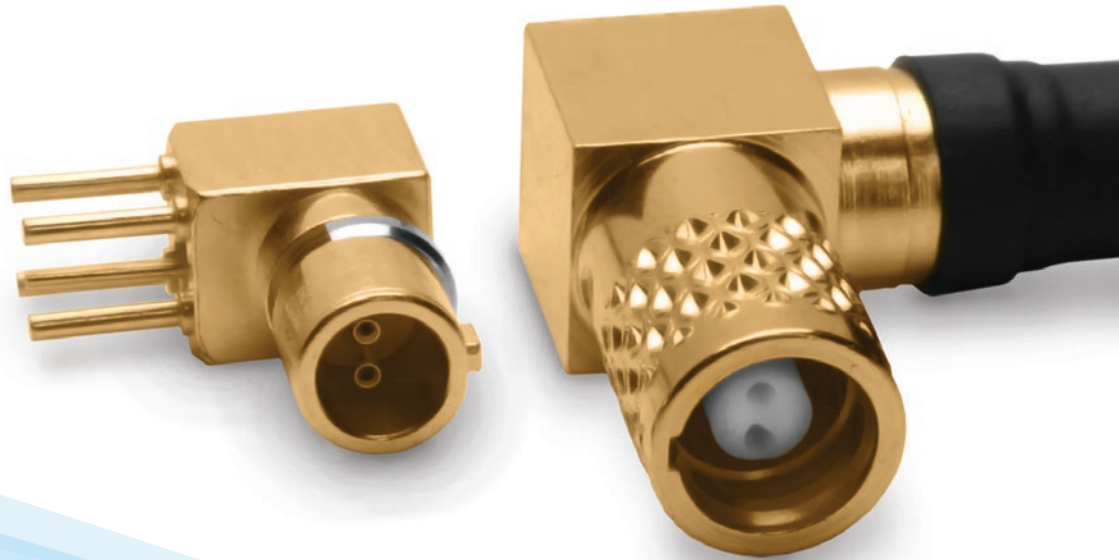


# MICRO TWINAX/QUADRAX CONNECTORS

*High Speed Fiber Optics Single and Multimode*



- ▶ **Micro Twinax available in threaded, quick disconnect, SMA and Micro-D size packages**
- ▶ **25% smaller in diameter than SMA coaxial connectors**
- ▶ **Controlled impedance with tightly spaced PCB footprint spacing.**

Smiths Connectors Sabritec's Micro Twinax NDL line features matched impedance miniaturized connectors that provide the user with controlled impedance and tightly spaced PCB footprint spacing.

The NDL Micro Twinax Series is offered in threaded and quick disconnect styles and are 25% smaller in diameter than SMA coaxial connectors. The quick disconnect version has a diameter of .250" max and the threaded version has .250" Hex coupling nut.

Micro Quadrax connectors are designed for differential pair matched impedance applications utilizing quadrax cable consisting of four wires where the diagonal pair of conductors forms a differential twinax pair. These connectors maintain the signal to shield impedance throughout the mated connector pair (quad configuration applications exceeding 1 Gbit/sec) and are available in threaded versions including straight and right angle PCB mount configurations.

Micro Twinax and Quadrax connectors have a low impedance ground shield and are ideal for High-Speed Ethernet (100 and 1000 Base-T), Fibre Channel (>1 Gbits/sec), IEEE 1394 Firewire, USB, DVI and Infiniband applications with 100 or 150 Ohm differential pair impedance.

