ORIENTek

Optical Time Domain Reflectometer

FTTx-OTDR

TR400 Series

- Intelligent Link Map
- 6000mAh Large Capacity Battery
- Maximum Dynamic Range: 31dB
- ≤1.5m Event Dead Zone, ≤5m Attenuation Dead zone.
- Capable of detecting continuous events in 8x3m fiber patch cords under Auto mode（Industry Benchmark）.

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Optical Time Domain Reflectometer FTTx-OTDR

The Orientek TR400 OTDR specializes in FTTx network installation and troubleshooting, supporting both access and passive optical network testing. Available in single, dual, and three-wavelength models, The Single wavelength Model supports live network testing. This versatility addresses diverse user requirements. Featuring a compact design and multi-wavelength options, the instrument demonstrates exceptional adaptability for FTTx network deployment and maintenance.

Full Range of Selections

- 31~29dB ultra-wide dynamic range
- Up to 9 OTDR units to choose choose from

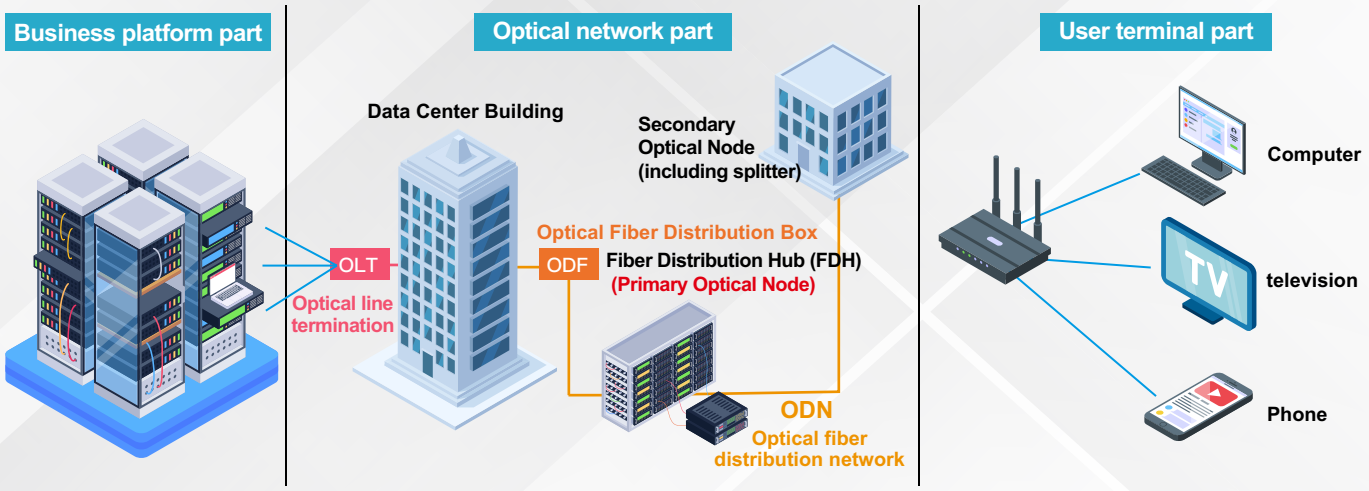
Operability

- 4.3-inch color LCD touch screen
- Integrated link map simplifies OTDR trace analysis
- 3 years warranty

Much More Than An OTDR

- OPM (Optical Power Meter Module)
- SLS (Stabilized Light Source Module)
- VFL (Visual Fault Locator)
- RJ45 (Network Test Module)

FTTx Installation and Maintenance Network Schematic Diagram



FTTx Installation and Maintenance Network Schematic Diagram :
It consists of three parts - service platform, optical network, and user terminal.

1. Optical Line Terminal (OLT): Aggregates various services and transmits them to the upper-layer service network.
2. Optical Distribution Network (ODN): Extends optical fiber cables to users via passive components like Backbone fiber cables, distribution cables, drop fibers, optical cross-connect cabinets, and fiber distribution boxes - a series of passive optical components.
3. Optical Network Unit (ONU): Performs multiplexing and demultiplexing of voice, broadband, and iTV services.

