



## Micro-D Metal Shell MWDM Back-To-Back Unshielded Cable Assemblies

B



**Save Time and Money With Back-To-Back Cables**— These Micro-D connectors feature crimp wire terminations and epoxy encapsulation. The installed cost is lower than terminating solder cup connectors.

**100% Certified**— all back-to-back assemblies are 100% checked for continuity, resistance, voltage and insulation resistance.

**Hardware Note**— if jackposts are required on one end and jackscrews on the other, use hardware designator “B” (no hardware installed), and order hardware kits separately.

### HOW TO ORDER BACK-TO-BACK UNSHIELDED CABLES

| Series                    | Shell Material and Finish    | Insulator Material                                 | Contact Layout                                                                                                                                | Connect or Type                                                                                                                                    | Wire Gage (AWG)                                                      | Wire Type                                                                                                                                                                                                                  | Wire Color                                                                                                                                                                                                                                              | Total Length Inches                                                                                                                | Hardware                                                                                       |
|---------------------------|------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| MWDM                      | <b>Aluminum Shell</b>        | L – LCP<br>30% Glass-Filled Liquid Crystal Polymer | <b>9</b><br><b>15</b><br><b>21</b><br><b>25</b><br><b>31</b><br><b>37</b><br><b>51</b><br><b>51-2</b><br><b>67</b><br><b>69</b><br><b>100</b> | <b>GP</b> – Pin (Plug) Connector Both Ends<br><b>GS</b> – Socket (Receptacle) Connector Both Ends<br><b>CS</b> – Pin Connector to Socket Connector | <b>4</b> – #24<br><b>6</b> – #26<br><b>8</b> – #28<br><b>0</b> – #30 | <b>K</b> – M22759/11 600 Vrms Teflon (TFE)<br><b>J</b> – M22759/33 600 Vrms Modified Cross-Linked Tefzel® (ETFE)<br><b>E</b> – NEMA HP3-EB 600 VrmsType E M16878/4 (TFE) (replaced by M22759/11 for mil spec applications) | <b>1</b> – White<br><b>2</b> – Yellow<br><b>7</b> – Ten Color Repeating<br><br><b>5</b> – Color-Coded Stripes Per MIL-STD-681<br>(Striped wire not available on 67, 69 or 100 pin connectors or for #28, #30 AWG)<br><br><b>7</b> – Ten Color Repeating | <b>18</b><br><br>Total Length In Inches. “18” Specifies 18 Inches<br><br>(2” Min. for 2 row, 3” Min. for 3 row, 4” Min. for 4 row) | <b>B</b><br><b>P</b><br><b>M</b><br><b>M1</b><br><b>S</b><br><b>S1</b><br><b>L</b><br><b>K</b> |
|                           | <b>Stainless Steel Shell</b> |                                                    |                                                                                                                                               |                                                                                                                                                    |                                                                      |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                         |                                                                                                                                    |                                                                                                |
|                           | <b>3</b> – Passivated        |                                                    |                                                                                                                                               |                                                                                                                                                    |                                                                      |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                         |                                                                                                                                    |                                                                                                |
| <b>Sample Part Number</b> |                              |                                                    |                                                                                                                                               |                                                                                                                                                    |                                                                      |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                         |                                                                                                                                    |                                                                                                |
| MWDM                      | 1                            | L –                                                | 25                                                                                                                                            | GP –                                                                                                                                               | 6                                                                    | K                                                                                                                                                                                                                          | 7 –                                                                                                                                                                                                                                                     | 18                                                                                                                                 | B                                                                                              |

### MICRO-D MOUNTING HARDWARE

| B                                             | P                                                       | M                                                   | M1                                                              | S                                                    | S1                                                               | L                                              | K                                                              |
|-----------------------------------------------|---------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------|
|                                               |                                                         |                                                     |                                                                 |                                                      |                                                                  |                                                |                                                                |
| <b>Thru-Hole</b><br>Order Hardware Separately | <b>Jackpost</b><br>Removable<br>Includes Nut and Washer | <b>Jackscrew</b><br>Hex Head<br>Removable<br>E-ring | <b>Jackscrew</b><br>Hex Head<br>Removable<br>E-ring<br>Extended | <b>Jackscrew</b><br>Slot Head<br>Removable<br>E-ring | <b>Jackscrew</b><br>Slot Head<br>Removable<br>E-ring<br>Extended | <b>Jackscrew</b><br>Hex Head<br>Non- Removable | <b>Jackscrew</b><br>Slot Head<br>Non-<br>Removable<br>Extended |

# Micro-D Metal Shell MWDM Back-To-Back Unshielded Cable Assemblies



Micro-D  
Harness

## PERFORMANCE SPECIFICATIONS

|                           |                               |
|---------------------------|-------------------------------|
| Current Rating            | 3 AMP                         |
| DWV                       | 600 VAC Sea level             |
| Insulation Resistance     | 5000 Megohms Minimum          |
| Contact Resistance        | 8 Milliohms Maximum           |
| Low Level Contact Resist. | 32 Milliohms Maximum          |
| Magnetic Permeability     | 2 $\mu$ Maximum               |
| Operating Temperature     | -55° C. to +150° C.           |
| Shock, Vibration          | 50 g., 20g.                   |
| Mating Force              | (10 Ounces) X (# of Contacts) |

## MATERIALS AND FINISHES

|                  |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| Connector Shell  | Aluminum Alloy 6061 or Stainless Steel, 300 Series, passivated. See Ordering Info for Plating Options |
| Insulator        | Liquid Crystal Polymer (LCP)                                                                          |
| Interfacial Seal | Fluorosilicone Rubber, Blue                                                                           |
| Pin Contact      | Beryllium Copper Gold over Nickel Plating                                                             |
| Socket Contact   | Copper Alloy Gold Over Nickel Plating                                                                 |
| Hardware         | 300 Series Stainless Steel                                                                            |
| Encapsulant      | Epoxy Resin Hysol EE4215                                                                              |



