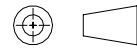


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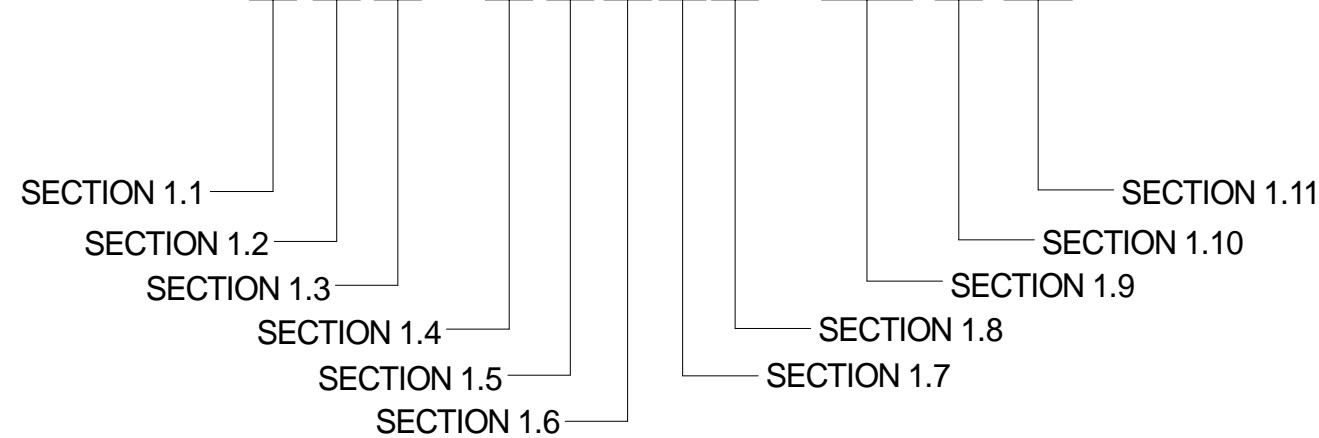
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES DRAWING STANDARDS ARE PER ANSI Y14.5M-1982

THIRD ANGLE PROJECTION



PART NUMBER

MNR - 15 S 6 E 5 - 18.0 L /01



| REVISIONS | | | | |
|-----------|-----|-------------|--------|----------|
| ECO | REV | DESCRIPTION | DATE | APPROVED |
| | 1 | RELEASE | 8/6/10 | WC |

1.1 - Series

M Series

1.2 - Shell Finish:

A = Alodine
 B = Black Anodize
 C = Cadmium/Yellow Chromate
 N = Electroless Nickel
 G = Gold

1.3 - Insulator Material:

E = Polyester
 R = Polyphenylene Sulfide

1.4 - Contact Layout/Shell Size:

9, 15, 21, 25, 31, 37, 51, 60, 100

1.5 - Contact Type:

P = Pin (plug)
 S = Socket (receptacle)

1.6 - Wire Size:

4 = 24 AWG
 5 = 25 AWG (solid wire only)
 6 = 26 AWG
 8 = 28 AWG
 0 = 30 AWG

1.7 - Wire Type:

C = Solid Copper
 E = 7 Strand type 'E' NEMA HP3 (was MIL-W-16878/4 type 'E')
 F = 7 Strand type 'ET' NEMA HP3 (was MIL-W-16878/6 type 'ET')
 G = 19 Strand type 'E' NEMA HP3 (was MIL-W-16878/4 type 'E')
 H = 19 Strand type 'ET' NEMA HP3 (was MIL-W-16878/6 type 'ET')
 K = 19 Strand M22759/33 (26 AWG only)
 M = 19 Strand M22759/11 (26 AWG only)
 N = 19 Strand M22759/19 (26 AWG only)

1.8 - Wire Color/Finish:

1 = All white
 2 = All yellow
 3 = Tin plated
 4 = Gold Plated
 5 = Color coded per Mil-Std-681 System 1
 6 = 15-color repeating color code (100 layout only)
 7 = 10-color repeating color code (black thru white)

1.9 - Lead Length (min):

Stranded wire: from 6.0" to 144.0" in 6.0" increments.
 Solid wire: from 0.5" to 3.0" in 0.5" increments.

