



HIGH PERFORMANCE

- Wide temperature range:
-40°C to +120°C
- Shock, vibration, and impact resistant
- Sealed to IP68 standards

RUGGED

- Fully enclosing aluminum, marine bronze and stainless steel shells
- MIL-DTL-38999 series III-style polarized shells
- Positive cordset retention
>100 N axial force

SECURE

- One turn self-locking coupling
- UL 94 V0 low smoke
- RoHS compliant

POLAMCO USB Connector Systems



USB 2.0 and 3.0 38999 Series III-Style Connectors for Harsh Environments

The POLAMCO high-speed USB connector system incorporates a MIL-DTL-38999 Series III-style metal shell with full 360° shielding and mechanical protection.

These USB connector systems have been designed to help meet the requirements of high-speed data connections where reliability through environmental sealing and full mechanical protection are required.

Each USB connector is designed to help handle high levels of shock, vibration and mechanical impact, and is sealed to IP68 standards to help resist fluids and dust for long-term reliable performance.

Three styles using 38999 shells are available:

USB 2.0 Type A

USB 2.0 Type B

USB 3.0 Type A

The USB 2.0 connectors achieve data rates to 480 Mb/s, while USB 3.0 connectors are capable of 5 Gb/s data rates.



Specifications

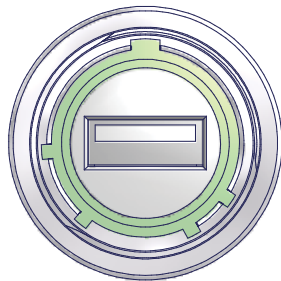
SHELL MATERIALS

- **Shell:** Aluminum, marine bronze, stainless steel
- **Finishes:**
(Over aluminum with electroless nickel underplating, unless noted):
Electroless nickel
Olive drab cadmium
Olive drab zinc cobalt
Black zinc cobalt
Passivated black zinc nickel
Passivated (Stainless steel shell)
Unplated (Nickel aluminum bronze shell)
- **Seal:** Silicone elastomer, fluorosilicone
- **O-Ring:** Silicone
- **Insulator:** Polyphenylene sulfide, UL 94, black
- **Potting:** Clear silicone encapsulant

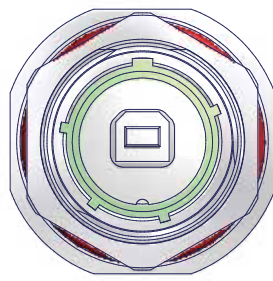
USB MATERIALS

- **Contacts:**
USB 2.0: Nickel, selectively gold plated at 30μ
USB 3.0: Nickel, selectively gold plated at 0.76μm
- **Shielding:** Nickel-plated brass
- **Body:** Polyamide, UL 94V-0
- **PCB:** FR4, UL 94V-0 (PCB termination only)

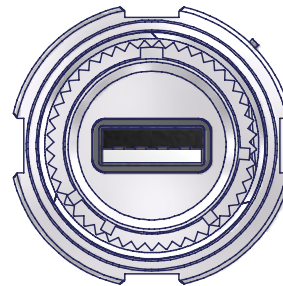
USB Connector Options



USB-A 2.0

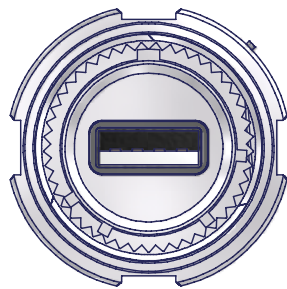


USB-B

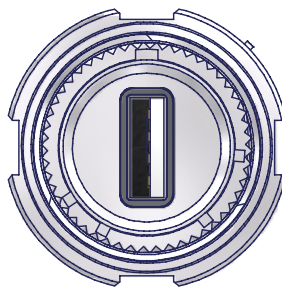


USB 3.0

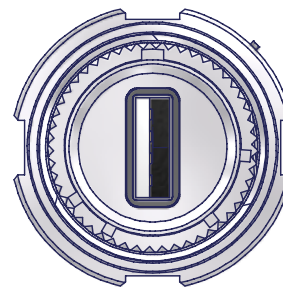
Connector Orientation Options



X
(Standard)



