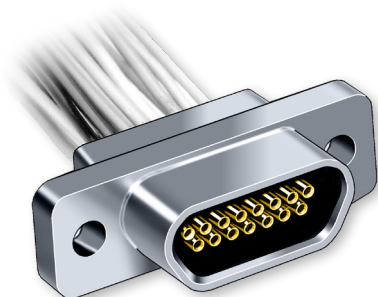




## Micro-D MWDM Insulated Wire Metal Shell Connectors



**Micro-D Insulated Wire Pigtails**—These connectors feature gold-plated TwistPin contacts and mil spec crimp termination. Specify nickel-plated shells or cadmium plated shells for best availability. 100% tested and backpotted, ready for use.

**Choose the Wire Type and Size To Fit Your Application**—If on-hand availability is most important, choose #26 AWG Type K mil spec fluoropolymer wire. Select M22759/33 Type J for space applications.

How To Order Insulated Wire Connector

| Sample Part Number        | MWDM                                                                                                                                                                                  | 2 | L- | 25 | S- | 4 | K | 7- | 18 | B |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|----|----|---|---|----|----|---|
| Series                    | MWDM Glenair Micro-D                                                                                                                                                                  |   |    |    |    |   |   |    |    |   |
| Shell Material and Finish | <b>Aluminum Shell</b><br>1 - Cadmium      2 - Nickel      Stainless Steel Shell<br>4 - Black Anodize      5 - Gold      3 - Passivated<br>6 - Chem Film      33 - Nickel-PTFE         |   |    |    |    |   |   |    |    |   |
| Insulator Material        | L - LCP or PPS<br>LCP - 30% Glass-Filled Liquid Crystal Polymer<br>PPS - 40% Glass filled polyphenylene sulfide                                                                       |   |    |    |    |   |   |    |    |   |
| Contact Layout            | 9, 15, 21, 25, 31, 37, 51, 51-2, 67, 69, 75, 100, 130 (See Table II)                                                                                                                  |   |    |    |    |   |   |    |    |   |
| Contact Type              | P - Pin    S - Socket                                                                                                                                                                 |   |    |    |    |   |   |    |    |   |
| Wire Gage (AWG)           | 4 - #24    6 - #26    8 - #28    0 - #30                                                                                                                                              |   |    |    |    |   |   |    |    |   |
| Wire Type                 | K - M22759/11      J - M22759/33      E - NEMA HP3-EB<br>600 VRMS      600 VRMS Modified Cross-      600 VRMS Type E M16878/4 (TFE)<br>Fluoropolymer (TFE)      Linked Tefzel® (ETFE) |   |    |    |    |   |   |    |    |   |
| Wire Color                | 1 - White    2 - Yellow<br>5 - Color-Coded Stripes Per MIL-STD-681 (up to 51 colors)<br>7 - Ten Color Repeating                                                                       |   |    |    |    |   |   |    |    |   |
| Wire Length Inches        | 18 - Wire Length In Inches. "18" Specifies 18 Inches.                                                                                                                                 |   |    |    |    |   |   |    |    |   |
| Hardware                  | B, P, M, M1, S, S1, L, K, F, R, H (See Table I)                                                                                                                                       |   |    |    |    |   |   |    |    |   |

Table I: Mounting Hardware

| B         | P        | M                  | M1                           | S                   | S1                            | L                                | K                                          | F                                    | R                                   | H               |
|-----------|----------|--------------------|------------------------------|---------------------|-------------------------------|----------------------------------|--------------------------------------------|--------------------------------------|-------------------------------------|-----------------|
|           |          |                    |                              |                     |                               |                                  |                                            |                                      |                                     |                 |
| Thru-Hole | Jackpost | Hex Head Jackscrew | Hex Head Jackscrew, Extended | Slot Head Jackscrew | Slot Head Jackscrew, Extended | Hex Head Jackscrew Non-Removable | Slot Head Jackscrew Non-Removable Extended | Float Mount For Front Panel Mounting | Float Mount For Rear Panel Mounting | Threaded Insert |

