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## SECTION 13

# USB 2.0-IP67 WATER RESISTANT CONNECTOR SYSTEM

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CONEC completed its product line of bayonet locking series, IP67 rated industrial USB 2.0 connector system for harsh environments.

The housing can be mounted on the front or rear side of enclosure panels with thickness up to 3.2 mm. The USB Connector are designed to meet USB 2.0 specification.

This interface meets IP67 rating requirements when a mating connector is inserted or when covered with a secured protective cap.

USB 2.0 plug set is available for the cable side and there are also preassembled patch cords available in various IP protection designs and lengths.

The program is rounded out by a metal version for heavy duty applications.

In this case the installation sockets, plug sets and protective caps have a metal jacket with M28 thread design. Applications for this version include machine tool, automation, automotive, mass transportation and extreme harsh environmental applications..





**Typical applications:**

- Industrial production, CNC machines
- Communications equipment
- Food & Beverage and chemical controllers process
- 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
- Upsevation platform



## TECHNICAL DATA

<b>Mechanical and electrical characteristics</b>	
Interface connector	USB Connector per USB 2.0 specification
Locking mechanism	Bayonet socket connector per IEC 61076-3-106 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	500 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 (black), flame protection per UL 94-V0 or brass nickel plated
Fastening nut	Brass nickel plated
Shell sealing	Silicone (white)
USB Socket metal shell	SPCC nickel plated
USB Socket and plug connector plastic shell	PBT (white), flame protection per UL 94-V0
USB Socket and plug contacts	Phosphor bronze, gold plated
Connector housing	PBT (black), flame protection per UL 94-V0
Metal socket coupling ring	PBT (black), flame protection per UL 94-V0 or brass nickel plated
Cable termination	PA (black), flame protection per UL 94-V0 or brass nickel plated
Cable seal	NBR (black)
Interface seal	Silicone (white)
USB plug connector metal shell	Copper alloy, nickel plated
Protection cap	PBT (black), flame protection per UL 94-V0 or brass nickel plated
Seal	Silicone (red)
Protection cap	PE (black) or copper alloy nickel plated

Technical alterations are subject to change without notice.

