Komshine
enabling today,inspiring tomorrow

FTTx-OTDR

- Smart link diagram
- 6000mAh large capacity battery
- Maximum dynamic range: 31dB
- ≤1.5m event blind zone, ≤5m attenuation blind zone
- Measures continuous events on 8x3m optical fiber jumpers in fully automatic mode (industry benchmark).

QX43

Optical Time Domain Reflectometer FTTx-OTDR

Komshine QX43 OTDR focuses on FTTx network installation and troubleshooting, supporting access and passive optical network testing. Available in single, dual, and three-wavelength models, with the single-wavelength model supporting online testing. Meets diverse user needs. Its compact design and multi-wavelength configuration make it highly adaptable for FTTx network deployment and maintenance.

Full range selection

- 31~29dB ultra-wide dynamic range
- Up to 9 OTDR models available

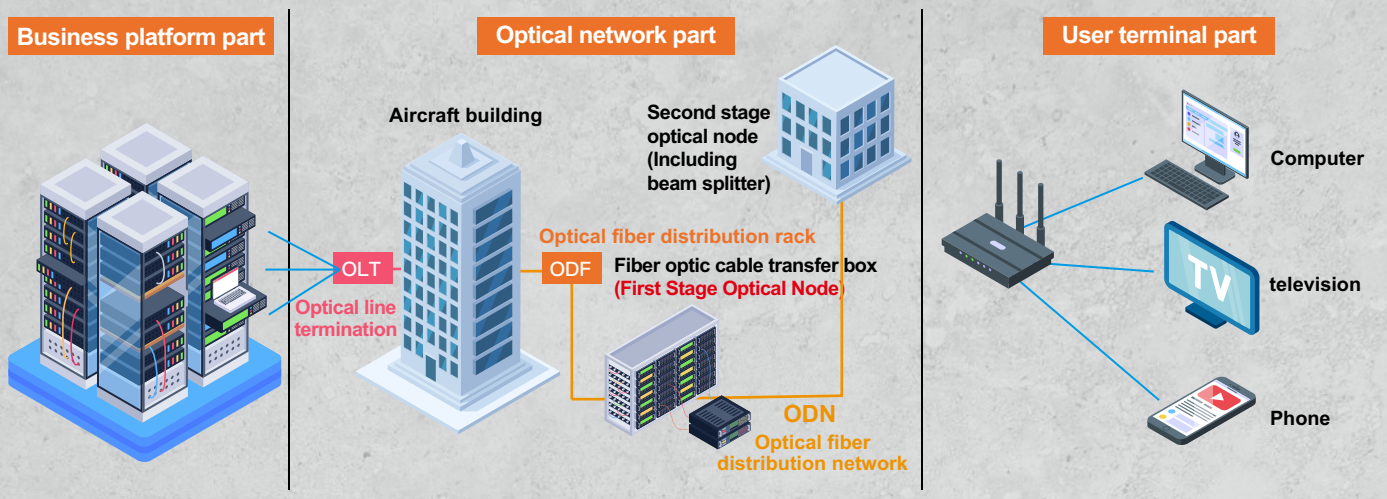
Operability

- 4.3 inch color LCD touch screen
- Built-in link diagram, simplifying the interpretation of OTDR curves
- 3 years warranty

Far more than just OTDR

- OPM (optical power meter module)
- SLS (Stable Light Source Module)
- VFL (Visible light fault locator)
- RJ45 (Network Test Module)

FTTx Installation and Maintenance Network Diagram



Schematic diagram of the FTTx installation and maintenance network:
It consists of three parts - service platform, optical network, and user terminal.

1. Optical Line Terminal (OLT): Aggregates services and sends them to the upper-layer network.
2. Optical Distribution Network (ODN): Extends cables to users via passive components like backbone cables, distribution cables, fibers, junction boxes, and splitting boxes.
3. Optical Network Unit (ONU): Handles voice, broadband, and iTV services.