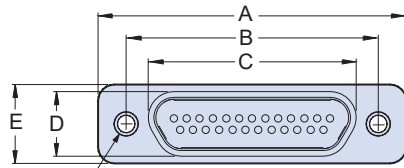
### Notes:

1. Assembly to be identified with Glenair's name, part number, date code, and pin 1 identification as space permits
2. Performance data per MIL-DTL-83513
3. Interface dimensions per MIL-DTL-83513

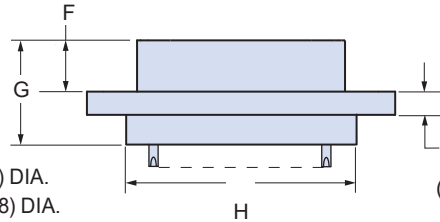
# Micro-D MWDM Insulated Wire Metal Shell Connectors



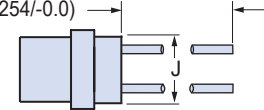
Table II: Dimensions



9-69 CONTACTS: .096/.088 (2.43/2.23) DIA.  
75-130 CONTACTS: .151/.145 (3.81/3.68) DIA.



WIRE LENGTH  
1.0/-0.0 (+.254/-0.0)



.093 ± .005  
(2.36 ± 0.13)

B

| Layout | A Max. |       | B             |               | C Max. |       | D Max. |      | E Max. |       | F             |               | G Max. |       | H Max. |       | J Max. |      |
|--------|--------|-------|---------------|---------------|--------|-------|--------|------|--------|-------|---------------|---------------|--------|-------|--------|-------|--------|------|
|        | In.    | mm.   | In.<br>± .003 | mm.<br>± 0.08 | In.    | mm.   | In.    | mm.  | In.    | mm.   | In.<br>± .003 | mm.<br>± 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  | 46.99 | .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  | 46.99 | .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 |
| 75P    | 2.080  | 52.8  | 1.705         | 43.3          | 1.384  | 35.2  | .228   | 5.79 | 0.351  | 8.92  | .183          | 4.65          | .416   | 10.6  | 1.440  | 36.6  | .310   | 7.87 |
| 75S    | 2.080  | 52.8  | 1.705         | 43.3          | 1.450  | 36.8  | .296   | 7.52 | 0.351  | 8.92  | .195          | 4.95          | .429   | 10.9  | 1.440  | 36.6  | .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 |
| 130P   | 2.520  | 64.00 | 2.160         | 54.86         | 1.735  | 44.07 | .270   | 6.86 | .394   | 10.01 | .183          | 4.65          | .416   | 10.57 | 1.780  | 45.21 | .360   | 9.14 |
| 130S   | 2.520  | 64.00 | 2.160         | 54.86         | 1.795  | 45.60 | .333   | 8.46 | .394   | 10.01 | .195          | 4.95          | .429   | 10.90 | 1.780  | 45.21 | .360   | 9.14 |

## 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 μ Maximum                   |
| Operating Temperature     | -55° C. to +150° C.           |
| Shock, Vibration          | 50 g., 20g.                   |
| Mating Force              | (10 Ounces) X (# of Contacts) |

## Materials and Finishes

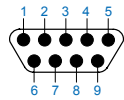
|                  |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| Connector Shell  | Aluminum Alloy 6061 or Stainless Steel, 300 Series, passivated. See Ordering Info for Plating Options |
| Insulator        | Liquid Crystal Polymer (LCP)/ Polyphenyl Sulfide(PPS)                                                 |
| 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                                                                              |



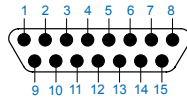
# Micro-D Contact Arrangements

## A

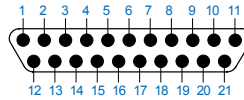
### Face View Pin Connector – Micro-D Contact Arrangements



