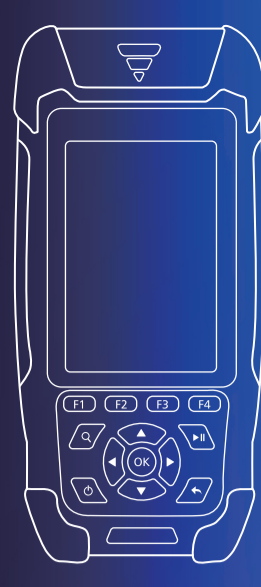


10G EPON/XGPON POWER METER

User's Manual



Summary

1.

10G EPON/XGPON Optical Power Meter can measure the power of GPON/EPON and XGPON/XGSPON network uplink and downlink signals, including uplink 1270nm/1310nm signal, and downlink 1490nm/1550nm/1577nm signal. It integrates 5 functions, such as VFL, RJ45 Cable sequence, length and tracking test. It can simultaneously test and judge the optical power value of voice, data and video signals. It can measure all PON signals, and can also measure each wavelength separately. It is an ideal choice for PON network engineering, construction and maintenance. As a new generation of intelligent hand-held instrument, PON power meter has the function of "Pass/Fail" optical fiber authentication detection by setting different thresholds corresponding to different wavelengths, which ensures that service providers can improve the system performance life by verifying network connectivity. So engineering contractors have high-level key authentication tools to provide customers with reliable network engineering.

Due to the need of design and change, this manual is subject to change without prior notice!

Warning

2.

When using the instrument, any change or modification not explicitly permitted in this manual will deprive you of the right to operate the equipment. To reduce the risk of fire or electric shock, do not expose the equipment to thunderstorm or humid environment. In order to prevent electric shock, please do not open the shell. It must be repaired by qualified personnel designated by the manufacturer.

Attentions

Battery: the battery is a special polymer lithium battery, the charging voltage is 5V/2A, and the charging temperature range is 0°C~50°C. When the ambient temperature is too high, the charging will automatically terminate. The battery should be charged every one month to avoid long storage time and failure of battery due to self discharge. The temperature range of battery during long-term storage is: -40°C ~ +70°C.

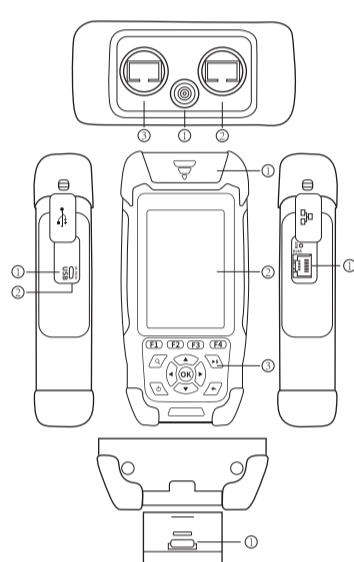
Please use the special adapter attached with the instrument box and use the external power supply in strict accordance with the specifications, otherwise the equipment may be damaged.

End Face Cleaning: Before testing, clean the end face of the tested fiber joint with alcohol cotton.

LCD screen: the display of this series of instruments is 3.5 inch color LCD. In order to maintain good viewing effect, please keep the LCD screen clean. When cleaning, wipe the LCD screen with soft fabric.

Ports of Host

3.



Top

- ① VFL port
- ② OLT (1490/1550/1577nm) port
- ③ ONT (1270/1310nm) port

Left

- ① Micro USB
- ② LED Charging indicator

Right

- ① RJ45 port

Bottom

- ① RJ45 remote tester

Main view

- ① Dust cover
- ② 3.5 inch color LCD
- ③ Function keys

Function keys

4.

Functional keys

Correspond to the operation menu below the screen.



Saved results view key

Press this key to view the stored results

ON/OFF key

Short press to turn on, long press to turn off

OK key

Enter the next level of interface, Enter function

Return key

Return to the previous menu

Directional keys

Up and down choice, right and left choice

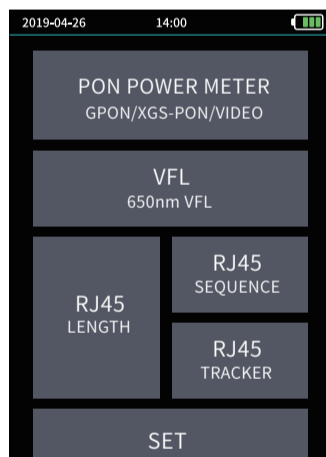
Main interface

5.

Enter the main interface after power on, press the direction key to select the function. Press the [OK] to enter the selected function module. Except for the power button, other buttons do not respond.