#### ▶ **MECHANICAL & ENVIRONMENTAL SPECIFICATIONS**

- Temperature Rating:** -55°C to + 125°C
- Corrosion:** MIL-STD-202 Method 101 Test Condition B
- Shock:** MIL-STD-202 Method 213 Test Condition B
- Vibration:** MIL-STD-202 Method 204 Test Condition B
- Thermal Shock:** MIL-STD-202 Method 107 Test Condition B
- Durability:** 500 Mate/Unmate cycles min.
- Coupling Nut Torque (threaded) Recommended:** 2.3 in-lbs min.
- Mating Torque (threaded):** 2.5 in-lbs
- Engagement /Disengagement Force (Quick Disconnect):** 3 lbs max / 3 to 5 lbs

#### ▶ **ELECTRICAL SPECIFICATIONS**

- Dielectric Withstanding Voltage:** 250 VDC max
- Insulation Resistance:** 5,000 Mega-Ohms min.
- Contact Current Rating:** 3.0 Amps D.C. max.
- Data Rates:** >1 Gbits/sec
- Differential Pair Cable Impedance:** 150 Ohm  $\pm$  15 Ohm  
100 Ohm  $\pm$  10 Ohms
- Signal to Shield Cable Impedance:** 75 Ohm  $\pm$  10 Ohm  
50 Ohm  $\pm$  7 Ohms

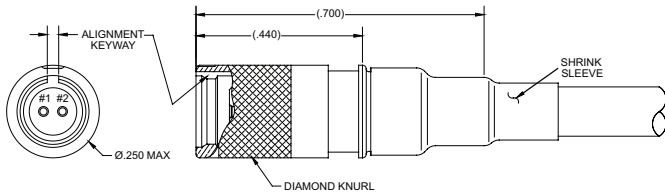
#### ▶ **MATERIAL & FINISHES**

- Body:** Brass per ASTM-B16, BeCu per ASTM-B196  
Nickel per SAE-AMS-QQ-N-290  
Gold per ASTM-B488
- Insulators:** PTFE per ASTM-D1710  
Ultem per ASTM-D5205
- Contacts:** BeCu per ASTM-B196  
Gold per ASTM-B488

# MICRO TWINAX CONNECTORS

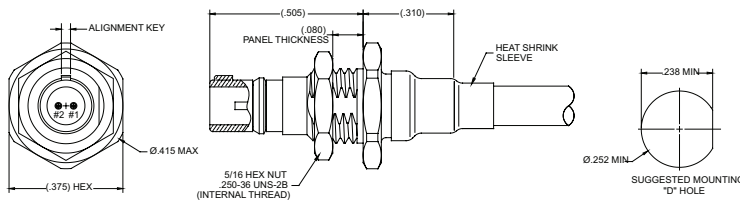
## QUICK DISCONNECT NDL SIZE PACKAGES

### ▶ QUICK DISCONNECT MICRO TWINAX NDL PLUG 100 AND 150 OHM



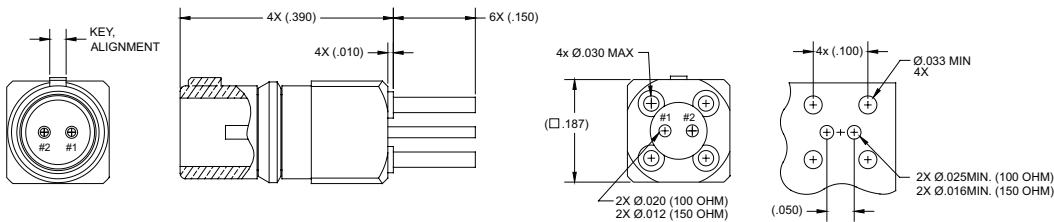
| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014034-2049</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014034-2050</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014034-2051</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014034-2052</a> | 150  | Differential Twinax | 540-1099-000 |

