

**ST-3224 & ST-3124**

**MPO Optic Power Meter**

**MPO Light Source**

**Instruction manual (V1.0)**

## **1, an overview of ST-3224 & ST-3124**

### **1-1 product description**

ST-3224 MPO optical power meter and ST-3124 MPO light source are special instruments developed for MPO cable detection. In recent years, with the rapid development of data centers and cloud computing, the demand for "multi-fiber push" (MPO) cables also shows a rapid growth. However, in the field test process, the traditional single channel optical power meter verification test takes time and effort and has low credibility. Based on this, MPO series products arises at the historic moment, the product can be a key test MPO cable information such as the insertion loss, polarity, and integrates a variety of data storage, such as threshold analysis, data export application functionality, test efficiency than traditional instrument 10 times higher than that at least is MPO room testing and validation of production line, polarity decision, etc. The best choice for field application.

### **1-2 main features**

1. 12 channels of customized channels
2. High resolution color screen display
3. 100 historical data records
4. After 5 minutes without operation, the screen automatically adjusts the backlight and enters the energy-saving mode
5. One-key switch of four functional interfaces (single-channel power, 12-channel power meter, MPO line sequence test)
  - Histogram interface
6. USB interface directly copies the data to the computer for the convenience of users
7. Users can customize thresholds for testing
8. Built-in 3500 mah high-capacity lithium battery, the service time is more than 10 hours
9. Ergonomic human-computer interaction interface, easy to operate

## 2. Technical indicators

### Technical specifications of MPO optical power meter

The probe	InGaAs
The wavelength range is Where the Range	850~1700nm
Calibration wavelength Calibration where	850&&1300 or 1310&&1550nm
Optical power meter detection range Optical Power Meter Range	+3 ~ -50 dBm
Scanning speed Insertion Loss Accuracy	< 0.2 s/channel
The resolution of the Resolution	0.01 dB
Insert loss accuracy: Insertion Loss Accuracy	+ / - 0.1db
Channel number Channels	12, 24 and customization
Linearity Linearity	+ / - 0.2db (+5~ -50dbm)
System communication interface The System Control	USB
The interface type head	SM, MM MPO/PC 12 core female

### Technical specifications of MPO light source

Laser type	FP LD
Wavelength	1310or1550
frequency Frequency	0Hz 270Hz 1KHz 2KHz
Optical fiber type Fibertype	9/125 50/125 50/125
The interface type master	SM/MM MPO/PC 12-core
The output power	> - 10 DBM
stability Stability	+ / - 0.2 (15 min.) plus or minus 0.2 (8 hours)
Channel number	12

### 3. Standard configuration

The serial number	The name of Standard List	The numbers
1	MPO light power and MPO light source host	1
2	12V power charger	1
3	Operating instruction	1
5	Certificate of approval	1 piece

### 4. Function description



MPO light source MPO light power meter

MPO optical power meter provides 12 channel optical power measurement, full channel power display and single channel power display. The calibration wavelength is 850nm, 1300nm, 1310nm and 1550nm, which are commonly used in the field of optical communication. Separate from MPO light source can be used as ordinary power meter.

The MPO light source can be customized for the wavelength of 12-channel laser source, output through the MPO flange, mainly used in conjunction with the MPO optical power meter, when used alone can provide a single wavelength of conventional light source.

The loss and line sequence of MPO jumper can be tested with the use of the

combination. The threshold setting helps to quickly determine whether the loss of MPO jumper exceeds the limit.

Key distribution is shown in figure 3-1:



Figure 4-1: key distribution

Brief introduction to key functions:

Power: turn on and off;

Wavelength: wavelength switching and key multiplexing;

Menu: operate menu items, can set the optical power meter to work in MPO mode or OPM mode, threshold setting, pairing and view history are all in the menu options;

Left key: move the cursor position left;

Confirmation: data can be saved in MPO mode, and the selected function can be entered in normal mode for confirmation;

Right: move the cursor position to the right;

Display: function switch shortcut key, one-key switch line sequence test, single-channel power meter, multi-channel power meter, and bar chart interface;

Unit: switching unit, and key reuse;

Reference: take reference value;

Note: figure 4-1 shows Chinese keys. The actual use of key screen printing is slightly different with the same function.

