
Handheld Light Source

Manual

Safety Sign:

When using the optical power meter, always take basic safety precautions to reduce the harm for the testers, and injury to persons. All the safety sign may not mark in this manual.



Warning: Prohibited misconduct and operation, to prevent any improper conduct and operation of the damage.



Notice: notice the important information, notification, and references, these notice information should be understood.

Safety sign on the instrument:



WEEE Sign: Users of electrical and electronic equipment from private households should have the possibility of returning WEEE at least free of charge.



Safety Advice

1. When the tester uses Disposable alkaline batteries, do not charge it. Ensure the correct polarity installation, when replace the battery.
2. When the products are not in use, please remove the batteries and keep separate to avoid instrument damage caused by battery leakage. If leakage occurred, please do not touch.
3. To prevent electric shock, do not open the product case, only the authorized qualified professionals can do the maintenance; Do not expose the testers to rain or wet conditions, to avoid the risk of fire or electric shock.
4. Instruments used LCD screen. Do not fall the instrument. If the LCD are seriously hit, it may cause fluid leakage. And please do not touch.

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Chapter 1 Standard Configuration

No.	Name	Qty
1	Optical Light Source	1
2	User Manual	1
3	1.5V AA battery	3
4	Power Supply Unit	1
5	Cotton Swabs	1
6	Carry Bag	1

Chapter 2 Overview

This handheld optical light source is a new released tester in 2010, designed for the fiber optical network installation, acceptance, and maintenance. Used with THE MATCHED OPTICAL POWER METER, can provide a accurate fiber network solution. According with client's requirements, it can provide 1~4 wavelength with stable output power, and featured with continuous adjustable output power. The Intelligent backlight control function can save the power, The optical light source have smooth appearance, good touching, and friendly design, which can meet clients' largest requirements.

Features

- Wave ID information can be transmitted when used with THE MATCHED OPTICAL POWER METER.
- Tone generation, 270HZ,330HZ,1KHZ,2KHZ
- Output power can be adjustable
- Output power value is shown on LCD display
- Intelligent backlight control (light intensity can be adjusted properly according to ambient light, which greatly reduced power consumption)
- AA alkaline and AC adapter for power supply
- Low battery indication

Chapter 3 Specifications

Model	Optical Light Source
Operating wavelength (nm)	1310/1550 (others specify on requests)
Applicable fiber	SM ,MM
Laser type	FP-LD(others specify on requests)
Maximum Output Power (dBm)	-5 (can be adjustable, others specify)
Adjustable step size (dBm)	<0.5 (adjustable between -5~12dBm)
Stability(dB, 15min, 20°C)	±0.1
Stability(dB, 30min, 20°C)	±0.05
Modulation (Hz)	CW, 270, 330, 1K, 2K
Fiber Port	FC/PC or FC,SC,ST interchangeable
Alkaline Battery	3*AA, 1.5V
Power Supply Adaptor(V)	8.4
Battery Operating time(h)	45
Operation Temperature(°C)	-10~+60
Storage Temperature(°C)	-25~+70
Outline size (mm) /weight	175*90*44.5/255g

Chapter 4 Function

4.1 Front






4-1

(1)  Power Key


ON/OFF the instrument

Power Saving setting: the unit will automatically shut off after 10 minutes idle time, Once choose this setting, the “auto-off” will display on the left bottom of the screen. This power saving is the default setting, once open the power meter, will enter into this mode.

(2)  Wavelength Selection

After on the tester, first press  to laser on, then press  to select the wavelength and display the current wavelength on the left top of the screen.

(3)  backlight control. THE LIGHT SOURCE have two type of backlight control, press

 to choose one mode:


“LDR” the intelligent backlight control mode. Power meter will off/on the backlight within 15second based on the outside light condition, and this is the default mode.

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Back light control key mode. Press  to on/off the back light



(4)  Rated power:

Rated output power


(5)  Down the rated power

Down the rated output power

(6)  Modulation adjustment/wavelength identifying

Laser on. After on the tester, firstly press , to laser on the light source. Short press  shift the frequency. (270、330、1K、2KHz) OHZ means do not Loading frequency.

