

v-OTDR

Very High Resolution Optical Time-Domain Reflectometer



Sub-cm resolution

High sensitivity

Photon-counting
technology

Up to four
wavelengths

Custom systems for
most fiber types
(including Plastic
Optical Fibers) and
wavelengths

The v-OTDR from Luciol Instruments is a revolutionary OTDR that characterizes optical fibers with an unprecedented resolution. It locates events starting from the panel connector (no front-end deadzone) with sub-cm precision, resolves events as little as 10 cm apart, and provides excellent dynamic range. Unlike standard OTDRs, which use real time analog optical power detection, the v-OTDR uses photon counting technology for an all digital, deadzone-free OTDR. In addition, shorter pulses (sub ns) are used, which improve the spatial resolution limitations found in standard OTDRs.

With excellent backscattering sensitivity, the v-OTDR can detect events such as macrobends, damages, and reflections as low as -80 dB (on APC connectors for example). It can measure insertion loss as low as 0.1 dB in connectors and splices. It is available in SMF, MMF, and POF models. Custom systems, non-telecom wavelengths, and/or non-standard fibers are also possible.

The v-OTDR is available as a module, which has to be connected to an external PC via USB port.



SPECIFICATIONS

Optical:

Wavelengths (standard):

SMF: 1310, 1550, 1625 nm (up to 4 wavelengths possible)

MMF: 650, 850 nm

POF: 500, 650, 830 nm

Total Dynamic Range: up to 35 dB, in windows of 17 dB (SMF/MMF) or 25 dB (POF)

Loss Accuracy: ± 0.1 dB (typ.)

Reflectance Accuracy: ± 1 dB (typ.)

Single Point Resolution: < 5 mm

Two-Point Resolution: 10 cm

Sampling Points: 64,000

Measurement Distance: up to 40 km, in windows of 200 m (SMF) to 800 m (MMF, POF)

Hardware (need an external PC to operate)

Connection to PC: USB type 1

Power supply: 15V, 20 W universal adapter.

Instrument Size: 330 x 70 x 250 mm

Instrument Weight: 2 kg

Environmental:

Operating Temperature: -5°C to 40°C

Storage Temperature: -20°C to 60°C

Relative Humidity: 0% to 90% noncondensing

APPLICATIONS

- Reliability testing
- Fiber optic sensors
- FTTH
- Aerospace
- Automotive
- And more....

ORDERING INFORMATION

v-OTDR

v-OTDR-XXF-W1(-W2-W3-W4)

XXF= fiber type: SMF, MMF,POF

Wavelengths: W1 to W4

Since most v-OTDRs are customized to some degree (choice of source, wavelength, fiber type), we recommend that you contact the factory for further discussions. This will enable us to fine-tune the unit to your particular requirements.



A typical trace with the v-OTDR

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