

CTOS

CTOS: Small Optical Field Connector

CTOL: Large Optical Field Connector



CTOS



CTOL

CTOS and CTOL series are robust optical connectors for rapid deployment of high-speed transmission links under harsh environments. The hermaphroditic mating makes it possible to "daisy chain" cable assemblies without using any interconnect adapters. The specific lens design guarantees a large beam diameter and a low loss connection, less sensitive to dirt and dust. A specific front design and ergonomic keys ensure blind mating. The flat protective window mounted on shock absorbers provides an easy to clean surface for improved performances and protection. CTOS and CTOL harnesses are easily and cost effective field maintainable with the FTOS splice kit.

Amphenol unique CTOS and CTOL design have already gained worldwide acceptance in the ground military using. CTOS has been qualified by NATO according to STANAG 4290 requirements. These products are also widely used in geophysical, civil safety, railway, broadcast and industrial markets.

In the CTOS, 1, 2 or 4 channels are inserted in a small size design (o.d. 38mm). CTOL is a CTOS larger version up to 8 channels (o.d. 52mm). CTOL is intermateable with CTO, the first expanded beam connectors version.

- Hermaphroditic interface with rapid ramp coupling
- Design for gloved handling and blind mating in difficult conditions
- Large expanded beam
- Anti-reflective protective window easily reached and cleaned
- The rubber ergonomic shell allows an easy handling with or without gloves and ensures a high protection against shocks
- Up to 8 channels
- Cost effective field repairs
- Multimode Wavelength 850 - 1300 nm (Z version); 1300 nm (Y version)
- Singlemode Wavelength 1300 - 1550 nm (W version)

Derived product from CTOS

CNOS : navy optical field connector



CNOS is the Pier Side version of CTOS connector. The design provides flexibility for current and future Navy communication requirements both afloat and ashore. These connectors are designed for installation into Pier Side. The hermaphroditic mating makes it possible to "daisy chain" cable assemblies without using any interconnect adapters.

The specific lens design guarantees a large beam diameter and a low loss connection, less sensitive to dirt and dust. A specific front design and ergonomic keys ensure blind mating. The flat protective window mounted on shock absorbers provides an easy to clean surface for improved performances and protection. CNOS harnesses are easily to deploy with drum dedicated for afloat and ashore applications.

CROS : railway optical car jumper



CROS is the Railway version of CTOS connector. The design provides flexibility for current and future Railway communication requirements for cars jumpers.

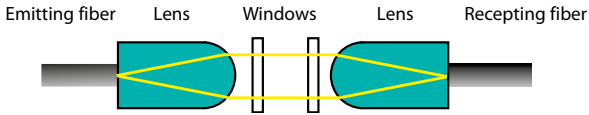
The hermaphroditic mating makes it possible to "daisy chain" cable assemblies without using any interconnect adapters. The specific lens design guarantees a large beam diameter and a low loss connection, less sensitive to dirt and dust. A specific front design and ergonomic keys ensure blind mating. The flat protective window mounted on shock absorbers provides an easy to clean surface for improved performances and protection.

CTOS and CTOL Expanded beam technology FEATURES:

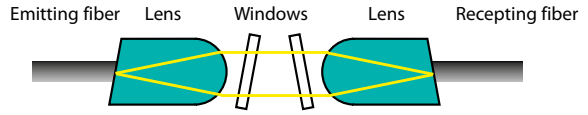


With AMPHENOL expanded beam technology, fibers are not in physical contact. The beam is expanded through the first lens and refocused through the second lens then into the fiber. By increasing the light beam surface (680 times for multimode technology and 5000 times for singlemode technology), the connector becomes highly resistant to vibrations, shocks, small debris contamination and optical misalignment. A coated protective window makes the connectors easy to clean. It is easily field maintainable if any damage occurs.