Auto shutdown icon



PON Power Meter

6.

Test the power of 1270/1310/1490/1550/1577nm.

[F1]: Save the current power values.

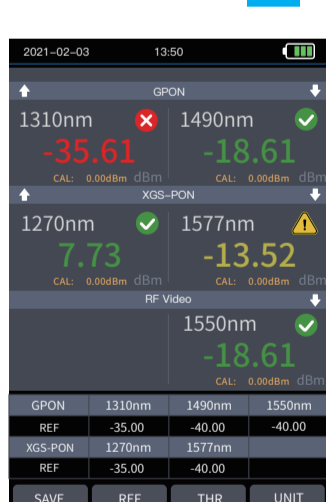
[F2]: Set the current value as the reference value.

[F3]: Enter the threshold setting mode: press the direction key to adjust the threshold value, press [OK] or [F3] to save the threshold value and exit; press the return key to exit the threshold setting mode without saving.

[F4]: Change the current display unit dBm/dBmW.

Long press [OK] to enter the user calibration mode: use the direction key to adjust the calibration value. Press [OK] to save and exit the calibration mode; press return key to not save and exit the calibration mode.

Long press [OK] to enter the user calibration mode: "Cal: 0.00dbm" is displayed below the power value to enter the calibration mode. Use the direction keys to adjust the calibration value. Press [OK] to save and exit, and press the return key not to save and exit the calibration mode.



PON Power Meter

7.

When test is completed, the results will be judged according to the set threshold, and three kinds of judgment results: PASS, WARN and FAIL, will be given.

Up/Down	↑:Up 1270/1310nm	↓:down 1490/1550/1577nm
THR Icon	WARN ⚠	FAIL ❌
THR Name	WARN	FAIL
THR	-25.00dBm	-28.00dBm

test result > -25dBm: qualified, the icon is ✓;

-28dBm < test result < -25dBm: warn, the icon is ⚠;

test result < -28dBm: unqualified, the result is ❌.

View results: press Q to view the saved results:

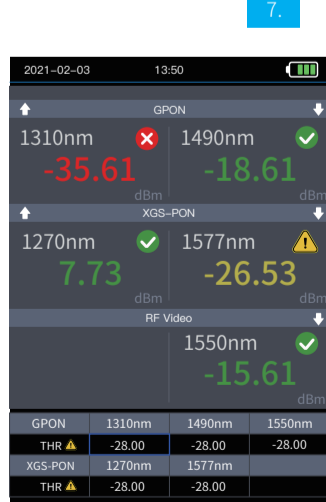
Total: total number of saved results.

Item: the sequence number of the current group.

Press left and right keys to switch the different groups.

Delete: valid when the current group is the last group, only the last group can be deleted.

Clear: delete all saved results.



Visual Fault Location

8.

The visible light (red light) is injected into the optical fiber, and the position of optical fiber fault point can be easily and accurately determined by observing the light leakage position on the tested fiber. It is suitable for the detection of bare optical fiber, optical fiber jumper and other optical fiber which can leak red light, and the near end fault point and high loss section caused by micro bending.

[F1]: VFL always on;

[F2]: VFL flickers at 1 Hz frequency;

[F3]: VFL flickers at 2 Hz frequency;

[F4]: turn off VFL;

[←]: exit.

Warning

Avoid looking directly at the laser output port, laser will cause damage to human eyes!

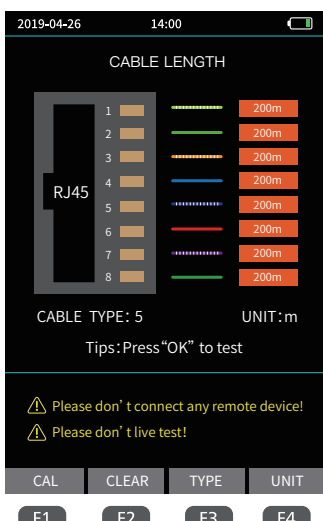


Cable length test: test the length of network cable.

- 【OK】:press to start test;
- 【F1】:enter the setting mode of length calibration K value, press up and down keys to adjust K value, press 【OK】 or to save the settings and exit;
- 【F2】:only in the calibration value setting mode, press it to recover the calibration K value to the default value;
- 【F3】:switch cable type 5/5a/6/6a/7;
- 【F4】:switch display length in m or ft;
- 【↶】:exit.

Warning

Please cut off the electricity before test!