### ▶ QUICK DISCONNECT MICRO TWINAX NDL BULKHEAD MOUNT JACK 100 AND 150 OHM



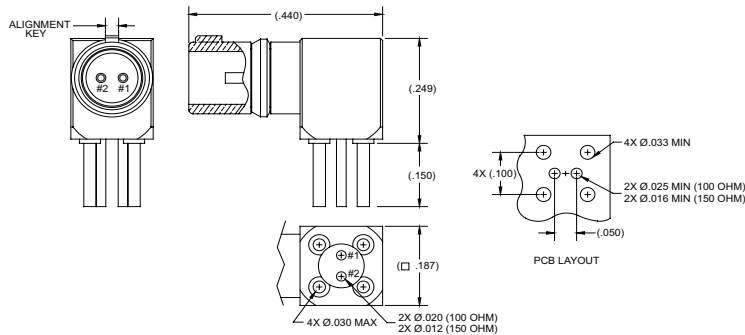
| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014134-5023</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014134-5024</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014134-5025</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014134-5026</a> | 150  | Differential Twinax | 540-1099-000 |

### ▶ QUICK DISCONNECT MICRO TWINAX NDL JACK STRAIGHT PCB MOUNT 100 AND 150 OHM



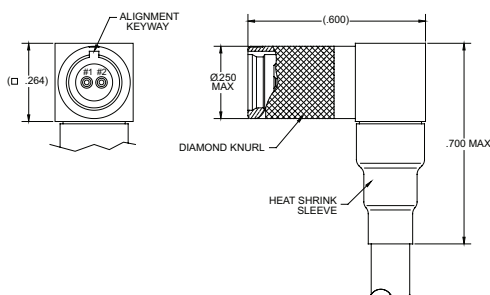
| PART #                      | IMPEDANCE |
|-----------------------------|-----------|
| <a href="#">014117-2023</a> | 100 Ohms  |
| <a href="#">014117-2024</a> | 150 Ohms  |

### ▶ QUICK DISCONNECT MICRO TWINAX NDL RIGHT ANGLE PCB MOUNT 100 AND 150 OHM



| PART #                      | IMPEDANCE |
|-----------------------------|-----------|
| <a href="#">014117-1037</a> | 100 Ohms  |
| <a href="#">014117-1038</a> | 150 Ohms  |

### ▶ QUICK DISCONNECT MICRO TWINAX NDL RIGHT ANGLE PLUG 100 AND 150 OHM

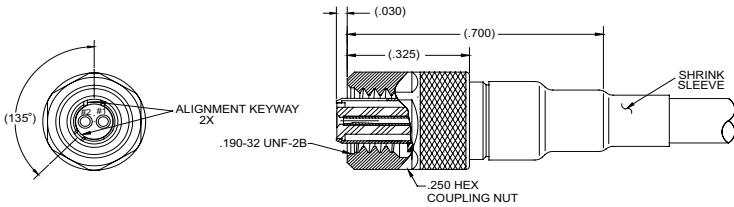


| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014034-1027</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014034-1028</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014034-1029</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014034-1030</a> | 150  | Differential Twinax | 540-1099-000 |