■ CTOS/CTOS MM



■ CTOS/CTOS SM



Channels Arrangements:

■ CTOS



1 Channel



2 Channels



4 Channels

■ CTOL



2 Channels



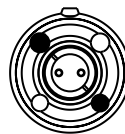
4 Channels



6 Channels



8 Channels



25 Channels



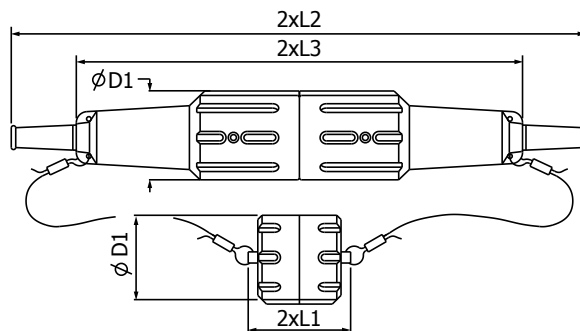
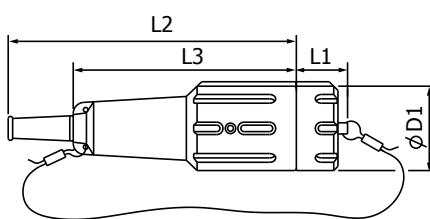
45 Channels

CTOS : line drawings (dimensions in mm)

CTOS 06M/CTOL 06M : plug

The CTOS or CTOL plug provides hermaphroditic optical links between two points. This plug is designed to be used in harsh environment applications.

The tensile strength between plug and cable can reach 200 daN (depending on cable performance)



| SERIES | L1 | L2 | L3 | φD1 |
|--------|----|-----|-----|------|
| CTOS | 23 | 129 | 100 | 37,8 |
| CTOL | 27 | 148 | 119 | 52 |

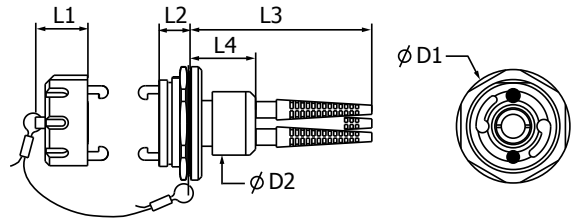
CTOS 77 "jam nut" Receptacle – rear mount

The jam nut receptacle has to be mounted on the vehicle panel or on a box, it provides the link between the inside electro optic device and the outside optical link. The jam nut receptacle is mated with the first plug of the outer link patchcord. Fixed by means of an hexagonal nut with possibility to be stopped using a brake wire. Front sealing ensured by an "O" ring. Electrical contact between panel receptacle and protective cap (for EMI,CEM protection when cap is on). Protective cap is attached to the receptacle by a stainless steel rope and ring.

CTOS 77P : Straight Backshell Receptacle for pigtail

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOS receptacle to the electro-optic transceivers, in a protected area. This rear part provides an easy cross connect output. Each pigtail can be terminated with ST, SC, FC, duplex SC, duplex LC, MTRJ connectors. Pigtails tensile strength : 10 daN. (depending on cable performance).

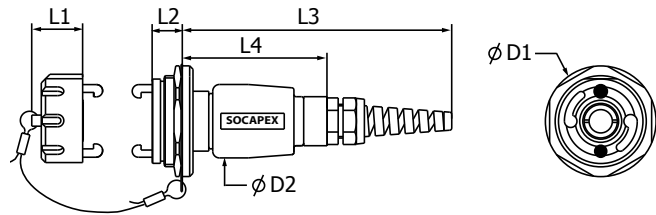


| SERIES | L1 | L2 | L3 | L4 | ØD1 | ØD2 |
|-----------|----|------|------|------|------|-----|
| CTOS MM* | 23 | 13.6 | 82 | 29 | 49.9 | 28 |
| CTOS SM** | 23 | 13.6 | 90.5 | 38.7 | 49.9 | 28 |

CTOS 77C00 : Straight Backshell Receptacle for TACTICAL CABLE

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOS receptacle to the electro-optic transceivers, in a non protected area. Unsealed straight backshell to be used with 1 or 2 tactical cables (1,2 or 4 number of channels) inside a vehicle. The rear part is made of 2 half shells molded in aluminum alloy. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 100 daN (depending on cable performance).

