

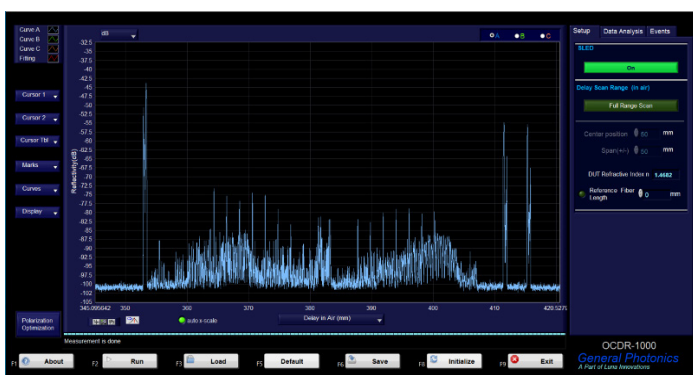


OC DR-1000

Optical Coherence Domain Reflectometer

The OC DR-1000 is an optical coherence domain reflectometer designed to obtain space-resolved reflection information inside a fiber optical component, such as a Photonic Integrated Circuit (PIC), for diagnosing quality or design issues.

The OC DR-1000 is based on a polarization optimized white light interferometer. It is a low cost alternative to OFDR technology. The high dynamic range avoids the masking of small reflection peaks by the large reflections typical of the input surface of an optical device. A set of length matching delay modules is available to match the pigtail lengths of the devices to be measured and place the 600mm measurement span in the region of interest. With a reflection dynamic range of over 70 dB and a spatial resolution down to 15 μm , this instrument helps engineers and researchers see the inside of an optical device to precisely identify defects and their locations.



Reflectivity vs. length measurement in a 1x2 InP waveguide coupler.

KEY FEATURES

- Return loss (RL) analysis
- Trace distributed RL over length of optical path
- Detect and precisely locate reflective events and measure path length
- Dynamic range: over 70 dB
- Scan range: 600 mm (400 mm in fiber)
- Spatial resolution: down to 15 μm
- Measures in reflection mode

APPLICATIONS

Optical Characterization of:

- Photonic Integrated Circuits
- Fiber Optic Components

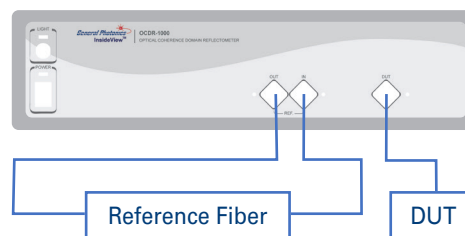
Accurate Measurement of:

- Return Loss
- Distributed Reflectivity

High-resolution and high-dynamic range reflectivity measurements for R&D and

REFLECTION MEASUREMENTS

- Reflectivity, RL versus length
- Event detection and location



PERFORMANCE

PARAMETER	SPECIFICATION	UNITS
Measurements		
Operating wavelength	1310 or 1550	nm
Spatial resolution	15 (1310nm); 20 (1550nm); in SMF-28 fiber	μm
Spatial accuracy ¹	< 0.1 (±0.01%) in air	mm
Measurement range	600	mm
Sweep speed	>40 (optical delay change, in air)	mm/sec
Light Source		
Center wavelength	1310 ± 20; 1550 ± 20	nm
Spectral width (-3dB)	>35	nm
Average power	> -3	dBm
Return Loss Characteristics (Reflection Mode)		
RL dynamic range	70	dB
Total range	10 to 88	dB
Sensitivity	-90 (-95 typical)	dB
Accuracy ¹	±1.0	dB
Physical		
Optical connector type	FC/APC standard or FC/PC	-
Compatible fibers	9/125 with connectors, others with fusion splice	-
Operating temperature	10 to 50	°C
Storage temperature	-20 to 60	°C
Dimensions (WxDxH)	3.5 x 14 x 14	Inches

Note:

1. At 23±5°C.

ORDERING

Catalog #	Description	Includes
OCDR-1000-15-FC/APC	Optical Coherence domain reflectometer, 1550nm, FC/APC connectors	OCDR-1000 mainframe for C band, application software, instrument controller (workstation-class laptop) and 1m patch cord
OCDR-1000-13-FC/APC	Optical Coherence domain reflectometer, 1310nm, FC/APC connectors	OCDR-1000 mainframe for O band, application software, instrument controller (workstation-class laptop) and 1m patch cord
MKit-001-FC/APC	Reference matching fiber	Set of 7 fiber-optic delay modules of lengths 1.2 to 3 meters, at 0.3m intervals