

IP68

Never Beaten by Seasons



Buccaneer® For Data

Frozen Winters! Torrential Springs! Blistering Summers! Dusty Autumns!

The Buccaneer range of IP68 waterproof connectors
for Ethernet, USB, Mini USB and FireWire.

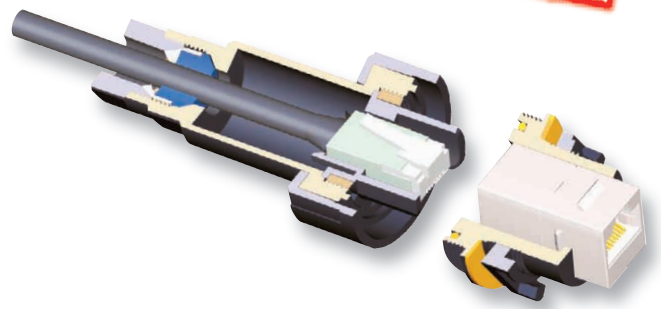
Ethernet Buccaneer®

IP68

The Ethernet Buccaneer provides a compact solution for the deployment of LAN connections in industrial environments.

With Ethernet networks extending from the office to the factory floor and beyond into external environments, the demand for a secure connection for data applications is dramatically increasing.

Ethernet Buccaneer answers this call by utilising the industry standard shielded RJ45 in a robust package that will provide performance up to 100Mbps (Cat 5e). Shielded connectors and couplers are used together with S-FTP stranded cable to provide high levels of noise immunity. System sealing integrity is maintained to IP68 offering a safe, secure dust and waterproof connections.



PATCH CORD FLEX CONNECTOR



PX0836

- Overmoulded, non-rewireable leads
- For use with all panel connections
- S-FTP cable construction
- PUR cable jacket
- Single and double ended versions
- 2, 3 and 5m lengths, as standard*

RE-WIREABLE FLEX CONNECTOR



PX0834

- Re-wireable cable connector
- For use with all panel connections
- Supplied with shielded plug
- Supplied with glands to suit cables from 3.5 to 9.0mm diameter

FRONT PANEL MOUNTING CONNECTORS



PX0833

- Front panel mounted
- Single hole & square flange fixing
- Mates with PX0834 and PX0836 cable connectors
- Cat 5e shielded coupler
- Standard patch cord can be plugged into rear
- Supplied complete with sealing gasket

REAR PANEL MOUNTING CONNECTORS



PX0839/PC

- Rear panel mounted
- Single hole fixing
- Mates with PX0834 and PX0836 cable connectors
- Shielded RJ45 jacks
- 90°, 180° PC contacts
- IDC termination for discrete wiring
- Supplied complete with sealing gasket

ACCESSORIES



Sealing Caps

- Screw sealing caps to maintain IP68 rating
- Sprung sealing cap seals to IP54

FEATURES

- Water and dustproof to IP68 when mated
- Cat 5e compliant, data rates up to 100Mbps
- PUR jacketed cable, good chemical and water resistance
- Shielded system, high noise immunity and EMI protection
- Cat 5e coupler, maintains shielding
- Shroud on RJ45, protection from abuse and mis-mating
- Screw coupling, secure proven locking system
- Rewireable flex connector, ability to 'field' terminate
- PCB mounting panel connectors, direct PCB mounting
- IDC termination panel connector, simple termination
- Earth lead or screening can give screen bond to panel

SPECIFICATION

Non-rewireable connectors

Mechanical

Sealing IP68, EN60529

Construction

Conductors 24AWG (7/0.2mm) bare copper
 Sheath PUR Jacket Black
 Operating temperature -25°C to +85°C
 Min. bend radius 10 x o/d (installation)
 Min. bend radius 6 x o/d (installed)
 Diameter 6.1mm nominal

Electrical

Characteristic Impedance 100Ω ± 15Ω @ 100MHz
 Capacitance 330pF/km
 TIA/EIA rating Cat 5e

Re-wireable and Panel mounted connectors

Mechanical

Sealing IP68, EN60529

Materials

Connector body Polyester
 Flammability rating UL94V-0
 'O' rings Silicon
 Panel gasket Silicon
 Operating temperature -20°C to +70°C



* other lengths available upon request

USB Buccaneer®

The USB Buccaneer provides a secure solution for the deployment of this popular bus communication into industrial environments.

