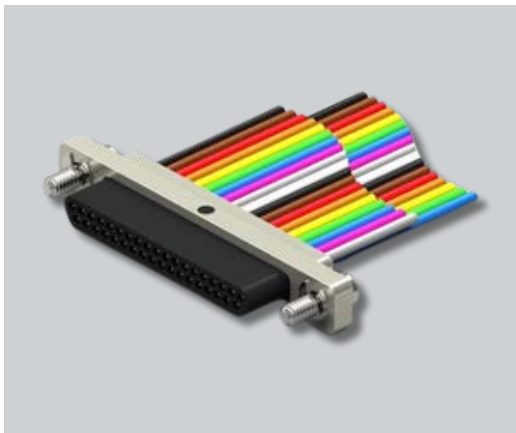


# Low Profile Metal Shell Connectors

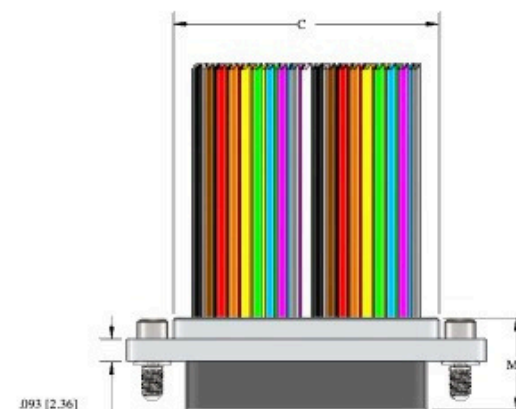
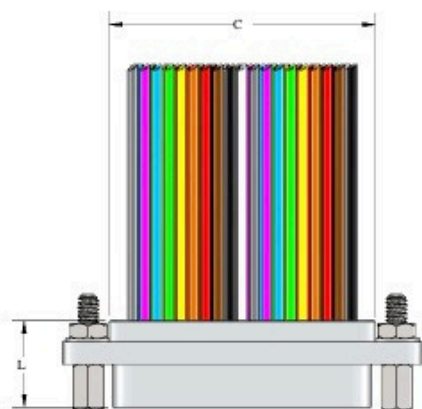
Winchester Interconnect Micro offers Low Profile Metal Shell Connectors with wire leads designed for reliability in demanding environments. These environmentally sealed connectors operate from  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ , with high-temperature versions up to  $+200^{\circ}\text{C}$  (add HT). Available in 9 to 51 contacts, they meet MIL-DTL-83513 standards and deliver consistent electrical performance under extreme conditions.



## KEY FEATURES & BENEFITS

- Low Profile Metal Shell Design – Ideal for compact, demanding applications.
- Wide Operating Range – Functions from  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ ; HT versions up to  $+200^{\circ}\text{C}$ .
- MIL-DTL-83513 Compliant – Meets strict military-grade performance standards.
- Reliable Electrical Performance – 3A max current rating and 600 VAC at sea level.
- High Dielectric Strength – 150 VAC rated at 70,000 feet altitude.
- Low Contact Resistance – 8 m $\Omega$  (contact only), 32 m $\Omega$  with 6" wire at 2.5A.
- Excellent Insulation Resistance – 5000 M $\Omega$  minimum at 500 VDC.
- Available Configurations – 9 to 51 contacts for versatile design options.
- Sealed Construction – Protects against environmental contaminants.

