bulgin
an INFINIT® brand

6000 Series USB is a range of waterproof circular connectors that combine an easy to use 30 degree quick turn locking mechanism with proven environmental sealing. Our type 'A' or 'B' USB cable assemblies and panel mount receptacles enable simple and reliable plug and play connections in harsh environments.

Available in rugged plastic bodies, this IP68/69K sealed USB connector range is ideal for applications where ingress of dust and water must be avoided and where ease of connection, space and appearance are important considerations.

30° twist locking
Tamperproof lock prevents accidental un-mating

IP68 and IP69K when mated
Suitable for a wide range of dust and water borne environments

Independent sealing tests
IP Ratings independently verified

USB version 3.0 performance
High speed bus connection, up to 5Gbps

Plug and play capability
Hot pluggable, USB 2.0 with 4 contact interface,
USB 3.0 with 9 contact interface

Single and double ended cables
Suitable for PCB and peripheral configuration

Push-pull latching system
Secure, instant latching. Quick connector mating and release

Visual mating indication
Alignment indicator reduces risk of damage during mating

EN60068-2-52 Test Kb Salt Mist (Cyclic)
Marine Severity Level 1

6000 Series - USB Buccaneer
USB Thermo Plastic

bulgin
an INFINIT◉ brand

Sealed USB Cables - Single Ended

PXP6040/A

PXP6040/B

PXP6040/AA

PXP6040/AA3

PXP6040/AC

- Single ended sealed cable assembly
- Mates with equivalent panel mounting connectors
- 30° twist locking
- Available in 2m, 3m & 5m lengths
- Three offerings:
- IP68 rated 'A' type USB 2.0 connector to standard 'A' type USB connector, mates with all 'A' type panel mount connectors
- IP68 rated 'A' type USB 3.0 connector to standard 'A' type USB connector, mates with all 'A' type panel mount connectors
- IP68 rated 'A' type USB 3.0 connector to standard 'C' type USB connector (USB C connector for use with device side only), mates with all 'A' type panel mount connectors.
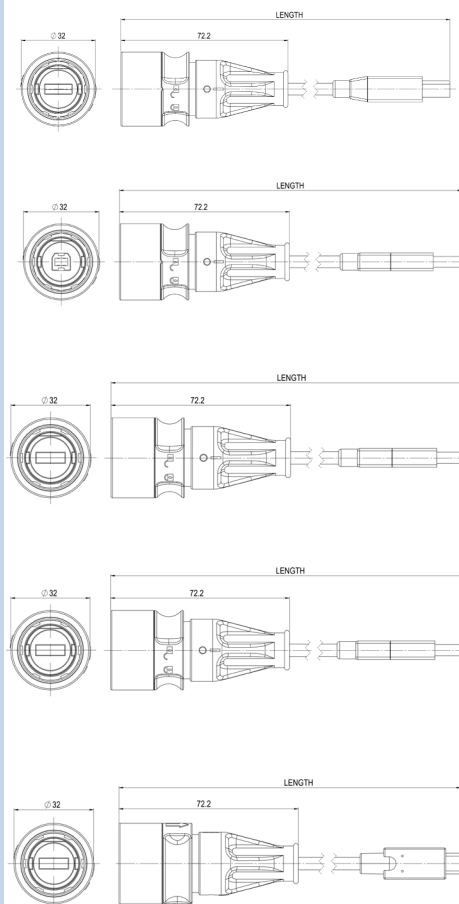
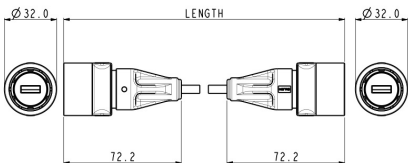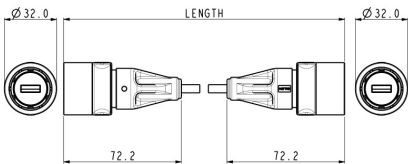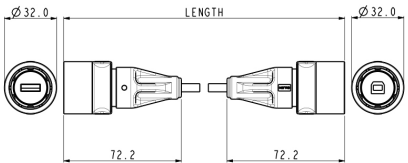| Part no	Length	Description
PXP6040/A/2M00	2m	IP68 rated A type USB to standard B type USB (USB 2.0)
PXP6040/A/3M00	3m	IP68 rated A type USB to standard B type USB (USB 2.0)
PXP6040/A/5M00	5m	IP68 rated A type USB to standard B type USB (USB 2.0)
PXP6040/B/2M00	2m	IP68 rated B type USB to standard A type USB (USB 2.0)
PXP6040/B/3M00	3m	IP68 rated B type USB to standard A type USB (USB 2.0)
PXP6040/B/5M00	5m	IP68 rated B type USB to standard A type USB (USB 2.0)
PXP6040/AA/2M00	2m	IP68 rated A type USB to Standard A type USB (USB 2.0)
PXP6040/AA/3M00	3m	IP68 rated A type USB to Standard A type USB (USB 2.0)
PXP6040/AA/5M00	5m	IP68 rated A type USB to Standard A type USB (USB 2.0)
PXP6040/AA3/2M00	2m	IP68 rated A type USB to Standard A type USB (USB 3.0)
PXP6040/AA3/3M00	3m	IP68 rated A type USB to Standard A type USB (USB 3.0)
PXP6040/AA3/5M00	5m	IP68 rated A type USB to Standard A type USB (USB 3.0)
PXP6040/AC/2M00	2m	IP68 rated A type USB to Standard C type USB (USB 3.0)
PXP6040/AC/3M00	3m	IP68 rated A type USB to Standard C type USB (USB 3.0)
PXP6040/AC/5M00	5m	IP68 rated A type USB to Standard C type USB (USB 3.0)

