

## SECTION 12

# MINI USB AND USB 2.0-IP67 CONNECTOR SYSTEM

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CONEC has added the Mini-USB connector. This Mini-USB IP67 receptacle and plug family, feature a bayonet coupling for use in harsh environments. The "quick – connect" bayonet locking mechanism provides an audible and noticeable feedback to ensure the user that an IP67 watertight connection is made. No further mounting tool is required to make this simple, fast and robust connection. The product line includes a panel receptacle for PCB installation or termination to a flexible circuit. The overall dimensions are compact and require a 12 mm diameter panel cutout. The pre – terminated patch cables with an overmolded IP67 Mini USB Type B plug and an overmolded USB Type A are available in 2, 3 and 5 m length. The housings for the USB 2.0 Type A connectors have a bayonet latching mechanism according to the IEC 61076-3-106 standard. The housing can be mounted on the front or rear side of enclosure panels with thickness up to 3,2 mm. USB 2.0 plug set with solder termination is available for cable side and there are also preassembled patch cords available in various IP protection grades and lengths.





The housings are available in plastic, metalized plastic and nickel plated zinc die-cast. This robust design with IP67 rating ensures reliable protection and easy connection under harsh environmental conditions. Protective covers are available to keep IP67 protection when not in use.

Custom solutions are available upon request, please contact the factory.

**Typical applications:**

- CNC machines
- Communications equipment
- Outdoor wireless
- Bluetooth adapters
- Industrial process control
- Diagnostic and test instruments
- Outdoor displays
- Factory automation
- Outdoor telecommunications systems
- Oil and gas industries
- Mass transportation
- Outdoor monitoring devices
- Outdoor metering
- Outdoor telecommunication systems



## TECHNICAL DATA

<b>Mechanical and electrical characteristics</b>	
Interface connector	USB Connector per USB 2.0 specification
Locking mechanism	Bayonet locking or screw termination M28 thread
IP Degree of protection	IP67
Temperature range	Connector: -40°C to + 85°C / Patch cable: -40°C to +80°C
Current rating	1.5 A max. at 25°C
Voltage	100 VDC
Contact resistance	30 mΩ max.
Insulation resistance	1000 MΩ
Electric strength contact to contact	500 VAC / 60 sec.
Electric strength contact to metal shell	1000 VAC / 60 sec.
<b>Materials</b>	
Housing	PBT, flame protection per UL 94-V0 or Zinc die-cast nickel plated
Fastening nut	Brass nickel plated
Shell sealing	Silicone
USB Socket metal shell	Steel nickel plated
USB Socket and plug connector plastic shell	PBT, flame protection per UL 94-V0
USB Socket and plug contacts	Phosphor bronze, gold plated
Connector housing	PBT, flame protection per UL 94-V0
Metal socket coupling ring	PBT, flame protection per UL 94-V0 or Zinc die-cast nickel plated
Cable termination	PA, flame protection per UL 94-V0 or brass nickel plated
Cable seal	NBR
Interface seal	Silicone
USB plug connector metal shell	Copper alloy, nickel plated
Protection cap	PBT, flame protection per UL 94-V0 or brass/ zinc die-cast nickel plated
Seal	Silicone
Protection cap	PE or brass/zinc die-cast nickel plated

Technical specifications are subject to change without notice.

# MINI USB 2.0 TYPE B IP67 PANEL MOUNTED RECEPTACLE

PC Tail termination, for rigid or flex circuit



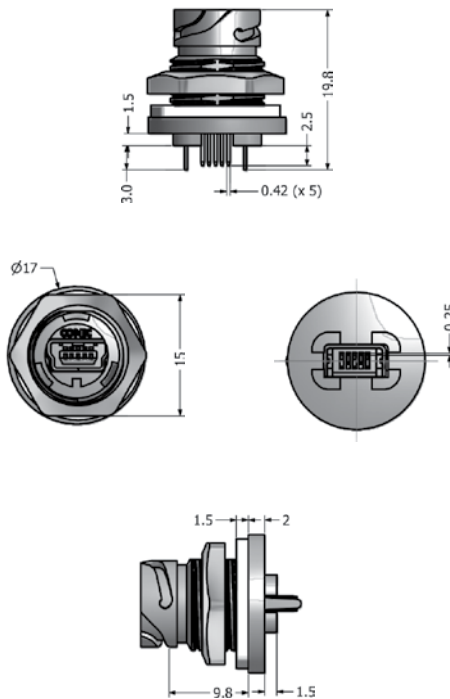
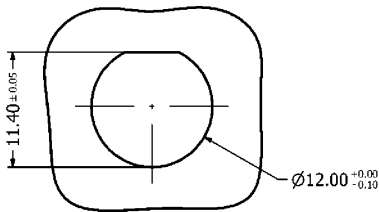
UL listed, File No.: E202784

## DESCRIPTION

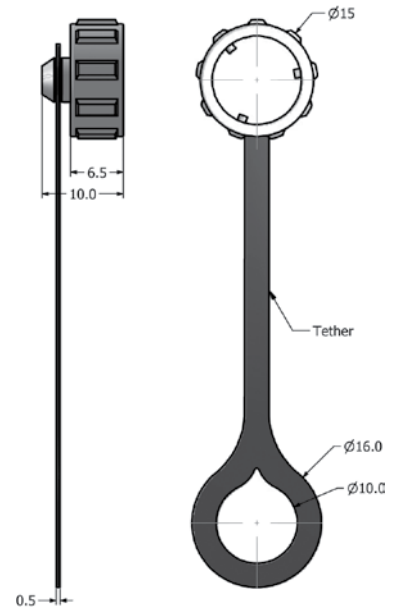
- For rear panel mounting up to wall thickness of 3.2 mm
- Design: Black plastic
- Bayonet locking, IP67 rated in mated condition
- Available as set with protection cap

## PRODUCT DRAWING

Recommended Panel Cutout plastic



Protection cap plastic



## ORDER DATA

Type	Material	Termination	Protection cap	Part Number
Receptacle kit	Black plastic	Bayonet locking	Without protection cap	17-250001
Receptacle kit	Black plastic	Bayonet locking	With protection cap	17-250021
Protection cap	Black plastic	Bayonet locking		17-250010

# MINI USB 2.0 IP67 PATCH CORD

Mini USB 2.0 Type B - Standard USB 2.0 Type A connector



UL listed, File No.: E202784

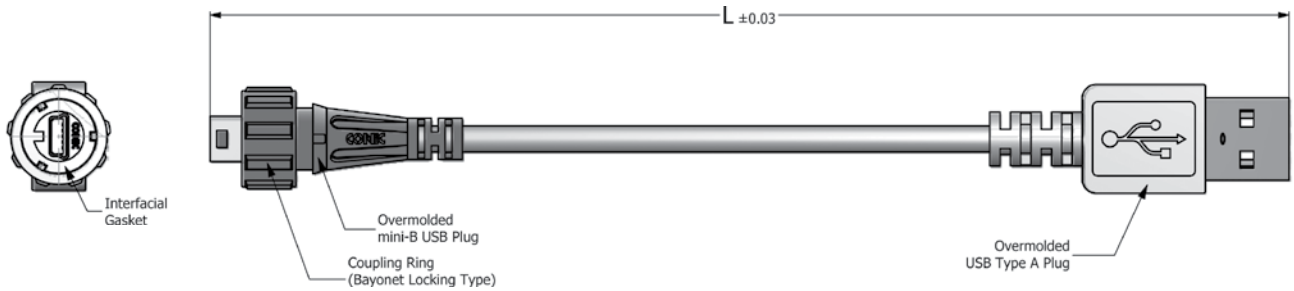
**DESCRIPTION**

- Design: Black plastic
- Bayonet locking, IP67 rated in mated condition

**PRODUCT DRAWING**

IP67-Protection

IP20-Protection



**ORDER DATA**

Type	Material	Termination	Length	Part Number
Patch cord	Black plastic	Bayonet locking	2 m	17-250031
Patch cord	Black plastic	Bayonet locking	3 m	17-250041
Patch cord	Black plastic	Bayonet locking	5 m	17-250051

