



# O<sub>2</sub>e

## Optical-to-Electrical Converter

### KEY FEATURES

- DC Coupled
- Amplified RF output
- 25GHz of bandwidth
- 50/125  $\mu\text{m}$  multi-mode fiber input
- Ideal for Eye Mask, Extinction Ratio, and Optical Modulation Amplitude (OMA) testing
- Independent powered and works with any oscilloscopes

  
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solutions  
complexity made simple.

# O<sub>2</sub>e

Coherent Solutions O<sub>2</sub>e is a DC-coupled amplified Optical to Electrical converter that brings optical signal measurement capability to real-time oscilloscopes. With 25 GHz of analogue electrical bandwidth, it is an ideal optical front-end for testing high-speed multi-level intensity modulated optical signals.

## Ideal O-to-E for IEEE Ethernet Transceivers

Many of IEEE ethernet standards use multiple channels to achieve high data transmission rates such as 100Gbps, 200Gbps and 400Gbps.

### IEEE Ethernet Standards compatible with O<sub>2</sub>e:

	Wavelength	Modulation Format	Baud Rate	Number of Channels	Fiber Type
100GBASE-SR4	850 nm	NRZ OOK	25.78125 GBaud	4 fibers	MM fiber
100GBASE-LR4	1300 nm	NRZ OOK	25.78125 GBaud	4 WDM Channels	SM fiber
100GBASE-ER4	1300 nm	NRZ OOK	25.78125 GBaud	4 WDM Channels	SM fiber
100GBASE-CWDM4	1271-1331 nm	NRZ OOK	25.78125 GBaud	4 WDM Channels	SM fiber
100GBASE-PSM4	1310 nm	NRZ OOK	25.78125 GBaud	4 fibers	SM fiber
200GBASE-FR4	1272-1310 nm	PAM4	26.5625 GBaud	4 WDM Channels	SM fiber
200GBASE-LR4	1272-1310 nm	PAM4	26.5625 GBaud	4 WDM Channels	SM fiber
400GBASE-FR8	1272-1310 nm	PAM4	26.5625 GBaud	8 WDM Channels	SM fiber
400GBASE-LR8	1272-1310 nm	PAM4	26.5625 GBaud	8 WDM Channels	SM fiber

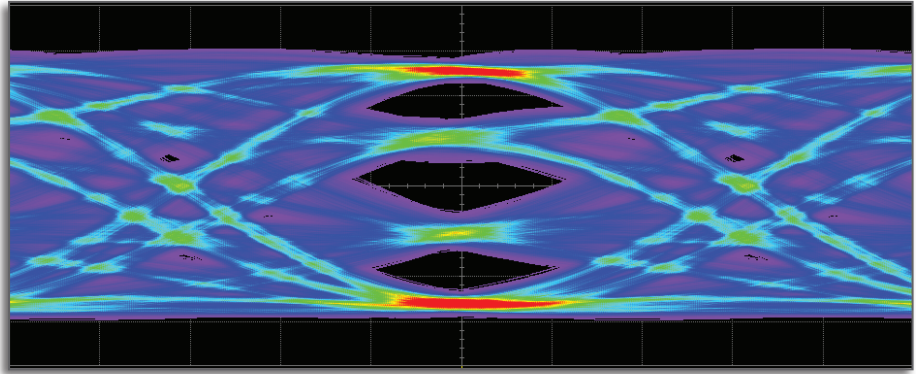
## Powerful Optical Signal Characterization with Real-time Oscilloscopes

Real-time oscilloscope lets you measure and characterize non-repeating live data streams without the need for a trigger signal. O<sub>2</sub>e adds optical signal measurement capability to the powerful and versatile real-time oscilloscopes. Just connect the optical fiber to O<sub>2</sub>e and characterize your signal.



## Characterization of optical PAM4 signals

Measuring multi-level intensity modulated optical signals requires DC-coupled optical to electrical converters. O<sub>2</sub>e's 25GHz of analogue bandwidth and its amplified output makes it the perfect solution to PAM4 optical signal analysis.



Optical 28 GBaud PAM4 eye diagram measured with O2E-M-BB-50-FC and 25GHz LabMaster real-time oscilloscope.

## Technical Specifications

	Min	Typical	Max
Analog Bandwidth GHz	24	25	
Wavelength Range (nm)	830-1600		
Conversion gain (V/W) at 850 nm	-73	-80	
Conversion gain (V/W) at 1310 nm	-115	-125	
Conversion gain (V/W) at 1550 nm	-110	-125	
DC coupled	Yes		
5% compression point at 1550 nm (mW)	4		
Noise (mVrms) measured up to 50 GHz		0.5	0.6
Optical Return Loss (dB)	14	19	
Polarization dependent Loss (dB) at 1550		0.1	0.2
RF impedance (ohms)	50		
Fiber (core/cladding)	50/125		
RF connector	2.92mm		
Optical Connector	FC/PC or SC/PC		
Power consumption (W)	1.2		

Note: All specifications subject to change without notice.

## Product Warranty



All Coherent Solutions' products come with a standard 3 year warranty.

## Ordering Information

O<sub>2</sub>e: O2E - 1 - M - BB - 50 - X

**Connector Type**  
FC = FC/PC  
SC = SC/PC

**Number of Connectors**  
1 = 1 channel

**Example:**  
O2E-1-M-BB-50-FC

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**To find out more, get in touch with us today.**

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