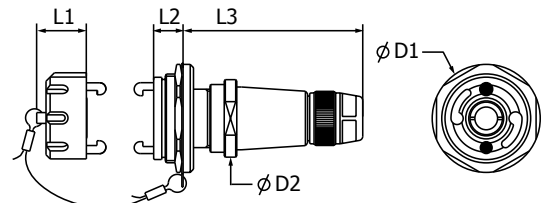


| SERIES | L1 | L2 | L3 | L4 | ØD1 | ØD2 |
|-----------|----|------|---------|------|------|-----|
| CTOS MM* | 23 | 13.6 | 132 max | 64.7 | 49.9 | 33 |
| CTOS SM** | 23 | 13.6 | 146 max | 78.7 | 49.9 | 33 |

CTOS 77M00 : Sealed Straight Backshell Receptacle for Tactical Cable

BACKSHELL MAIN USE :

To be used inside and outside a vehicle to connect CTOS receptacle to the electro-optic transceivers, in a non protected and humid area. Straight backshell to be used with a 1, 2, 4 fibers tactical cables inside or outside a vehicle. The rear part is made of an aluminum alloy shell with a cable retention clamp. Complete front and rear sealing. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 100 daN (depending on cable performance).



| SERIES | L1 | L2 | L3 | ØD1 | ØD2 |
|-----------|----|------|----|------|-----|
| CTOS MM* | 23 | 13.6 | 83 | 49.9 | 39 |
| CTOS SM** | 23 | 13.6 | 97 | 49.9 | 39 |

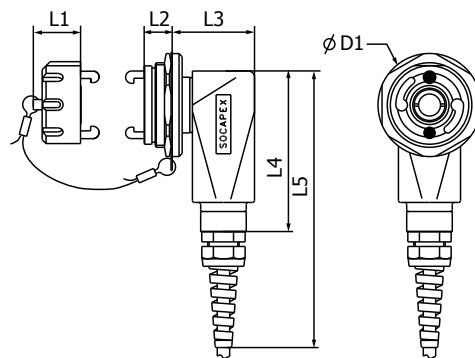
* MM : Multimode ** SM : Singlemode

CTOS 77C90 :
90° Backshell Receptacle for Tactical Cable

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOS receptacle to the electro-optic transceivers, in non protected area, or when the rear space is too narrow. 90° backshell not sealed to be used with a 1, 2, 4 fiber tactical cable inside a vehicle. The rear part is made of 2 half shells molded in aluminum alloy. Backshell with reduced overall dimensions. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 50 daN (depending on cable performance).

| SERIES | L1 | L2 | L3 | L4 | L5 | φD1 |
|-----------|----|------|----|------|---------|------|
| CTOS MM* | 23 | 13.6 | 44 | 78.5 | 146 max | 49.9 |
| CTOS SM** | 23 | 13.6 | 58 | 78.5 | 146 max | 49.9 |

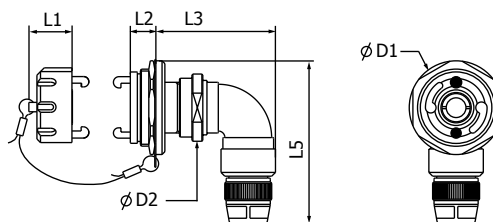


CTOS 77M90 :
Sealed 90° Backshell Receptacle for Tactical Cable

BACKSHELL MAIN USE :

To be used inside and outside a vehicle to connect CTOS receptacle to the electro-optic transceivers, in a non protected or humid area, or when the rear space is too narrow. 90° backshell to be used with a 2 or 4 fibers tactical cable outside a vehicle. Complete front and rear sealing. Backshell with reduced overall dimensions. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 50 daN (depending on cable performance).

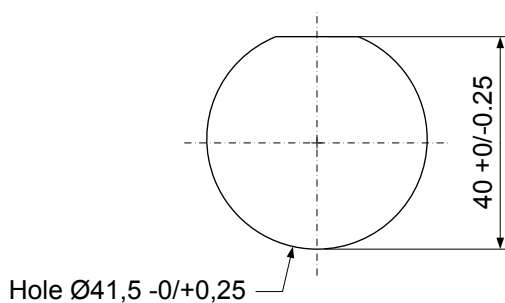
| SERIES | L1 | L2 | L3 | L5 | φD1 | φD2 |
|-----------|----|------|----|----|------|-----|
| CTOS MM* | 23 | 13.6 | 64 | 87 | 49.9 | 39 |
| CTOS SM** | 23 | 13.6 | 78 | 87 | 49.9 | 39 |



CTOS "JaM nut" Receptacle - Panel Cutout

CTOS JAM NUT RECEPTACLE SETTING :