Application scenarios

Communication construction

Weak current

Installation and maintenance works

Broadband construction in residential area

Monitoring construction

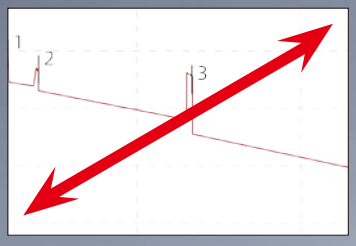
Troubleshooting

Komshine QX43 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

The OTDR curve supports zoom in/out, with clear screen colors and a concise interface.



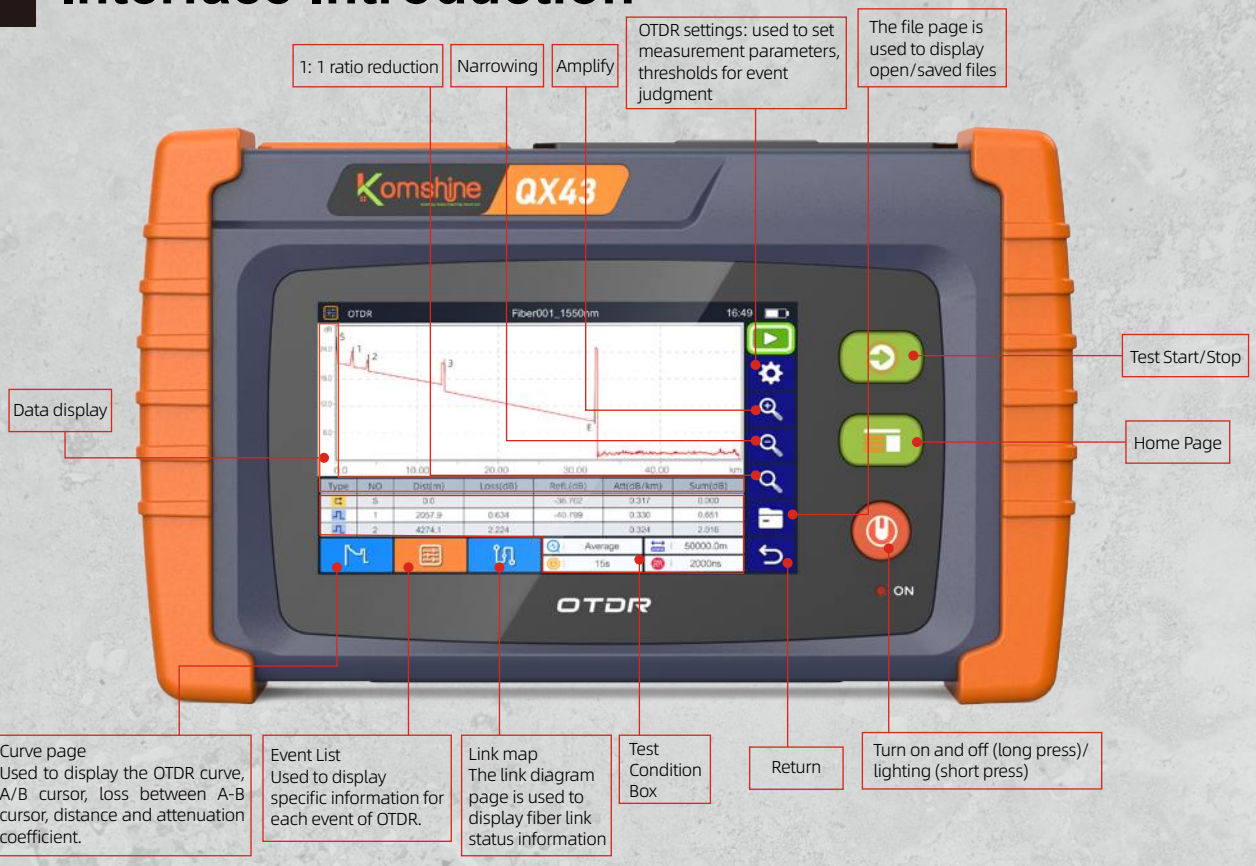
Narrowing
Amplification curve

Drag
Move the cursor

Can save SOR format and support host computer viewin

Built-in post-processing software saves OTDR measurement results as SOR files, storing over 1,000 files.