# USB 2.0 TYPE A IP67 PANEL MOUNTED RECEPTACLE

Inline coupling – Bayonet locking – Plastic or zinc die-cast



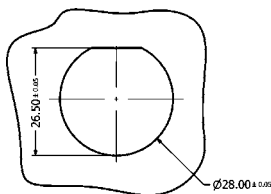
UL listed, File No.: E202784

### DESCRIPTION

- For front- and rear panel mounting up to wall thickness of 3.2 mm
- Design: Black plastic or metallized, zinc die-cast nickel plated
- Termination inside USB 2.0 Type A
- Bayonet locking per IEC 61076-3-106
- IP67-Protection in mated condition
- Available as set with protection cap

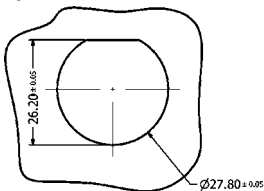
### PRODUCT DRAWING

Recommended Panel Cutout for plastic

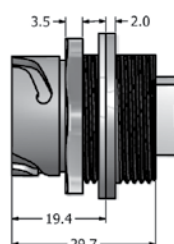
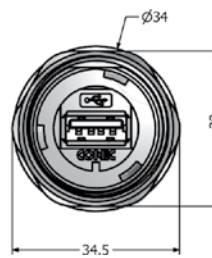
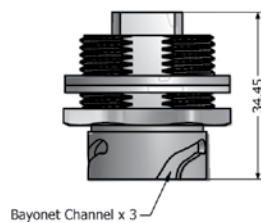
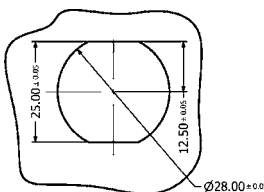


for metal

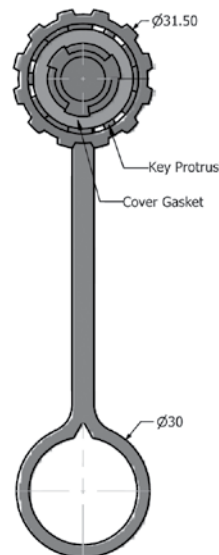
Single-D Panel Cut-out



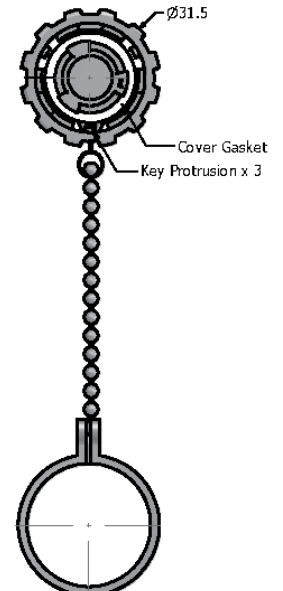
Double-D Panel Cut-out



Protection cap plastic



Protection cap metal



### ORDER DATA

Type	Material	Surface	Protection cap	Part Number
Installation housing set	Plastic	black	Without protection cap	17-200001
Installation housing set	Plastic	black	With protection cap	17-200161
Installation housing set	Plastic	metallized	Without protection cap	17-200011
Installation housing set	Plastic	metallized	With protection cap	17-200721
Installation housing set	Zinc die-cast	nickel plated	Without protection cap	17-200601
Installation housing set	Zinc die-cast	nickel plated	With protection cap	17-200611

# USB 2.0 TYPE A IP67 PANEL MOUNTED RECEPTACLE

Solder termination (PCB) – Bayonet locking – Plastic or zinc die-cast



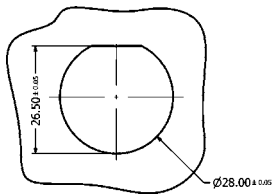
UL listed, File No.: E202784

## DESCRIPTION

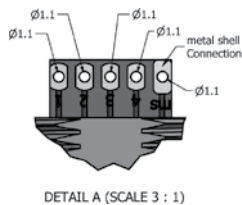
- For front- and rear panel mounting up to wall thickness of 3.2 mm
- Design: Black plastic or metallized, zinc die-cast nickel plated
- Solder termination inside (PCB)
- Bayonet locking per IEC 61076-3-106
- Low profile version for rear panel mounting up to wall thickness of 2.0 mm
- IP67 Protection in mated condition

## PRODUCT DRAWING

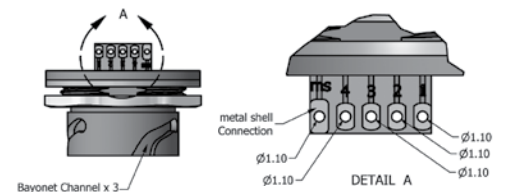
Recommended Panel Cutout for plastic version



Standard version

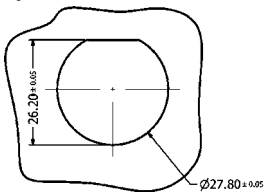


Low profile version

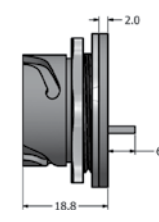
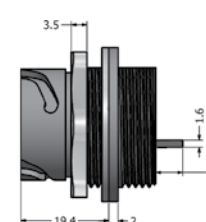
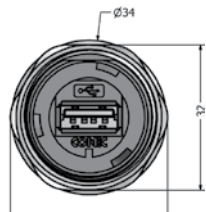
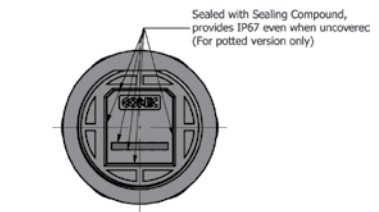
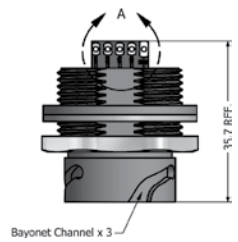
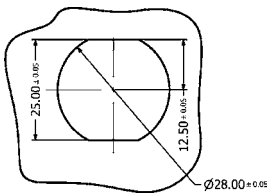


for metal version

Single-D Panel Cut-out



Double-D Panel Cut-out



## ORDER DATA

Type	Material	Surface	Sealing	Part Number
Receptacle connector standard	Plastic	black		17-200881
Receptacle connector standard	Plastic	black	Sealing compound	17-210001
Receptacle connector standard	Plastic	metallized		17-200891
Receptacle connector standard	Plastic	metallized	Sealing compound	17-210011
Receptacle connector standard	Zinc die-cast	nickel plated		17-210151
Receptacle connector standard	Zinc die-cast	nickel plated	Sealing compound	17-210161
Receptacle connector Low profile	Plastic	black		17-210021
Receptacle connector Low profile	Plastic	black	Sealing compound	17-210041
Receptacle connector Low profile	Plastic	metallized		17-210031
Receptacle connector Low profile	Plastic	metallized	Sealing compound	17-210051