Long press enter into/exit the wavelength identify mode, on the right top of the screen "--AU" display when enter into the wavelength identify mode.

(7)  output power up

Up the output power

(8) "B/L SET" backlight indicator

Indicate the backlight control mode, when the indicator green, which means "LDR" in the Intelligent back light control mode, when the indicator red, which means the backlight in the key control mode.

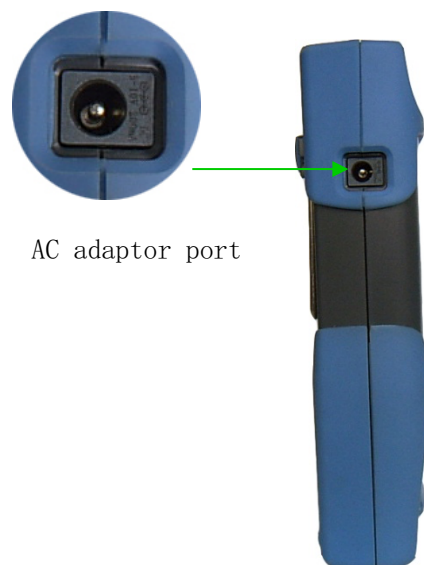
(9) "LDR" Intelligent backlight controller

In the intelligent backlight control mode, the controller will automatically adjust the backlight with the outside light, which to save the power.

(10) Screen

Display the data and the instrument working mode.

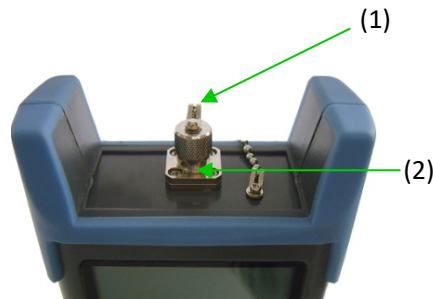
4.2 Left Side



4-2

Connect the AC adaptor with the port

4.3 Top



4-3

(1) Dust cap

In order to protect the optical connector, avoid damage on the connector, so when not in use make sure that you place the dust cap over the connectors.

(2) Optical Connector

The standard of this optical connector is FC/PC(4-4), can connect with FC/PC adaptor.

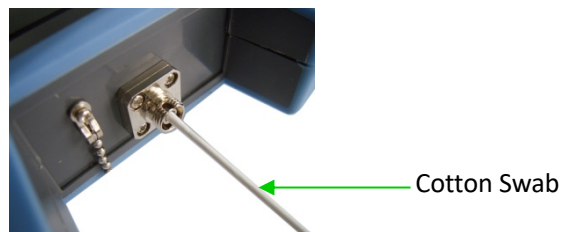


4-4 FC/PC connector



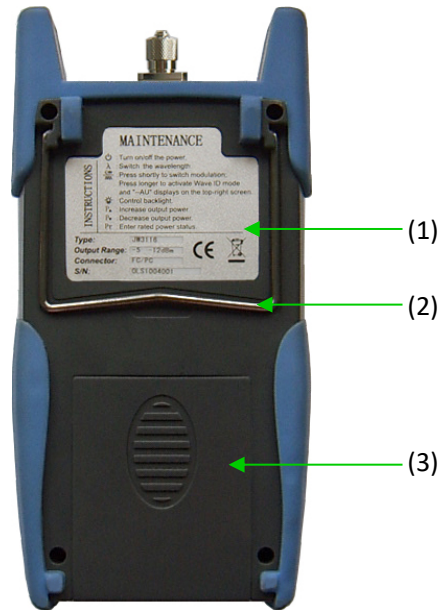
Notice: the tinny dust on the connector will affect the accurate of the measurement value, so please clean the connector and the patch cord end-face before do the test.

Use the alcohol and the cotton swab to clean the connector. Dip the cotton swab with alcohol, insert the cotton swab in the connector, slightly rotating the cotton swab, after that change a dry cotton swab and clean it again.(4-5)



4-5

4.4 Backside



4-6

(1)Label

Content include the function, and the instrument information

(2) bracket

Collapsible metal bracket, 0~90 degree can adjusted.

