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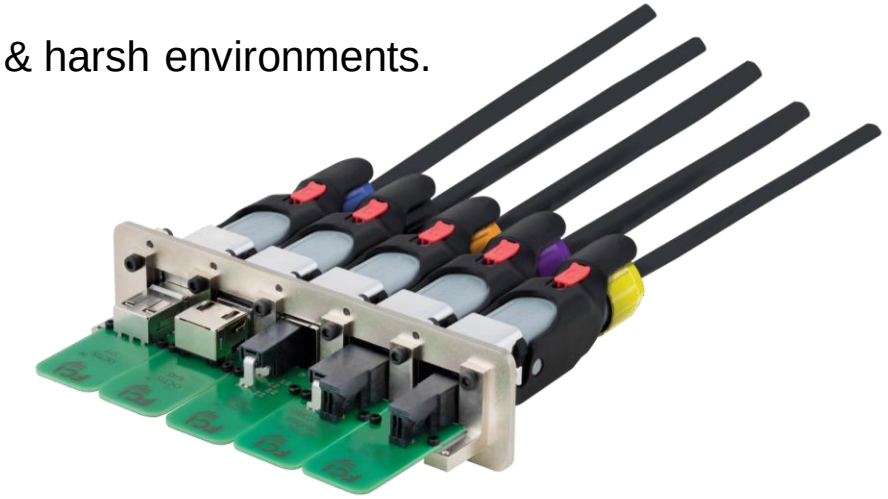
OCTIS™

March 2023

OCTIS™ Introduction

- **Market：** Deployment of 4G+, LTE+ and future 5G in the Telecom market is requiring more sophisticated outdoor IO solutions
  - Reduced equipment size, increase in density, improved EMI protection & thermal efficiency
  - Resistance to corrosion, corrosive atmosphere pollutant gases
- **Product : OCTIS™** :- **O**UTDOOR **C**ONNECTOR **T**RANSCEIVER **I**NSIDE **S**YSTEM
  - Robust Outdoor IO for high reliability and performance and designed to meet emerging market requirements
  - The versatile OCTIS I/O system, using multiple industry standard interfaces with & physical coding
    - Choice of high speed/ low speed signal and low to high power
    - Fiber or Copper
  - Lightning protection, EMI shielding & ease to installation for outdoor & harsh environments.



OCTIS ™
Widest choice of standard connector interfaces

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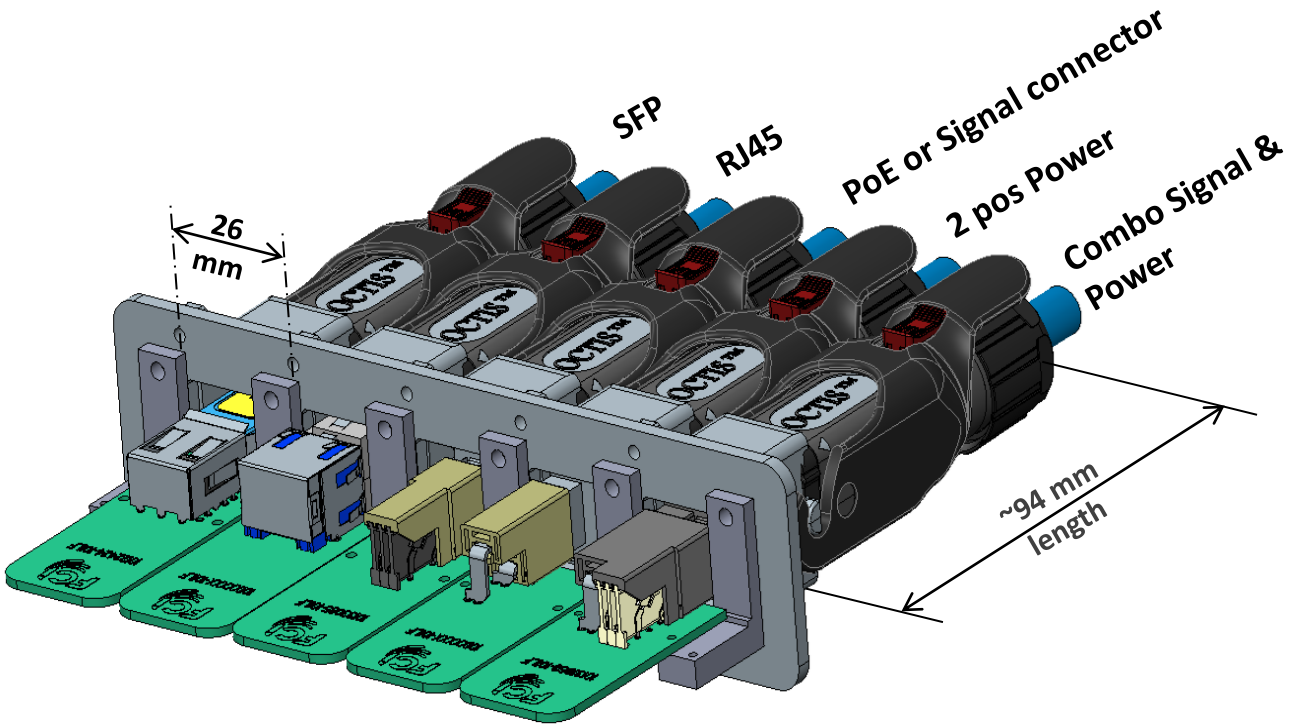
- 26mm version (port to port pitch)
  - SFP/SFP+
  - Signal (up to 24 positions)
  - Low power 8 Amps & 6pos (Minitek Pwr)
  - Power 12,16,20 & 30 Amps & 2,34 pos
  - Hybrid –Signal (12 pos.) & Power(2 pos.)
  - RJ45 (Tab down & Tab up)
  - USB 2.0 Type A
  - Optical – LC adaptor/ MPO adaptor
- 41mm version (port to port pitch)
  - Signal - MDR26
  - Hybrid : 18 signal + 4 Power 20A
  - High Power -65 Amps
  - QSFP to MPO port, QSFP on plug
- Accessories
  - IP67/ EMI cap, Dust cap, Fiber protection
  - Screw on Bulkhead