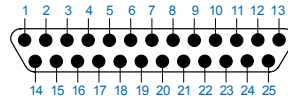
**9 pin**



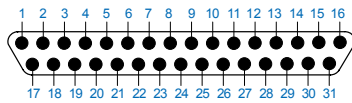
**15 pin**



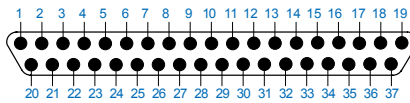
**21 pin**



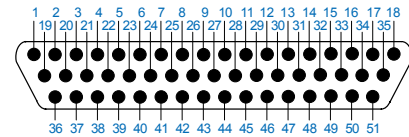
**25 pin**



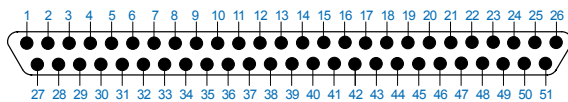
**31 pin**



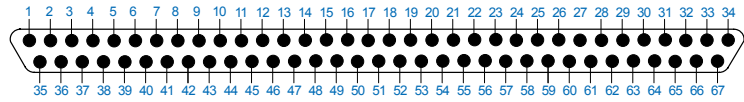
**37 pin**



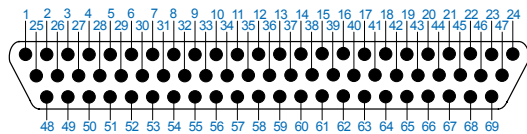
**51 pin**



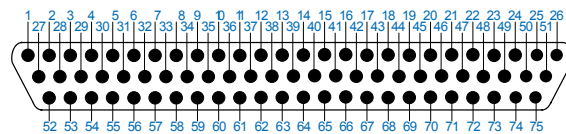
**51 pin (special 2 row)**



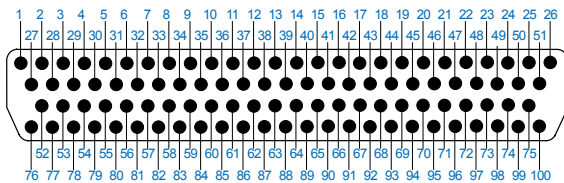
**67 pin**



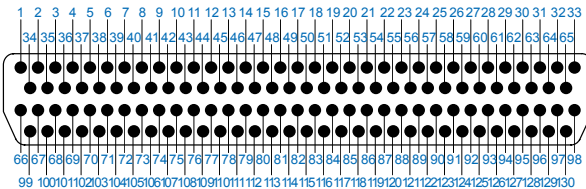
**69 pin**



**75 pin**



**100 pin**

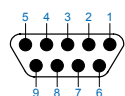


**130 pin**

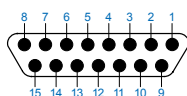
# Micro-D Contact Arrangements



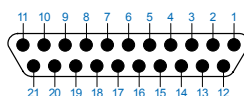
## Face View Socket Connector – Micro-D Contact Arrangements



