

**PPM-50**  
**PON Power Meter**

**User's Manual**



**Shineway Technologies, Inc.**

## Safety Instructions

### Safety Terms Used in This Manual

**WARNING!**

The **WARNING** sign denotes a hazard. It calls attention to a procedure which could result in personnel injury.

**CAUTION!**

The **CAUTION** sign denotes a hazard. It calls attention to an operating procedure if not correctly performed or adhered to, could result in damage to or destruction of part or the entire product.

**NOTE**

The **NOTE** sign information that may be beneficial during the use and maintenance of the instrument.

**WARNING!**

PON Power Meter is a laser device, user should always avoid direct eye exposure to the laser output. Using microscope or magnifier to observe the laser output should also be avoided: laser beam may converge on the retina and cause permanent eye injury.

**CAUTION!**

**Battery:** PPM-50 battery type is lithium battery.

**Battery Power Supply:** Do not expose battery to fire or intense heat. Do not open or mutilate battery. Avoid touching the electrolyte in the battery, which is corrosive and may cause injuries to eyes, skin or damage to clothes.

**External Power Supply:** PPM-50 support external power supply: 5V DC/750mA. External power supply is optional.

**Laser Radiation:** To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment, test equipment,

- Always avoid looking directly into the optical output port, when the instrument is working
- Always replace protective dust cap on the detector port when the instrument is not in use.
- Always avoid looking directly at unconnected end of optic fiber in testing and make the unconnected end pointing at a non-reflective object.

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# 1. General Information

## 1.1 Scope of this Manual

Thank you for purchasing ShinewayTech® instrument. Please read this manual carefully before using ShinewayTech® fiber optic instrument. Always be aware of the **Warning** and **Caution** sign appearing throughout this manual.

This manual contains the information necessary for proper operation and maintenance of ShinewayTech® instrument, troubleshooting instructions as well as information regarding maintenance services.

All ShinewayTech® instruments are carefully assembled and undergo rigorous mechanical, electrical, and optical inspection prior to shipment. Beside the instrument, the package also includes a lithium battery pack, a charging/data transfer cable, a power adapter, a FC/PC flange and this user's manual. For detailed information, please refer to the packing list.

Upon receiving the instrument, please check for any obvious signs of physical damage that may have occurred during shipment. Report any damage to the shipping agent or the representative of Shineway Technologies Inc. immediately. Retain the original packing materials in case reshipment is necessary.

## 1.2 Unpacking and Inspection

This instrument has been carefully packed in accordance with standard shipping procedures. Examine the instrument for damage that may have occurred during shipment. If you find any damage or the instrument is not working, or if any of the following items are not included, please contact your representative of Shineway Technologies, Inc.

If necessary, you may contact Shineway Technologies, Inc via this email:  
support@shinewaytech.com.

**NOTE**

To return the instrument in the case of repair, calibration or other maintenance, please note the following:

- Be sure to pack the instrument with soft cushion like Polyethylene, so as to protect

the shell of the instrument.

- Please use the original hard packing box. If use other packing material, please ensure at least 3 cm soft material around the instrument.
- Be sure to correctly fill out and return the warranty registration card, which should include the following information: company name, postal address, contact, phone number, email address and problem description.
- Be sure to seal the packing box with exclusive tape.
- Be sure to ship to your representative or the agent of the Company in a reliable way.

## 1.3 Introduction and Features

ShinewayTech<sup>®</sup> PPM-30 is specially designed for FTTx/PON test of next-generation optical network which features handheld, intelligent and high performance.