Screw-on Receptacles

Receptacles with adaptors

Receptacle caps

OCTIS ™ Features & Benefits

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Blind mate & float mount

Scoop proof
Fiber protection

Full modular housing

Full composite
Light material

High integration
26 mm pitch

Rugged design
100 mating cycles
200 N tensile load

Outdoor proof
720 h salt spray + SO2
IP67, -40 / +105°C
EIA -364-21B, UL94

Separate or molded receptacle

Color and physical coding

Double locking

SFP inside plug
Better thermal management

EMI Shielded

Lightning protection

OCTIS ™ additional features overview

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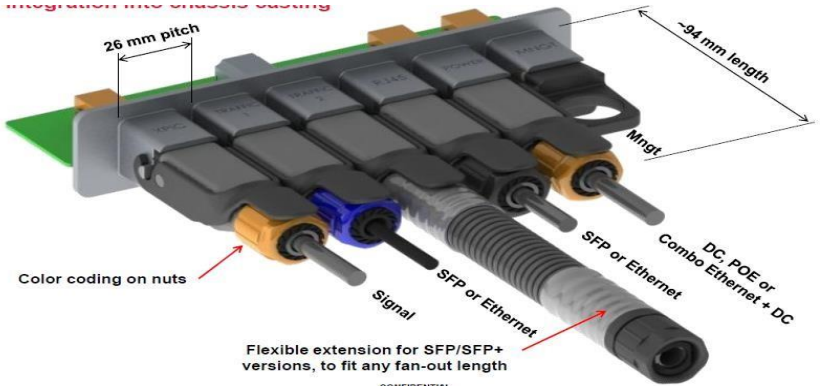
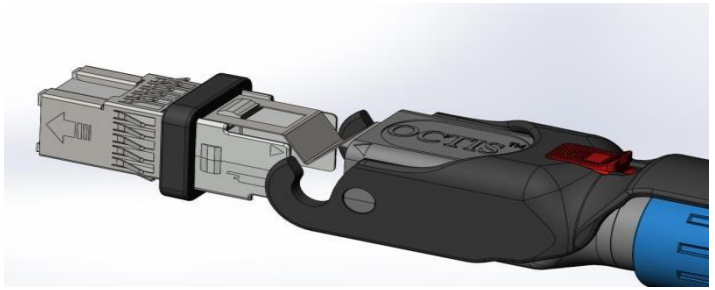
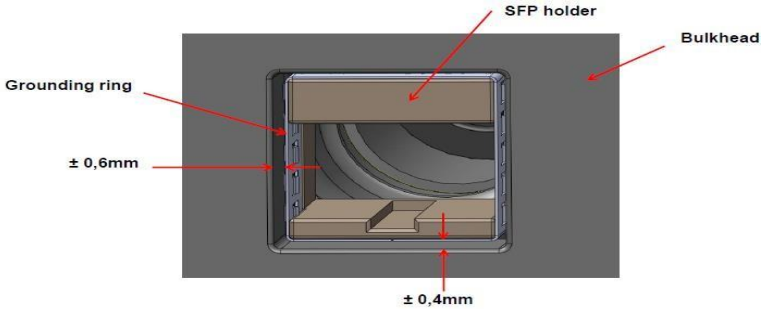
Integration into chassis casting



