



Lithium battery hand-held measuring instrument

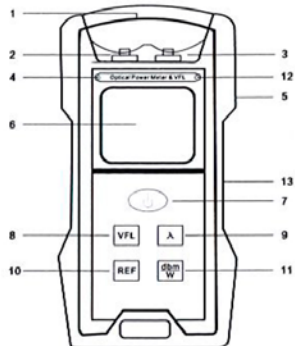
USER'S GUIDE

Lithium Battery Optical Power Meter & VFL
V1.1

1. Technical Specifications

Measurement range	-70 ~ +10 dBm	-50 ~ +26 dBm
Wavelength range (nm)	800 ~ 1700	
Calibrated wavelength	850nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm	
Detector	InGaAs	
Accuracy	<±3% (-10dBm, 22°C)	
Resolution	Linearity: 0.1%, Non-linearity: 0.01dBm	
Working temperature	-10°C ~ +50°C	
Storage temperature	-20°C ~ +70°C	
Relative humidity	90% (+30°C)	
connector	FC/SC (ST as Optional)	
Power supply	18650mAh Lithium battery	
Working hours	200 hours (without back light)	
Auto off	10min	
Weight(g)	280g	
Dimension(mm)	80mm*43mm*16mm	
VFL(as Optional)	Wavelength:650nm; Out Put: 1/10/20/30/50mw; frequency:0HZ/2HZ	

2. Appearance



1. Dust Cap
2. Connector
3. VFL (650nm)
4. VFL status indication
5. Rubber sheath
6. LCD screen
7. ON/OFF
8. VFL state switch key
9. Wavelength select
10. REF Relative power: Press 2 seconds to start relative test
11. DBm/w: Unit switch
(Absolute power mode)
12. Charge indicator
13. Charge interface

Function keys introduces

1) **ON/OFF**: Press “ON/OFF” to turn it on. And press it for 3 seconds to turn it off. Under power-on mode, press this key shortly to activate or deactivate the 10-minute auto off function. The default setting is auto-off function ON when start the meter. Operators can press ON/OFF shortly to close the auto-off function.

2) **dBm/W**: Press “dBm/W” to enter absolute measurement mode. Press it repeatedly to switch the display power unit between W and dBm

3) **λ** : Switch the wavelength from 6 calibrated wavelengths (850nm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm), the current choice of wavelength will appears on the LCD

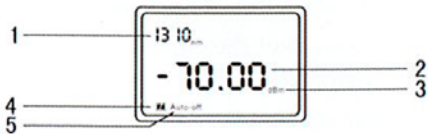
4) **REF**: Used for absolute measurement and relative measurement of the state of the switch and the relative measurement of the reference value settings.

Save the reference value: when enter the relative measurement mode, press REF for 2 seconds to save the current absolute power value as REF value and show the relative power value in dB unit.

5) **VFL** : Press VFL to switch the VFL status, ON Glint or OFF.

***Backlight** : It is on when turning on the unit. It will turn off one minute later. Operators can press any key to make backlight for another one minute.

1. Wavelength
2. Power value
3. Unit
4. Battery level
5. Auto-off



3. Operations

3.1 Turn on/off

- ◆ Press ON/OFF shortly to turn on the unit. Press ON/OFF for a few seconds to turn it off and press this key slightly to activate or deactivate the auto-off function.

3.2 Absolute power measurement

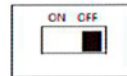
- ◆ Insert optical signal (Insert the pigtail properly), turn on the meter
- ◆ Choose the wavelength via λ key. If the tested wavelength is not exactly same to the one in the power meter, then choose a close one from the power meter. For example, 1300nm wavelength is near to 1310nm, we can choose 1310nm to substitute 1300nm.
- ◆ Press dBm/W to choose the display unit. The default wavelength is 1310nm and working mode is dBm.
- ◆ After the above steps, the LCD will show the test power value.

3.3 Relative power measurement

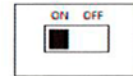
- ◆ Set the wavelength
- ◆ Press REF for 2 seconds to enter the relative measurement mode. Now LCD screen display 00.00dB

- ◆ Measurement: Insert the pigtail need to be tested and introduce another measurement light, now the current value shown in the LCD is the difference value between the tested signal and reference value.
- ◆ The reference value shown in the REF position
- ◆ Press dBm/W to review the current absolute power value. Press REF to review the current reference value.

3.4 User self-calibration function



Work position



Self-calibration position

During the operation, when operators need to calibrate the meter to be accordance with other meters. So our product offers operators self-calibration function, the following steps will tell you how to do:

- ◆ Take out the batteries and pull up the switch 1 to Left position(ON position).
- ◆ Put the battery back to the battery compartment and turn on the unit to choose the wavelength for calibration.
- ◆ Now connect it with a pigtail which we already know its power and press REF or dBm/W to increase or decrease the power value by 0.05d every time. Until the LCD display the pigtail's power (Or the difference gap less than 0.3db), press ON/OFF to save the value
- ◆ Repeat above operation for other wavelength ,
- ◆ After recalibrate each wavelength, please pull down the switch 1 (come back to the position, the opposition of the Left)and turn off the meter

- ◆End the user self calibration operation, please pull up the switch 1 to Right position(OFF position).

3.5 Auto off function

The auto off is on when turning on the meter. Press ON/OFF to activate or deactivate this function.

3.6 Visual Fault Locator function

Press VFL key, the VFL indicator is on, the locator output 650nm red laser. Press the VFL key again, the locator and indicator are blinking at the same time, the frequency is about 2Hz, which is convenient to check line faults.

Press the VFL key the third time, then the VFL indicator is off, and the locator laser is off..

4. Charge Battery

If the battery level is very low, please charge the Lithium battery

Charge method: Insert the charger into the charge jacket which is on the side. Then connect charger with 220V AC power socket. If the LED on charger is shining and red it means that the tester is being charged. And charge time is 4~5 hours or so. If the LED turns off from red it means that the battery is fully charged. Please take off the charger.

5. Maintenance

- 1)Keep all optical connectors and surfaces free from oil, dirt or other contamination to ensure proper operation.
- 2)Keep using the same type of connector
- 3)Please cover the dust cap when not in use to keep the connector clean.
- 4)Carefully plug in or out the adapter
- 5)Regularly clean the connector.
- 6)If no use for a long period, please take out of the battery after full charge, and charge the battery once a month

6. Faults And Solutions

Faults	Reasons	Solutions
Faint LCD screen	Lower power	Charge/Replace battery
No backlight	Lower power	Charge/Replace battery
No display when turning on	Lower power/other	Turn on again /Charge/replace battery
Fail to turn on	Lower power	Charge/Replace battery
No changing on LCD screen	Lower power	Charge/Replace battery
In sensitive LCD screen	Dirty or polluted connector	Use the correct connector and clean it.
Spot blur and Faint (VFL)	Fault or dirty	Use the fiber clean sticks to clean it.

Packing List

- (1) Optical Power Meter &VFL _____1pc
- (2) Soft case _____1pc
- (3) User Manual _____1pc
- (4) USB Charger _____1pc
- (5) SC connector _____1pc