

Amphenol

COMMUNICATIONS SOLUTIONS

Rugged IP67 Waterproof Cable to Panel Mated Solutions USB, RJ45, HDMI

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Product Manager – ACPA

December 2024



Rugged I/O Panel Mount Receptacles | Harsh Environment | IP67 | Waterproof

							
Rugged HDMI MHDR Series IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Rugged Mod Jack MRJR Series RJ45 IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Rugged D-Sub MDBR Series IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Rugged USB A 2.0 MUSBR Series IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Rugged USB A 3.0 MUSBR Series IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Rugged USB Type C MUSBR Series IP67 Panel mount. Die Cast Housing. Integrated Gasket. PCB Tails. RA / Vertical	Locking USB A LUSB Series IP20 PCB mount. Integrated Latch to Standard USB a Plug RA / Vertical	Bulkhead Adapter ID Series Die Cast protective Hood & Latch for RJ45 Recaptacles

Rugged Mated Sealed Interface Solutions | Harsh Environment | IP67 | Waterproof

							
IP67 Latching Pin/Socket MRD Series - IP67 in Mated Condition Multi-pin (2-9 position) Thumb Latch Locking Mechanism	USB A IP67 Plastic Bayonet MRU Series - IP67 in Mated Condition USB Type A 2.0 & 3.0 All Plastic Bayonet Latching	USB A 3.0 IP67 Thumb Latching MRU series IP67 in Mated Condition Metal/Plastic Thumb Latch Mechanism	USB A 3.0 IP67 Metal Bayonet MRU Series IP67 in Mated Condition Metal Bayonet Locking Mechanism	RJ45 IP67 Bayonet or Thumb Latch MRK Series - IP67 in Mated Condition 2 Styles: - Metal Bayonet - Thumb Latch	HDMI IP67 Bayonet Or Thumb Latch MRH Series - IP67 in Mated Condition 2 Styles: - Metal Bayonet - Thumb Latch	IP67 Mini Sealed 2.5mm Pitch FLH Series All Plastic 3 and 6 position Wire to Wire and Wire to Panel/Board	IP67 Boot Style Hood Provides IP67 Sealing to Mated Interface for Existing Harsh USB and RJ Connectors in Mated Condition

★ Standard Cable Assemblies Available WTW and WTB

The MRU Series of Plastic Bayonet Coupling Plugs, Cables and Mating Receptacles provides a cost-effective solution for budget-sensitive applications where a Waterproof, IP67 sealed USB 2.0 & 3.0 Type A interface is required.

Perfect for use in Industrial, Lighting, Commercial, Consumer, Appliances, and smart home applications. The plastic bayonet coupling mechanism with integrated sealing gaskets provides reliable latching and IP67 sealing to protect against water incursion and accidental unmating.

Key features:

- All-Plastic construction for light weight, sturdy mechanical protection
- Bayonet Coupling Ring for easy mating and locking
- Integrated Seals provide IP67 sealing when mated
- Available with USB 2.0 or USB 3.0 performance
- Pre-Assembled cables with Overmolded Strain Reliefs
- Jam Nut Mount Receptacles for ease of panel mounting
- Panel Mount Receptacles with integrated panel gaskets and Locking Dust Caps
- Receptacles will also mate with standard IP20 USB Plugs



Rugged USB 2.0 Type A IP67 Plastic Bayonet Part Numbers

Part Number	Standard	Mating Style	Termination	Cable Length*	Dust Cover	Image
MRU-AFE1-5100	USB 2.0	Receptacle	IP20 Receptacle	--	Yes	
MRU-AFE1-1100	USB 2.0	Receptacle	PCB Solder Tails	--	Yes	
MRU-AFE1-61A0	USB 2.0	Receptacle	Cable to IP20 Plug	1m	Yes	
MRU-AM61-60A0	USB 2.0	Plug	Cable to IP20 Plug	1m	No	
MRU-AM61-80A0	USB 2.0	Plug	Cable to IP67 Plug	1m	No	

* Other Lengths and Configurations Available – Consult Factory

Rugged USB 3.0 Type A IP67 Plastic Bayonet Part Numbers

Part Number	Standard	Mating Style	Termination	Cable Length*	Dust Cover	Image
MRU-BFE1-5100	USB 3.0	Receptacle	IP20 Receptacle	--	Yes	
MRU-BFE1-61A0	USB 3.0	Receptacle	Cable to IP20 Plug	1m	Yes	
MRU-BM61-60A0	USB 3.0	Plug	Cable to IP20 Plug	1m	No	
MRU-BM61-80A0	USB 3.0	Plug	Cable to IP67 Plug	1m	No	

* Other Lengths and Configurations Available – Consult Factory

MRU	RUGGED USB SERIES CIRCULAR	AM3110XX
USB GENERATION		
A	A - USB 2.0 TYPE A (24mm SIZE) B - USB-3.0 TYPE A (24mm SIZE)	
CONNECTOR TYPE		
M	M - PLUG F - RECEPTACLE	
CONNECTOR ENGAGE & MOUNTING FEATURE		
3	6 - BAYONET LOCK, PLASTIC, OVER-MOULDED CABLE E - BAYONET LOCK, PLASTIC, PANEL MOUNT WITH HEX NUT	
PLATING		
1	1 - GOLD FLASH AT MATING AREA STANDARD	
TERMINATION		
1	1 - VERTICAL PCB CONTACT TAILS 5 - RECEPTACLE ADAPTER IP67 TO IP20 6 - CABLE IP67 PLUG TO IP20 PLUG 8 - CABLE IP67 PLUG TO IP67 PLUG	
DUST COVER OPTIONS		
0	0 - NO DUST COVER 1 - WITH ATTACHED DUST COVER	
CABLE LENGTH		
XX	00 - NO CABLE 20 to 99 - OVERALL CABLE LENGTH IN CM (20 TO 99 cm)	

Cable Length

FIRST X		SECOND X	
CODE	METERS	CODE	METERS
A	1.0	0	0
		1	0.1
B	2.0	2	0.2
		3	0.3
C	3.0	4	0.4
		5	0.5
D	4.0	6	0.6
		7	0.7
E	5.0	8	0.8
		9	0.9

Example:

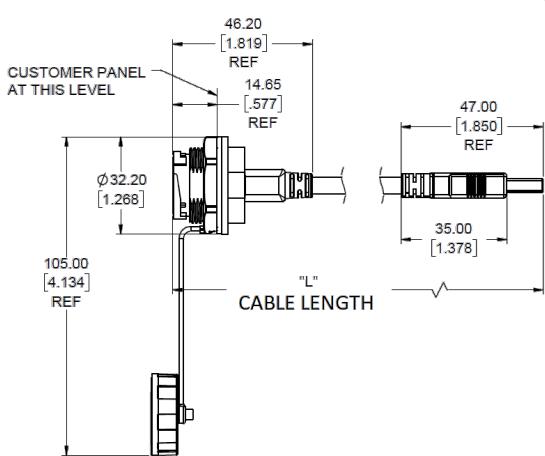
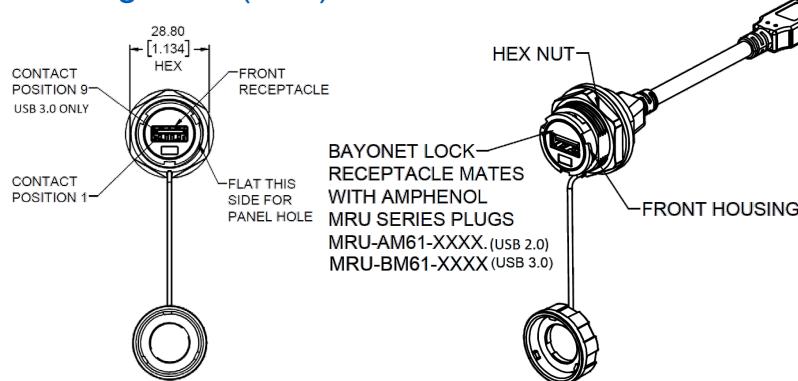
A0 = 1.0m
B7 = 2.7m