Y



Z

DATA TRANSMISSION

- **USB-A 2.0:** 480 Mb/s
- **USB-B:** 60 Mb/s
- **USB 3.0:** Up to 5 Gb/s

ELECTRICAL

- **Voltage:** 30 VAC
- **Current Rating:** 1 A max. per contact
(1.8 A max. USB 3.0 pins 1 and 4)

ENVIRONMENTAL/MECHANICAL

- **Temperature Ranges:** -40°C to +120°C
- **Fluid Resistance:** IP68 (mated)
- **Cable Retention:** >100 N (22.4 lbs.) axial force
- **Durability:**
USB 2.0: >500 mating cycles
USB 3.0: 5000 mating cycles



POLAMCO USB Connector Systems

POLAMCO USB-A 2.0 38999-Style Connectors Plug

Series

- PC4D0021: Size 15 Memory Plug Assembly (Standard)
- PC4D0048: Size 15 Memory Plug, Isolated
- PC4D0059: Size 15 Memory Plug, Kit
- PC4D0021: Size 15 Memory Plug, Anti-Tamper



Receptacle

Series

- PC4B0054: In-Line Receptacle, Solder (Standard)
- PC4B0089: In-Line Feedthrough Receptacle



Jam Nut, Bulkhead-Mount Feedthrough

Series

- PC4F0027: Sealed Feedthrough (Standard)
- PC4F0049: Sealed Feedthrough (Standard)



Jam Nut Feedthrough Receptacle

Series

- PC4F0009: Size 15 Feedthrough
- PC4F0043: Size 15 Feedthrough, Solder
- PC4F0030: Size 15 Feedthrough with Stand-Offs
- PC4F0059: Size 15 Feedthrough, Sealed
- PC4F0016: Size 15 Feedthrough (Standard)
- PC4F0031: Size 17 Assembly
- PC4F0032: Size 17 Assembly, Solder



Square Flange Bulkhead-Mount Feedthrough

Series

- PC4B0064: Size 15 Feedthrough Assembly





HIGH PERFORMANCE

- Shock, vibration and impact resistant
- Internal grounding fingers for excellent continuity
- Wide temperature range: -40°C to +120°C

CONVENIENT

- No assembly tooling required
- Fast, secure coupling
- RJ45 connectors supplied as kit

RUGGED RELIABILITY

- Rugged 38999 connectors and plugs
- Sealed to IP 68 standards
- Fully grounded from shielded RJ45 plug to 38999 shell

VERSATILE

- Keyway and insert orientations enable 24 total configurations
- Wide range of accessories available
- Fully field repairable

POLAMCO RJ45 Series Connectors



POLAMCO Cat 5 and Cat 6a 38999-Style Connectors for Harsh Environments

The POLAMCO high-speed RJ45 connector system incorporates a MIL-DTL-38999 Series III-style metal shell with full 360-degree shielding and mechanical protection.

These connectors have been designed to help meet the requirements of high-speed data connections where reliability through environmental sealing and full mechanical protection are required.

Tested by TE to 10 Gb/s data rates, the connector shells are available in your choice of aluminum, nickel aluminum bronze, and stainless steel for rugged, reliable performance.

The connectors are fully grounded from the shielded RJ45 plug to the 38999-style connectors. Each is designed to help handle high levels of shock, vibration and mechanical impact, and sealed to IP68 standards to help resist fluids and dust for long-term reliable performance.