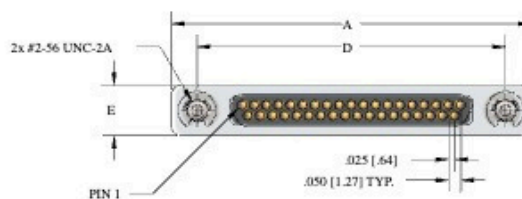
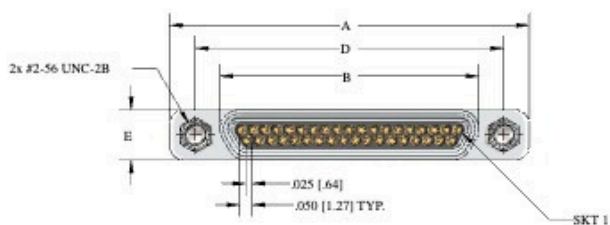
## DIMENSIONAL



.093 [2.36]  
TYP. ALL SIZES

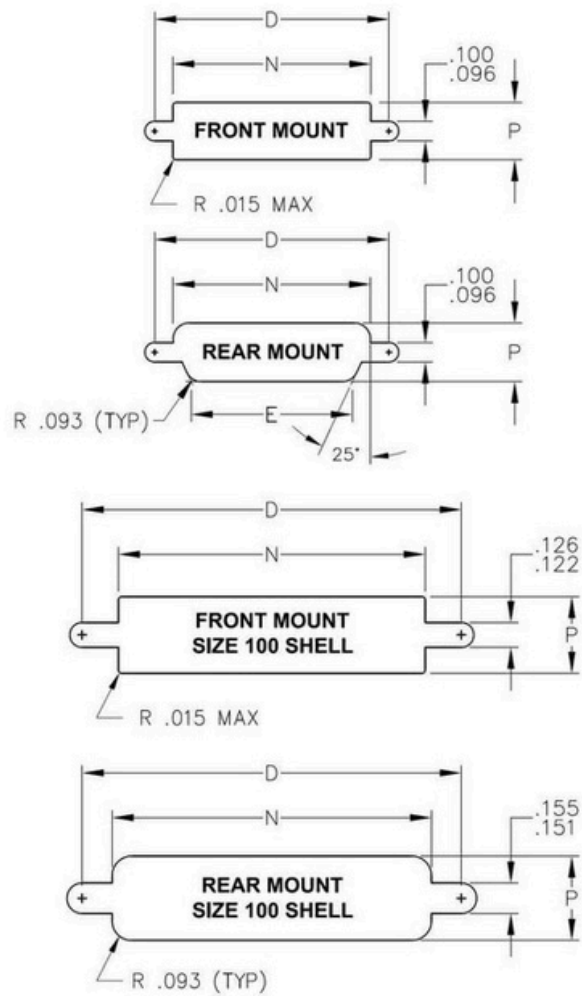
RECEPTACLE (SOCKETS)

PLUG (PINS)



| Size | A Max.       | B Max.       | C Max.       | D Nom.       | E Max.     | J Max.(Skt) | L Max.(Skt) | M Max.(Pin) |
|------|--------------|--------------|--------------|--------------|------------|-------------|-------------|-------------|
|      | ALL          | A&P Series   |              |              |            |             |             |             |
| 9    | .785(19.94)  | .376(9.55)   | .395(9.98)   | .565(14.35)  | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 15   | .935(23.75)  | .526(13.36)  | .545(13.79)  | .715(18.16)  | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 21   | 1.085(27.56) | .693(17.17)  | .695(17.60)  | .865(21.97)  | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 25   | 1.185(30.10) | .776(19.71)  | .795(20.14)  | .965(24.51)  | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 31   | 1.335(33.91) | .926(23.52)  | .945(23.95)  | 1.115(28.32) | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 37   | 1.485(37.72) | 1.076(27.33) | 1.095(27.76) | 1.265(32.13) | .218(5.54) | .182(4.62)  | .375(9.57)  | .395(10.03) |
| 51-3 | 1.435(36.45) | 1.026(26.06) | 1.045(26.44) | 1.215(30.86) | .254(6.45) | .182(4.62)  | .375(9.57)  | .395(10.03) |