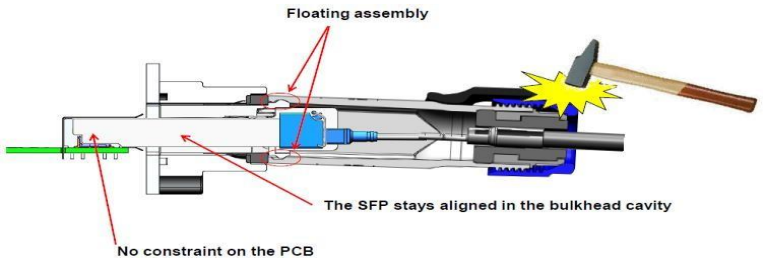
Visual coding



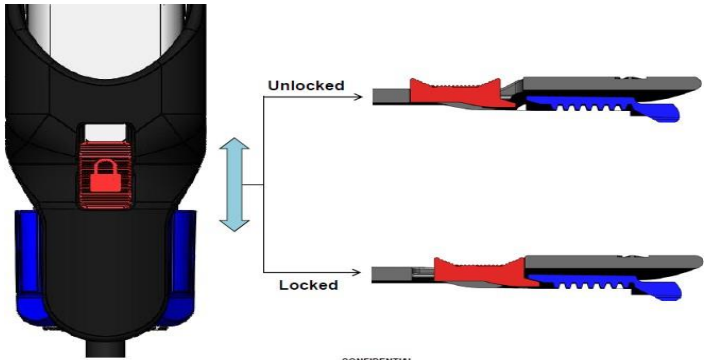
Blind Mate



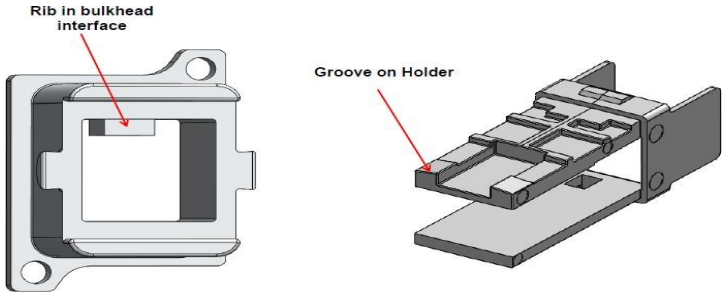
Immunity to Abuse Force



Lever Locking System

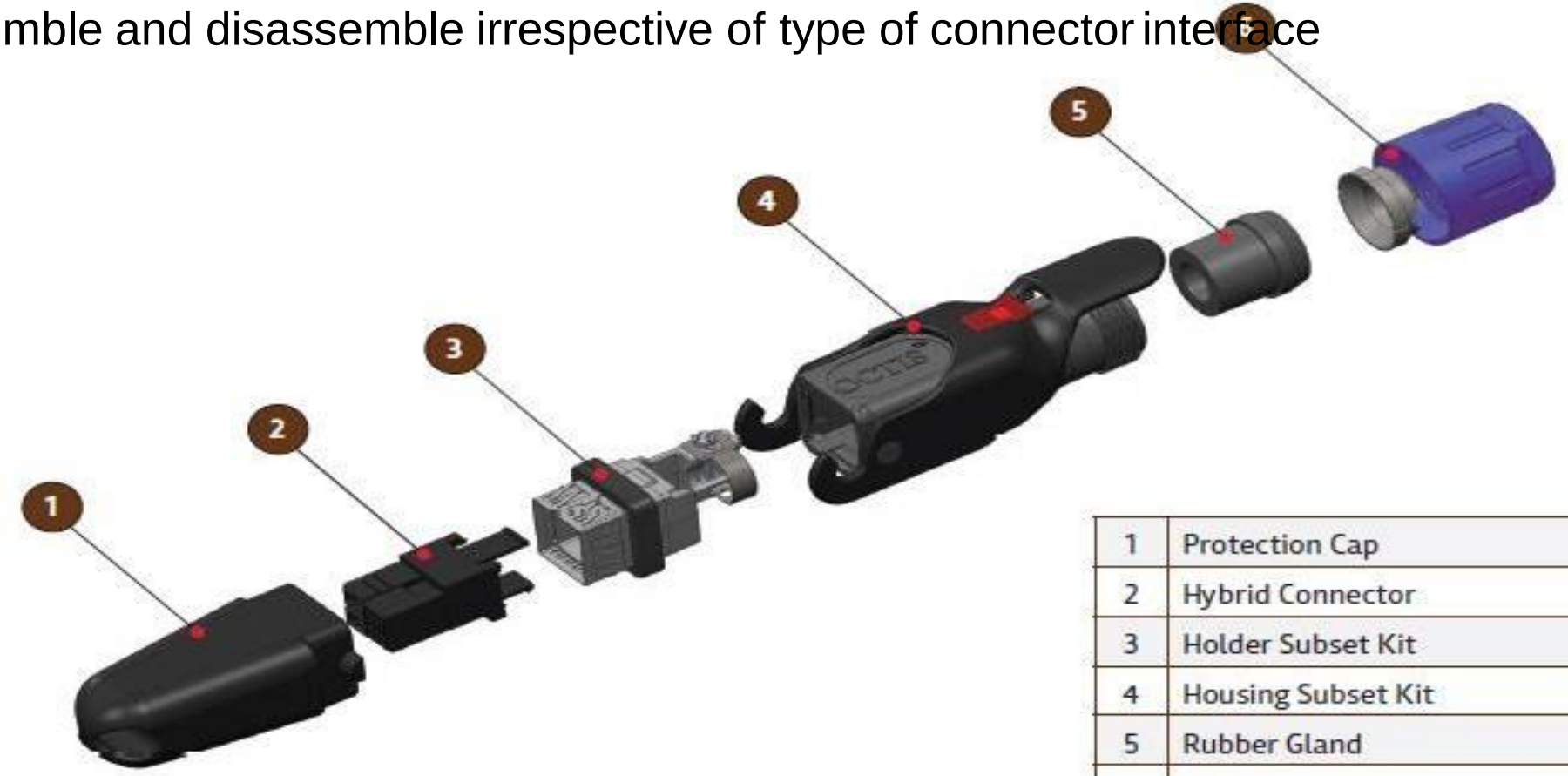


Physical Coding



Typical OCTIS plug kit BOM overview

- Field terminable
- Easy to assemble and disassemble irrespective of type of connector interface

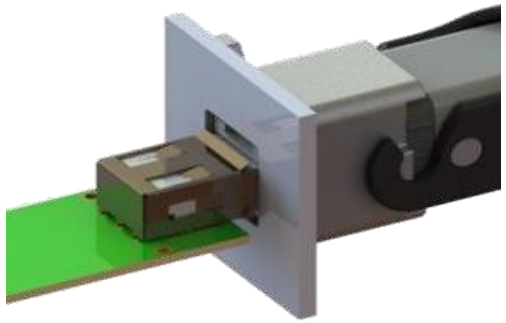


1	Protection Cap
2	Hybrid Connector
3	Holder Subset Kit
4	Housing Subset Kit
5	Rubber Gland
6	Gland Nut + Tightening Cone

