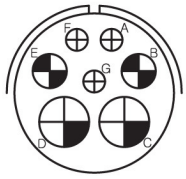
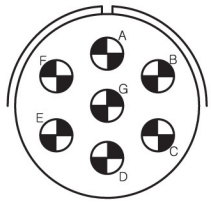
## 7 CONTACT

| | | | | |
|---|---|---|---|---|
| Insert number | 14SA7 | 16s-1 | 18-9 | 20-15 |
| No. of contacts | 7 | 7 | 7 | 7 |
| Contact size | 16 | 16 | 5-16, 2-12 | 12 |
| Service rating | INST | A | INST | A |

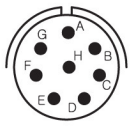
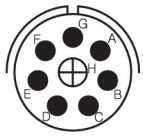
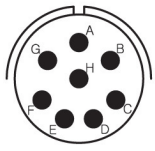
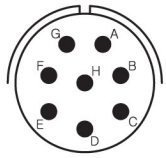
## Contact Size

20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

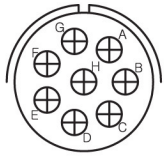
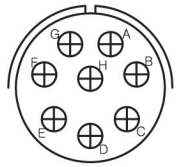
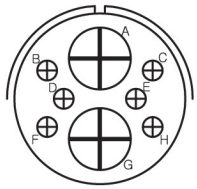





| | | | | |
|---|---|---|---|---|
| Insert number | 24-2 | 24-10 | 28-10 | 36-77 |
| No. of contacts | 7 | 7 | 7 | 7 |
| Contact size | 12 | 8 | 3-12, 2-8, 2-4 | 4 |
| Service rating | D | A | D(G)<br>A(A,B,C,D,E,F) | D |

## 8 CONTACT

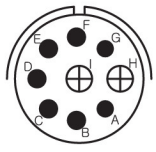
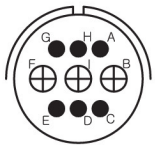
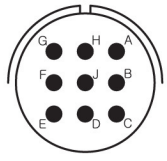
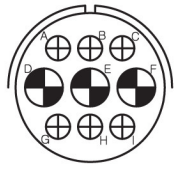





| | | | | |
|---|---|---|---|---|
| Insert number | 16s-01 | 18-8 | 20-7 | 22-18 |
| No. of contacts | 8 | 8 | 8 | 8 |
| Contact size | 16 | 7-16, 1-12 | 16 | 16 |
| Service rating | A | A | D(A,B,G,H)<br>A(All others) | D(All others)<br>A(C,D,E) |

| | | | |
|---|---|---|---|
| Insert number | 22-23 | 24-6 | 32-15 |
| No. of contacts | 8 | 8 | 8 |
| Contact size | 12 | 12 | 6-12, 2-0 |
| Service rating | D(H)<br>A(All others) | D(A,G,H)<br>A(All others) | D |

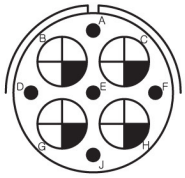
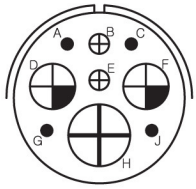
## 9 CONTACT

| | | | | |
|---|---|---|---|---|
| Insert number | 20-16 | 20-18 | 22-20 | 24-11 |
| No. of contacts | 9 | 9 | 9 | 9 |
| Contact size | 7-16, 2-12 | 6-16, 3-12 | 16 | 6-12, 3-8 |
| Service rating | A | A | A | A |

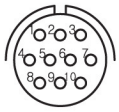
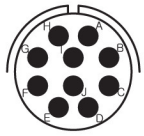
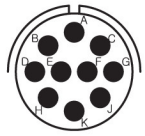
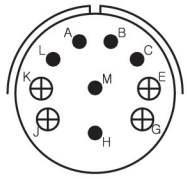
## Contact Size

20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

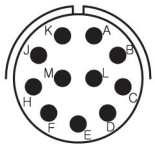
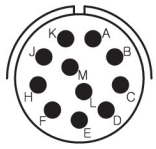
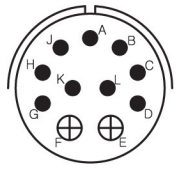
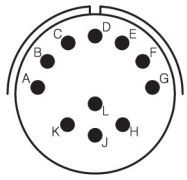
| | | |
|---|---|---|
| Insert number | 28A16 | 32-3 |
| No. of contacts | 9 | 9 |
| Contact size | 5-16, 4-4 | 4-16, 2-12, 2-4, 1-0 |
| Service rating | A(E)<br>INST(All others) | |

## 10 CONTACT

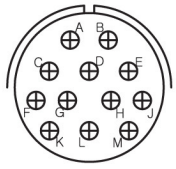
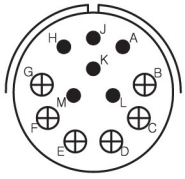
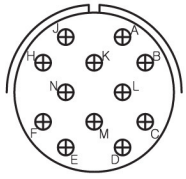
| | | | | |
|---|---|---|---|---|
| Insert number | 14SA10 | 18-1 | 18-19 | 28-19 |
| No. of contacts | 10 | 10 | 10 | 10 |
| Contact size | 20 | 16 | 16 | 6-16, 4-12 |
| Service rating | INST | A(B,C,F,G)<br>INST(All others) | A | D(A,B) B(H,M)<br>A(All others) |

## 11 CONTACT

| | | | | |
|---|---|---|---|---|
| Insert number | 20-31 | 20-33 | 24-20 | 28-14 |
| No. of contacts | 11 | 11 | 11 | 6 |
| Contact size | 16 | 16 | 9-16, 2-12 | 16 |
| Service rating | A | A | D | D |

## 12 CONTACT

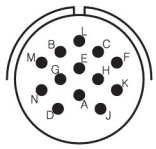




| | | | |
|---|---|---|---|
| Insert number | 24B24 | 28-9 | 28-51 |
| No. of contacts | 12 | 12 | 12 |
| Contact size | 12 | 6-16, 6-12 | 12 |
| Service rating | A | D | D |

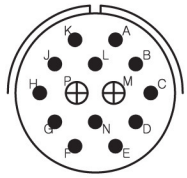
## Contact Size

20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

## 13 CONTACT

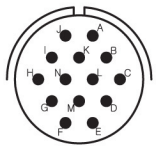


| | |
|---|---|
| Insert number | 20-11 |
| No. of contacts | 13 |
| Contact size | 16 |
| Service rating | INST |

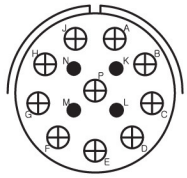


| | |
|---|---|
| Insert number | 28-2 |
| No. of contacts | 14 |
| Contact size | 12-16, 2-12 |
| Service rating | D |

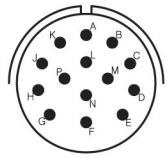
## 14 CONTACT



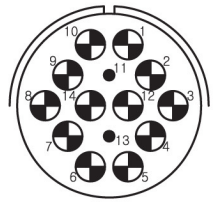
| | |
|---|---|
| Insert number | 20-27 |
| No. of contacts | 14 |
| Contact size | 16 |
| Service rating | A |



| | |
|---|---|
| Insert number | 28-20 |
| No. of contacts | 14 |
| Contact size | 4-16, 10-12 |
| Service rating | A |

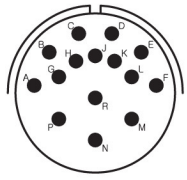


| | |
|---|---|
| Insert number | 22-19 |
| No. of contacts | 14 |
| Contact size | 16 |
| Service rating | A |



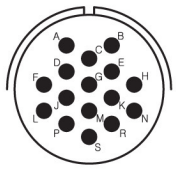
| | |
|---|---|
| Insert number | 36-78 |
| No. of contacts | 14 |
| Contact size | 2-16, 12-8 |
| Service rating | D |

## 15 CONTACT

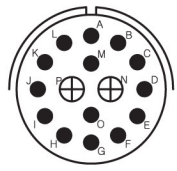


| | |
|---|---|
| Insert number | 28-17 |
| No. of contacts | 15 |
| Contact size | 16 |
| Service rating | B(R) D(M,N,P)<br>A(All others) |