# MICRO TWINAX CONNECTORS

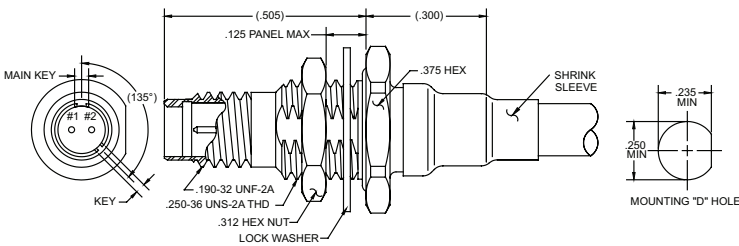
## THREADED NDL SIZE PACKAGES

### ▶ THREADED MICRO TWINAX NDL STRAIGHT CABLE PLUG 100 AND 150 OHM



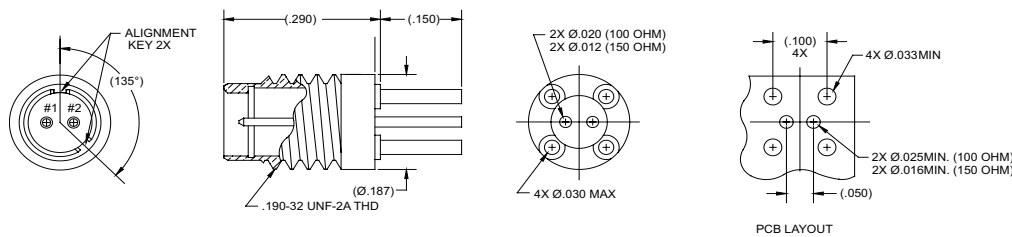
| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014034-2045</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014034-2046</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014034-2047</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014034-2048</a> | 150  | Differential Twinax | 540-1099-000 |

### ▶ THREADED MICRO TWINAX NDL BULKHEAD MOUNT JACK 100 AND 150 OHM



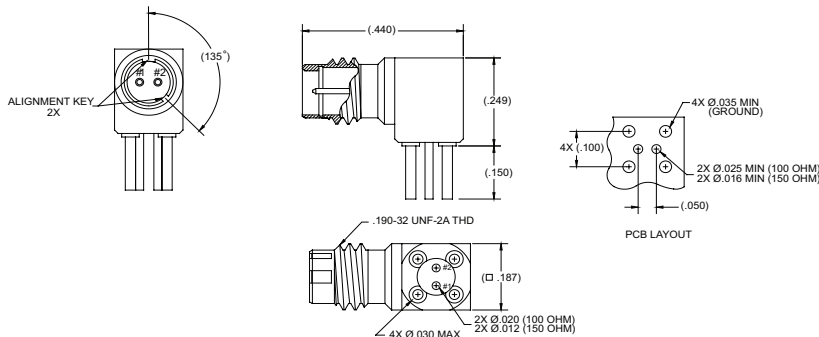
| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014134-5018</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014134-5019</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014134-5020</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014134-5021</a> | 150  | Differential Twinax | 540-1099-000 |

### ▶ THREADED MICRO TWINAX NDL STRAIGHT JACK 100 AND 150 OHM PCB MOUNT



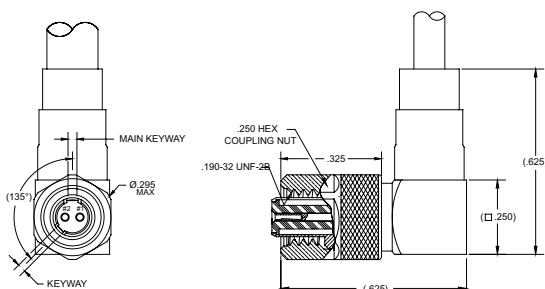
| PART #                      | IMPEDANCE |
|-----------------------------|-----------|
| <a href="#">014117-2020</a> | 100 Ohms  |
| <a href="#">014117-2021</a> | 150 Ohms  |

### ▶ THREADED MICRO TWINAX NDL RIGHT ANGLE JACK 100 AND 150 OHM PCB MOUNT



| PART #                      | IMPEDANCE |
|-----------------------------|-----------|
| <a href="#">014117-1030</a> | 100 Ohms  |
| <a href="#">014117-1031</a> | 150 Ohms  |

### ▶ THREADED MICRO TWINAX NDL RIGHT ANGLE PLUG 100 AND 150 OHM

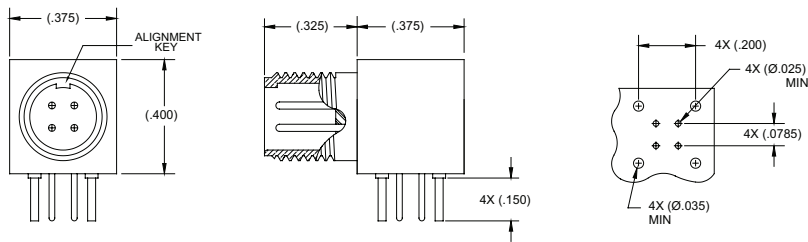


| PART #                      | OHMS | CABLE TYPE          | CABLE        |
|-----------------------------|------|---------------------|--------------|
| <a href="#">014034-1020</a> | 100  | Differential Twinax | 540-1153-000 |
| <a href="#">014034-1021</a> | 100  | Flexible Twinax     | 540-1161-000 |
| <a href="#">014034-1022</a> | 100  | Differential Twinax | 540-1167-000 |
| <a href="#">014034-1023</a> | 150  | Differential Twinax | 540-1099-000 |

