

Summary

In the PON network, by extracting a small part of the optical signal online, the PON power meter can be carried out in the whole FTTx service opening, maintenance and detection stage, which can reliably verify and ensure to meet the requirements of network communication. It can test the optical power value of voice, data and video signals at the same time, and give the warning of exceeding the threshold. It is an ideal choice for engineering, construction and maintenance.

Note: The version of the manual is subject to change without prior notice.

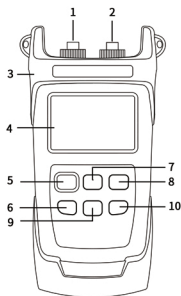
Features

- ◆ Automatically shut down can be set
- ◆ Burst mode test for 1310nm upstream wavelength
- ◆ Measurement and alarm thresholds can set
- ◆ Support the synchronous measurement and display of experimental voice, data and video signals on PON architecture
- ◆ Uplink signal 1310nm, downlink signal 1490nm and 1550nm in PON system can be measured at once

Function description

Keys and ports description

1. ONT: uplink signal 1310nm detection port
2. OLT/VIDEO: downlink signal 1490/1550nm detection port
3. USB: mobile power supply available, non charging
4. Display screen
5. ON/OFF&Auto shutdown key
6. REF: set reference power
7. ▲/Unit: switch display unit dBm/dBmW
8. THR: set threshold
9. ▼/Load: save or view the saved results
10. SEL: in threshold setmode, switch the lower limit of threshold and the lower limit of alarm in threshold group; In the view interface, switch to saved items



Instructions

1. ON/OFF, Timed shutdown

(1) In the shutdown status, long press  key about 2 seconds, and the device will start. The display is as follows:



(2) The icon  in the upper left corner of the interface indicates that it will shut down automatically after 10 minutes. Short press , the icon  disappears, and auto shutdown function is canceled.

(3) In any power on state, press  for 2 seconds, and the device will shut down.

2. Online optical power measurement of PON

After power on, the measured power values of three wavelengths are displayed at the same time. If "LOW" is displayed, it means that the input optical signal intensity is too low. The limit parameters of each wavelength refer to the technical specifications of the equipment.

Threshold setting:

long press THR to enter threshold setting mode. In the threshold setting mode:

short press THR to switch the threshold group, short press SEL to switch the three threshold lower limits in the current threshold group, short press ▲/UNIT

and ▼/LOAD to adjust the threshold in 1dBm steps, long press again to exit.

Test:

clean the optical connector to be tested, connect to the OLT/VIDEO interface and ONT interface (FC/SC/ST connector) of the instrument.

Pay attention to the type of the optical connector to be tested. If the mismatched connector is connected, the output connector of the instrument may be damaged, and incorrect measurement results may be obtained.

For example, the threshold name is THR1, and the set values in the group are as follows:

THR name	ONT:1310nm		OLT:1490nm		VIDEO:1550nm	
	Warning: ▲	×: FAIL	Warning: ▲	×: FAIL	Warning: ▲	×: FAIL
THR1	-20dBm	-30dBm	-20dBm	-30dBm	-20dBm	-30dBm

The instrument test results show that:

- 1) The intensity of 1310nm uplink test optical path is -10dBm, greater than -20dBm, indicating that the link is normal, so the green icon  is displayed;
- 2) If the test optical path intensity is between -20 and -30dBm, it indicates that the link may have problems but can be used, and the yellow icon  is displayed;
- 3) If the test optical path intensity is not within the threshold range, such as < -30dBm, it means abnormal, and the red icon  is displayed;
- 4) If the test light path intensity is more than +10dBm, the power value is displayed as HI, indicating that the light path is normal.

1490nm and 1550nm are the same as 1310nm.

The test is over. Keep the instrument interface clean and put on the dust cap immediately after shutdown.

Save and view:

In the test interface, long press /LOAD to save the current value, and the screen will appear in the middle of the first line  icon about 1 second, save successfully.



Short press /LOAD to enter view mode, press SEL to cycle to switch the current group, long press /LOAD to delete the current group, short press again to exit.

Relative value measurement of PON power meter

According to the test requirements, choose to display different wavelengths and reference values, the relative power value = absolute power value - reference value. Briefly press REF to set the current power as the reference power. The "REF" icon is displayed on the first line of the screen for about 1 second.

Threshold selection:

Provide 10 groups of threshold selection, long press THR to enter threshold setting mode, short press THR to switch threshold group, long press THR again to exit threshold setting mode.

User calibration mode:

At the same time, press REF&THR to enter calibration mode, short press SEL to switch the wavelength, short press ▲ or ▼ to adjust the power value in 0.1dBm steps, press ⏻ to save and exit. Press REF&THR to exit without saving. Press ▲&THR to recover default value.

Standard configuration

PON optical power meter host (including battery), certificate, use instructions, product warranty card, Oxford soft bag, 2 FC/UPC to SC/UPC jumper, packaging carton.

Technical indicators

PON OPM				
Model	NK307-S-D	NK307-R-D	NK307-S-L	NK307-R-L
Wavelength	1310±50nm	1490±15nm	1550±10nm	
Isolation 1310nm	--	>40dB	>40dB	
Isolation 1490nm	>40dB	--	>40dB	
Isolation 1550nm	>40dB	>40dB	--	
Measuring Range	-35 ~ +10dBm	-40 ~ +12dBm	-40 ~ +25dBm	
Uncertainty	≤0.5dB			
Insertion Loss	≤1.5dB			
Detector type	InGaAs			
Display Resolution	0.1dB			
Fiber type	SM 9/125μm			
Threshold setting	10groups			
Connector	FC/UPC(APC optional)			
Others				
Display	Color LCD			
External storage	10			
Data Interface	Micro USB			
Power Supply	Three 1.5V AA batteries/ lithium battery			
Battery Life	Standby>20h; Measuring time>12h			
Operating Temperature	-10℃~+50℃			
Storage Temperature	-40℃~+70℃			
Relative Humidity	0~95%Non Condensing			
Size	186mm×100mm×50mm			
Weight	≤150g			

Note: Model name: S-Standard Optical Interface, R-Rhombic Optical Interface, D-Dry Battery Version, L-Lithium Battery Version

Common faults

Fault phenomenon	Possible causes	Solution
No LCD display	The power is not on	Press ⏻ to turn on
Unable to power on	The battery is low	Replace the battery
Power on and power off automatically	The battery is low	Replace the battery
	Automatic shutdown is set	Check auto shutdown settings
Measurement error or instability	The joint is not clean	Clean the connector
	Improper fiber connection	Reconnect the fiber

Warranty regulations

Thanks for purchasing our products. In order to protect your legitimate rights and interests, and to improve the after-sales service, this warranty regulation is formulated. Please read it carefully.

1. 18 months free warranty for this product since the date of purchase, if it exceeds the warranty period, we will charge accessories.

2. During the free warranty period, we have the right to refuse the warranty service and collect the maintenance fee, if:

A: User improper or erroneous operation leads to product failure.

B: Accidents caused by lightning or improper installation;

C: Label is damaged or unauthorized to disassemble the equipment for maintenance.

3.Products under repair are properly packed and shipped. The company is not responsible for any damage or loss in the delivery process.

4. Please read the product instruction carefully before using the product.

5. The warranty card must be stamped and dated to ensure your rights.

