

FHO1000 OTDR User Manual



Let's go in the grandway!

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1 Before use

1.1 Forward

Thank you for purchasing FHO1000 OTDR (Optical Time Domain Reflectometer). This user's manual contains useful information about the instrument's functions and operating procedures. To ensure correct use, please read this manual thoroughly before beginning operation. After reading the manual, keep it in a convenient location for quick reference whenever a question arises during operation.

1.2 Note

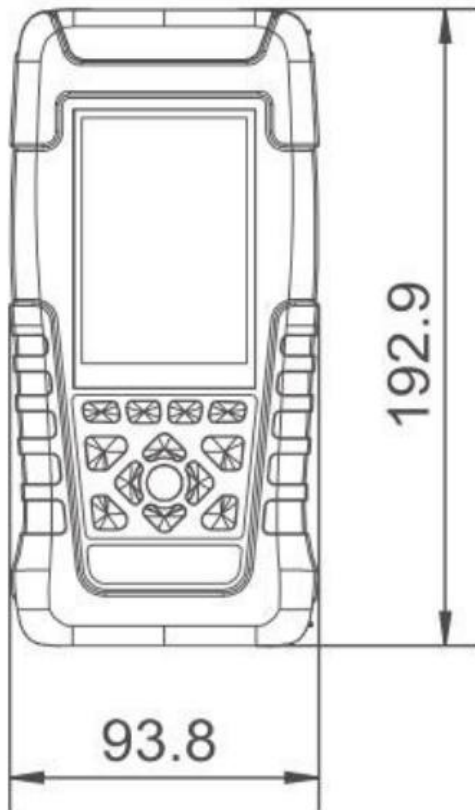
- The contents of this manual are subject to change without prior notice as a result of continuing improvements to the instrument's performance and functions. The figures given in this manual may differ from those that actually appear on your screen.
- Every effort has been made in the preparation of this manual to ensure the accuracy of its contents. However, should you have any questions or find any errors, please contact your nearest Grandway dealer.
- Copying or reproducing all or any part of the contents of this manual without Grandway's permission is strictly prohibited.

1.3 Version

Version 1.0 2021



2.2 Appearance size



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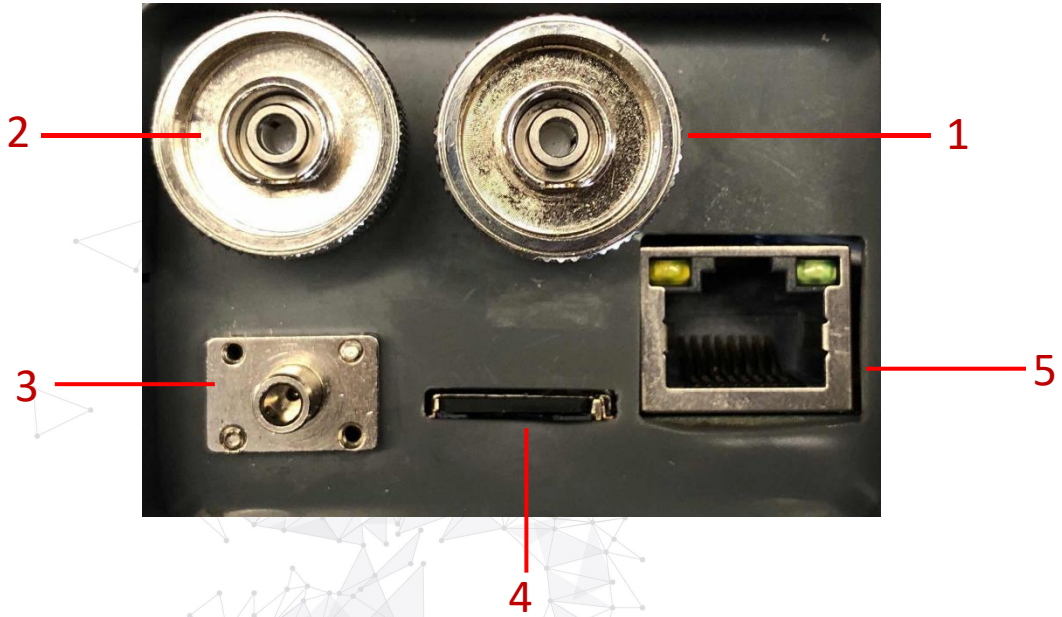