Application Scenarios

Communication construction

Low-Current Systems Engineering

Installation & Maintenance Engineering

Residential Broadband Construction

Monitoring construction

Troubleshooting

Orientek TR400 OTDR is widely used for FTTx network installation and troubleshooting, Access Network Testing (P2P), Passive optical LAN (POL), Cable TV (CATV) and Hybrid Fiber Coaxial (HFC) Network Testing, as well as FTTA and Distributed Antenna System (DAS) installation.

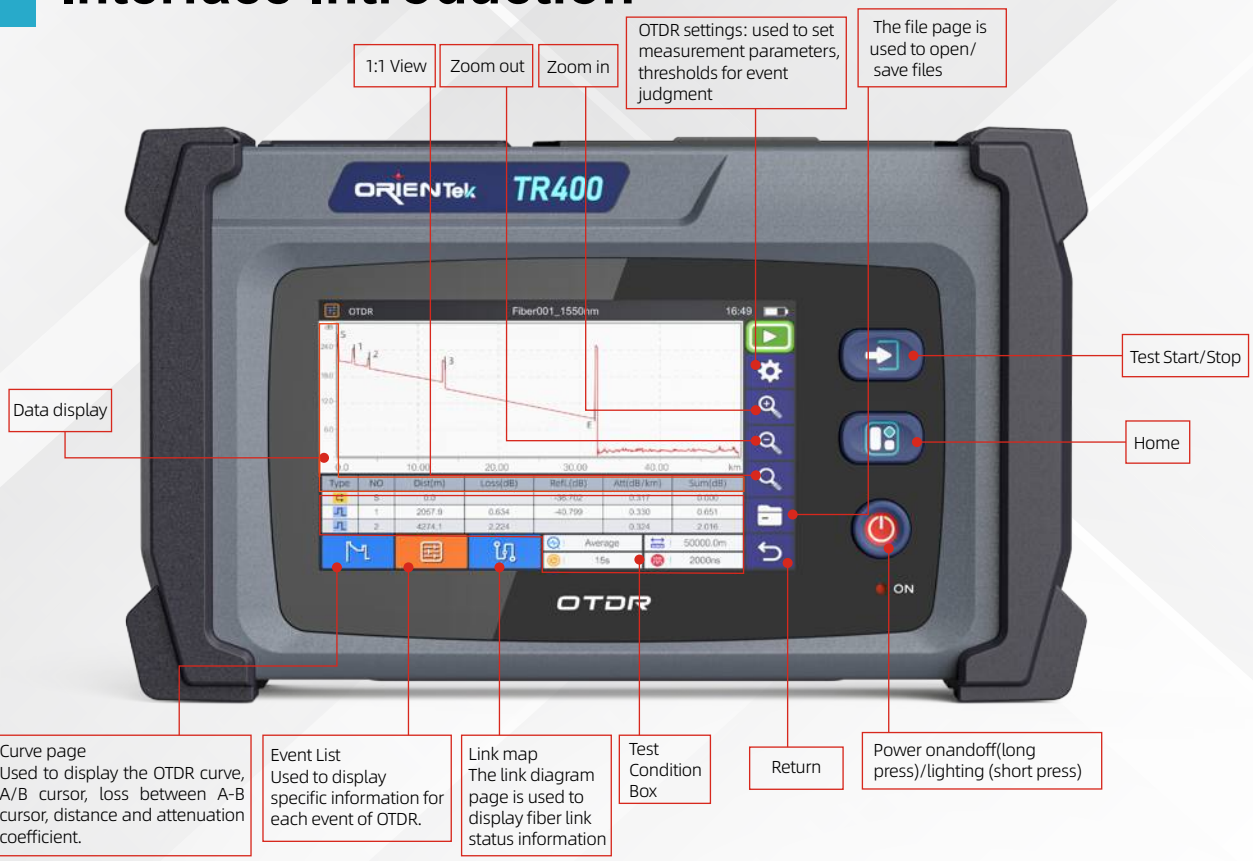
Operability

4.3-Inch Capacitive Touch Screen

Can Save In SOR Format And Support Host Computer Viewing

The built–in post–processing software saves OTDR results in SOR format, supporting the storage of over 1,000 waveforms.