OCTIS™ SFP/SFP+ connector interface

OCTIS SFP Plug

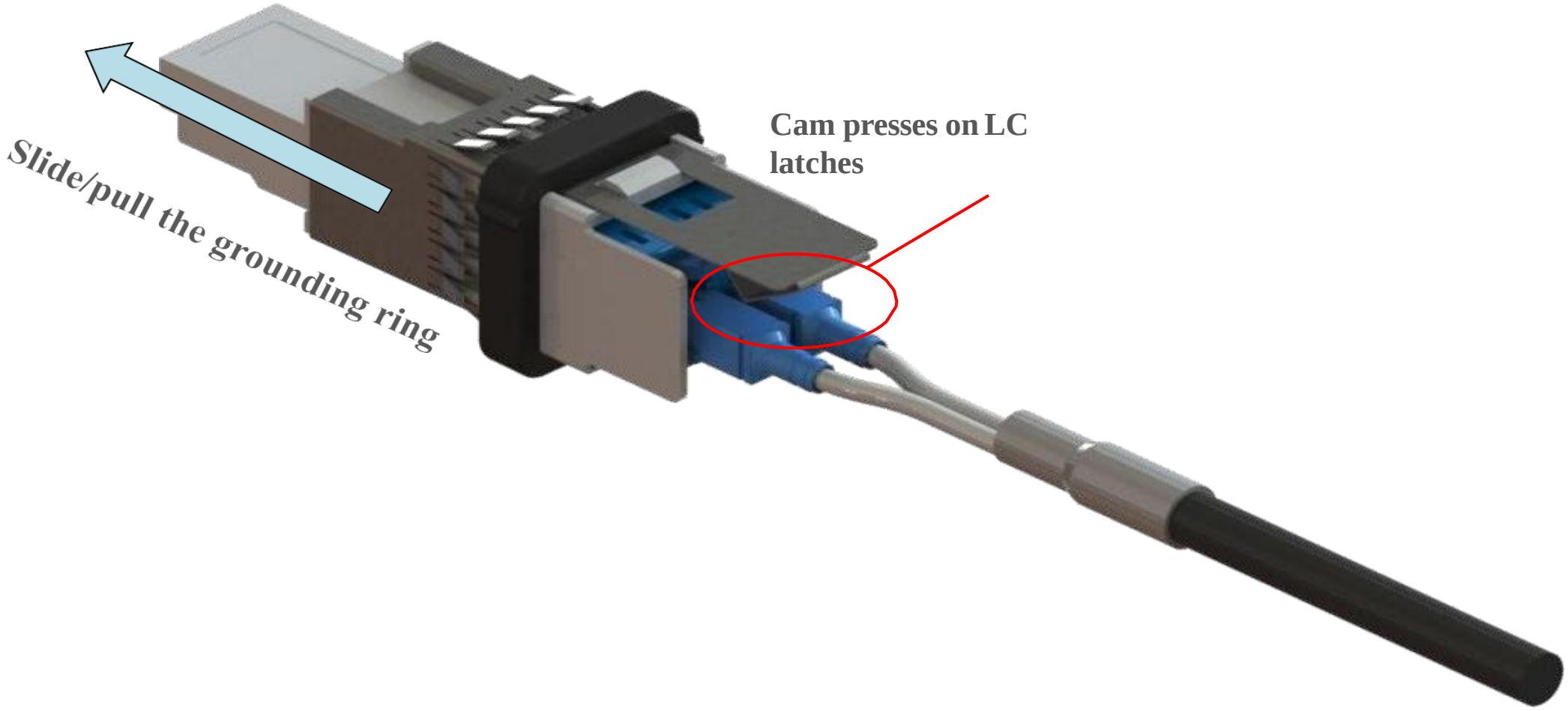
OCTIS SFP Receptacle



- **Transceiver inside plug**
  - Board space saving & cheaper cage
  - Excellent heat dissipation
  - No open optical connector in the mast!
  - Easy installation and repair in the mast!

- Compatible with any SFP or SFP+ brand
- Field installable
- Can fit with any LC duplex cable assembly with fan-out length from 0 mm to 40 mm
- Float mount, self alignment of plug in the cavity
- Fiber protection system

OCTIS ™ SFP/SFP+ latching system
Fiber protection against abuse



OCTIS™ SFP on plug advantage

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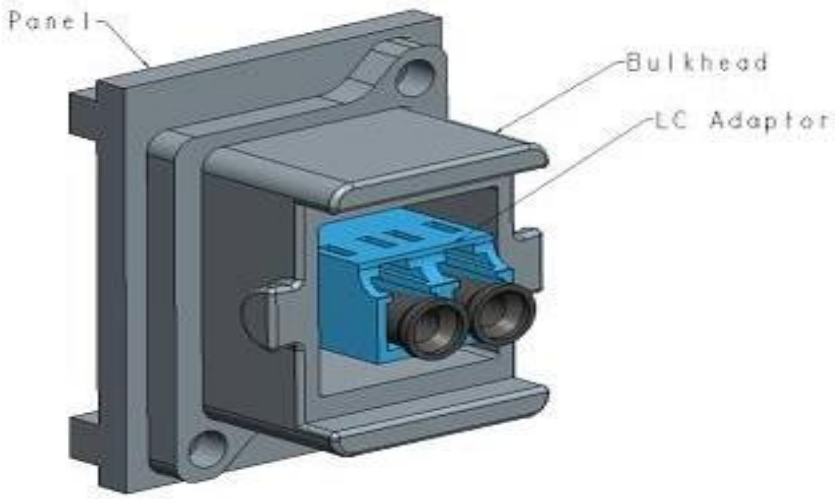
- OCTIS is much more Versatile than any other competitor product.
  - It can accommodate more number of Industry standard IO connector interfaces
- Best in class better thermal efficiency
  - Lower temperature rise for OCTIS
- OCTIS SFP version saves board space
  - 63% space saving with OCTIS Vs other solutions with transceiver on board
- For field installation only mechanical connection is done on field. Optical connection can be made in secure environment and with careful processing. Competing solutions require optical solutions on the field
- OCTIS has best in class pitch 26mm, supports markets miniaturisation trends and small cells
- Colour, physical coding, Modular

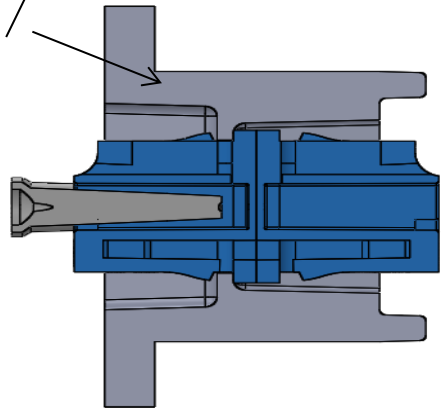
OCTIS ™ Universal plug kit with LC duplex adapter for SFP on board