2.3 Keyboard



No	Name	Function
1	F1-F4	Enter the corresponding menu
2	Arrow button	Move the cursor and confirm
3	🔍	curves zoom in/out
4	🔌	Power on and power off
5	TEST	Quick start OTDR testing
6	ESC	Exit current menu

2.4 Interface



NO	Name	Function
1	OTDR optical port	OTDR 1310/1550nm testing
2	VFL optical port	650nm VFL
3	OPM optical port	Optical power meter value testing
4	SD card port	Inserting SD card to store test files
5	Ethernet port	Software upgrade

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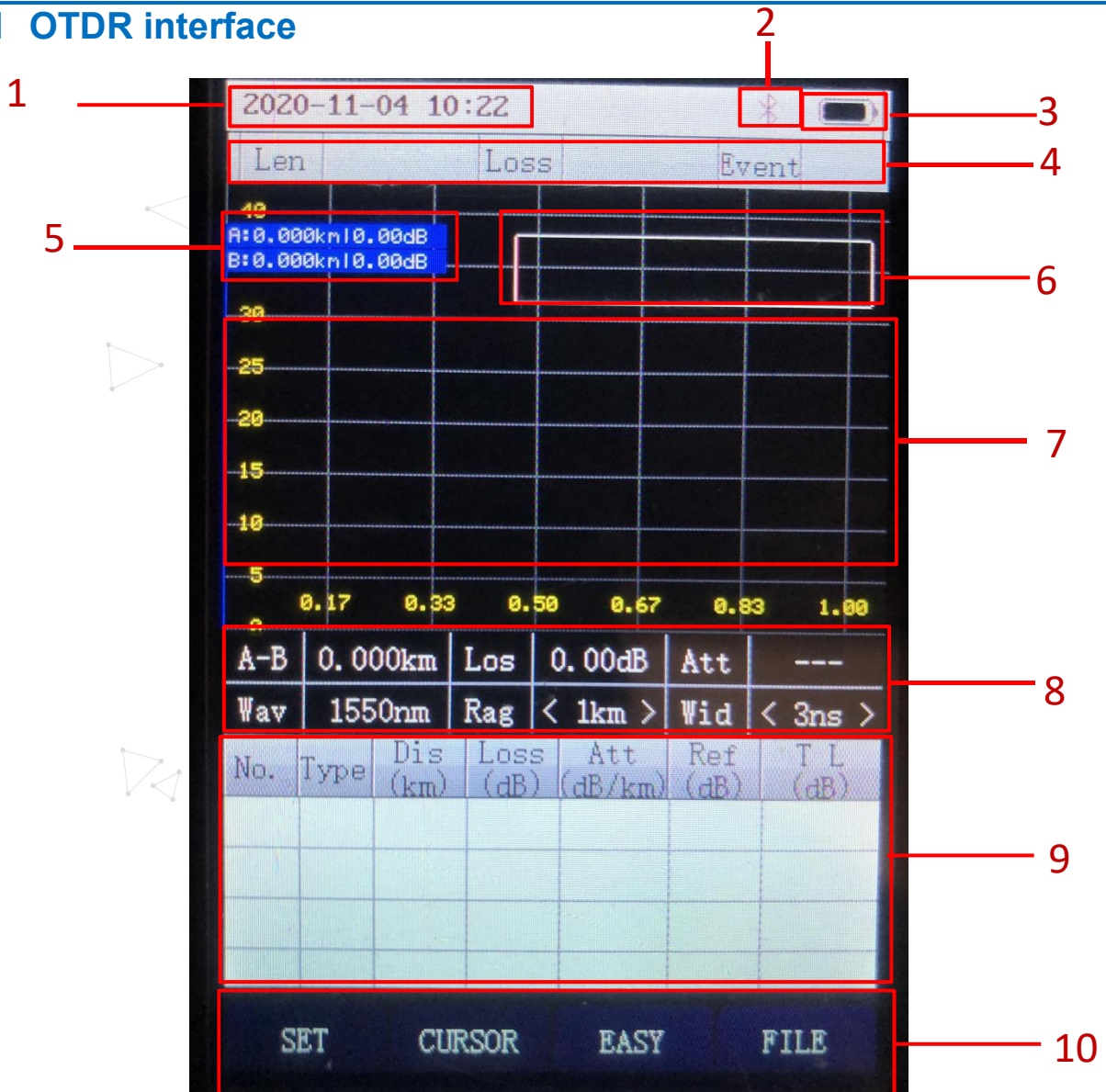
2.5 Boot interface