# USB 2.0 INSTALLATION HOUSING-SET

Socket connector version – Plastic design – Bayonet locking type

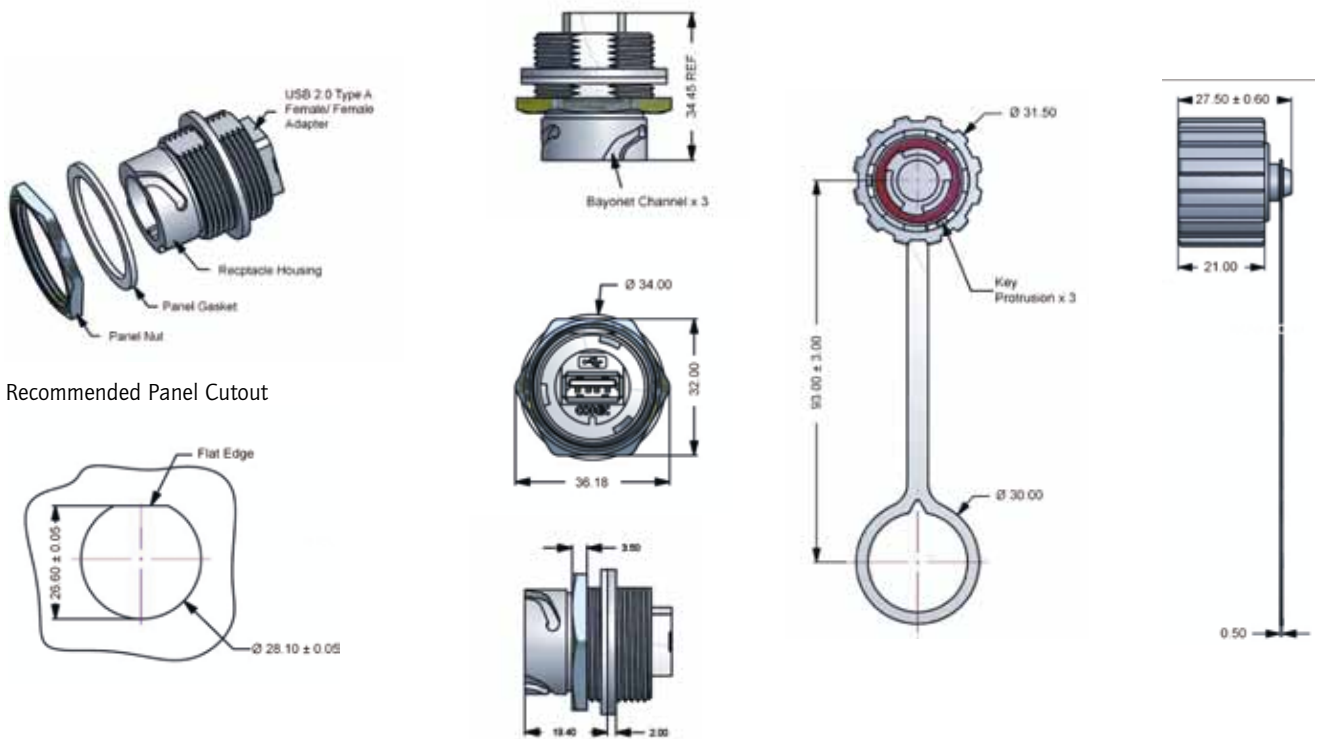


RoHS compliant

### DESCRIPTION

- For front- and rear panel mounting up to wall thickness of .013"/3.2 mm
- Design: Black plastic
- Termination with USB 2.0 type A coupler, IP20 rated
- Bayonet locking per IEC 61076-3-106
- Available as housing with or without protection cap

### PRODUCT DRAWING



### ORDER DATA

Type	Material	Termination	Protection cap	Part Number
Installation housing	Black plastic	Bayonet locking	Without protection cap	17-200001
Installation housing	Black plastic	Bayonet locking	With protection cap	17-200161

# USB 2.0 CONNECTOR SET

Standard version – Bayonet locking type

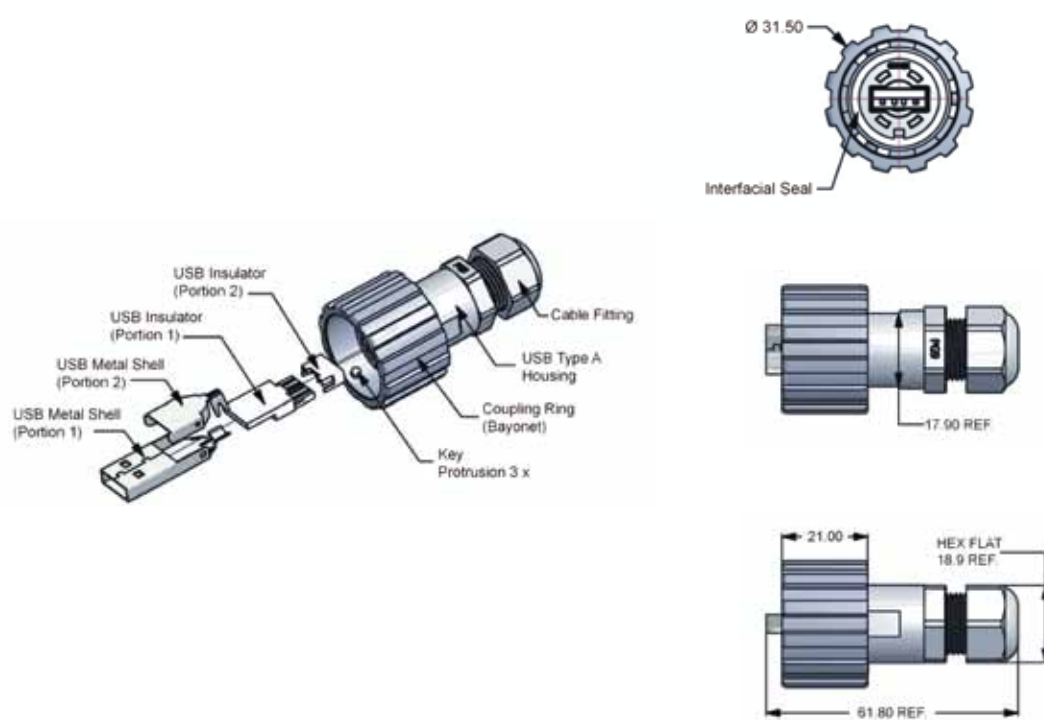


RoHS compliant

## DESCRIPTION

- Design: Black plastic
- USB Connector per USB 2.0 specification Type A
- Bayonet locking per IEC 61076-3-106