Interface Introduction



Essential features with advanced OTDR

One-click measurement makes testing simple

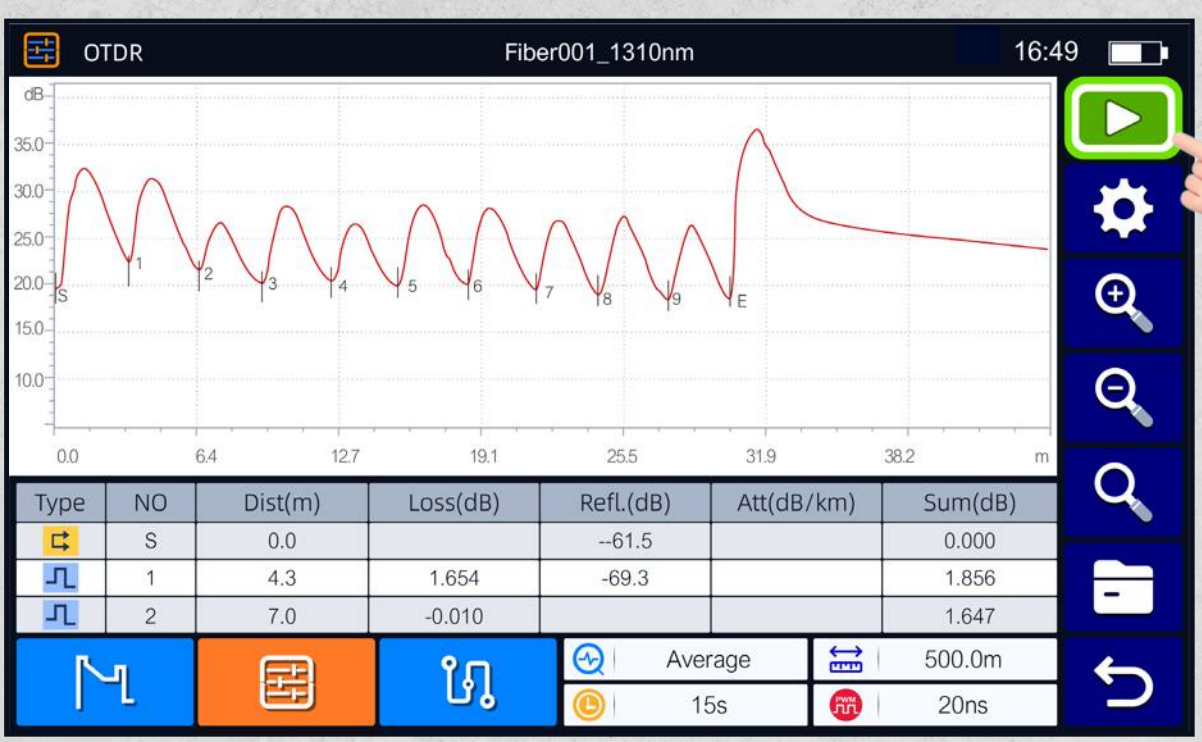
Eliminates unnecessary complexity, allowing any technician to perform tests easily without navigating through layers of menu options.

Automatic mode: no tedious operations

Acquisition parameters, such as range or duration, 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 optical fiber jumpers in fully automatic 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, allowing real-time observation of their impact on the signal without interrupting measurement.