# USB 2.0 TYPE A IP67 PANEL MOUNTED RECEPTACLE

Inline coupling – Bayonet locking – Square flange – Zinc die-cast



UL listed, File No.: E202784

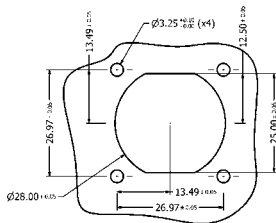
### DESCRIPTION

- For front- and rear panel mounting up to wall thickness of 3.2 mm
- Design: Zinc die-cast nickel plated
- Termination inside USB 2.0 Type A
- Bayonet locking per IEC 61076-3-106
- IP67-Protection in mated condition
- Available as set with protection cap
- Accessories:  
Gasket and mounting hardware can be ordered separately
- Mounting hardware includes  
4x (screw M3 + nut + flat washer + spring washer)

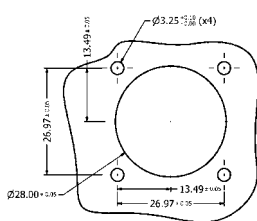
### PRODUCT DRAWING

#### Recommended Panel Cutout

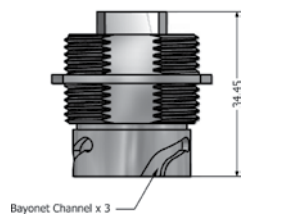
##### Double-D Panel Cut-out



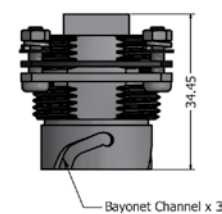
##### Round Panel Cut-out



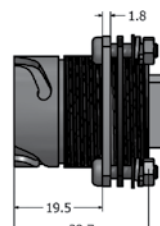
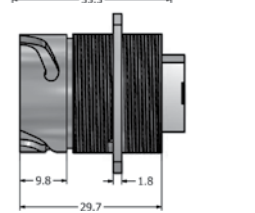
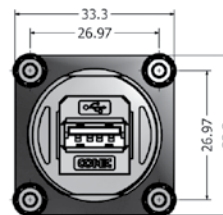
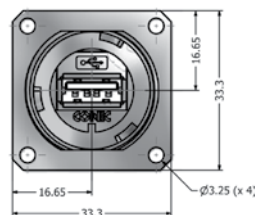
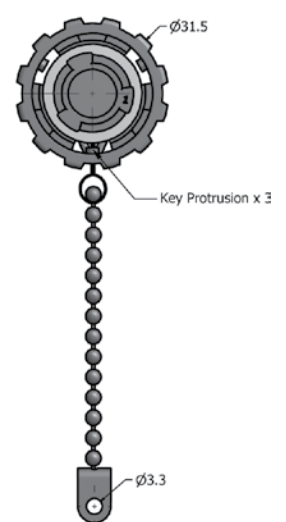
#### without assembly



#### with assembly



#### Protection cap metal



### ORDER DATA

Type	Material	Surface	Protection cap	Part Number
Receptacle without assembly	Zinc die-cast	nickel plated	without Protection cap	17-200781
Panel gasket	Silicone			17-103540
Mounting hardware	Stainless steel			17-103530
Receptacle with assembly	Zinc die-cast	nickel plated	without Protection cap	17-210111
Receptacle with assembly	Zinc die-cast	nickel plated	with Protection cap	17-210121



# USB 2.0 TYPE A IP67 PANEL MOUNTED RECEPTACLE

Inline coupling – both sides Bayonet locking – Plastic



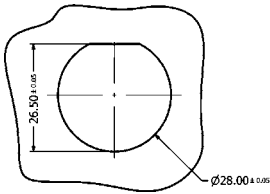
UL listed, File No.: E202784

### DESCRIPTION

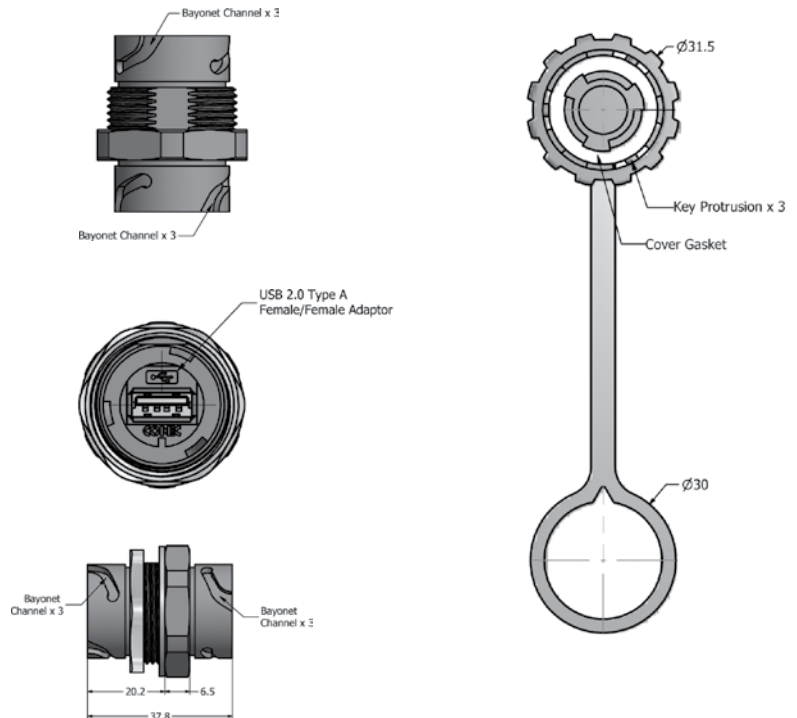
- For front- and rear panel mounting up to wall thickness of 3.2 mm
- Design: Black plastic
- Bayonet locking per IEC 61076-3-106
- IP67 protection in mated condition
- Available as set with protection cap

### PRODUCT DRAWING

Recommended Panel Cutout



Protection cap plastic

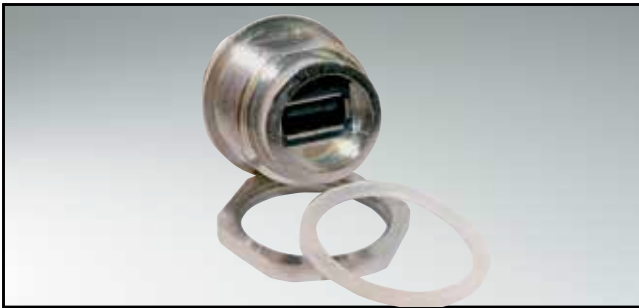


### ORDER DATA

Type	Material	Surface	Protection cap	Part Number
Receptacle	Plastic	black	without Protection cap	17-210131
Receptacle	Plastic	black	with Protection cap	17-210141

