

OPTICAL INSTRUMENTS SERIES

User's Guide to the **PROLITE-55**

Three-wavelength Laser Source



v1.0

0 MI2028 (01/12/2014)

1 Introduction



The **PROLITE-55** three-wavelength laser source offers excellent stability, portability and facile adjustments for accurate optical fiber testing. Single output connector serves three wavelengths, 1310nm, 1490nm & 1550nm.















PROLITE-55 can be used to test single mode optical fiber of long distance and local network. Also it can work with optical power meter to measure the loss of optical fiber.

2 Safety Information

SAFETY RULES

- **The safety could not be assured if the instructions for use are not closely followed.**
- The external DC charger is a **Class II** equipment, for safety reasons plug it to a **supply line with the corresponding ground terminal**.
- Use the mains adapter in **Overvoltage Category I** and **Pollution Degree 1** installations. To use **INDOOR**.
- When using some of the following accessories use only the **specified** ones to ensure safety:
 - Power adapter
- .
- Observe all **specified ratings** both of supply and measurement.
- Use this instrument under the **specified environmental conditions**.
- **The user is not allowed to carry out the following maintenance operations:**
 - Any change on the equipment must be carried out exclusively by technical staff.
- Follow the **cleaning instructions** described in the Maintenance paragraph.

- Symbols related with safety:

| | | | |
|---|------------------------|---|--|
|  | DIRECT CURRENT |  | ON (Supply) |
|  | ALTERNATING CURRENT |  | OFF (Supply) |
|  | DIRECT AND ALTERNATING |  | DOUBLE INSULATION (Class II protection) |
|  | GROUND TERMINAL |  | CAUTION (Risk of electric shock) |
|  | PROTECTIVE CONDUCTOR |  | CAUTION REFER TO MANUAL |
|  | FRAME TERMINAL |  | FUSE |
|  | EQUIPOTENTIALITY |  | EQUIPMENT OR COMPONENT TO BE RECYCLED |

- Specific Precautions for PROLITE-55



- Never look directly into optical outputs or a fiber while the equipment is on.
Invisible laser beam may damage your eyes.
- The use of devices that are not specified by this manual and the internal manipulation of the instrument may cause harmful radiation.
- Use the laser source output with caution.

- Keep closed the cover of this output when not using it.
- The laser source output emits light at 1310 nm, 1490 nm and 1550 nm wavelength and 0 dBm power.

- Descriptive Examples of Over-Voltage Categories

Cat I Low voltage installations isolated from themains.

Cat II Portable domestic installations.

Cat III Fixed domestic installations.

Cat IV Industrial installations.

3 Preparing for Operation

3.1 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 **PROLITE-55** are as follows:

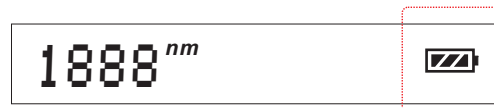
- Main unit
- DC 6V Adapter
- 2 rechargeables AA batteries
- Carrying Case
- User's Guide
- Connectors(SC/APC,ST/APC)
- 3 ferrules

Checking for damage in transit

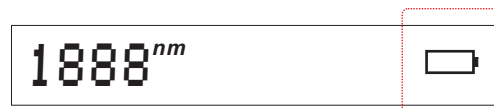
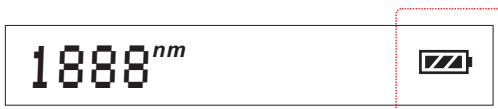
After unpacking the instrument, check to see whether it was damaged in transit. This is particularly likely if the outer casing is clearly damaged. If there is damage, do not attempt to operate the instrument or to repair it without authorization. Doing so can cause further damage and you may lose your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

3.2 Power Supply

There are battery indicator and power plug on the screen to show the power supply. When you use the DC 6v charger, there is no battery indicator on the screen. When you do not connect the DC 6v charger, the adapter indicator will disappear on the screen.



