

OTDR that can penetrate beam splitter

Article Overview

OTDRs designed for PON networks, such as the EXFO FTBx-730D and ORIENTEK K350-SM, can accurately test through optical splitters.

Key Features for Testing Through Splitters

Testing through a beam splitter in a PON network requires an OTDR with high dynamic range, high resolution, and specialized software to identify events after the splitter, which can introduce 15–17 dB of loss or more depending on the splitter ratio . OTDRs suitable for this task typically include:

- High dynamic range to detect weak signals after the splitter.
- Short dead zones to resolve events close to the splitter.
- PON-specific software for trace analysis and event identification.
- Dual-wavelength capability (commonly 1310/1550 nm) for comprehensive fiber characterization.

Recommended OTDR Models

- EXFO FTBx-730D
- Optimized for testing through optical splitters and characterizing FTTH links up to 132 km point-to-point.
- Dynamic range up to 42 dB, short PON dead zone, and high resolution for detecting closely spaced events.
- User-friendly interface and accessories for field testing.
- Proven performance for double-stage splitters and complex PON architectures

Article Content

Jul 31, 2025

Optical Time Domain Reflectometers (OTDR) Information

Rack mountable optical time domain reflectometers can be bolted into racks with other electronic equipment. A handheld optical time domain reflectometer is portable and designed for use in the

Sep 07, 2025

OTDR testing

The OTDR has a great deal of difficulty resolving features in the short cables of a LAN and is likely to show "ghosts" from reflections at connectors, more often than not simply confusing the user. Using

Aug 07, 2025

OTDR Development Based on Single-Mode Fiber Fault Detection

Wavelet-denoised OTDR: Wavelet-denoised OTDR is particularly effective in noisy optical fiber environments, such as aging fiber infrastructure or complex industrial settings, where it can

Jan 06, 2026

The FOA Reference For Fiber Optics

Optical Time Domain Reflectometer (OTDR) Download free OTDR Trainer Software for PCs After you study this page, you can download a free OTDR Trainer to run on your PC. The Optical Time

Mar 19, 2026

Understanding OTDR: A Comprehensive Guide to

For effective operation and upkeep of a network, the world of fiber optics demands attention to detail and dependability. One of the most important

Jun 01, 2026

Optical time-domain reflectometer

Hand-held OTDRs are commonly used to measure fiber links and locate fiber breaks, points of high loss, high reflectance, end-to-end loss, and Optical Return Loss (ORL).

Nov 14, 2025

OTDR fault diagnosis

Learn how to interpret OTDR traces, locate fibre faults, and troubleshoot connectivity issues with this detailed OTDR fault diagnosis guide

Feb 15, 2026

FTBx-730D | PON FTTx | Splitter Characterization

The FTBx-730D is the OTDR of choice for field technicians who need to accurately test through splitters and troubleshoot FTTH networks down to the finest details.

Oct 15, 2025

OptiFiber® Pro OTDR Family

SmartLoop OTDR enables automated testing and analysis of two fibers in a single test while meeting standard requirements. This patented process automatically separates the two fibers for individual

Apr 13, 2026

The FOA Reference For Fiber Optics

The Optical Time Domain Reflectometer (OTDR) is useful for testing the integrity of fiber optic cables. It can verify splice loss, measure length and find faults. The OTDR is also commonly used to create a

Oct 18, 2025

What is an optical time domain reflectometer (OTDR)? | Blog | EXFO

Connectors, splices and splitters are some of the factors that reduce the maximum length of an OTDR. Therefore, averaging for a longer period of time and using the proper distance range is

Feb 03, 2026

Bidirectional OTDR Testing. Available Tools & Testing Methods

Learn all about bidirectional OTDR testing. Learn how it works, its benefits, its drawbacks, and various testing methods and tools you can use!

Nov 11, 2025

Optical Time-domain Reflectometers – OTDR, operation principle ...

Optical time-domain reflectometers inspect fiber-optic links, measuring losses and reflections from faulty connections or splices.

Jun 11, 2026

OTDR – Optical Time Domain Reflectometer

Learn about (OTDR) technology as well as OTDR testing and types of OTDR testers used to maintain fiber infrastructure performance.

Dec 05, 2025

OTDR: Your Ultimate Troubleshooter

An OTDR can characterize the entire link, identifying the precise location of any events that reflect or reduce light signals — including connectors,

Jun 08, 2026

TRP800 PON OTDR | 45dB Dynamic Range FTTx

As fiber networks become more complex, technicians need a PON OTDR that can see through high-count splitters and accurately locate faults. The TRP800 stands

Feb 06, 2026

OTDR PON testing | Application note | EXFO

EXFO has also developed innovative solutions such as automatic loss test sets, a PON power meter and the FTB-7300D OTDR—the first PON OTDR designed for measuring through splitters.

Jul 09, 2026

Testing Fiber Optic with an OTDR

Testing Fiber Optic with an OTDR is going to explore how testing fiber optic works. Common issues and some troubleshooting will be covered.

Jul 03, 2026

OTDR Optical Fiber Tester-OFT

90S Optical time domain reflectometer is a new generation of portable and intelligent measuring instrument for testing optical fiber communication system.

Mar 21, 2026

OTDR Testing Solutions | EXFO

The OTDR sends a pulse of laser light into one side of the optical fiber. As the pulse travels along the fiber, a small portion of the pulse's energy is reflected to the

Oct 03, 2025

OTDR FAQs: General Questions | AFL Global

OTDR: General Questions Q: What do OTDRs test? A: OTDRs test the overall length, loss and optical return loss of fiber optic cables or networks. Additionally, they detect, locate, identify and measure

Sep 18, 2025

How to Use an OTDR Optical Time Domain Reflectometer for Fiber

Learn how to effectively use an Optical Time Domain Reflectometer (OTDR) for fiber optic testing and troubleshooting in your network.

Jul 26, 2025

WHITE PAPER: Understanding Optical Time Domain Reflectometers

OTDR Fundamentals There are a variety of optical test sets that can be used to ensure quality of service (QoS) on fiber optic networks, but only the Optical Time Domain Reflectometer (OTDR) supports

Jun 15, 2026

OTDR – Optical Time Domain Reflectometer

Advanced OTDRs, like the OptiFiber Pro OTDR series, feature SmartLoop™ technology. SmartLoop checks for the presence of the launch, loop, and tail fiber

Nov 05, 2025

Complete OTDR Testing Guide | ZION OTDR

Learn how OTDR testing works and compare ZION OTDR models to choose the best tester for FTTH, PON, ODN, and backbone networks. Complete

Jun 18, 2026

The FOA Reference For Fiber Optics

Next: What Can The OTDR “Test”? OTDRs use an indirect measurement process, have poor length resolution and unique measurement errors that limit its accuracy in testing cable plants. It is not

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Making OTDR Measurements

The Optical Time Domain Reflectometer, or OTDR, is an essential instrument for characterizing long outside plant fiber optic cables. The OTDR is the only instrument capable of verifying inline splices

Oct 14, 2025

What Is an OTDR? How to Locate Fiber Breaks and Splice Losses

Conclusion An OTDR is a powerful diagnostic tool that plays a crucial role in maintaining the health of fiber optic networks. By understanding how to interpret its traces, technicians can

Jan 12, 2026

Choosing the Right Optical Time Domain Reflectometer (OTDR)

This white paper provides key information about OTDRs and guidance to newcomers in the telecommunication fiber optic market for selecting an OTDR appropriate to their testing needs.

Contact Us

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