# USB 2.0 TYPE A IP67 PANEL MOUNTED RECEPTACLE

Inline coupling – M28 thread– Zinc die-cast



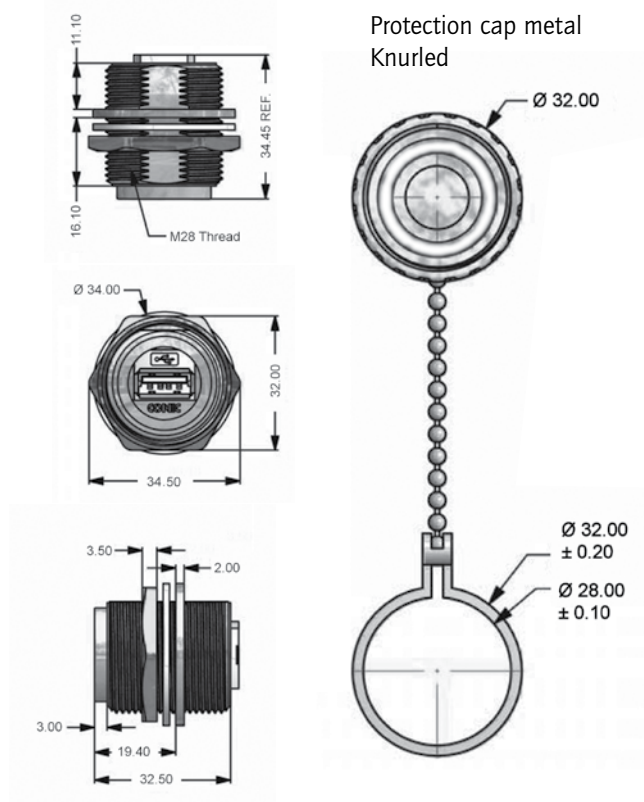
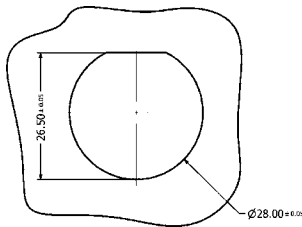
UL listed, File No.: E202784

### DESCRIPTION

- For front- and rear panel mounting up to wall thickness of 3.2 mm
- Design: Zinc die-cast nickel plated
- Termination inside USB 2.0 Type A
- IP67 protection over M28 thread
- Available as set with or without protection cap

### PRODUCT DRAWING

Recommended Panel Cutout

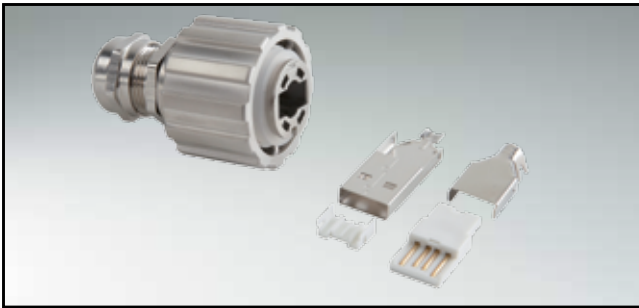


### ORDER DATA

Type	Material	Surface	Design	Protection cap	Part Number
Receptacle	Zinc die-cast	nickel plated	Inline coupling	Without protection cap	17-200321
Receptacle	Zinc die-cast	nickel plated	Inline coupling	With protection cap	17-200431

# USB 2.0 TYPE A IP67 PLUG KIT

Standard version – Bayonet locking – Plastic and metal

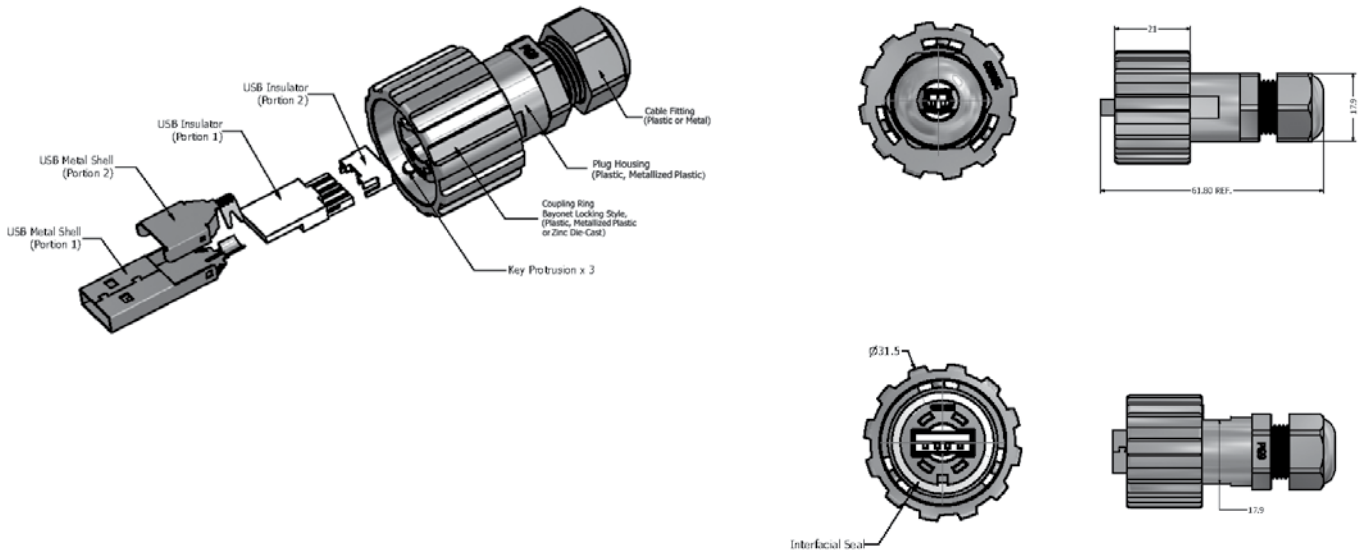


UL listed, File No.: E202784

## DESCRIPTION

- Design: Black plastic and metallized, Zinc die-cast nickel plated
- USB Connector per USB 2.0 specification Type A
- Bayonet locking per IEC 61076-3-106
- USB 2.0 Type A can be ordered separately

## PRODUCT DRAWING

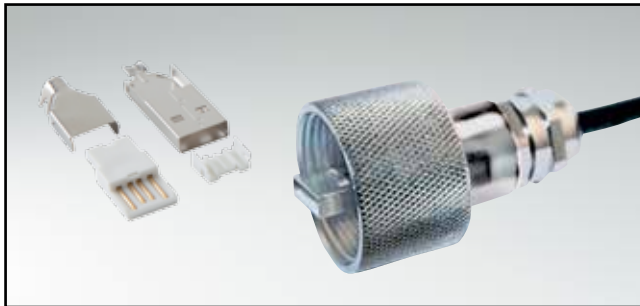


## ORDER DATA

Type	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Part Number
Plug kit	Plastic	Plastic	Plastic	black	17-200121
Plug kit	Plastic	Plastic	Metal	metallized/nickel plated	17-200131
Plug kit	Zinc die-cast	Plastic	Metal	metallized/nickel plated	17-200591
Plug USB 2.0 Type A					39-500101