### Features

- The first PON Power Meter with TFT color screen
- Easy operation: Connect and get result
- Simultaneous Triple-play PON signals measurement:  
1310/1490/1550nm (Voice/Data/Video)
  
- Pass-through test: Applicable anywhere on PON
- Burst mode 1310nm upstream signal detection
- Pass/Warning/Fail assessment
- No PC software, User-defined Threshold Sets
  
- Internal Clock
- Fiber S/N Editable, easy to scan and save result

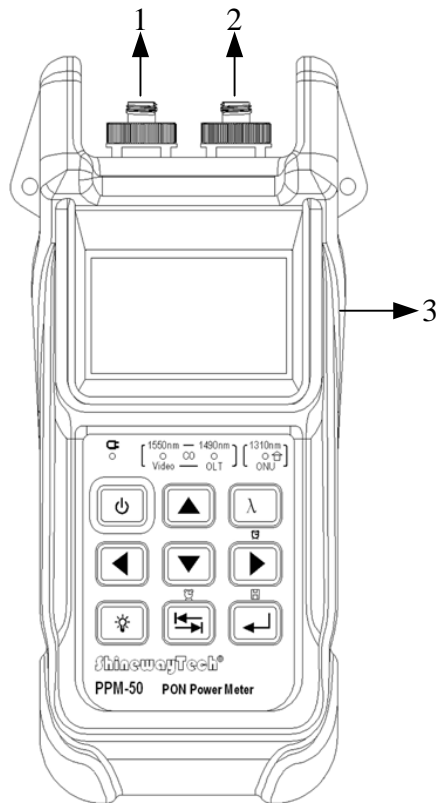


## 2. Basic Operation

### 2.1 Foreword

This part introduces the basic operations of the ShinewayTech® series hand-held PON Power Meter. Specific operations of each type are elaborated in “Specific Functions and Operations”, chapter 3 of this manual. Please read this manual carefully for optimal operation. Should you encounter any problems during operation, you are welcome to contact the technical staff of our company or agents.

### 2.2 Instrument Interface and Key Instruction



## 2.2.1 Instrument Interface

1. OLT PON Power Meter Port  
PPM-50 is available with FC/PC connector (Interchangeable SC/ST))
2. ONU PON Power Meter Port  
PPM-50 is available with FC/PC connector (Interchangeable SC/ST)
3. USB Power Port  
PPM-50 can work with external power adaptor: (5V DC@750mA)

## 2.2.2 Keypad Operation



Power on/off



Toggle between output wavelengths



Toggle setting modes: Adjust reference value in [Setting] interface



Toggle setting modes: Adjust reference value in [Setting] interface



Toggle between functional interfaces



Toggle between functional setting interfaces; Long press to auto power-off setting interface



Enter setting interface; Operate or select setting; Enter; Save test record in [Meas & Save] interface

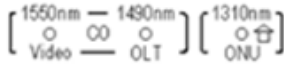


Adjust backlight brightness

### 2.2.3 Indicator



Charging indicator



Test record indicator. Only when “Threshold On/Off” is on

## 2.3 Use of Battery

PPM-50 works on lithium battery. Please make sure battery is mounted properly before use. When battery is low, low battery indicator will appear on LCD. You can still use PPM-50 as long as its display on LCD is identifiable. When LCD display becomes dim, laser source output will become unstable and power meter measurement will be inaccurate. Please charge as soon as possible when battery is low to ensure accurate measurement.

**NOTE**

Please take out the battery if PPM-50 is not in use for a long time.

## 2.4 Connector Cleaning

Please follow the instructions below when cleaning:

- Turn off the instrument before cleaning.
- Non-compliant operation may result in hazardous radiation exposure.
- Turn off laser source before cleaning optical interface.
- Always avoid looking directly into the optical output port when the instrument is working, laser is invisible and can cause serious eye damage.
- Disconnect instrument from power supply before cleaning to prevent electric shock.
- Do not install unauthorized parts or make unauthorized adjustments on instrument.
- Please consult qualified professional about maintenance and repair services.

**NOTE**

Always clean optical connector before using PPM-50 to ensure accurate measurement. Clean the optical connector gently with cleaning swab.

**NOTE**


Inappropriate maintenance may result in low performance or error:

- Distance error increases;
- Linearity error;

- Extra optical power attenuation;
- Received optical power is beyond normal range.