NO	Name	Function
1	OTDR module	Enter OTDR testing menu
2	VFL module	Entering VFL testing menu
3	OLS module	Entering optical laser source testing menu
4	OPM module	Entering optical power meter testing menu
5	RJ45 module	Entering Ethernet RJ45 cable testing menu
6	FLM module	Entering Fiber Link Mapping testing menu
7	FILE module	Entering file management menu
8	SET UP	Entering OTDR system set up menu

3 OTDR module

3.1 OTDR interface



NO	Name	Function
1	Date and time	Show the date and time
2	Bluetooth	Show the bluetooth status
3	Battery	Show the battery level
4	Result summary	Show the OTDR test result summary
5	Cursor A/B data	Show the cursor A and B position(km and dB)
6	Curve thumbnail	Show the OTDR test curve thumbnail
7	OTDR curve	Show the OTDR test curve

8	Curve info	Show the current test setting and data between A and B
9	Event table	Show the OTDR test events
10	Function button	Enter different functions (SET/CURSOR/EASY/FILE)

3.2 Test setup


Enter "SET" function to setup the OTDR test parameter.

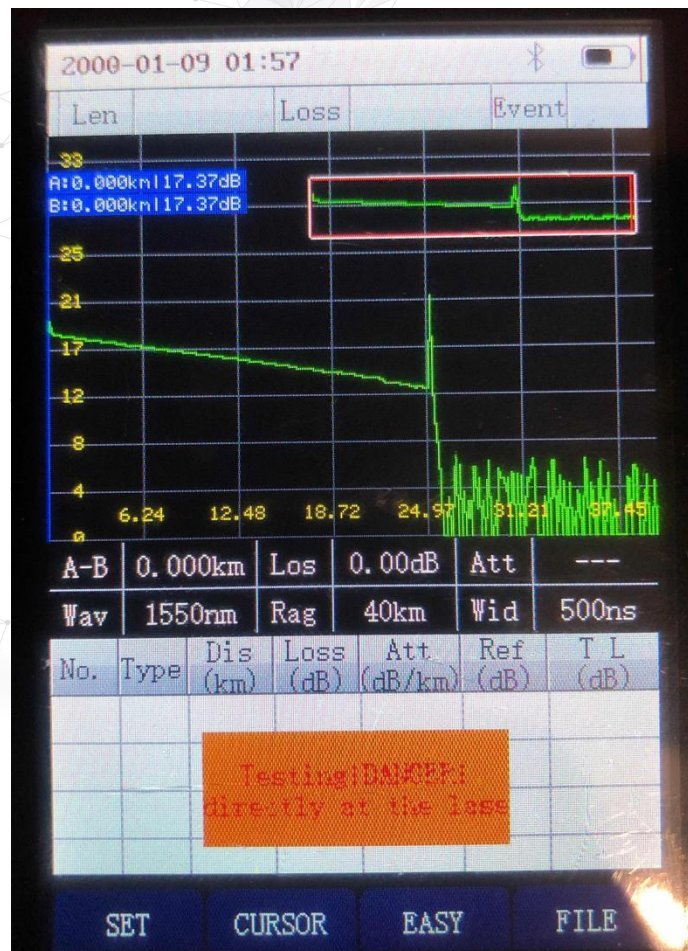


NO	Name	Description
1	Wavelength	Set the test wavelength (1310nm/1550nm)
2	Test Distance	Set the test distance (1km/2km/5km/10km/20km/40km/80km/120km) Unable to set when auto mode is on
3	Pulse Width	Set the test pulse width (3ns/5ns/10ns/30ns/50ns/100ns/275ns/500ns/1us/2us/5us/10us/20us) Unable to set when auto mode is on
4	Test Mode	Set the test mode (Average time/Real time)
5	Test Time	Set the test time (5s/10s/15s/30s/60s/120s)

6	IOR	Set the test IOR (1.465/1.467/1.468/1.469/1.470)
7	End Threshold	Set the fiber end threshold (3dB/4dB/5dB/6dB)
8	Auto mode	ON: Auto mode is ON OFF: Auto mode is OFF
9	REC	/
10	BACK	Back to the OTDR test interface