- Durability: 500 Mating Cycles
- Wire Gauge: 24AWG (Charging Contacts)
28AWG (Data Contacts)
- Current rating:
 - USB 2.0: 0.5A per Charging Contact
0.25A per Data Contact
 - USB 3.0: 0.9A per Charging Contact
0.25A per Data Contact
- Voltage rating 5V DC
- Contact Resistance: 30mΩ Max
- DWV:
 - USB 2.0: 500 VAC/1 minute @ sea level
 - USB 3.0: 100 VAC/1 minute @ sea lev
- Insulation Resistance:
 - USB 2.0: 500MΩ Min
 - USB 3.0: 100MΩ Min
- Data rate: USB 2.0: 480Mb/s
USB 3.0: 5Gb/s
- Ingress Protection: IP67 Per IEC 60529 in Mated Condition
- Operating Temperature: -20°C to +80°C
- RoHS compliant per EU directive 2011/65/EU and amendments

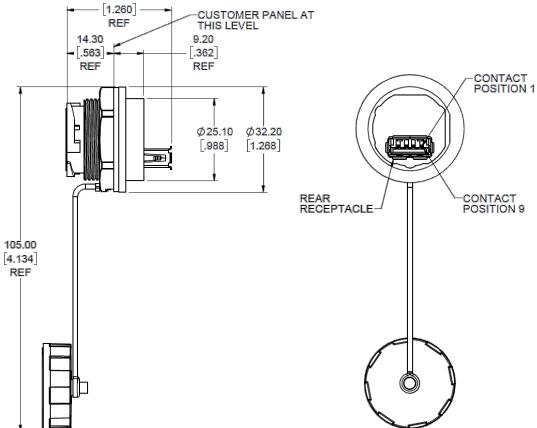
Receptacles

Mating View (ALL)

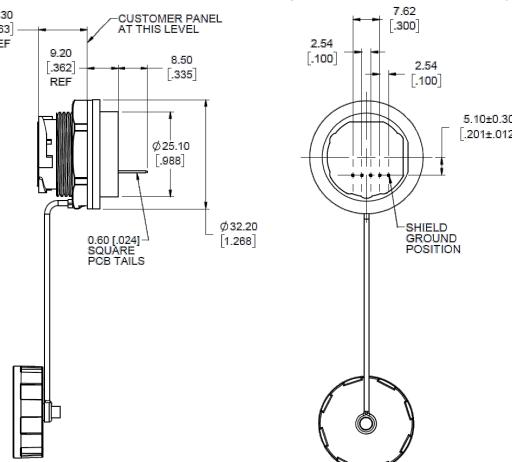
Cable Terminated



Adapter Terminated

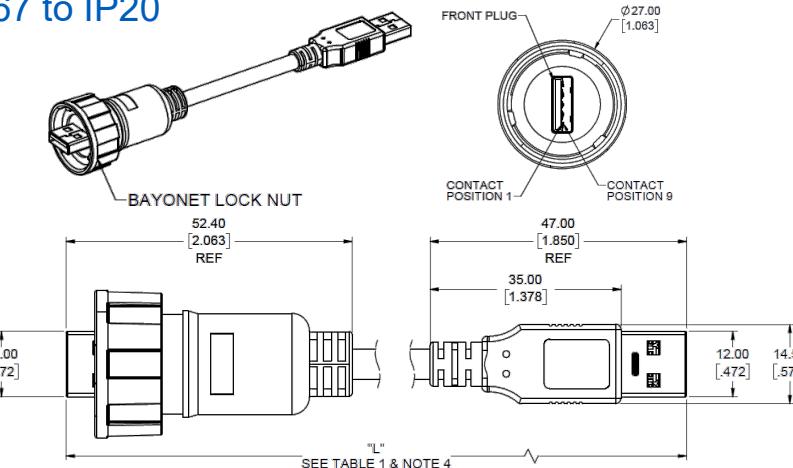


PCB Tail Terminated (USB 2.0 Only)

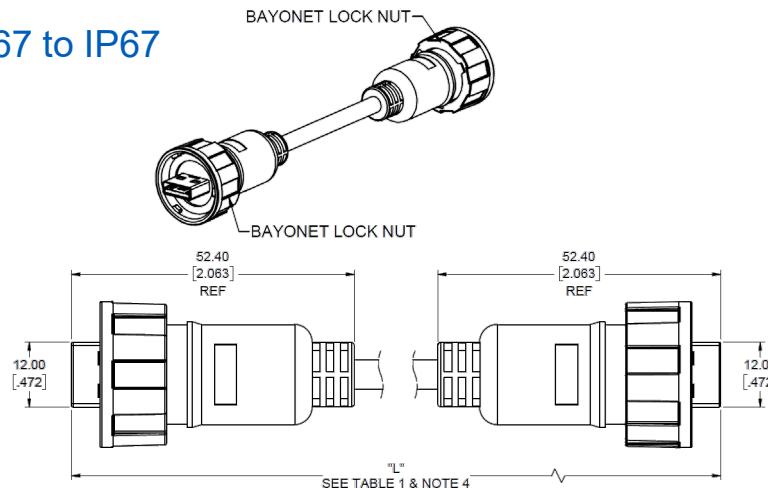


Plug Cables

IP67 to IP20



IP67 to IP67



The MRU Series Metal Bayonet Coupling Series of Cables and Mating Receptacles provides a heavy duty rugged interconnect for the most demanding applications requiring a Waterproof, IP67 sealed USB 3.0 type A interface.

Perfect for use in Industrial, Lighting, Commercial, Appliances, and smart home applications. The metal bayonet coupling mechanism with integrated sealing gaskets provides reliable latching and IP67 sealing to protect against water incursion and accidental unmating, as well as superior resistance to impact and vibration.

Key features:

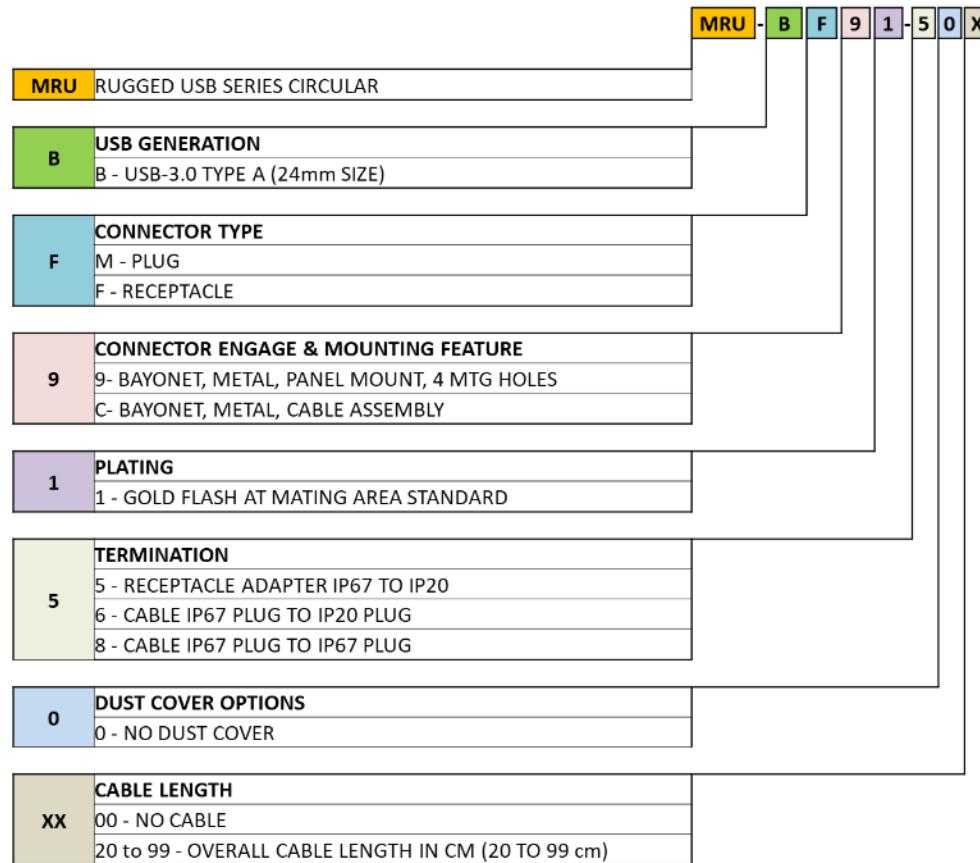
- All-Metal construction housings for superior mechanical protection
- Bayonet Coupling Ring for easy mating and locking
- Alignment features to ensure proper mating
- Integrated Seals provide IP67 sealing when mated
- USB 3.0 performance
- Pre-Assembled Plug Cables with Compression Gasket and Overmolded Strain Reliefs
- Panel Mount Receptacles with Metal Housing, 4 Hole Flange mounting feature, Integrated Panel Gaskets and available Rubber Dust Caps