## 16 CONTACT



| | |
|---|---|
| Insert number | 24-5 |
| No. of contacts | 16 |
| Contact size | 16 |
| Service rating | A |

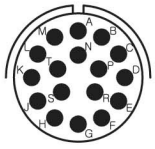


| | |
|---|---|
| Insert number | 24-7 |
| No. of contacts | 16 |
| Contact size | 14-16, 2-12 |
| Service rating | A |

## Contact Size

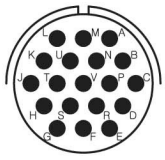
20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

## 17 CONTACT



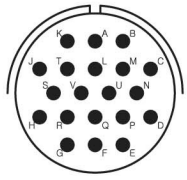
| | |
|---|---|
| Insert number | 20-29 |
| No. of contacts | 17 |
| Contact size | 16 |
| Service rating | A |

## 19 CONTACT



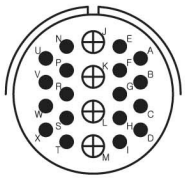
| | |
|---|---|
| Insert number | 22-14 |
| No. of contacts | 19 |
| Contact size | 16 |
| Service rating | A |

## 20 CONTACT



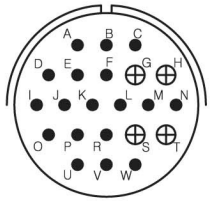
| | |
|---|---|
| Insert number | 28-16 |
| No. of contacts | 20 |
| Contact size | 16 |
| Service rating | A |

## 22 CONTACT

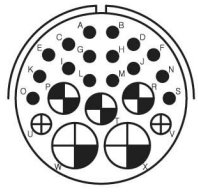


| | |
|---|---|
| Insert number | 28-11 |
| No. of contacts | 22 |
| Contact size | 18-16, 4-12 |
| Service rating | A |

## 23 CONTACT

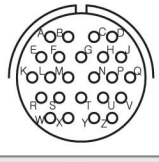


| | |
|---|---|
| Insert number | 36-1 |
| No. of contacts | 22 |
| Contact size | 18-16, 4-12 |
| Service rating | D |

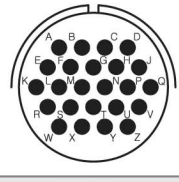


| | |
|---|---|
| Insert number | 32-6 |
| No. of contacts | 23 |
| Contact size | 16-16, 2-12, 3-8, 2-4 |
| Service rating | A |

## 24 CONTACT

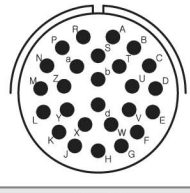


| | |
|---|---|
| Insert number | 20A24 |
| No. of contacts | 24 |
| Contact size | 20 |
| Service rating | INST |



| | |
|---|---|
| Insert number | 24-28 |
| No. of contacts | 24 |
| Contact size | 16 |
| Service rating | INST |

## 26 CONTACT

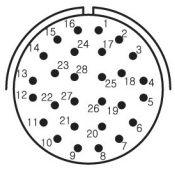


| | |
|---|---|
| Insert number | 28-12 |
| No. of contacts | 26 |
| Contact size | 16 |
| Service rating | A |

## Contact Size

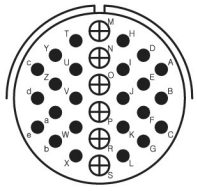
20 ○ 16 ● 12 ⊕ 8 ◕ 4 ⊕ 0 ⊕

## 28 CONTACT



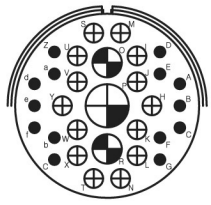
| | |
|---|---|
| Insert number | 24A28 |
| No. of contacts | 28 |
| Contact size | 16 |
| Service rating | INST |

## 30 CONTACT



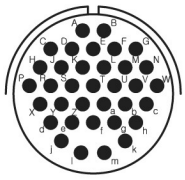
| | |
|---|---|
| Insert number | 32-8 |
| No. of contacts | 30 |
| Contact size | 24-16, 6-12 |
| Service rating | A |

## 31 CONTACT



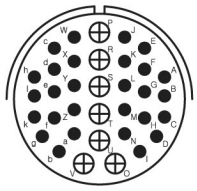
| | |
|---|---|
| Insert number | 36-9 |
| No. of contacts | 31 |
| Contact size | 14-16, 14-12, 2-8, 1-4 |
| Service rating | A |

## 35 CONTACT

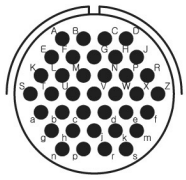


| | |
|---|---|
| Insert number | 28-15 |
| No. of contacts | 35 |
| Contact size | 16 |
| Service rating | A |

## 37 CONTACT

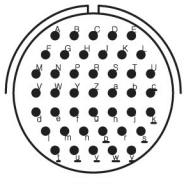


| | |
|---|---|
| Insert number | 32-7 |
| No. of contacts | 35 |
| Contact size | 28-16, 7-12 |
| Service rating | A(all others)<br>INST(A,B,h,j) |



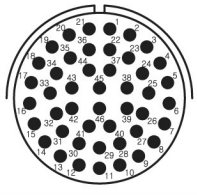
| | |
|---|---|
| Insert number | 28-21 |
| No. of contacts | 37 |
| Contact size | 16 |
| Service rating | A |

## 43 CONTACT



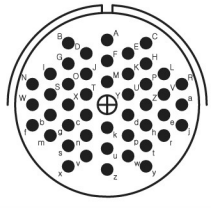
| | |
|---|---|
| Insert number | 28A51 |
| No. of contacts | 43 |
| Contact size | 16 |
| Service rating | A |

## 46 CONTACT



| | |
|---|---|
| Insert number | 32-73 |
| No. of contacts | 46 |
| Contact size | 16 |
| Service rating | A |

## 47 CONTACT

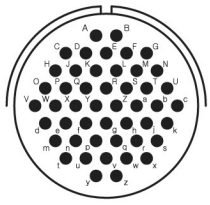


| | |
|---|---|
| Insert number | 36-8 |
| No. of contacts | 47 |
| Contact size | 46-16, 1-12 |
| Service rating | A |

## Contact Size

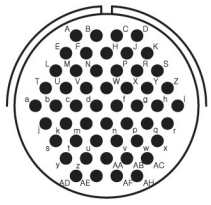
20 ○ 16 ● 12 ⊕ 8 ◔ 4 ⊕ 0 ⊕

## 48 CONTACT



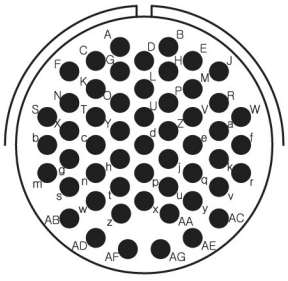
| | |
|---|---|
| Insert number | 36-10 |
| No. of contacts | 48 |
| Contact size | 16 |
| Service rating | A |

## 52 CONTACT



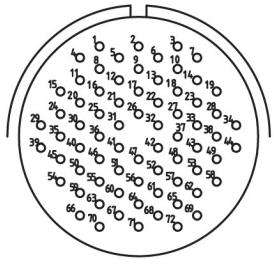
| | |
|---|---|
| Insert number | 36-52 |
| No. of contacts | 52 |
| Contact size | 16 |
| Service rating | A |

## 54 CONTACT



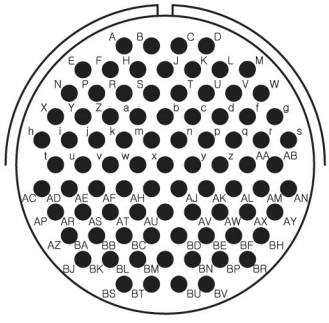
| | |
|---|---|
| Insert number | 32A10 & 32-22 |
| No. of contacts | 54 |
| Contact size | 16 |
| Service rating | A |

## 72 CONTACT



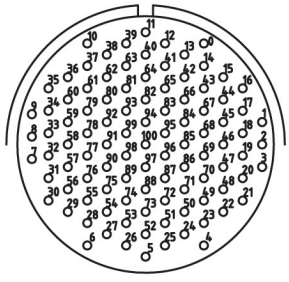
| | |
|---|---|
| Insert number | 28-72 |
| No. of contacts | 72 |
| Contact size | 20 |
| Service rating | INST |