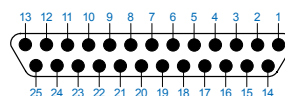
9 socket



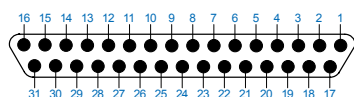
15 socket



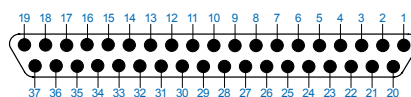
21 socket



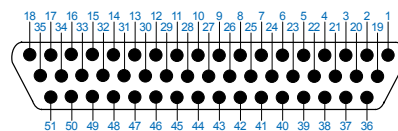
25 socket



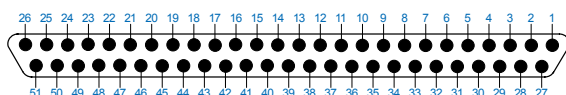
31 socket



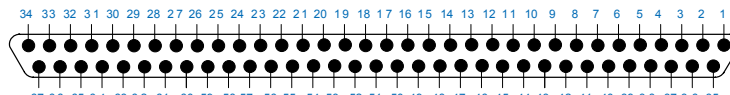
37 socket



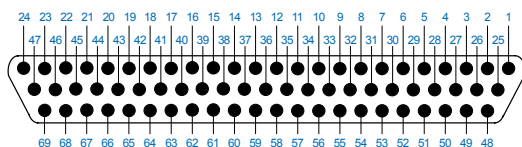
51 socket



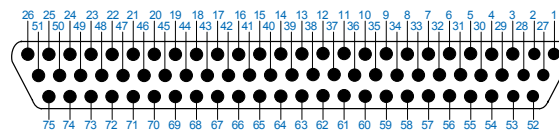
51 socket (special 2 row)



