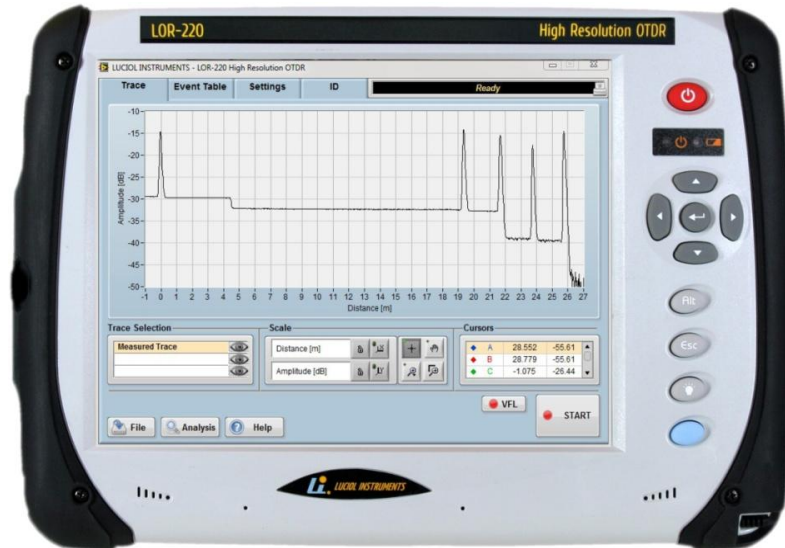


LOR-220

High Resolution Optical Time-Domain Reflectometer



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

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...



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:
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: Intel N3350, 2x 2.4 GHz
RAM: DDR3L, 4 GB
Storage: SSD, 120 GB (more optional)
Display: Touchscreen TFT 10.4" (800x600)
Interfaces: 2x Ethernet RJ45
4x USB 3.0
1x HDMI
1x Headphone/Microphone
Wifi/Bluetooth (optional)

Power rating: 15V/4 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° (-4° to 140°F)
Relative humidity: $\leq 80\%$ (0 to 30°C), decreasing
linearly to 50% at 40 °C
Maximum operation altitude: 2000 m
Pollution degree: 2

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)