# USB 2.0 TYPE A IP67 PLUG KIT

Standard-/Strain relief version – M28 thread – Plastic and Metal



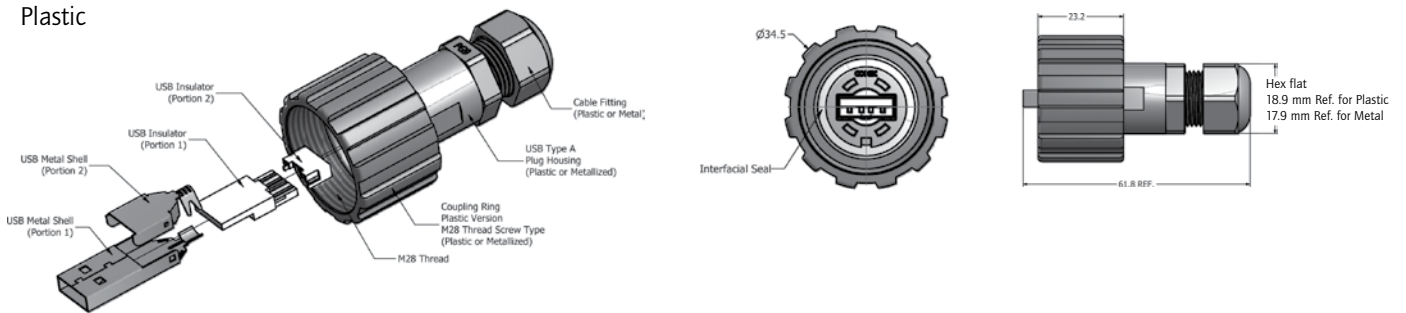
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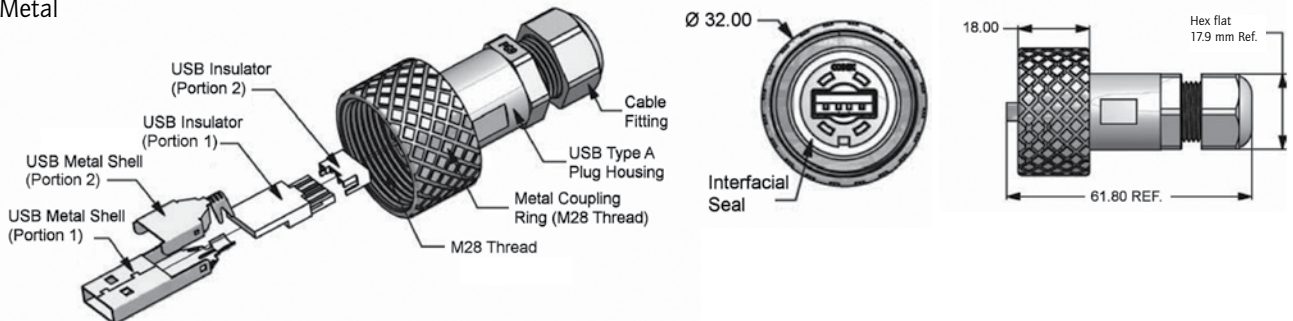
- Strain relief version, threads onto the internal M28 threads of a Receptacle Housing
- Design:
  - Black plastic
  - Metallized plastic
  - Metal version
- USB Connector per USB 2.0 Spezification Type A
- M28 thread
- USB 2.0 Type A can be ordered separately

## PRODUCT DRAWING

Strain relief version  
Plastic



Metal

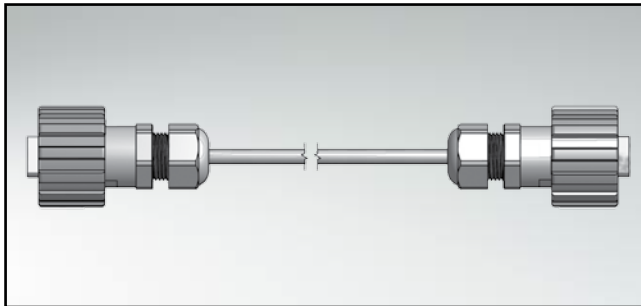


## ORDER DATA

Type	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Part Number
Plug kit	Plastic	Plastic	Plastic	black	17-200151
Plug kit	Plastic	Plastic	Metal	metallized/nickel plated	17-200731
Plug kit	Metal	Plastic	Metal	metallized/nickel plated	17-200331
Plug USB 2.0 Type A					39-500101

# USB 2.0 TYPE A TO TYPE A PATCH CORD

IP67 to IP67 – Bayonet locking



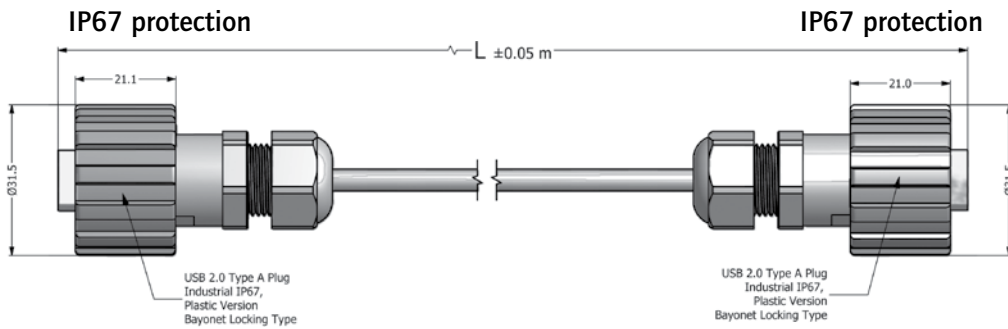
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## DESCRIPTION

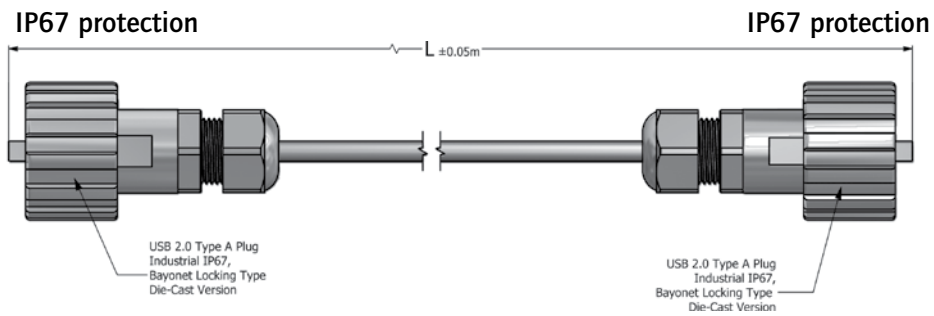
- Assembled patch cord
- Design:
  - Black plastic
  - Zinc die-cast nickel plated
- IP67 protection on both cable ends
- Other lengths on request

## PRODUCT DRAWING

Plastic design



Metal design

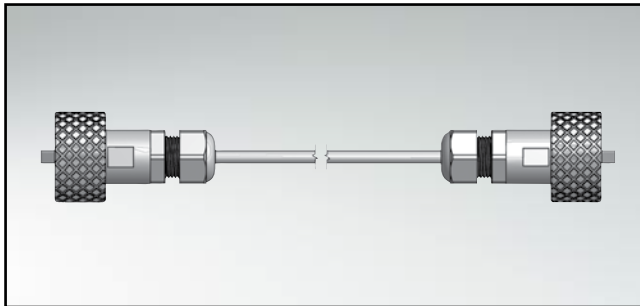


## ORDER DATA

Type	Degree of Protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patch cord	IP67-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200281
Patch cord	IP67-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200291
Patch cord	IP67-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200311
Patch cord	IP67-IP67	Zinc die-cast	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	2 m	17-200621
Patch cord	IP67-IP67	Zinc die-cast	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	3 m	17-200631
Patch cord	IP67-IP67	Zinc die-cast	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	4,5m	17-200641