1.10 - Hardware:

Commercial (#2-56 for sizes 9-60; #4-40 for size 100):

F = Float mount
 H = Hex drive (low profile)
 J = Slotted drive (tall profile)
 L = Slotted drive (low profile)
 P = Jackpost (unassembled)


Military:

M02 = Hex drive, low profile (size 9-60 only)
 M03 = Hex drive, tall profile (size 9-60 only)
 M05 = Slotted drive, low profile (size 9-60 only)
 M06 = Slotted drive, tall profile (size 9-60 only)
 M07 = Jackpost, unassembled (size 9-60 only)
 M12 = Hex drive, low profile (size 100 only)
 M13 = Hex drive, tall profile (size 100 only)
 M15 = Slotted drive, low profile (size 100 only)
 M16 = Slotted drive, tall profile (size 100 only)
 M17 = Jackpost, unassembled (size 100 only)

1.11 - Factory Modification Codes:

/01 = High temperature (200° C) (MNR & MBR connectors only)
 /02 = Termination leads coated with Sn60 (solid wire 0.5" max. lgth)
 /04 = Testing to M83513 Group A & B
 /05 = Testing to M83513 Group A
 /06 = High temperature (200°C) with enhanced sealing properties for high humidity applications (MNR & MBR connectors only)

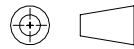
THIS IS AN UNCONTROLLED REFERENCE DOCUMENT ONLY

| PART NUMBER | | CUSTOMER APPROVAL | | |
|--------------------------|--|--|-----------|-------------------|
| SEE ABOVE | | SIGNED: | DATE: | |
| INTENDED USE CUSTOMER | |  17312 EASTMAN IRVINE, CA 92614 | | |
| REFERENCE | | | | |
| DRAWN CHARETTE | | DWG TITLE 'M' SERIES METAL SHELL PART NUMBER BUILDUP | | |
| CHECKED | | DATE 8/6/10 | SIZE B | FSCM NO. 54455 |
| APPROVED | | DWG NO. 00-016-0000 | REV 1 | SHEET 1 of 2 |
| SCALE X:X | | | | |

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UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES DRAWING STANDARDS ARE PER ANSI Y14.5M-1982