## PRODUCT DRAWING

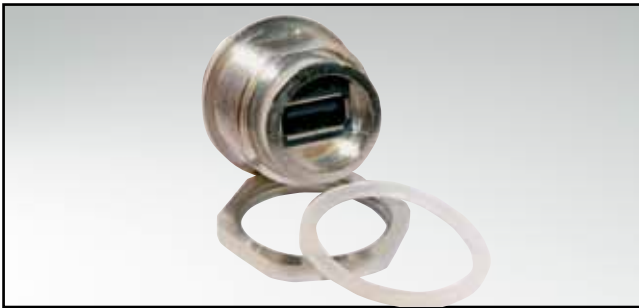


## ORDER DATA

Type	Material	Termination	Part Number
Connector set	Black plastic	Bayonet locking	17-200121

# USB 2.0 INSTALLATION HOUSING SET

Socket connector version – Metal design – M28 thread

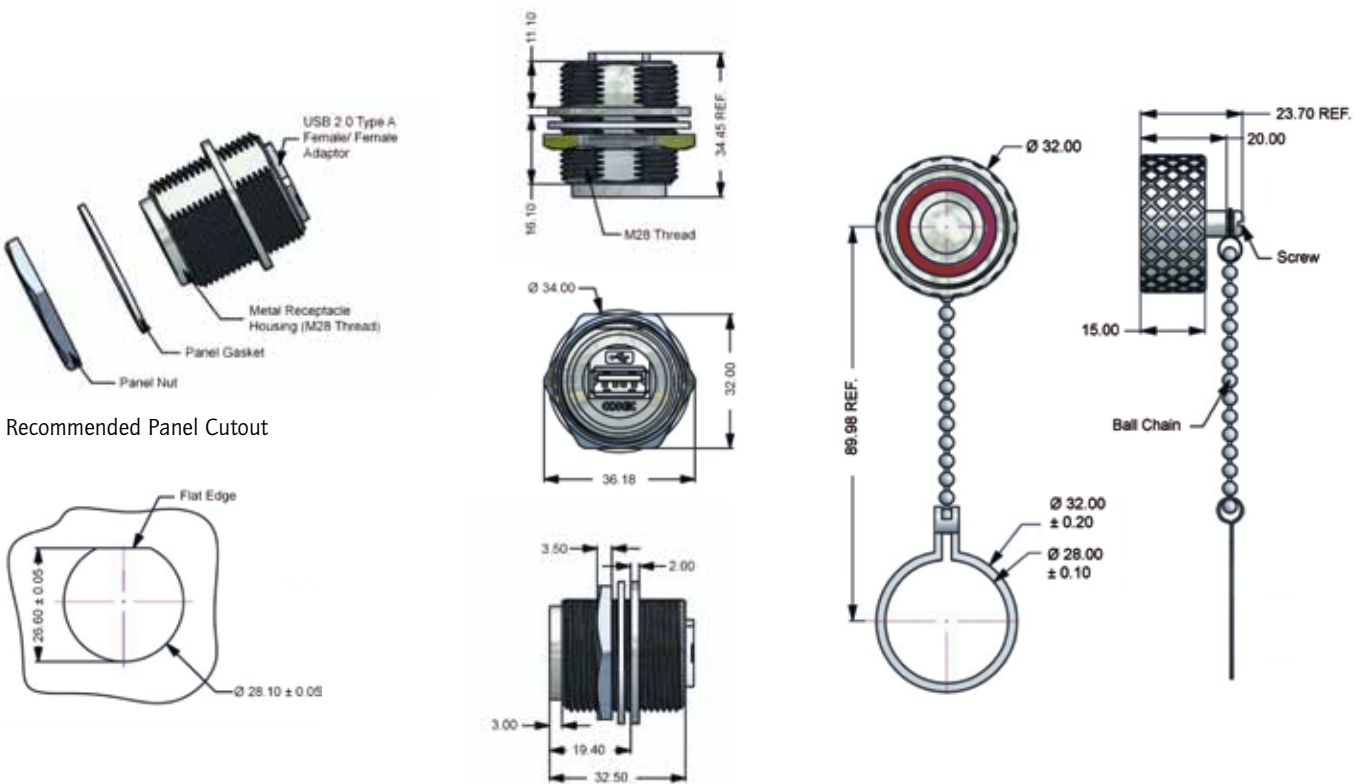


RoHS compliant

## DESCRIPTION

- For front- and rear panel mounting
- Design: Metal shell brass nickel plated
- Termination with USB 2.0 type A coupler, IP20 rated
- IP67 protection over M28 thread termination
- Available as housing with or without protection cap

## PRODUCT DRAWING



## ORDER DATA

Type	Material	Termination	Protection cap	Part Number
Installation housing	Brass nickel plated	M28 Thread	Without protection cap	17-200321
Installation housing	Brass nickel plated	M28 Thread	With protection cap	17-200431