# USB 2.0 TYPE A TO TYPE A PATCH CORD

IP20 to IP20/IP67 to IP67 – M28 thread



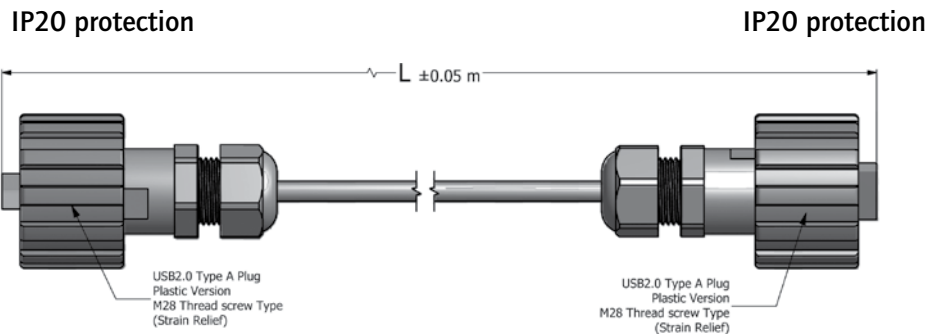
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## DESCRIPTION

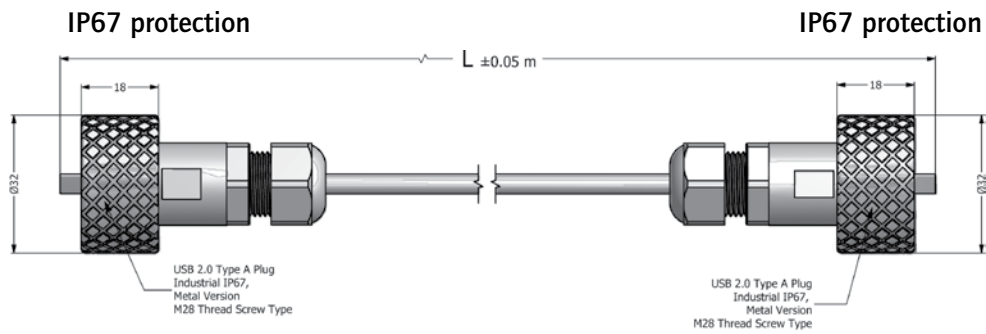
- Assembled patch cord
- Strain relief version  
Design: Black plastic
- IP20 Protection on both cable ends
- Metal version
- IP67 Protection on both cable ends
- Other lengths on request

## PRODUCT DRAWING

Strain relief version  
Plastic



Metal

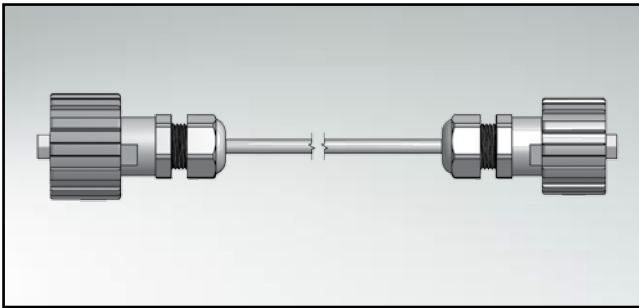


## ORDER DATA

Type	Degree of Protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200811
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200821
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200831
Patch cord	IP67-IP67	Metal	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	2 m	17-200401
Patch cord	IP67-IP67	Metal	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	3 m	17-200411
Patch cord	IP67-IP67	Metal	Plastic	Plastic	metallized/nickel plated/black	AWM 2725, black	4,5m	17-200421

# USB 2.0 TYPE A TO TYPE A PATCHCORD

Strain relief version – IP20 to IP67 – M28 thread/Bayonet locking



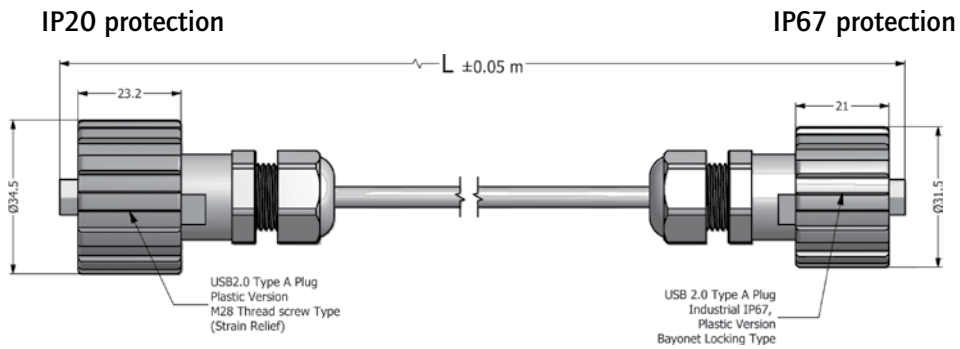
UL listed, File No.: E202784

## DESCRIPTION

- Strain relief version, threads onto the internal M28 threads of a Receptacle Housing
- Assembled patch cord
- Design:
  - Black plastic
- Other lengths on request

## PRODUCT DRAWING

Strain relief version  
Plastic

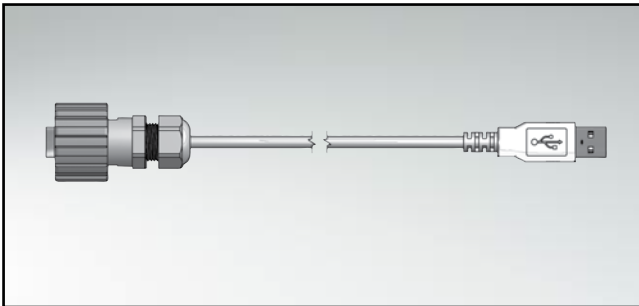


## ORDER DATA

Type	Degree of protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patchcord	IP20-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200541
Patchcord	IP20-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200551
Patchcord	IP20-IP67	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200561