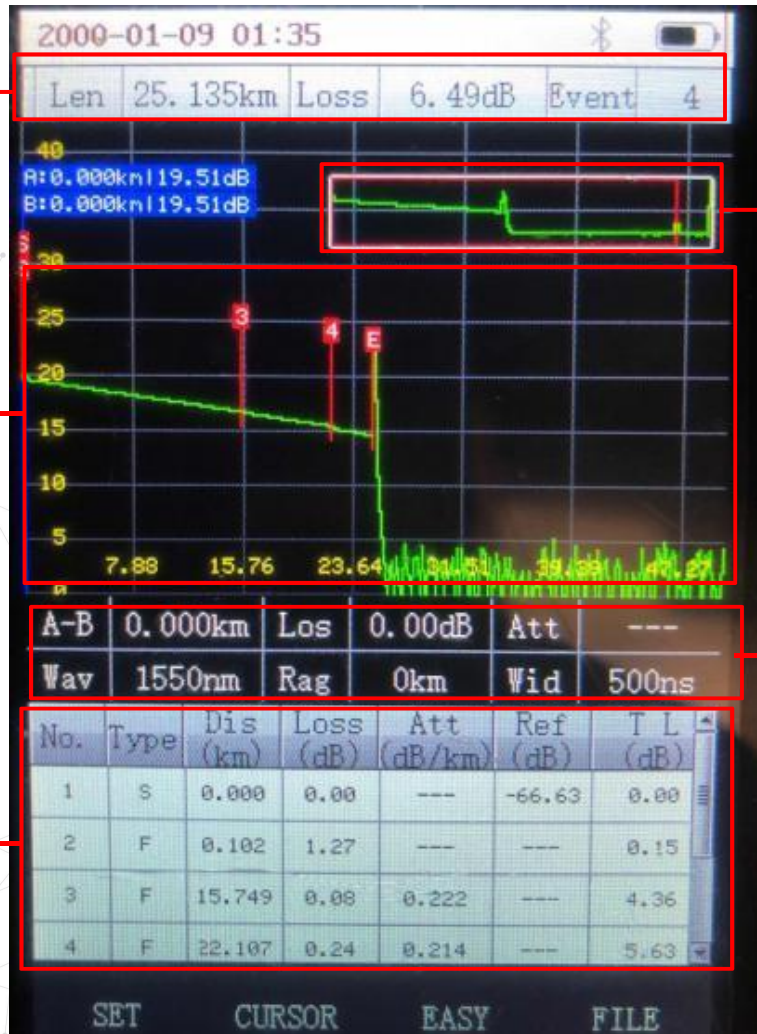
3.3 Start to test

Choose the “Auto mode” to test , connect the tested fiber to the OTDR optical port. Press “TEST” button  to start the OTDR test. Test curve and event table will display on the screen.



Testing!

Result summary



Testing finished

3.4 Curve operation

Enter "CURSOR" to check the curve clearly. In this menu, you can zoom the OTDR curve to check an specific event. Locate cursor A and cursor B to check the fiber loss and attenuation between A and B. Move the curve to check segment fiber.

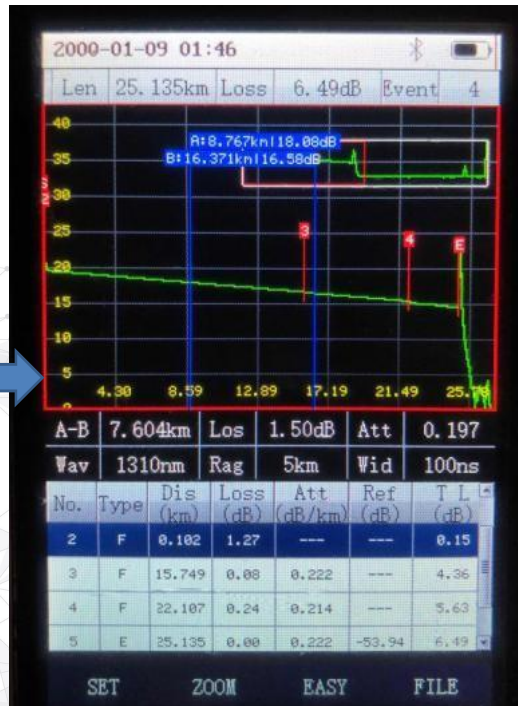


Zoom the curve

In this menu, you can zoom the OTDR curve by press “RIGHT” arrow horizontally and “UP” arrow to zoom vertically.