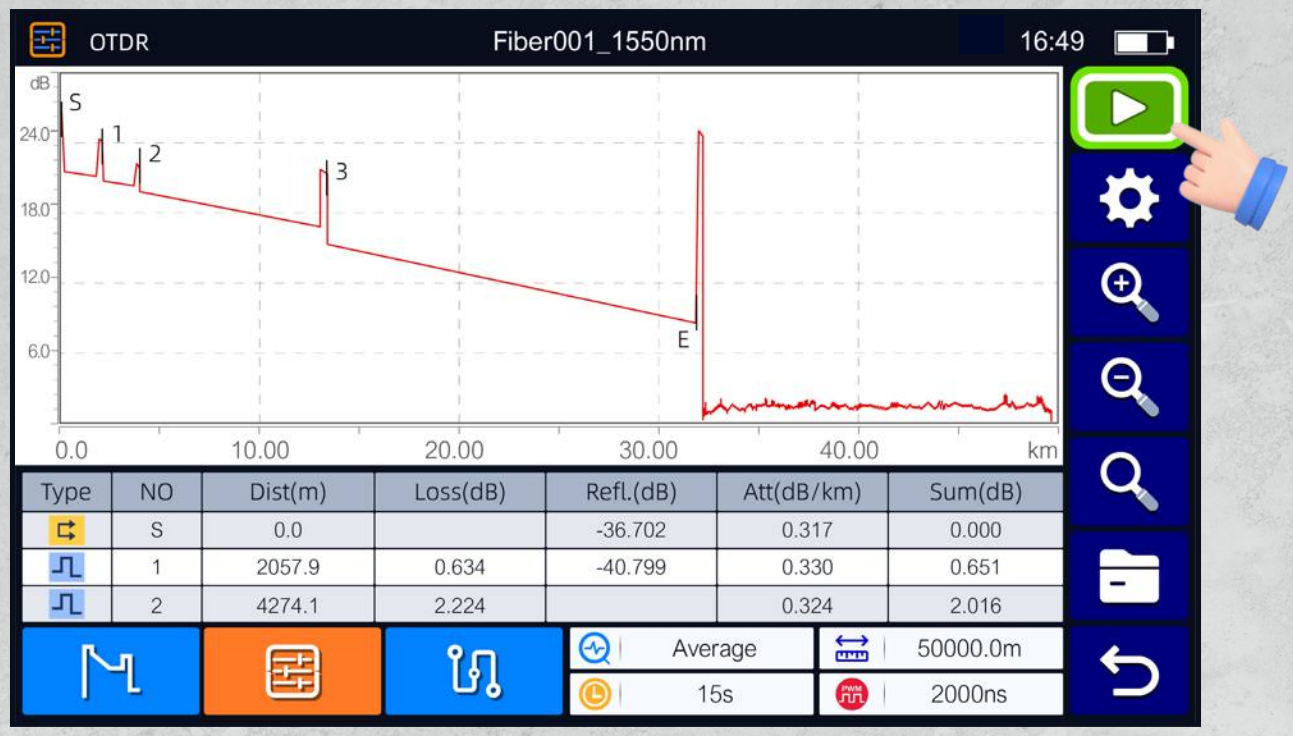
Quickly identify problems

For longer fiber segments, real-time mode updates curves for quick problem identification. If an abnormality is detected, the test can be stopped immediately.

Real-time feedback

During installation or repair, real-time mode offers instant feedback for on-site parameter adjustments.

