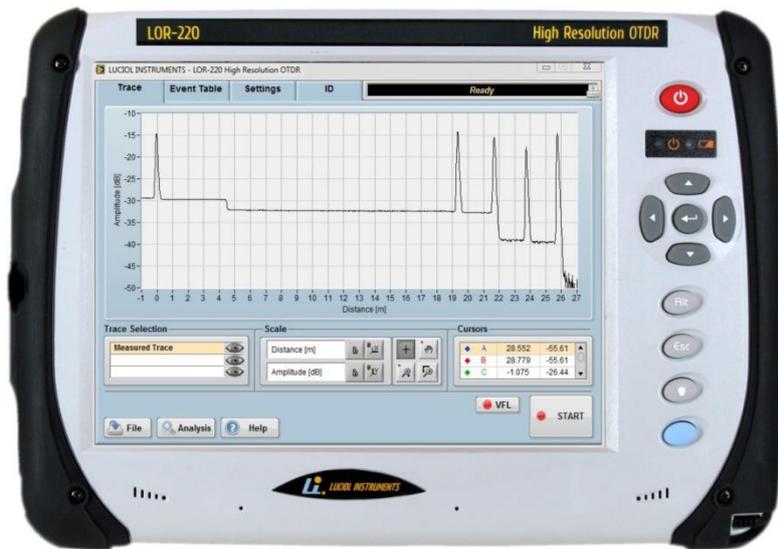


# LOR-220

## High Resolution OTDR for Aviation, defense, transportation and Oil and Gas 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 (530-980 nm)

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, defense, transportation and Oil and Gas...
- Characterization/monitoring/troubleshooting of fiber assemblies in harsh environments
- Fiber optic sensors
- And more...



# SPECIFICATIONS

## Optical

Wavelength options (standard)<sup>1</sup>:

670 nm, 850 nm

Fiber types: MMF 200, 105, 62.5 or 50  $\mu\text{m}$

Optical connector:

Universal, 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 (250ps)

Dynamic range<sup>2</sup>:

Rayleigh backscattering: >20 dB (S/N=1)

Deadzones<sup>2</sup>:

Event deadzone: 10 cm;

Attenuation deadzone<sup>3</sup>: 40 cm.

Distance accuracy:

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

Reflectance accuracy<sup>2</sup>:  $\pm 1.5 \text{ dB}$

Loss accuracy:  $\pm 0.1 \text{ dB} \pm 0.02 \text{ dB/dB}$

## 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

### -VFL<sup>4</sup>

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:  $\pm 0.05 \text{ dB}$  (between -45 and 0 dBm)

Absolute power uncertainty:  $\pm 0.2 \text{ dB}$

Resolution:  $\pm 0.01 \text{ dB}$

### -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  $\mu\text{m}$ , 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,  $\pm 30 \text{ nm}$ .

2: Typical

3: For ORL = 45 dB

4: Available with 670 nm option only