## 85 CONTACT



| | |
|---|---|
| Insert number | 40-56 |
| No. of contacts | 16 |
| Contact size | 85 |
| Service rating | A |

## 101 CONTACT

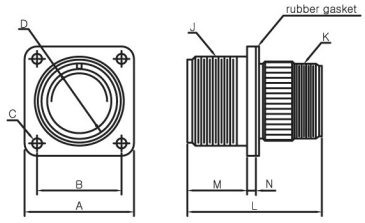


| | |
|---|---|
| Insert number | 32-101 |
| No. of contacts | 101 |
| Contact size | 20 |
| Service rating | INST |

# Connector Dimensions

MSW3100 Class A
Wall mounting receptacle



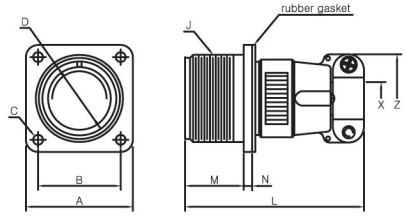



| Shell size | □A | □B | ϕC | ϕD | J | K | L | M | N | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ±0.79 | ±0.13 | +0.25 −0.13 | +0.38 | THD-2A | THD-2A | max | +0.79 | max | min |
| 10s /10SL | 25.40 | 18.26 | 3.05 | 11.38 | 5/8-24UNEF | 5/8-24UNEF | 38.89 | 14.27 | 3.96 | 1.57 |
| 12s | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 5/8-24UNEF | 42.88 | 14.27 | 3.96 | 1.57 |
| 12 | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 5/8-24UNEF | 52.37 | 19.05 | 3.96 | 1.57 |
| 14s | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 3/4-20UNEF | 42.88 | 14.27 | 3.96 | 1.57 |
| 14 | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 3/4-20UNEF | 52.37 | 19.05 | 3.96 | 1.57 |
| 16s | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 7/8-20UNEF | 42.88 | 14.27 | 3.96 | 1.57 |
| 16 | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 7/8-20UNEF | 52.37 | 19.05 | 3.96 | 1.57 |
| 18 | 34.93 | 26.97 | 3.05 | 23.67 | 1 1/8-18UNEF | 1 -20UNEF | 52.37 | 19.05 | 5.16 | 2.39 |
| 20 | 38.10 | 29.36 | 3.05 | 26.87 | 1 1/4-18UNEF | 1 3/16-18UNEF | 55.58 | 19.05 | 5.16 | 2.39 |
| 22 | 41.28 | 31.75 | 3.05 | 30.02 | 1 3/8-18UNEF | 1 3/16-18UNEF | 55.58 | 19.05 | 5.16 | 2.39 |
| 24 | 44.45 | 34.93 | 3.73 | 33.20 | 1 1/2-18UNEF | 1 7/16-18UNEF | 58.72 | 20.62 | 5.16 | 2.39 |
| 28 | 50.80 | 39.67 | 3.73 | 38.76 | 1 3/4-18UNS | 1 7/16-18UNEF | 58.72 | 20.62 | 5.16 | 2.39 |
| 32 | 57.15 | 44.45 | 4.39 | 45.11 | 2 -18UNS | 1 3/4-18UNS | 61.93 | 22.23 | 9.12 | 3.18 |
| 36 | 63.50 | 49.23 | 4.39 | 50.67 | 2 1/4-16UN | 2 -18UNS | 61.93 | 22.23 | 9.12 | 3.18 |
| 40 | 69.85 | 55.58 | 4.39 | 57.02 | 2 1/2-16UN | 2 1/4-16UN | 61.93 | 22.23 | 9.12 | 3.18 |

MSW3100 Class E, F
Wall mounting receptacle
with integral cable clamp
(grommet included)

Used to carry wire thru walls
or bulkheads or to provide
a means of disconnection at a bulkhead






| Shell size | □A | □B | ϕC | ϕD | J | L | M | N | | X | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ±0.79 | ±0.13 | +0.25 −0.13 | +0.38 | THD-2A | max | +0.79 | max | min | min | ±0.79 |
| 10s /10SL | 25.40 | 18.26 | 3.05 | 11.38 | 5/8-24UNEF | 57.15 | 14.27 | 3.96 | 1.98 | 7.14 | 22.23 |
| 12s | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 57.15 | 14.27 | 3.96 | 1.98 | 7.14 | 22.23 |
| 12 | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 66.68 | 19.05 | 3.96 | 1.98 | 7.14 | 22.23 |
| 14s | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 57.15 | 14.27 | 3.96 | 1.98 | 10.31 | 26.97 |
| 14 | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 66.68 | 19.05 | 3.96 | 1.98 | 10.31 | 26.97 |
| 16s | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 57.15 | 14.27 | 3.96 | 1.98 | 12.70 | 29.36 |
| 16 | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 66.68 | 19.05 | 3.96 | 1.98 | 12.70 | 29.36 |
| 18 | 34.93 | 26.97 | 3.05 | 23.67 | 1 1/8-18UNEF | 68.28 | 19.05 | 5.16 | 2.39 | 13.49 | 31.75 |
| 20 | 38.10 | 29.36 | 3.05 | 26.87 | 1 1/4-18UNEF | 69.85 | 19.05 | 5.16 | 2.39 | 16.66 | 37.31 |
| 22 | 41.28 | 31.75 | 3.05 | 30.02 | 1 3/8-18UNEF | 69.85 | 19.05 | 5.16 | 2.39 | 19.05 | 37.31 |
| 24 | 44.45 | 34.93 | 3.73 | 33.20 | 1 1/2-18UNEF | 75.41 | 20.62 | 5.16 | 2.39 | 19.84 | 42.88 |
| 28 | 50.80 | 39.67 | 3.73 | 38.76 | 1 3/4-18UNS | 76.99 | 20.62 | 5.16 | 2.39 | 23.42 | 42.88 |
| 32 | 57.15 | 44.45 | 4.39 | 45.11 | 2 -18UNS | 76.99 | 22.23 | 9.12 | 3.18 | 29.36 | 51.59 |
| 36 | 63.50 | 49.23 | 4.39 | 50.67 | 2 1/4-16UN | 83.34 | 22.23 | 9.12 | 3.18 | 31.75 | 57.94 |

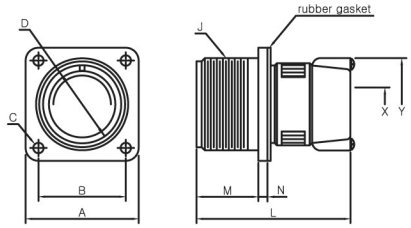
# Connector Dimensions

MSW3100, Class r

Wall mounting receptacle
(grommet included)

R type has a shorter and
lightweight endbell than E, F type



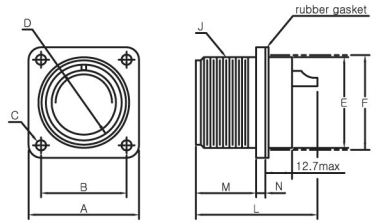



| Shell size | □A ±0.79 | □B ±0.13 | φC +0.25 −0.13 | φD +0.38 | J THD-2A | L max | M +0.79 | N max | N min | X min | Y ±0.25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 25.40 | 18.26 | 3.05 | 11.38 | 5/8-24UNEF | 46.69 | 14.27 | 3.96 | 1.98 | 7.14 | 23.83 |
| 12s | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 46.69 | 14.27 | 3.96 | 1.98 | 7.14 | 23.83 |
| 12 | 27.79 | 20.62 | 3.05 | 14.15 | 3/4-20UNEF | 55.40 | 19.05 | 3.96 | 1.98 | 7.14 | 23.83 |
| 14s | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 46.69 | 14.27 | 3.96 | 1.98 | 10.31 | 28.58 |
| 14 | 30.18 | 23.01 | 3.05 | 17.32 | 7/8-20UNEF | 55.40 | 19.05 | 3.96 | 1.98 | 10.31 | 28.58 |
| 16s | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 46.69 | 14.27 | 3.96 | 1.98 | 12.70 | 30.96 |
| 16 | 32.54 | 24.61 | 3.05 | 20.50 | 1 -20UNEF | 55.40 | 19.05 | 3.96 | 1.98 | 12.70 | 30.96 |
| 18 | 34.93 | 26.97 | 3.05 | 23.67 | 1 1/8-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 13.49 | 35.71 |
| 20 | 38.10 | 29.36 | 3.05 | 26.87 | 1 1/4-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 16.66 | 38.10 |
| 22 | 41.28 | 31.75 | 3.05 | 30.02 | 1 3/8-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 19.05 | 39.67 |
| 24 | 44.45 | 34.93 | 3.73 | 33.20 | 1 1/2-18UNEF | 57.94 | 20.62 | 5.16 | 2.39 | 19.84 | 46.84 |
| 28 | 50.80 | 39.67 | 3.73 | 38.76 | 1 3/4-18UNS | 57.94 | 20.62 | 5.16 | 2.39 | 23.42 | 46.84 |
| 32 | 57.15 | 44.45 | 4.39 | 45.11 | 2 -18UNS | 58.98 | 22.23 | 9.12 | 3.18 | 29.36 | 53.98 |
| 36 | 63.50 | 49.23 | 4.39 | 50.67 | 2 1/4-16UN | 58.98 | 22.23 | 9.12 | 3.18 | 31.75 | 58.72 |

