PRODUCT CODE: D1000APC

SMART OTDR MINI 1000 SERIES

SCAN ME

SOFTWARE DOWNLOAD

- Optical Fiber Length Measurement
- Optical Fiber Loss Measurement
- Optical Return Loss Measurement
- Optical Fiber Fault Location

Specification

SMART OTDR MINI 1000 SERIES

- **4-inch color LCD, portable design, and easy to carry**
- **Multi-functions: 10mW VFL, stable laser source, optical power meter, fiber link map, and electric torch**
- **Supports multi-touch operation like a mobile phone**
- **22dB dynamic range for optical fiber measurement over 60km**
- **1650nm live fiber testing module available**
- **Fast real-time test response and trace refresh speed**

Item	Specifications
Test Range	500m ~ 120km
Pulse Width	3ns ~ 10us
Test Time	5s ~ 180s
Test Mode	Auto, Manual, Real-time
Sampling Points	30,000
Distance Accuracy	±(1m + Test distance × 3×10^{-6} + Sampling resolution) (excluding IOR uncertainty)
VFL	Operating wavelength: 650±10nm, Output power: 10mW, CW/1Hz/2Hz
Stable OLS	Operating wavelength: Consistent with OTDR, Output power: >-12dBm, CW/270Hz/1kHz/2kHz
Normal OPM (Standard)	Calibrated wavelengths: 850/1300/1310/1490/1550/1625/1650nm, Test range: -40 ~ +10dBm
10G PON Selective OPM (Optional)	Supports 1490nm and 1577nm selective power testing, Calibrated wavelengths: 850/1300/1310/1490/1550/1577/1625/1650nm
Optical Interface	OTDR/OLS: Fixed SC/UPC (APC available), VFL/OPM: 2.5mm universal port
Electrical Interface	USB Type-C charging port and data port
Display	4-inch color touch screen
Data Storage	120M storage card
Battery	4000mAh lithium battery
Working Environment	-10°C ~ +50°C ; 0~85% (non-condensing)
Dimension/Weight	85x148x37mm / 275g

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SMART OTDR

OTDR USER QUICK GUIDE

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Reading of OTDR Measurement Data

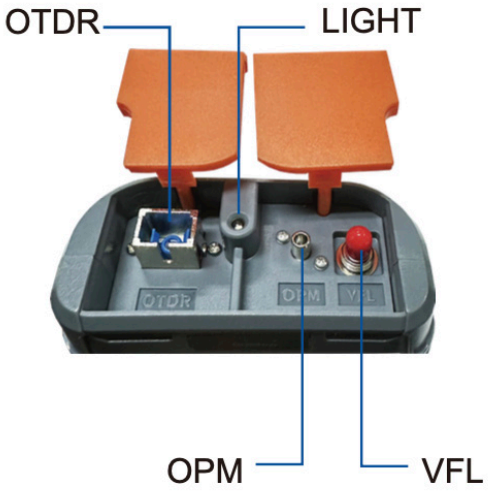
Above the OTDR chart, the three key information, total length of the fiber link, total loss and number of events (events excluding start points and ghosts)

OTDR curve

NO	Item	Description
1	Number	The number of the fiber event
2	Type	Type of fiber event (attenuation event, reflection event or end event, etc.) "S" is the start event, "F" is the attenuation and reflection event, "E" is the end event, and "G" is the ghost
3	Distance(km)	The distance from the event point to the starting point
4	Loss(dB)	Loss value of the event point (dB)
5	Attenuation(dB/km)	The ratio of loss value (dB) to distance (km) from the event point to the last event point
6	Reflection(dB)	The return loss value of the event point
7	Total loss(dB)	The cumulative loss from the event point to the starting point

Interface Description

Name	Function
HOME button	Short press:Exit current menu or return to the main menu.Long press: Turn on/off the flashlight
ON/OFF button	Long press/short press for more than 2s to turn on/off
	Enter the Set menu
	Enter the File Management menu
	Exit current menu
	Clear/Display A and B cursor identifier
	1:1 restore curve
	Switch the wavelength
	Modulated frequency and CW shift key on laser source



Name	Function
OTDR interface	OTDR test port and laser source test port share OTDR test port
OPM interface	2.5mm universal optical power meter test port
VFL interface	2.5mm universal VFL test port
USB interface	Type-C charging/data interface

Note:Using the 5V/2A adapter to charge.

Perform OTDR TEST

Before the OTDR test, the basic parameters should be set according to the test fiber.