## PANEL



| Panel Cut-Out Dimensions |       |             |            |             |            |
|--------------------------|-------|-------------|------------|-------------|------------|
|                          | ALL   | N           |            | P           |            |
| Size                     | D     | Front Mount | Rear Mount | Front Mount | Rear Mount |
| 9                        | .565  | .400        | .405       | .280        | .265       |
| 15                       | .715  | .550        | .555       | .280        | .265       |
| 21                       | .865  | .700        | .705       | .280        | .265       |
| 25                       | .965  | .800        | .805       | .280        | .265       |
| 31                       | 1.115 | .950        | .955       | .280        | .265       |
| 37                       | 1.265 | 1.100       | 1.105      | .280        | .265       |
| 51-3                     | 1.215 | 1.046       | 1.057      | .320        | .305       |

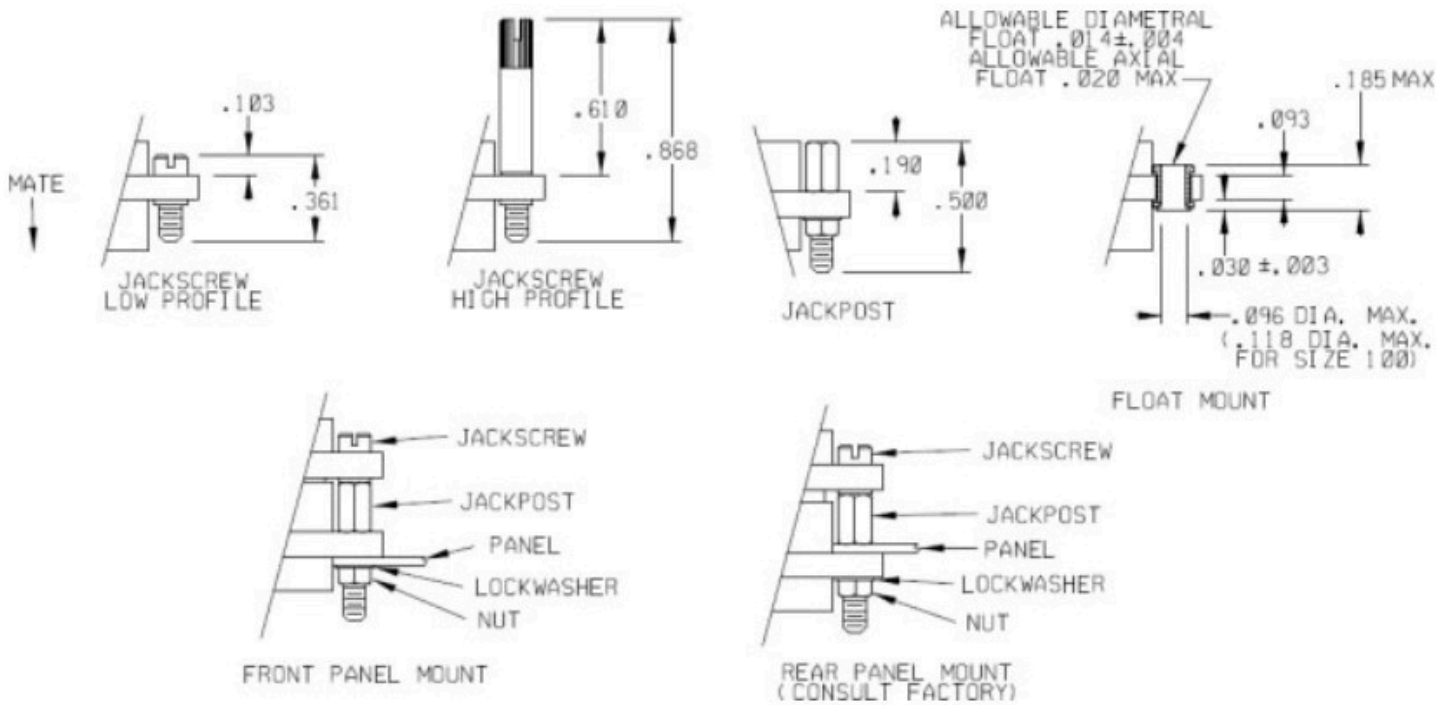
## PERFORMANCE

| Electrical Properties           |                                                                                            |
|---------------------------------|--------------------------------------------------------------------------------------------|
| Contact Resistance              | 8 milliohm max contact only and 32 milliohms max with 6" wire @ 2.5A at room temperature   |
| Current Rating                  | 3A max. at room temperature                                                                |
| Dielectric WithStanding Voltage | 600 VAC at sea level, 150 VAC at 70,000 feet. 1mA leakage current max. at room temperature |
| Insulation Resistance           | 500 VDC and 5000 Megohms min. at room temperature                                          |

### Mechanical Properties

|                       |                                                                              |
|-----------------------|------------------------------------------------------------------------------|
| Engaging Force        | 6 oz max. at room temperature                                                |
| Separation Force      | .5 oz min. at room temperature                                               |
| Mating/Unmating Force | 10 oz x # of contacts max.at room temperature                                |
| Vibration             | EIA-364-28 Condition IV, 1 microsecond max discontinuity at room temperature |
| Shock                 | EIA-364-27 Condition E, 1 microsecond max discontinuity at room temperature  |