# USB 2.0 TYPE A TO TYPE A PATCH CORD

IP67 to IP20 – Bayonet locking



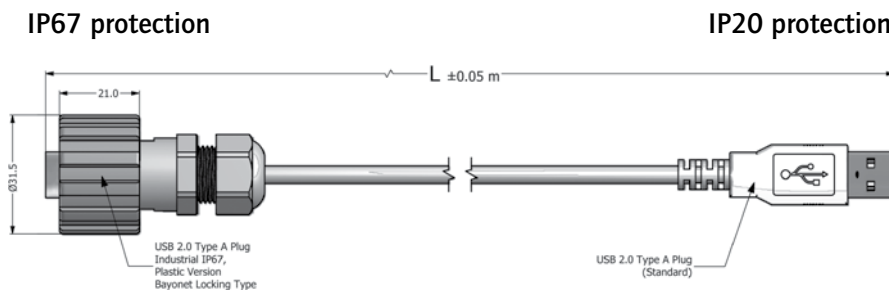
UL listed, File No.: E202784

## DESCRIPTION

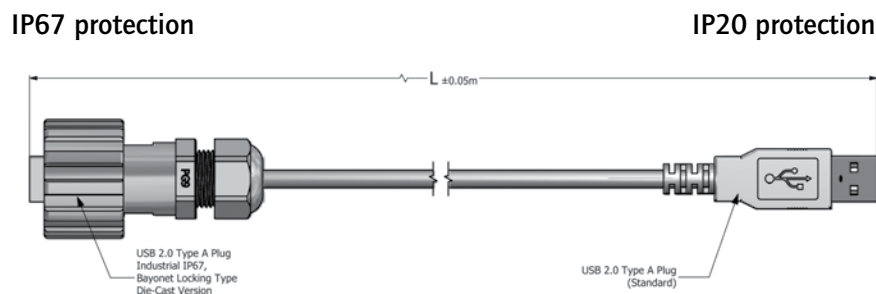
- Assembled patch cord
- USB 2.0 Type A Bayonet locking to USB 2.0 Type A Standard
- Design:
  - Black plastic and metallized
  - Zinc die-cast nickel plated
- Other lengths on request

## PRODUCT DRAWING

Plastic version



Metal version



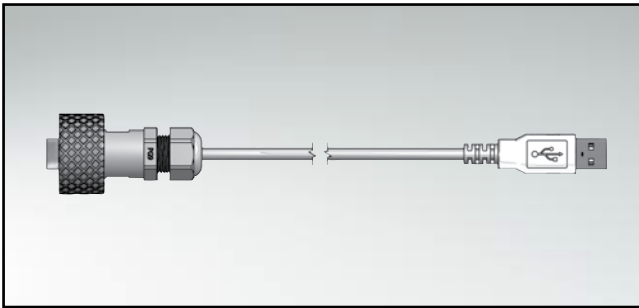
## ORDER DATA

Type	Degree of protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patchcord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200231
Patchcord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200241
Patchcord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200261
Patchcord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	2 m	17-200681
Patchcord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	3 m	17-200691
Patchcord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	4,5m	17-200701



# USB 2.0 TYPE A TO TYPE A PATCH CORD

Strain relief version – IP20 to IP20/IP67 to IP20 – M28 thread



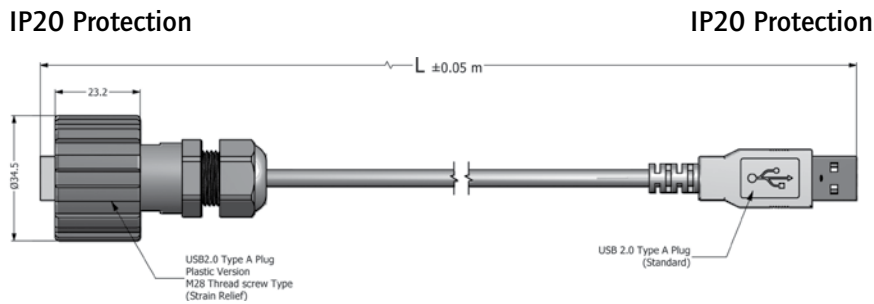
UL listed, File No.: E202784

## DESCRIPTION

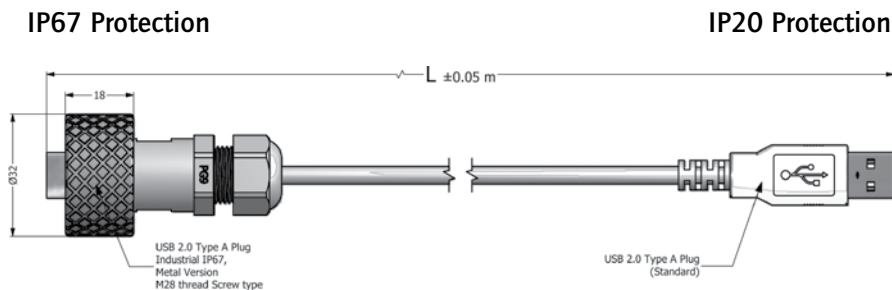
- Strain relief version, threads onto the internal M28 threads of a Receptacle Housing
- Assembled patch cord
- Strain relief version
- Design: Black plastic
- IP20 Protection both cable ends
- Metal version
- IP67 Protection on one cable end
- Other lengths on request

## PRODUCT DRAWING

Strain relief version  
Plastic



Metal

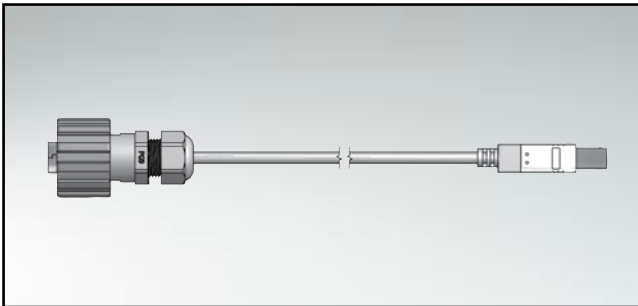


## ORDER DATA

Type	Degree of protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200511
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200521
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200531
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	2 m	17-200371
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	3 m	17-200381
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	4,5m	17-200391

# USB 2.0 TYPE A TO TYPE B PATCH CORD

IP67 to IP20 – Bayonet locking



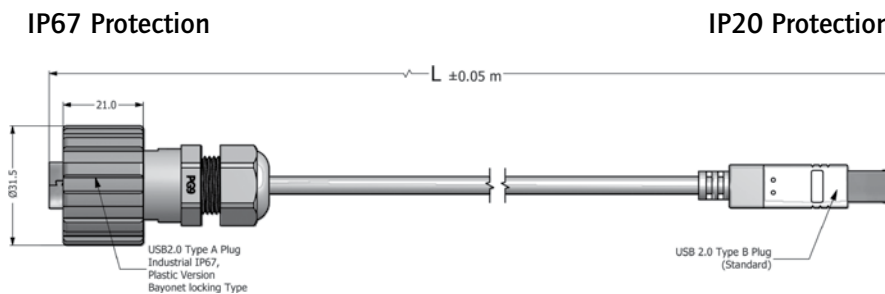
UL listed, File No.: E202784

## DESCRIPTION

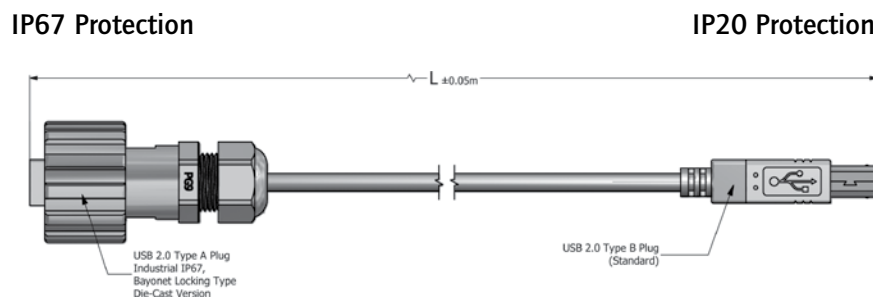
- Assembled patch cord
- USB 2.0 Type A Bayonet locking to USB 2.0 Type B Standard
- Design:
  - Black plastic
  - Zinc die-cast nickel plated
- Other lengths on request