Universal Serial Bus is finding many uses outside of the traditional PC communication environment.

USB Buccaneer uses the industry standard 'A' and 'B' type interfaces in a robust package that will provide performance up to 480Mbps (USB 2.0). Cables are all of overmoulded construction offering secure tamperproof connections.

System sealing integrity is maintained to IP68 offering safe, secure dust and waterproof connections.

IP68



SEALED USB CABLES - SINGLE ENDED



- Overmoulded, non-rewireable leads
- Single ended cables
- 'A' or 'B' type sealed interfaces with standard connections at other end
- 2, 3 & 5m lengths as standard*

SEALED USB CABLES - DOUBLE ENDED



- Overmoulded, non-rewireable leads
- Double ended cables
- 'A' and 'B' type sealed interfaces both ends of the cable
- 2, 3 & 5m lengths as standard*

FRONT PANEL MOUNTED CONNECTOR



- Front panel mounted
- Single hole fixing
- Mates with PX0840 and PX0841 cable connectors
- 'A' to 'B' adaptor connection or leaded termination for PCB's
- Supplied complete with sealing gasket

REAR PANEL MOUNTED CONNECTOR



- Rear panel mounted
- Single hole fixing
- Mates with PX0840 and PX0841 cable connectors
- 'A' to 'B' adaptor connection or leaded termination or direct PCB mounting
- Supplied complete with sealing gasket

ACCESSORIES



- Screw sealing caps to maintain IP68 rating
- Sprung sealing cap seals to IP54

FEATURES

- Water and dustproof to IP68 when mated
- USB version 2.0 performance, low and high speed bus connection - 1.5Mbps to 480Mbps
- Plug and play capability, hot pluggable standard 4 pole interface
- Visual mating indication, alignment indicator reduces risk of damage during mating
- Shielded system, high noise immunity and EMI protection
- Single and double ended cables, suitable for PC and peripheral configuration
- Screw coupling, secure proven locking system
- PCB mounting - direct to PCB or via adaptor leads

SPECIFICATION

Electrical

No. of conductors	4
Current rating	1A
Voltage rating	30Vac (RMS)
Contact resistance	30mΩ max.
Performance	USB version 2.0

Materials - connectors

Shell material	Steel
Shell plating	Nickel
Insulation moulding	Nylon 6
Flammability	UL94V-0
Contact material	Copper Alloy
Contact plating	30 micro inch Gold
Over mould material	PVC (Black)
Operating temperature	0°C to +70°C
Mating cycles	1,000

Materials - cable

Cable jacket	PVC (Black)
Screen	Tinned copper braid
Flammability	UL94V-0



* other lengths available upon request

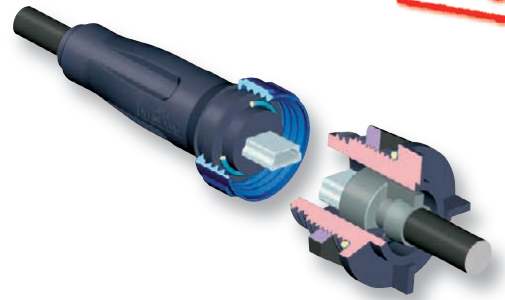
Mini USB Buccaneer®

IP68

The Mini USB Buccaneer provides a compact solution for Universal Serial Bus connections in industrial environments.

Using both the Mini 'A', Mini 'B' and Mini 'AB' industry standard interfaces for USB 2.0 and USB OTG (On-The-Go) devices. The latest in the USB Buccaneer range offers a secure, robust connection performing up to 480Mbps, where dust or water could prove detrimental to system operation. Cables are fully overmoulded construction offering secure, tamper-proof connections.