(3)Battery Pack

Can insert 3 1.5AA batteries.



Notice: When insert the batteries, take a note of their positive(+)and negative(-) connector orientation, The negative battery connector should be against the spring. And do recycle the battery, do not throw the battery to the dustbin, or that will happen the dangerous.

Chapter 5 Operation Instruction

5.1 Ways of power supply

THE LIGHT SOURCE can be either battery powered or AC adaptor powered, giving total flexibility for most testing sites and situations

5.1.1 AA battery

When use AA battery,  will display on the left top of the screen, 5-1。






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Battery Power indicate



5-1

There are 5 Grades for the battery power indication:

-  left 70%~100% electricity
-  left 40%~70% electricity
-  left 30%~40% electricity
-  left 20%~30% electricity.
-  not enough electricity, left less than 20%, the power meter will be forced power off.

Fit the battery, refer to below figure 5-2




5-2

Press the clip fastener on the battery compartment cover down. Remove the battery compartment cover, remove all three batteries making a note of their positive and negative connector orientation. The negative battery connector should be against the spring. Insert 3 new 1.5V AA battery. Refit the battery compartment cover. The clip fastener should click shut.

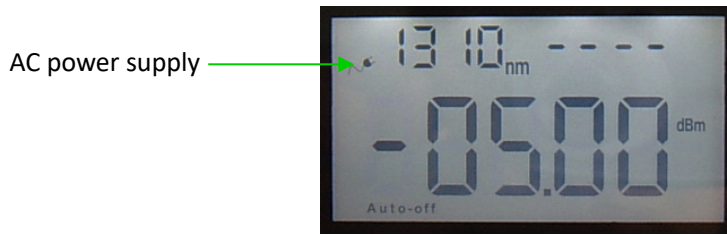


Notice: Make sure that you insert the batteries with their positive and negative connectors correctly aligned.

5.1.2 Power Supply Unit

When the battery is used out, can use the power supply unit, and at this time on the left top of the screen, there will be a  (5-3). When the battery in the power meter, and still have enough electricity, the tester will choose AC power supply as the priority.

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5-3

When use the AC adaptor, connect the power plug as pic, and insert to the AC socket.




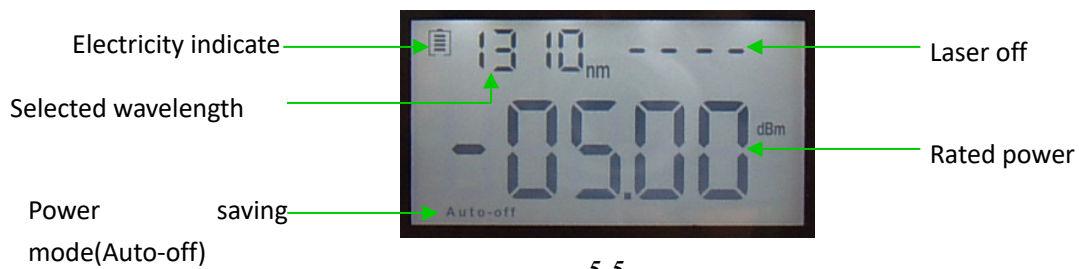
5-4




Notice: Please use only the power supply unit supplied with the tester, use other kind of PSU may cause damage for the instruments.

5.2 Power on the laser source


First of all insert the battery or the PSU, press  on the tester, at this time the laser are still off, the opening displaying as 5-5




5-5

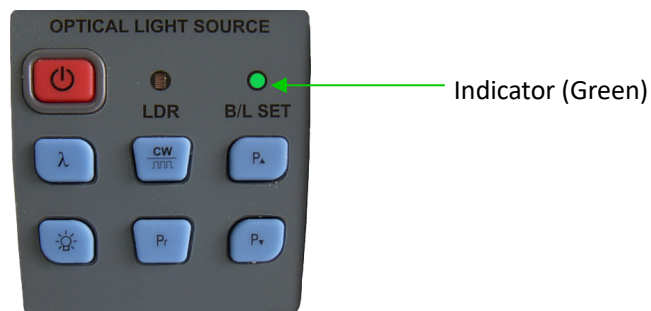
When the tester is standby, press  key can cancel or choos auto-off function.If auto-off fucniton are choosed, the “Auto-off” will display on the left bottom of the screen.