### 3. Operation

#### 3.1 Power On

Press  and loading screen appears, see Figure 3.1.

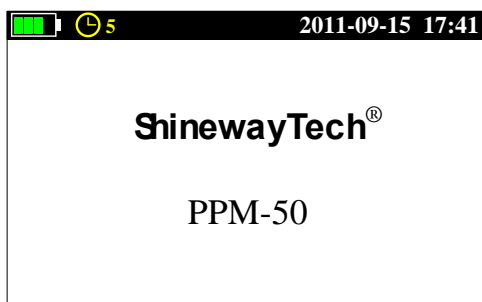


Fig 3.1

Then it enters [Meas&Save] interface (The default interface when power on), see Figure 3.2

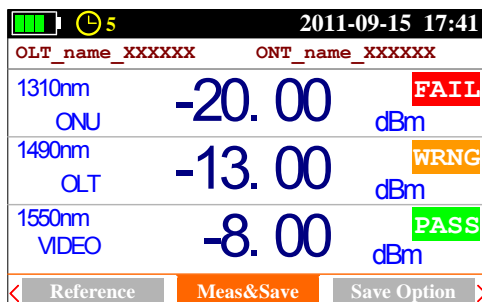





Fig 3.2

Press  and  to toggle between the following sub-interface.



#### 3.2 Functional Setting Interface

After power on, under [Reference], [Meas&Save], [Save Option], [Recall] interface,

press  to toggle between the functional setting interfaces. See Figure 3.3

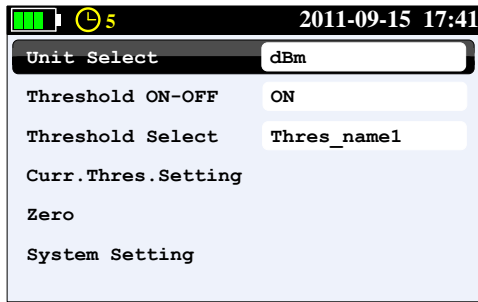


Fig 3.3

### 3.2.1 Unit Switch

Under functional setting interface, press  and  to toggle to [Unit Select], see Figure 3.3

Press  to select unit, press  to exit functional setting interface.

### 3.2.2 Threshold Switch

Under functional setting interface, press  and  to toggle to [Threshold On-Off], see Figure 3.4

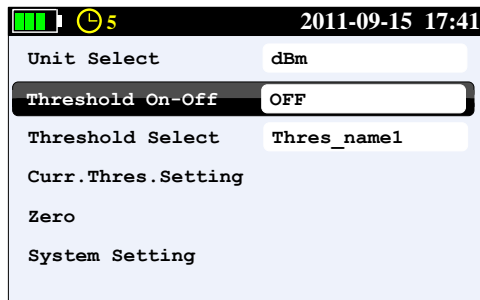




Fig 3.4

Press  to turn on/off threshold switch, press  to exit functional setting interface.

Note: If [Threshold On-Off] is “On” , under [Meas&Save] interface, the threshold results will based on and compared with current threshold. The compared threshold results will shows “FALL” , “WRNG” , “PASS” , meanwhile the Test Record Indicator will be on.

### 3.2.3 Threshold Select

Under functional setting interface, press  and  to toggle to [Threshold Select], see Figure 3.5

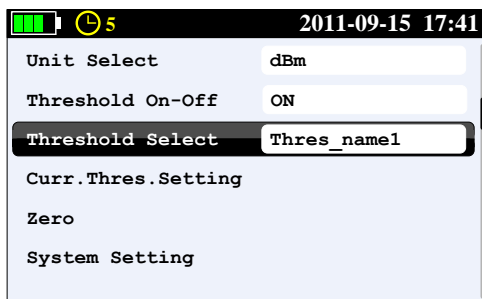


Fig 3.5

In Figure 3.5, press , then press  and  to select item, see Figure 3.6

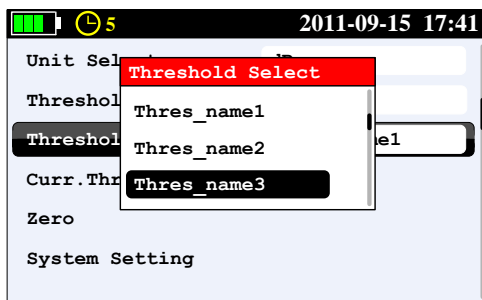


Fig 3.6

In Figure 3.6, press  to confirm selection.