Rugged USB 3.0 Type A IP67 Metal Bayonet Part Numbers

Part Number	Standard	Mating Style	Termination	Cable Length*	Dust Cover	Image
MRU-BMC1-6050	USB 3.0	Plug	Cable to IP20 Plug	1m	No	
MRU-BF91-5000	USB 3.0	Receptacle	IP20 Receptacle	--	No (Available With Dust Cover)	

* Other Lengths and Configurations Available – Consult Factory



Cable Length

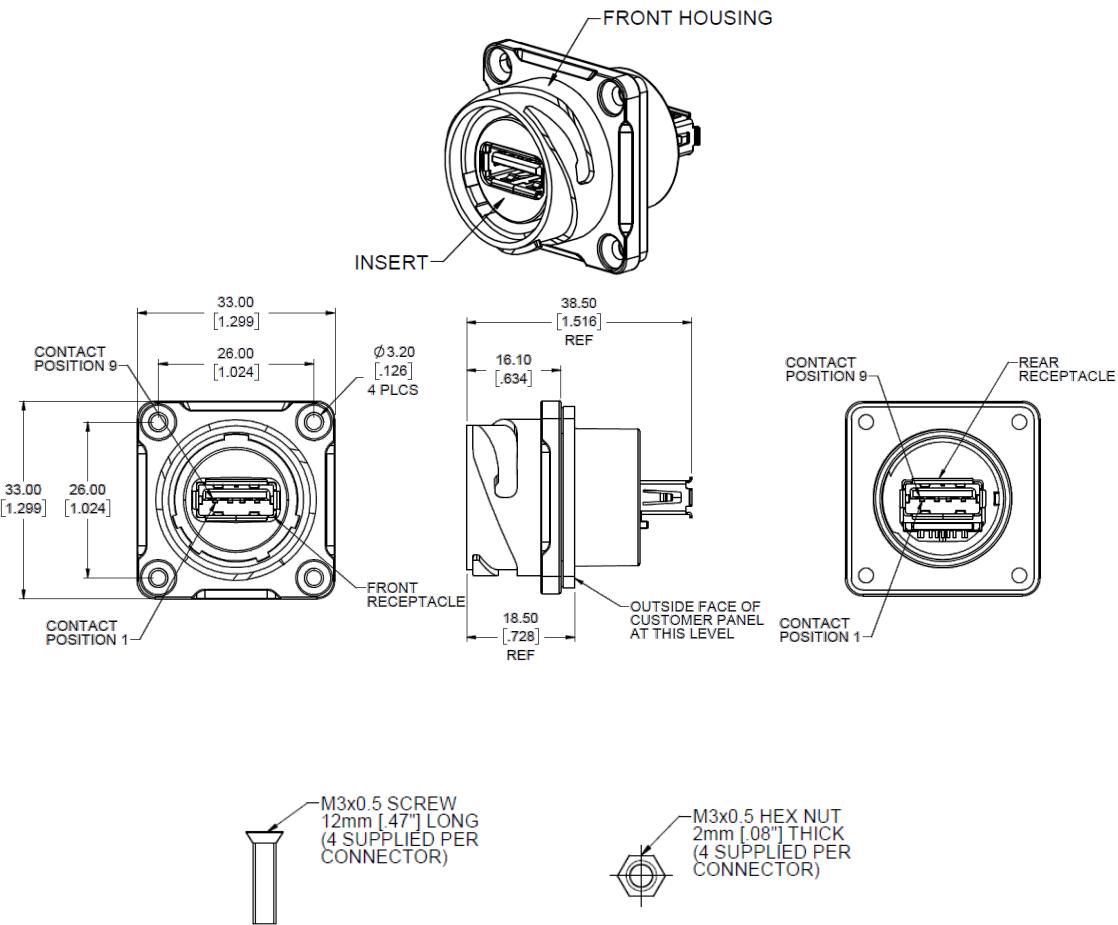
FIRST X		SECOND X	
CODE	METERS	CODE	METERS
A	1.0	0	0
		1	0.1
B	2.0	2	0.2
		3	0.3
C	3.0	4	0.4
		5	0.5
D	4.0	6	0.6
		7	0.7
E	5.0	8	0.8
		9	0.9

Example:

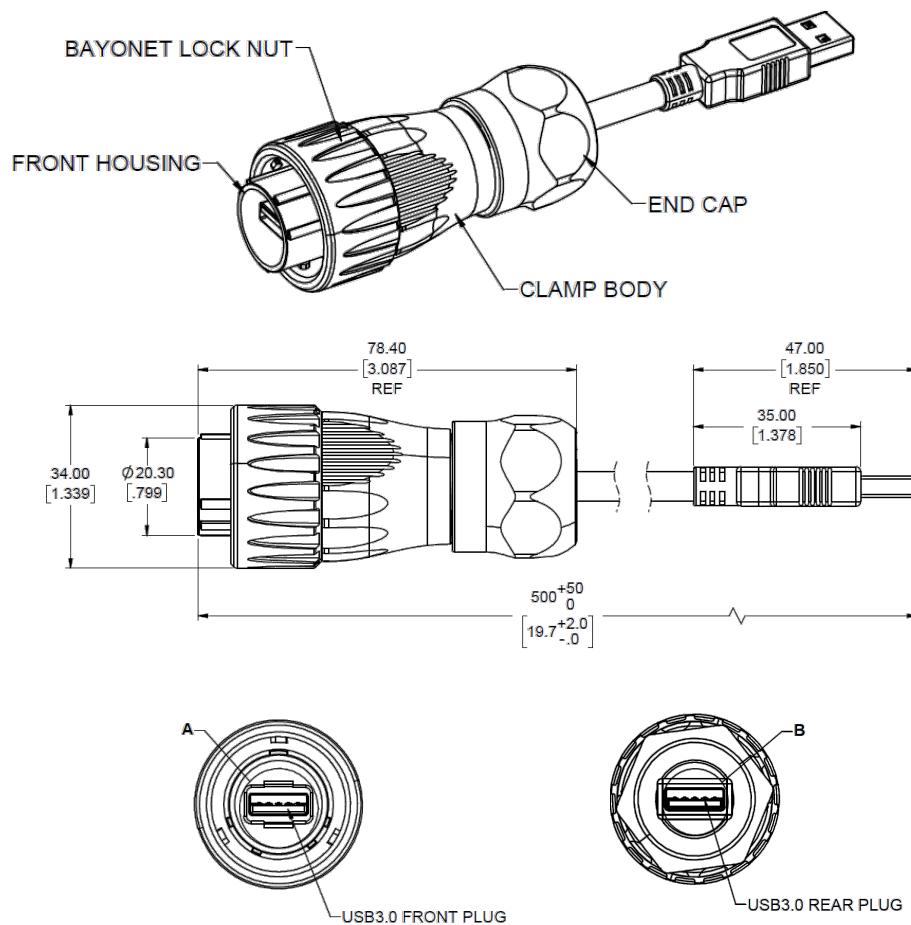
A0 = 1.0m
B7 = 2.7m

- Durability: 1500 Mating Cycles
- Wire Gauge: 24AWG (Charging Contacts)
28AWG (Data Contacts)
- Current rating: 0.9A per Charging Contact
0.25A per Data Contact
- Voltage rating 5V DC
- Contact Resistance: 30mΩ Max
- DWV: 100 VAC/1 minute @ sea level
- Insulation Resistance: 100MΩ Min
- Data rate: 5Gb/s
- Ingress Protection: IP67 Per IEC 60529 in Mated Condition
- Operating Temperature: -40°C to +80°C
- RoHS compliant per EU directive 2011/65/EU and amendments

Receptacles



Plug Cables



The MRU Plastic/Metal Thumb Latching Series of Cables and Mating Receptacles provides a heavy duty rugged interconnect for the most demanding applications requiring an IP67 sealed USB 3.0 type A interface.