# USB 2.0 CONNECTOR SET

Standard version – M28 thread

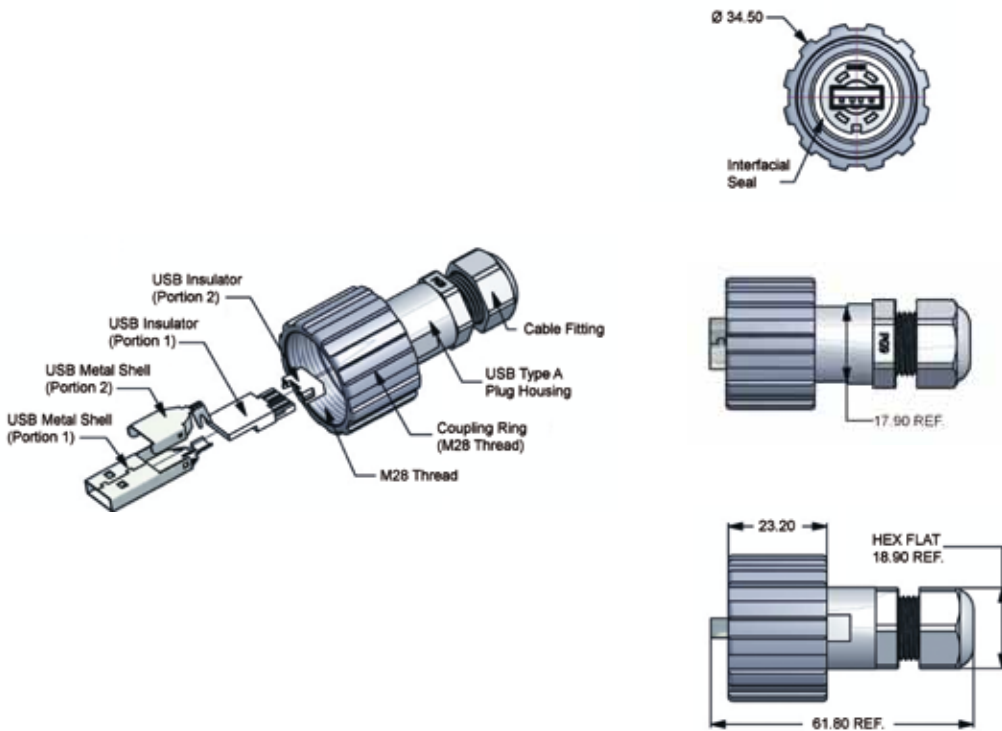


RoHS compliant

## DESCRIPTION

- Design: Black plastic
- USB Connector per USB 2.0 specification Type A
- M28 thread

## PRODUCT DRAWING



## ORDER DATA

Type	Material	Termination	Part Number
Connector set	Black plastic	M28 Thread	17-200151

