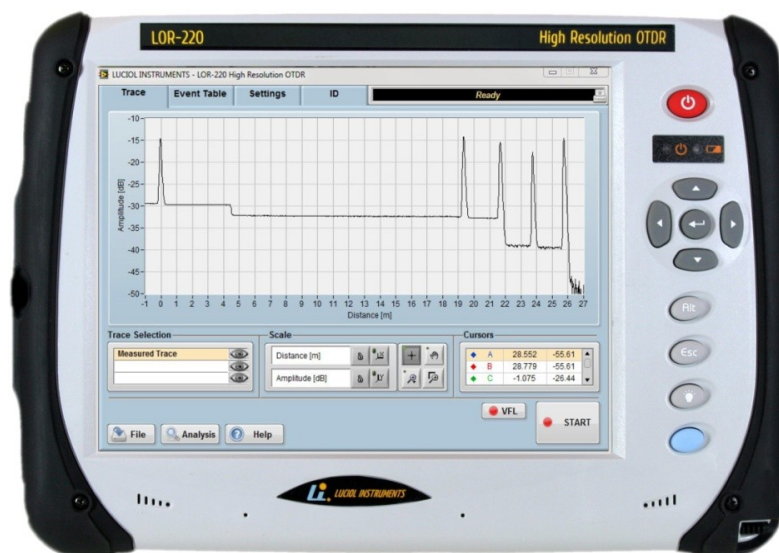


LOR-220

High Resolution Optical Time-Domain Reflectometer



The LOR-220 from Luciol Instruments is a fully portable high resolution OTDR. It is similar in shape and feel to a standard OTDR, but achieves unprecedented resolution. The LOR-220 distinguishes events with 10 cm separation and has a 40 cm attenuation deadzone. Its unique dynamic range for short pulse lengths (over 12 dB for 1 ns pulses) enables to see through optical splitters, even over very short distances.

APPLICATIONS

- See and localize events, which no other OTDR can show, such as weak reflections or attenuations immediately after a larger reflection or an optical splitter.
- Fiber optic sensors and fiber assemblies.
- Fiber manufacturing and verification.
- Loss and Optical Return Loss testing for optical components.
- Aviation and aerospace.
- And more...



**Single output
SMF or MMF**

**Industry-leading
resolution (1 ns
pulses)**

**Fully portable OTDR
format**

**High dynamic range
with short pulses**

**Measures IL and
ORL for all types of
connectors**

1625 nm option

**Up to four
wavelengths
(1000 – 1650 nm)**

**Custom systems for
most fiber types
and wavelengths**

**Patented design; US
patent # 7,593,098**

SPECIFICATIONS

Optical

Standard wavelength options* (± 20 nm):
1310 nm; 1480 nm; 1490 nm; 1550 nm;
1625 nm or 1650 nm;

Standard fiber types*:

Single Mode (9/125 μ m)
Multimode (50 or 62.5/125 μ m)

Optical connector:

Universal, APC or PC type, with FC, SC or ST adapter

Optical pulse width: 1 ns

Measurement range:

1.25, 2.5, 5, 10, 20, 40, 80, 160 km

Distance units:

kilometer, meter, feet, miles, time(ns)

Sampling resolution:

any multiple of 2.5 cm (250 ps)

Dynamic range¹:

Return loss: 98 dB (-10 dB to -108 dB)

Rayleigh backscattering²:
> 12 dB (S/N = 1)

Deadzones¹:

Event deadzone: 10 cm

Attenuation deadzone³: 40 cm

Distance accuracy:

$\pm (10 \text{ mm} + 5 \times 10^{-5} \times [\text{fiber length}])$

Reflectance accuracy¹: ± 1.5 dB

Loss accuracy⁴: ± 0.1 dB ± 0.02 dB/dB

Hardware

OS: Windows 10 Home 32-bit

Processor: AMD G T40E, 2x 1 GHz

RAM: DDR3, 4 GB

Storage: SSD, 120 GB (more optional)

Display: Touchscreen TFT 10.4"; 800X600

Interfaces: Ethernet RG45; 2x USB Type 2;

VGA; 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, 6.2 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°C (-4° to 140° F)

Humidity: 0% to 90% noncondensing

OPTIONS AVAILABLE

-OPM : Optical power meter

Wavelength: 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-220

LOR-22X-FFF-W1(/W2/W3/W4)-CC;

X= # of wavelengths;

FFF= fiber type: SMF, MMF62, MMF50;

W1, W2...: wavelengths with source type (FP or DFB lasers, LED

CC= connector type: ASC, AFC, SC, FC, ST.

Ordering example:

LOR-223-SMF-1310DFB/1480FP/1625DFB-AFC

LOR-200 SMF, with 3 wavelengths, one FP laser at 1310 nm, one FP laser at 1550 nm, and one DFB laser at 1625 nm, FC/APC connector.

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

Notes:

1: Typical

2: At a wavelength of 1310 nm

3: For ORL = 45 dB

4: For a LED source (or FP under specific conditions)

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