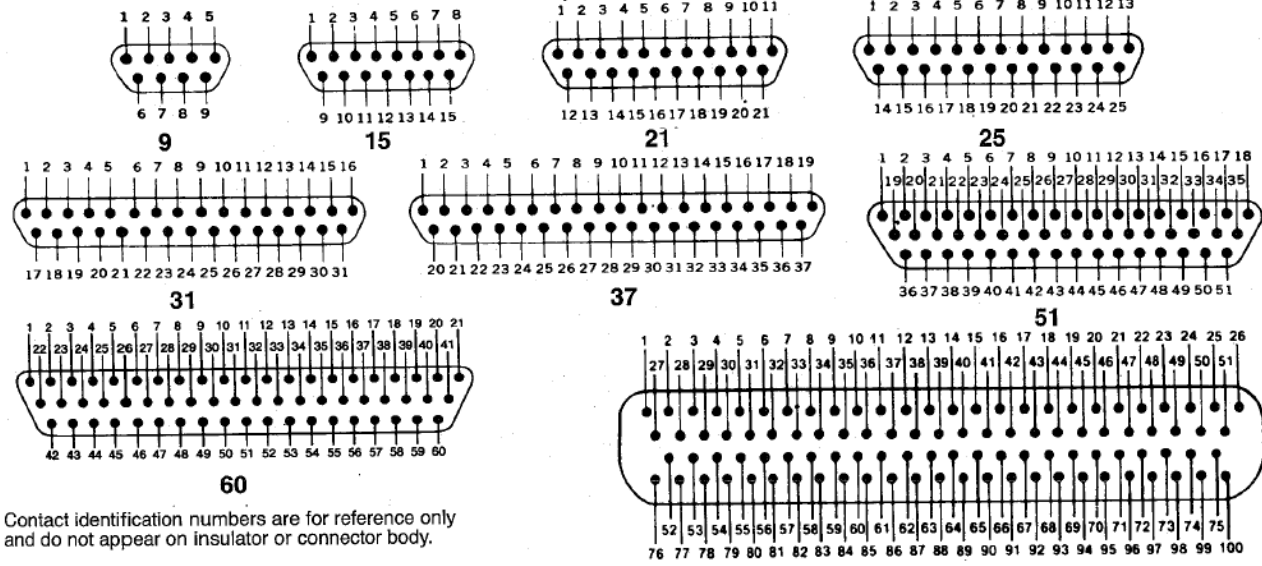
THIRD ANGLE PROJECTION



| REVISIONS | | | | |
|-----------|-----|-------------|------|----------|
| ECO | REV | DESCRIPTION | DATE | APPROVED |
| | 1 | SEE SHEET 1 | | |

Contact Arrangements/Series "D" & "M"

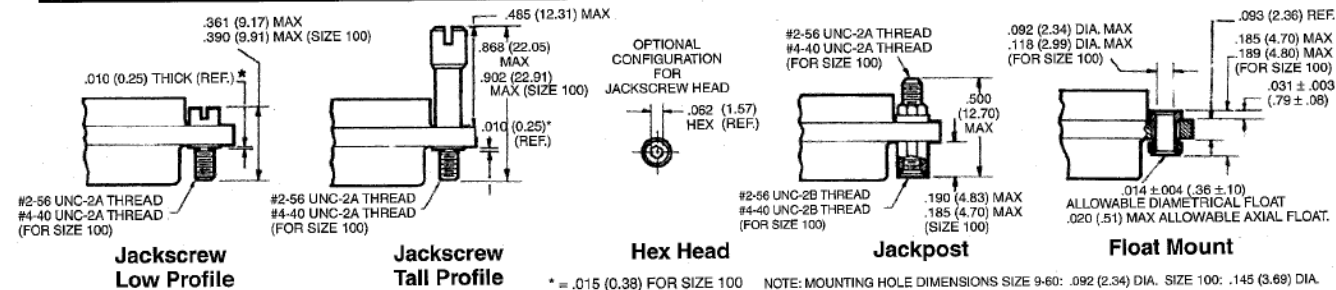
Face View of Pin Insert (Use Reverse Order For Socket Insert)



Contact identification numbers are for reference only and do not appear on insulator or connector body.

