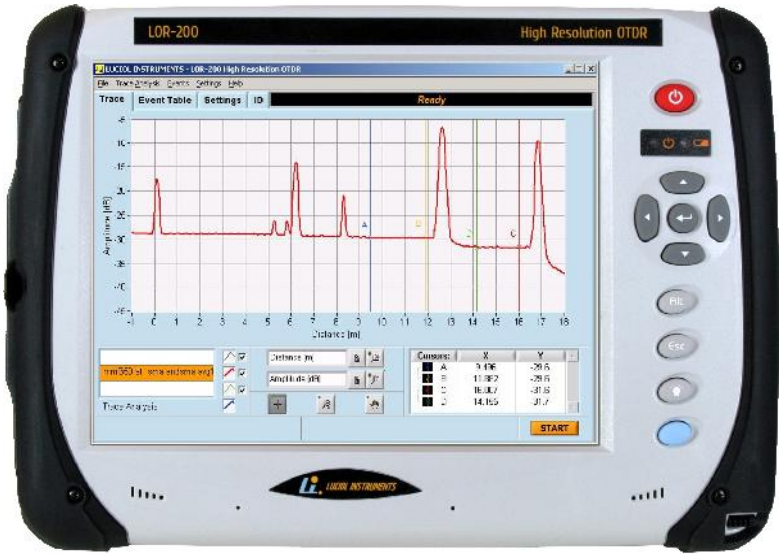
LOR-220

High Resolution Optical Time-Domain Reflectometer for Aviation and Defense applications



Fully portable OTDR format

Industry-leading resolution (1 ns pulses)

Measures IL and ORL for all types of connectors

High dynamic range

Up to four wavelengths

Custom systems for most fiber types and wavelengths

Patented design; US patent # 7,593,098

The LOR-220 from Luciol Instruments is new member of the LOR-200 family. It is the first **truly portable** High Resolution OTDR specially designed for short MMF assemblies, found for example in airplanes, ships and defense applications. The LOR-220 can **characterize** the original assembly, **monitor** possible evolution for preventive maintenance purposes and **troubleshoot** in case of a fault in the system. The extremely short deadzones (10 cm event deadzone, 40 cm attenuation deadzone) ensure that you can detect, localize and measure events, which no other OTDR can show, such as fiber breaks and bend-loss, even after a large reflection.
The LOR-220 is also available on a custom basis for SMF assemblies at telecom wavelengths.

APPLICATIONS

- Aviation, aerospace and defense industries
- Characterization/monitoring/troubleshooting of fiber assemblies in harsh environments
- Fiber optic sensors
- And more…

LUCIOL INSTRUMENTS

SPECIFICATIONS

Optical

Wavelength options (standard)[1]:
670 nm, 810 nm
Fiber Type: MMF 200 μm, 62.5 μm or 50 μm
Optical Connector:
Universal, PC type, with FC, SC or ST adapter
Optical Pulse Widths: 1 ns
Measurement Range:
1.25, 2.5, 5, 10, 20, 40, 80, 160km
Distance Units:
kilometer, meter, feet, miles, time(ns)
Sampling Resolution:
Any multiple of 2.5 cm (250ps)
Dynamic Range[2] :
Return loss: 98 dB ;
Rayleigh Backscattering: >20 dB (S/N=1)
Deadzones[2]:
Event deadzone: 10 cm;
Attenuation deadzone[3]: 40 cm.
Distance accuracy:
± (10 mm + $5x10^{-5}$ x[fiber length])
Reflectance accuracy: ± 1 dB

Hardware

Operating system: Windows XP embedded

Processor: AMD Geode 500 MHz

RAM: 1 GB

Storage: Compact flash 8 GB (more optional)

Display: Touchscreen TFT 10.4”; 800X600

Interfaces: 1x Ethernet RG45;
2x USB Type 2;
1x VGA,
1x Serial port

Power rating: 15V; 3.2 A

Power input: AC operation with 100 to 240 VAC; 50/60 Hz universal adapter; DC operation on batteries (Li Ion, 6.6 Ah)

Battery operating time: 5 h

Battery charging time: 3.5 h

Size: 320 x 240 x 90 mm

Weight: 3.1 kg

Environmental

Operating temperature: 0˚ to +40˚C (32° to 104° F)

Storage temperature: -20˚ to +60˚ (-4° to 140°F)

Humidity: 0% to 90%; noncondensing

OPTIONS AVAILABLE

-VFL[4]
Visual Fault Locator on the OTDR output; can be used as Fiber Identifier.

-OPM: Optical power meter for 850 nm, 1310, 1550 and 1610 nm.
Range: -50 dBm to +8 dBm for 850 nm ;
-55 dBm to +3 dBm for 1310, 1550 and 1610 nm;
Linearity: ± 0.05 dB (between -45 and 0 dBm)
Absolute power uncertainty: ± 0.2 dB
Resolution: ± 0.01 dB

-FSL
Fiber microscope; End-face verification of connectors; USB connection; Video displayed on LOR screen.

ORDERING INFORMATION

LOR-22X-MMFYY-W1(/W2/W3/W4)-CC;
X= # of wavelengths;
MMFYY= MMF62, MMF50;
W1, W2…: wavelengths
CCC: connector type (ASC, AFC, SC, FC, ST).

Ordering example:
LOR-222-MMF62-670/850-FC-VFL
LOR-220 for MMF 62.5 μm, with 2 wavelengths at 670 nm and 850 nm, FC connector, with VFL.

Other wavelengths, fiber types and configurations are available on a custom basis. Contact the factory with your special requirements.

Notes:
1: Typical, ±30 nm.
2: Typical
3: For ORL = 45 dB
4: available with 670 nm option only

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