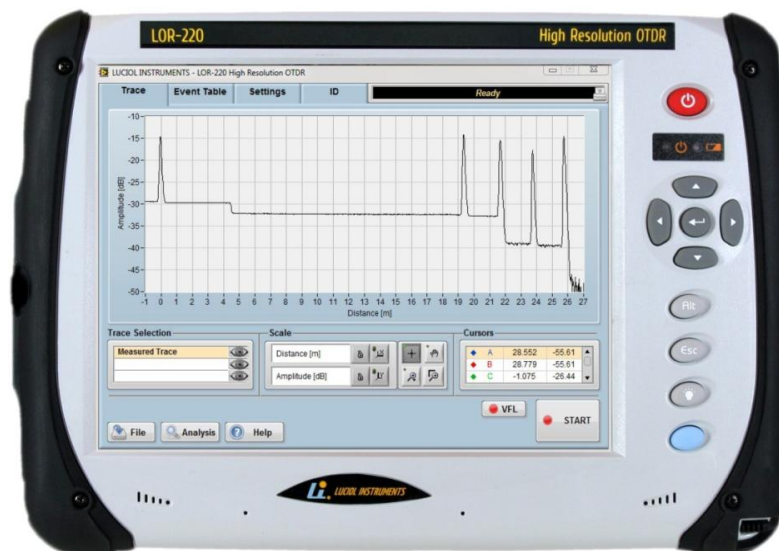


LOR-220 IR

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 (> 12 dB for the 1 ns pulse-width) 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 dB

Loss accuracy⁴: ± 0.1 dB ± 0.02 dB/dB

Hardware

OS: Windows Embedded POSReady 7
Processor: AMD G T40E, 2x 1 GHz
RAM: DDR3, 2 GB
Storage: SSD, 60 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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