## 5. Instructions for use

### 5-1 pair

The MPO tester must be paired. All MPO testers are paired before the factory. If there are multiple sets of instruments and they are prone to confusion when used at the same time, they can be used normally only by repairing. The specific pairing steps are as follows:

After the MPO light source is turned on, press Menu key to Enter the main Menu, press up and down key to select the pairing mode, and press

Enter to Enter the pairing mode, as shown in figure 4-1.

MPO optical power meter: boot up to Menu into the main Menu to select the search light source, press Enter to Enter the pairing interface - if the search light source will show the corresponding unique ID, as shown in figure 4-1, press Enter to save the JMPO light source address.

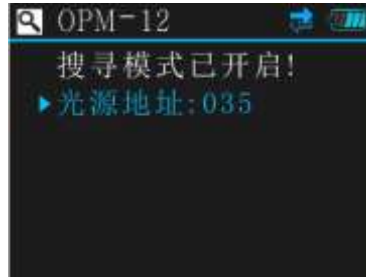


Figure 5-1: pairing interface

### 5-2 MPO mode

Insert loss test: press Menu key to enter the main Menu as shown in figure 4-2:

Click Enter key to Enter, select MPO mode, click Enter to confirm, and then select line order selection. After entering, select the Type to be tested (e.g.

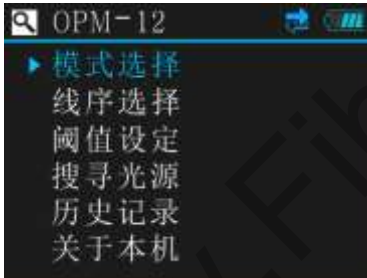


Figure 5-2: main menu figure

Figure 5-3: threshold setting

Connect the optical power meter to the computer through USB cable, open the supporting upper computer software to read the recorded data, and save it in the computer in the format of excel: as shown in figure 4-4, the upper computer reads the data interface.

Operation steps: port selection, device connection, data reading. The data read from OPM is saved in excel format and stored in the folder where the software resides. Users can view the history by opening the data button.



Figure 5-4: software interface

Note: to use normal PC need to install the CD and Microsoft.NET.Framewrod4.0 CH340 drivers.

MPO line sequence test: when the type of MPO jumper under test is unknown, press the main function switch key to switch to the line sequence test function (as shown in figure 4-5), and click Enter to test the line sequence. The obtained line sequence will be automatically modified in the MPO test. The test results are displayed in the area after Type. If communication is interrupted, it will prompt: link timeout!



Figure 5-5: MPO line sequence test interface

Note: please confirm that works on MPO light source interface, not menu or other interface when testing line sequence.

### 5-3 OPM mode

This mode has two main functions, multi-channel power meter (as shown in figure 4-6) and single-channel power (as shown in figure 4-7).

Multichannel optical power meter: it is equivalent to a 12-channel optical power meter, which supports the selection and release of single channel or all channels. The wavelength of individual channels can be edited when selected, and the global operation of all channels can be carried out when all channels are selected.



Figure 5-6: multi-channel power meter figure 5-7: single-channel power meter

#### 5-4 other functions

Please use the supporting charger (12V/1000mA) to charge the battery. During the charging process, the battery quantity display icon is filled one by one. When the battery is full, the battery will be fully displayed. It is recommended that the charging time should not be less than 10H.

### 6. Maintenance and maintenance

1. The light source should work without obvious vibration.
2. Keep the end face of the output port clean, and do not use unclean and non-standard optical connectors.
- 3, when the light source is not used, please cover the dust cap.
4. Carefully insert and remove the light connector.
5. Handle and put gently to prevent light source from falling and colliding.

### 7. Quality assurance

**We disapprove of users repairing the equipment by themselves.**

- 1、 Instrument warranty period: within 18 months from the date of delivery.

2、 If there are problems in the use of the instrument, the solution according to the common fault prompt is still

Cannot solve, the user must not open the case without authorization, please contact the company's sales staff.

3. For quality faults caused by production defects, the manufacturer shall be responsible for free maintenance or replacement

Instrument, this guarantee only applies to the normal use of the instrument, and no damage or improper use

Under the condition.

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