MSW3102 , Class A

Box mounting receptacle





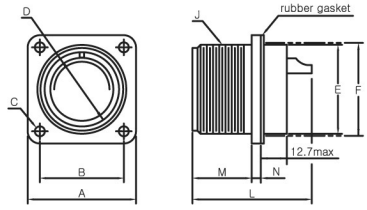

| Shell size | □A ±0.79 | □B ±0.13 | φC +0.25 −0.13 | φD +0.38 | φE −4.78 | φF Mounting Hole max | J THD-2A | L max | M +0.79 | N max | N min |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 25.40 | 18.26 | 3.05 | 11.38 | 19.86 | 20.62 | 5/8-24UNEF | 30.25 | 14.27 | 3.96 | 1.98 |
| 12s | 27.79 | 20.62 | 3.05 | 14.15 | 19.86 | 20.62 | 3/4-20UNEF | 30.25 | 14.27 | 3.96 | 1.98 |
| 12 | 27.79 | 20.62 | 3.05 | 14.15 | 19.86 | 20.62 | 3/4-20UNEF | 43.51 | 19.05 | 3.96 | 1.98 |
| 14s | 30.18 | 23.01 | 3.05 | 17.32 | 23.01 | 23.83 | 7/8-20UNEF | 30.25 | 14.27 | 3.96 | 1.98 |
| 14 | 30.18 | 23.01 | 3.05 | 17.32 | 23.01 | 23.83 | 7/8-20UNEF | 43.51 | 19.05 | 3.96 | 1.98 |
| 16s | 32.54 | 24.61 | 3.05 | 20.50 | 26.21 | 26.97 | 1 -20UNEF | 30.25 | 14.27 | 3.96 | 1.98 |
| 16 | 32.54 | 24.61 | 3.05 | 20.50 | 26.21 | 26.97 | 1 -20UNEF | 44.45 | 19.05 | 3.96 | 1.98 |
| 18 | 34.93 | 26.97 | 3.05 | 23.67 | 29.36 | 30.18 | 1 1/8-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 20 | 38.10 | 29.36 | 3.05 | 26.87 | 32.56 | 33.32 | 1 1/4-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 22 | 41.28 | 31.75 | 3.05 | 30.02 | 35.71 | 36.53 | 1 3/8-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 24 | 44.45 | 34.93 | 3.73 | 33.20 | 38.91 | 39.97 | 1 1/2-18UNEF | 49.23 | 20.62 | 5.16 | 2.39 |
| 28 | 50.80 | 39.67 | 3.73 | 38.76 | 45.26 | 46.02 | 1 3/4-18UNS | 49.23 | 20.62 | 5.16 | 2.39 |
| 32 | 57.15 | 44.45 | 4.39 | 45.11 | 51.61 | 52.37 | 2 -18UNS | 49.23 | 22.23 | 9.12 | 3.18 |
| 36 | 63.50 | 49.23 | 4.39 | 50.67 | 57.96 | 58.72 | 2 1/4-16UN | 49.23 | 22.23 | 9.12 | 3.18 |
| 40 | 69.85 | 55.58 | 4.39 | 57.02 | 64.31 | 65.07 | 2 1/2-16UN | 49.23 | 22.23 | 9.12 | 3.18 |

# Connector Dimensions

MSW3102, Class R
Box mounting receptacle

Used in junction boxes or as
an integral part of equipment

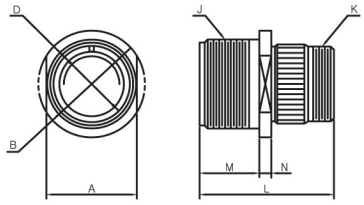





| Shell size | □A | □B | ϕC | ϕD | ϕE | ϕF | J | L | M | N | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ±0.79 | ±0.13 | +0.25 −0.13 | +0.38 | −4.78 | Mounting Hole max | THD-2A | max | +0.79 | max | min |
| 10s/10SL | 25.40 | 18.26 | 3.05 | 11.38 | 19.86 | 20.62 | 5/8-24UNEF | 30.18 | 14.27 | 3.96 | 1.98 |
| 12s | 27.79 | 20.62 | 3.05 | 14.15 | 19.86 | 20.62 | 3/4-20UNEF | 30.18 | 14.27 | 3.96 | 1.98 |
| 12 | 27.79 | 20.62 | 3.05 | 14.15 | 19.86 | 20.62 | 3/4-20UNEF | 41.28 | 19.05 | 3.96 | 1.98 |
| 14s | 30.18 | 23.01 | 3.05 | 17.32 | 23.01 | 23.83 | 7/8-20UNEF | 30.18 | 14.27 | 3.96 | 1.98 |
| 14 | 30.18 | 23.01 | 3.05 | 17.32 | 23.01 | 23.83 | 7/8-20UNEF | 41.28 | 19.05 | 3.96 | 1.98 |
| 16s | 32.54 | 24.61 | 3.05 | 20.50 | 26.21 | 26.97 | 1 -20UNEF | 30.18 | 14.27 | 3.96 | 1.98 |
| 16 | 32.54 | 24.61 | 3.05 | 20.50 | 26.21 | 26.97 | 1 -20UNEF | 41.28 | 19.05 | 3.96 | 1.98 |
| 18 | 34.93 | 26.97 | 3.05 | 23.67 | 29.36 | 30.18 | 1 1/8-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 20 | 38.10 | 29.36 | 3.05 | 26.87 | 32.56 | 33.32 | 1 1/4-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 22 | 41.28 | 31.75 | 3.05 | 30.02 | 35.71 | 36.53 | 1 3/8-18UNEF | 49.23 | 19.05 | 5.16 | 2.39 |
| 24 | 44.45 | 34.93 | 3.73 | 33.20 | 38.91 | 39.97 | 1 1/2-18UNEF | 49.23 | 20.62 | 5.16 | 2.39 |
| 28 | 50.80 | 39.67 | 3.73 | 38.76 | 45.26 | 46.02 | 1 3/4-18UNS | 49.23 | 20.62 | 5.16 | 2.39 |
| 32 | 57.15 | 44.45 | 4.39 | 45.11 | 51.61 | 52.37 | 2 -18UNS | 49.23 | 22.23 | 9.12 | 3.18 |
| 36 | 63.50 | 49.23 | 4.39 | 50.67 | 57.96 | 58.72 | 2 1/4-16UN | 49.23 | 22.23 | 9.12 | 3.18 |