Interface Introduction

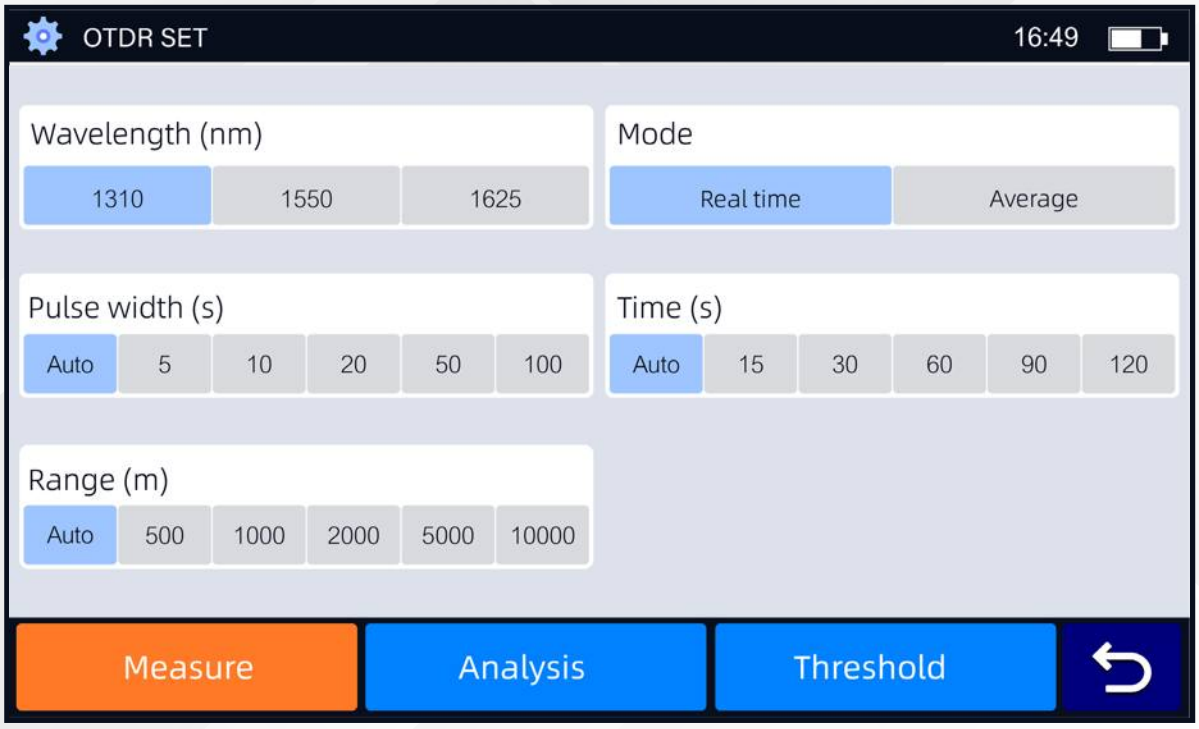


Essential Features Of The Advanced OTDR

One-Click Measurement Simplifies Testing

Eliminates unnecessary complexity, allowing any technician to perform tests easily without navigating through layers of menu options.

