

FHO5000 Series OTDR

Description

FHO5000 series OTDR is specially designed for tough outdoor jobs. IP65 protection level, lightweight, easy operation, low-reflection LCD and more than 12 hours working period make it perfect in field testing. Meanwhile, optional PCB board with water-proof coating helps FHO5000 series OTDR get better protection performance.

Features

- Integrated design, smart and rugged
- IP65 protection level, outdoor enhanced
- 7-inch anti-reflection LCD screen
- PON online test module (1625/1650nm) is optional
- MMF test module (850/1300nm) is optional
- Support multi-language display and input
- Support remote control via LAN
- FLM—More intelligent algorithms to characterize the optical fiber line

Main functions

FLM (fiber link measurement)

FLM Test (Fiber Link Measurement), also known as "Optical Eye", uses multiple pulse width acquisitions and advanced algorithms to quickly characterize the fiber under test and display the optical events applying intuitive symbols.

Multi-mode OTDR

Besides standard single-mode (1310/1550nm), FHO5000 series OTDR supports multi-mode (850/1300nm) test mode for option to analyze the multi-mode fiber network .

VFL (visual fault locator)

The VFL, available as an standard module in FHO5000 series OTDR, offers built-in 650nm visual fault location on a FC/UPC connector.



Applications

- FTTX PON network testing
- CATV network testing
- Access network testing
- LAN network testing
- Metro network testing
- Lab and Factory testing
- Live fiber troubleshooting

OPM (power meter)

FHO5000 series OTDR comes with optional built-in power meters that let technicians easily verify the presence of a signal.

LS (laser source)

FHO5000 series OTDR comes with optional built-in laser source through OTDR1 Port that let technicians easily verify the total loss of the local network with a power meter.

PON ONLINE TEST

FHO5000 series OTDR uses 1625/1650nm wavelength to scan and analyze the access point, and proceed online testing with optical filter and will not disturb the service.

FM (fiber microscope)

FHO5000 series OTDR offers this capability through a USB port connection, which allows quick and easy inspection of connector end faces.

Specification

General	
Dimension	253×168×73.6mm 1.5kg(battery included)
Display	7-inch TFT-LCD with LED backlight (touch screen function is optional)
Interface	1×RJ45 port, 3×USB port(USB2.0, Type A USB×2, Type B USB×1)
Power Supply	10V(dc), 100V(ac) to 240V(ac), 50~60Hz
Battery	7.4V(dc)/4.4Ah lithium battery (with air traffic certification) Operating Time: 12 hours ^① , Telcordia GR-196-CORE Charging time: <4 hours (power off)
Power Saving	Backlight off: Disable/1 to 99minutes Auto shutdown: Disable/1 to 99minutes
DataStorage	Internal memory: 16GB (about 160,000 groups of curves)
Language	User selectable (English, Simplified Chinese, Traditional Chinese, French, Korean, Russian, Spanish and Portuguese -contact us for availability of others)
Environmental Conditions	Operating temperature and humidity: -10℃~+50℃, ≤95% (non-condensation) Storage temperature and humidity: -20℃~+75℃, ≤95% (non-condensation) Proof: IP65(IEC 60529)
Accessories	Standard: Main unit, power adapter, Lithium battery, FC adapter, USB cord, User guide, CD disk, carrying case Optional: SC/UPC adapter, ST/UPC adapter, LC/UPC adapter, Bare fiber adapter

Technical parameter

Type ^②	Testing wavelength (MM:±20nm, SM:±10nm)	Dynamic range(dB) ^③	Event/Attenuation dead-zone(m) ^④
FHO5000-M21	850/1300	19/21	1/5
FHO5000-MD21	850/1300 1310/1550	19/21 35/33	1/5 1/5
FHO5000-MD22	850/1300 1310/1550	19/21 40/38	1/5 1/5
FHO5000-D26	1310/1550	26/24	1/5
FHO5000-D35	1310/1550	35/33	1/5
FHO5000-D40	1310/1550	40/38	1/5
FHO5000-D43	1310/1550	43/41	1/5
FHO5000-D45	1310/1550	45/43	1/5
FHO5000-T35F	1310/1550/1625	35/33/33	1/5
FHO5000-T40F	1310/1550/1625	40/38/38	1/5
FHO5000-T43F	1310/1550/1625	43/41/41	1/5
FHO5000-T45F	1310/1550/1625	45/43/43	1/5
FHO5000-TC35F	1310/1550/1650	35/33/31	1/5
FHO5000-TP35	1310/1490/1550	35/33/33	1/5
FHO5000-P26	1650	26	1/5
FHO5000-P38	1650	38	1/5

Test parameter	
Pulse Width	Single mode: 3ns, 5ns, 10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1μs, 2μs, 5μs, 10μs, 20μs Multi mode: 3ns, 5ns, 10ns, 20ns, 50ns, 100ns, 200ns, 500ns, 1μs, 2μs
Distance Range	Single mode: 100m, 500m, 2km, 5km, 10km, 20km, 40km, 80km, 120km, 160km, 240km Multi mode: 500m, 2km, 5km, 10km, 20km, 40km
Sampling Resolution	Minimum 5cm
Sampling Point	Maximum 128,000 points
Linearity	≤0.05dB/dB
Scale Indication	X axis: 4m~70m/div, Y axis: Minimum 0.09dB/div
Distance Resolution	0.01m
Distance Accuracy	$\pm(1m + \text{measuring distance} \times 3 \times 10^{-5} + \text{sampling resolution})$ (excluding IOR uncertainty)
Reflectance Accuracy	Single mode: ±2dB, multi mode: ±4dB
IOR Setting	1.4000~1.7000, 0.0001 step
Units	km, miles, feet
OTDR Trace Format	Telcordia universal, SOR, issue 2 (SR-4731) OTDR: User selectable automatic or manual set-up
Testing Modes	Visual fault locator: Visible red light for fiber identification and troubleshooting Light source: Stabilized Light Source (CW, 270Hz, 1kHz, 2kHz output) Field microscope probe
Fiber Event Analysis	Auto or manual operation, displayed in table format User defined PASS/FAIL thresholds: -Reflective and non-reflective events: 0.01 to 1.99dB (0.01dB steps) -Reflective: 0.01 to 32dB (0.01dB steps) -Fiber end/break: 3 to 20dB (1dB steps)
Other Functions	Real time sweep: 1Hz Averaging modes: Timed (1 to 3600 sec.) Live Fiber detection: Verifies presence communication light in optical fiber Trace overlay and comparison