- Screwing Jam Nut torque value : 40mN
- Screwing nut tip : 974-146039-90
- Panel thickness : 1.6mm to 3.5mm



* MM : Multimode ** SM : Singlemode

CTOS 00/CTOL 00 "Square Flange" Receptacle rear mount

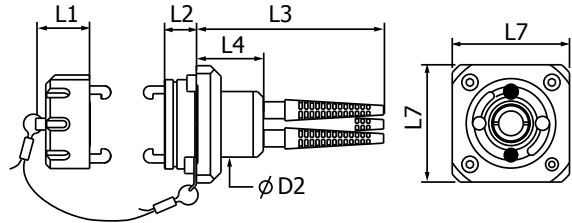
The square flange receptacle has to be mounted on to the vehicle panel. It provides the link between the inside electro-optic device and the outside optical link. The square flange receptacle receives the first CTOS plug of the outer link patchcord. The square flange type makes it possible to have a high density of receptacles on a panel. Easy panel cut off of 5 round holes. Fixation by 4 screws. - Front sealing ensured by a flat gasket. Electrical contact between panel receptacle and protective cap (EMI,CEM protection when cap is on). Protective cap attached to the panel or to the receptacle by a stainless steel rope.

CTOS 00P/CTOL 00P

Straight Backshell Receptacle for Pigtailed

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOS receptacle to the electro-optic transceivers, in a protected area. This rear part makes possible an easy cross connect output. Straight rear part to be used with 1, 2, 4, pigtailed (2.8 mm single cable or duplex cable 2 x 3 ,2x 1.6). Each pigtail can be terminated with ST, SC, FC, duplex SC and MTRJ connectors. Pigtailed tensile strength : 10 daN (depending on cable performance).



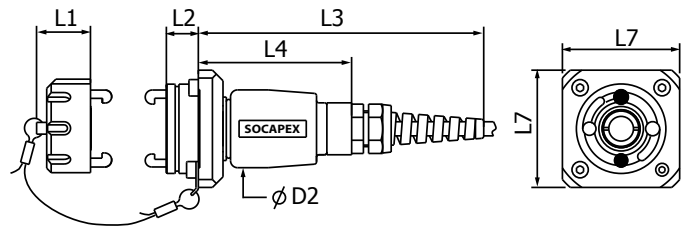
| SERIES | L1 | L2 | L3 | L4 | L7 | □D2 |
|-----------|----|------|------|------|------|-----|
| CTOS MM* | 23 | 13.6 | 82 | 29 | 49.9 | 28 |
| CTOS SM** | 23 | 13.6 | 90.5 | 38.7 | 49.9 | 28 |
| CTOL MM* | 27 | 13.6 | 96 | 44 | 60 | 51 |
| CTOL SM** | 27 | 13.6 | 96 | 44 | 60 | 51 |

CTOS 00C00/CTOL 00C00

Straight Backshell Receptacle for Tactical Cable

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOS receptacle to the electro-optic transceivers, in non protected area. Unsealed straight backshell to be used with 1 or 2 tactical cables (1,2 or 4 number of channels) inside a vehicle. The rear part is made of 2 half shells molded in aluminum alloy. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 100 daN (depending on cable performances).



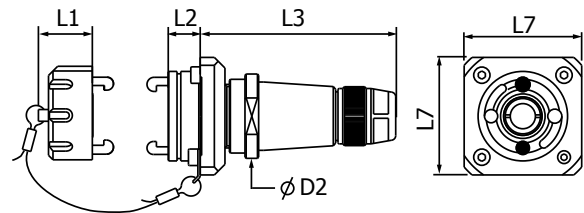
| SERIES | L1 | L2 | L3 | L4 | L7 | □D2 |
|-----------|----|------|---------|------|------|-----|
| CTOS MM* | 23 | 13.6 | 132 max | 64.7 | 49.9 | 33 |
| CTOS SM** | 23 | 13.6 | 146 max | 78.7 | 49.9 | 33 |
| CTOL MM* | 27 | 13.6 | 152 max | 84 | 60 | 33 |
| CTOL SM** | 27 | 13.6 | 152 max | 84 | 60 | 33 |

CTOS 00M00/CTOL 00M00

Sealed Straight Backshell Receptacle for Tactical Cable

BACKSHELL MAIN USE :

To be used inside and outside of a vehicle to connect CTOS receptacle to the electro-optic transceivers, in a non protected or humid area. Straight backshell to be used with a 1,2, 4 fibers tactical cable inside or outside a vehicle. The rear part is made of an aluminum alloy shell with bit of cable retention gland. Complete front and rear sealing. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength : 100 daN (depending on cable performance).