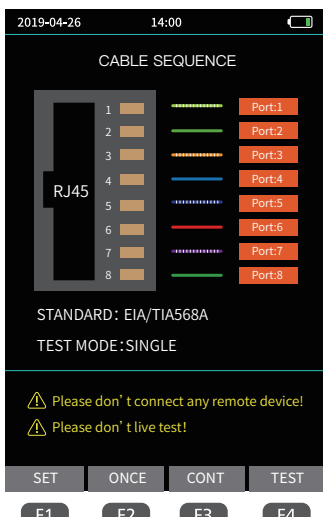


Cable sequence:When testing, please connect to the remote module at the bottom of the instrument. There are two kinds of wires for RJ45 connector: straight line and interleaved line.

- 【OK】:press to start the test;
- 【F1】: switching network cable standard 568A/568B;
- 【F2】: enter single test mode;
- 【F3】: enter the continuous test mode;
- 【F4】: press to start the test;
- 【↶】:exit.

Warning

Please cut off the electricity before test!

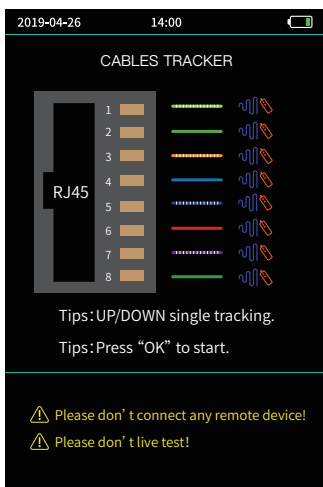


Cable tracking:After the cable tracking function is started, touch the cable under test with the tracker, and when hear the sound of continuous "drip drop", the target cable is found.

- 【OK】: press to start or stop the test;
- 【▲/▼】:switch to single network cable tracking;
- 【↶】:stop tracking and exit.

Warning

Please cut off the electricity before test!



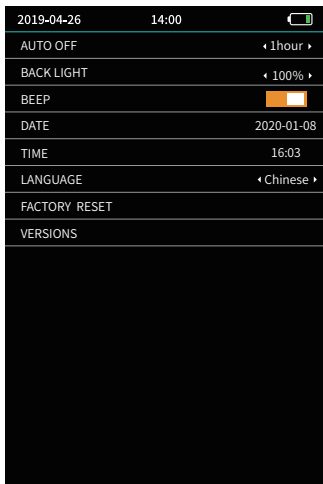
Set the system auto shutdown, backlight brightness, time and other information.

- 【▲/▼】:switch setting items;
- 【◀/▶】:switch the parameters of the current setting item;
- 【OK】:save all settings;
- 【↶】:save all settings and exit.

Date time setting: press 【OK】 to enter the setting mode, press the direction keys to adjust the date and time value, press 【OK】 to save and exit;

【↶】:exit without saving date and time.

Note: direction keys refer to the up【▲】、down【▼】、left【◀】、right【▶】.



10G PON OPM	
Measuring Range	1270±10nm: -35~+10dBm
	1310±10nm: -35~+10dBm
	1490±10nm: -40~+12dBm
	1550±10nm: -40~+25dBm
	1577±10nm: -40~+12dBm
Isolation	>40dB
Uncertainty	≤0.5dB
Insertion Loss	≤1.5dB
Detector type	InGaAs
Display Resolution	0.01dB
Fiber type	SM 9/125μm
Connector	SC/UPC (Interchangeable SC/ST)
RJ45 Cable Length/Sequence/Tracking	
Measuring Range	≤300m

VFL	
Wavelength	650nm±20nm
Output Power	≥10mW
Mode	CW/1Hz/2Hz
Connector	Universal joint FC/SC/ST
Others	
Display	3.5 inch Color LCD, 320*480
External storage	≤1000
Data Interface	Micro USB
Power Supply	Polymer Li-Battery: 3.7V, 4000mAh Adapter: 5VDC, 2A
Battery Life	Standby>20h; Measuring time>12h
Operating Temperature	-10°C~+50°C
Storage Temperature	-40°C~+70°C
Relative Humidity	0~95% Non Condensing
Size	173mm×82mm×37mm
Weight	≤350g

1. Always keep the end face of the sensor clean and free of grease and pollution. Do not use unclean and non-standard adapter connector. Do not insert the end face with poor polished surface, otherwise the sensor will be damaged and the error will be detected.
2. Once the optical power meter is not in use, the dust cap shall be immediately covered to protect the end face from being clean, so as to prevent the measurement error caused by dust adhering to the air for a long time.
3. Plug in and out the adapter connector carefully to avoid scratching the port.
4. Use a special cleaning swab to clean the sensor regularly.