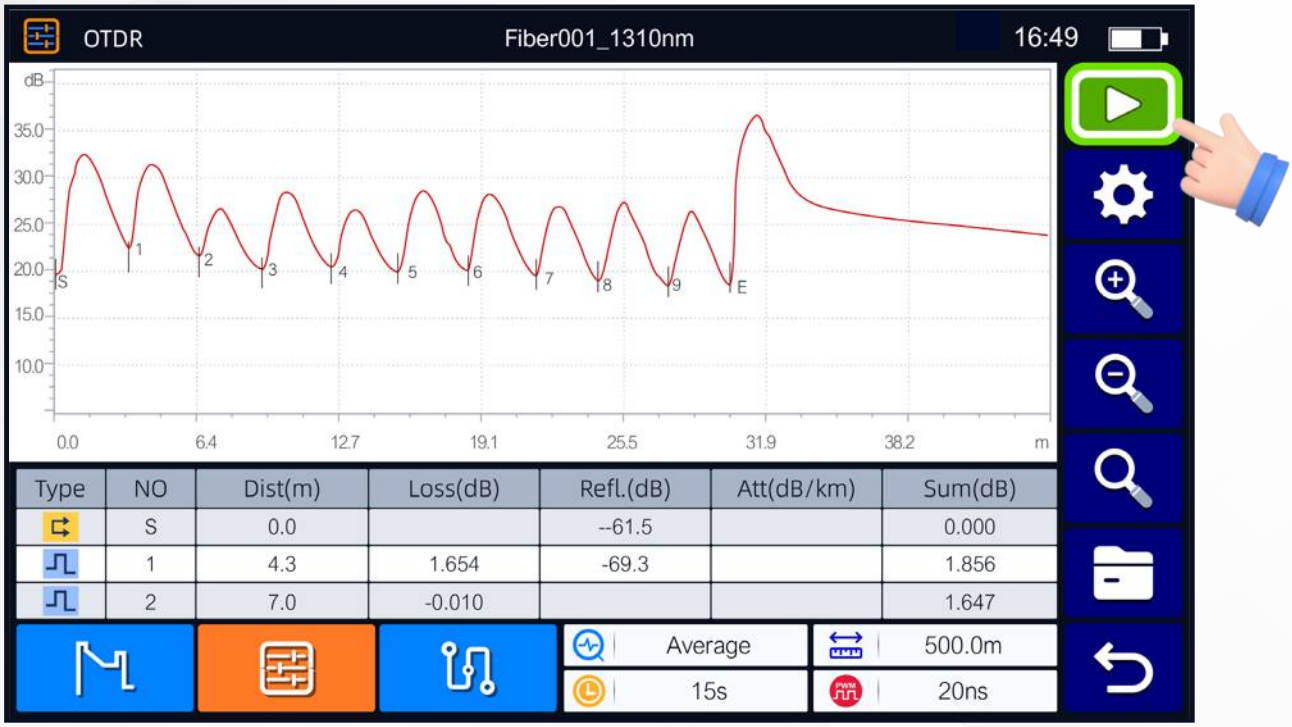
Automatic Mode: No Complex Operations Needed



Acquisition parameters（range or duration etc.), can be set manually or automatically. One-click testing is available for fiber cabling length and total loss, eliminating tedious operations.

Measures Continuous Events On 8x3m Fiber Patch Cords In Auto Mode (Industry Benchmark)

Short-distance test: Accurately measures fiber events and losses.



Real-Time Mode: Continuous Testing And Refreshing

Continuous Monitoring

Real-time mode enables continuous fiber observation and instant detection of changes or faults, aiding maintenance and troubleshooting.

Dynamic Event Capture

It captures dynamic events like fiber bending, fusion splicing, and connector changes, enabling real-time analysis of signal impacts without measurement interruption.