Before ZOOM



After ZOOM

Move the cursor A and cursor B





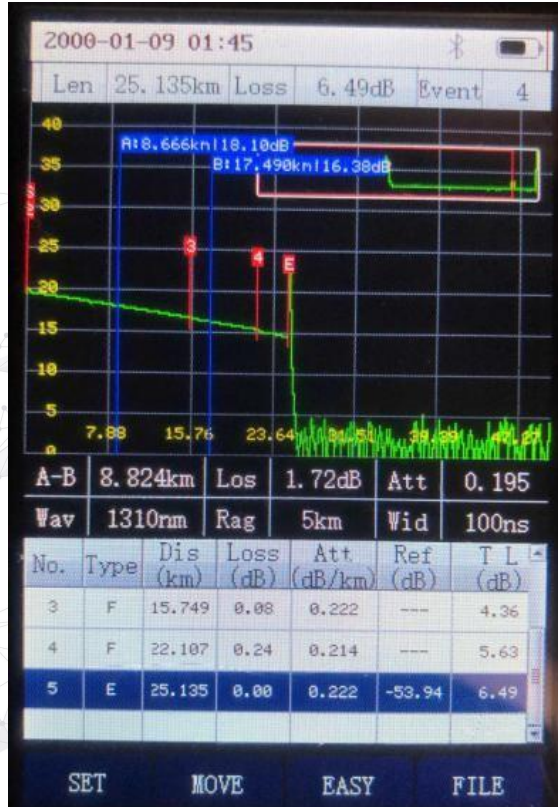
Cursor A and B location and dynamic range

Data between cursor A and B
Test setting parameter

In this menu, you can move cursor A and cursor B to check the loss and attenuation between A and B.

Move the cursor

In this menu, you can move the curve by press "LEFT"  arrow and "RIGHT"  arrow.






Recovery the curve

Press "ATUO"  to recovery the curve. And cursor A and cursor B will back to the zero position.

3.5 Real time test



Enter the “SET” to set the OTDR test mode “Real Time” test. Connect the tested fiber to the optical port, Press “TEST” button  to start the OTDR real time test. OTDR will continue to test. Press “TEST” button  again, Test will stop ,then test curve and event table will display on the screen. When OTDR is under the Real time testing, no button is available except “TEST” button .

3.6 Easy mode

Enter “Easy” mode to enter the OTDR easy mode.

In this “Easy” mode, the test curve will not display, only display the test fiber distance and total loss. This “Easy” mode is suitable for those user without



3.7 OTDR FILE

Enter "FILE" to enter the OTDR FILE. All the test sor files are saved in the file.

In this menu, you can check your test sor files, delete and rename. The sor

Files can be transferred to the PC to make OTDR test report.

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4 OLS module

Enter "OLS" module, In this menu, OLS function can be switched by 1310nm and 1550nm. The output mode can be switched by CW/1k/2kHz. The output is $>-8\text{dBm}$ when the output mode is CW mode.





OLS interface

5 VFL module

Enter "VFL" module, In this menu, 650nm VFL output mode can be switched by CW/1Hz/2Hz. The output power is 10mw.



VFL interface



6 OPM module

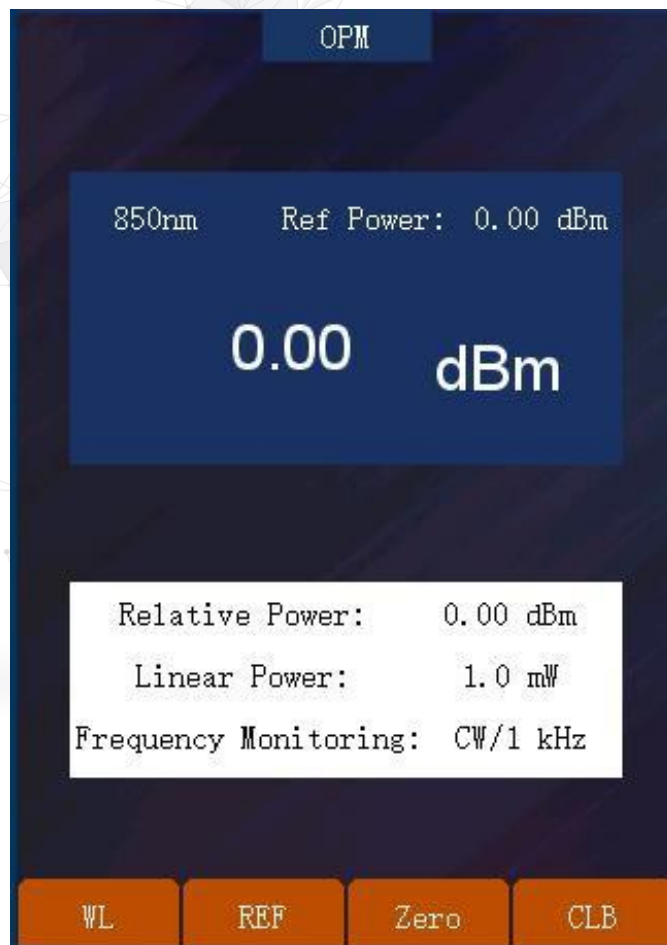
Enter “OPM” module, In this menu, 6 calibrated wavelength can be switched to test the optical power value.