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 after several beeps of the buzzer. Please change the battery or recharge it








4 Operation

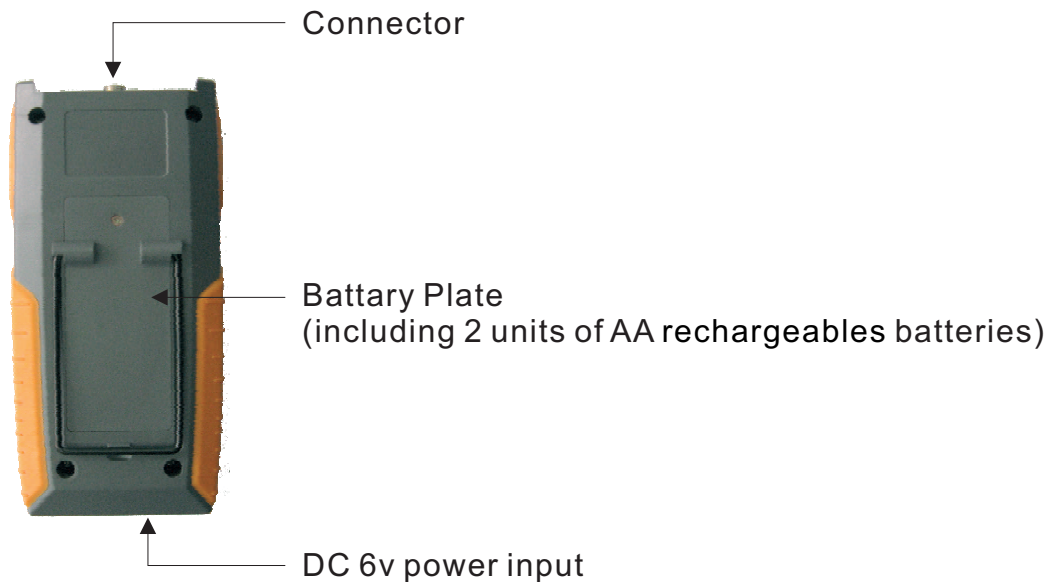
4.1 Display and controls

4.1.1 Front(Panel Board)

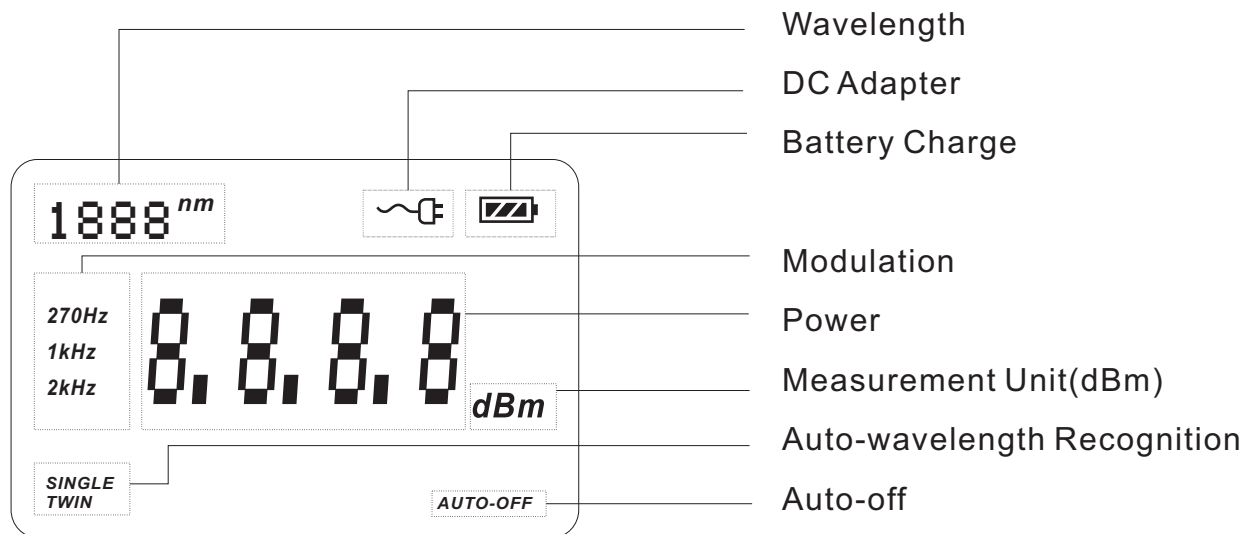


| No. | Key | Function |
|-----|---|---|
| 1 |  | Wavelength Shifting Key: Switches working wavelength between 1310nm,1490nm and 1550nm. |
| 2 |  | Modulated Wavelength Shifting Key: Switches modulated wavelength and continuous wavelength. |
| 3 |  | SINGLE: Auto-wavelength recognition is off. TWIN: Auto-wavelength recognition is on. |
| 4 |  | Switches backlighting on/off. |
