

# LOR-220 POF

## High Resolution Optical Time-Domain Reflectometer For Large Core Optical Fibers



Fully portable OTDR format

Industry-leading resolution (1 ns pulses)

High dynamic range

Custom systems for most fiber types up to 1mm

Patented design; US patent # 7,593,098

The LOR-220 POF from Luciol Instruments is new member of the LOR-200 family. It is a portable high resolution OTDR specially designed for testing large core optical fibers such as 1mm PMMA (POF) or others. The LOR-220 POF is a universal tool to characterize insertion losses and fiber attenuation. You can characterize the original assembly, monitor possible degradation for preventive maintenance purposes and troubleshoot in case of a fault in the system. The extremely short deadzones 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 POF is available on a custom basis for most large core optical fibers and it has several wavelengths options.

### APPLICATIONS

- Fiber, cable manufacturing
- Characterization/monitoring/troubleshooting of fiber assemblies
- Fiber optic sensors
- And more...



# SPECIFICATIONS

## Optical

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

650 nm, 520 nm

Fiber type: PMMA 1mm (standard)

others on request

Optical connector:

SMA, ST (others on request)

Optical pulse width: 1 ns

Measurement range:

1.25 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>:

Attenuation deadzone (RL=45dB): 40 cm.<sup>3</sup>

Attenuation deadzone (RL=14dB): <1 m.<sup>3</sup>

Loss accuracy:

± 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: ≤80% (0 to 30°C), decreasing  
linearly to 50% at 40 °C

Maximum operation altitude: 2000 m

Pollution degree: 2

## OPTIONS AVAILABLE

### -VFL

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: ± 0.05 dB (between -45 and  
0 dBm)

Absolute power uncertainty: ± 0.2 dB

Resolution: ± 0.01 dB

## ORDERING INFORMATION

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

X = # of wavelengths

YYYY = Fiber diameter µm

W1, W2...: wavelengths

CCC: connector type (ASC, AFC, SC, FC, ST)

### Ordering example:

LOR-222-POF1000-650/520-SMA-VFL

LOR-220 for 1 mm POF, with 2 wavelengths (650  
nm and 520 nm), SMA connector, with VFL.

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

### Notes:

1: ±10 nm.

2: Typical

3: The attenuation deadzone will be increased by the fibers  
modal dispersion