Press “WL” to switch the calibrated wavelength among the below wavelength.
(850nm/1300nm/1310nm/1490nm/1550nm/1625nm)

Press “REF” to set the current power value as reference value.

Press “ZERO” to clean the reference value.

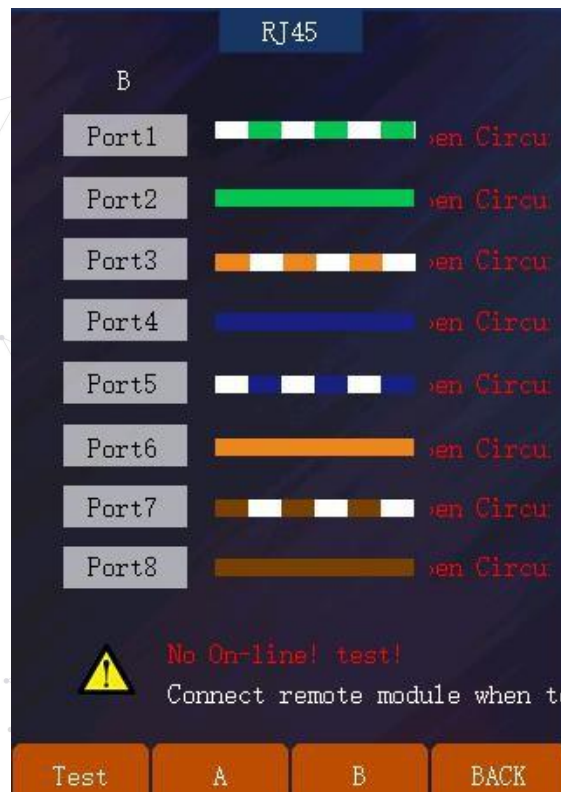
Press “CLB” to calibrate the test optical power.



OPM interface

7 RJ45 Ethernet cable test module

RJ45 Ethernet cable test is for testing the sequences of the RJ45 cable

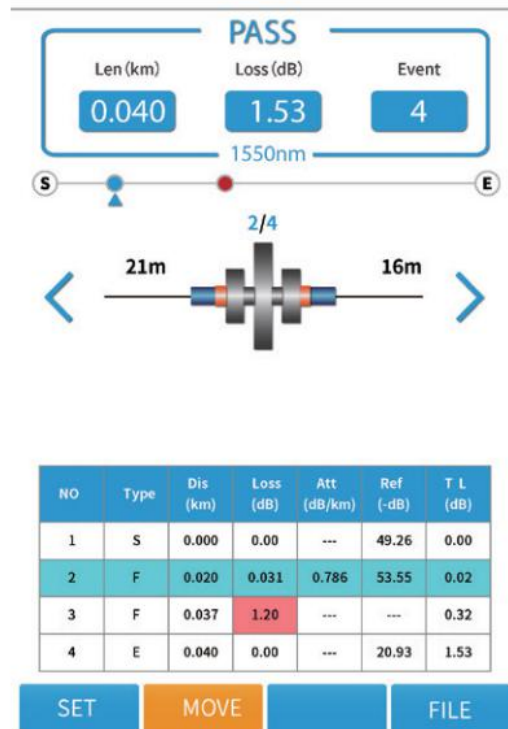


RJ45 Test interface

8 FLM(Fiber Link Mapping) module

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.



9 System Setup

Press "SETUP" to enter the OTDR system setup.

In this menu, "AUTO OFF" can be activated. "Brightness", "Voice", "Date", "Time", "Language", "OTDR auto save" can be adjust.

In this menu, press "UPGRD" to do the OTDR system upgrade.

Press "Version Information" to check the current OTDR system information.



Setup interface

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