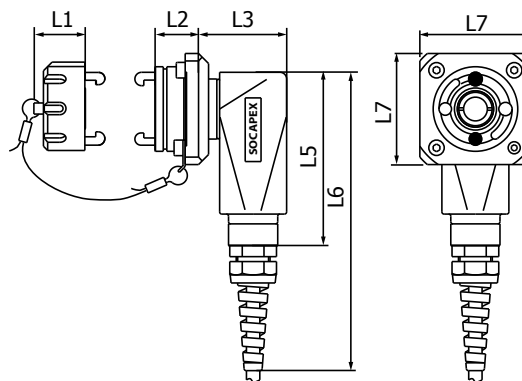
| SERIES | L1 | L2 | L3 | L7 | □D2 |
|-----------|----|------|-----|------|-----|
| CTOS MM* | 23 | 13.6 | 83 | 49.9 | 39 |
| CTOS SM** | 23 | 13.6 | 97 | 49.9 | 39 |
| CTOL MM* | 27 | 13.6 | 102 | 60 | 39 |
| CTOL SM** | 27 | 13.6 | 102 | 60 | 39 |

* MM : Multimode ** SM : Singlemode

**CTOS 00C90/CTOL 00C90 :
90° Backshell Receptacle for Tactical Cable**

BACKSHELL MAIN USE :

To be used inside a vehicle or on a box to connect CTOL receptacle to the electro-optic transceivers, in a non protected area, or when the rear space is too narrow. Unsealed 90° backshell to be used with a 1, 2, 4, fibers tactical cable inside a vehicle. The rear part is made of 2 half shells molded in aluminum alloy. Backshell with reduced overall dimensions. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength: 50 daN (depending on cable performance).

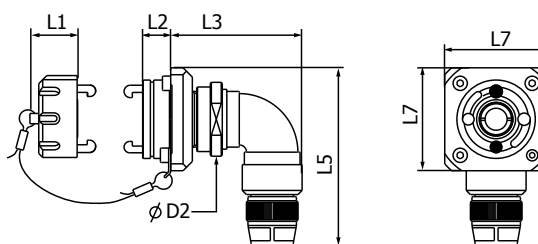


| SERIES | L1 | L2 | L3 | L5 | L7 | L6 |
|-----------|----|------|----|------|------|---------|
| CTOS MM* | 23 | 13.6 | 44 | 78.5 | 49.9 | 146 max |
| CTOS SM** | 23 | 13.6 | 58 | 78.5 | 49.9 | 146 max |
| CTOL MM* | 27 | 13.6 | 63 | 78.5 | 60 | 146 max |
| CTOL SM** | 27 | 13.6 | 63 | 78.5 | 60 | 146 max |

**CTOS 00M90/ CTOL 00M90
Sealed 90° Backshell Receptacle for Tactical Cable**

BACKSHELL MAIN USE :

To be used inside and outside a vehicle to connect CTOS receptacle to the electro-optic transceivers, in a non protected or humid area, or when the rear space is too narrow. 90° backshell to be used with a 1, 2, 4 fibers tactical cable inside or outside a vehicle. Complete front and rear sealing. Backshell with reduced overall dimensions. Possibility to add a multi channel connector at the other cable end. Cable/receptacle tensile strength: 50 daN (depending on cable performance).