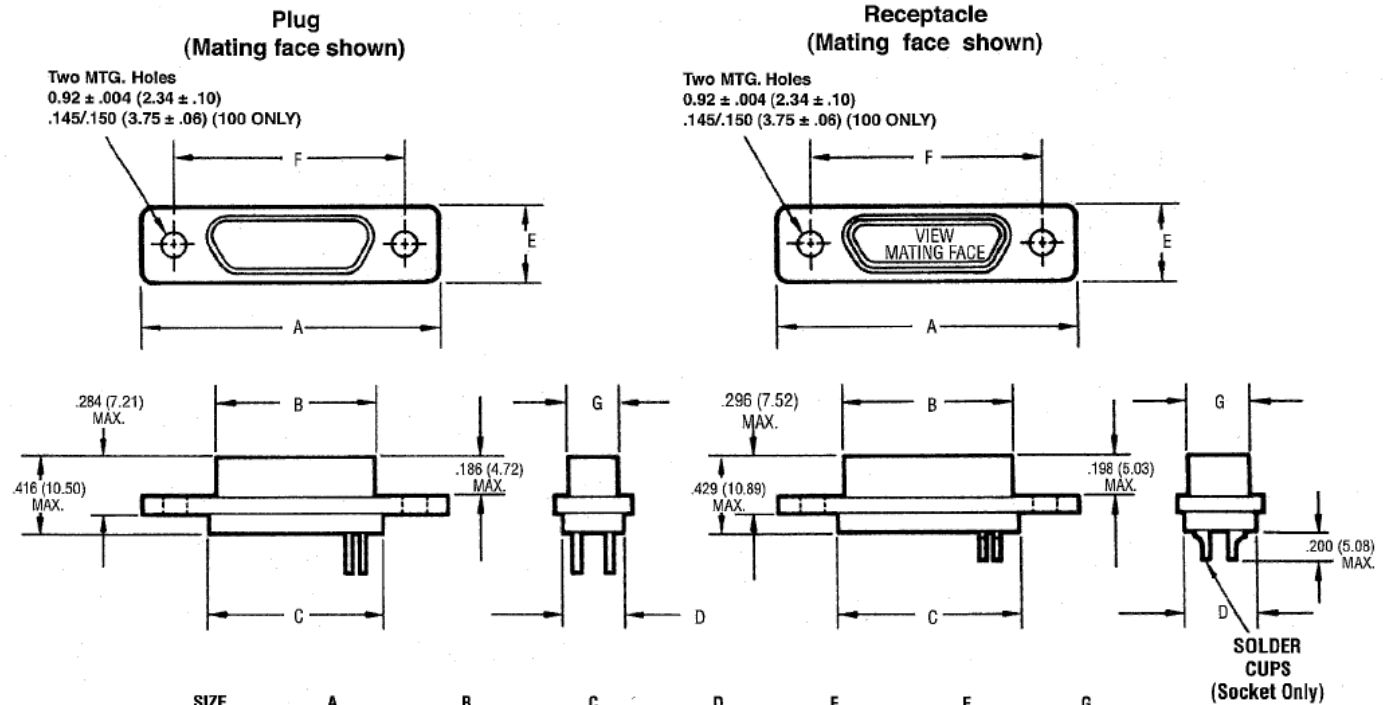
Note: 60 size available in metal shell only. A'D' series is not available in the 60 or 100.

Mounting Hardware



* = .015 (0.38) FOR SIZE 100 NOTE: MOUNTING HOLE DIMENSIONS SIZE 9-60: .092 (2.34) DIA. SIZE 100: .145 (3.69) DIA.

Dimensions/Inches (mm)



| SIZE | A ±.010 (.25) | B MAX | C ±.010 (.25) -.018 (.46) | D MAX | E ±.010 (.25) | F ±.005 (.13) | G MAX |
|------|------------------|---------------|---------------------------------|-------------|------------------|------------------|--------------|
| 9P | .775 (19.68) | .334 (8.48) | .390 (9.91) | .270 (6.86) | .298 (7.57) | .565 (14.35) | .184 (4.65) |
| 9S | .775 (19.68) | .402 (10.21) | .390 (9.91) | .270 (6.86) | .298 (7.57) | .565 (14.35) | .252 (6.38) |
| 15P | .925 (23.50) | .484 (12.29) | .540 (13.72) | .270 (6.86) | .298 (7.57) | .715 (18.16) | .184 (4.65) |
| 15S | .925 (23.50) | .552 (14.02) | .540 (13.72) | .270 (6.86) | .298 (7.57) | .715 (18.16) | .252 (6.38) |
| 21P | 1.075 (27.30) | .634 (16.10) | .690 (17.53) | .270 (6.86) | .298 (7.57) | .865 (21.97) | .184 (4.65) |
| 21S | 1.075 (27.30) | .702 (17.83) | .690 (17.53) | .270 (6.86) | .298 (7.57) | .865 (21.97) | .252 (6.38) |
| 25P | 1.175 (29.84) | .734 (18.64) | .790 (20.07) | .270 (6.86) | .298 (7.57) | .965 (24.51) | .184 (4.65) |
| 25S | 1.175 (29.84) | .802 (20.37) | .790 (20.07) | .270 (6.86) | .298 (7.57) | .965 (24.51) | .252 (6.38) |
| 31P | 1.325 (33.66) | .884 (22.45) | .940 (23.88) | .270 (6.86) | .298 (7.57) | 1.115 (28.32) | .184 (4.65) |
| 31S | 1.325 (33.66) | .952 (24.18) | .940 (23.88) | .270 (6.86) | .298 (7.57) | 1.115 (28.32) | .252 (6.38) |
| 37P | 1.475 (37.46) | 1.034 (26.26) | 1.090 (27.69) | .270 (6.86) | .298 (7.57) | 1.265 (32.13) | .184 (4.65) |
| 37S | 1.475 (37.46) | 1.102 (27.99) | 1.090 (27.69) | .270 (6.86) | .298 (7.57) | 1.265 (32.13) | .252 (6.38) |
| 51P | 1.425 (36.20) | .984 (24.99) | 1.040 (26.42) | .310 (7.87) | .341 (8.66) | 1.215 (30.86) | .227 (5.74) |
| 51S | 1.425 (36.20) | 1.052 (26.72) | 1.040 (26.42) | .310 (7.87) | .341 (8.66) | 1.215 (30.86) | .295 (7.47) |
| 100P | 2.160 (54.86) | 1.384 (35.15) | 1.432 (36.37) | .360 (9.14) | .384 (9.75) | 1.800 (45.72) | .270 (6.86) |
| 100S | 2.160 (54.86) | 1.498 (38.05) | 1.432 (36.37) | .360 (9.14) | .384 (9.75) | 1.800 (45.72) | .394 (10.01) |

