WIREPATH
FIBER

WP-TEST-FIBER-400
Optical Light Source
Owner's Manual

Ver. 170106-1348

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Chapter 2: Overview

This handheld optical light source is designed for fiber optic network installation, acceptance, and maintenance. Used with the **matched optical power meter**, it can provide an accurate fiber network solution. According to the client's requirements, it can provide 1-4 wavelengths with stable output power and features continuous adjustable output power. The intelligent backlight control function reduces power usage. The optical light source has a rugged appearance and comfortable design to clients' requirements.

Features

- Wave ID information can be transmitted when used with the **matched optical power meter**.
- Tone generation: 270HZ, 330HZ, 1KHZ, 2KHZ
- Adjustable output power
- Output power value is shown on LCD display
- Intelligent backlight control (light intensity can be adjusted according to ambient light, greatly reducing power consumption)
- AA alkaline batteries and AC adapter for power supply
- Low battery indicator

Chapter 3: Specifications

Model	**Optical Light Source**
Operating wavelength (nm)	850/1300/1310/1550
Applicable fiber	SM ,MM
Laser type	FP-LD
Maximum Output Power (dBm)	**-5 (adjustable)**
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 (℃)	-10 - +60
Storage Temperature (℃)	-25 - +70
Outline size（mm）/weight	175*90*44.5/255g

Chapter 4: Function

4.1 Front

4-1

(1) Power Switch

Press to turn unit on or off

Auto Shut-Off Selection: Quick press to turn the auto shut-off on or off. When active, the unit will automatically shut off after 10 minutes idle. Once selected, “auto-off” will display on the bottom left of the screen. Auto Shut-Off is the default setting.

(2) Wavelength Selection

Press to activate laser, then press to select the wavelength. The current wavelength displays on the top left of the screen.

(3) Backlight control. THE LIGHT SOURCE has two types of backlight control.

Press to select:

“LDR:” intelligent backlight control mode. Power meter will turn on/off the backlight within 15 seconds based on exterior lighting. This is the default mode.

Back light control key mode. Press to turn the backlight on or off.

(4) Rated power: Rated output power

(5) Decrease: Press to decrease the rated output power.

(6) Modulation adjustment/wavelength identification:

Laser on. After turning on the unit, press , to select laser as the light source. Quickly press to adjust the frequency (270, 330, 1K, 2KHz). In most instances, this will be set to 0Hz.

Press and hold to enter/exit wavelength identification mode. Mode will display on the top right of the screen. "--AU" displays when wavelength identification mode is active.

(7) output power: Press to increase the output power

(8) "B/L SET": Backlight indicator

Indicates the backlight control mode. When the indicator is green, "LDR" (Intelligent back light control mode) is active. When the indicator is red, the backlight is in key control mode.

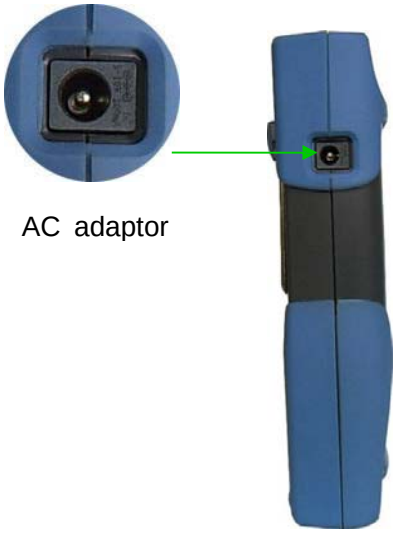
(9) "LDR" Intelligent backlight controller

In the intelligent backlight control mode, the controller will automatically adjust the backlight to the ambient light in order to save power.

(10) Screen

Displays data and the instrument's working mode.

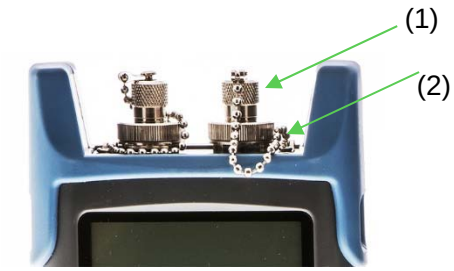
4.2 Left Side



4-2

Connect the AC adaptor to the port.

4.3 Top



4-3

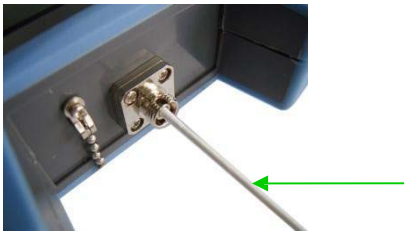
(1) Dust cap

Place the dust cap over the connectors when not in use to protect the optical connector.

