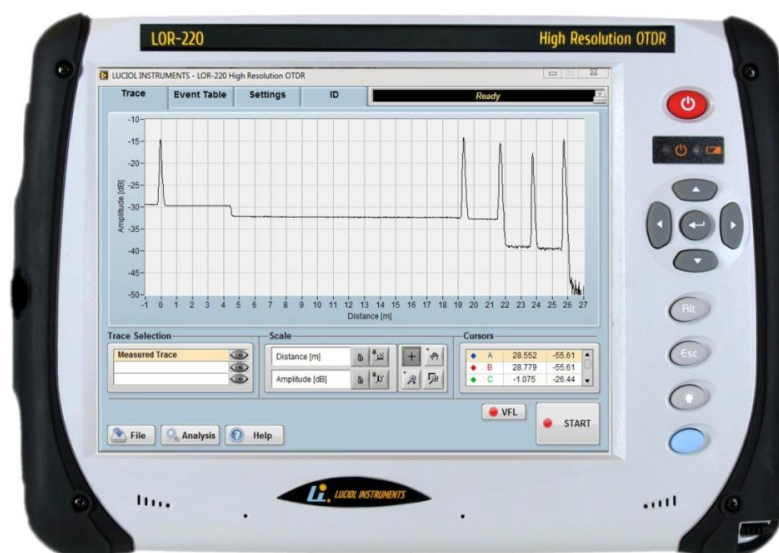


High Resolution Optical Time-Domain Reflectometer



**Wavelength range
500-1064 nm**

**Single or dual
output (SMF/ 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**

**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 a fully portable high resolution OTDR. It is similar in shape and feel to a standard OTDR but achieves unprecedented resolution.

With a fixed pulse-width of only 1 ns the LOR-220 distinguishes events with 10 cm separation and has a 40 cm attenuation dead-zone. Its unique dynamic range for short pulse lengths (> 20 dB for 1 ns pulses) enables testing optical assemblies with high insertion losses, even over very short distances.

The LOR-220 can **characterize** the original assembly, **monitor** possible evolution for preventive maintenance purposes and **troubleshoot** in case of a fault in the optical link.

The VIS/NIR version of the LOR-220 is available for up to four wavelengths in the range of 500-1064 nm and for several fiber types. Even two different fiber types can be combined in a single instrument when choosing the dual output option.

APPLICATIONS

- Aviation, aerospace, defense, transportation, oil and gas and more
- 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.

SPECIFICATIONS

Optical

Standard wavelength options* (± 20 nm):

670 nm, 850 nm

Standard fiber types*:

Multimode 200, 105, 62.5 or 50 μ m cores

Single Mode 5/125 μ m

Optical connector:

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

Optical pulse width: 1 ns

Measurement range:

0.5, 1.2, 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 backscattering: > 20 dB (S/N = 1)

Deadzones¹:

Event dead-zone: 10 cm

Attenuation dead-zone²: 40 cm

Distance accuracy:

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

Reflectance accuracy¹: ± 1.5 dB

Loss accuracy¹: ± 0.1 dB ± 0.02 dB/dB (MMF)

Hardware

OS: Windows 11 (Windows 10 on request)

Processor: Intel N4200

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:

-VFL³

Visual Fault Locator on the OTDR output; can be used as fiber identifier.

-FSV

Fiber microscope

End-face verification of connectors, USB connection, Video displayed on LOR screen.

-DOP

Dual output with two different fiber types. **

-OSW

Optical switch for semi-automatic multi fiber testing. Internal (up to 12 channels) or external switch with USB connection. **

Ordering information

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

X= # of wavelengths;

FFF= fiber type: SMF, MMF62, MMF50

W1, W2...: wavelengths

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

Ordering example:

LOR-222-MMF62-670/850-FC-VFL

LOR-220 for MMF 62.5 μ m with 2 wavelengths at 670 and 850 nm, FC connector, with VFL.

*Other wavelengths and configurations are available on a custom basis. Please contact Luciol Instruments with your special requirements.

** Please contact Luciol Instruments for details

Notes:

1: Typical

2: For ORL = 45 dB

3: Available with 670 nm option only

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