Sealed USB Cables - Double Ended

PXP6041/AB

PXP6041/AA

PXP6041/AA3

- Double ended sealed cable assembly
- Mates with equivalent panel mount connectors
- 30° twist locking
- IP68 rated "A' type USB 3.0 connector to IP68 rated 'A' type USB 3.0 connector, mates with all 'A' type panel mount connectors
- Available in 2m, 3m & 5m lengths

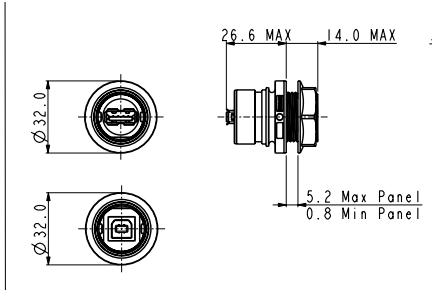| Part no	Length	Description
PXP6041/AB/2M00	2m	IP68 rated A type USB to IP68 rated B type USB (USB 2.0)
PXP6041/AB/3M00	3m	IP68 rated A type USB to IP68 rated B type USB (USB 2.0)
PXP6041/AB/5M00	5m	IP68 rated A type USB to IP68 rated B type USB (USB 2.0)
PXP6041/AA/2M00	2m	IP68 rated A type USB to IP68 rated A type USB (USB 2.0)
PXP6041/AA/3M00	3m	IP68 rated A type USB to IP68 rated A type USB (USB 2.0)
PXP6041/AA/5M00	5m	IP68 rated A type USB to IP68 rated A type USB (USB 2.0)
PXP6041/AA3/2M00	2m	IP68 rated A type USB to IP68 rated A type USB (USB 3.0)
PXP6041/AA3/3M00	3m	IP68 rated A type USB to IP68 rated A type USB (USB 3.0)
PXP6041/AA3/5M00	5m	IP68 rated A type USB to IP68 rated A type USB (USB 3.0)

6000 Series - USB Buccaneer

bulgin
an INFINIT∞ brand

Front Panel Mounting Connector

- PXP6042/A - USB 'A' type IP68 rated connector
- PXP6042/B - USB 'B' type IP68 rated connector
- Mates with PXP6040 and PXP6041 cable connectors