# USB 2.0 CONNECTOR SET

Metal version – M28 thread

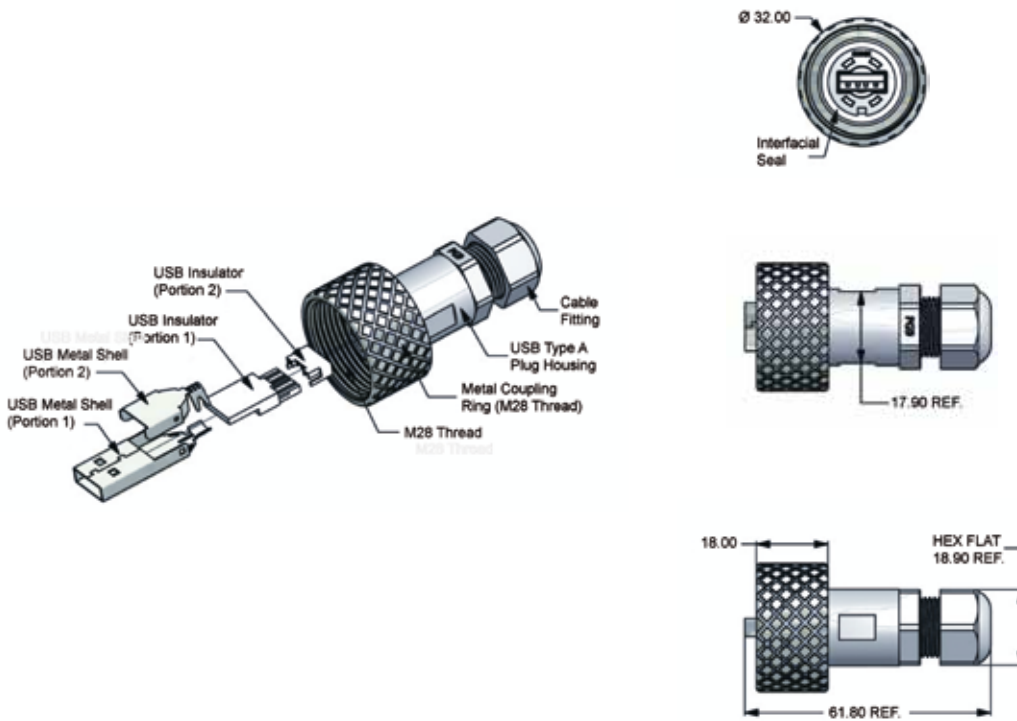


RoHS compliant

## DESCRIPTION

- Design: Metal, brass nickel plated
- USB Connector per USB 2.0 specification Type A
- M28 thread

## PRODUCT DRAWING



## ORDER DATA

Type	Material	Termination	Part Number
Connector set	Brass nickel plated	M28 Screw termination	17-200331

# USB 2.0 PROTECTION CAPS FOR INSTALLATION SHELL

Plastic- and metal design



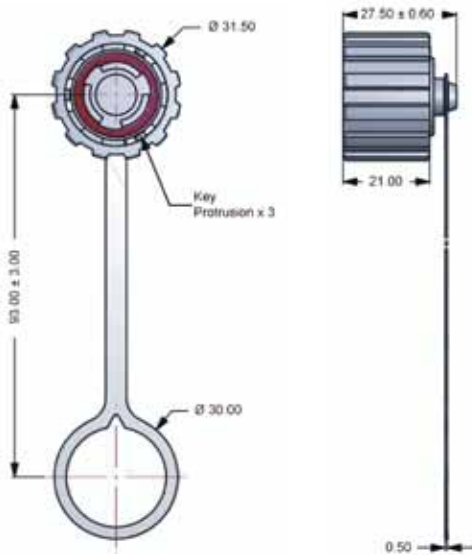
RoHS compliant

## DESCRIPTION

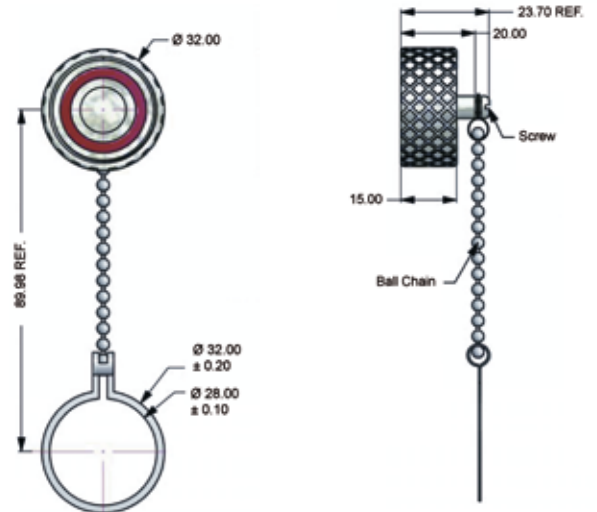
- Optimal IP67 protection of the interface in unmated condition
- Metal design with M28 thread
- Plastic design with bayonet locking

## PRODUCT DRAWING

Plastic design / Bayonet locking



Metal design / M28 thread

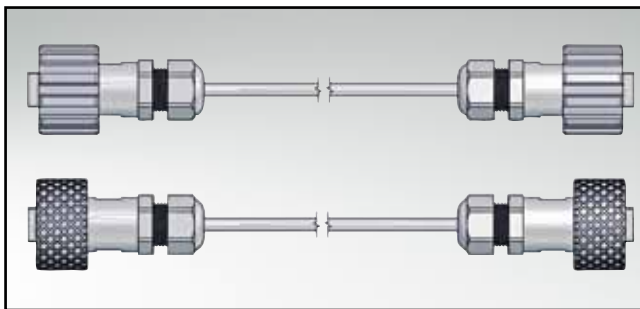


## ORDER DATA

Type	Material	Termination	Part Number
Protection cap	Plastic/ Black	Bayonet locking	17-10002
Protection cap	Metal/ Brass nickel plated	M28 Thread	17-100950

