

MUSB Rugged USB

Product Specification S6046C Rev 1.0

Amphenol

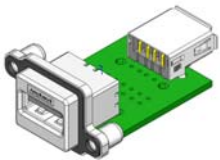
Now you're connected!

About Amphenol Commercial Products

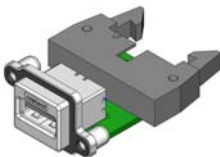
Amphenol's commercial connector products are used in a variety of end user applications including networking, telecom, server & computer, storage & HDD, consumer electronics and entertainment, professional audio & Industrial & Military/Aerospace.

Related Products

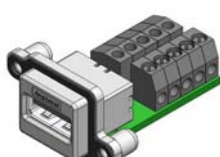
With matching USB



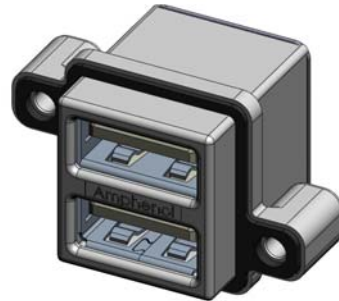
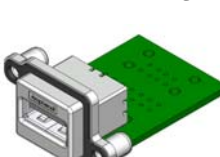
With Cable Header



With Terminal Block



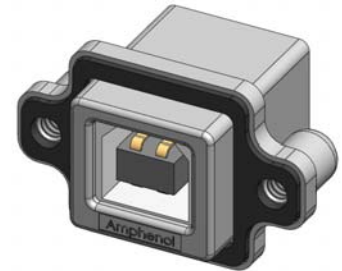
With PCB for wiring



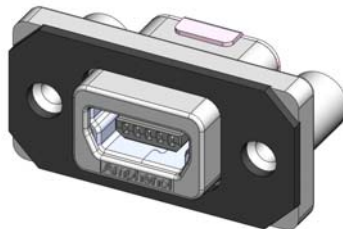
MUSB-C111-30
SERIES A, RIGHT
ANGLE, STACKED



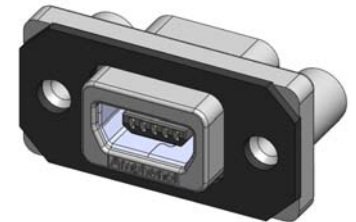
MUSB-A511-00
SERIES A, VERTICAL



MUSB-D111-30
SERIES B, RIGHT ANGLE



MUSB-B151-34
SERIES MINI-B, RIGHT ANGLE



MUSB-E151-04
SERIES MINI-AB, RIGHT ANGLE

Overview

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

Availability: Series A (single & stacked), series B, series Mini-B and series Mini-AB with right angle and vertical PCB tails. 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 IP67 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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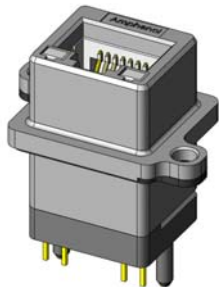
Related Products

MDB

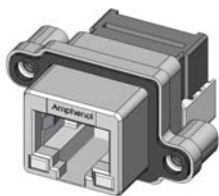


9 POSITION CONNECTOR SHOWN

MRJ



MRJ-5480-01 SHOWN VERTICAL, PCB TAIL, 8 POSITION RJ45



MRJ-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

MUSB 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-MUSB-A211-XX	MUSB rugged Series A, Right Angle, on PCB with R/A cable header. Thread & Dust cover option
P-MUSB-A511-XX	MUSB rugged Series A, Vertical PCB mount
P-MUSB-B151-XX	MUSB rugged Series Mini-B, right angle PCB tail
P-MUSB-CA11-XX	MUSB rugged Series A, stacked, Right angle, on PCB. Thread & Dust cover options
P-MUSB-D411-3X	MUSB rugged Series B, Right Angle, on PCB with terminal block
P-MUSB-E151-XX	MUSB rugged Series Mini-AB, Right Angle PCB tail, Thread & Dust Cover options

Contact factory, authorized Amphenol representative or website www.amphenolcanada.com for additional configurations

Quality Test Reports

QTR9300377	Series Mini-B & Mini-AB
QTR9300378	Series A & B

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Product Numbering System

MUSB	Connector series designation - Rugged USB	MUSB	-	A	1	1	1	-	3	0	
	Style										
	A - Receptacle series A, single										
	B - Receptacle series Mini-B, single										
	C - Receptacle series A over series A, stacked										
	D - Receptacle series B, single										
	E - Receptacle series Mini-AB, single										
	Termination										
	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										
	Number of Contacts										
	1 - Standard 4 per port (use for styles A, C & D)										
	5 - Standard 5 per port (use for styles B & E)										
	Colour										
	1 - Black - Standard (use this code for White style D connectors as well)										
	Options										
	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										
	Dust Cover Options										
	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)										
	Unique Special Code										
	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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