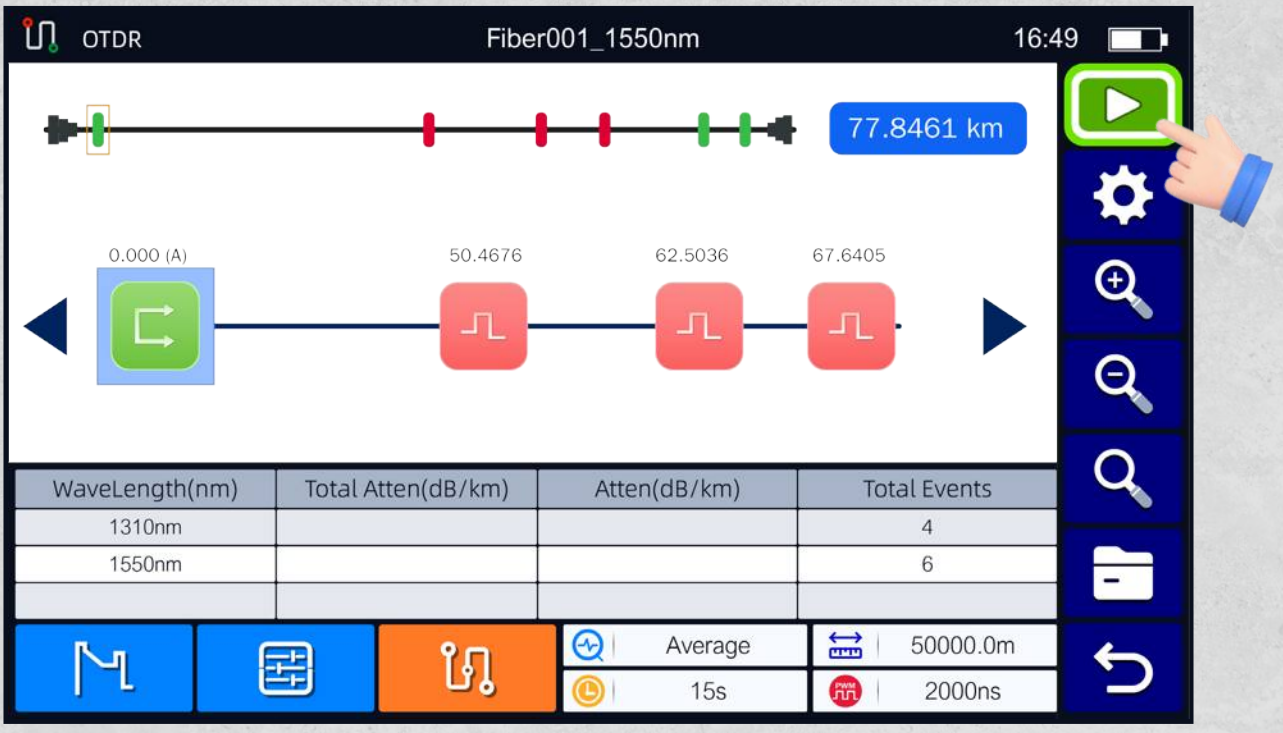
Intelligent curve analysis records all events.



Accurate trajectory line display, don't miss any event, and understand the losses of optical cable breaks, lengths, bends, fusion points, connectors, etc. through curves.

Smart Map Graphical Links

Smart Map makes OTDR test results graphical, intuitively displaying fiber loss, break-points, and fault locations. Clearly view test results at a glance, improving detection efficiency and speeding up accurate maintenance.



Replaceable universal interface supports SC/FC/ST adapters.

FC(standard）

ST(optional）

SC(optional）

Stable support for desktop operation, meeting diverse scenario needs.

The bracket can support the product on the platform, reduce the measurement error caused by equipment shaking during optical fiber measurement, and improve the measurement accuracy.

Type-C charging is multi-purpose

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

6000mAh large capacity battery

Ultra-long battery life for worry-free enjoyment and easy handling of high-intensity use throughout the day.

Lighting lamps make work easier

High-brightness lighting design for convenient line inspection in dim environments.

Anti-seismic rubber coating design

Rubber protection design for effective shock absorption, anti-fall, and anti-bump to protect the machine.