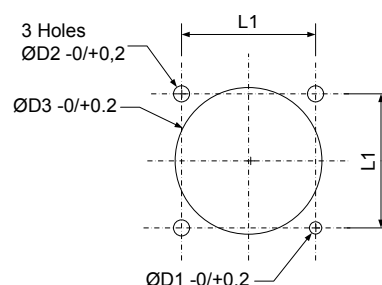
| SERIES | L1 | L2 | L3 | L5 | L7 | ØD2 |
|-----------|----|------|----|----|------|-----|
| CTOS MM* | 23 | 13.6 | 64 | 87 | 49.9 | 39 |
| CTOS SM** | 23 | 13.6 | 78 | 87 | 49.9 | 39 |
| CTOL MM* | 27 | 13.6 | 83 | 92 | 60 | 39 |
| CTOL SM** | 27 | 13.6 | 83 | 92 | 60 | 39 |

CTOS/CTOL «square flange» Receptacle - Panel Cutout

CTOS SQUARE FLANGE RECEPTACLE SETTING :

- Tightening torque screw M3x0.5 : 1.5mN
- Tightening torque screw M4x0.7 : 2.5mN

| SERIES | L1 | □D1 | □D2 | □D3 |
|--------|------|-----|-----|------|
| CTOS | 34.9 | 3.2 | 4.2 | 38.3 |
| CTOL | 42 | 3.2 | 4.2 | 38.3 |

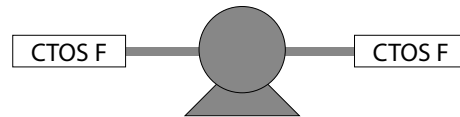


* MM : Multimode ** SM : Singlemode

How to order CTOS and CTOL piece part

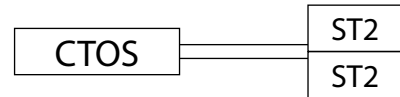
| HOW TO ORDER | CTOS CTOL | 77 77 | M00 M00 | 4 8 | 02 05 | Z W | 55X 70X | BPE BPE |
|---|--------------|----------|------------|--------|----------|--------|------------|------------|
| <p>Series CTOS : Small optical field connector Stainless Steel Version CTOS-A : Small optical field connector Aluminium Version CTOL : Large optical field connector Stainless Steel Version</p> | | | | | | | | |
| <p>Shell type 06 : Plug 77 : Jam nut receptacle (only for CTOS) 00 : Square flange receptacle</p> | | | | | | | | |
| <p>Backshell For Plug M : Backshell For Plug</p> | | | | | | | | |
| <p>Backshell For Receptacle P : Pigtails termination C00 : Straight backshell for tactical cable C90 : 90° backshell for tactical cable M00 : Sealed straight backshell for tactical cable M90 : Sealed 90° backshell for tactical cable</p> | | | | | | | | |
| <p>Number of channels For CTOS : 1/2/4 For CTOL : 1/2/4/6/8 compatible CTOL 2S/4S compatible CTO</p> | | | | | | | | |
| <p>Fiber 01 : Multimode 50/125 02 : Multimode 62.5/125 05 : Singlemode 9/125</p> | | | | | | | | |
| <p>Wavelength For Multimode Y : 1300nm Z : 850/1300nm For Singlemode W : 1310/1550nm</p> | | | | | | | | |
| <p>Cable See details on cable definition Example For pigtails cable : 28X For Tactical Cable : 55X</p> | | | | | | | | |
| <p>Protective Cap BPF : Dust cap for Plug BPE : Dust cap for Jam nut receptacle BPP : Dust cap for Square flange</p> | | | | | | | | |