| Durability            | 500 matings, passes Mating Force, CR, Eng and Sep Forces at room temperature |
| Salt Spray            | EIA 364-26 Condition B-48 hours at room temperature                          |

## HARDWARE



[Download the 3D Model](#)



### MATERIALS

| Materials and Finishes |                                                                                 |
|------------------------|---------------------------------------------------------------------------------|
| Signal Pin Contacts    | C17200 Beryllium Copper per ASTM B194                                           |
| Signal Socket Contacts | C21000 Brass Alloy per ASTM B36                                                 |
| Contact Plating        | .000050 Thk Gold Plating per ASTM B488                                          |
| Shell                  | 6061-T6 Aluminum per SAE-AMS-QQ-A200/8 or Passivated 300 Series Stainless Steel |
| Shell Plating          | Electroless Nickel per AMS 2404 or Cadmium Plated per SAE-AMS-QQ-P-416          |
| Insulator Material     | Polyphenylene Sulfide (PPS) Per MIL-M-24519 GST-40F                             |
| Hardware               | Passivated Stainless Steel Per MIL-DTL-83513/05                                 |
| Interfacial Seals      | Fluorosilicone per MIL-R-25988 Std Profile Receptacles only)                    |

# Micro-D Wired LPMS

## HOW TO ORDER

### Connector definition \*\*

#### Connector Type

M = Metal Shell, Standard Profile  
B = Plastic Shell, Standard Profile  
A = Metal Shell, Low Profile, Receptacle  
AP = Metal Shell, Low Profile, Plug  
P = Plastic Shell, Low Profile

#### Insulator Material

R = PPS

#### Integral EMI Shell

(Omit if EMI shell not required)  
(Only available with standard profile metal shell (MI))

#### Size (No. of Contacts)

09, 15, 21, 25, 31, 37, 51-3, 65, 69, & 100

#### Contact Gender & Type

P = Pin, Crimp Type  
N = Pin, Solder Cup (26 & 24 AWG)  
S = Socket, Crimp Type  
T = Socket, Solder Cup (26 AWG)  
TT = Socket, Solder Cup (24 AWG)

#### Hardware

0 = No Hardware  
02 = Low Profile Hex Head Jackscrew (12 for size 100)  
03 = High Profile Hex Head Jackscrew (13 for size 100)  
05 = Low Profile Slotted Head Jackscrew (15 for size 100)  
06 = High Profile Slotted Head Jackscrew (16 for size 100)  
07 = Jackposts (17 for size 100)  
22 = Captive Low Profile Hex Head Jackscrews  
23 = Captive High Profile Hex Head Jackscrews  
0T = Threaded Inserts (2-56) in Flange  
0TT = Threaded inserts and jackposts (17T for size 100)  
0F = Float Mount hardware  
0G = Guide pins  
0GB = Guide Bushings  
0R = Retractable low profile jackscrews, allen head