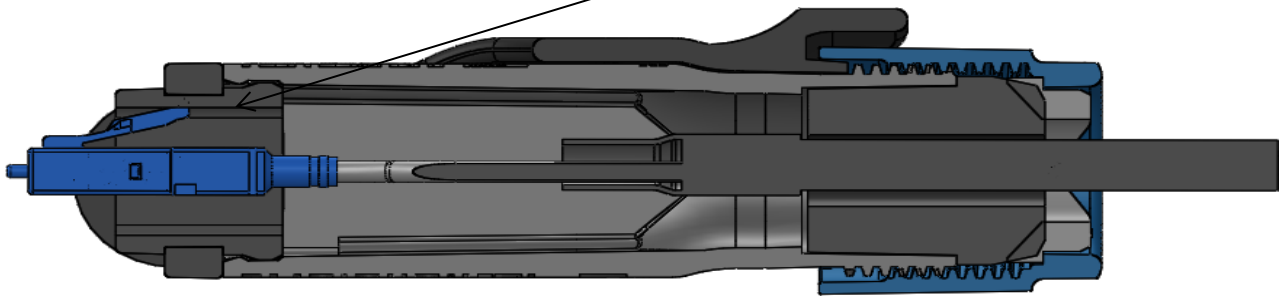


LC Duplex

Plug with specific lever and holder

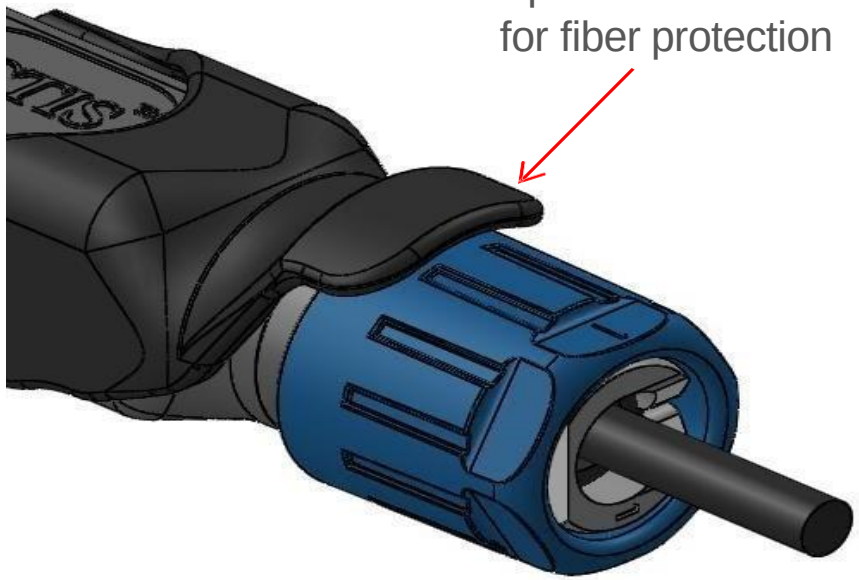
Die cast in the frame or screwed-on



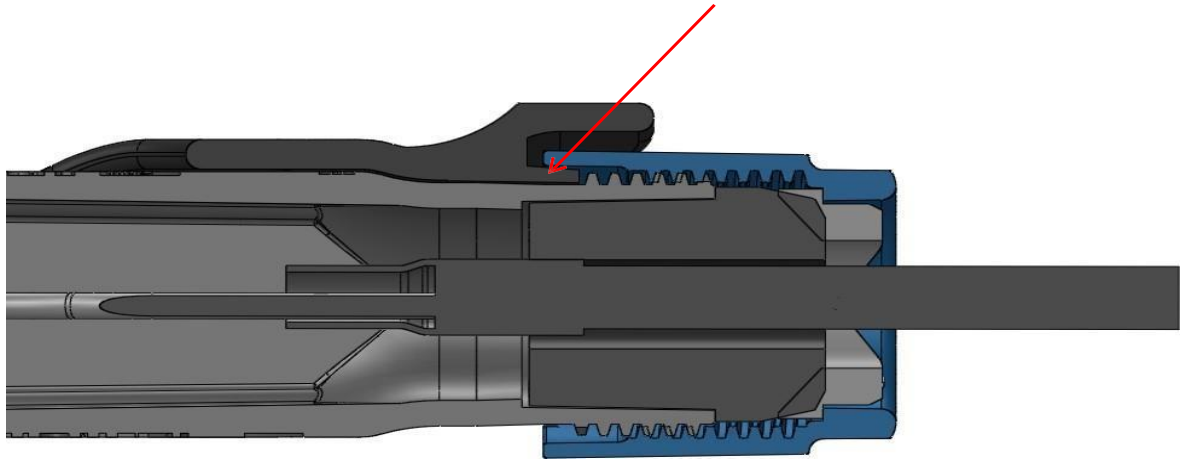


OCTIS ™ Universal plug kit

Special lever
for fiber protection

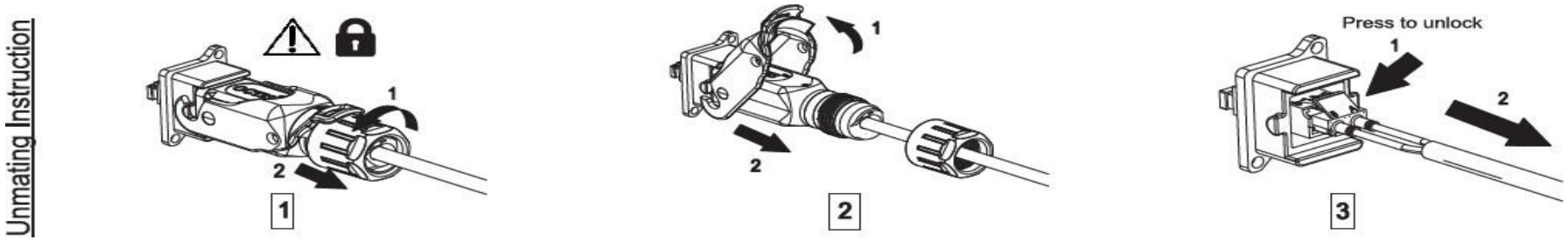


Lever is locked when the nut is tightened



This prevents pulling on the fiber by accident

- Nut has to be loosened prior to level lifting, giving additional guard to fiber



OCTIS ™ with MPO to adaptor

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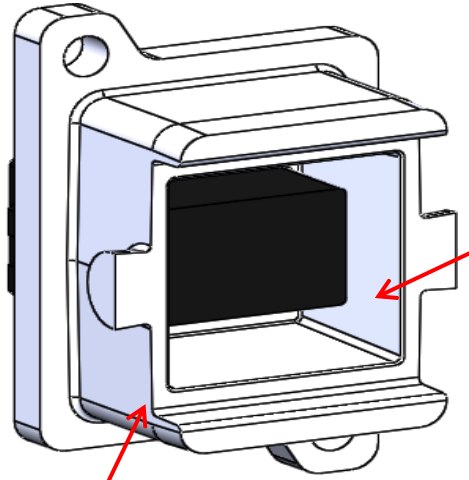
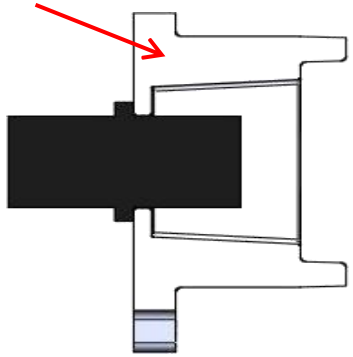