MSW3101, Class A
Cable connecting plug





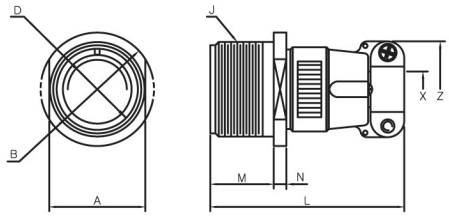

| Shell size | A | ϕB | ϕD | J | K | L | M | N | |
|---|---|---|---|---|---|---|---|---|---|
| | max | max | +0.38 | THD-2A | THD-2A | max | +0.79 | max | min |
| 10s/10SL | 16.26 | 24.61 | 11.38 | 5/8-24UNEF | 5/8-24UNEF | 38.89 | 14.27 | 3.96 | 1.98 |
| 12s | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 5/8-24UNEF | 42.88 | 14.27 | 3.96 | 1.98 |
| 12 | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 5/8-24UNEF | 52.37 | 19.05 | 3.96 | 1.98 |
| 14s | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 3/4-20UNEF | 42.88 | 14.27 | 3.96 | 1.98 |
| 14 | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 3/4-20UNEF | 52.37 | 19.05 | 3.96 | 1.98 |
| 16s | 25.78 | 31.75 | 20.50 | 1 -20UNEF | 7/8-20UNEF | 42.88 | 14.27 | 3.96 | 1.98 |
| 16 | 25.78 | 31.75 | 20.50 | 1 -20UNEF | 7/8-20UNEF | 52.37 | 19.05 | 3.96 | 1.98 |
| 18 | 28.96 | 34.14 | 23.67 | 1 1/8-18UNEF | 1 -20UNEF | 52.37 | 19.05 | 5.16 | 2.39 |
| 20 | 32.13 | 37.31 | 26.87 | 1 1/4-18UNEF | 1 3/16-18UNEF | 55.58 | 19.05 | 5.16 | 2.39 |
| 22 | 35.31 | 40.49 | 30.02 | 1 3/8-18UNEF | 1 3/16-18UNEF | 55.58 | 19.05 | 5.16 | 2.39 |
| 24 | 38.48 | 43.66 | 33.20 | 1 1/2-18UNEF | 1 7/16-18UNEF | 58.72 | 20.62 | 5.16 | 2.39 |
| 28 | 44.83 | 50.01 | 38.76 | 1 3/4-18UNS | 1 7/16-18UNEF | 58.72 | 20.62 | 5.16 | 2.39 |
| 32 | 51.18 | 56.36 | 45.11 | 2 -18UNS | 1 3/4-18UNS | 61.93 | 22.23 | 9.12 | 3.18 |
| 36 | 57.53 | 62.71 | 50.67 | 2 1/4-16UN | 2 -18UNS | 61.93 | 22.23 | 9.12 | 3.18 |
| 40 | 63.88 | 69.06 | 57.02 | 2 1/2-16UN | 2 1/4-18UN | 61.93 | 22.23 | 9.12 | 3.18 |

# Connector Dimensions

MSW3101, Class E, F
Cable connecting plug
(grommet included)

Used for cable extension requirements,
where mounting provisions are unnecessary



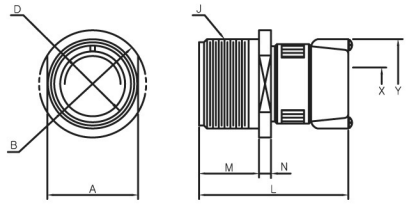



| Shell size | A max | ØB max | ØD +0.38 | J THD-2A | L max | M +0.79 | N max | N min | X min | Z ±0.79 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10s /10SL | 16.26 | 26.97 | 11.38 | 5/8-24UNEF | 57.15 | 14.27 | 3.96 | 1.57 | 7.14 | 22.23 |
| 12s | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 57.15 | 14.27 | 3.96 | 1.57 | 7.14 | 22.23 |
| 12 | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 66.68 | 19.05 | 3.96 | 1.57 | 7.14 | 22.23 |
| 14s | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 57.15 | 14.27 | 3.96 | 1.57 | 10.31 | 26.97 |
| 14 | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 66.68 | 19.05 | 3.96 | 1.57 | 10.31 | 26.97 |
| 16s | 25.78 | 32.54 | 20.50 | 1 -20UNEF | 57.15 | 14.27 | 3.96 | 1.57 | 12.70 | 29.36 |
| 16 | 25.78 | 32.54 | 20.50 | 1 -20UNEF | 66.68 | 19.05 | 3.96 | 1.57 | 12.70 | 29.36 |
| 18 | 28.96 | 34.14 | 23.67 | 1 1/8-18UNEF | 68.28 | 19.05 | 5.16 | 2.39 | 13.49 | 31.75 |
| 20 | 32.13 | 38.10 | 26.87 | 1 1/4-18UNEF | 69.85 | 19.05 | 5.16 | 2.39 | 16.66 | 37.31 |
| 22 | 35.31 | 41.28 | 30.02 | 1 3/8-18UNEF | 69.85 | 19.05 | 5.16 | 2.39 | 19.05 | 37.31 |
| 24 | 38.48 | 44.45 | 33.20 | 1 1/2-18UNEF | 75.41 | 20.62 | 5.16 | 2.39 | 19.84 | 42.88 |
| 28 | 44.83 | 50.80 | 38.76 | 1 3/4-18UNS | 76.99 | 20.62 | 5.16 | 2.39 | 23.42 | 42.88 |
| 32 | 51.18 | 57.15 | 45.11 | 2 -18UNS | 76.99 | 22.23 | 9.12 | 3.18 | 29.36 | 51.59 |
| 36 | 57.53 | 63.50 | 50.67 | 2 1/4-16UN | 83.34 | 22.23 | 9.12 | 3.18 | 31.75 | 57.94 |

MSW3101, Class R
Cable connecting plug
(grommet included)

R type has a shorter and lightweight
endbell than E, F type



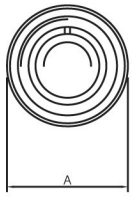


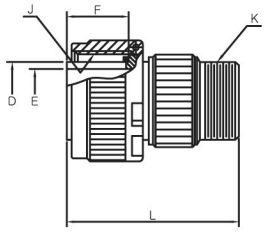

| Shell size | A max | ØB max | ØD +0.38 | J THD-2A | L max | M +0.79 | N max | N min | X min | Y ±0.25 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10s /10SL | 16.26 | 26.97 | 11.38 | 5/8-24UNEF | 46.69 | 14.27 | 3.96 | 1.57 | 7.14 | 23.83 |
| 12s | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 46.69 | 14.27 | 3.96 | 1.57 | 7.14 | 23.83 |
| 12 | 19.43 | 26.97 | 14.15 | 3/4-20UNEF | 55.40 | 19.05 | 3.96 | 1.57 | 7.14 | 23.83 |
| 14s | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 46.69 | 14.27 | 3.96 | 1.57 | 10.31 | 28.58 |
| 14 | 22.61 | 29.36 | 17.32 | 7/8-20UNEF | 55.40 | 19.05 | 3.96 | 1.57 | 10.31 | 28.58 |
| 16s | 25.78 | 32.54 | 20.50 | 1 -20UNEF | 46.69 | 14.27 | 3.96 | 1.57 | 12.70 | 30.96 |
| 16 | 25.78 | 32.54 | 20.50 | 1 -20UNEF | 55.40 | 19.05 | 3.96 | 1.57 | 12.70 | 30.96 |
| 18 | 28.96 | 34.14 | 23.67 | 1 1/8-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 13.49 | 35.71 |
| 20 | 32.13 | 38.10 | 26.87 | 1 1/4-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 16.66 | 38.10 |
| 22 | 35.31 | 41.28 | 30.02 | 1 3/8-18UNEF | 57.94 | 19.05 | 5.16 | 2.39 | 19.05 | 39.67 |
| 24 | 38.48 | 44.45 | 33.20 | 1 1/2-18UNEF | 57.94 | 20.62 | 5.16 | 2.39 | 19.84 | 46.84 |
| 28 | 44.83 | 50.80 | 38.76 | 1 3/4-18UNS | 57.94 | 20.62 | 5.16 | 2.39 | 23.42 | 46.84 |
| 32 | 51.18 | 57.15 | 45.11 | 2 -18UNS | 58.98 | 22.23 | 9.12 | 3.18 | 29.36 | 53.98 |
| 36 | 57.53 | 63.50 | 50.67 | 2 1/4-16UN | 58.98 | 22.23 | 9.12 | 3.18 | 31.75 | 58.72 |

