

400G OSFP DR4 500m

400G Eth, OSFP, DR4, 500m, MPO-12 APC, 1311nm, SM

COP-4E-DR-CDF02

OVERVIEW

The COP-4E-DR-CDF02 is a 400Gbps OSFP optical transceiver designed for high-speed Ethernet applications in data center interconnect environments. It supports 400GBASE-DR4 transmission over single-mode fiber (SMF) with reach up to 500m using an MPO12 optical interface.

The module converts eight 53.125G electrical lanes (400GAUI-8) into four optical PAM4 wavelengths operating around 1311nm. It also supports 4×100G breakout configurations through 4×100GAUI-2 operation mode, enabling flexible network deployment.

The transceiver supports CMIS4.0 management and provides Digital Diagnostic Monitoring (DDM) through an I2C interface for real-time monitoring of module operating conditions. Forward Error Correction (RS-FEC) is required at the host side to ensure reliable transmission performance. The module operates with low power consumption of less than 8W and supports a commercial operating temperature range of 0°C to +70°C.

KEY SPECIFICATIONS

- Supports 400GAUI-8 and 4×100GAUI-2 electrical interfaces
- PAM4 modulation technology
- 4 × 1311nm optical lanes over single-mode fiber (SMF)
- MPO12 optical connector interface
- Supports 400G to 4×100G breakout operation
- RS-FEC support required at host side
- CMIS4.0 compliant management interface
- Supports Digital Diagnostics Monitoring (DDM) via I2C
- Operating temperature range: 0°C to +70°C

TECHNICAL DATA

Parameter	Value	Parameter	Value
Form Factor	OSFP	Transmitter Data:	
Transmission Media	SM (MPO12)	Tx Power	-2.9 to +4dBm ³⁾
Typical Reach	500m	Tx Wavelength	1304.5 - 1317.5nm
Nominal Wavelength	1311nm	Receiver Data:	
Data Rate Support	425Gbps ¹⁾ 53.125GBd ²⁾	Rx Sensitivity	-5.9dBm ³⁾⁴⁾
Protocol Support	400GbE	Rx Overload, max	+4dBm ³⁾
Power Consumption	<8W	Rx Wavelength	1304.5 - 1317.5nm
Operating Temperature	0°C to 70°C	LOS Assert	-15dBm
Storage Temperature	-40°C to 85°C	LOS De-Assert	-10dBm
DDM	Yes	LOS Hysteresis	0.5dB

¹⁾ Aggregated line rate 400GbE

²⁾ Line baud rate per lane

³⁾ Average power, per lane

⁴⁾ Per 53.125 GBd lane. Specified @BER 2.4E-4

Safety/Regulatory Compliance

- Class 1 laser safe
- RoHS Compliance

APPLICATION CODE LIST

CMIS Application Code	Host format	Electrical Interface	Payload	FEC	MSA format
1	400GBASE-R	1x 400GAUI-8 (8x 50G)	400G	RS-FEC	400GBASE-DR4
2	4 x 100GBASE-R	4x 100GAUI-8 (2x 50G)	400G	RS-FEC	OIF 400ZR app code 0x02

ABSOLUTE MAX RATING

Exceeding these limits can cause permanent damage to the transceiver

Parameter	Value	Parameter	Value
Supply Voltage	-0.5V - 3.6V	Relative Humidity	85%
Storage Temp	-40°C to 85°C	Max Rx Optical Power	+4dBm per lane

ORDERING INFORMATION

Ordering Code	Description
COP-4E-DR-CDF02	400G OSFP, DR4, 500m, MPO-12 APC, 1311nm, SM, 0 to 70C

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