Perfect for use in Industrial, Lighting, Commercial, Appliances, and smart home applications. The metal bayonet coupling mechanism with integrated sealing gaskets provides reliable latching and IP67 sealing to protect against water incursion and accidental unmating, as well as superior resistance to impact and vibration.

Key features:

- Plugs have Metal Inner and Plastic Exterior housing for superior mechanical toughness
- Metal Thumb Latch for superiority and ease of access for mating and un-locking
- Alignment features to ensure proper mating
- Integrated Seals provide IP67 sealing when mated
- USB 3.0 performance
- Pre-Assembled Plug Cables with Compression Gasket and Overmolded Strain Reliefs
- Panel Mount Receptacles with Metal Housing, 4 Hole Flange mounting feature, Integrated Panel Gaskets and available Rubber Dust Caps



Rugged USB 3.0 Type A IP67 Thumb Latch Part Numbers

Part Number	Standard	Mating Style	Termination	Cable Length*	Dust Cover	Image
MRU-BMD1-6050	USB 3.0	Plug	Cable to IP20 Plug	1m	No	
MRU-BF81-5100	USB 3.0	Receptacle	IP20 Receptacle	--	Yes (Available without Dust Cover)	

* Other Lengths and Configurations Available – Consult Factory

MRU		B	M	D	1	6	0	XX
MRU	RUGGED USB SERIES CIRCULAR							
B	USB GENERATION							
	B - USB-3.0 TYPE A (24mm SIZE)							
M	CONNECTOR TYPE							
	M - PLUG							
	F - RECEPTACLE							
D	CONNECTOR ENGAGE & MOUNTING FEATURE							
	8 - THUMB LATCH, METAL, PANEL MOUNT, 4 MTG HOLES							
	D - THUMB LATCH, METAL, CABLE ASSEMBLY							
1	PLATING							
	1 - GOLD FLASH AT MATING AREA STANDARD							
6	TERMINATION							
	5 - RECEPTACLE ADAPTER IP67 TO IP20							
	6 - CABLE IP67 PLUG TO IP20 PLUG							
	8 - CABLE IP67 PLUG TO IP67 PLUG							
0	DUST COVER OPTIONS							
	0 - NO DUST COVER (PLUG ONLY)							
	1 - WITH ATTACHED DUST COVER (RECEPTACLE ONLY)							
XX	CABLE LENGTH							
	00 - NO CABLE							
	20 to 99 - OVERALL CABLE LENGTH IN CM (20 TO 99 cm)							

Cable Length

FIRST X		SECOND X	
CODE	METERS	CODE	METERS
A	1.0	0	0
		1	0.1
B	2.0	2	0.2
		3	0.3
C	3.0	4	0.4
		5	0.5
D	4.0	6	0.6
		7	0.7
E	5.0	8	0.8
		9	0.9

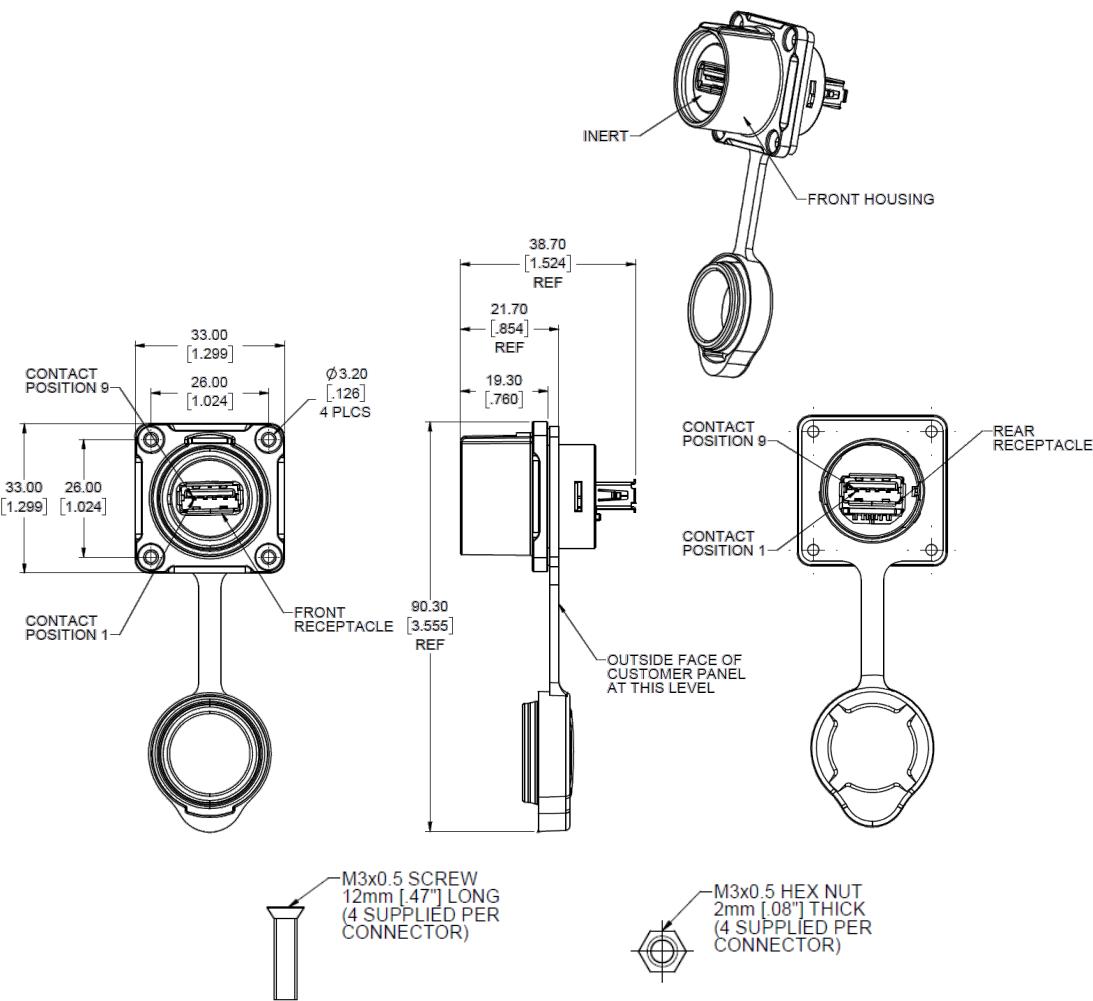
Example:

A0 = 1.0m

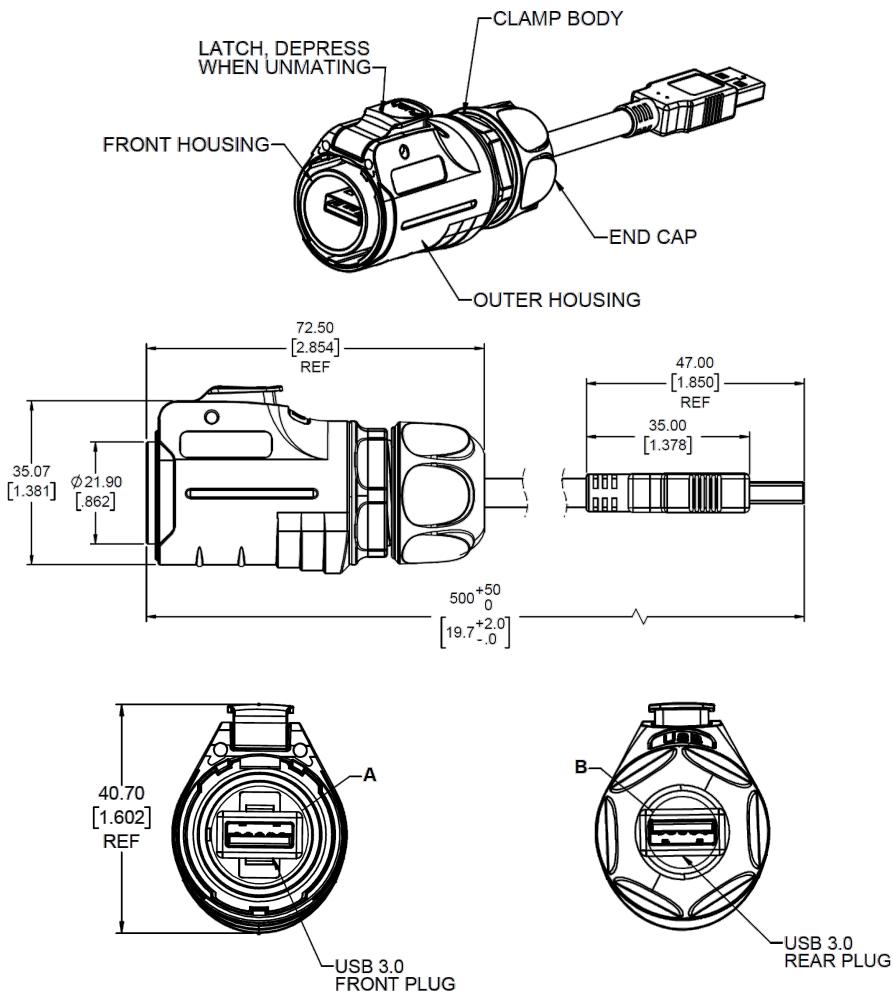
B7 = 2.7m

- Durability: 1500 Mating Cycles
- Wire Gauge: 24AWG (Charging Contacts)
28AWG (Data Contacts)
- Current rating: 0.9A per Charging Contact
0.25A per Data Contact
- Voltage rating 5V DC
- Contact Resistance: 30mΩ Max
- DWV: 100 VAC/1 minute @ sea level
- Insulation Resistance: 100MΩ Min
- Data rate: 5Gb/s
- Ingress Protection: IP67 Per IEC 60529 in Mated Condition
- Operating Temperature: -40°C to +80°C
- RoHS compliant per EU directive 2011/65/EU and amendments

Receptacles



Plug Cables



The MRK IP67 Series of Plug Housings and Mating Receptacles provide a heavy duty rugged interconnect for the most demanding applications requiring a robust, sealed RJ45 interface. Available with All-Metal Bayonet Coupling and Plastic/Metal Thumb Latch Configurations.

Perfect for use in Industrial, Lighting, Commercial, Appliances, and smart home applications. The reliable coupling mechanisms with integrated sealing gaskets provide positive latching and IP67 sealing to protect against water incursion and accidental unmating, as well as superior resistance to impact and vibration.

Key features:

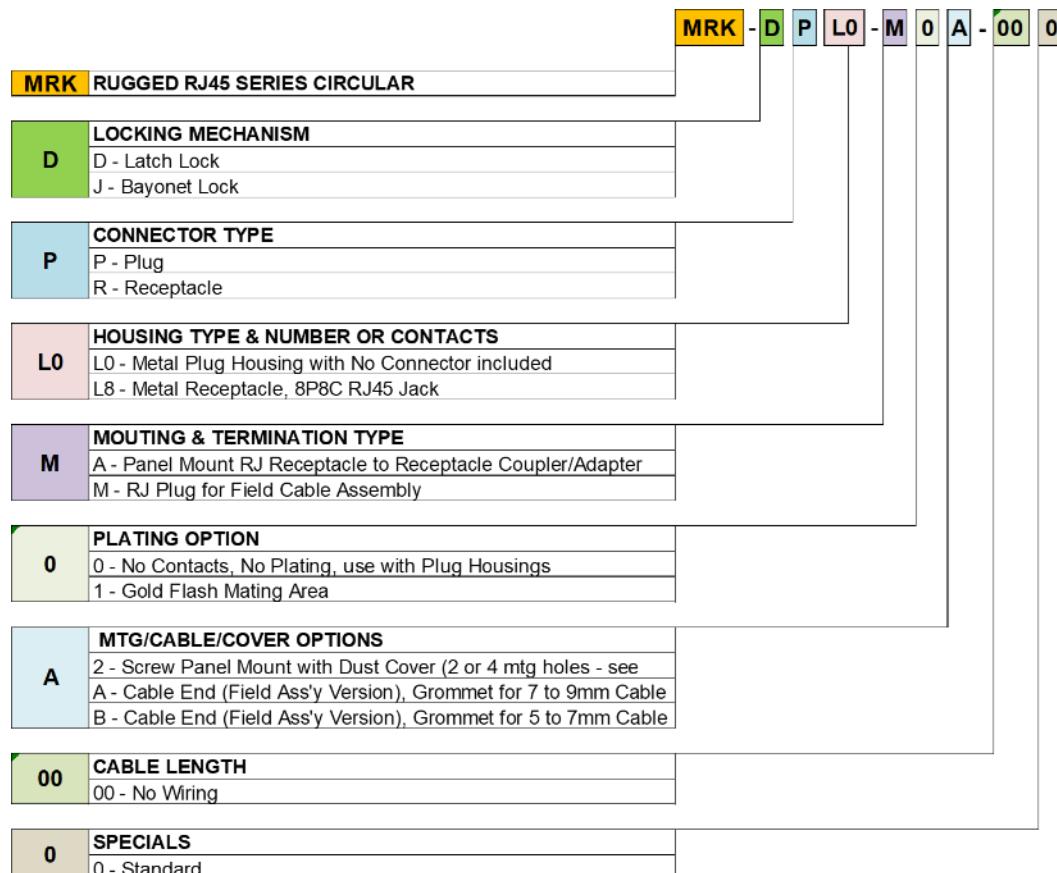
- Metal and Engineering Thermoplastic housings for superior mechanical protection
- Bayonet Coupling Ring or Metal Thumb Latch for easy mating and locking
- Alignment features to ensure proper mating
- Integrated Seals provide IP67 sealing when mated
- Plug Housings designed to be used with user-supplier standard RJ45 Plugs and Cables with Compression Gasket Cable Strain Reliefs
- Metal Panel Mount Receptacles with integrated RJ45 Jack, 4 Hole Flange mounting feature, Integrated Panel Gaskets and available Rubber Dust Caps



Rugged RJ45 IP67 Cable to Panel Part Numbers

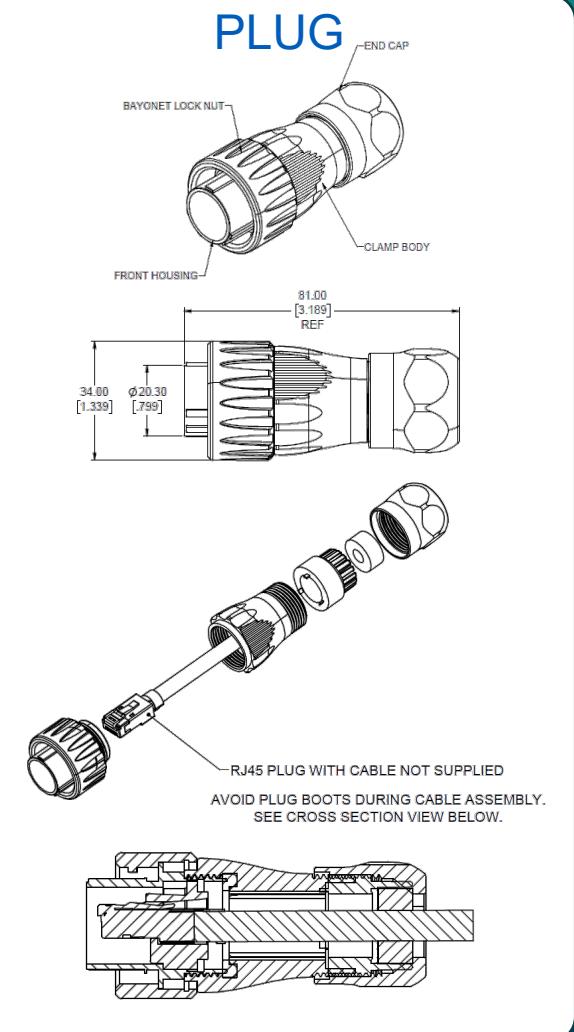
Part Number	Standard	Mating Style	Termination	Coupling	Dust Cover	Image
MRK-JPL0-M0A-000	RJ45	Plug Housing	Accepts Standard RJ45 Plug/Cable (User Supplied)	Metal Bayonet	No	
MRK-JRL8-A13-000	RJ45	Receptacle	Cable to IP20 Plug	Metal Bayonet	No (Available With Dust Cover)	
MRK-DPL0-M0A-000	RJ45	Plug Housing	Accepts Standard RJ45 Plug/Cable (User Supplied)	Thumb Latch	No	
MRK-DRL8-A12-000	RJ45	Receptacle	Cable to IP67 Plug	Thumb Latch	Yes (Available Without Dust Cover)	