# Connector Dimensions

MSW3106, Class A
Straight plug



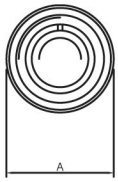


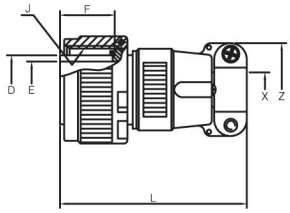




| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | J THD-2B | K THD-2A | L max |
|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 5/8-24UNEF | 38.89 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 5/8-24UNEF | 42.88 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 5/8-24UNEF | 52.37 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 3/4-20UNEF | 42.88 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 3/4-20UNEF | 52.37 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 7/8-20UNEF | 42.88 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 7/8-20UNEF | 52.37 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 1 -20UNEF | 52.37 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 1 3/16-18UNEF | 55.58 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 1 3/16-18UNEF | 55.58 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 1 7/16-18UNEF | 58.72 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 1 7/16-18UNEF | 58.72 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 1 3/4-18UNS | 61.93 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 2 -18UNS | 61.93 |
| 40 | 69.06 | 56.64 | 52.25 | 18.26 | 2 1/2-16UN | 2 1/4-18UN | 61.93 |

MSW3106, Class E, F
Straight plug with Integral cable clamp and grommet





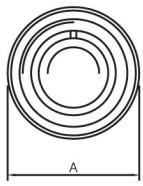

| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | J THD-2B | L max | X min | Z ±0.79 |
|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 57.15 | 7.14 | 22.23 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 57.15 | 7.14 | 22.23 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 66.68 | 7.14 | 22.23 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 57.15 | 10.31 | 26.97 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 66.68 | 10.31 | 26.97 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 57.15 | 12.70 | 29.36 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 66.68 | 12.70 | 29.36 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 68.28 | 13.49 | 31.75 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 69.85 | 16.66 | 37.31 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 69.85 | 19.05 | 37.31 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 75.41 | 19.84 | 42.88 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 76.99 | 23.42 | 42.88 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 76.99 | 29.36 | 51.59 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 83.34 | 31.75 | 57.94 |

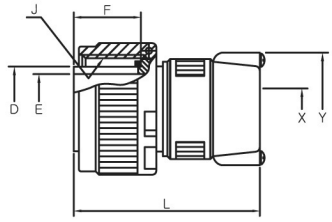
# Connector Dimensions

MSW3106, Class R
Straight plug with grommet

Indentical in purpose to the
MSW3106, Class F



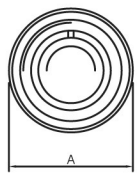


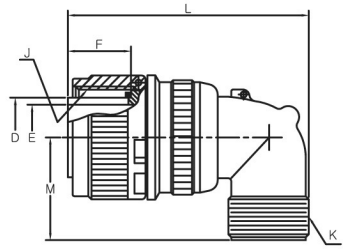




| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | J THD-2B | L max | X min | Y ±0.25 |
|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 46.69 | 7.14 | 23.83 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 46.69 | 7.14 | 23.83 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 55.40 | 7.14 | 23.83 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 46.69 | 10.31 | 28.58 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 55.40 | 10.31 | 28.58 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 46.69 | 12.70 | 30.96 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 55.40 | 12.70 | 30.96 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 57.94 | 13.49 | 35.71 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 57.94 | 16.66 | 38.10 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 57.94 | 19.05 | 39.67 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 57.94 | 19.84 | 46.84 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 57.94 | 23.42 | 46.84 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 58.98 | 29.36 | 53.98 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 58.98 | 31.75 | 58.72 |

MSW3108A, Class A
90° Angle plug





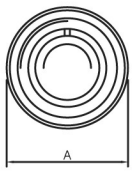



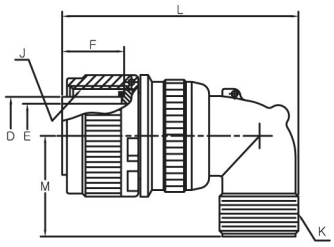

| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | J THD-2B | K THD-2A | L max | M max |
|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 5/8-24UNEF | 46.02 | 25.40 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 5/8-24UNEF | 50.80 | 26.97 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 5/8-24UNEF | 57.15 | 26.97 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 3/4-20UNEF | 53.98 | 28.58 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 3/4-20UNEF | 58.72 | 28.58 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 7/8-20UNEF | 60.33 | 30.18 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 7/8-20UNEF | 65.07 | 30.18 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 1 -20UNEF | 68.28 | 33.32 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 1 3/16-18UNEF | 76.99 | 34.93 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 1 3/16-18UNEF | 76.99 | 34.93 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 1 7/16-18UNEF | 86.51 | 39.67 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 1 7/16-18UNEF | 86.51 | 39.67 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 1 3/4-18UNS | 95.25 | 47.63 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 2 -18UNS | 100.03 | 52.37 |

# Connector Dimensions

MSW3108, Class E, R
90° Angle plug
(grommet included)



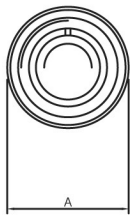


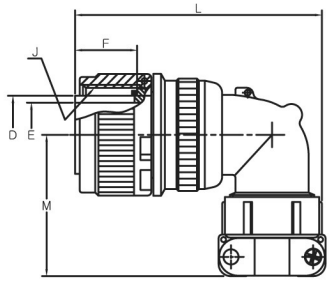




| Shell size | ØA max | ØD -0.38 | ØE min | F ±0.13 | J THD-2B | K THD-2A | L max | M max |
|---|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 5/8-24UNEF | 46.02 | 25.40 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 5/8-24UNEF | 50.80 | 26.97 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 5/8-24UNEF | 57.15 | 26.97 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 3/4-20UNEF | 53.98 | 28.58 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 3/4-20UNEF | 58.72 | 28.58 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 7/8-20UNEF | 60.33 | 30.18 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 7/8-20UNEF | 65.07 | 30.18 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 1 -20UNEF | 68.28 | 33.32 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 1 3/16-18UNEF | 76.99 | 34.93 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 1 3/16-18UNEF | 76.99 | 34.93 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 1 7/16-18UNEF | 86.51 | 39.67 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 1 7/16-18UNEF | 86.51 | 39.67 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 1 3/4-18UNS | 95.25 | 47.63 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 2 -18UNS | 100.03 | 52.37 |

