# MUSBR Rugged USB Series Connector Amphenol Commercial Products





#### **Generation 2 Features**

- Provides a standard USB interface ideal for harsh environments where Ethernet/IP Protocol is used
- Protection is provided for IP68 applications per IEC 60529 specification
- Reaches Data Rates up to 480Mbps (USB 2.0)
- Features an Epoxy-free assembly; sealed with O-rings & gaskets
- More robust construction with improved thermal cycling and a slim conductive panel gasket for enhanced EMI performance















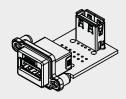


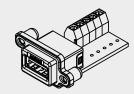
#### **Markets**

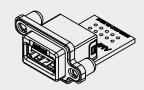
Amphenol's line of Rugged USB connectors serve many markets and applications across the globe including Transportation, Military, Medical and Industrial.

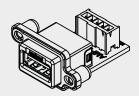


## Amphenol Commercial Products MUSBR Rugged USB Series Connector









Photos Shown: MUSBR-A311-XX, MUSBR-A411-XX, MUSBR-AA11-XX, MUSBR-AB11-XX

### **Technical Specifications**

**External Shell:** Die Cast Zinc, Nickel Plated

High Temperature Resistant Engineering Thermoplastic, Glass Reinforced, UL94V-0, Black **Insulator Housing: Contacts:** Phosphor Bronze, Plated with 0.76μm (30μ") min Gold over 1.27μm (50μ") min Nickel on

the Mating Area and 2.54µm (100µ") min Matte Tin over Nickel on the Contact Tails

Internal Shield & Rear Shield: Stainless Steel, Passivated

**Panel Gasket:** Conductive Silicone Rubber, Black

**Internal O-ring:** Silicone Rubber, Beige PCB: FR4 Fibreglass, Lead Free **Additional Connector: UL Recognized Component** 

**UL Recognition:** Level DUXR2, File Number E135615, see Listing

**Water & Dust Protection Level:** Code IP67 per IEC 60529

**Operating Temperature:** -40°C to +105°C

**Insertion Force:** Per EIA-364-13, 35N (7.9lb,) max

**Extraction Force:** Per EIA-364-13, Standard A - 10N (2.2lb,) min

Mini - 7N (1.6lb.) min Initial, 3N (0.7lb.) min after Durability

Per EIA 364-09, Standard A - 1500 Mating Cycles **Durability:** 

Mini - 5000 Mating Cycles

Vibration: Per EIA 364-28 Random Condition V, Letter A, No Discontinuity ≥ 1μs Shock: Per EIA 364-27 Test Condition H (11 ms, 30, ½ Sine), No Discontinuity ≥ 1μs

**Temperature Life w/o Load:** Per EIA-364-17, 105°C, 1000 Hours Thermal Shock: Per EIA-364-32, -40°C to +125°C, 5 Cycles

Per EIA 364-31, 10 Cycles, 240 Hrs, 25°C to 65°C 90-95%RH, with -10C Cold Shock **Humidity:** 

**Mixed Flowing Gas:** Per EIA 364-65 Class IIA (Cl<sub>2</sub>, NO<sub>2</sub>, H<sub>2</sub>S & SO<sub>2</sub>), 14 Day Exposure **Solvent Resistance:** Isopropyl Alcohol & 5% Sodium Hydroxide Solution, 24 Hrs Each **Solderability:** Per EIA-364-52, 95% Coverage after Category 2 Steam Aging

**Current Rating:** Standard A - 30 mA max per Contact ( $\Delta T \leq 30^{\circ}$ C)

*Mini* - 1A max per Contact ( $\Delta T \le 30$ °C)

Standard A - 30 m $\Omega$  max **Contact Resistance:** 

Mini - 50 mO max

**Insulation Resistance:** Standard A - 1000 MΩ min

Mini - 100 MΩ min

DWV: Standard A - 500 VAC rms

Mini - 100 VAC rms