* Other Configurations Available – Consult Factory

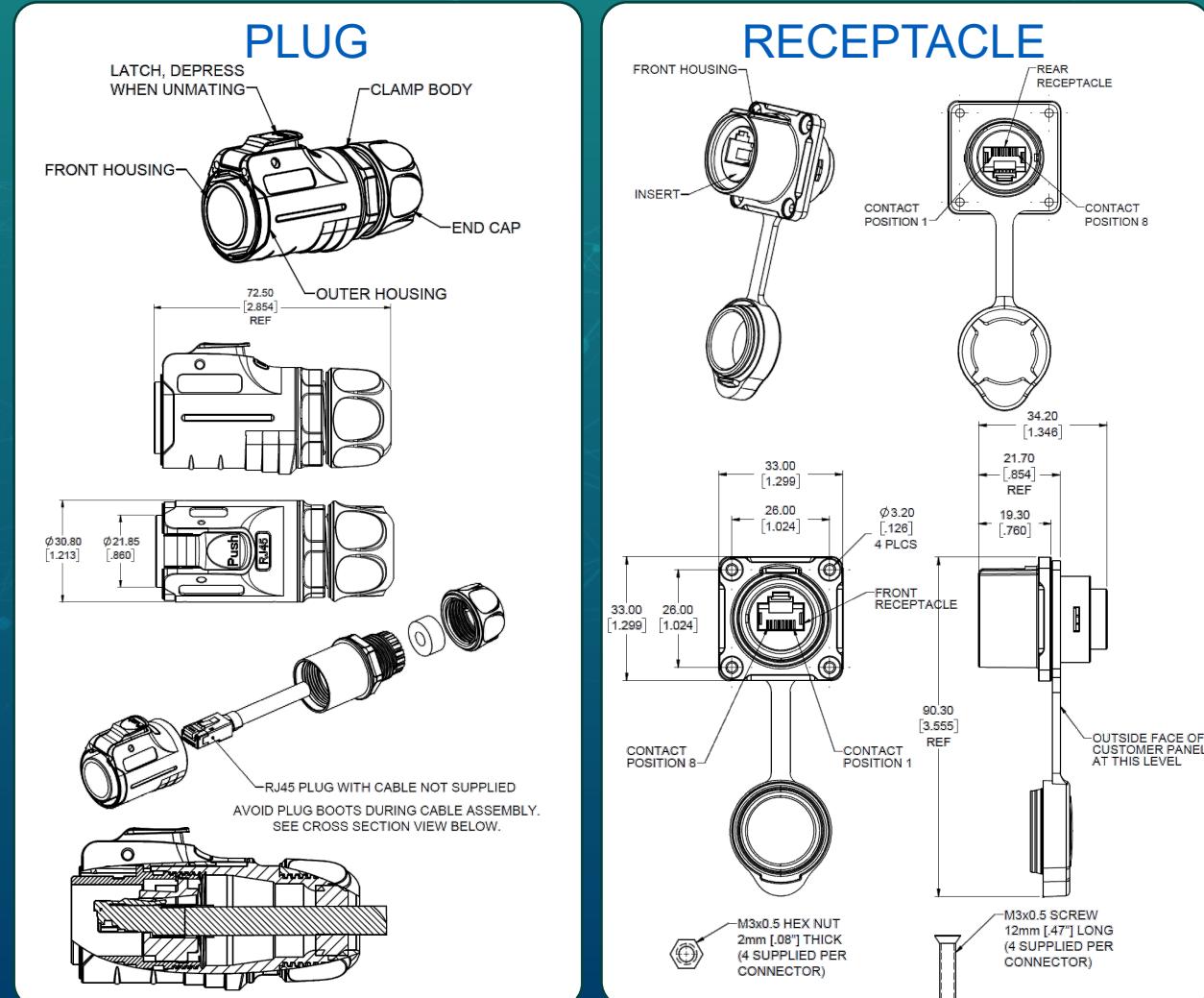


- Durability: 1500 Mating Cycles
- Cable Outside Diameter (plug): 5 to 9mm
- Current rating: 1.5A per Contact
- Voltage rating 125V AC
- Contact Resistance: 20mΩ Max
- DWV: 500 VAC/1 minute @ sea level
- Insulation Resistance: 500MΩ Min
- Ingress Protection: IP67 Per IEC 60529 in Mated Condition
- Operating Temperature: -40°C to +80°C
- RoHS compliant per EU directive 2011/65/EU and amendments

Metal Bayonet



Thumb Latch



The MRH Series of HDMI Plug Cables and Mating Receptacles provide a heavy duty rugged interconnect for the most demanding applications requiring a robust, sealed interface. Available with All-Metal Bayonet Coupling and Plastic/Metal Thumb Latch Configurations.

Perfect for use in Industrial, Lighting, Commercial, Appliances, and smart home applications. The reliable coupling mechanisms with integrated sealing gaskets provide positive latching and IP67 sealing to protect against water incursion and accidental unmating, as well as superior resistance to impact and vibration.

Key features:

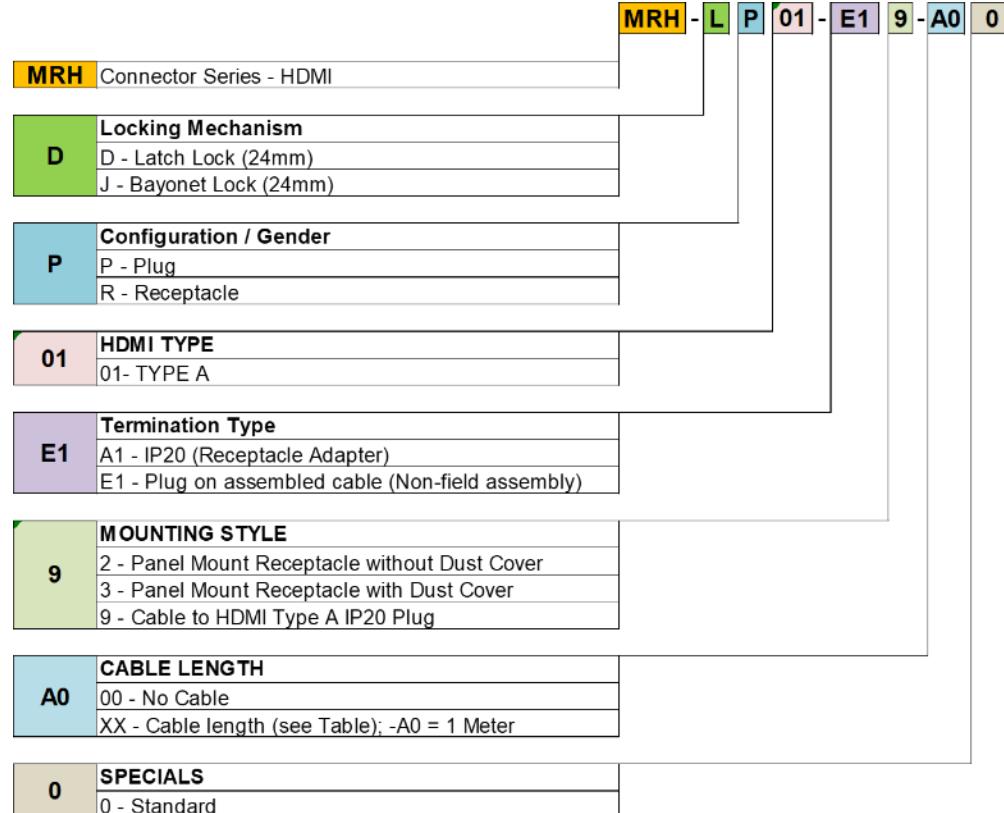
- Metal and Engineering Thermoplastic housings for superior mechanical protection
- Bayonet Coupling Ring or Metal Thumb Latch for easy mating and locking
- Alignment features to ensure proper mating
- Integrated Seals provide IP67 sealing when mated
- Pre-Assembled Plug Cables with Compression Gasket and Overmolded Strain Reliefs
- Metal Panel Mount Receptacles with integrated HDMI Jack, 4 Hole Flange mounting feature, Integrated Panel Gaskets and available Rubber Dust Caps



