

# MUSBR Rugged USB

## Product Specification S6056C Rev 1.0

Amphenol

*Now you're connected!*



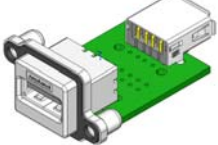
### About Amphenol Commercial Products

Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

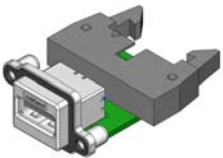
### Related Products

MUSB/MUSBR OPTIONS:

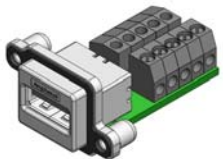
#### With matching USB



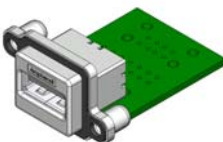
#### With Cable Header



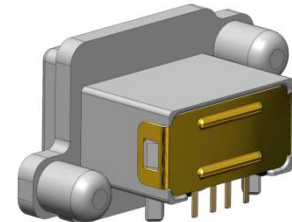
#### With Terminal Block



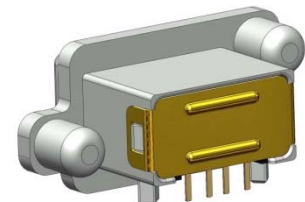
#### With PCB for wiring



MUSBR-A111-30  
SERIES A, RIGHT ANGLE  
STANDARD PROFILE



MUSBR-A111-30  
SERIES A, RIGHT ANGLE  
LOW PROFILE



### Overview

This Product Specification defines the general use and performance parameters for Amphenol's MUSBR series of connectors.

Availability: Series A right angle connectors are available now. Vertical PCB mount connectors will be available Q3, 2012. Mini-B and series Mini-AB with right angle and vertical PCB tails are coming soon. Right angle connectors mounted on a PCB with matching USB, cable headers or terminal blocks are available for all series. Dust covers for enhanced mating area protection are also available.

### Usage

These connectors meet Military shock & vibration levels and IP68 per IEC 60529 in mated and unmated conditions. The connector system is designed to provide a standard USB interface for enclosures exposed to harsh environments. Connectors mate with any standard USB 2.0 plug. Achieves data rates up to 480 Mb/s (USB 2.0).

### Applications

Intended for use in applications such as:

- Medical equipment
- Microwave transmitters
- GPS, positioning equipment
- Military vehicles, radios, computers
- Test equipment
- Mobile entertainment systems
- Traffic control & monitoring systems

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*Now you're connected!*

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## Related Products

### MDBR



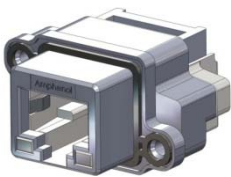
9 POSITION CONNECTOR SHOWN

### MUSBK



MUSB-K152-30  
SERIES MICRO-AB  
RIGHT ANGLE, PCB TAIL

### MRJR



MRJR-5380-01 SHOWN  
RIGHT ANGLE, PCB TAIL,  
8 POSITION RJ45

## Connector Electrical Characteristics

Parameter	Series A & B	Series Mini-B & Mini-AB
Current rating:	1.5A per contact	1.0A per contact
Contact resistance:	30 mΩ max	50 mΩ max
Insulation resistance:	1000 MΩ min	100 MΩ min
DWV:	500V AC @ sea level	100V AC @ sea level

## Connector Mechanical Characteristics

Thermal Shock: 5 cycles @ -40° to +125° C  
 Physical Shock: Per EIA364-27 Condition H (11ms 30G)  
 Humidity: Per EIA364-31 Condition C, method III  
 Vibration: Per EIA364-28 per Condition V, Letter A  
 Salt spray: Per EIA364-26, 250 Hrs

## Process Characteristics

Recommended soldering process: Hand or wave soldering peaked at 260°C for 8 seconds max.  
 Recommended Torque for #4-40 or M3 Panel Mount Screws: 0.45 to 0.65 Nm (4 – 5.75 in-lbs).  
 Recommended Torque for #2-56 or M2.5 Panel Mount Screws: 0.23 to 0.34 Nm (2 - 3 in-lbs).  
 Solder tails suitable for PCB thickness of 1.52mm (.062")  
 Mating Cycles: 1500 (Series A & B)  
 5000 (Series Mini-B & Mini-AB)

## Material Requirements

MUSBR connectors are RoHS compliant.

Unless otherwise specified, the materials for each component shall be:

- Contacts: Phosphor Bronze with 30μ" (0.76μm) min Gold over 50μ" (1.27μm) min Nickel
- Housing: Engineering thermoplastic, UL94V-0 rated, Black. White for series B.
- Shell: Die cast Zinc alloy, Nickel plating

Temperature rise: Meets the requirement of 30° C ΔT  
 Operating temperature -40° to +105° C

## Available Documents

### Drawing Numbers:

P-MUSBR-A111-XX  
 P-MUSBR-A511-XX

MUSBR rugged Series A, Right Angle PCB Tail, Thread, Shell & Dust Cover Options  
 MUSBR rugged Series A, Right Angle, Vertical PCB Mount

Contact factory, authorized Amphenol representative or website [www.amphenolcanada.com](http://www.amphenolcanada.com) for additional configurations

## Quality Test Reports

QTR9300491 Qualification Test Report

# Now you're connected!

## Product Numbering System

	MUSBR	-	A	1	1	1	-	3	0	
<b>MUSBR</b>	Connector series designation - Rugged USB									
<b>Style</b>	A - Receptacle series A, single									
<b>Termination</b>	1 - Right angle PCB tail 2 - Right angle PCB tail, on PCB with right angle cable header, note 1 3 - Right angle PCB tail, on PCB with matching USB termination, note 2 4 - Right angle PCB tail, on PCB with terminal block(s), note 3 5 - Vertical PCB tail 8 - Right angle PCB tail, on PCB with vertical cable header, note 4 A - Right angle PCB tail, on PCB for hand wiring E - Right angle PCB, on PCB, with vertical USB termination, note 4									
<b>Number of Contacts</b>	1 - Standard 4 per port									
<b>Colour</b>	1 - Black - Standard									
<b>Options</b>	0 - No rear shield; shell with Unified National thread, note 5 & 6 3 - With rear shield; shell with Unified National thread, note 5 & 6 M - With rear shield; shell with Metric thread, note 5 & 7 N - No rear shield, shell with Metric thread, notes 5 & 7									
<b>Dust Cover Options</b>	0 - Standard (no dust cover) 1 - With grey color dust cover (supplied bulk packed) 4 - Standard (no dust cover), note 8 5 - With black color dust cover (supplied bulk packed)									
<b>Unique Special Code</b>	No Digit - Standard part defined by previous 10 digits 1 to 9 - Unique special feature. Note 9									

### Notes

- 1) Design of right angle cable header varies depending upon the style. Refer to drawing for details.
- 2) Matching USB is the same USB series as the rugged connector
- 3) Design of terminal blocks varies depending upon the style. Refer to drawing for details.
- 4) Vertical headers & vertical matching USB's may not be readily available for all connector styles.
- 5) Rear shield required for styles A, C & D with right angle PCB tails. Rear shield optional for styles B & E with right angle PCB tails. No rear shield for any vertical PCB tail.
- 6) Use #4-40 UNC for styles A, C & D and #2-56 UNC for styles B & E
- 7) Metric thread - use M3 for styles A, C, & D and M2.5 for styles B & E
- 8) Dust cover option code 4 is identical to code 0 and may be used for styles B & E only.
- 9) Many unique features are readily available to suit customer requirements. Consult with Amphenol Canada for details.



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