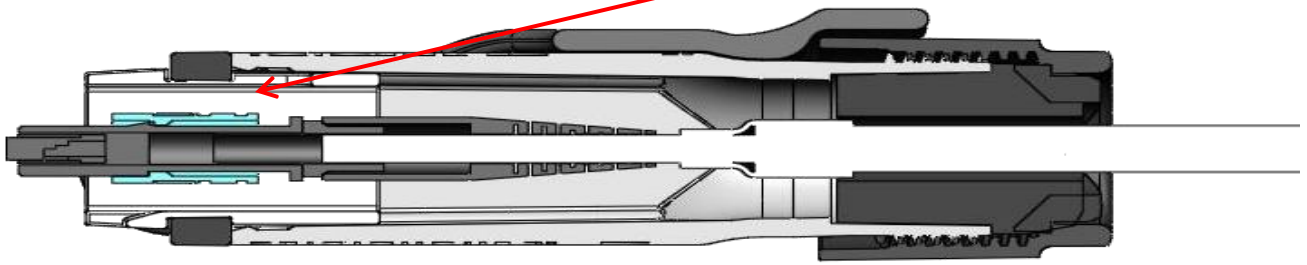
MPO adaptor

MPO plug

Die cast in the frame or screwed-on



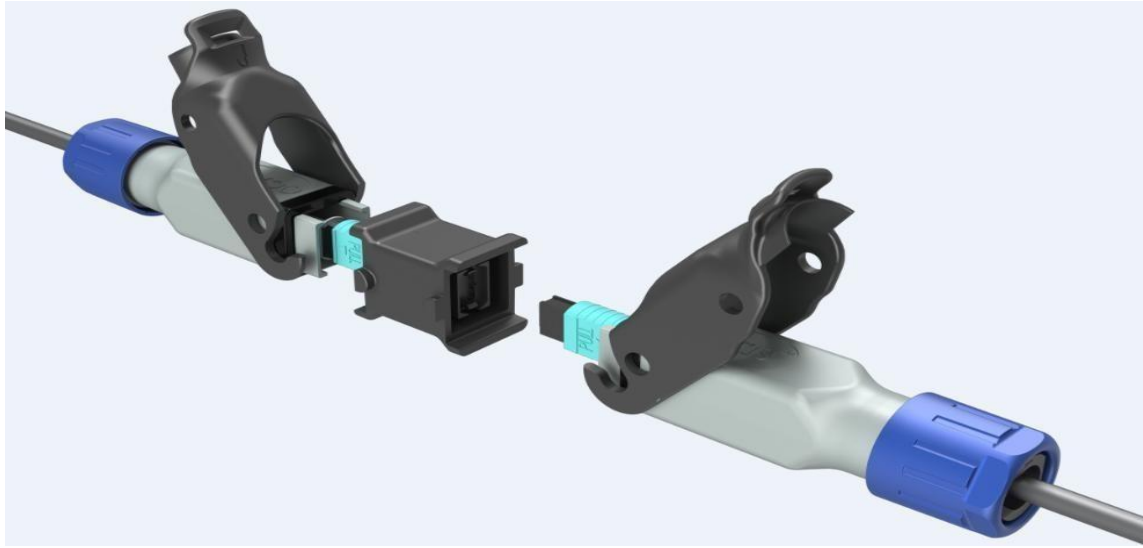
Plug with specific lever and holder

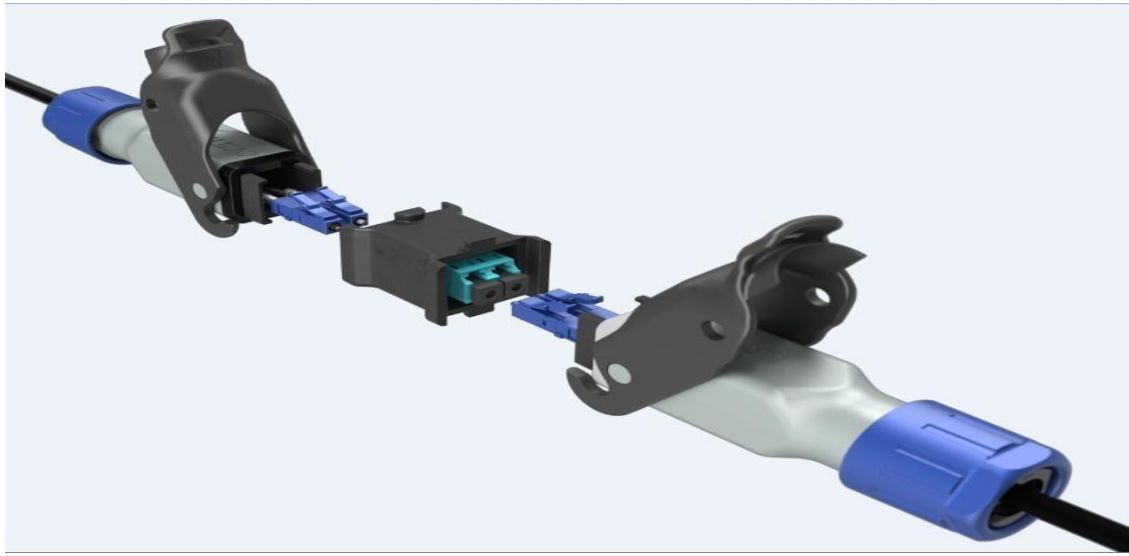


OCTIS ™ plug to plug Optical interface

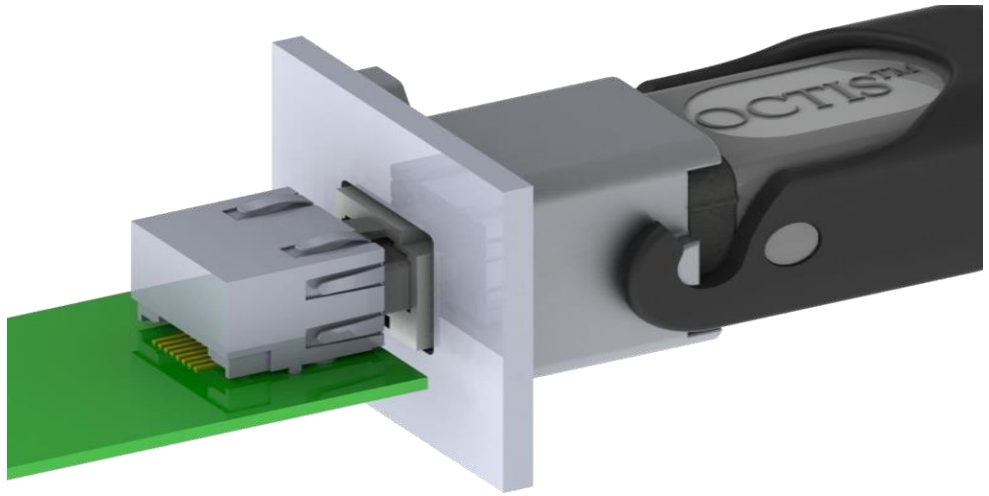
Adapter enable connection

- OCTIS Plug to Plug connection
  - MPO adapter
  - LC duplex adapter





OCTIS ™ RJ 45



- RJ 45 is a common interface. Octis Compatible with any RJ45 cable assembly & RJ 45 socket
- Solutions for Tab up and Tab down
- Options for customers based on the requirement – Cat 5e, Cat 6
- Field installable & Factory termination
- Blind mating

OCTIS ™ Signal

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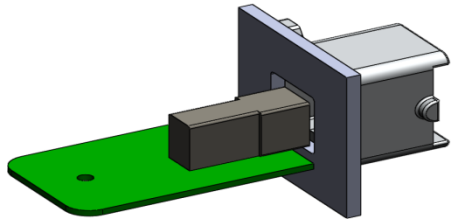
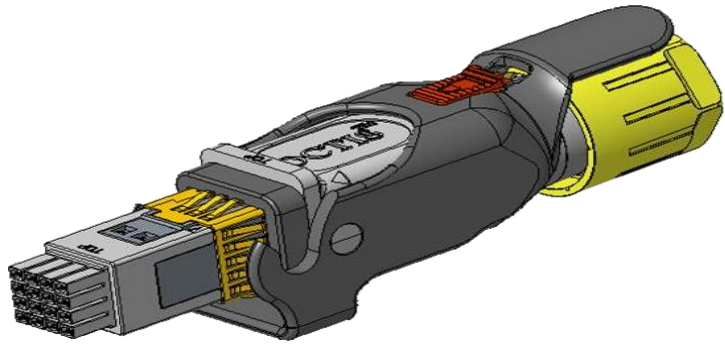
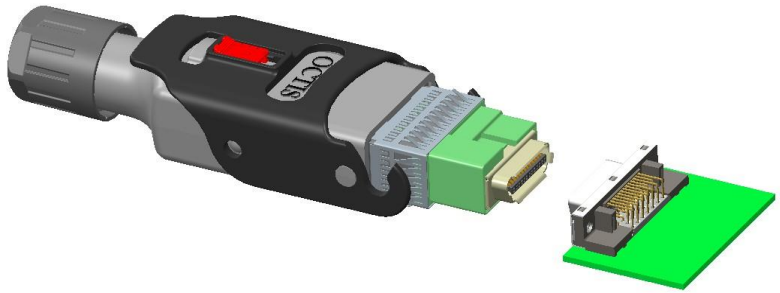
- Proven contact interfaces
  - Metral : 1.5Amps/ pin, high resistivity to surge voltage
  - Minitek : 3.0Amps / pin
  - MDR : 0.5Amps/ pin
- Wire size choice from 20-30AWG
- Field terminable or factory cable assembly
- Direct grounding from panel to cable braid



Interface *	Position	Pitch mm	Wire size AWG	Current rating	Field Teminable
