10G EPON/XGPON Power meter

Users' Manual

Summary

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NK286 10G EPON/XGPON optical power meter(OPM) measure GPON/EPON, and XGPON/XGSPON network uplink and downlink signal power, including uplink 1270nm / 1310nm signal power fraction measurement. Fractional wave measurements are taken with the descending 1490nm/1577nm signal power.

NK286 integrates three functions, such as Visual Fault Location(VFL), RJ45 cable sequence and line tracking test. It measures all PON signals, and can also be measured separately for each wavelength, which is the ideal choice for PON network engineering, construction and maintenance. By setting different thresholds corresponding to different wavelengths, the PON power meter has a "PASS/-FAIL" fiber certification detection function to ensure that service providers improve system performance lifetime by verifying network connectivity, so that engineering contractors have high-level critical certification tools to provide customers with reliable network projects.

Note:① the functions of the instrument are different due to different models；
　　②Due to the need of design improvement, the contents are subject to change without notice.

Ports

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Left
①Charging indicator（The red light is on when charging and off when fully charged)
②TypeC port
③RJ45 port
④LCD screen
⑤Sequence lights
⑥Function keys

Top
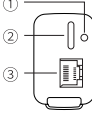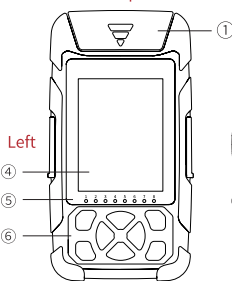①Dust cover
②Flashlight
③ONT OPM port
④VFL port
⑤OLT OPM port

Bottom
①Remote module

Top

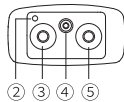Left

Left

Top

Bottom

Keys

3

Function keys description：

REF/▲ (Up key)　　◄(Left key)

▼/SAVE (Down key)　►(Right key)
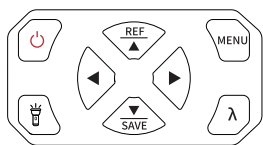
MENU　　　　　　　λ

⏻：①Short press to power on, long press to power off.
②Except the setting and calibration interface, short press to switch the automatic shutdown mode.
③Setting interface: short press to save the settings,
Calibration screen: short press to save the calibration

🔦：①Except the setting interface, short press to turn on the flashlight.
②OPM interface, long press to turn on or turn off the VFL. short press to switch to 1Hz, 2Hz and off.

Icons

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According to different functions and specific operations, the corresponding icons will appear in the interface. When an icon appears, it means that the corresponding function has been opened or the corresponding operation has been completed.

⏻ **Automatic shutdown,** in the set time without any operation, the instrument automatically shut down

🔍 **RJ45 Tracking,** long press to enter the digital hunting mode, and the mark will be displayed at the bottom of the screen

🖥 **RJ45 Sequence,** Long press ► to enter line sequence test mode, the mark will be displayed at the bottom of the screen

🔦 **Flashlight,** turn on the LED light

☀ **VFL,** long press 🔦 turn on red light

🔋 **Battery,** indicating battery capacity

💾 **Save completed,** indicating that the test results have been saved

OPM

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The screen also displays the power value, current threshold group, and decision results of the four wavelengths 1310/1270/1490/1577.
REF/▲： Press and hold to switch the relative power, linear power, and absolute power display modes, and press and hold to set the current power as the reference value.
▼/SAVE： Long press to save the current power. The save icon is displayed in the upper part of the screen and disappears after 1 second. Press to enter the save view screen, and press again to exit the save view screen.
The units of Absolute Power, Relative Power and Linear Power are dBm、dB、mW/nW. The conversion relationship is as follows：

PAbs.power=10LgPLin.power/1mW　　　PRel.power=PAbs.power−PRef.power

THR NO. 01

1310 nm Lo × ONT
1270 nm Lo × ONT-10G
1490 nm Lo × OLT
1577 nm Lo × OLT-10G
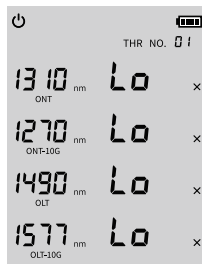
OPM

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►◄：At the same time, hold down for 1s to enter the user calibration mode, Cal is displayed on the left side, the calibration value is displayed in the second row, press up and down to adjust the calibration value, press the λ key to switch wavelength, press the menu key to switch the interface that displays the calibration value in detail, press the left and right keys for 1s to stop saving and exit the calibration mode, press the on-off button to save and exit the calibration mode.

Cal
1310 nm Lo ONT

Cal
1310 nm 0.00 ONT
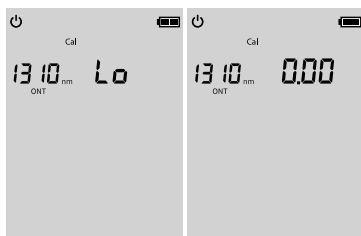
Note: The calibration and adjustment range of the power meter is from -6dBm to +6dBm.