System sealing integrity is maintained to IP68 offering safe, secure dust and waterproof connections.



SEALED MINI USB CABLES - SINGLE ENDED



- Overmoulded, non-rewireable leads
- Single ended cables
- Mini 'B' type sealed interfaces with standard 'A' type connections at other end
- 2, 3 & 4.5m lengths as standard*

SEALED MINI USB CABLES - SINGLE ENDED



- Overmoulded, non-rewireable leads
- Single ended cables
- Mini 'B' type sealed interfaces with Mini 'A' type connections at other end
- 2, 3 & 4.5m lengths as standard*

FRONT PANEL MOUNTING CONNECTOR



- Front panel mounted
- Single hole fixing
- For use with all IP68 connectors
- Mini 'B' and Mini 'AB' interfaces
- Leaded termination for connection to PCB
- Supplied complete with sealing gasket

REAR PANEL MOUNTING CONNECTOR



- Rear panel mounted
- Single hole fixing
- For use with all IP68 connectors
- Mini 'B' and Mini 'AB' interfaces
- Leaded termination or straight PC spills for direct connection to PCB
- Supplied complete with sealing gasket

ACCESSORIES



- Screw sealing caps to maintain IP68 rating

FEATURES

- Water and dustproof to IP68 when mated
- USB version 2.0, data rates up to 480Mbps
- Shielded system, high noise immunity
- Overmoulded cables, tamperproof construction
- Screw coupling, secure proven locking

SPECIFICATION

Sealing:	IP68, to EN60529
Poles:	4 and 5
Current rating:	1A
Voltage rating:	30Vac, 42Vdc
Contact plating:	50 micron gold
Contact resistance:	50mΩ
Mating cycles:	5,000
Connector body:	UL94V-0 rated
Operating Temperature:	0°C to +70°C
Performance:	USB V2.0



* other lengths available upon request

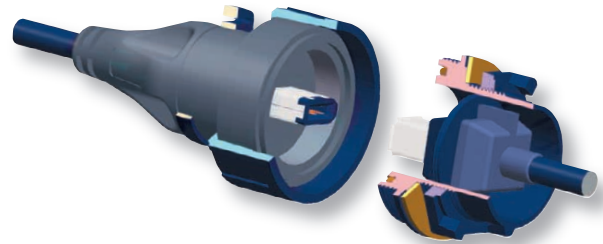
FireWire Buccaneer®

The FireWire Buccaneer provides a secure solution for this popular high speed connector in industrial environments.

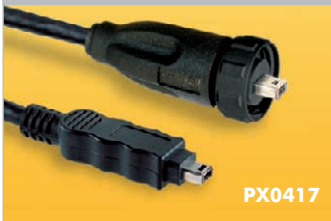
Using both the 4 pole and 6 pole industry standard interfaces for IEEE 1394a the FireWire Buccaneer offers real time video performance to 400Mbs. It offers a safe and secure package for this popular serial bus technology for applications where dust or water could prove detrimental to system operation. Cables are fully overmoulded construction offering secure, tamper-proof connections.

System sealing integrity is maintained to IP68 offering safe, secure dust and waterproof connections.

IP68



SEALED FIREWIRE CABLES SINGLE ENDED



- Overmoulded, non-rewireable leads
- Single ended cables
- 4 pole sealed interfaces with standard connections at other end
- 2 & 4m lengths as standard*

SEALED FIREWIRE CABLES SINGLE ENDED



- Overmoulded, non-rewireable leads
- Single ended cables
- 6 pole sealed interfaces with standard connections at other end
- 2 & 4m lengths as standard*

PANEL MOUNTING CONNECTOR



- Front panel mounted
- Single hole fixing
- 4 pole interface
- Leaded termination for connection to PCB
- Supplied complete with sealing gasket

PANEL MOUNTING CONNECTOR



- Front panel mounted
- Single hole fixing
- 6 pole interface
- Leaded termination for connection to PCB
- Supplied complete with sealing gasket