Metral	4,8,10,12,16,24	26	26-30 solid	1.5A	Yes
Minitek Pwr	16	26	20-22	3A	Yes
MDR	26	41	26-28 stranded, 28 Solid	0.5A	Factory CA

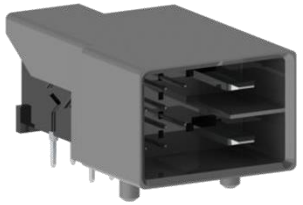




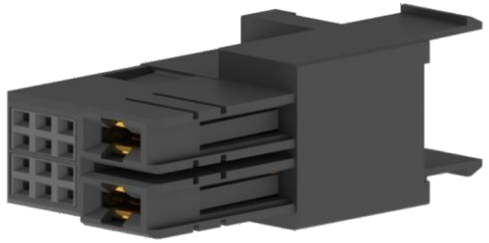
OCTIS ™ Hybrid : Signal & power interface

- **Signal & power choice**
  - 26 mm pitch : Signal 4-12 positions and DC (up to 30A), 2 postions
  - 41 mm pitch : Signal 16 position and power 4 positions 20AMps
- **Features**
  - Field or factory termination
  - Direct grounding from panel to cable braid
  - Based on existing mating interface

Signal 12 position and power 2 positions

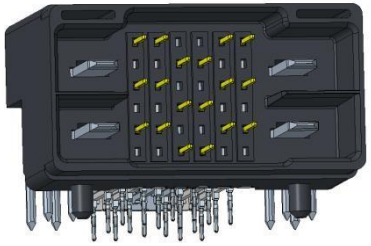


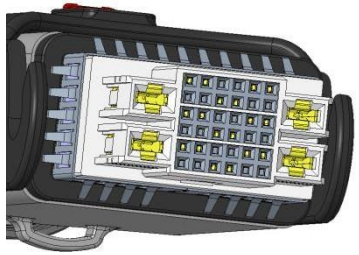
Board connector



Cable connector front view

Signal 16 position and power 4 positions

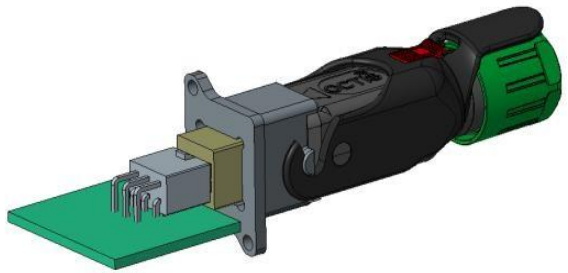




OCTIS ™ Power solutions

Sl no	Current rating in Amps	Positions	AWG	Cable termination	Port Pitch in mm	Mating Board connector
1	8	6	22	crimp	26	RA, Minitek Pwr
1	20	2,3 & 4	16,14	crimp	26	RA, OCTIS
2	20-22	2	16,14 &12	screw	26	RA, OCTIS
3	20	3	16 &14	screw	26	RA, OCTIS
4	30	2,3 & 4	12 & 10	crimp	26	RA, OCTIS
5	30	2 & 3	10	screw	26	RA, OCTIS