MSW3108, Class F
90° Angle plug with
M85049/41 cable clamp
and grommet

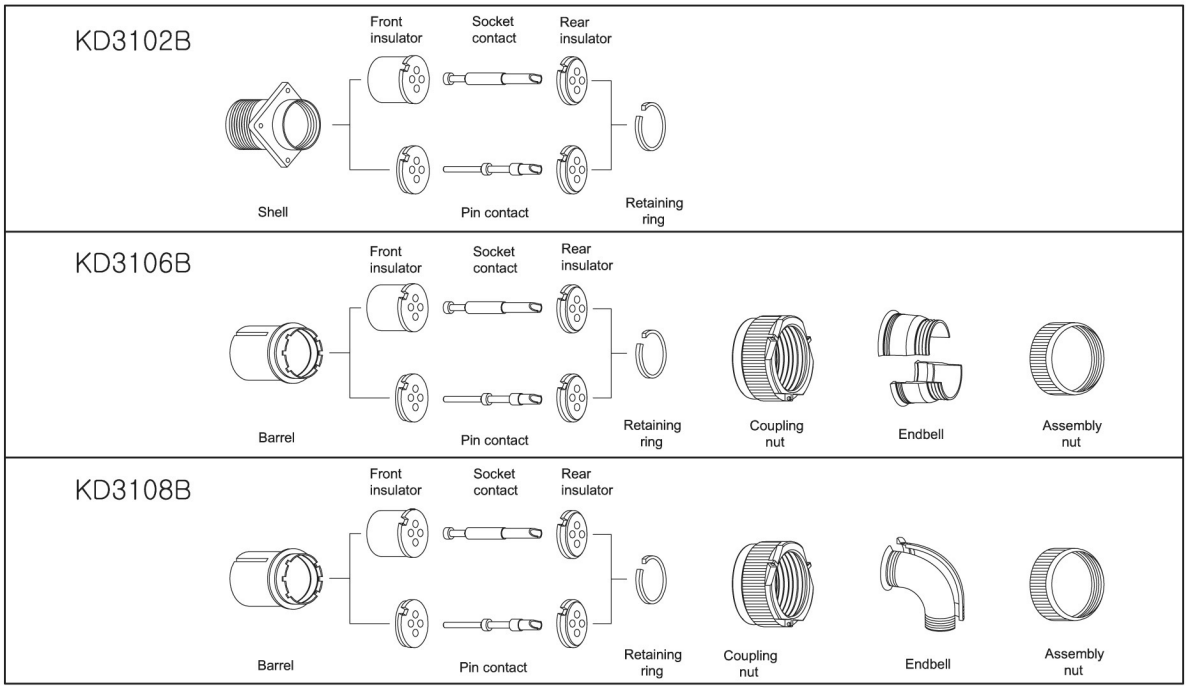





| Shell size | ØA max | ØD -0.38 | ØE min | F ±0.13 | J THD-2B | L max | M max |
|---|---|---|---|---|---|---|---|
| 10s/10SL | 24.61 | 11.33 | 10.20 | 13.49 | 5/8-24UNEF | 55.58 | 38.10 |
| 12s | 26.97 | 14.10 | 11.43 | 13.49 | 3/4-20UNEF | 55.58 | 38.10 |
| 12 | 26.97 | 14.10 | 11.43 | 18.26 | 3/4-20UNEF | 64.29 | 38.10 |
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 7/8-20UNEF | 58.72 | 40.49 |
| 14 | 29.36 | 17.15 | 13.36 | 18.26 | 7/8-20UNEF | 68.28 | 40.49 |
| 16s | 31.75 | 20.45 | 16.54 | 13.49 | 1 -20UNEF | 61.11 | 42.88 |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 1 -20UNEF | 70.64 | 42.88 |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 1 1/8-18UNEF | 72.24 | 45.24 |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 1 1/4-18UNEF | 82.55 | 50.01 |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 1 3/8-18UNEF | 82.55 | 50.80 |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 1 1/2-18UNEF | 94.46 | 53.98 |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 1 3/4-18UNS | 94.46 | 55.58 |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 2 -18UNS | 106.38 | 65.89 |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 2 1/4-16UN | 109.14 | 69.06 |

## Exploded view

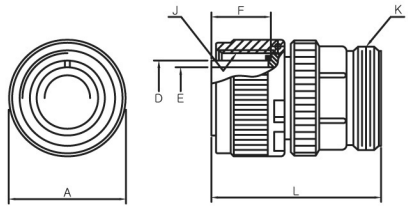


# Connector Dimensions

MSW3106, Class B
Straight plug and split endbell

Wire soldering and maintenance simplified with a split type endbell



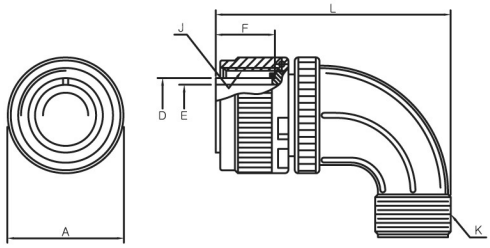



| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | L max | J THD-2B | K THD-2A |
|---|---|---|---|---|---|---|---|
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 42.88 | 7/8-20UNEF | 3/4-20UNEF |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 52.37 | 1 -20UNEF | 7/8-20UNEF |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 52.37 | 1 1/8-18UNEF | 1 -20UNEF |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 55.58 | 1 1/4-18UNEF | 1 3/16-18UNEF |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 55.58 | 1 3/8-18UNEF | 1 3/16-18UNEF |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 58.72 | 1 1/2-18UNEF | 1 7/16-18UNEF |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 58.72 | 1 3/4-18UNS | 1 7/16-18UNEF |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 61.93 | 2 -18UNS | 1 3/4-18UNS |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 61.93 | 2 1/4-16UN | 2 -18UNS |

MSW3108, Class B
90° Angle plug and split endbell

Convenient for use in narrow places





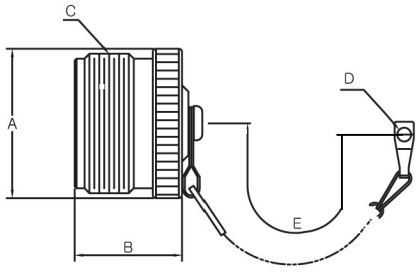

| Shell size | ϕA max | ϕD -0.38 | ϕE min | F ±0.13 | L max | J THD-2B | K THD-2A |
|---|---|---|---|---|---|---|---|
| 14s | 29.36 | 17.15 | 13.36 | 13.49 | 53.98 | 7/8-20UNEF | 3/4-20UNEF |
| 16 | 31.75 | 20.45 | 16.54 | 18.26 | 65.07 | 1 -20UNEF | 7/8-20UNEF |
| 18 | 34.14 | 23.62 | 19.71 | 18.26 | 68.28 | 1 1/8-18UNEF | 1 -20UNEF |
| 20 | 37.31 | 26.67 | 23.67 | 18.26 | 76.99 | 1 1/4-18UNEF | 1 3/16-18UNEF |
| 22 | 40.49 | 29.85 | 26.06 | 18.26 | 76.99 | 1 3/8-18UNEF | 1 3/16-18UNEF |
| 24 | 43.66 | 33.02 | 29.24 | 18.26 | 86.51 | 1 1/2-18UNEF | 1 7/16-18UNEF |
| 28 | 50.01 | 38.61 | 34.80 | 18.26 | 86.51 | 1 3/4-18UNS | 1 7/16-18UNEF |
| 32 | 56.36 | 44.96 | 41.15 | 18.26 | 95.25 | 2 -18UNS | 1 3/4-18UNS |
| 36 | 62.71 | 50.29 | 46.69 | 18.26 | 100.03 | 2 1/4-16UN | 2 -18UNS |

MSW42

Dust protective caps for plug

Used with MSW06
and MSW08 plugs





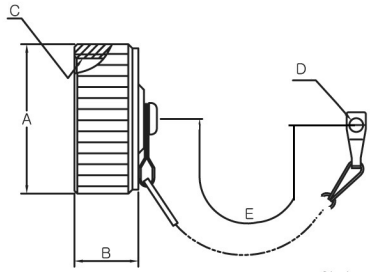

| Order No. | Shell size | ϕA max | B max | C THD-2B | ϕD1) +0.15 −0.05 | E1) ±10.0 |
|---|---|---|---|---|---|---|
| MSW42-10D | 10SL | 17.45 | 16.66 | 5/8-24UNEF | 3.80 | 125.0 |
| MSW42-12D | 12s & 12 | 20.62 | 21.44 | 3/4-20UNEF | 3.80 | 125.0 |
| MSW42-14D | 14s & 14 | 23.80 | 21.44 | 7/8-20UNEF | 3.80 | 125.0 |
| MSW42-16D | 16s & 16 | 26.97 | 21.44 | 1 -20UNEF | 3.80 | 125.0 |
| MSW42-18D | 18 | 30.15 | 21.44 | 1 1/8-18UNEF | 3.80 | 125.0 |
| MSW42-20D | 20 | 33.32 | 21.44 | 1 1/4-18UNEF | 3.80 | 125.0 |
| MSW42-22D | 22 | 36.50 | 21.44 | 1 3/8-18UNEF | 3.80 | 125.0 |
| MSW42-24D | 24 | 39.67 | 21.44 | 1 1/2-18UNEF | 3.80 | 125.0 |
| MSW42-28D | 28 | 46.02 | 21.44 | 1 3/4-18UNS | 3.80 | 173.0 |
| MSW42-32D | 32 | 52.37 | 21.44 | 2 -18UNS | 3.80 | 173.0 |
| MSW42-36D | 36 | 58.72 | 21.44 | 2 1/4-18UNS | 3.80 | 173.0 |
| MSW42-40D | 40 | 65.07 | 21.44 | 2 1/2-16UN | 3.80 | 173.0 |