## DIMENSIONS

| Layout | A Max. |       | B              |                | C Max. |       | D Max. |      | E Max. |       | F              |                | G Max. |       | H Max. |       | J Max. |      |
|--------|--------|-------|----------------|----------------|--------|-------|--------|------|--------|-------|----------------|----------------|--------|-------|--------|-------|--------|------|
|        | In.    | mm.   | In. $\pm .003$ | mm. $\pm 0.08$ | In.    | mm.   | In.    | mm.  | In.    | mm.   | In. $\pm .003$ | mm. $\pm 0.08$ | In.    | mm.   | In.    | mm.   | In.    | mm.  |
| 9P     | .785   | 19.94 | .565           | 14.35          | .333   | 8.46  | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | .400   | 10.16 | .270   | 6.86 |
| 9S     | .785   | 19.94 | .565           | 14.35          | .400   | 10.16 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | .400   | 10.16 | .270   | 6.86 |
| 15P    | .935   | 23.75 | .715           | 18.16          | .483   | 12.27 | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | .550   | 13.97 | .270   | 6.86 |
| 15S    | .935   | 23.75 | .715           | 18.16          | .551   | 14.00 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | .550   | 13.97 | .270   | 6.86 |
| 21P    | 1.085  | 27.56 | .865           | 21.97          | .633   | 16.08 | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | .700   | 17.78 | .270   | 6.86 |
| 21S    | 1.085  | 27.56 | .865           | 21.97          | .701   | 17.81 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | .700   | 17.78 | .270   | 6.86 |
| 25P    | 1.185  | 30.01 | .965           | 24.51          | .733   | 18.62 | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | .800   | 20.32 | .270   | 6.86 |
| 25S    | 1.185  | 30.01 | .965           | 24.51          | .801   | 20.35 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | .800   | 20.32 | .270   | 6.86 |
| 31P    | 1.335  | 33.91 | 1.115          | 28.32          | .883   | 22.43 | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | .950   | 24.13 | .270   | 6.86 |
| 31S    | 1.335  | 33.91 | 1.115          | 28.32          | .951   | 24.16 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | .950   | 24.13 | .270   | 6.86 |
| 37P    | 1.485  | 37.72 | 1.265          | 32.13          | 1.033  | 26.24 | .184   | 4.67 | .308   | 7.82  | .183           | 4.65           | .416   | 10.57 | 1.100  | 27.94 | .270   | 6.86 |
| 37S    | 1.485  | 37.72 | 1.265          | 32.13          | 1.101  | 27.96 | .250   | 6.35 | .308   | 7.82  | .195           | 4.95           | .429   | 10.90 | 1.100  | 27.94 | .270   | 6.86 |
| 51P    | 1.435  | 36.45 | 1.215          | 30.86          | .983   | 24.97 | .228   | 5.79 | .351   | 8.92  | .183           | 4.65           | .416   | 10.57 | 1.050  | 26.67 | .310   | 7.87 |
| 51S    | 1.435  | 36.45 | 1.215          | 30.86          | 1.051  | 26.70 | .296   | 7.52 | .351   | 8.92  | .195           | 4.95           | .429   | 10.90 | 1.050  | 26.67 | .310   | 7.87 |
| 51-2P  | 1.835  | 46.61 | 1.615          | 41.02          | 1.384  | 35.15 | .184   | 4.67 | .310   | 7.87  | .183           | 4.65           | .416   | 10.57 | 1.450  | 36.83 | .270   | 6.86 |
| 51-2S  | 1.835  | 46.61 | 1.615          | 41.02          | 1.450  | 36.83 | .250   | 6.35 | .310   | 7.87  | .195           | 4.95           | .429   | 10.90 | 1.450  | 36.83 | .270   | 6.86 |
| 67P    | 2.235  | 56.77 | 2.015          | 51.18          | 1.784  | 45.31 | .184   | 4.67 | .310   | 7.87  | .183           | 4.65           | .416   | 10.57 | 1.850  | 36.83 | .270   | 6.86 |
| 67S    | 2.235  | 56.77 | 2.015          | 51.18          | 1.850  | 46.99 | .250   | 6.35 | .310   | 7.87  | .195           | 4.95           | .429   | 10.90 | 1.850  | 36.83 | .270   | 6.86 |
| 69P    | 1.735  | 44.07 | 1.515          | 38.48          | 1.284  | 32.61 | .228   | 5.79 | .351   | 8.92  | .183           | 4.65           | .416   | 10.57 | 1.350  | 34.29 | .310   | 7.87 |
| 69S    | 1.735  | 44.07 | 1.515          | 38.48          | 1.350  | 34.29 | .296   | 7.52 | .351   | 8.92  | .195           | 4.95           | .429   | 10.90 | 1.350  | 34.29 | .310   | 7.87 |
| 100P   | 2.170  | 55.12 | 1.800          | 45.72          | 1.383  | 35.13 | .270   | 6.86 | .394   | 10.01 | .183           | 4.65           | .416   | 10.57 | 1.442  | 36.63 | .360   | 9.14 |
| 100S   | 2.170  | 55.12 | 1.800          | 45.72          | 1.451  | 36.86 | .333   | 8.46 | .394   | 10.01 | .195           | 4.95           | .429   | 10.90 | 1.442  | 36.63 | .360   | 9.14 |

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9