PXP6042/A
PXP6042/B

PXP6042/AA
PXP6042/AA3

26.6 MAX   14.0 MAX
Ø 32.0
Ø 32.0
5.2 Max Panel
0.8 Min Panel

Part no	Description
PXP6042/A	IP68 rated A type USB to standard B type USB (USB 2.0)
PXP6042/B	IP68 rated B type USB to standard A type USB (USB 2.0)
PXP6042/AA	IP68 rated A type USB to standard A type USB (USB 2.0)
PXP6042/AA3	IP68 rated A type USB to standard A type USB (USB 3.0)

Front Panel Mounting Connector

- PXP6043/A - USB 'A' type IP68 rated connector
- PXP6043/B - USB 'B' type IP68 rated connector
- PXP6043/AA3 - USB 'A3' type IP68 rated connector
- Leaded with 5 or 10 way crimp connector
- Mates with PXP6040 and PXP6041 cable connectors

PXP6043/A
PXP6043/B

PXP6043/AA3

26.6 MAX   14.0 MAX   3.5
Ø 32.0
Ø 32.0
R13.5
Ø 22.5
5.2 Max Panel
0.8 Min Panel
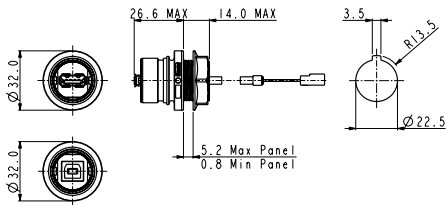
Part no	Description
PXP6043/A	IP68 rated A type USB, front panel mounted. Sealed A type at front of panel, 5 way crimp connector at rear (USB 2.0)
PXP6043/B	IP68 rated B type USB, front panel mounted. Sealed B type at front of panel, 5 way crimp connector at rear (USB 2.0)
PXP6043/AA3	IP68 rated A type USB, front panel mounted. Sealed A type at front of panel, 10 way crimp connector at rear (USB 3.0)

bulgin
an INFINITE brand
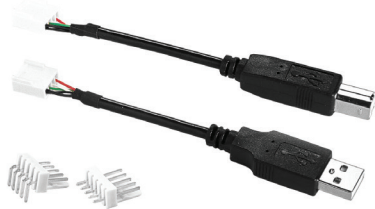
PCB Adaptor Leads

- Standard A and B type USB connectors to 5 way crimp adaptor leads
- 5 way headers, 2.54mm pitch, horizontal or vertical mounting
- Standard A type USB 3.0 to 10-way crimp adaptor leads
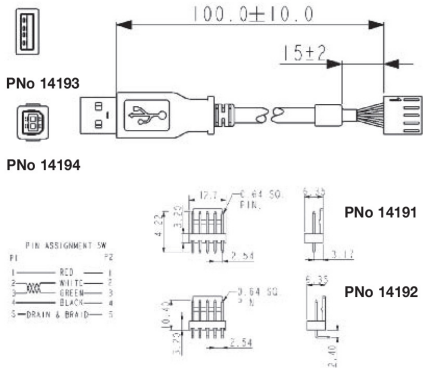
Part no		Description
14193		USB 2.0 'A' type to 5 way crimp connector
14194		USB 2.0 'B' type to 5 way crimp connector
100286		USB 3.0 'A' type to 10 way crimp connector
14191		5 way PCB header straight
14192		5 way PCB header right angle
100287		10 way PCB header straight
100288		10 way PCB header right angle

Sealing Caps

- Sealing caps to maintain IP rating when connectors are not in use
- PXP6081 for cable connectors
- PXP6083 for front panel mount connectors with 30° twist lock
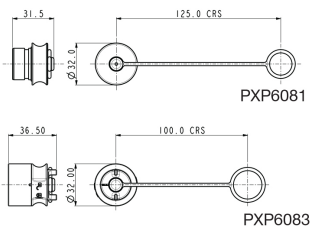
PXP6081 & PXP6083