Far more than just OTDR

Optical power meter module
(built-in function)

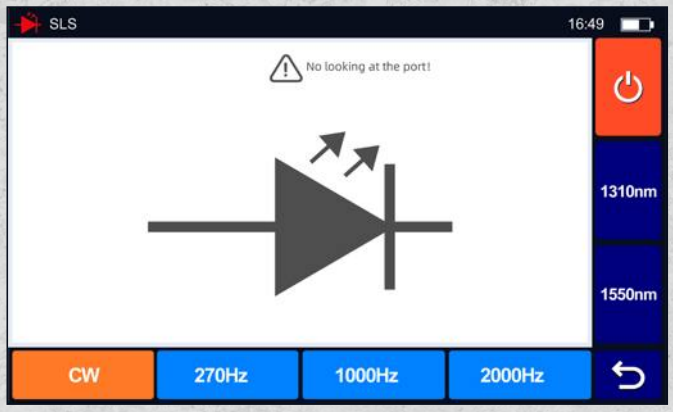
Measures absolute optical power or relative power loss through a fiber optic cable.

Red light source module
(built-in function)

A visual light source for fault location and fiber identification in single-mode or multi-mode fibers.

Stable Light Source Module
(Built-in Function)

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 function)

Network sequencing + network line hunting (handle option): Ideal for LAN fault detection, maintenance, and wiring construction.