VFL Module (Visual Fault Locator, as standard function)

Wavelength(±20nm)	650nm
Power	10mW, CLASS III B
Range	12km
Connector	FC/UPC
Launching Mode	CW/2Hz

PM Module (Power Meter, as optional function)

Wavelength Range	800~1700nm
Calibrated Wavelength(±10nm)	850/1300/1310/1490/1550/1625/1650nm
Test Range	TypeA: -65~+5dBm (standard); TypeB: -40~+23dBm (optional)
Resolution	0.01dB
Accuracy	±0.35dB±1nW
Modulation identification	270/1k/2k Hz, $P_{\text{input}} \geq -40\text{dBm}$
Connector	FC/UPC

LS Module (Laser Source, as optional function)

Working wavelength(±10nm)	1310/1550/1625/1650nm [Ⓢ]
Output power	Adjustable -25 ~ 0dBm
Accuracy	±0.5dB
Connector	FC/UPC

FM Module (Fiber Microscope, as optional function)

Magnification	400X
Resolution	1.0μm
View of Field	0.40×0.31mm
Storage/working Condition	-18℃~35℃
Dimension	235×95×30mm
Sensor	1/3 inch 2 million of pixel
Weight	150g
USB	1.1/2.0
Adapter[Ⓢ]	Standard: SC-PC-F (For SC/PC adapter); FC-PC-F (For FC/PC adapter) LC-PC-F (For LC/PC adapter); 2.5PC-M (For 2.5mm connector, SC/PC, FC/PC, ST/PC)

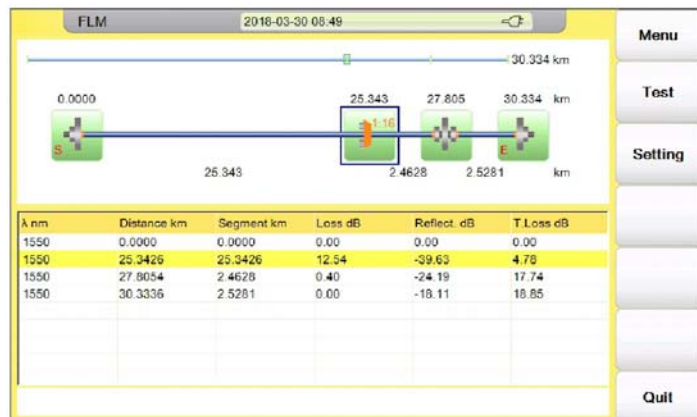
FLM Module (Fiber Link Measurement, as optional function)

More intelligent OTDR testing

Multiple pulse width acquisitions

Advanced algorithms

Iconic display of events on the line



Notes

- ① Typical, backlight off, sweeping halted at 25°C, 12 hours typical continuous testing.
- ② Model T40F/T43F/TC35F and P26/P38 are integrated with optical filter, which allow them to test PON network online (by using 1625/1650nm wavelength) and will not interrupt the fiber signal.
- ③ Dynamic range is measured with maximum pulse width, averaging time is 3 minutes, SNR=1; The level difference between the RMS noise level and the level where near end back-scattering occurs.
- ④ Event dead zone is measured with pulse width of 3ns; attenuation dead zone is measured with pulse width of 5ns.
- ⑤ 1310/1550/1650nm laser source uses OTDR1 port, and 1625nm or 850/1300nm uses OTDR2 port.
- ⑥ For more adapters, please contact us.

Ordering Information

FHO5000-XX-XX-XX-XX-XX-XX-XX-XX

Model

- M** 850/1300nm
- MD** 850/1300/1310/1550nm
- D** 1310/1550nm
- T** 1310/1550/1625nm
- TC** 1310/1550/1650nm
- TP** 1310/1490/1550nm
- P** 1650nm

Dynamic Range

- 21** 19/21dB for Model M or
19/21/35/33dB for Model MD
- 22** 19/21/40/38dB for Model MD
- 26** 26/24dB for Model D
- 35** 35/33dB for Model D or
35/33/33 for Model TP
- 40** 40/38dB for Model D
- 43** 43/41dB for Model D
- 45** 45/43dB for Model D
- 35F** 35/33/31dB for Model TC with filter
- 40F** 40/38/38dB for Model T with filter
- 43F** 43/41/41dB for Model T with filter
- P26** 26dB for Model P with filter
- P38** 38dB for Model P with filter

Laser Source

- / Without laser source
- LS** With laser source

Connector

- / FC/UPC(default)
- SC** SC/UPC, **SCA** SC/APC
- ST** ST/UPC

Fiber Link Measurement

- / Without fiber link measurement
- FLM** With fiber link measurement

Fiber Microscope

- / Without fiber microscope
- FM** With fiber microscope

Touch Screen

- / Without touchscreen
- TS** With touchscreen

Power Meter

- / Without power meter
- PMA** With power meter TYPE A
- PMB** With power meter TYPE B

Optional Item

OTDR box