# USB 2.0 PATCH CORD

IP67 to IP67 – Type A



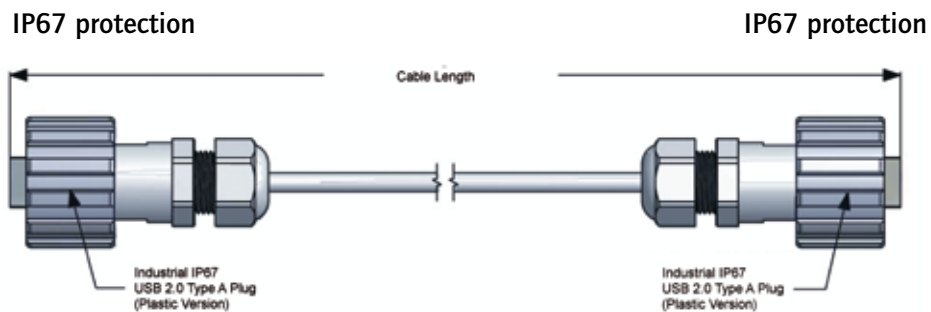
RoHS compliant

## DESCRIPTION

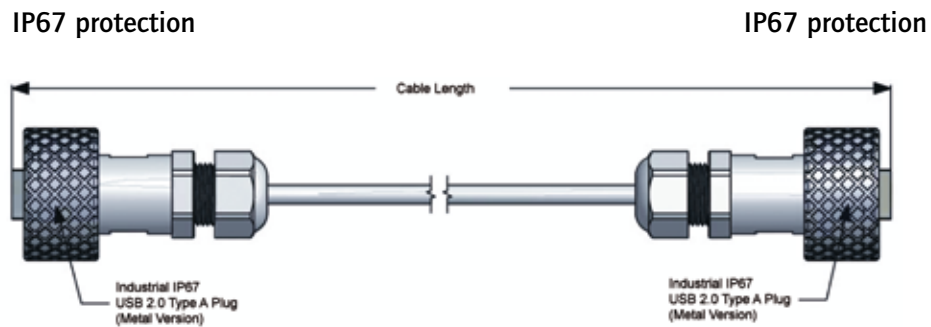
- Field attachable patch cord
- IP67 protection on both cable endings
- Plastic design with bayonet locking
- Metal design with M28 thread
- Special lengths on request

## PRODUCT DRAWING

Plastic design (Bayonet locking)



Metal design (M28 thread)

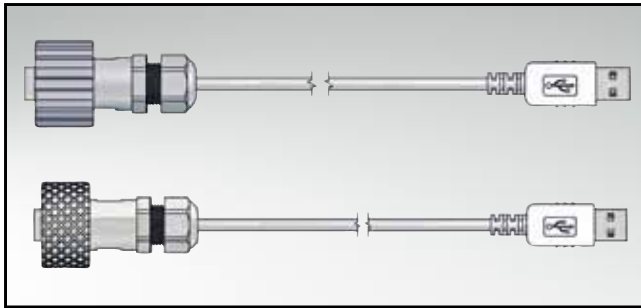


## ORDER DATA

Type	Degree of protection	Material	Cable	Length	Part Number
Patch cord	IP67-IP67	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200281
Patch cord	IP67-IP67	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200291
Patch cord	IP67-IP67	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200311
Patch cord	IP67-IP67	Metal/ Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200401
Patch cord	IP67-IP67	Metal/ Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200411
Patch cord	IP67-IP67	Metal/ Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200421