### 3.2.4 Current Threshold Setting

Under functional setting interface, press  and  to toggle to [Curr. Thres. Setting], see Figure 3.7

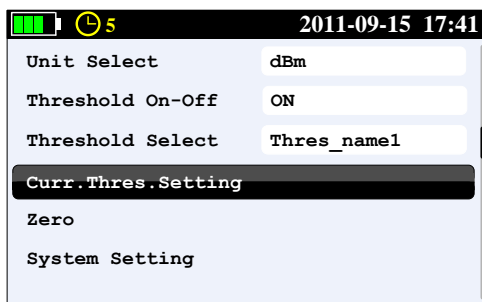



Fig 3.7

In Figure 3.7, after press , enter in [Curr. Thres. Setting] interface, see Figure 3.8

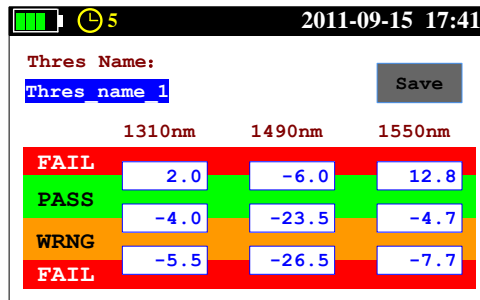










Fig 3.8

In Figure 3.8, press , , ,  to shift the digit position to be adjusted, press  to adjust, then select “OK”, press  to confirm; select “Cancel”, press  to cancel; press  to cancel and exit; select “Save” to save the adjustment.

The same method can be used to rename and edit the Threshold Name.

### 3.2.5 Zero

Under functional setting interface, press  and  to toggle to [Zero], see Figure 3.9

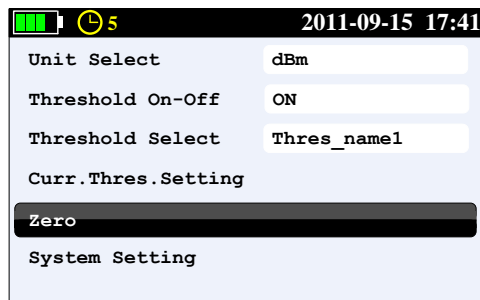



Fig 3.9

When perform zeroing, put dust cap on OPM port well. Press , the instrument will start auto zeroing. If zero is successful, “OK” will be shown. If zeroing fails, please check whether the dust cap is tightly fastened on connectors and redo zeroing. If zeroing still fails, please contact your regional contact or ShinewayTech.



### 3.2.6 System Setting

Under functional setting interface, press  and  to toggle to [System Setting], see Figure 3.10

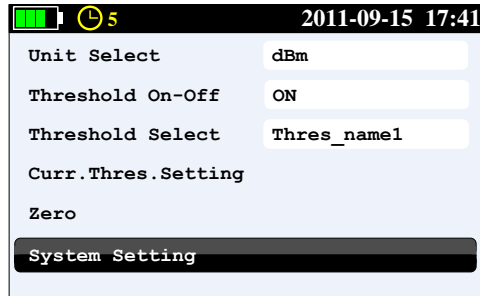



Fig 3.10

In Figure 3.10, press  to enter system setting, see Figure 3.11

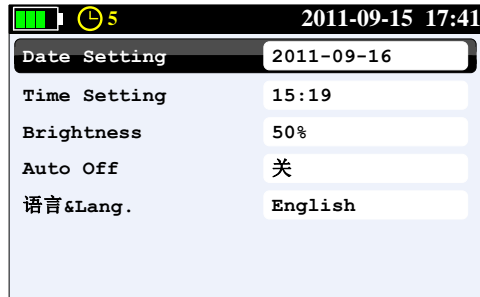










Fig 3.11

In Figure 3.11, press  and  to select [Date Setting], [Time Setting], [Brightness], [Auto Off], [Language], press  and  to adjust the value; press  to confirm; press  to cancel and exit.