| 5 |  | Switches Instrument on/off. Long keypress while powering on to activate the instrument without Auto-off function. |

4.1.2 Back & top



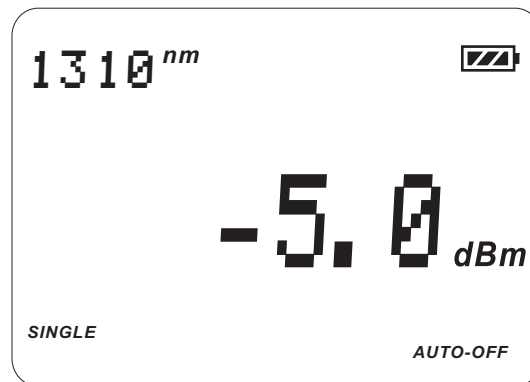
4.1.3 LCD



4.2 Turning the instrument on and off



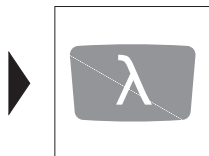
Press the “ON/OFF” key briefly.
The instrument powers on. (See the figure)
Press the “ON/OFF” key briefly again.
The instrument powers off.



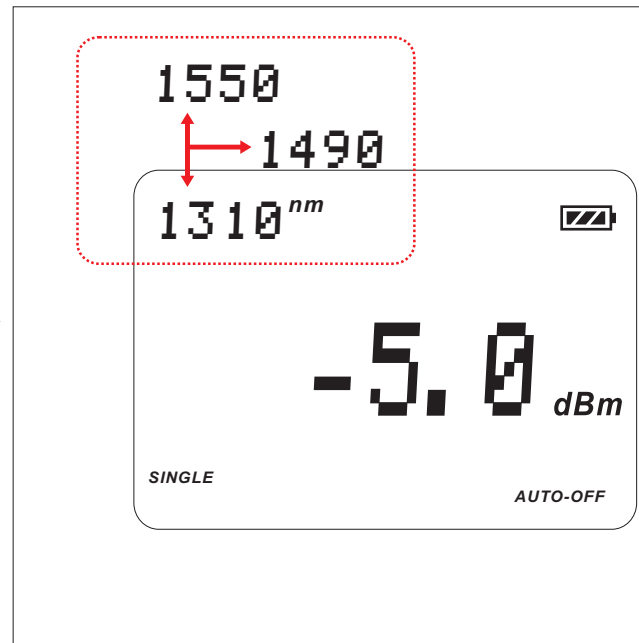
Note: Auto-off function

- 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

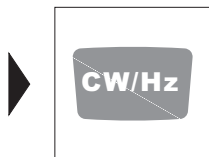
4.3 Switching the wavelength



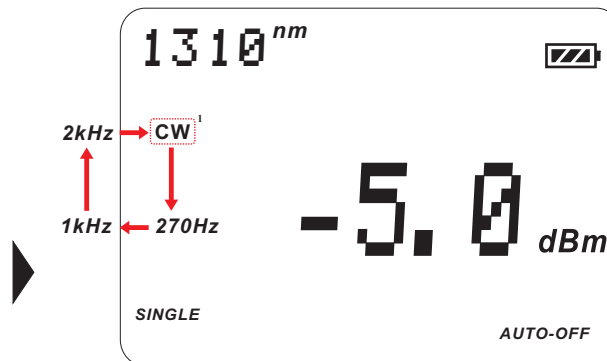
Press the “λ” Key to switch the wavelength between 1310nm, 1490nm and 1550nm.



