



Summary

PON power meter integrates FTTx/PON power meter, Visible Fault Location, RJ45 cable sequence and length test, cable tracking test, which is suitable for verifying, opening and maintaining BPON, GPON and EPON networks. As a new generation of intelligent hand-held instrument, PON power meter has "PASS/WARN/FAIL" optical fiber certification detection function by setting different thresholds corresponding to different wavelengths, so as to ensure that service providers can improve system performance life by verifying network connectivity, so that engineering contractors have high-level key certification tools to provide reliable network engineering to customers.

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

Warning

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

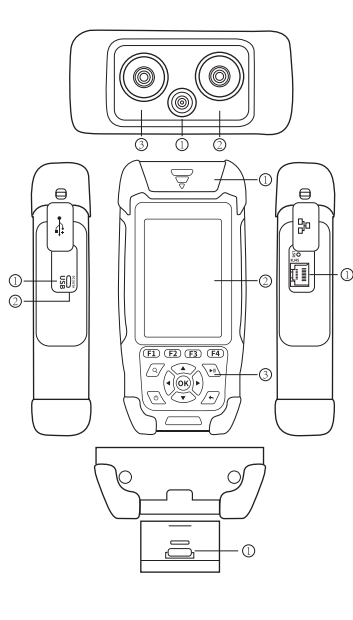
Battery: the battery is a special polymer lithium battery, the charging voltage is 5V/2A, and the charging temperature range is 0 °C~ 50 °C. When the ambient temperature is too high, the charging will automatically terminate. The battery should be charged every one month to avoid long storage time and failure of battery due to self discharge. The temperature range of battery during long-term storage is: - 40 °C ~ 50 °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 4.3 inch color LCD. In order to maintain good viewing effect, please keep the LCD screen clean. When cleaning, wipe the LCD

Ports of Host



Top

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

Right

- ① RJ45 port

Main view

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

Left

- ① Micro USB
- ② LED Charging indicator

Bottom

- ① RJ45 remote tester

Function keys

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

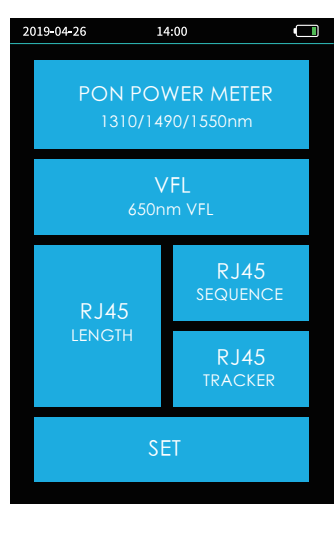
OK key
Enter the next level of interface, Enter function

Exit key
Return to the previous menu

Directional keys
Up and down choice, right and left choice

Main interface

Enter the main menu after power on, there are 5 function modules. Press the direction key to select the module, and then press the "OK" key or directly press the function icon to enter the corresponding function interface.



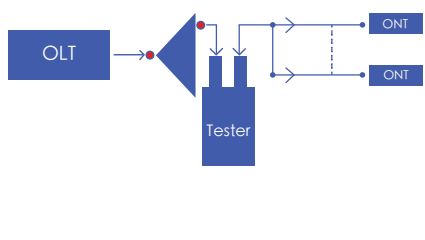
PON Network state test

Ports connection:

OLT port:
connect to OLT line, before the light cat, it is used for the measurement of optical power of up-to-1310nm burst signal.

ONT port:
connect to ONT line, after the second optical splitter, it is used to test the power of 1490nm or 1550nm continuous optical signal.

The above signals can be connected singly or simultaneously.



PON Power Meter

Filter measurement function, test the corresponding power of 1490/1550/1310nm in PON system.

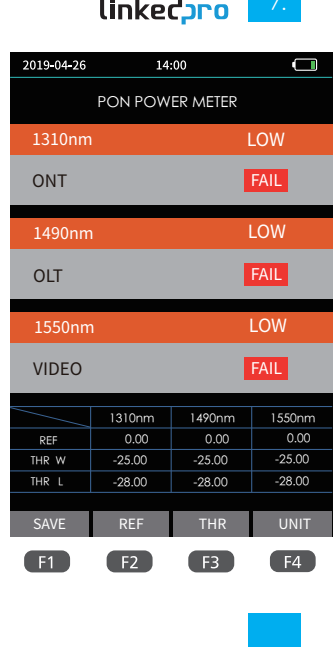
【F1】 : Save the current power of three wavelengths.

【F2】 : Set the current value as the reference value.

【F3】 : Enter the threshold setting mode: press the direction key to adjust the threshold, press the left and right keys to select the setting item, press [OK] to edit, press the up and down keys to adjust the current value, press [OK] to save and exit, press the return key to exit without saving.

【F4】 : change the unit dBm/dBm/W.

Long press [OK] to enter the user calibration mode: use the direction key to adjust value. Press [OK] to save and exit, press the return key to exit without saving.



PON Power Meter

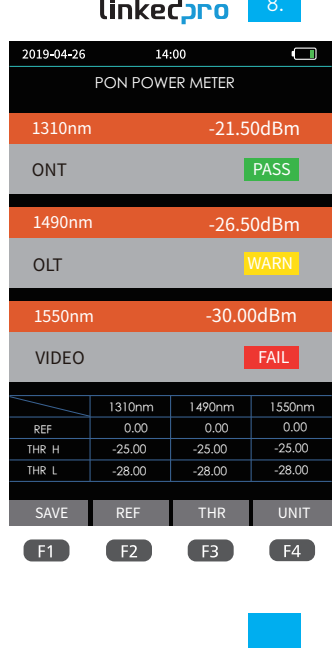
When test is completed, the results will be judged according to the set threshold, and three kinds of judgment results, PASS, WARN and FAIL, will be given.