MSW43

Dust protective caps for receptacle

Used with MSW3100, MSW3101
and MSW3102 receptacles





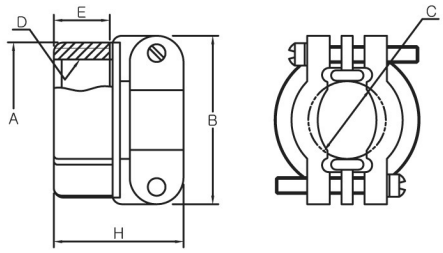

Chain1) Chain2)

| Order No. | Shell size | ϕA max | B max | C THD-2B | ϕD +0.15 −0.05 | E ±10.0 |
|---|---|---|---|---|---|---|
| MSW43-10D | 10SL | 20.70 | 11.91 | 5/8-24UNEF | 3.80 | 125.0 |
| MSW43-12D | 12s & 12 | 25.40 | 11.91 | 3/4-20UNEF | 3.80 | 125.0 |
| MSW43-14D | 14s & 14 | 28.58 | 11.91 | 7/8-20UNEF | 3.80 | 125.0 |
| MSW43-16D | 16s & 16 | 30.18 | 11.91 | 1 -20UNEF | 3.80 | 125.0 |
| MSW43-18D | 18 | 34.14 | 11.91 | 1 1/8-18UNEF | 3.80 | 125.0 |
| MSW43-20D | 20 | 37.31 | 11.91 | 1 1/4-18UNEF | 3.80 | 125.0 |
| MSW43-22D | 22 | 40.49 | 11.91 | 1 3/8-18UNEF | 3.80 | 125.0 |
| MSW43-24D | 24 | 43.66 | 11.91 | 1 1/2-18UNEF | 3.80 | 125.0 |
| MSW43-28D | 28 | 50.01 | 13.49 | 1 3/4-18UNS | 3.80 | 173.0 |
| MSW43-32D | 32 | 56.36 | 13.49 | 2 -18UNS | 3.80 | 173.0 |
| MSW43-36D | 36 | 62.71 | 13.49 | 2 1/4-18UNS | 3.80 | 173.0 |
| MSW43-40D | 40 | 69.06 | 13.49 | 2 1/2-16UN | 3.80 | 173.0 |

MSW3057
Cable clamp

For plugs and receptacles that have an endbell with external conduit threads

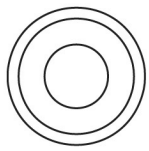


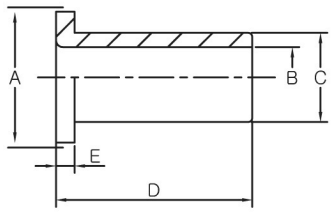



| Order No. | Shell size | A ±0.79 | B ±0.79 | ϕC max | D THD-2B | E ±0.41 | H ±0.79 |
|---|---|---|---|---|---|---|---|
| MSW3057- | 10SL,12s & 12 | 20.62 | 22.23 | 7.92 | 5/8-24UNEF | 10.31 | 20.62 |
| | 14s & 14 | 24.61 | 26.97 | 11.13 | 3/4-20UNEF | 10.31 | 22.23 |
| | 16s & 16 | 27.79 | 29.36 | 14.27 | 7/8-20UNEF | 10.31 | 23.83 |
| | 18 | 30.18 | 31.75 | 15.88 | 1 -20UNEF | 10.31 | 23.83 |
| | 20, 22 | 34.93 | 37.31 | 19.05 | 1 3/16-18UNEF | 10.31 | 23.83 |
| | 24, 28 | 42.06 | 42.88 | 23.83 | 1 7/16-18UNEF | 10.31 | 26.19 |
| | 32 | 51.59 | 51.59 | 31.75 | 1 3/4-18UNS | 11.91 | 27.79 |
| | 36 | 56.36 | 57.94 | 34.93 | 2 -18UNS | 13.49 | 29.36 |

KD3420
MS3420
Bushing for cable clamps







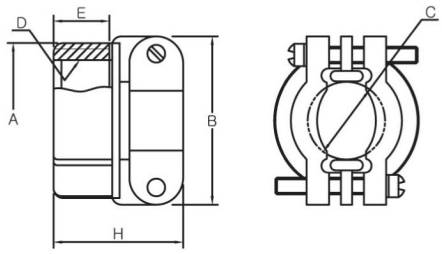

| Order No. | Shell size | ϕA1) ±0.41 | ϕA2) ±0.41 | ϕB ±0.41 | ϕC ±0.41 | D ±0.79 | E1) ±0.41 | E2) ±0.41 |
|---|---|---|---|---|---|---|---|---|
| KD3420-4 | 10SL,12s & 12 | 14.66 | 12.83 | 5.59 | 7.67 | 69.85 | 1.60 | 1.57 |
| KD3420-6 | 14s & 14 | 17.76 | 15.72 | 7.92 | 10.85 | 66.68 | 1.60 | 1.57 |
| KD3420-8 | 16s & 16 | 20.96 | 18.90 | 11.10 | 14.02 | 63.50 | 1.60 | 1.57 |
| KD3420-10 | 18 | 24.09 | 22.58 | 14.27 | 15.62 | 60.33 | 1.60 | 1.57 |
| KD3420-12 | 20, 22 | 27.75 | 27.53 | 15.88 | 18.80 | 57.15 | 1.60 | 1.57 |
| KD3420-16 | 24, 28 | 34.79 | 33.38 | 19.05 | 23.55 | 53.98 | 1.60 | 1.57 |
| KD3420-20 | 32 | 42.93 | 40.59 | 23.80 | 31.50 | 50.80 | 1.60 | 1.57 |
| KD3420-24 | 36 | 49.26 | 46.91 | 31.75 | 34.67 | 47.63 | 1.60 | 1.57 |

Note : 1) - Kukdong standard
2) - Customer's option

## MS3057
Cable clamp

For plugs and receptacles that have an endbell with external conduit threads

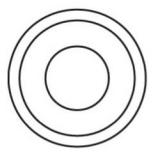


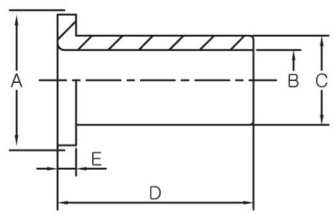



| Order No. | Shell size | A ±0.79 | B ±0.79 | ϕC max | D THD-2B | E ±0.41 | H ±0.79 |
|---|---|---|---|---|---|---|---|
| MS3057-4A | 10SL,12s & 12 | 20.62 | 22.23 | 7.92 | 5/8-24UNEF | 10.31 | 20.62 |
| MS3057-6A | 14s & 14 | 24.61 | 26.97 | 11.13 | 3/4-20UNEF | 10.31 | 22.23 |
| MS3057-8A | 16s & 16 | 27.79 | 29.36 | 14.27 | 7/8-20UNEF | 10.31 | 23.83 |
| MS3057-10A | 18 | 30.18 | 31.75 | 15.88 | 1 -20UNEF | 10.31 | 23.83 |
| MS3057-12A | 20, 22 | 34.93 | 37.31 | 19.05 | 1 3/16-18UNEF | 10.31 | 23.83 |
| MS3057-16A | 24, 28 | 42.06 | 42.88 | 23.83 | 1 7/16-18UNEF | 10.31 | 26.19 |
| MS3057-20A | 32 | 51.59 | 51.59 | 31.75 | 1 3/4-18UNS | 11.91 | 27.79 |
| MS3057-24A | 36 | 56.36 | 57.94 | 34.93 | 2 -18UNS | 13.49 | 29.36 |

## MS3420
Bushing for cable clamps








| Order No. | Shell size | ϕA1 ±0.41 | ϕA2 ±0.41 | ϕB ±0.41 | ϕC ±0.41 | D ±0.79 | E1 ±0.41 | E2 ±0.41 |
|---|---|---|---|---|---|---|---|---|
| MS3420-4 | 10SL,12s & 12 | 14.66 | 12.83 | 5.59 | 7.67 | 69.85 | 1.60 | 1.57 |
| MS3420-6 | 14s & 14 | 17.76 | 15.72 | 7.92 | 10.85 | 66.68 | 1.60 | 1.57 |
| MS3420-8 | 16s & 16 | 20.96 | 18.90 | 11.10 | 14.02 | 63.50 | 1.60 | 1.57 |
| MS3420-10 | 18 | 24.09 | 22.58 | 14.27 | 15.62 | 60.33 | 1.60 | 1.57 |
| MS3420-12 | 20, 22 | 27.75 | 27.53 | 15.88 | 18.80 | 57.15 | 1.60 | 1.57 |
| MS3420-16 | 24, 28 | 34.79 | 33.38 | 19.05 | 23.55 | 53.98 | 1.60 | 1.57 |
| MS3420-20 | 32 | 42.93 | 40.59 | 23.80 | 31.50 | 50.80 | 1.60 | 1.57 |
| MS3420-24 | 36 | 49.26 | 46.91 | 31.75 | 34.67 | 47.63 | 1.60 | 1.57 |