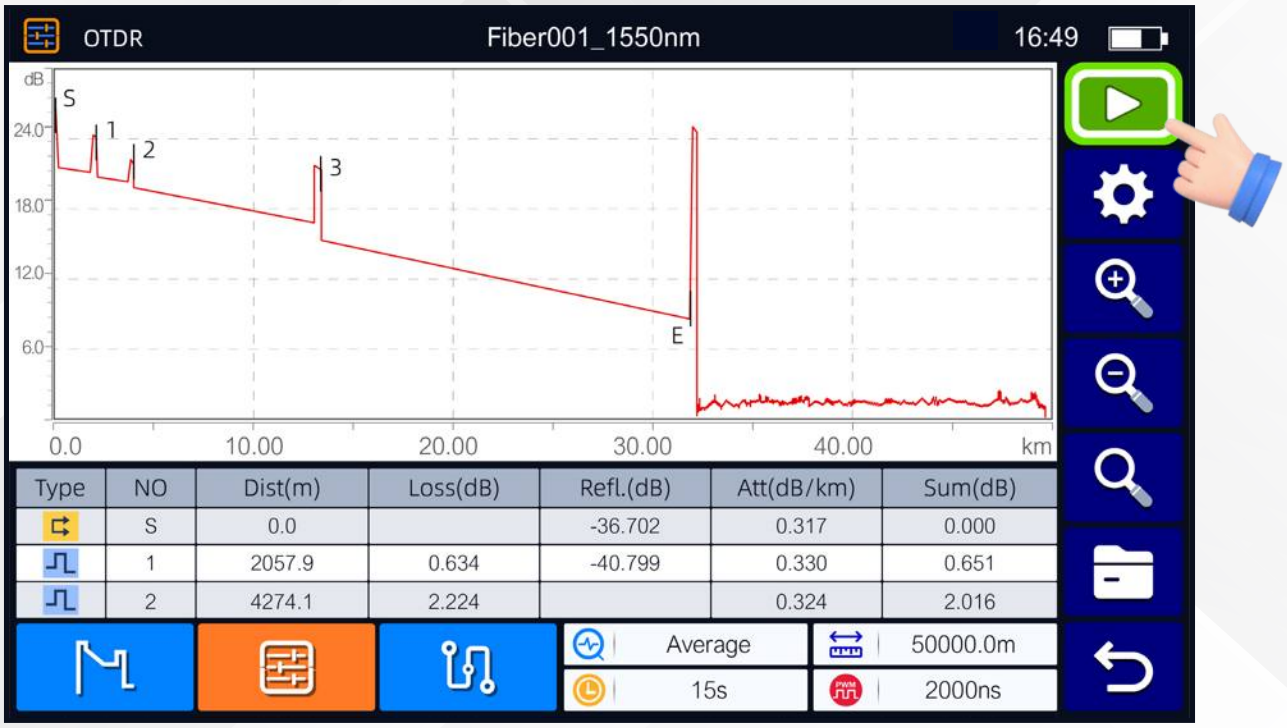
Quick Problem Identification

For extended fiber segments, the real-time mode displays updated traces to facilitate rapid problem identification. Upon anomaly detection, technicians can immediately halt testing.

Real-Time Measurement

While optical pulse measurement is in progress, measured values are updated and displayed in real time., enabling on-site parameter adjustments by technicians.

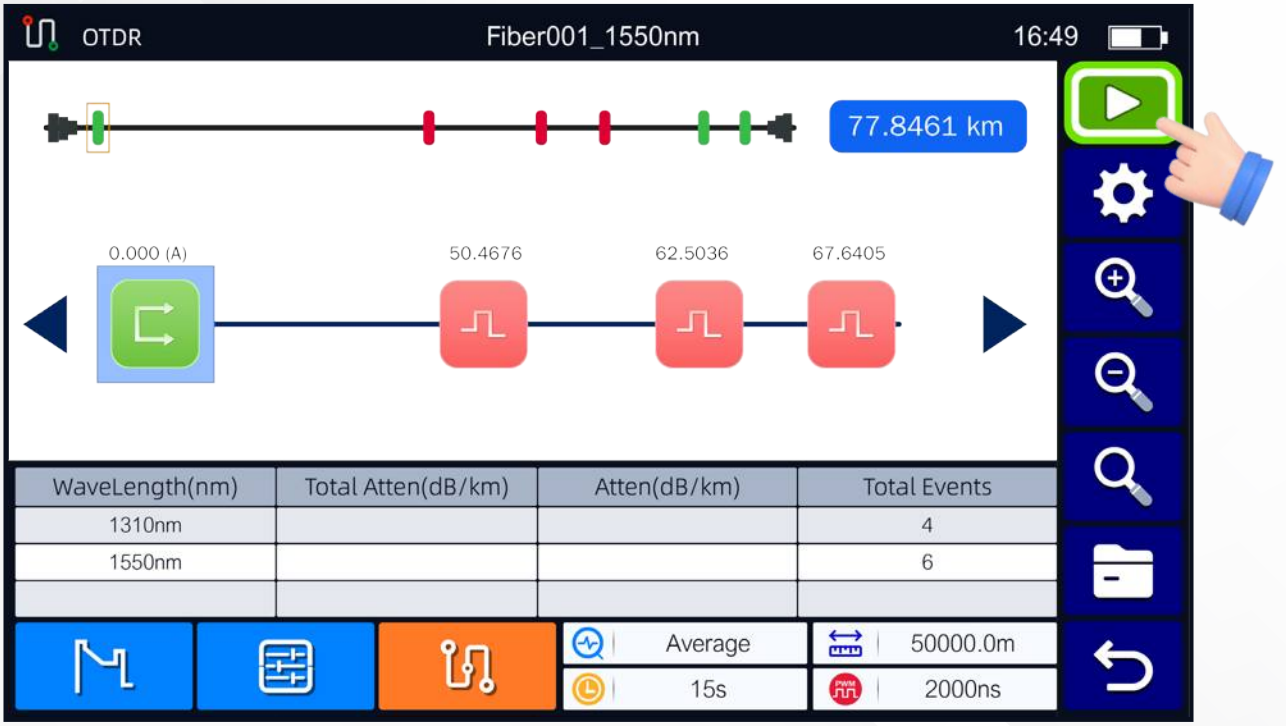
Intelligent Trace Analysis Records All Events