Part no		Description
PXP6081		Sealing Cap for Flex cable connectors
PXP6083		Sealing Cap for front panel mounting connectors

bulgin
an INFINITE brand

PXP	/	6XXX	/ X or XX or XXX /	XXXX

Series Designation	Series / Body Style	Characteristics	Cable length
	040 = Single ended cable 041 = Double ended cable 042 = Panel with adaptor 043 = Panel with lead	A = 'A' type sealed to 'B' type open interface (USB 2.0) B = 'B' type sealed to 'A' type open interface (USB 2.0) AA = 'A' type to 'A' type open or sealed interfaces (USB 2.0) AA3 = 'A' type to 'A' type open or sealed interfaces (USB 3.0) AB = 'A' type sealed to 'B' type open interface (USB 2.0) AC = 'A' type sealed to 'C' type open interface (USB 3.0)	2M00 = 2 metre cable length (for use with 6040 and 6041 cables only) 3M00 = 3 metre cable length (for use with 6040 and 6041 cables only) 5M00 = 5 metre cable length (for use with 6040 and 6041 cables only) Blank for 6042 & 6043 panel bodies

Examples

PXP6040/A/2M00 = Cable assembly with sealed 'A' type connector to unsealed 'B' type connector, 2 metres long

PXP6042/A = Panel mounted adapter with sealed 'A' type to unsealed 'B' type at rear
PXP6042/AA = Panel mounted adapter with sealed 'A' type to unsealed 'A' type (USB 2.0) at rear
PXP6042/AA3 = Panel mounted adapter with sealed 'A' type to unsealed 'A' type (USB 3.0) at rear

Cables & connectors

Mechanical
Sealing	IP69K, DIN40050-9
	IP68, EN60529:1992+A2:2013
	(10m depth for 2 weeks)
	EN60529:1992+A2:2013
Salt Mist	EN60068-2-52 Test Kb Salt Mist
	(Cyclic) Marine Severity Level 1
Operating temperature	0°C to +70°C

Electrical
No. of Contacts	4
Current rating	1A
Voltage rating	30V AC (RMS)
Contact resistance	30mΩ max.
Performance	USB version 2.0

Materials - Overmoulded
Overmould material	PVC (black)
Flammability rating	UL94V-0

Materials - Panel Connectors
Plastic	PC/PBT
Metal	Machined Brass, Nickel Plated
Flammability rating	UL94V-0
'O' rings	Silicone
Panel Gasket - round	Silicone
Panel Gasket - flange	Silicone

Materials - cable
Cable Jacket	PVC (black)
Screen	Tinned copper braid
Flammability	UL94V-0
RoHS	Compliant

Length:	Dia	Conductors Signal	Conductors Power
2m	4.8mm	2 x 28AWG	2 x 24AWG
3m	5.0mm	2 x 28AWG	2 x 22AWG
5m	5.2mm	2 x 28AWG	2 x 20AWG

PCB adaptor leads

Electrical
No. of conductors	4
Current rating	1A
Voltage rating	30V AC (RMS)
Contact resistance	<10mΩ max.
PCB pitch	2.54mm

Materials
Moulding	Polycarbonate
Flammability	UL94V-0
Contact material	Copper Alloy
Contact plating	30 micro inch Gold
Wire insulation	PVC (black)
Flammability	UL94V-0
Conductors	4 x 28AWG
Operating temperature	0°C to +70°C
Mating cycles	1,000
RoHS	Compliant

Cable construction - PXP6040/A, PXP6040/B, PXP6040/AA, PXP6041/AA

PVC Jacket

Braid

Insulation
SR-PVC

Conductor
2m - 24AWG
3m - 22AWG
5m - 20AWG

Drain Wire

Insulation - Polyofein

Insulation
HD - PE

Conductor
2m - 28AWG
3m - 28AWG
5m - 25AWG

bulgin
an INFINIT8 brand
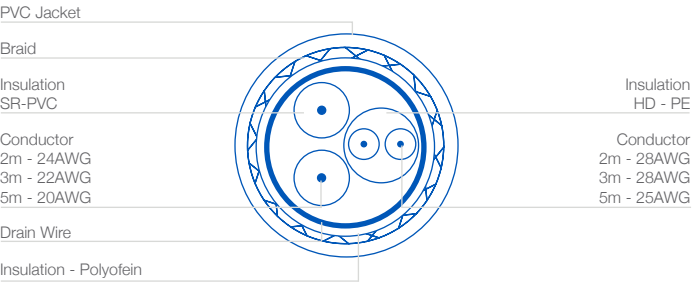
Cables & connectors