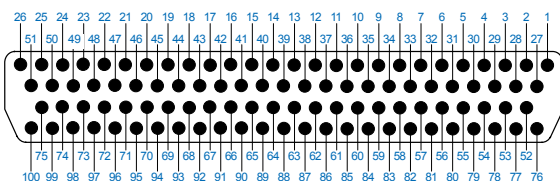
67 socket



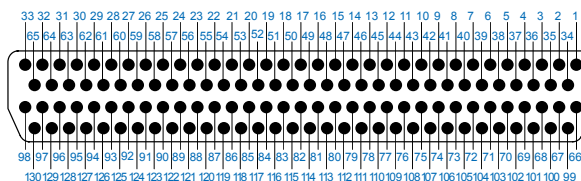
69 socket



75 socket



100 socket



130 socket

# MIL-STD-681 Color Code Chart



MIL-STD-681 Color Code Chart for Micro-D Connectors

| PIN NO. | MIL-STD-681 NUMBER | Base Color | First Stripe | Second Stripe | PIN NO. | MIL-STD-681 NUMBER | Base Color | First Stripe | Second Stripe | Third Stripe |
|---------|--------------------|------------|--------------|---------------|---------|--------------------|------------|--------------|---------------|--------------|
| 1       | 0                  | BLK        |              |               | 51      | 957                | WHT        | GRN          | VIO           |              |
| 2       | 1                  | BRN        |              |               | 52      | 958                | WHT        | GRN          | GRY           |              |
| 3       | 2                  | RED        |              |               | 53      | 967                | WHT        | BLU          | VIO           |              |
| 4       | 3                  | ORN        |              |               | 54      | 968                | WHT        | BLU          | GRY           |              |
| 5       | 4                  | YEL        |              |               | 55      | 978                | WHT        | VIO          | GRY           |              |
| 6       | 5                  | GRN        |              |               | 56      | 9012               | WHT        | BLK          | BRN           | RED          |
| 7       | 6                  | BLU        |              |               | 57      | 9013               | WHT        | BLK          | BRN           | ORN          |
| 8       | 7                  | VIO        |              |               | 58      | 9014               | WHT        | BLK          | BRN           | YEL          |
| 9       | 8                  | GRY        |              |               | 59      | 9015               | WHT        | BLK          | BRN           | GRN          |
| 10      | 9                  | WHT        |              |               | 60      | 9016               | WHT        | BLK          | BRN           | BLU          |
| 11      | 90                 | WHT        | BLK          |               | 61      | 9017               | WHT        | BLK          | BRN           | VIO          |
| 12      | 91                 | WHT        | BRN          |               | 62      | 9018               | WHT        | BLK          | BRN           | GRY          |
| 13      | 92                 | WHT        | RED          |               | 63      | 9023               | WHT        | BLK          | RED           | ORN          |
| 14      | 93                 | WHT        | ORN          |               | 64      | 9024               | WHT        | BLK          | RED           | YEL          |
| 15      | 94                 | WHT        | YEL          |               | 65      | 9025               | WHT        | BLK          | RED           | GRN          |
| 16      | 95                 | WHT        | GRN          |               | 66      | 9026               | WHT        | BLK          | RED           | BLU          |
| 17      | 96                 | WHT        | BLU          |               | 67      | 9027               | WHT        | BLK          | RED           | VIO          |
| 18      | 97                 | WHT        | VIO          |               | 68      | 9028               | WHT        | BLK          | RED           | GRY          |
| 19      | 98                 | WHT        | GRY          |               | 69      | 9034               | WHT        | BLK          | ORN           | YEL          |
| 20      | 901                | WHT        | BLK          | BRN           | 70      | 9035               | WHT        | BLK          | ORN           | GRN          |
| 21      | 902                | WHT        | BLK          | RED           | 71      | 9036               | WHT        | BLK          | ORN           | BLU          |
| 22      | 903                | WHT        | BLK          | ORN           | 72      | 9037               | WHT        | BLK          | ORN           | VIO          |
| 23      | 904                | WHT        | BLK          | YEL           | 73      | 9038               | WHT        | BLK          | ORN           | GRY          |
| 24      | 905                | WHT        | BLK          | GRN           | 74      | 9045               | WHT        | BLK          | YEL           | GRN          |
| 25      | 906                | WHT        | BLK          | BLU           | 75      | 9046               | WHT        | BLK          | YEL           | BLU          |
| 26      | 907                | WHT        | BLK          | VIO           | 76      | 9047               | WHT        | BLK          | YEL           | VIO          |
| 27      | 908                | WHT        | BLK          | GRY           | 77      | 9048               | WHT        | BLK          | YEL           | GRY          |
| 28      | 912                | WHT        | BRN          | RED           | 78      | 9056               | WHT        | BLK          | GRN           | BLU          |
| 29      | 913                | WHT        | BRN          | ORN           | 79      | 9057               | WHT        | BLK          | GRN           | VIO          |
| 30      | 914                | WHT        | BRN          | YEL           | 80      | 9058               | WHT        | BLK          | GRN           | GRY          |
| 31      | 915                | WHT        | BRN          | GRN           | 81      | 9067               | WHT        | BLK          | BLU           | VIO          |
| 32      | 916                | WHT        | BRN          | BLU           | 82      | 9068               | WHT        | BLK          | BLU           | GRY          |
| 33      | 917                | WHT        | BRN          | VIO           | 83      | 9078               | WHT        | BLK          | VIO           | GRY          |
| 34      | 918                | WHT        | BRN          | GRY           | 84      | 9123               | WHT        | BRN          | RED           | ORN          |
| 35      | 923                | WHT        | RED          | ORN           | 85      | 9124               | WHT        | BRN          | RED           | YEL          |
| 36      | 924                | WHT        | RED          | YEL           | 86      | 9125               | WHT        | BRN          | RED           | GRN          |
| 37      | 925                | WHT        | RED          | GRN           | 87      | 9126               | WHT        | BRN          | RED           | BLU          |
| 38      | 926                | WHT        | RED          | BLU           | 88      | 9127               | WHT        | BRN          | RED           | VIO          |
| 39      | 927                | WHT        | RED          | VIO           | 89      | 9128               | WHT        | BRN          | RED           | GRY          |
| 40      | 928                | WHT        | RED          | GRY           | 90      | 9134               | WHT        | BRN          | ORN           | YEL          |
| 41      | 934                | WHT        | ORN          | YEL           | 91      | 9135               | WHT        | BRN          | ORN           | GRN          |
| 42      | 935                | WHT        | ORN          | GRN           | 92      | 9136               | WHT        | BRN          | ORN           | BLU          |
| 43      | 936                | WHT        | ORN          | BLU           | 93      | 9137               | WHT        | BRN          | ORN           | VIO          |
| 44      | 937                | WHT        | ORN          | VIO           | 94      | 9138               | WHT        | BRN          | ORN           | GRY          |
| 45      | 938                | WHT        | ORN          | GRY           | 95      | 9145               | WHT        | BRN          | YEL           | GRN          |
| 46      | 945                | WHT        | YEL          | GRN           | 96      | 9146               | WHT        | BRN          | YEL           | BLU          |
| 47      | 946                | WHT        | YEL          | BLU           | 97      | 9147               | WHT        | BRN          | YEL           | VIO          |
| 48      | 947                | WHT        | YEL          | VIO           | 98      | 9148               | WHT        | BRN          | YEL           | GRY          |
| 49      | 948                | WHT        | YEL          | GRY           | 99      | 9156               | WHT        | BRN          | GRN           | BLU          |
| 50      | 956                | WHT        | GRN          | BLU           | 100     | 9157               | WHT        | BRN          | GRN           | VIO          |