(2) Optical Connector

The standard of this optical connector is SC/PC(4-4). It connects to the SC/PC adaptor.

Note: small amounts of dust on the connector will affect the accuracy of the measurement. Use isopropyl alcohol and a cotton swab to clean the connector. Moisten the cotton swab with alcohol, insert the cotton swab in the connector, slightly rotating the cotton swab. Dry using a second dry cotton swab (4-4).



4-4

4.4 Back

4-6

(1) Label

Content includes function and instrument information

(2) Bracket

Collapsible metal bracket can be adjusted 0-90 degrees

(3)Battery Pack

Holds 3 1.5AA batteries.

Note: When inserting the batteries, note their positive (+) and negative (-) connector orientations. The negative battery connector should be against the spring. Recycle used batteries.

Chapter 5: Operation

5.1 Types 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 using AA battery, will display on the left top of the screen (fig.5-1)

Battery Power indicator

5-1

There are five grades of battery power indication:

- 70%-100% power
- 40%-70% power
- 30%-40% power
- 20%-30% power
- Less than 20%, the power meter will shut down.
- Replace batteries. Refer to below figure 5-2

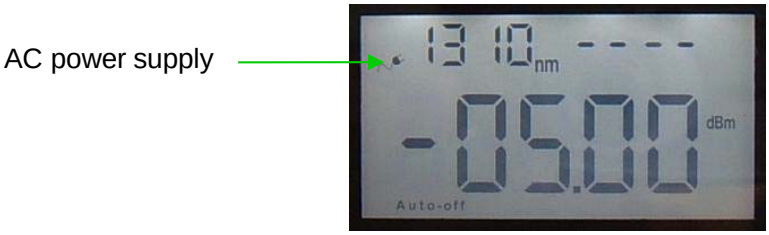
5-2

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

Note: Insert the batteries with their positive and negative connectors correctly aligned.

5.1.2 Power Supply Unit

When the battery is empty, the power supply unit can be used. At the top left of the screen, a will be displayed (5-3). When the battery is in the power meter and still charged, the tester will default to the AC power supply.



5-3

When using the AC adaptor, connect the power plug (pictured) and insert it in the AC adapter port

5-4

Note: Only use the power supply unit supplied with the tester. Using another type of power supply may damage the instrument.

5.2 Powering On the Laser Source

Insert the battery or the PSU and press on the tester. At this time the laser is still off. The display will show no data, as shown in figure 5-5.

5-5

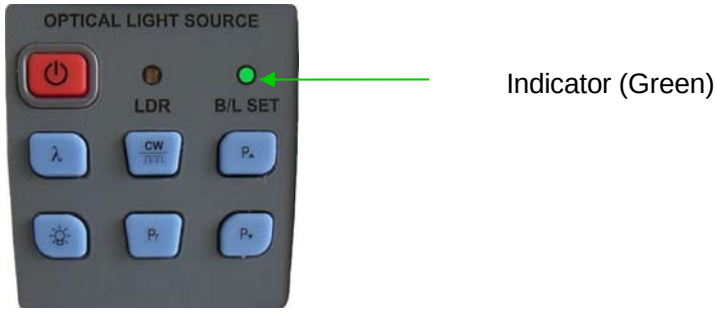
When the tester is in standby, press key to enable/disable auto-off function. If auto-off function is selected, "Auto-off" will display on the bottom left of the screen.

5.3 Backlight Setting

After turning on the optical power meter, press and hold Choose backlight control mode.

5.3.1 "LDR" Intelligent backlight control mode

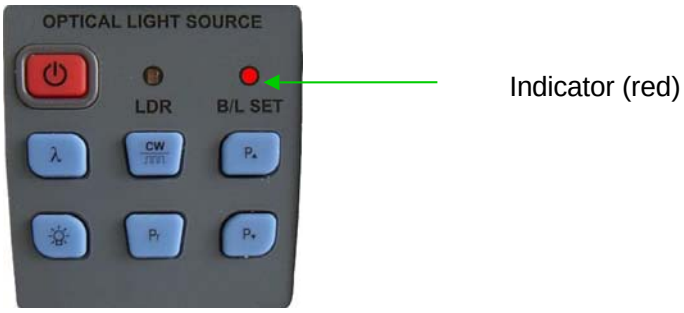
Press and hold when "B/L SET" is green (5-6). After 10 seconds, the green indicator will turn off. In LDR, the controller will automatically adjust the backlight to ambient light within 15 seconds to save power.



