

FICHA TÉCNICA

PM3214



The PON optical power meter is a test meter for FTTx's service and maintenance. It can measure voice, data and RF video signals over optical fiber links. The upgraded color LCD display and threshold data function that can be manually set by the instrument machine are more suitable for PON network engineering, construction and maintenance needs.

Product features

- Color LCD screen display
- Supports synchronous measurement and display of voice, data and video signals in a PON architecture
- Supports measurement of 1310nm upstream burst signal and 1490/1550nm downstream signal
- Meter sets the measurement and alarm threshold
- Data store function 1000
- Supports visible red light fault location and common power meter function
- Supports dry battery, lithium battery, nickel metal hydride battery and adapter power supply

Technical specifications:

PON POWER METER MODE			
Measuring wavelength	1310nm	1490nm	1550nm
Measuring range (dBm)	+13~-40	+13~-50	+25~-50
Spectral band-width (nm)	1310±50	1490±10	1550±15
IL (dB)	≤1.5		
Uncertainty (dB)	≤0.5		
Interface type	SC/PC (optional SC/APC)		
Display resolution (dB)	0.01		
Threshold Settings	10		

Data storage	1000
Standard OPM (optional)	
Measuring range (dBm)	+26~-50
Calibration wavelength (nm)	850/1300/1310/1490/1550/1625
Uncertainty (dB) ²	≤0.5
VFL (optional)	
Calibration wavelength(nm)	650
Output power (mW)	10
Modulation frequency	Lighting Form, 2HZ
Others	
Operating temperature (°C)	-10~+60
Storage temperature (°C)	-25~+70
Relative humidity	≤75%RH
Communication interface	Mini USB
Power supply	3*AA 1.5V battery, Mini USB power adapter (optional lithium battery)
Operating time(h)	≥80H
Dimension (mm)	192mm×105mm×50mm
Weight(g)	300

Note: 1、T=23±2°C test 2、@1550nm, +26~-30 dBm test

Standard configuration

Main device, user manual, certificate of qualification, Mini USB data cable, 1.5V AA battery, Oxford bag

Introduction

1- ONT Uplink signal detection port (1310nm)
2- OLT/VIDEO Downlink signal detection port (1490/1550nm)
3- OPM standard power meter probe port (optional)



4- VFL (optional)
5- Display screen
6- Key function area
7- Mini USB port

Note: The standard configuration only provides the PON power meter function by default. OPM and VFL are optional.

Instructions

6.1 Power on/off

Press and hold the "" button to start the instrument, and press again to cancel the automatic shutdown for 10 minutes. Long press the "" key for 2s to power off the meter.

6.2 functional instructions

The PON power meter screen is displayed after power-on. You can use the MODE key to switch to the common power meter screen or the visual fault location screen.

6.2.1 PON optical power meter

(1) PON optical power meter can simultaneously measure ONT 1310nm burst mode uplink signal and OLT/VIDEO 1490nm/1550nm downlink optical signal power detection in PON network.

After startup, the measured power values of the three signals are displayed on the SCREEN of the PON test interface. If LO is displayed, it indicates that the input optical signal is too low. Limit parameters of each wavelength refer to the technical specifications of the device.

(2) Threshold setting

To switch to a threshold group, hold down the key. To enter the threshold mode, hold down the key. In threshold setting mode, you can switch the upper limit and lower limit of the current threshold by pressing keys. Press and to edit the threshold data of the current wavelength. After setting the desired wavelength threshold, press to save and exit.

(3) Test

Clean the optical fiber to be measured and connect it to the ONT port and OLT/VIDEO port. Note: The type of optical fiber connector to be measured. If the connector type is not matched with the instrument, the output optical connector of the instrument may be damaged and inaccurate measurement results may be obtained. For example, the threshold name is THR01. The following table lists the threshold values:

PON	ONT:1310nm			OLT:1490nm			VIDEO:1550nm		
阈值名称	Pass	Warn	Fail	Pass	Warn	Fail	Pass	Warn	Fail
THR01	+3dBm	-20dBm	-30dBm	+3dBm	-20dBm	-30dBm	+3dBm	-20dBm	-30dBm

Assume that the current 1310nm upstream test optical power intensity is -10dbm, and the threshold range is between +3 and -20dbm, indicating that the optical path is normal, and the meter screen displays a green Pass character. If the test optical path intensity is between -20 and -30 DBM, it indicates that the optical path may have problems but can be used. Yellow Warn characters are displayed on the instrument screen interface. If the intensity of the test optical path is not within the threshold range, that is >+3dBm or <-30dBm: indicates that the light intensity in the optical path is too strong or weak. Red Fail characters are displayed on the instrument screen interface. The same is true for 1490nm and 1550nm tests.

After the test, keep the instrument interface clean and cover the dust cap immediately after the power off.

(4) Save, view, and delete data

In the test interface, press the key and the screen symbol flashes to indicate whether to save the current data. If you confirm to save the data, press the key again. If you cancel the saving, press the key to cancel and exit the data saving. The saved data records are displayed in 0001 order at the top of the screen.

On the test interface, long press the key to enter the saved value viewing mode, and short press the key to exit the viewing mode.

In view mode, you can press and to view the stored data records up and down.

In view mode, press the key to delete the current value group.

(5) PON power meter relative value measurement and unit switching

According to test requirements, select display different wavelength and reference value,

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(5) PON power meter relative value measurement and unit switching

According to test requirements, select display different wavelength and reference value,

Relative power value = absolute power value - reference value. Hold down the key to set the current power value as the reference power and enter the reference power display mode. The first line of the screen displays "REF" once. Short press to switch between dBm, dB and mW units.