5.3 Backlight Setting

After open the optical power meter, long press , choose backlight control mode.



5.3.1 “LDR” Intelligent backlight control mode

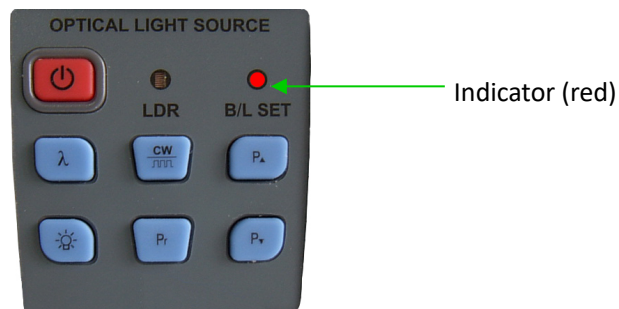
Long press , “B/L SET” is green (6-6),after 10 seconds, the green indicate off, the LDR the controller will automatically adjust the backlight within 15 seconds with the outside light, which to save the power.



5-6

5.3.2 Choose the key control backlight mode

Long press , “B/L SET” indicator turns to red(6-7), enter into key control backlight mode, after 10 seconds the indicator off, short press  can ON/OFF the backlight.



5-7

5.4 Output Power





Notice: Preheating is normally required to ensure a stable output power for the laser source. Normally less than 15 minutes would be okay.

5.4.1 Open the dust cap, connect with the patch cord.



Notice: Make sure the connector and the end-face of the patch cord is clean, and take notice on the type of the patch cord, make sure the correct patch cord are connected.

5.4.2 Laser on the light source.


When open THE LIGHT SOURCE, the laser source still laser off, only after press  or  can laser on the diode (5-8 & 5-9)



Laser off



Laser on(output wavelength 1310nm, rated output power-5.00dBm, 0Hz means do not load the frequency


5-8 Press  to laser on the diode



Laser off




Laser on(output wavelength 1310nm, rated output power-5.00dBm, 270Hz frequency 0Hz means do not load the frequency

5-9 press  to laser on the diode



Notice: To avoid risk of serious eye damage, Do not look into the interfaces at any time.

5.4.3 Select the wavelength

Press , select the output wavelength, display at the top of the screen. 5-10

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Output wavelength



5-10

5.4.4 Output power

Every selected wavelength can adjust the output power within the range (-5~-12dBm), and also can load with the output frequency.

Press  to down the output power, while  to load the output frequency, (5-11~5-13)






5-11



5-12 press  down the output power



5-13 press  to load the frequency

For the same principle, press  to up the output power, while  to load the output frequency.

