

MUSBR Series Rugged USB Connectors

Type A, Mini B, Mini AB

RUGGED USB CONNECTOR FOR HARSH ENVIRONMENT APPLICATION, GENERATION 2

Amphenol's MUSBR series USB Connectors serve many markets and applications across the globe including Automotive, Communications, Consumer, Data, Industrial and Medical.

MUSBR series is a line of Generation 2 ruggedized USB connectors with die cast housings and IP67 sealing, designed for Harsh Environment applications. MUSBR series provide reliable performance in extreme conditions for the most demanding applications, and mate with standard USB plugs.

- IP67 environmental sealing protects against water and dust
- Die cast metal housings protect against mechanical damage
- Compact design saves panel space
- Operating temperature range from -40°C to $+105^{\circ}\text{C}$ for extreme conditions
- RoHS compliant to meet environmental standards

FEATURES

- Internal and external seals made with flexible silicone rubber
- Die cast metal housings
- Improved thermal cycling performance
- Multiple options including USB 3.0, Type A, Mini B, Mini AB series
- Low profile shell design available for Type A series
- Similar in size compared to standard equivalents
- Wide variety of mounting and termination options
- RoHS compliant



TARGET MARKETS



BENEFITS

- Excellent sealing to IP67 and higher protection over wide temperature range
- Protects equipment from water and dust incursion
- Mechanically rugged and stable to protect against shock, vibration and impact
- Prevents distortion
- Suitable for outdoor application with wide operating temperature range
- Suitable for a wide variety of mating connectors which are readily available
- Compact design saves panel space
- Able to replace existing standard parts with little to no changes
- Replace virtually any existing standard connector using standard footprints and mounting hardware
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- External Shell: Die Cast Zinc, Nickel Plated
- Insulator Housing: High Temperature Resistant Engineering Thermoplastic, Glass Reinforced, UL94V-0
- Panel Gasket: Conductive Silicone Rubber

MECHANICAL PERFORMANCE

- IP67
- UL: File E145615, Level DUXR2

ELECTRICAL PERFORMANCE

- Current Rating: Standard series A & B – 1.5A max. per contact, Mini– 1.0A max. per contact
- Contact Resistance: Standard A– 30mΩ max, Mini–50mΩ max
- Dielectric Withstanding Voltage: Standard A–500VAC rms, Mini–100 VAC rms

SPECIFICATION

- Amphenol Product Specification: USB 2.0

ENVIRONMENTAL

- 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
- Humidity: Per EIA 364–31, 10 Cycles, 240 Hrs, 25°C to 65°C 90–95%RH, with –10°C Cold Shock
- Mixed Flowing Gas: Per EIA 364–65 Class IIA (Cl₂, NO₂, H₂S & SO₂), 14 Day Exposure
- Salt Spray: Per EIA 364–26, 250 Hours, 5% Salt, 35°C
- Solvent Resistance: Isopropyl Alcohol & 5% Sodium Hydroxide Solution, 24 Hrs Each
- Solderability: Per EIA–364–52, 95% Coverage after Category 2 Steam Aging

APPROVALS AND CERTIFICATIONS

- RoHS

PACKAGING

- Box

TARGET MARKETS/APPLICATIONS



Car Navigation Systems
Display Cluster
Electric Vehicle



AC/DC pluggable power supplies
Base Station
Datacom
Optical Transport
Routers
Switches
Telecom



Home Entertainment Equipment
Refrigerator



Data Center
External Portable Storage
High Density Ethernet switching
Router and Server
Storage System



Chemical Detection System
Industrial Control Equipment
Energy Meter
Gaming Machine
Lighting
Measuring Equipment
Parking Meter
POS Machine
Renewable Energy
Robotics
Smart Meter
Vending Machines



Analyzers
Medical Diagnostics
Ultrasound Equipment

PART NUMBER SELECTOR

MUSBR

—

X

X

X

X

X

X

X

USB 2.0 Receptacle

AStandard A Series

BMini B Series

EMini AB Series

Termination Style

1Right Angle

2Right Angle on PCB with Right Angle Cable Header

3Right Angle on PCB with Right Angle Matching USB Type Connector

4Right Angle on PCB with Terminal Blocks

5Vertical

8Right Angle on PCB with Vertical Cable Header

ARight Angle on PCB with Holes for Wiring (Style 3 PCB)

BRight Angle on PCB with Vertical Single Row Isolated Header

ERight Angle on PCB with Vertical Matching USB Type Connector

Unique Special Code

No DigitStandard part defined by previous 10 digits

1 to 9Unique special feature

Dust Cover Options

0Standard (no dust cover)

1With grey color dust cover (supplied bulk packed)

5With black color dust cover (supplied bulk packed)

Shell & Thread Options

3Standard Shell, Unified Thread

4Low Profile Shell for Type A, Unified Thread

5Rear Flange Shell for Types B & AB, Unified Thread

MStandard Shell, Metric Thread

RLow Profile Shell for Type A, Metric Thread

TRear Flange Shell for Types B & AB, Metric Thread

Colour

1Black for Types A, B & E

Number of Contacts

1Standard 4 Contacts per Port for Types A

5Standard 5 Contacts per Port for Types B & AB

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