

# OSFP 800G AEC, CMIS 5.2

OSFP800 – OSFP800 Active Electrical Cable (AEC) 800GbE, AWG32, CMIS5.2, 1.0-3m

## DOC001-xxxC-SO

DOC001-xxxC-SO is an Active Electrical Cable (AEC) solution of Twinax type, i.e. a copper cable similar to coaxial cable, but with two inner conductors instead of one. DOC001-xxxC-SO is a solution for 800Gbps connections within racks and across adjacent racks where the interconnected equipment uses OSFP800 interfaces. It provides a cost-efficient solution as compared to using optical transceivers and it simplifies the patching since no separate transmit/receive direction has to be taken into account.

DOC001-xxxC-SO incorporates a data-signal processor (DSP) in each end to enhance the performance of the electrical characteristics. The electrical interfaces of the module are compliant with 800GAUI-8, 400GAUI-4, 200GAUI-2, 100GAUI-2, 100GAUI-1 and 50GAUI-1 as well as the OSFP800 MSA.

DOC001-xxxC-SO integrates eight data lanes (50Gbd) in each direction using PAM4 modulation with 800Gbps aggregate bandwidth.

DOC001-xxxC-SO cables have an I2C interface with Integrated Digital Diagnostic Monitoring according to the Common Management Interface Specification CMIS 5.2.

The DOC001-xxxC-SO is provided in lengths from 1 to 3 meters (3.3 to 9.8 ft).

## PRODUCT FEATURES

- 800G to 800G interconnect
- OSFP800 compliant connectors
- 800GAUI-8, 400GAUI-4, 200GAUI-2, 100GAUI-2, 100GAUI-1, 50GAUI-1 electrical interface
- Thin and flexible cables (AWG32)
- CMIS5.2 compliant I<sup>2</sup>C management interface
- BER < 10<sup>-8</sup> (pre-FEC), BER < 10<sup>-15</sup> (post FEC)
- 1 to 3 meters (3.3 to 9.8 ft)
- Low power consumption; <10.0W per side
- Operating temperature 0°C to +70°C (32°F to +158°F)
- Storage temperature -40°C to +85°C (-40°F to +185°F)

## APPLICATIONS

- Data Center cabling infrastructure
- Storage Area Network (SAN)
- Network Attached Storage (NAS)
- Hub, switches, routers, servers

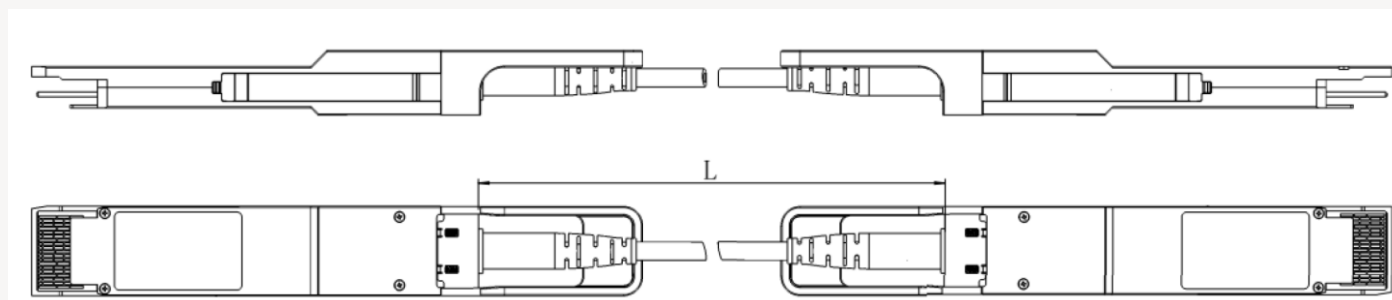
## ORDERING INFORMATION

Parameter	Description, long
DOC001-001C-SO	OSFP800 Active Electrical Cable (AEC), 800G Ethernet, AWG32, CMIS5.2 1m
DOC001-1M5C-SO	OSFP800 Active Electrical Cable (AEC), 800G Ethernet, AWG32, CMIS5.2 1.5m
DOC001-002C-SO	OSFP800 Active Electrical Cable (AEC), 800G Ethernet, AWG32, CMIS5.2 2m
DOC001-2M5C-SO	OSFP800 Active Electrical Cable (AEC), 800G Ethernet, AWG32, CMIS5.2 2.5m
DOC001-003C-SO	OSFP800 Active Electrical Cable (AEC), 800G Ethernet, AWG32, CMIS5.2 3m