Precision trace display ensures no missed events , revealing fiber breaks, length , bends, splices, connectors and related losses through trace analysis.

Smart Map : Graphical links

Smart Map converts OTDR test data into interactive graphical displays, providing intuitive visualization of fiber attenuation, breakpoints, and fault coordinates. This enables instant result interpretation, boosting detection efficiency and reducing mean-time-to-repair.



Replaceable Universal Interface Supports SC/FC/ST Adapters

FC(standard）

ST(optional）

SC(optional）

Stable Bracket : Convenient For Desktop Operation, Meeting The Needs Of Different Scenarios

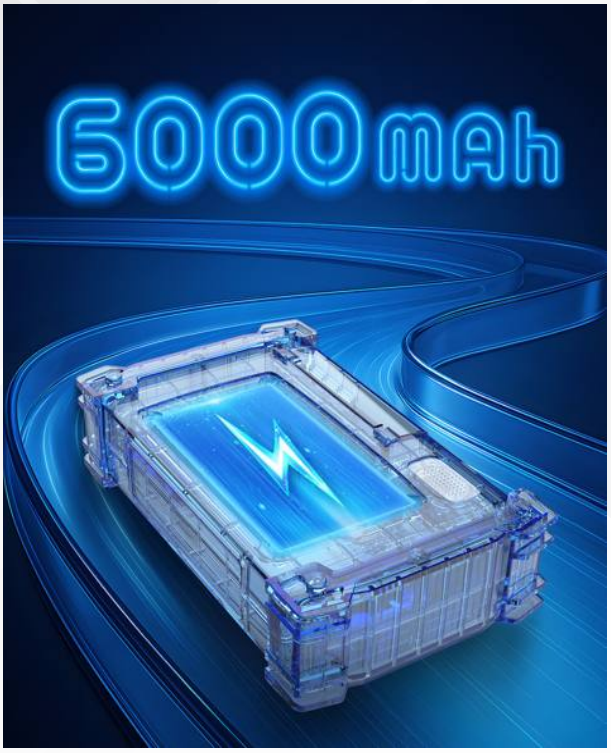
The bracket stabilizes the OTDR on a platform, reducing measurement errors caused by shaking and improving accuracy.

Type-C Charging , Multi-Purpose

Compatible with 99% of mainstream devices, replaces outdated charging solutions.

6000mAh Large Capacity Battery

Ultra-long battery life ensures worry-free operation and handles high-intensity use throughout the day.



Lighting Makes Work Easier

High-brightness lighting design , facilitates wiring work in dim environments.

Full-body Anti-Vibration Rubberized Design

Armored with protective rubber- absorbs shock , resists drops, and defends your machine.

Far More Than Just OTDR

Optical Power Meter Module (Built-In)

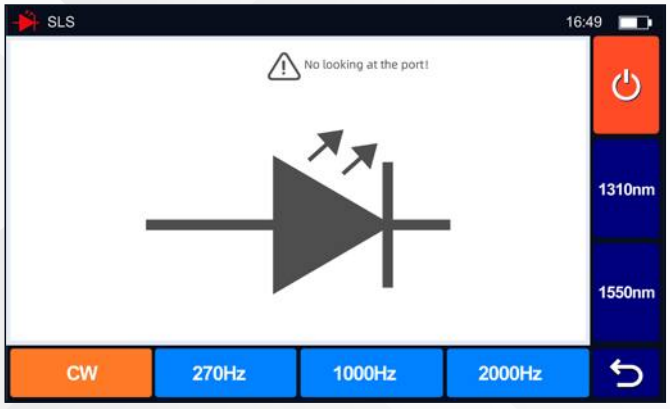
Measures absolute optical power or relative power loss through fiber optic segments.