Rugged HDMI IP67 Cable to Panel Part Numbers

Part Number	Standard	Mating Style	Termination	Coupling	Cable Length	Dust Cover	Image
MRH-JP01-E19-A00	HDMI	Plug	Cable to IP20 Plug	Metal Bayonet	1m	No	
MRH-JR01-A12-000	HDMI	Receptacle	Cable to IP20 Plug	Metal Bayonet	--	No (Available With Dust Cover)	
MRH-DP01-E19-A00	HDMI	Plug	Cable to IP20 Plug	Thumb Latch	1m	No	
MRH-DR01-A13-000	HDMI	Receptacle	Cable to IP67 Plug	Thumb Latch	--	Yes (Available Without Dust Cover)	

* Other Lengths and Configurations Available – Consult Factory



Cable Length

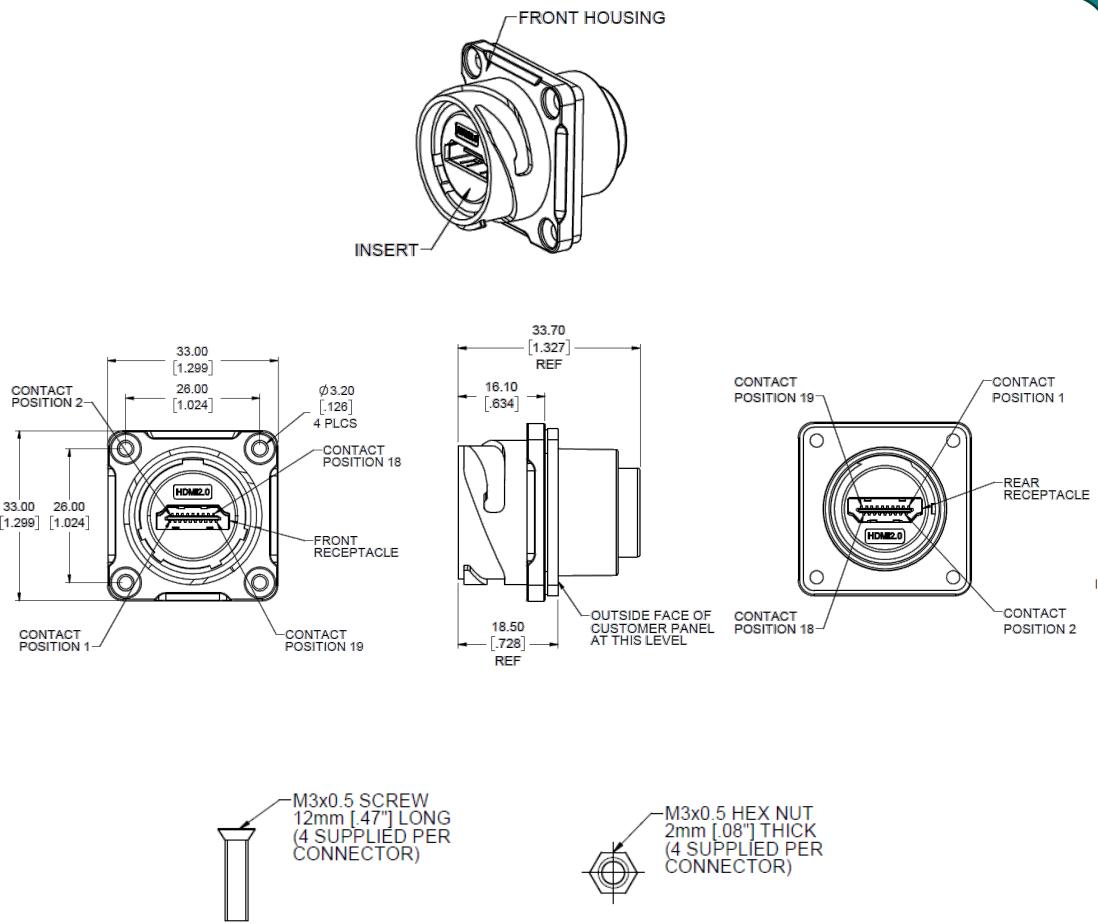
FIRST X		SECOND X	
CODE	METERS	CODE	METERS
A	1.0	0	0
		1	0.1
B	2.0	2	0.2
		3	0.3
C	3.0	4	0.4
		5	0.5
D	4.0	6	0.6
		7	0.7
E	5.0	8	0.8
		9	0.9

Example:

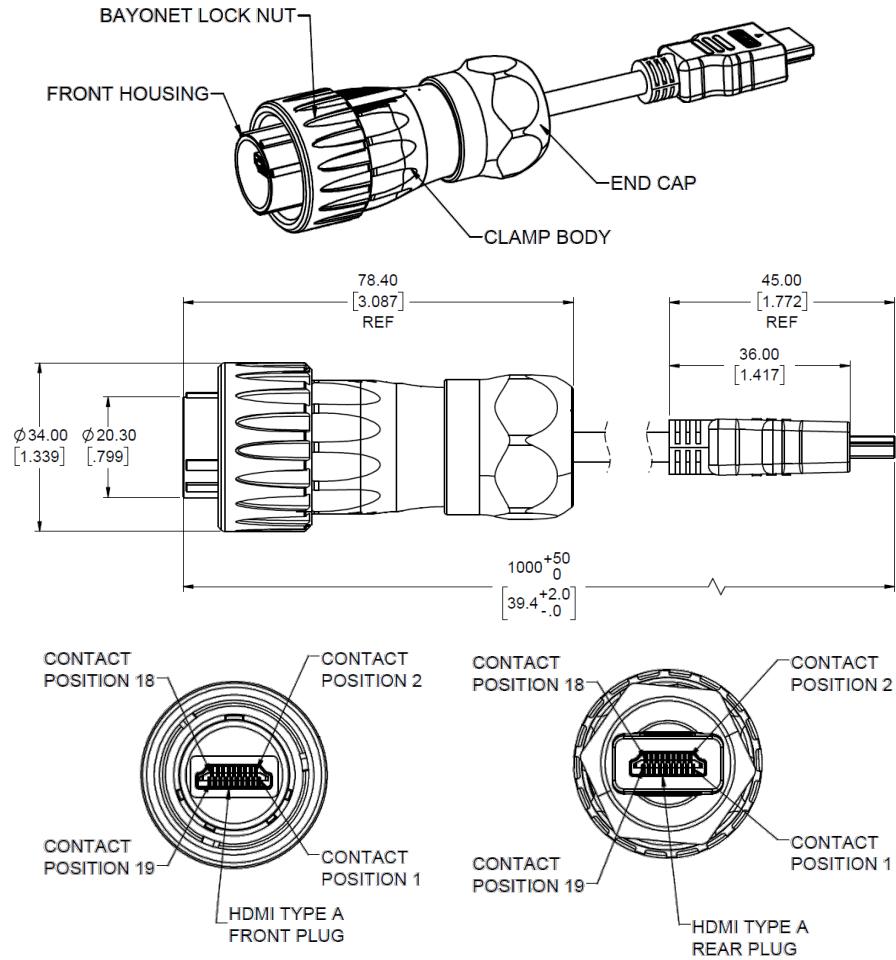
A0 = 1.0m
B7 = 2.7m

- Durability: 1700 Mating Cycles
- Cable: UL AWM 20276 80°C 30V VW-1
- Wire Gauge: 26AWG
- Current rating: 0.5A per Contact
- Voltage rating 5VAC
- Contact Resistance: 30mΩ Max
- DWV: 300 VAC/1 minute @ sea level
- Insulation Resistance: 1000MΩ Min
- Ingress Protection: IP67 Per IEC 60529 in Mated Condition
- Operating Temperature: -40°C to +80°C
- RoHS compliant per EU directive 2011/65/EU and amendments