### 3.2.7 USB Config

Under functional setting interface, press  and  to toggle to [USB Config], see Figure 3.12

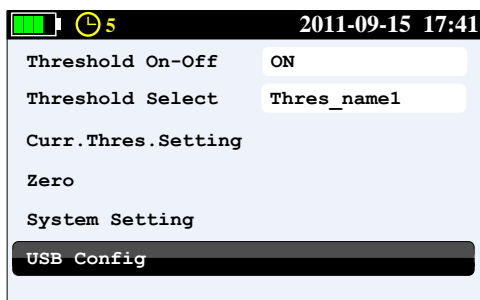



Fig 3.12

In Figure 3.12, press  to enter in USB setting interface. If the device is setting as USB storage device, the PPM-50 will be recognized as USB device when the device is connected to the PC. The PC can directly get data results through the USB device.

### 3.2.8 Device Info

Under functional setting interface, press  and  to toggle to [Device Info], see Figure 3.13

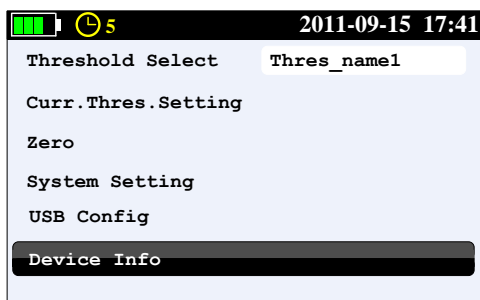



Fig 3.13

In Figure 3.13, press  to enter in device information interface and view version and storage information.

### 3.3 Reference Setting

Press  and  to [Reference] sub-interface, see Figure 3.14

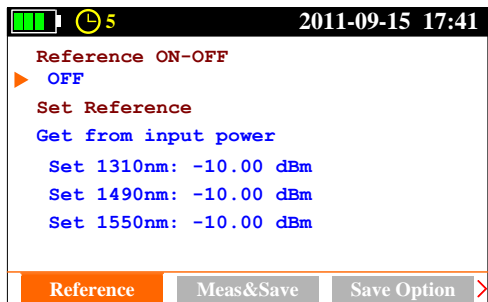







Fig 3.14

In Figure 3.14, press  and  to select item: “Reference On-Off” and “Set Reference”.

[Reference On-Off]: press  to select ON or OF. If reference is On, then the power value result will be the different value with the showed reference value.

[Set Reference]: Enable select result value as reference value; or press , , ,  to select reference value.

### 3.4 Measurement and Save

Press  and  to [Meas&Save] interface, see Figure3.15

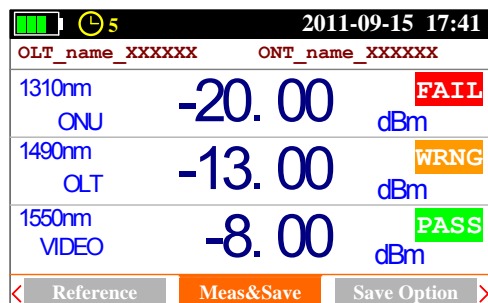





Fig 3.15

In Figure 3.15, PPM-50 will shows the tested power value by corresponding working wavelength; meanwhile, if threshold function is ON, PPM-50 will shows the compared value with threshold value, the “test record indicator” will be On.

Under [Meas&Save] interface, press  to save current record.

Note: After set the file name in [Save Option] interface, the saved file name will be auto-sequence when saving record.

