

User's Guide to the FHS1D02/03

Dual-wavelength Laser Source

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1 Introduction



The FHS1D series mini-sized dual-wavelength laser sources offer excellent stability and portability for accurate fiber optic testing. Single output port provides stable laser power at dual-wavelength. The compact unit operates in either continuous wave (CW) mode or modulated mode. A low battery indicator reminds the user of replacing the battery.

Main Features:

- Single output, providing with CW and modulation of 270Hz, 1kHz and 2kHz
- Supply with backlighting, 4pcs of AAA battery, LCD screen and auto-off at the low-battery capacity

2.Warranty

One Year Limited Warranty

Grandway products are warranted against the defective components and workmanship for a period of one year from the date of delivery to the original customer. Any product found to be defective within the warranty period would be returned to **Grandway** authorized service center for repair, replacement and calibration.

Exclusions

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

- Unauthorized repair or modification including battery replacement
- Misuse, negligence, or accident

Returning Product

To return product, you may contact Grandway to obtain additional information if necessary. To serve you better, please specify the reasons for the return.

All delivery and mails should be sent to the following address:

*Grandway Customer Service
6F, Xin'an building No. 99 Tianzhou Road
Shanghai, 200233 P.R. China*

Contact Us

Tel: +86-21-54451260/61/62/63
Fax: +86-21-54451266
E-mail: overseas@grandway.com.cn
Website: www.grandway.com.cn

3 Safety Information

Warnings!

- Never look directly into optical outputs or a fiber while the equipment is on. Invisible laser beam may damage your eyes.
- Do not short-circuit the terminal of AC adapter / charger and the batteries. Excessive electrical current may cause personal injury due to fumes, electric shock or equipment damage.
- Do not operate the equipment near hot objects, in hot environments, in dusty/humid atmosphere or when condensation is present on the equipment. This may result in electric shock , product malfunction or poor performance.

4 Preparing for Operation

4.1 Unpacking the instrument

Packing material

We suggest that you keep the original packing material. Using the original packing material is your guarantee of protecting the instrument during transit.

Checking the package contents

The standard accessories of FHS1D02/03 are as follows:

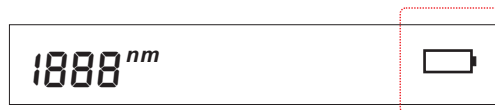
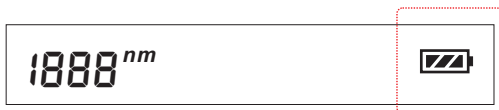
- | | |
|------------------------|--------------------------------|
| ➤ Main unit | ➤ Carrying Case |
| ➤ Quality Check Report | ➤ User's Guide |
| ➤ 4pcs of AAA Battery | ➤ FC/PC(ST/PC, SC/PC optional) |

Checking for damage in transit

After unpacking the instrument, check to see whether it was damaged in transit. This is particularly likely if the outer casing is clearly damaged. If there is damage, do not attempt to operate the instrument or to repair it without authorization. Doing so can cause further damage and you may lose your warranty qualification.

4.2 Power Supply





The instrument is power supplied by 4pcs of AAA battery ,and when you use the battery, the battery indicator on the screen will show the remaining charge. An empty battery indicator means the power is almost out. When the battery charge is extremely low to supply the necessary power, the instrument will automatically switch off . Please change the battery.