Save interface:
It also displays wavelength, serial number, and power.
By default, the latest saved items are displayed on the save screen
(a maximum of 1000 items can be saved).
►◄: To switch items, short press: left to subtract, right to add, long press: quick switch.
MEUN: After long press DEL to display, short press λ key to delete all saved data, and long press MENU key to exit delete mode.

Note: When there are 1000 pieces of data saved, the interface will display "FULL" when saving again. It is recommended to export the data in time and delete the internal data of the instrument, otherwise it cannot continue to save.

Press and hold the MENU button in the optical power screen to enter the setting mode, and press and hold the MENU button in the setting mode to cycle through the following two functions in sequence, to set the threshold or reference value, and press and hold the MENU to exit the setting mode.
Under threshold setting, press λ key to switch the setting wavelength and alarm threshold/error threshold.

Threshold setting:
►◄: Press the left and right buttons to switch the threshold group.
REF/▲、▼/SAVE: Short press to adjust the threshold in 0.01 step, and long press to adjust the threshold quickly.
⏻ : Tap to save the current Settings.

Custom wavelength Settings:
REF/▲、▼/SAVE: Hold down to set the reference value by 0.01 step, and hold down to set the reference value quickly.
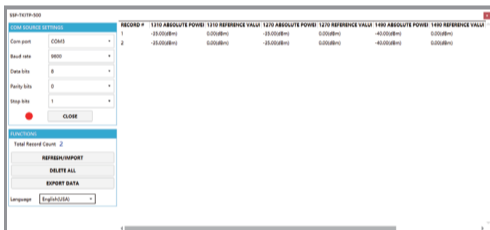λ : Toggle the setting wavelength.
⏻ : Tap to save the current Settings.

In addition to the save interface, setting interface and calibration interface, long press the MENU and REF/▲ keys at the same time, the screen is displayed as the picture on the right, press the λ key to restore factory settings, and short press the MENU key to not restore factory Settings and exit.

1. Install the serial port driver and the upper computer program according to the instructions, connect the computer to the instrument with the USB cable, and the instrument must be kept on.
2. Double-click "LcdOpmApp.exe" to open the software, after entering the software, click to open the serial port, click refresh, the instrument saved data is displayed on the right, click Delete all to delete all saved data. Click Export data to export the Excel table. Click the language drop-down box to switch the display language.

10G EPON/XGPON OPM				
Wave range	1270±10nm	1310±10nm	1490±10nm	1577±10nm
Power range	-35~+10dBm	-35~+10dBm	-40~+12dBm	-40~+12dBm
Isolation	>40dB			
Measurement uncertainty	≤0.5dB			
Insertion loss	≤1.5dB			
Detector type	InGaAs			
Display resolution	0.01dBm			
Fiber type	SM 9/125um			
Connector	FC/UPC (Interchangeable SC)			
VFL				
Wavelength	650nm±20nm			
Output power	≥10mW			
Mode	CW/1Hz/2Hz			
Connector	Universal jointFC/SC/ST			

RJ45 Cable Sequence、RJ45 Cable Tracking(Optional)	
Test Range	≤300m
Others	
Display	Black and white broken code screen display
Data storage	≤1000 pieces
Data interface	Type-C
Power supply	Polymer physical battery :3.7V, 1500mAh; Power adapter: 5VDC, 2A
Mode	≥20h
Battery life	-10°C~+50°C
Operating Temperature	-40°C~+70°C
Storage Temperature	0~95% No condensation
	140mmX32mmx73mm
	255g

Clean connectors

The optical output interfaces must be kept clean during use. When the test result is not accurate, first consider cleaning the connector.

When cleaning, be sure to turn off OPM and VFL function. Wipe the connection end face with a swab wetted with alcohol.

At the same time, please cover the dust cap after using the instrument, and keep the dust-proof clean at the same time.

We do not recommend users to repair 10G EPON/XGPON optical power meters by themselves。
1. Warranty Description: The entire machine is covered by an 18 month warranty, while the battery, charging adapter, and optical interface consumables are covered by a 6-month warranty. The warranty period will be extended by one month from the product's manufacturing date; When the purchased product is found to have quality problems during this period, we will make corresponding treatment or replacement, but in any case, our responsibility will not exceed the purchase value of the product.
2. If there is a problem in the use of the instrument, according to the common fault prompt solution can not be solved, the user shall not open the case without authorization, please contact our company.
3. For product defects caused by failure, our company is responsible for free repair or replacement of products.

Note: This guarantee only applies to the normal use of the instrument, and no damage or normal use of the product quality or material defects caused by failure, our company is responsible for free repair or replacement. For accidents, improper use, unauthorized boot maintenance our company has the right to refuse warranty.