### 3.5 Saving Option

Press  and  to [Save Option], see Figure 3.16

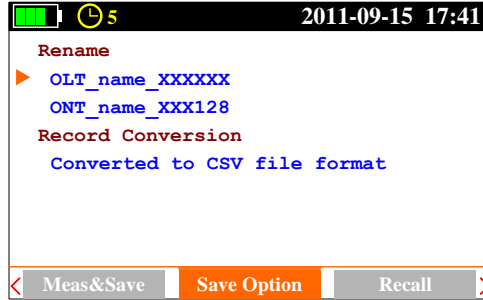




Fig 3.16

In Figure 3.16, press  and  to select “Rename” and “Record Conversion”.

“Rename”: press  to change the file name.

“Record Conversion”: enable to choose whether convert file format to CSV file format. If select converted to CSV file format, the file can read by EXCEL.

### 3.6 Recall

Press  and  to select [Recall] interface, see Figure 3.17

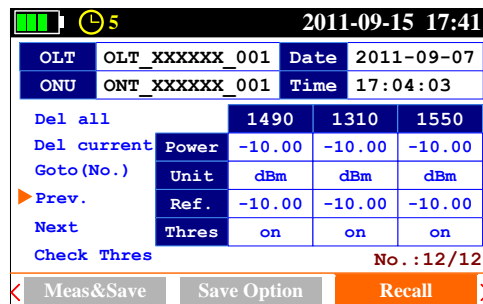


Fig 3.17

In Figure 3.17, enable to delete file, review saved record, review threshold information of current saving record.

## **4. Maintenance and Calibration**

### **4.1 Cleaning of the connectors**

Keep the cleanness of connectors and dust caps. The detector needs to be cleaned timely.

### **4.2 Calibration Requirement**

Calibration of PPM-50 is recommended every three years. Please contact Shineway Technologies Inc. or our agent for proper calibration.

## 5. Warranty Information

### 5.1 Terms of Warranty

PPM-50 is warranted against defective material and workmanship for a period of one (1) year from the date of shipment to the original customer. Any product found to be defective within the warranty period would be repaired or replaced by the Provider free of charge.

In no case will the Provider's liabilities exceed the original purchase price of the product.

The warranty doesn't include the accessories and optional parts.

### 5.2 Exclusions

The warranty on your equipment shall not apply to defects resulting from the following:

- *Unauthorized repair or modification*
- *Misuse, negligence, or accident*

The Provider reserves the right to make changes to any of its products at any time without having to replace or change previously purchased units.

### 5.3 Warranty Registration

A warranty registration card is included with the original shipment of equipment. Please take a few moments to fill out the card and mail or fax it to ShinewayTech's local Customer Service Center to ensure proper initiation of your warranty term and scope of your warranty.

### 5.4 Returning Instruments

To return instrument for reasons of yearly calibration or other, please contact the local Customer Service Center of ShinewayTech to obtain additional information and a RMA# (Return Materials Authorization number). And describe briefly reasons for the return of the equipment, to allow us offer you more efficient service.

**NOTE**

To return the instrument in the case of repair, calibration or other maintenance, please note the following:

- Be sure to pack the instrument with soft cushion like Polyethylene, so as to protect the shell of the instrument.
- Please use the original hard packing box. If use other packing material, please ensure at least 3 cm soft material around the instrument.

## 5.5 Contact Customer Service

Please check our web site ([www.shinewaytech.com](http://www.shinewaytech.com)) for updates to this manual and additional application information. If you need technical or sales support, please contact local **Shineway Technologies** Customer Service.

### **Shineway Technologies (China), Inc.:**

Address: Floor 5, Huanxing Plaza, No.14 Huayuan North Rd.  
Haidian District, Beijing, P.R.China

Postal code: 100191

Tel: +86-10-51551122

Fax: +86-10-62386994

Email: [support@shinewaytech.com](mailto:support@shinewaytech.com)

Web: [www.shinewaytech.com](http://www.shinewaytech.com)

**THANK YOU FOR CHOOSING  
SHINEWAY TECHNOLOGIES!**

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