#### Wire Gauge (Omit for Solder Cup Contacts)

24, 26, 28, & 30 AWG  
(25 AWG is available with type C solid wire)

#### Wire Type (Omit for Solder Cup Contacts)

C = Solid Wire, Uninsulated Per A-A-59551  
E = Stranded Wire, NEMA HP3 Type E  
F = Stranded Wire Per NEMA HP3 Type ET  
M = Stranded Wire per AS22759/11  
U = Stranded Wire per AS22759/12  
Y = Stranded Wire per AS22759/33  
B = Stranded Wire, PVC Insulated (This wire is no longer used. Does not meet maximum temperature and epoxy adhesion requirement)

#### Wire Color (Insulated Wire) or Plating (Uninsulated Wire) (Omit for Solder Cup Contacts)

1 = All White  
2 = All Yellow  
3 = Pure Tin Plated (Uninsulated Wire) (RoHS Compliant)  
4 = Gold Plated (Uninsulated Wire) (RoHS Compliant)  
5 = Color Code per MIL-STD-681  
6 = Color Code per MIL-STD-681, Repeat Solid Colors  
L = Tin/Lead Plated (minimum 3% Lead) (Uninsulated Wire) (Not RoHS Compliant) (Not Available with high temp (HT) connectors)

(Omit if EMI shell not required)

**SPL** Special designator - SPL is to be added to the end of the part number if the connector cannot be fully defined by the rest of the engineering number

#### Outer Covering

0 = None  
1 = M23053/5 Shrink Tubing  
2 = M23053/18 Shrink Tubing  
3 = Nomex Braid  
4 = Expando Plastic Braid

#### Inner Shield

0 = No Shield  
1 = Tin Plated Copper  
2 = Nickel Plated Copper  
3 = Silver Plated Copper

#### Cable Exit Angle

1 = Straight  
2 = 90° toward short row side  
3 = 90° toward long row side  
4 = 45° toward short row side  
5 = 45° toward long row side

#### Temperature Rating (Omit for standard Temp, 125°C)

Blank = 125°C  
HT = 200°C  
LO = 4 Kelvin (only available with solder cup contacts)

**Float Mount Hardware** (Omit if float mounts not required)  
(This designation is no longer used. Use 0F in hardware position to specify float mount hardware.)

#### Shell Plating or Material (Omit for plastic shell or cadmium plating)

Blank = Cadmium  
S01 = Electroless Nickel  
S02 = Chem Film  
S03 = Black Anodized  
S04 = Gold  
S05 = Titanium  
S06 = Olive-Drab Cadmium  
S07 = Black Nickel  
S08 = Nickel-PTFE  
S09 = Stainless Steel, Passivated  
S10 = Zinc Nickel

**Panel Thickness** (Omit if panel mounting not required) (Thickness in inches)  
Available for .031, .047, .062, .080, .094, .125 thick panels  
(Consult Factory for additional Panel Thicknesses)

#### Panel Mount Options (Omit if panel mounting not required)

(Only available on standard profile metal shells)  
RPM = Rear Panel Mount  
FPM = Front Panel Mount  
RPMS = Rear Panel Mount, Sealed w/O-ring  
FPMS = Front Panel Mount, Sealed w/O-ring  
RPMSC = Rear Panel Mount, Sealed w/Conductive O-ring  
FPMSC = Front Panel Mount, Sealed w/Conductive O-ring

#### Lead Length (Omit for Solder Cup contacts)

XX.X = Length in Inches  
MXX = Metric Length (CM)

\*\* For double ended assemblies, include connector definition for both ends separated by a forward slash (/)  
Excludes Integral Shell assemblies (Option "E")