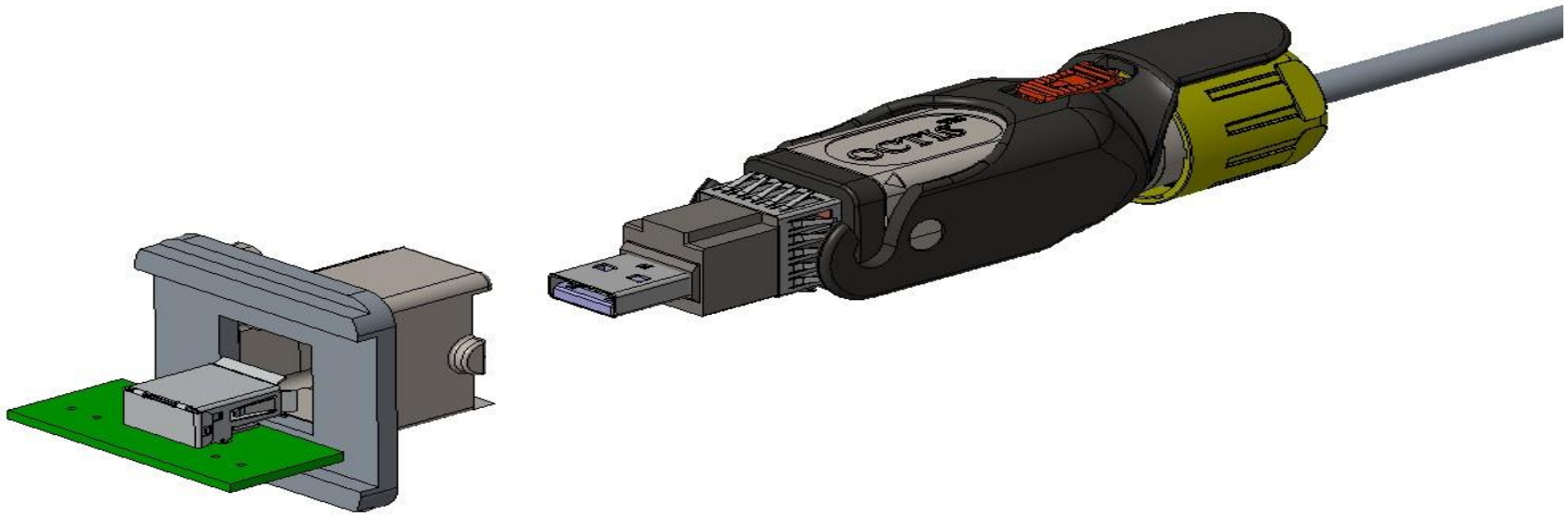
8A, crimp type – Minitek Pwr



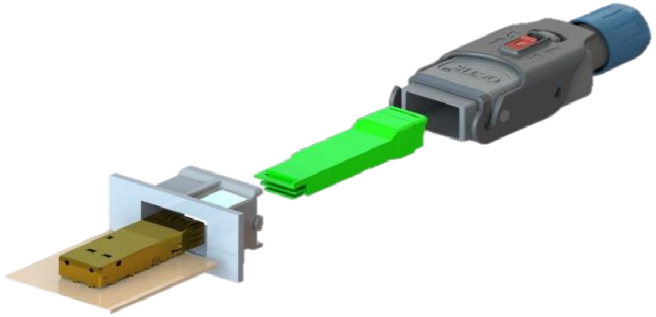
20-30A Plug type with crimp and screw options

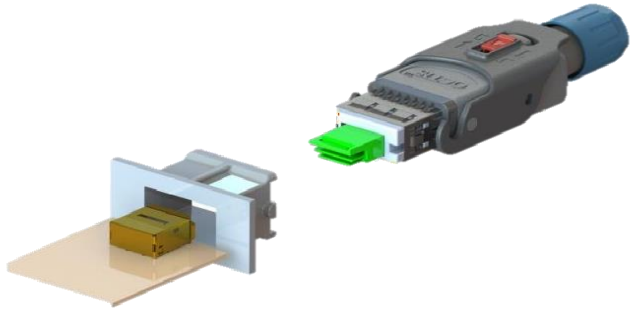
OCTIS ™ USB 2.0 Type A

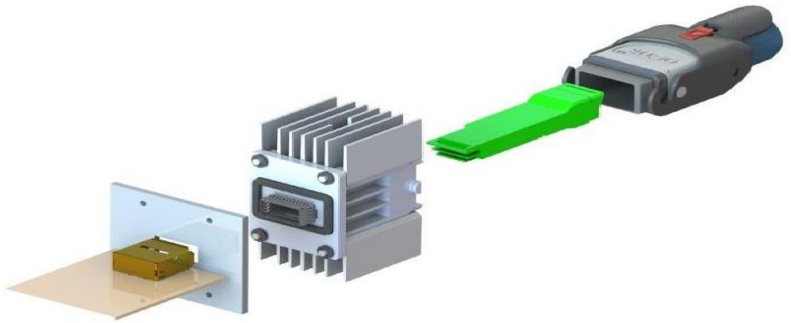
- **Connector Interface :** OCTIS USB 2.0 Type A cable assembly mating with Industry standard Type 2 USB board connector
- **Amps:** 0.5
- **Pitch :** 26mm
- **Cable assembly : Factory certified** USB2.0 Type A double ended cable available for all standard patch chord lengths



OCTIS ™ QSFP







Installation	Manual mating for transceiver on board application, two steps process	Blind mating with Transciever on plug with single step process	Transceiver on plug with additional thermal management on bulkhead, two step process
Thermal management	Requires additional heat dissipation system on the QSFP cage	~50% more heat transfer to the chassis. Ideal when chassis < 70°C	Maximum heat transfer to the receptacle. Thermal separation between receptacle and chassis. Ideal when chassis >> 70°C

- 41mm pitch

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Thank you