# USB 2.0 PATCH CORD

IP67 to IP20 – Type A



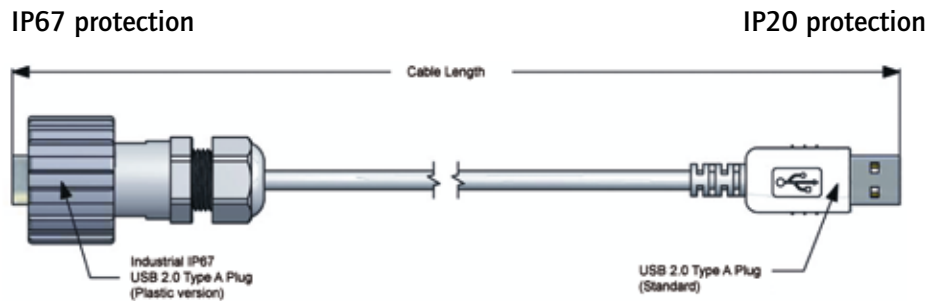
RoHS compliant

## DESCRIPTION

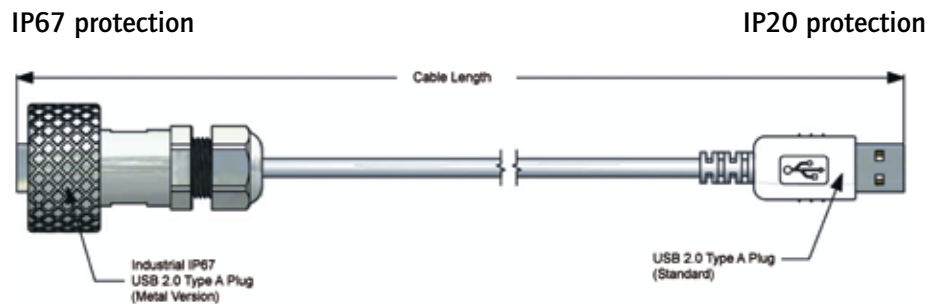
- Field attachable patch cord
- IP67 protected at one end and IP20 rated on the other end
- Plastic design with bayonet locking
- Metal design with M28 thread
- Special lengths on request

## PRODUCT DRAWING

Plastic design (Bayonet locking)



Metal design (M28 thread)

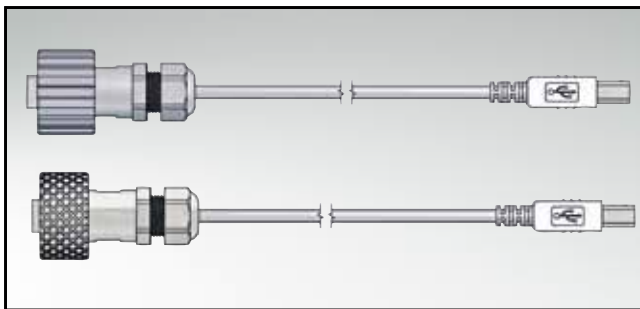


## ORDER DATA

Type	Degree of protection	Material	Cable	Length	Part Number
Patch cord	IP67-IP20 type A	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200231
Patch cord	IP67-IP20 type A	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200241
Patch cord	IP67-IP20 type A	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200261
Patch cord	IP67-IP20 type A	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200371
Patch cord	IP67-IP20 type A	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200381
Patch cord	IP67-IP20 type A	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200391

# USB 2.0 PATCH CORD

IP67 to IP20 – Type B



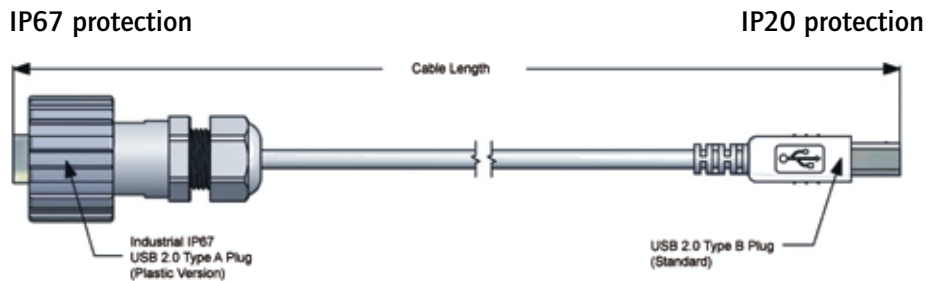
RoHS compliant

## DESCRIPTION

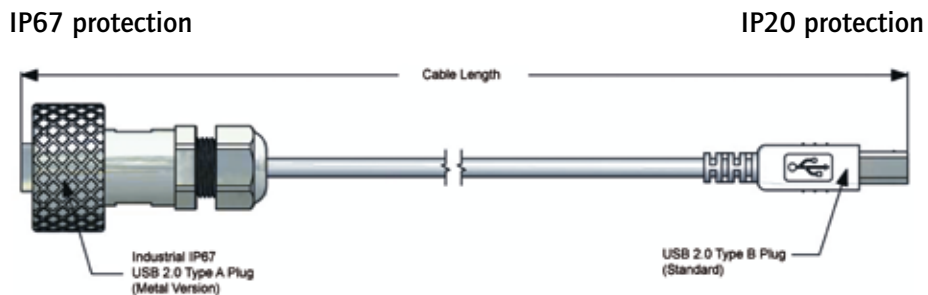
- Field attachable patch cord
- IP67 protected at one end and IP20 rated on the other end
- Plastic design with bayonet locking
- Metal design with M28 thread
- Special lengths on request

## PRODUCT DRAWING

Plastic design (Bayonet locking)



Metal design (M28 thread)