**How to order CTOS patchcord
CTOS/CTOL PLUG TO CTOS/CTOL PLUG**



| HOW TO ORDER | CTOS | L3 | FF | | 2 | 01 | Y | 0600 | 55A | BPF |
|---|------|----|-----|-----|---|----|---|------|-----|-------|
| | CTOS | | FF | | 2 | 01 | Y | 0600 | 55A | BPF |
| | CTOL | | F00 | M90 | 8 | 02 | Z | 1.50 | 70X | BPF/E |
| | CTOS | | F77 | C00 | 2 | 05 | W | 0020 | 60X | BPF/P |
| Series | | | | | | | | | | |
| CTOS : Small optical field connector Stainless Steel Version | | | | | | | | | | |
| CTOS-A : Small optical field connector Aluminium Version | | | | | | | | | | |
| CTOL : Large optical field connector Stainless Steel Version | | | | | | | | | | |
| Drum (Select The drum on page 26-28) | | | | | | | | | | |
| __ : Disposable drum | | | | | | | | | | |
| LX : Compact drum | | | | | | | | | | |
| T0X : Tactical drum for CTOS | | | | | | | | | | |
| T2X : Tactical drum for CTOL | | | | | | | | | | |
| P01 : Trolley with composite drum for CTOS and CTOL | | | | | | | | | | |
| Shell type | | | | | | | | | | |
| FF : Plug to plug | | | | | | | | | | |
| F00 : Plug to square flange receptacle | | | | | | | | | | |
| F77 : Plug to jam nut receptacle | | | | | | | | | | |
| Backshell (only for receptacle) | | | | | | | | | | |
| C00 : straight backshell for tactical cable | | | | | | | | | | |
| C90 : 90° backshell for tactical cable | | | | | | | | | | |
| M00 : Sealed straight backshell for tactical cable | | | | | | | | | | |
| M90 : Sealed 90° backshell for tactical cable | | | | | | | | | | |
| Number of channels | | | | | | | | | | |
| For CTOS : 1/2/4 | | | | | | | | | | |
| For CTOL : 1/2/4/6/8 compatible CTOL, 2S/4S compatible CTO | | | | | | | | | | |
| Fiber | | | | | | | | | | |
| 01 : Multimode 50/125 | | | | | | | | | | |
| 02 : Multimode 62.5/125 | | | | | | | | | | |
| 05 : Singlemode 9/125 | | | | | | | | | | |
| Wavelength | | | | | | | | | | |
| For Multimode : Z : 850/1300nm | | | | | | | | | | |
| For Singlemode : W : 1310/1550nm | | | | | | | | | | |
| Cable length | | | | | | | | | | |
| X.XX : L<10m | | | | | | | | | | |
| XXXX : L>10m | | | | | | | | | | |
| Cable | | | | | | | | | | |
| See details on cable definition | | | | | | | | | | |
| Example | | | | | | | | | | |
| For Tactical Cable : 55X | | | | | | | | | | |
| Protective Cap | | | | | | | | | | |
| BPF : Dust cap for plug to plug patchcord | | | | | | | | | | |
| BPF/E : Dust cap for plug and jam nut receptacle | | | | | | | | | | |
| BPF/P : Dust cap for plug and square flange receptacle | | | | | | | | | | |

How to order CTOS/CTOL patchcord
CTOS/CTOL connector to others type connectors



| HOW TO ORDER | CTOS | 00 | M90 | 4 | 02 | Z | 2.50 | 70X | BPE | FC |
|---|------|----|-----|---|----|---|------|-----|-----|-----|
| | CTOS | F | | 2 | 01 | Y | 1.25 | 55A | BPF | SCD |
| | CTOL | 77 | 00 | 4 | 05 | W | 0010 | 60X | BPE | FCA |
| Series | | | | | | | | | | |
| CTOS : Small optical field connector Stainless Steel Version | | | | | | | | | | |
| CTOS-A : Small optical field connector Aluminium Version | | | | | | | | | | |
| CTOL : Large optical field connector Stainless Steel Version | | | | | | | | | | |
| Shell type for first end | | | | | | | | | | |
| F : Plug | | | | | | | | | | |
| 00 : Square flange receptacle | | | | | | | | | | |
| 77 : Jam nut receptacle (only for CTOS) | | | | | | | | | | |
| Backshell (only for receptacle) | | | | | | | | | | |
| P : Pigtailed termination | | | | | | | | | | |
| C00 : straight backshell for tactical cable | | | | | | | | | | |
| C90 : 90° backshell for tactical cable | | | | | | | | | | |
| M00 : Sealed straight backshell for tactical cable | | | | | | | | | | |
| M90 : Sealed 90° backshell for tactical cable | | | | | | | | | | |
| Number of channels | | | | | | | | | | |
| For CTOS : 1/2/4 | | | | | | | | | | |
| For CTOL : 1/2/4/6/8 compatible CTOL, 2S/4S compatible CTO | | | | | | | | | | |
| Fiber | | | | | | | | | | |
| 01 : Multimode 50/125 | | | | | | | | | | |
| 02 : Multimode 62.5/125 | | | | | | | | | | |
| 05 : Singlemode 9/125 | | | | | | | | | | |
| Wavelength | | | | | | | | | | |
| For Multimode : Z : 850/1300nm | | | | | | | | | | |
| For Singlemode : W : 1310/1550nm | | | | | | | | | | |
| Cable length | | | | | | | | | | |
| X.XX : L<10m | | | | | | | | | | |
| XXXX : L>10m | | | | | | | | | | |
| Cable | | | | | | | | | | |
| See details on cable definition | | | | | | | | | | |
| Example : For Tactical Cable : 55X | | | | | | | | | | |
| Protective Cap | | | | | | | | | | |
| BPF : Dust cap for Plug | | | | | | | | | | |
| BPE : Dust cap for Jam nut receptacle | | | | | | | | | | |
| BPP : Dust cap for Square flange | | | | | | | | | | |
| Patchcord other end connector | | | | | | | | | | |
| STA : Startop (38999 series III with optical termini 29504, only MM) | | | | | | | | | | |
| TVOP : TVOP (38999 series III with optical termini 2.5mm available MM and SM) | | | | | | | | | | |
| AXOS : AXOS connector only MM | | | | | | | | | | |
| ST/SC/SCD (duplex SC)/FC/LC/LCD (Duplex LC)/MHF (MTRJ femelle) : Telecom connector available in MM and SM | | | | | | | | | | |
| SCA/FCA/LCA : Telecom connector with angle physical contact 8° only for SM | | | | | | | | | | |
| For others connector consult us | | | | | | | | | | |