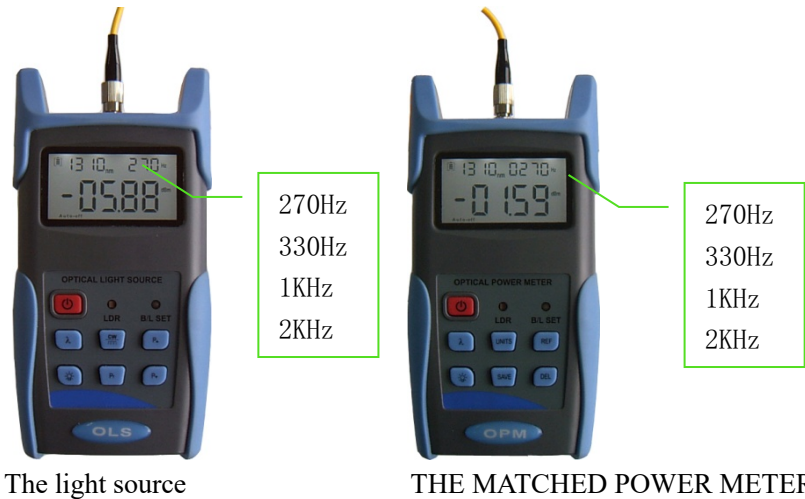
5.5 Wavelength Automatic Identification

- Connect The light source with its same serials power meter THE MATCHED OPTICAL POWER METER.
- Enable light source be Under “Wave ID” operation mode: press λ or $\frac{CW}{\mu m}$ of light source to laser on its matched power meter, Hold down $\frac{CW}{\mu m}$ for few seconds, light source will be enter into Wave ID mode, also “--AU” will be shown on the upper right of LCD for a indication.
- Enable power meter be under “Wave ID”operation mode: Hold down λ for few seconds, power meter will be enter into Wave ID mode, also “--AU”will be shown on the upper right of LCD for a indication.
- Once the ID information is changed from light source(press λ to change wavelength), after 3 to 5 seconds later, the detected information on optical power meter also will be changed automatically according to light source. Please refer to below figure(5-14) for easy understanding.
- Exit Wave ID mode: Hold down λ again to exit Wave ID mode from power meter and hold down $\frac{CW}{\mu m}$ again to exit Wave ID mode from light source.



5.6 Frequency detection

- Connect The light source with its same serials/matched power meter
- Output frequency from the optical light source: Press λ or $\frac{CW}{\mu m}$ to emerge light from the unit, press $\frac{CW}{\mu m}$ for very short second, The light source will output frequencies of 270Hz, 330Hz, 1KHz, 2KHz accordingly, which will be shown on the upper right of the LCD in The light source. In the mean time, the THE MATCHED OPTICAL POWER METER will detect the corresponding frequency automatically from The light source. Please refer to below figure (5-15) for better understanding:



5-15




Note: Frequency ID and wave ID cannot be operated at the same time.

To avoid risk of serious eye damage, please do not look into the optical port of laser source at any time.


5.7 Power Off

Automatic power off: When auto-off function is activated, the unit will turn itself off automatically after 10minutes idle time, whatever the power supply is with alkaline batteries or is with power supply adaptor directly.

Manual power off: Under any operation mode, hold down  for a few seconds to turn the unit off.

Note: With either power off operation, the unit will store the last calibration wavelength and backlight control mode automatically, which will be the default setting when user turns unit on next time.

Chapter 6 Trouble shooting.

Problems	Possible cause	Solution
Faint display on the LCD screen	<ol style="list-style-type: none"> Power is off The battery power is too low 	<ol style="list-style-type: none"> Press  key. Change the batteries
When on the laser source, the output power is not stable		After 15 min. preheat

Chapter 7 General Maintenance

- 7.1 Always keep the connector ports of your laser source are clean.
- 7.2 Try to use only the adaptor supplied.
- 7.3 Once not in use, make sure dust-proof cap is placed properly over the optical ports.
- 7.4 Carefully plug in/out for fiber connectors/adapters to avoid scratches on the port v of the power meter.
- 7.5 Keep regular cleanings on optical port of power meter, please clean with cotton swabs supplied using alcohol properly.

Chapter 8 Quality Warranty

Details of warranty terms and conditions are given as below:

- 1) The company. warrants that the light source will be free from defects in material and workmanship for a period of **18 months**. The date will be started from the date of goods shipment.
- 2) If any defectives happened due to quality problems of the product during the warranty period, The company. promises to repair or replace free of charge. **But** the freight cost and related taxes will be shared by both parties. The company. will pay the shipping cost from customer side to our factory. and pay the import taxes related. Customer will pay the shipping cost from our factory to customer side and its local import taxes accordingly.
- 3) This warranty **is limited to** defects in workmanship and materials and does not cover damages from accident, acts of god, neglect, wrong usage or abnormal conditions of operation.
- 4) The company. will charge corresponding fees for the cost of materials, repair and shipping in conditions of below:
 - Defects occurred under normal use and service but out of the warranty period.
 - Failures and damages occurred do not because of defects in material and workmanship of products.
 - Failures and damages occurred because of failing to comply with the Operation Instruction and necessary attention.
 - abnormal conditions of operation or handling:
Such as artificial damage, or operating in abnormal conditions of like high temperature、 high voltage, humidity and etc., we will charge depend on the actual failure rating.