Visual Fault Locator Module (Built-In)

A visual light source typically used for faultlocation and fiber identification in single-mode or multi-mode optical fibers.

Stabilized Light Source Module (Built-In)

Provides stable continuous light to the optical system for use with an optical power meter to measure fiber optic loss.



Network Test Module (built-In)

Network sequencing + Network Cable Tracing (handle option): Ideal for LAN fault detection, maintenance, and Structured Cabling Installation.

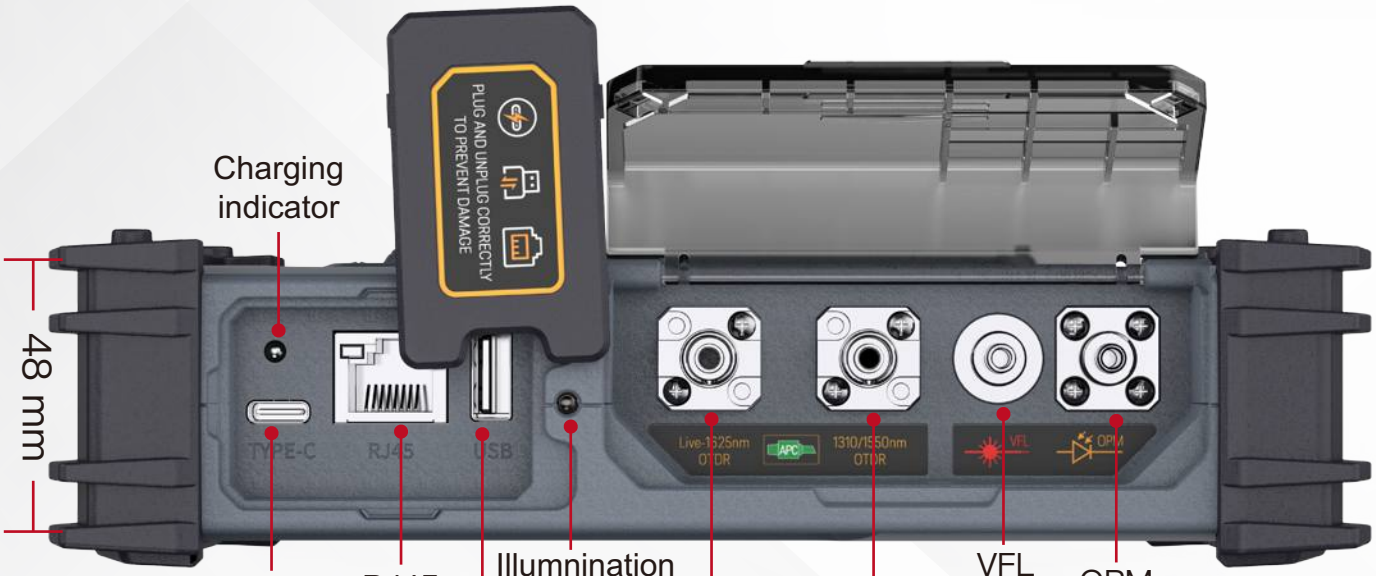
Product Configuration

① Carrying bag x1 ② OTDR (default SC interface)
③ Power cord x1
④ FC optical port converter x1, screw x2
⑤ Screwdriver x1
⑥ Quick guide x1
Calibration certificate x1
Test report x1
⑦ RJ45 module x1
⑧ Sterile cotton swabs x1
⑨ Shoulder strap x1