5 Operation

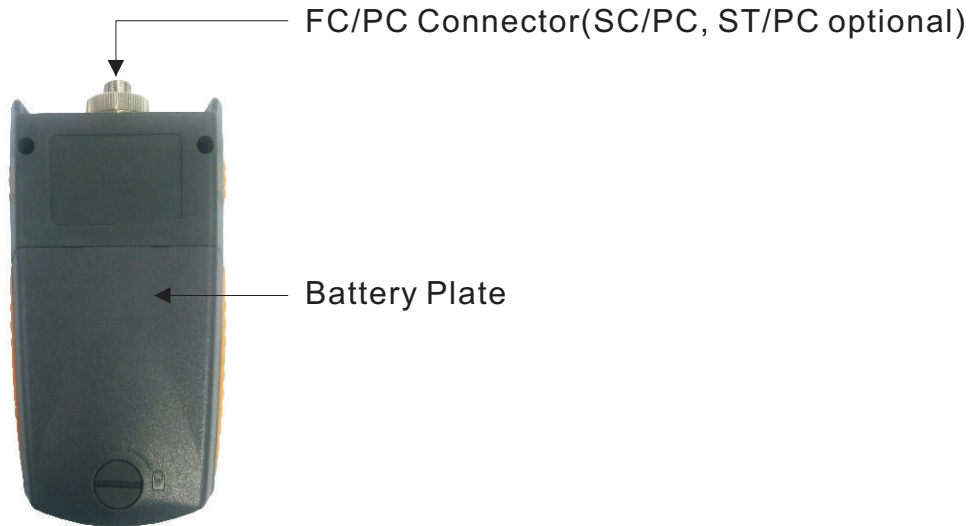
5.1 Display and controls

5.1.1 Front(Panel Board)

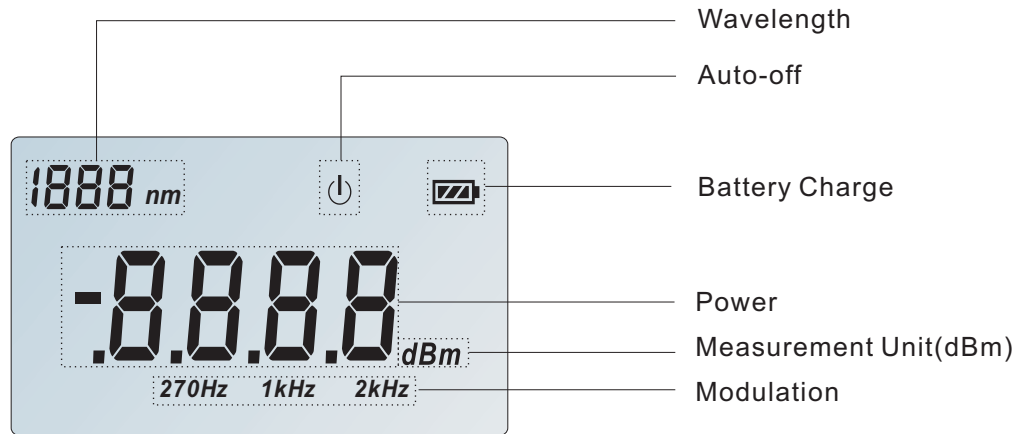
| No. | Key | Function |
|-----|---|---|
| 1 |  | Switches instrument on/off. Long keypress while powering on to activate the instrument without auto-off function. |
| 2 |  | Modulated wavelength shifting key: switches modulated wavelength and continuous wavelength. |
| 3 |  | Switches backlighting on/off. |
| 4 |  | Wavelength shifting key: switches working wavelength between 1310nm and 1550nm(FHS-1D02) or between 850nm and 1300nm(FHS-1D03). |



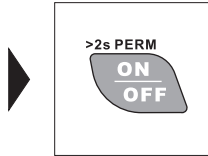
5.1.2 Back & top



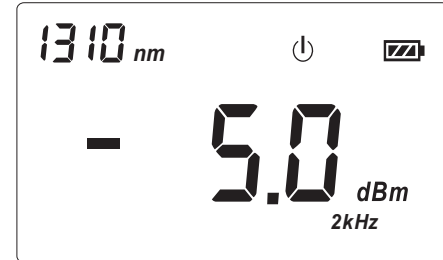
5.1.3 LCD



5.2 Turning the instrument on and off



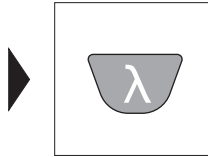
Press the "ON/OFF" key briefly.
The instrument powers on. (See the figure) ▶
Press the "ON/OFF" key briefly again.
The instrument powers off.



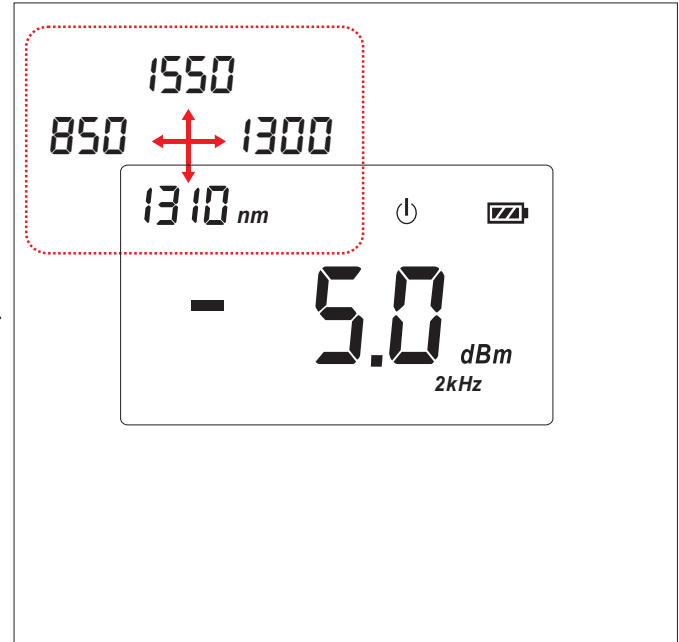
Note: Auto-off function

- 1 The instrument powers off automatically if no key press in 10 minutes.
- 2 Press the "ON/OFF" key for about 2 seconds to power on the instrument with "Auto-off" function deactivated.