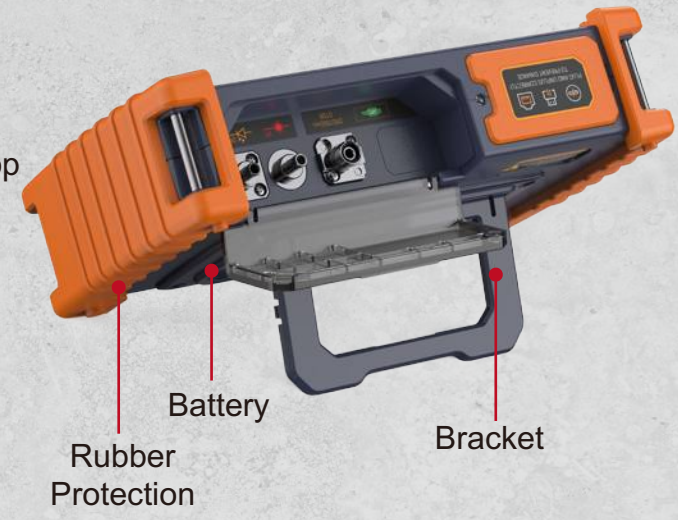
Product Configuration

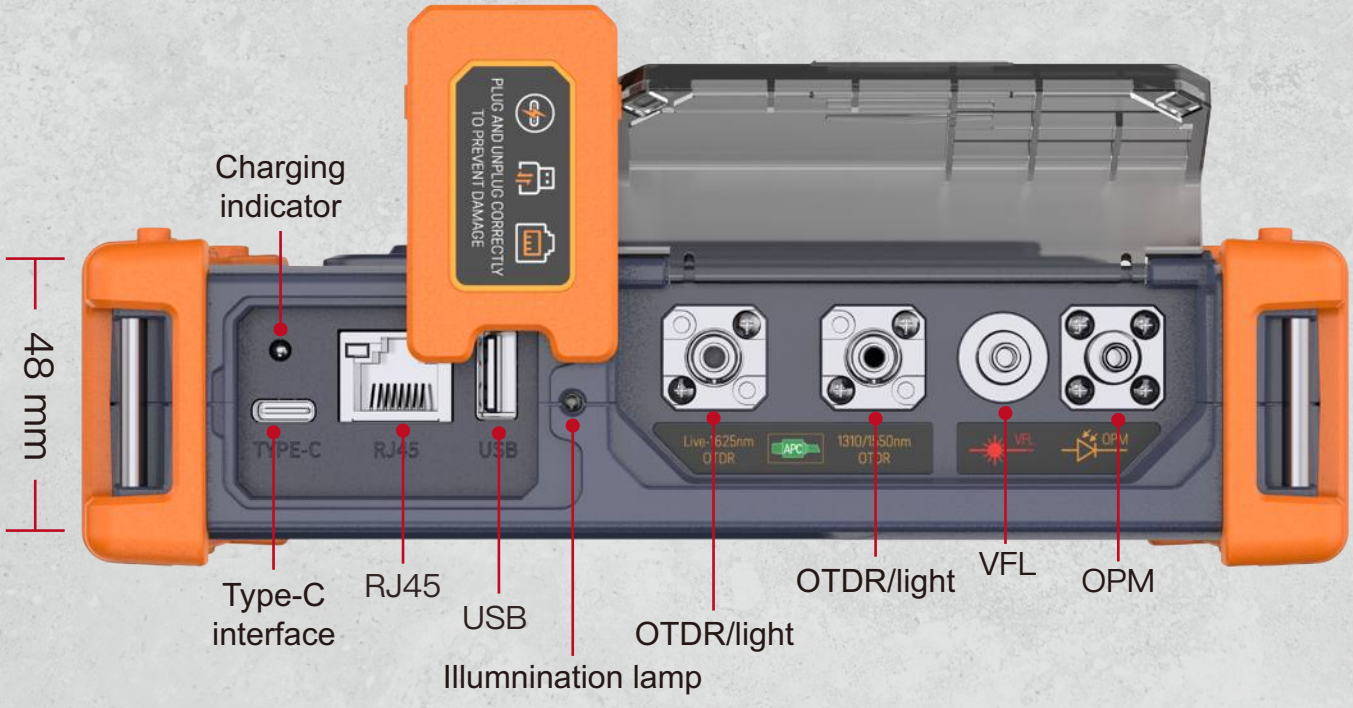
① Carrying bag x1 ② OTDR host x1
③ Power cord x1
④ SC/ST adapter (optional)x1
⑤ Screwdriver x1
⑥ Quick guide x1
Calibration certificate x1
Test report x1
⑦ RJ45 module x1
⑧ Optical fiber ceramic sleeve x1

Product Showcase

Front

Back





Product specifications

OTDR module

Model	QX43 S1	QX43 S2	QX43 P1	QX43 P2	QX43 D1	QX43 D2	QX43 D3	QX43 D4	QX43 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 blind spot(m)★①	≤1.5								
Attenuation blind zone(m)★②	≤5								
Number of fiber interfaces	1 FC/UPC		2 FC/UPC		1 FC/UPC				
Applicable optical 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 function)		√
OPM	Measurement wavelength range	800~1650nm
	Correction wavelength(nm)	850,1300,1310,1490,1550,1625,1650
	Measurement power range	-70~6dBm
	Measurement accuracy	<(±0.2dB or ±5%)
	Display resolution	0.01dB
	Power meter interface	FC/UPC + 2.5 mm Universal Connector

Stable Light Source Module (Built-in Function)		√					
Wavelength (nm)	1310/1550	1550	1610	1577	1625	1650	
SLS	Output power	≥-10dBm					
	Modulation frequency	CW, 270Hz, 1kHz, 2kHz					
	Laser safety rating	Class 1M or Class 1					
	Built-in optical fiber interface	OTDR optical port					

Red light source module (built-in function)		√
VFL	Wavelength (nm)	650
	Output power	10mW
	Modulation mode	CW, CHOP (2 Hz)
	Laser safety rating	Class 3R
	Optical fiber interface	2.5 mm universal connector for FC, SC, ST

Product specifications

Network test module (built-infunction)		√
RJ45	Applicable network cable	CAT5，CAT6
	Alignment length	300m
	Maximum audio transmission distance	300m

General parameters	
Link diagram	√
Pass/Fail display	x
Distance unit	km
PC side analysis software	√
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)
Interface	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
Elevation	4000 m
humidity	0 to 90% RH (at: 20%-90% 739874 AC adapter, no frost)100-240V AC, 50/60 Hz (AC adapter)
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 test curve; 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 data above are based on measurements at 23 °C ± 2 °C (73.4 ° F ± 3.6 ° F).

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