ACCESSORIES



- Screw sealing caps to maintain IP68 rating

FEATURES

- Sealed to IP68 when mated
- IEEE 1394a performance to 400Mbs, 'Real Time' performance
- 4 & 6 pole interfaces, industry standard connection
- Shielded system, high noise immunity and EMI protection
- Overmoulded cables, secure tamperproof connection
- Screw coupling, secure proven locking system
- Chassis adaptor leads to PCB, for use on PCBs

SPECIFICATION

Electrical

Poles	4	6
Current rating	1A	1A
Voltage rating	30V a.c.	30V a.c.
Performance	IEEE 1394a	IEEE 1394a

Materials - connectors

Connectors

Shell material	Steel	Steel
Shell plating	Nickel	Nickel
Insulation moulding	Glass filled PBT	Glass filled PBT
Flammability rating	UL94V-0	UL94V-0
Contact material	Copper alloy	Copper alloy
Contact plating	30 micro inch Gold	30 micro inch Gold
Mating cycles	1,000	1,000

Cable Connectors

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

Panel Connectors

Body mouldings	Polyamide	Polyamide
Flammability rating	UL94V-0	UL94V-0
UV resistance	to EN50021:1999	to EN50021:1999
Operating temperature	0°C to +70°C	0°C to +70°C
O rings	Nitrile	Nitrile
Materials - cables		
Cable jacket	PVC (black)	PVC (black)
Flammability rating	UL94V-0	UL94V-0



* other lengths available upon request

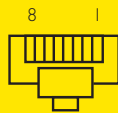
Buccaneer For Data

Bulgins Data Buccaneer range includes Ethernet, USB, Mini USB and FireWire industry standard interfaces.

ETHERNET BUCCANEER

Characteristics
 Cat5e performance
 Up to 100 MHz
 8 pole Shielded RJ45 interface

Interfaces



RJ45

Viewed from front face of free connector

Pin-outs

568-A	Position	568-B		
White/Green	1	White/Orange	TX +	D1 +
Green	2	Orange	TX -	D1 -
White/Orange	3	White/Green	RX +	D2 +
Blue	4	Blue	*	D2 -
White/Blue	5	White/Blue	*	D3 +
Orange	6	Green	RX -	D3 -
White/Brown	7	White/Brown	*	D4 +
Brown	8	Brown	*	D4 -

USB BUCCANEER

Characteristics
 USB 2.0 performance
 Up to 480 Mbs
 'A' and 'B' type interfaces

Interfaces



'A' type



'B' type

Viewed from front face of free connector

Pin-outs

Pin	Name	Cable colour	Description
1	VCC	Red	+5 Vdc
2	D-	White	Data -
3	D+	Green	Data +
4	GND	Black	Ground

MINI USB BUCCANEER

Characteristics
 USB 2.0, USB OTG performance
 Up to 480 Mbs
 Mini 'A', Mini 'B' and Mini 'AB' type interfaces

Interfaces



Mini 'A' plug



Mini 'B' plug



Mini 'AB' receptacle

Insulator Colours

	Mini 'A'	Mini 'B'	Mini 'AB'
Plug	White	Black	N/A
Receptacle	White	Black	Grey

Viewed from front face of free connector (except Mini AB)

Pin-outs

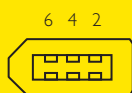
Pin		Mini 'A'	Mini 'B'	Mini 'AB'
1	V Bus (+5V)	Red	Red	Red
2	D-	White	White	White
3	D+	Green	Green	Green
4	ID	Joined to Pin 5	None*	None
5	Ground	Black	Black	Black

* Sometimes joined to pin 5 via a resistor

FIREWIRE BUCCANEER

Characteristics
 IEEE 1394b
 Up to 400 Mbs
 4 and 6 pole interfaces

Interfaces



6 Pole



4321

4 Pole

Viewed from front face of free connector

Pin-outs

6 pole	4 pole
1. Power	1. TPB -
2. Ground	2. TPB +
3. TPB -	3. TPA -
4. TPB +	4. TPA +
5. TPA -	
6. TPA +	