Item	ONT:1310nm		OLT:1490nm		OLT:1550nm	
	THR Name	THR L	WARN	THR L	WARN	THR L
Value	-25dBm	-28dBm	-25dBm	-28dBm	-25dBm	-28dBm

test result > -25dBm: qualified, the result is green font **PASS**;

-28dBm < test result < -25dBm: warn, the result is yellow font **WARN**;

test result < -28dBm: unqualified, the result is red font **FAIL**.



Visual Fault Location

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;

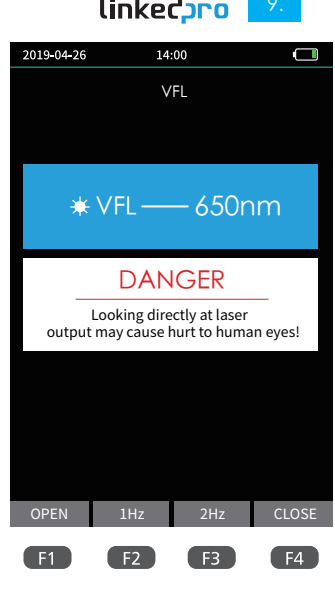
【F2】 : VFL flickers at 1 Hz frequency;

【F3】 : VFL flickers at 2 Hz frequency;



Warning

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

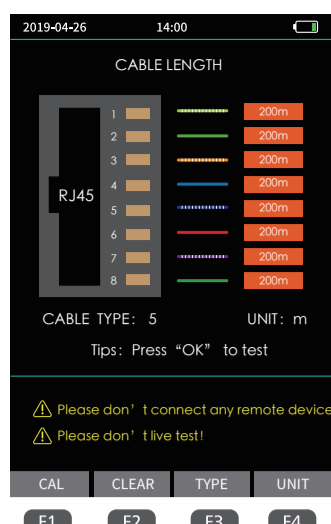


Cable length test: test the length of network cable.

- 【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!



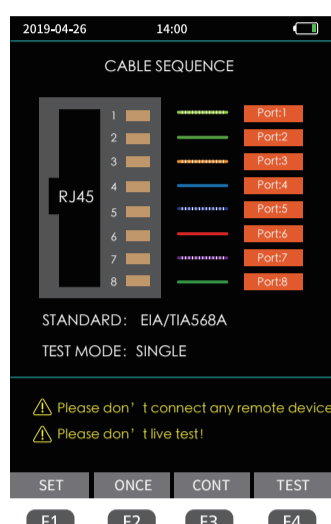
Cable sequence: When testing, please connect to the remote module at the bottom of the instrument.

There are two kinds of wires for RJ45 connector:

- 【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;

Warning

Please cut off the electricity before test!

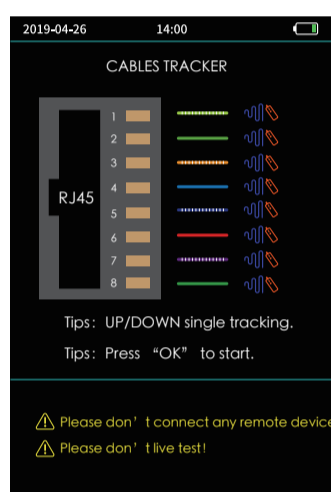


Cable tracking: After the cable tracking function is started, touch the cable under test with the tracker, and when hear the sound of continuous "drip drop", the target cable is found.

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

Warning

Please cut off the electricity before test!



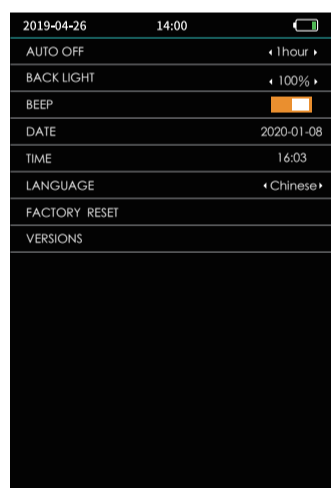
Set the system auto shutdown, backlight brightness, time and other information.

- 【▲/▼】 : 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 【】.



PON OPM	
1310nm(upstream)	-35dBm~+10dBm
1490nm(down)	-40dBm~+12dBm
1550nm(down)	-40dBm~+25dBm
Unit	m/μ/nW/dBm/dB(REF)
Power accuracy	±0.5dB
Power resolution	0.01dB
Connector	Universal joint UPC (FC/SC/ST, APC optional)
VFL	
Wavelength	650nm±20nm
Output power	≥10mW
Mode	CW/1Hz/2Hz
Connector	Universal joint

RJ45 Cable length/Sequence/tracking	
Range	300m
Others	
Display	3.5 inches TFT LCD, 320*480
Interface	Micro USB
Power supply	Li battery: 3.7V/4000mAh Adapter: 5VDC/2A
Battery life	Standby>20h, Measure>12h
Working temperature	-10°C+50°C
Storage temperature	-40°C+70°C
Relative humidity	0~95%, No condensation
Weight	≤350g
Dimensions	173mm×82mm×37mm

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.