4.4 Frequency Output

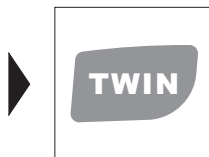


The instrument defaults to CW when it switch on. When it is set to CW, there is no frequency on display.
Press the "CW/Hz" Key to select the output among 270Hz, 1kHz and 2kHz.



1. "CW" is not displayed on the LCD

4.5 Auto-wavelength Recognition

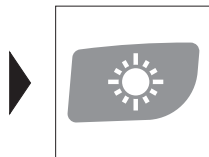


Press the "TWIN" Key to turn on and off the auto-wavelength recognition function.

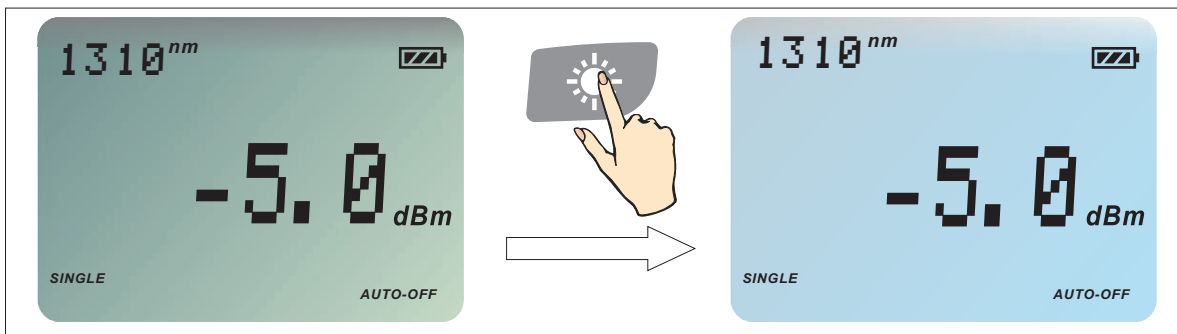
Note:

- 1) It is suggested to turn off the "TWIN" code when you do not use it. The optical power output of laser source will be fluctuated.
- 2) The function of "TWIN" and Modulation cannot work together. When the "TWIN" is on, modulation of laser source module is closed automatically.
- 3) Wavelength will be shifted automatically according to the recognition when the "TWIN" of power meter module is on. In another word, the modulated signal of 270Hz, 1kHz and 2kHz cannot be recognized and received at the moment.

4.6 Switching backlighting of the LCD on and off



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



4.7 Connecting with Optical Power Meter

It can work with optical power meter to measure the loss of optical fiber accurately.



5 Specifications

Optical Specifications

| Model | PROLITE-55 |
|-----------------------------------|---|
| Laser | Class I |
| Spectral Width | 3 nm typical value |
| Stability (15 min preheat @ 25°C) | ± 0.05 dB/15 min ± 0.1 dB/5 h to 1310 nm ± 0.1 dB/15 min ± 0.2 dB/5 h to 1490 nm ± 0.05 dB/15 min ± 0.1 dB/5 h to 1550 nm |
| CW output power | -5.0 dBm ± 1 dB |
| Modulated Wavelength | 270 Hz, 1 kHz, 2 kHz |
| Available Connector | SC/APC, ST/APC interchangeable connectors. |
| Power | 2 units of AA rechargeables batteries |

General Specifications

| | |
|------------------------------|-------------------------------|
| Operation Temperature | -10 °C ~ +50 °C |
| Storage Temperature | -20 °C ~ +70 °C |
| Humidity | <90% |
| Size(H×W×D) | 160 mm × 76 mm × 45 mm |
| Weight | 0.26 kg (including batteries) |

6 Maintenance

- ➡ Please disconnect the DC adapter/charger and 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.



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