Commercial Style

| Commercial Style | Jackscrew, Low Profile | | Jackscrew, Tall Profile | | Jackpost | Float Mount |
|--|------------------------|--------------|-------------------------|--------------|----------------------|-------------|
| | Hex Head | Slot Head | Hex Head | Slot Head | | |
| Size 9-51 | | | | | | |
| Suffix code for ordering with connectors | H | L | - | J | P | F Δ |
| Kit number when ordering separately | 10,000 - 0006 | 10-000-0002 | - | 10-000-0001 | 10-000-0003 Δ | - |
| Size 100 Δ | - | - | - | - | - | F Δ |
| M83513/05 Style | | | | | | |
| Size 9-51 | | | | | | |
| Suffix code for ordering with connectors | M02 | M05 | M03 | M06 | M07 | - |
| Kit number when ordering separately | M83513/05-02 | M83513/05-05 | M83513/05-03 | M83513/05-06 | M83513/05-07 | - |
| Size 100 | | | | | | |
| Suffix code for ordering with connectors | M12 | M15 | M13 | M16 | M17 | - |
| Kit number when ordering separately | M83513/05-12 | M83513/05-15 | M83513/05-13 | M83513/05-16 | M83513/05-17 | - |

Notes: (1) When ordering hardware separately, each kit number is sufficient for one connector.
 (2) Jackscrews and jackposts fit both plugs and receptacles.
 Δ Size 100 commercial hardware not available (except for Float Mount), therefore use military hardware.
 Δ Float Mount hardware is factory installed and available in commercial style only.
 Δ Min-E-Con's commercial style Jackpost features an exclusive .087 counter bore.

| | | | |
|--------------|----------|---|-------------|
| PART NUMBER | | CUSTOMER APPROVAL | |
| SEE SHEET 1 | | SIGNED: _____ | DATE: _____ |
| INTENDED USE | CUSTOMER | 17312 EASTMAN IRVINE, CA 92614 | |
| REFERENCE | | | |
| SIGNATURES | | DWG TITLE | |
| DRAWN | CHARETTE | 'M' SERIES METAL SHELL PART NUMBER BUILDUP | |
| CHECKED | 8/6/10 | | |
| APPROVED | | SIZE | B |
| | | FSCM NO. | 54455 |
| | | DWG NO. | 00-016-0000 |
| | | REV | 1 |
| | | SCALE | X:X |
| | | SHEET | 2 of 2 |