# MICRO QUADRAx CONNECTORS

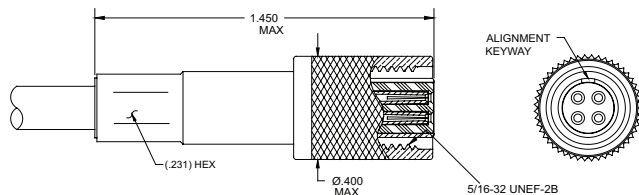
## 100 OHM QUADRAx

### ▶ MICRO QUADRAx RIGHT ANGLE PCB MOUNT RECEPTACLE



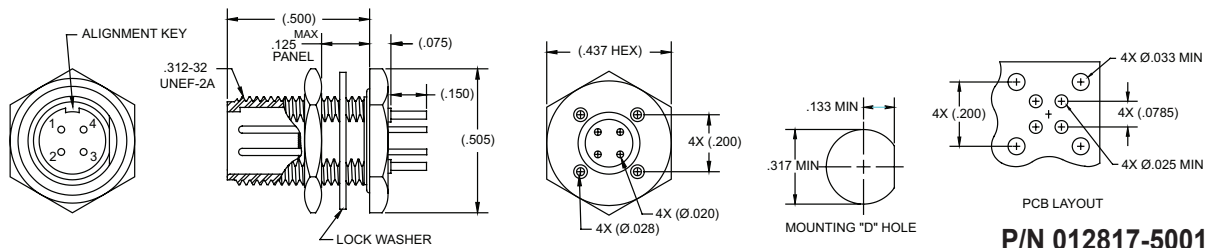
P/N 012817-1000

### ▶ MICRO QUADRAx PLUG 100 OHM



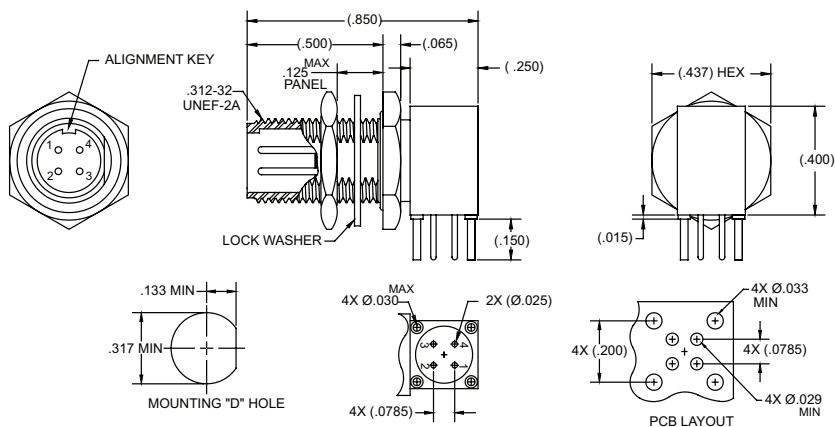
| PART #      | CABLE TYPE        | CABLE        |
|-------------|-------------------|--------------|
| 012735-2013 | Differential Quad | 540-1183-000 |

### ▶ MICRO QUADRAx STRAIGHT BULKHEAD MOUNT PCB JACK



P/N 012817-5001

### ▶ MICRO QUADRAx RIGHT ANGLE BULKHEAD MOUNT PCB JACK



P/N 012817-5003

smiths connectors