Product Showcase

Front View

Back View



Product Specifications

OTDR Module

Model	TR400 S1	TR400 S2	TR400 P1	TR400 P2	TR400 D1	TR400 D2	TR400 D3	TR400 D4	TR400 D5
Wavelength (nm)	1310/1550 ±20	1310/1550 ±20	1310/1550/ 1625±20	1310/1550/ 1650±20	1550	1610	1577	1625	1650
Dynamic Range (dB)	26/24	31/29	26/24/24	26/24/24	24				
Event Dead Zone(m)★①	≤1.5								
Attenuation Dead Zone(m)★②	≤5								
Number Of Fiber Interfaces	1 FC/UPC		2 FC/UPC		1 FC/UPC				
Applicable Fiber	SM		SM-Live		SM				
Range(Km)	0.5, 1, 2, 5, 10, 20, 35, 50, 75, 100, 150								
Distance Accuracy(m)	± (1m + measurement distance × 2 × 10^{-5} + collection point resolution)								
Number of Sampling Points	5,10, 20, 50,100, 200, 500,1000, 2000,10000, 20000								
Pulse Width(ns)	≥15000								
Sampling Resolution(m)	0.04m								
Loss Accuracy	±0.03 dB/dB								
Reflection Accuracy	±2dB								

Optical Power Meter Module (Built-In)		√
OPM	Wavelength Range	800~1650nm
	Wavelength Setting(nm)	850,1300,1310,1490,1550,1625,1650
	Power Range	-70~6dBm
	Measurement Accuracy	<(±0.2dB or ±5%)
	Display Resolution	0.01dB
	Optical Interface	FC/UPC + 2.5 mm Universal Connector

Stabilized Light Source Module (Built-in)		√					
Wavelength (nm)	1310/1550	1550	1610	1577	1625	1650	
SLS	Optical Output Power	≥-10dBm					
	Modulation Mode	CW, 270Hz, 1kHz, 2kHz					
	Laser Class	Class 1M or Class 1					
	Optical Output Port	OTDR optical port					

Visual Fault Locator module (built-in)		√
VFL	Wavelength (nm)	650
	Output Power	10mW
	Modulation Mode	CW, CHOP (2 Hz)
	Laser Class	Class 3R
	Optical Fiber Interface	2.5 mm universal connector for FC, SC, ST

Product Specifications

Network Test Module (built-in)		√
RJ45	Applicable Network Cable	CAT5，CAT6
	Network cable length	300m
	Maximum Audio Transmission Distance	300m

General Parameters	
Link Diagram	√
Pass/Fail Display	x
Distance Unit	km
OTDR Trace Manager	√
Language	English, Chinese, Spanish, French, Portuguese, Russian, Thai, Korean
Optical Fiber Interface	FC/UPC (SC/UPC Optional)
Display Screen	4.3-Inch Color LCD Screen (Resolution: 800x480)
Port	Type-c Charging Interface x1, USB 2.0 x1, RJ45 x1
Operating Temperature	-10-50 ℃ (0-40 ℃ Connected To Power Supply, 0 to 35 ℃ Battery Charge)
Storage Temperature	-20 to 60°C
Altitude	4000 m
Humidity	0 to 90% RH (at: 20%-90% 739874 AC Adapter, No Frost)
Power Supply Mode	100-240V AC, 50/60 Hz (AC Adapter)
Battery	3.7V, 6000mAh, >22Wh
Illumination Lamp	Light Intensity ≥ 15000 mcd
Working Hours*3	5 hours
Data Storage	Memory: ≥ 1000 Waveforms; External Storage: USB
Dimensions	179 mm (W)x112 mm (H)x 48 mm (D)
Weight	0.6 kg (mainframe only with battery)

Notes:

★① Minimum pulse width, return loss: ≥ 55 dB (≥ 40 dB at 850/1300 nm), group refractive index: 1.5, 1.5 dB lower than the unsaturated peak level.

★② Minimum pulse width, group refractive index: 1.5, backscattering level within ± 0. 5 dB of the conventional value. For SMF, 1310 nm wavelength, return loss: ≥ 55 dB. For MMF, 850 nm wavelength, return loss: ≥ 40 dB.

★③ Based on a brand new battery. All the above data are based on measurements at 23 °C ± 2 °C (73.4 ° F ± 3.6 ° F).

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