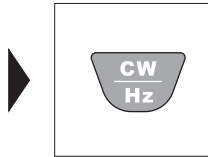
5.3 Switching the wavelength



Press the “λ” Key to switch the wavelength between 1310nm and 1550nm(FHS1D02), 850nm and 1300nm(FHS1D03).

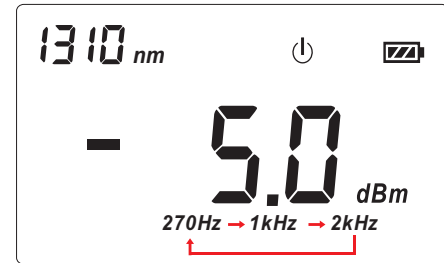


5.4 Frequency Output



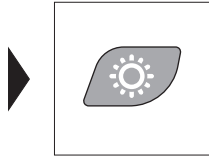
The instrument defaults to CW when it switch on. When it is set to CW, there is no frequency on display.

Press the "CW/Hz" Key to select the output among 270Hz, 1kHz and 2kHz.

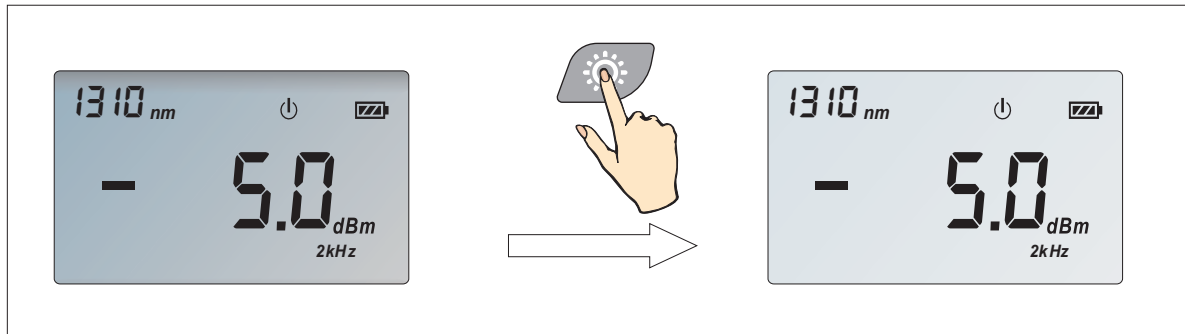


1. "CW" is not displayed on the LCD

5.5 Switching backlighting of the LCD on and off



Press the backlighting Key to switch the backlighting of the LCD on and off.



5.6 Connecting with Optical Power Meter

Connecting with FHP1 series optical power meter, FHS1 series dual-wavelength laser source can make accurate measurement of the fiber loss at the largest distance of more than 300km(@1550). On-the-spot measurement will differ with the working wavelength, fiber attenuation and the testing environment.



6 Specifications

Optical Specifications

| | FHS -1D02 | FHS -1D03 |
|------------------------|------------------------------|-----------------------------------|
| Output wavelength (nm) | 1310 & 1550 | 850 & 1300 |
| Emitter Type | LD | |
| Connector | FC/PC | |
| Output Stability | Short Term(15minutes):<0.1dB | Long Term(5Hours or above):<0.2dB |
| Central Wavelength | 1310/1550/850/1300±20nm | |
| Spectral Width | 3nm | |
| Output Frequency (Hz) | 270,1K,2K | |
| Output Power | -5dBm±0.5dB | |
| Auto Power-off | Yes | |
| Back-light | Yes | |

General Specifications

| | |
|-----------------------|---------------------|
| Operating Temperature | -10 to +50℃ |
| Storage Temperature | -20 to +70℃ |
| Power supply | 4pcs of AAA battery |
| Dimension (mm) | 115L*65W*30H |
| Net Weight | 140g |

7 Maintenance

- ➡ Please cover the protective dust cap once you finish using
- ➡ It is a good idea to clean the connector and the instrument when they get dirty through use. Optical cleaning pads and anhydrous alcohol is recommended. And please be careful not to get the detergent inside the instrument.
- ➡ To ensure the measurement accuracy, please send the instrument to Grandway Service Center for calibration once a year.