Metal Bayonet Receptacles

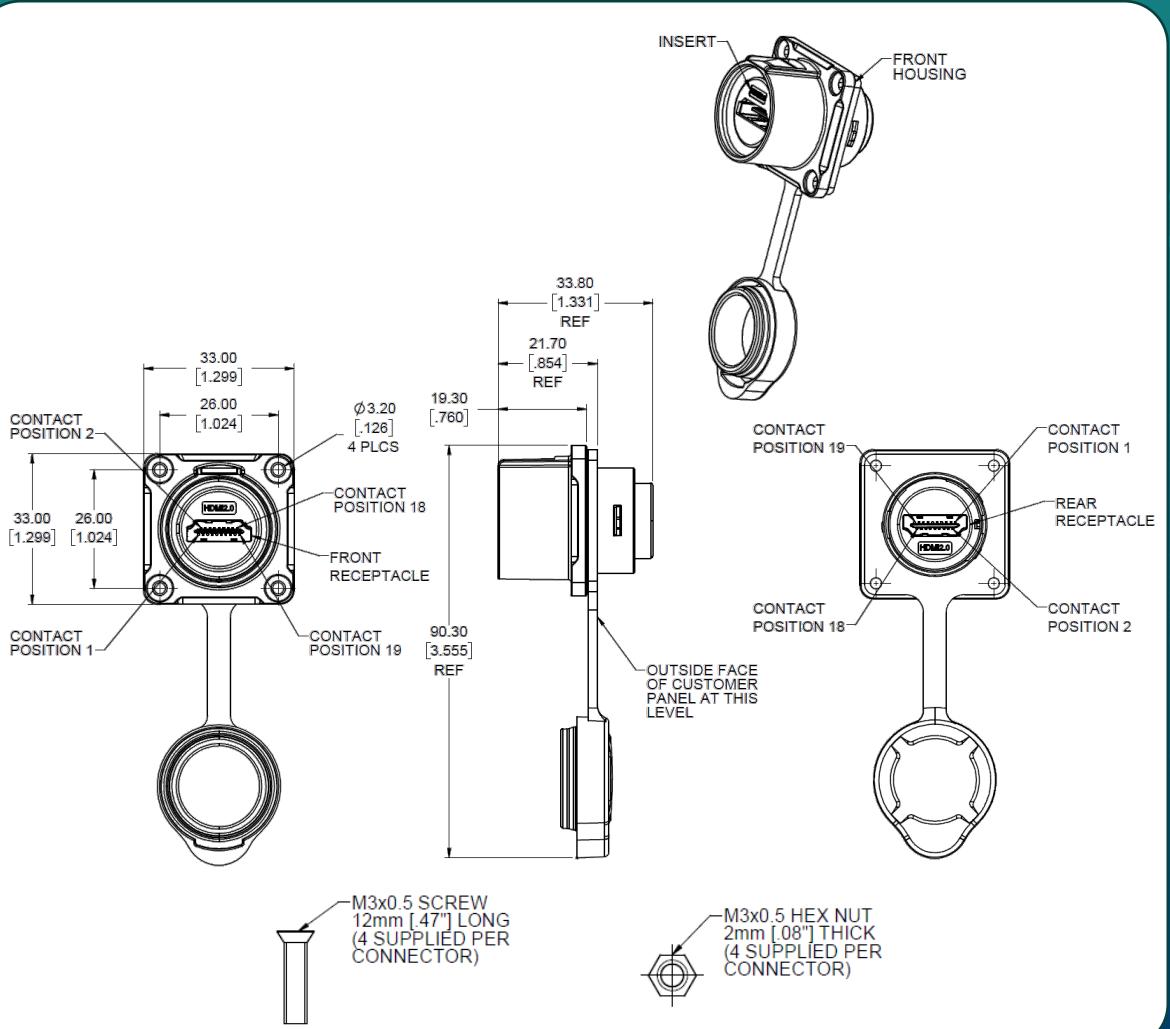


Metal Bayonet Plug Cables

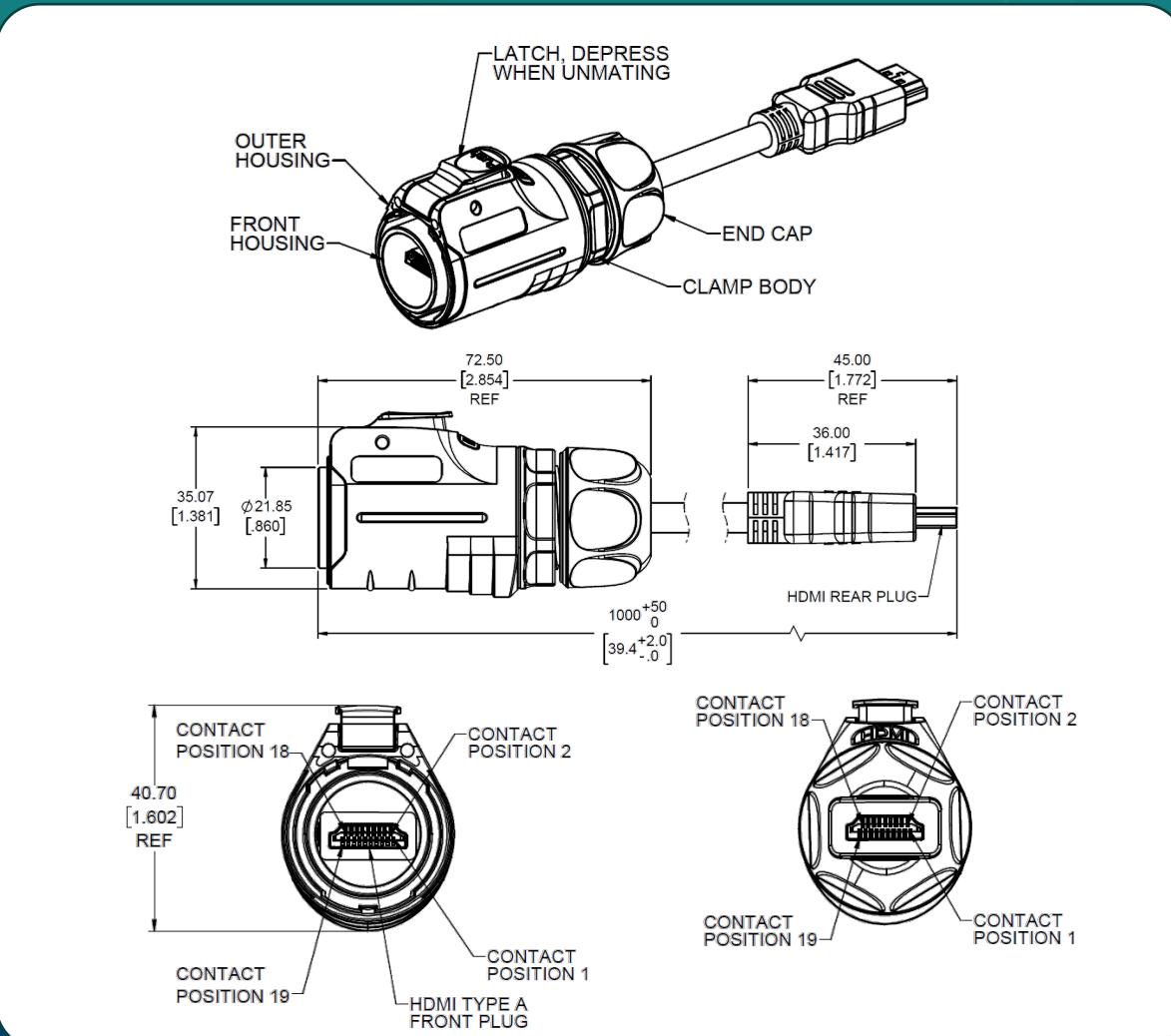


Rugged HDMI IP67 Cable to Panel Specifications

Thumb Latch Receptacles



Thumb Latch Plug Cables



THANK YOU!

For Product Details and Support Needed,
please contact our Product Manager Anas Waheed
anasw@amphenol-acpa.com

Rugged Solutions Landing Page:
[Rugged I/O Connectors | Harsh Environment | IP67 | Waterproof \(amphenol-cs.com\)](http://amphenol-cs.com)



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Industrial**

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