6.2.2 Standard OPM

The standard OPM is mainly used for testing optical signal power and insertion loss of all

kinds of equipment and photoelectric components.

After the instrument is turned on, press the MODE key to switch to the standard OPM MODE, and PM is displayed in the first line at the top of the screen. Press to select the wavelength to be tested. Short press to switch the power unit, and long press to set the current power as the reference value.

6.2.3 VFL.

After the instrument is turned on, press the MODE key to switch to the visual fault location function MODE, and the first line at the top of the screen displays VFL. Press THR key to turn on or off VFL light, press key to select CW and 2HZ light mode.

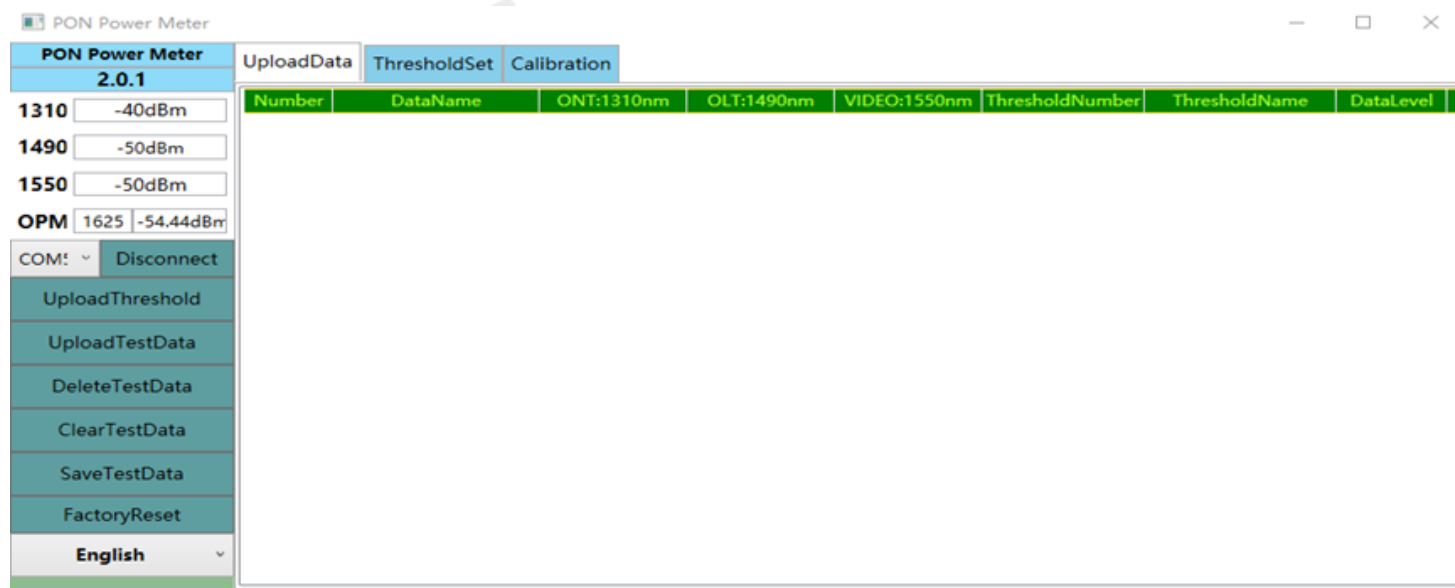
Data communication upload

Install the CH340 driver based on the computer system.

Connect the instrument and computer with USB data line. After opening the software, select the COM adapter port above the "Connect" button, and then click "Connect".

6.3.1 Uploading Data

Click the "Chinese" icon to switch the software operation interface language, select the "Upload data" TAB, click the "upload data" button to read the test data stored in the instrument to the computer; Click "Delete test Data" or "Clear test Data" button to delete data;



Threshold Settings

Click "Upload Threshold" to upload all the threshold group data originally set by the instrument.

Click "Threshold Settings" to modify the data of the threshold group to be modified in the software. After editing the modification, right-click "Settings" to save the modification.

Calibration

After selecting the "Calibration" option, you can calibrate the PON module and the common optical power meter module respectively. Select an appropriate wavelength for user self-calibration.

Take "calibration of ordinary optical power meter at 1310nm" as an example:

Assume that the optical power intensity of the current line at 1310nm is -10dBm, insert the optical signal of the current line into the OPM common power meter port of the instrument under test, and then "Select wavelength 1310nm" and click "Cut wavelength 1310nm". Enter -10dBm in the text box of "Input standard power value -10" and click "Calibrate" button to calibrate 1310nm wavelength.

Note: the instrument has been strictly calibrated before leaving the factory, customers should be careful to use this function to avoid deviation in the instrument test!

Maintenance

1. The tester should work without obvious vibration.
2. Keep the output end face clean. If there is dirt, unscrew the outlet flange and clean the end face with clean paper or cleaning cloth and anhydrous alcohol.
3. Cover the device with dust caps when it is not in use.
4. Carefully insert and remove the optical connector.
5. Handle the device gently to prevent device falls and collisions.

Guarantee

We don't suggest users repairing the device by themselves

1. The company will guarantee the products provided by it, the warranty period is valid for eighteen months from the date of shipment.
2. When the purchased products are found to have quality problems during this period, the company will make appropriate repairs or replacements.
3. If a problem occurs during the use of the instrument, it still cannot be solved according to the solutions suggested by common faults.

Users are not allowed to open the case, please contact our sales staff.

4. For the quality failure caused by production defects, the manufacturer is responsible for free maintenance or replacement of the instrument

The warranty is only applicable to the normal use of the instrument, and no damage or improper use conditions.