## APPLICATION CODE LIST

CMIS Application Code	Host format	Electrical interface	Host Electrical ID	Payload	FEC	MSA	Media ID
1	4 x 100GBASE-R	8x 100GAUI-2 C2M	0x4B	4x 100G	RS-FEC	Active Cable assembly with BER < 1.0e-6	0x04
2	1 x 400GBASE-R	2x 400GAUI-4 C2M	0x11	1x 400G	RS-FEC	Active Cable assembly with BER < 1.0e-6	0x04
3	8x 50GBASE-R	8x 50GAUI-1 C2M	0x0A	8x50G	RS-FEC	Active Cable assembly with BER < 1.0e-6	0x04
4	8 x 100GBASE-R	8x 100GAUI-1-S C2M	0x4B	8x 100G	RS-FEC	Active Cable assembly with BER < 2.6e-4	0x03
5	1x 800GBASE-R	1x 800GAUI-8 L C2M	0x52	800G	RS-FEC	Active Cable assembly with BER < 2.6e-4	0x03
6	4x 200GBASE-R	4x 200GAUI-2-S C2M	0x4D	4x 200G	RS-FEC	Active Cable assembly with BER < 5e-5	0x02
7	2 x 400GBASE-R	2x 400GAUI-4-S C2M	0x4F	2x 400G	RS-FEC	Active Cable assembly with BER < 5e-5	0x02
8	200GBASE-R	2x 200GAUI-4 C2M	0x0F	2x 200G	RS-FEC	Active Cable assembly with BER < 5e-5	0x02

## MECHANICAL DRAWING



## GENERAL DEFINITIONS

Parameter	Description
Technology	Grey; Transceiver type for non-WDM applications. Electrical or optical. CWDM; Transceiver type for CWDM applications using G.694.2 channel grid. DWDM; Transceiver type for DWDM applications using G.694.1 channel grid. BiDi; Transceiver pair using two different wavelength channels operating on a single-fiber. DAC: Direct Attach Cable. Electrical cable with attached connectors. AOC: Active Optical Cable. Optical cable with attached connectors.
Transmission Media	Type of fiber, e.g. Multimode (MM) or Singlemode (SM). Number of and connector type within brackets (e.g. 2x LC, 1x MPO).
Typical reach	Nominal distance performance based on typical fiber dispersion, fiber loss and power budget properties, i.e. w/o dispersion compensation and optical amplification. Actual distance is dependent on actual optical path loss and dispersion properties.
Bit rate range	Supported bit rate range in Gigabit or Megabit per second (Gbps or Mbps).
Protocols	Protocols within supported bit rate range.
Nominal wavelength	Typical wavelength(s) from transmitter.
Interface standards	Referenced interface standards or MSA's, e.g. IEEE 802.3 standard for 10GbE services or 100G 4WDM-10 etc.
Power budget	Min and max power budget between Transmitter and Receiver w/o optical path penalties.
Dispersion tolerance/penalty	Maximum amount of tolerated dispersion and required reduction of power budget to maintain stipulated Bit Error Rate (BER) and at a given bit rate.
Temperature range	Max operating case temperature range. Standard temperature range (C-temp): 0°C to +70°C (32°F to +158°F) Extended temperature range (E-temp): typically -20°C to +75°C (-4°F to +167°F) Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F)
Power consumption	Worst case power consumption. Will vary over temperature.
Transmitter Output power	Average output power. Provided in min and max values.
Receiver minimum input power	Minimum average input power at specified BER, normally $1E^{-12}$ . Note that some protocols require FEC to achieve sufficient BER.
Receiver max input power	Maximum average input power giving a BER, normally $1E^{-12}$ .
DDM	Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA.

Smartoptics makes no warranties or representations, expressed or implied, of any kind relative to the information or any portion thereof contained in this document or its adaptation or use, and assumes no responsibility or liability of any kind, including, but not limited to, indirect, special, consequential or incidental damages, for any errors or inaccuracies contained in the information or arising from the adaptation or use of the information or any portion thereof. The information in this document is subject to change without notice.