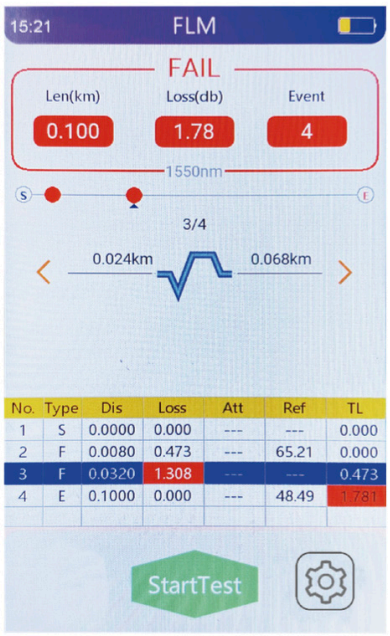
Wavelength	M-1000D(**D1000APC**):1310nm/1550nm
Test distance	The test distance of OTDR test is about 1.5-2 times of the actual test fiber length. It can only be modified in manual measurement mode. The default value is "automatic configuration" in automatic mode Selection of test distance: 0.5km, 1km, 2km, 5km, 10km, 20km, 40km, 80km, 120km
Pulse width	Pulse width refers to the duration of the optical pulse signal injected into the measured fiber in a period of time. The choice of pulse width is related to the length of optical fiber. The wider the pulse width is,the stronger the transmitting signal power is, and the farther the effective detection distance of OTDR is. However, the wide pulse width will cause the saturation of the initial reflection signal and large deadzone area. Therefore,the longer of the optical fiber the length is, the wider the pulse width is. It can only be modified in manual measurement mode. In automatic mode, it is "automatic configuration" by default. Pulse width selection: 3ns, 5ns, 10ns, 30ns, 50ns, 100ns, 275ns, 500ns, 1us, 2us, 5us, 10us
Test time	In average test mode, the longer the detection time is, the better the signal-to-noise ratio is and the more accurate the test result is. Users should choose the test time reasonably. Test time selection: 5s, 10s, 15s, 30s, 60s, 120s,180s
Auto mode	Auto mode on: the equipment will automatically set the most appropriate parameters for the current measurement, and the value of measurement range and pulse width selection cannot be modified. Auto mode off: the test distance and pulse width selection can be set manually.

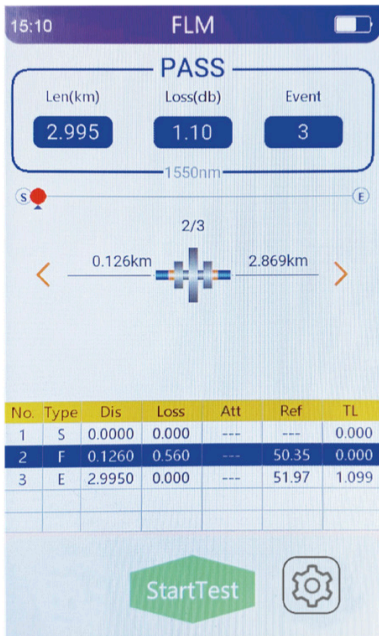
The following table shows the relationship between test range and pulse width (for reference only)

Test Range / Pulse width	0.5km	1km	2km	5km	10km	20km	40km	80km	120km
3ns	√	√	√	X	X	X	X	X	X
5ns	√	√	√	√	X	X	X	X	X
10ns	√	√	√	√	X	X	X	X	X
30ns	X	√	√	√	√	X	X	X	X
50ns	X	X	√	√	√	√	X	X	X
100ns	X	X	X	√	√	√	X	X	X
275ns	X	X	X	X	√	√	√	X	X
500ns	X	X	X	X	X	√	√	√	X
1000ns	X	X	X	X	X	X	√	√	X
2000ns	X	X	X	X	X	X	√	√	√
5000ns	X	X	X	X	X	X	X	√	√
10000ns	X	X	X	X	X	X	X	√	√

The Choice Of Test Mode

FLM Test Mode

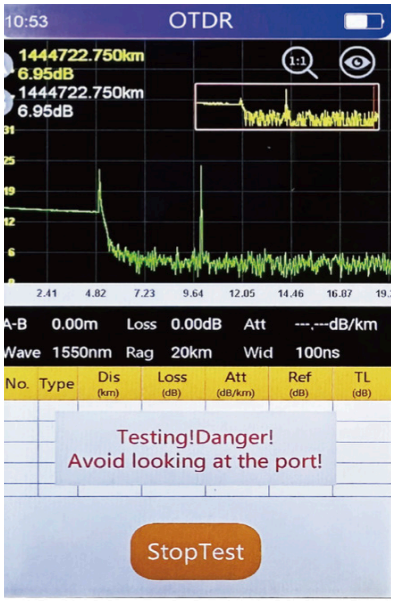




FLM test also known as "Optical Eye". The optical eye test mode represents each event point on the link in the form of visual icons, which makes it easy for operators to understand.It uses multiple pulse width acquisitions and advanced algorithms to characterize the fiber under test and display the optical events applying intuitive symbols.
Click "FLM" module in the main interface. After entering the page, there is no need to set professional measurement parameters. Just click "test" to complete the test.

Average Test Mode

Average test mode will display the curve composed of the average values of the measured values over a period of time. The test time can be edited in the "test time" menu in the "test settings" interface.
In the test settings, select the test mode as "Ave" mode, click the main key "AveTest" to enter the average test interface, and perform the average test according to the set test time.



Real-time Test

Real time test mode, you can view the test curve in real time and quickly detect the characteristics of the optical fiber link.
In the test setup, select the test mode as "Real" mode, and click the main key "RealTest" to enter the real-time test interface. At this time, OTDR will continuously emit pulse light for real-time test.