5-6

5.3.2 Key control backlight mode

Press and hold . "B/L SET" (indicator will turn red (5-7)) to enter key control backlight mode. After 10 seconds the indicator will turn off. Quick press to turn the backlight ON/OFF.



5-7

5.4 Output Power

Note: A warm-up period of 5 minutes or less is normally required to ensure stable output power for the laser source.

5.4.1 Open the dust cap and connect the patch cord.

Note: Make sure the connector and the end of the patch cord are clean. Make sure to connect the correct type of patch cord.

5.4.2 Activating laser light source.

When turning on **the light source**, the laser source is still off. Only after pressing or can the laser activate on the diode (5-8 & 5-9)

Laser off

Laser on (output wavelength 1310nm; rated output power-5.00dBm; 0Hz: no frequency set.)

5-8 Press to activate laser on the diode

Laser off

Laser on (output wavelength 1310nm; rated output power-5.00dBm; 270Hz frequency)

5-9 : Press CW to laser on the diode

Note: To avoid risk of serious eye damage, do not look into the interface at any time

5.4.3 Selecting the wavelength

Press λ to select the output wavelength. It will display at the top of the screen (fig. 5-10)

Output wavelength

5-10

5.4.4 Output power

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

Press P▼ to decrease the output power. Press CW to load the output frequency, (5-11. Fig. 5-13)

5-11

5-12 Press Pv to decrease the output power

5-13 Press CW to load the frequency

Following the same principle, press PA to increase the output power and CW to load the output frequency.

5.5 Automatic Wavelength Identification

- Connect the light source with **the matched optical power meter**.
- Enable light source under "Wave ID" operation mode. Press λ or CW on light source to laser on its matched power meter. Hold down CW for few seconds. Light source will enter Wave ID mode. "--AU" will be shown on the upper right of the LCD screen.
- Enable power meter under "Wave ID" operation mode: Hold down λ for few seconds. Power meter will enter Wave ID mode. "--AU"will be shown on the upper right of the LCD screen.
- Once the ID information is changed on light source (press λ to change wavelength), after 3 to 5 seconds the detected information on the optical power meter will automatically update to match. Refer to figure 5-14.
- Exit Wave ID mode: Hold down λ again to exit Wave ID mode on power meter and hold down CW again to exit Wave ID mode on light source

Light Source

5-14

5.6 Frequency Detection

- Connect the light source with its **matched power meter**.
- Output frequency from the optical light source: Press λ or CW to release light from the unit. Press CW quickly. The light source will output frequencies of 270Hz, 330Hz, 1KHz, or 2KHz accordingly, which will display on the upper right of the LCD screen. In the meantime, THE MATCHED OPTICAL POWER METER will detect the corresponding frequency automatically from the light source. Refer to figure 5-15.

Light Source Matched Power Meter

5-15

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

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

5.7 Power Off

Auto-Off Function When auto-off function is activated, the unit will turn itself off automatically after 10 minutes idle, regardless of power supply type.

Manual power off**:** Under any operation mode, hold down ⏻ for a few seconds to turn the unit off.
Note: With either power setting, the unit will store the last calibration wavelength and backlight control mode automatically. This will be the default setting when the unit is next turned on.

Chapter 6: Troubleshooting

Problems	Possible cause	Solution
Faint display on the LCD screen	1. Power is off 2. The battery power is too low	1. Press ⏻ key. 2. Change the batteries
When on the laser source, the output power is not stable		Allow 15 minute warm-up

Chapter 7: General Maintenance

7.1 Always ensure the connector ports of the laser source are clean.
7.2 Only used the supplied adaptor.
7.3 Place dust-proof cap over optical connectors when not in use
7.4 Carefully connect/disconnect fiber connectors/adapters to avoid scratches on the port of the power meter.
7.5 Regularly clean the optical port of power meter. Clean according to instructions.

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 faults occur due to quality problems of the product during the warranty period, the company promises to repair or replace free of charge. The freight cost and related taxes will be shared by both parties. The company will pay the shipping cost from the customer side to our factory and pay any related import taxes. 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 damage occurred not because of defects in material and workmanship of products.
- Failures and damage occurred because of failing to comply with the operation instructions.
- Abnormal conditions of operation or handling such as artificial damage, or operating in abnormal conditions such as high temperatures, high voltage, humidity, etc. We will charge according to the actual failure rating.