## Reference Data

A

Table 3: Standard Wire Specifications

| Wire Code | Specification | Insulation                          | Conductor                                | Operating Temp. | Voltage Rating | AWG | Strands | Max. Conductor Diameter (Inches) | DC Resistance Ohms/1000 Ft. | Max. Finished Wire Dia. |
|-----------|---------------|-------------------------------------|------------------------------------------|-----------------|----------------|-----|---------|----------------------------------|-----------------------------|-------------------------|
| E         | NEMA HP3-EXB  | Extruded PTFE                       | Silver-coated copper                     | -65° to +200°C  | 600 volts RMS  | #24 | 7/32    | .025                             | 24.5                        | .048                    |
|           |               |                                     |                                          |                 |                | #26 | 7/34    | .020                             | 39.7                        | .043                    |
|           |               |                                     |                                          |                 |                | #28 | 7/36    | .016                             | 63.6                        | .039                    |
|           |               |                                     |                                          |                 |                | #30 | 7/38    | .013                             | 100                         | .036                    |
| J         | M22759/33     | Extruded cross-linked modified ETFE | Silver-coated high-strength copper alloy | -65° to +200°C  | 600 volts RMS  | #24 | 19/36   | .025                             | 28.4                        | .037                    |
|           |               |                                     |                                          |                 |                | #26 | 19/38   | .020                             | 44.8                        | .034                    |
|           |               |                                     |                                          |                 |                | #28 | 7/36    | .016                             | 74.4                        | .029                    |
|           |               |                                     |                                          |                 |                | #30 | 7/38    | .012                             | 117.4                       | .026                    |
| K         | M22759/11     | Extruded PTFE                       | Silver-coated copper                     | -65° to +200°C  | 600 volts RMS  | #24 | 19/36   | .025                             | 24.3                        | .045                    |
|           |               |                                     |                                          |                 |                | #26 | 19/38   | .020                             | 38.4                        | .040                    |
|           |               |                                     |                                          |                 |                | #28 | 7/36    | .015                             | 63.8                        | .035                    |

Table 4: Stocked Wire Sizes and Colors

| Wire Code | Color Code | Wire Insulation Color                | #24 AWG | #26 AWG | #28AWG        | #30 AWG       |
|-----------|------------|--------------------------------------|---------|---------|---------------|---------------|
| E         | 1          | White                                | ✓       | ✓       | ✓             | ✓             |
|           | 2          | Yellow                               | ✓       | ✓       | ✓             | ✓             |
|           | 5          | White with MIL-STD-681 color stripes | ⚠       | ⚠       | not available | not available |
|           | 7          | 10 Color Repeat                      | ✓       | ✓       | ✓             | ✓             |
| J         | 1          | White                                | ✓       | ✓       | ✓             | ✓             |
|           | 2          | Yellow                               | ✓       | ✓       | ✓             | ✓             |
|           | 5          | White with MIL-STD-681 color stripes | ⚠       | ⚠       | not available | not available |
|           | 7          | 10 Color Repeat                      | ✓       | ✓       | ✓             | ✓             |
| K         | 1          | White                                | ✓       | ✓       | ✓             | not available |
|           | 2          | Yellow                               | ✓       | ✓       | ✓             | not available |
|           | 5          | White with MIL-STD-681 color stripes | ⚠       | ⚠       | not available | not available |
|           | 7          | 10 Color Repeat                      | ✓       | ✓       | ✓             | not available |

✓ = Stocked wire.

⚠ = Stocked wire through 51 colors only. Connectors with more than 51 contacts are not available with striped wire. 10 color repeating is the recommended alternate.