Specifications

SHELL MATERIALS

- **Shell:** Aluminum, nickel aluminum bronze, stainless steel
- **Finishes:**
(Over aluminum with electroless nickel underplating, unless noted):
Electroless nickel
Olive drab cadmium
Olive drab zinc cobalt
Black zinc cobalt
Passivated black zinc nickel
Passivated (Stainless steel shell)
Unplated (Nickel aluminum bronze shell)
- **Seal:** Silicone elastomer, fluorosilicone
- **O-Ring:** Silicone elastomer
- **Insulator:** Polyphenylene sulfide, UL 94, black
- **Potting:** Clear silicone encapsulant and polyetherimide resin

RJ-45 MATERIALS

- **Contacts:** Copper, selectively gold plated
- **Shielding:** Nickel-plated brass
- **Body:** Polyamide, UL 94V-0
- **PCB:** FR4, UL 94V-0 (PCB termination only)

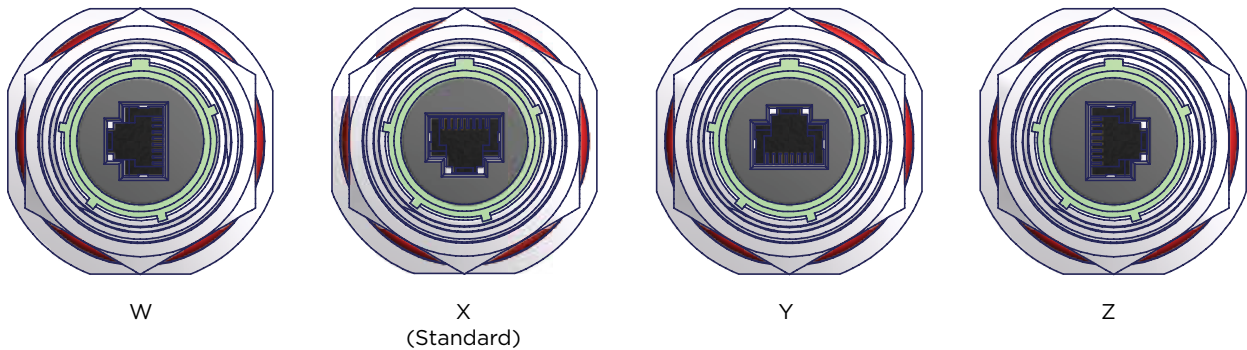
ELECTRICAL

- **Voltage:** 50 VDC/35 VAC
- **Current Rating:** 2.1 A at 70°C
- **Category Rating:** Cat 5 or Cat 6a

ENVIRONMENTAL/MECHANICAL

- **Temperature Range:** -40°C to +120°C
- **Fluid Resistance:** Sealed to IP68 for fluid and dust resistance
- **Cable Retention:** >100 N (22.4 lbs.) axial force

RJ-45 Orientation Options





POLAMCO RJ45 38999-Style Connectors

Plug

Series

PC4D0024: Cat 6a
 PC4D0042: Cat 6a, Field Installable
 PC4D0002: Cat 5



Jam Nut Receptacle

Series

PC4F0020: Cat 6a, Feedthrough (Standard)
 PC4F0023: Cat 6a, 90° Feedthrough
 PC4F0084: Cat 6a, Sealed Feedthrough
 PC4F0034: Cat 6a, Solder
 PC4F0025: Cat 6a, PCB Mount
 PC4F0002: Cat 5 Feedthrough (Standard)



Square Flange Receptacle

Series

PC4B0029: Cat 6a Feedthrough
 PC4B0102: Cat 6a Sealed Feedthrough
 PC4B0038: Cat 6a 90° Feedthrough
 PC4B0076: Cat 6a PCB Mount
 PC4B0002: Cat 5 Feedthrough (Standard)



Bulkhead-Mount Feedthrough

Series

PC4B0103: Cat 6a Square Flange
 PC4F0085: Cat 6a, Jam Nut
 PC4B0002: Cat 5e Square Flange
 PC4F0002: Cat 5 Jam Nut

Cable assemblies are also available in a variety of configurations.
 Consult TE.





POLAMCO RJ45 38999-Style Connectors

Typical Part Numbering System

(Not all options are available with every series. Additional options available. Consult TE)