CTOS Shunt caps

This device is designed to test the electronic emitter and receiver as well as the optical receptacle and the link before the optical link deployment in the field.

The loop back is done by channel pairs: channel 1 with channel 2, channel 3 with channel 4.

CTOS receptacle protective shunt cap (BPPSA/BPESA)

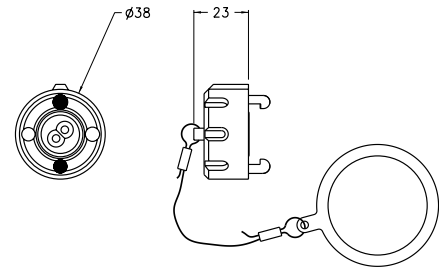
The receptacle protective shunt cap is used to test the emitter, the receiver and the CTOS receptacle on a vehicle before using the link.

This shunt cap introduces a large insertion loss which is optical power budget dependent and has to be defined with the customer (generally 20 dB max).

The BPESA is dedicated to test the jam nut receptacle. It is delivered with a rope and a ring to be fixed under the hexagonal nut in order to replace the receptacle protective cap (see the drawing).

The BPPSA is dedicated to test square flange receptacle. It is delivered with a panel attachment cord and can replace the receptacle protective cap.

The BPBSA itself is equipped with a protective cap.



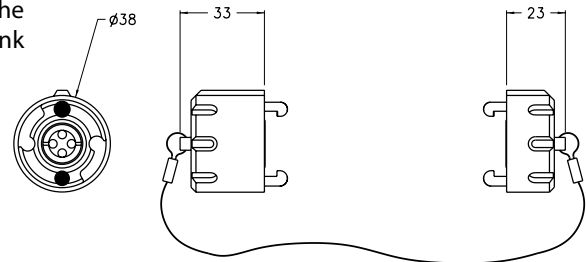
BPESA shunt cap

CTOS BSA

The BSA is a plug shunt cap with a low insertion loss, to test the plug to plug CTOSCTOL patchcord on a reel before the optical link is deployed.

The maximum insertion loss is fixed at 5 dB.

The BSA is equipped with a protective cap.



How to order CTOS shunt caps

| HOW TO ORDER | CTOS CTOS | BPESA BSA | 20 5 |
|--|--------------|--------------|---------|
| Series | | | |
| CTOS : Small optical field connector Stainless Steel Version | | | |
| CTOS-A : Small optical field connector Aluminium Version | | | |
| Shunt type | | | |
| BPESA : MM Jam nut receptacle attenuating shunt cap | | | |
| BPPSA : MM Square flange receptacle attenuating shunt cap | | | |
| BSA : MM Plug attenuating shunt cap with protective cap ? | | | |
| BSAR or BSU : MM plug and receptacle attenuating universal shunt cap | | | |
| BSAS : SM plug and receptacle attenuating shunt cap | | | |
| Insertion loss | | | |
| 20 : 20 db max for BPESA, BPPSA (fixed with MM fiber) | | | |
| 5 : 5db max for BSA, BSAR, BSAS (MM and SM fiber) | | | |

Nota : For CTOL shunt caps consult us.