## PRODUCT DRAWING

Plastic design



Metal design

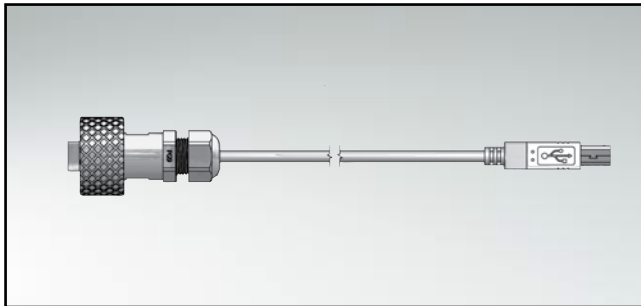


## ORDER DATA

Type	Degree of protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patch cord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200181
Patch cord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200191
Patch cord	IP67-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200211
Patch cord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	2 m	17-200651
Patch cord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	3 m	17-200661
Patch cord	IP67-IP20	Zinc die-cast	Plastic	Metal	metallized/nickel plated	AWM 2725, black	4,5m	17-200671

# USB 2.0 TYPE A TO TYPE B PATCH CORD

Strain relief version – IP20 to IP20/IP67 to IP20 – M28 thread



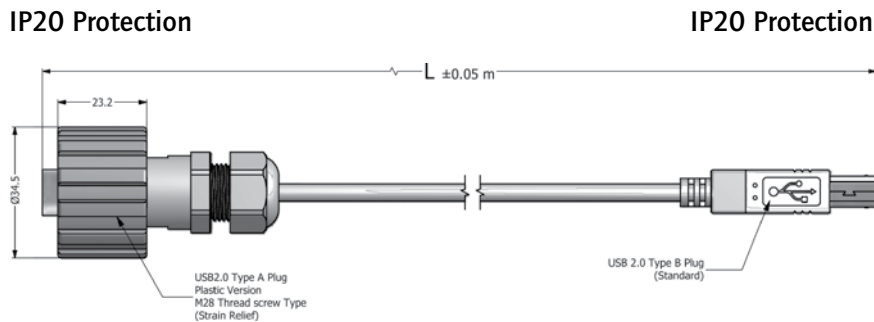
UL listed, File No.: E202784

## DESCRIPTION

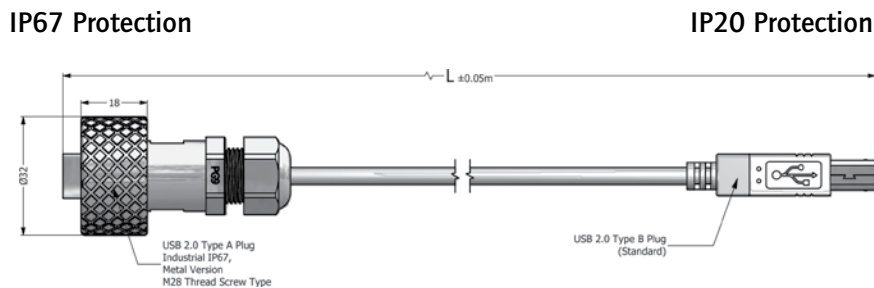
- Strain relief version, threads onto the internal M28 threads of a Receptacle Housing
- Assembled patch cord
- Strain relief version  
Design: Black plastic
- IP20 Protection both cable ends
- Metal version
- IP67 Protection on one cable end
- Other lengths on request

## PRODUCT DRAWING

Strain relief version  
Plastic



Metal

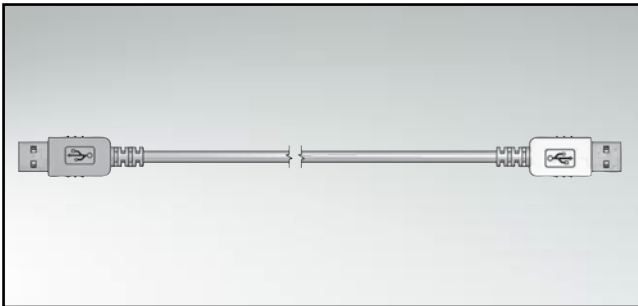


## ORDER DATA

Type	Degree of protection	Material Coupling ring	Material Housing	Material Cable fitting	Surface	Cable	Length (L)	Part Number
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	2 m	17-200481
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	3 m	17-200491
Patch cord	IP20-IP20	Plastic	Plastic	Plastic	black	AWM 2725, black	4,5m	17-200501
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	2 m	17-200341
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	3 m	17-200351
Patch cord	IP67-IP20	Metal	Plastic	Metal	metallized/nickel plated	AWM 2725, black	4,5m	17-200361

# USB 2.0 TYPE A TO TYPE A OR TYPE B PATCH CORD

IP20 to IP20



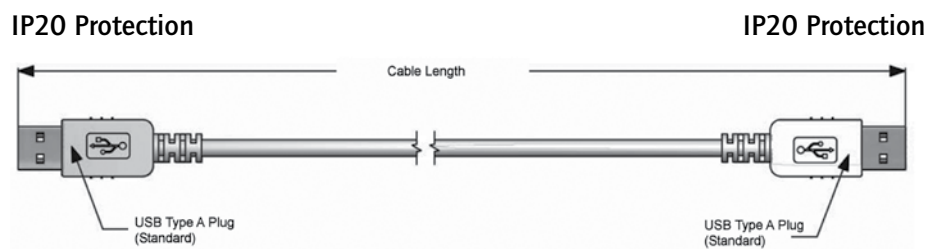
UL listed, File No.: E202784

### DESCRIPTION

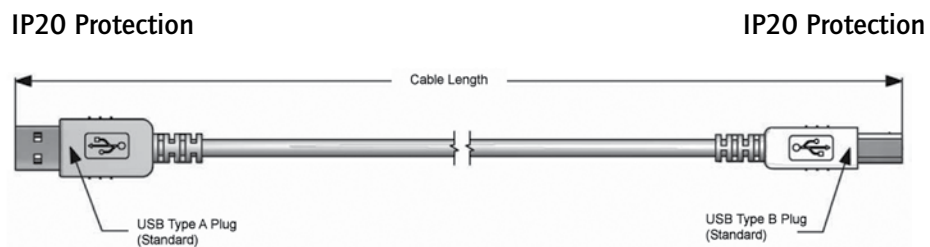
- Assembled patch cord
- IP20 Protection on both cable ends
- USB 2.0 Connector Type A to Typ A or Type A to Type B
- Other lengths on request

### PRODUCT DRAWING

Type A to type A



Type A to type B



### ORDER DATA

Type	Degree of protection	Material	Cable	Length (L)	Part Number
Patch cord	IP20 Type A-IP20 Type A	Plastic	AWM 2725, black	2 m	17-201031
Patch cord	IP20 Type A-IP20 Type A	Plastic	AWM 2725, black	3 m	17-201041
Patch cord	IP20 Type A-IP20 Type A	Plastic	AWM 2725, black	4,5m	17-201061
Patch cord	IP20 Type A-IP20 Type B	Plastic	AWM 2725, black	2 m	17-201081
Patch cord	IP20 Type A-IP20 Type B	Plastic	AWM 2725, black	3 m	17-201091
Patch cord	IP20 Type A-IP20 Type B	Plastic	AWM 2725, black	4,5m	17-201111