Mechanical
Sealing	IP68, EN60529:1992+A2:2013 (10m depth for 2 weeks)
	IP69K, Tested in accordance with DIN 40050/Part 9 IP6k9k
Operating temperature	0°C to +70°C
Salt Mist	EN60068-2-52 Test Kb Salt Mist (Cyclic) Marine Severity Level 1

Electrical
No. of Contacts	9
Current rating	1A
Voltage rating	30V AC (RMS)
Contact resistance	30m Ω max.
Performance	USB version 3.0

Materials - Overmoulded
Overmould material	PVC (black)
Flammability rating	UL94V-0

Materials - Panel Connectors
Shell material	Steel
Shell plating	Nickel
Contact material	Copper Alloy
Contact plating	Gold
Connector body & locking ring	Glass Loaded Polyester
Panel connector	Acetal
Flammability rating	UL94 HB
'O' rings	Silicone
Panel Gasket - round	Silicone
Panel Gasket - square	Neoprene
Mating cycles	1,000
RoHS	Compliant

Materials - cable
Cable Jacket	PVC (black)
Screen	Tinned copper braid
Flammability	UL94V-0
RoHS	Compliant

Length:	Dia	Conductors Signal	Conductors Power
2m	5.5mm	7 x 28AWG	2 x 24AWG
3m	5.5mm	7 x 28AWG	2 x 24AWG
5m	5.5mm	7 x 28AWG	2 x 24AWG

PCB adaptor leads

Electrical
|	
No. of conductors	9
Current rating	1A
Voltage rating	30V AC (RMS)
Contact resistance	30m Ω max.
PCB pitch	2.54mm

Materials
Moulding	Polycarbonate
Flammability	UL94V-0
Contact material	Copper Alloy
Contact plating	Gold
Wire insulation	PVC (black)
Flammability	UL94V-0
Conductors	9 x 28AWG
Operating temperature	0°C to +70°C
Mating cycles	1,000
RoHS	Compliant

USB 3.0 Cable construction - PXP6040/A3, PXP6040/AC, PXP6041/AA3, PXP6042/AA3

PVC Jacket
Braid — UTP Signal Pair
Al/Mylar
Ground — Power Conductor
SDP Signal Pair
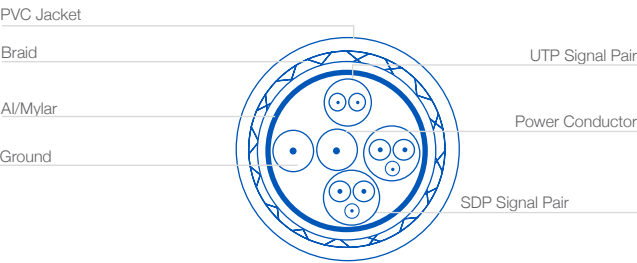
USB 3.0 Contact Diagram - PXP6040/AA, PXP6040/A3, PXP6040/AC, PXP6041/AA3, PXP6042/AA3

P1	TYPE	WIRE COLOUR	P2
+5V 1	——	RED	1 +5V
USB- 2 USB+ 3	⟩⟨	WHITE / GREEN	2 USB- 3 USB+
GND 4	——	BLACK	4 GND
SSTX- 5 SSTX+6	⟩⟨	BLUE / YELLOW	5 SSTX- 6 SSTX+
GND 7	——	N/A	7 GND
SSRX-8 SSRX+9	⟩⟨	PURPLE / ORANGE	8 SSRX- 9 SSRX+
S	——	BRAID	S