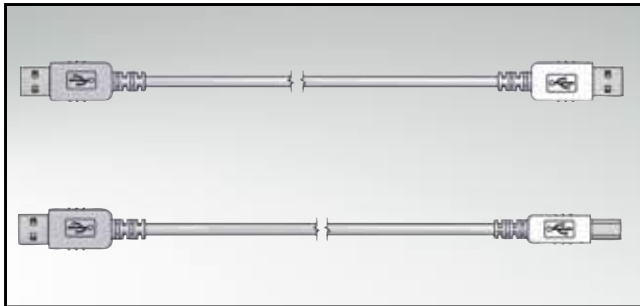


## ORDER DATA

Type	Degree of protection	Material	Cable	Length	Part Number
Patch cord	IP67-IP20 type B	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200181
Patch cord	IP67-IP20 type B	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200191
Patch cord	IP67-IP20 type B	Black/Plastic	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200211
Patch cord	IP67-IP20 type B	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	2 m	17-200341
Patch cord	IP67-IP20 type B	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	3 m	17-200351
Patch cord	IP67-IP20 type B	Metal/Brass nickel plated	AWM2725 AWG 28/1p and AWG 24/2c, black	4.5m	17-200361

# USB 2.0 PATCH CORD

IP20 to IP20



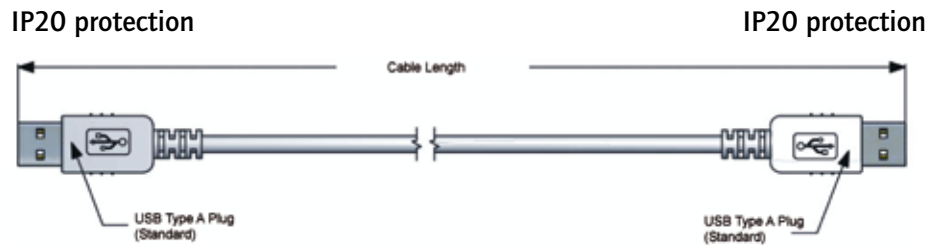
RoHS compliant

## DESCRIPTION

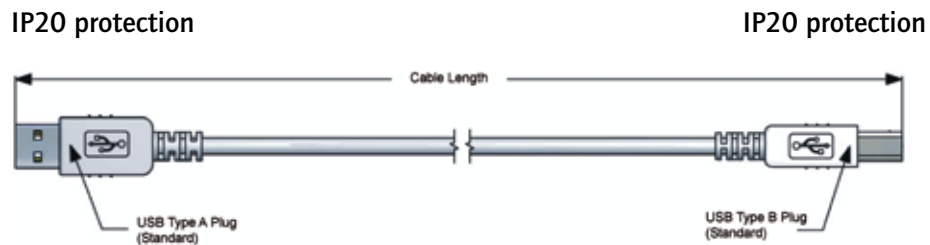
- Field attachable patch cord
- Double-sided plug connector in IP20 design
- USB 2.0 connector type A to type A or type A to type B
- Special lengths on request

## PRODUCT DRAWING

Type A to type A



Type A to type B



## ORDER DATA

Type	Degree of protection	Material	Cable	Length	Part Number
Patch cord	IP20 type A-IP20 type A	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	2 m	17-201031
Patch cord	IP20 type A-IP20 type A	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	3 m	17-201041
Patch cord	IP20 type A-IP20 type A	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	4.5m	17-201061
Patch cord	IP20 type A-IP20 type B	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	2 m	17-201081
Patch cord	IP20 type A-IP20 type B	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	3 m	17-201091
Patch cord	IP20 type A-IP20 type B	Plastic	AWM2725 AWG 28/ 1p and AWG 24/ 2c, black	4.5m	17-201111

CONEC IP67 PROTECTION



# When the Going Gets Tough.

CONEC Connectors with IP67 protection:  
Benefit from or thirty years of experience with  
"waterproof" connectors.

USB 2.0 and RJ45 connectors, plastic and full metal version, are developed specially for application among harsh industrial environmental conditions - they offer reliable protection

The wide product range contains field attachable plug connectors and installation shell sets in different connection technologies, complete patch cables as well as reasonable accessory.

USB 2.0- and RJ45 connector systems from CONEC:  
Quality keeps connected!



RJ 45 Cat.5e  
Connector and shell sets,  
bayonet termination, plastic design



RJ 45 Cat.5e  
connector and shell sets,  
bayonet termination, plastic metallized



RJ 45 Cat.5e  
connector and shell sets,  
M28 thread termination, full metal design



USB 2.0  
connector and shell sets,  
bayonet termination, plastic design



USB 2.0  
Connector and shell sets,  
M28 thread termination, full metal design

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TECHNOLOGY IN CONNECTORS<sup>™</sup>