User´s Guide to the Optical Light Source

Dual-wavelength Laser Source

1 Introduction

The Optical Light Source is robust, handy and easy to configure for precise fiber optic measurements. The device is suitable for the following wavelengths: 1310nm, 1490nm, 1550nm, 1625 nm.

The Optical Light Source can be used to test single-mode optical fibers of long distance and local area networks. In conjunction with the ARGUS Optical Power Meter, it is also possible to precisely measure the attenuation of an optical fiber.

2 Safety information

Never look directly into optical outputs or a fiber while the equipment is on. The 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.

Connect DC power cord with the equipment and wall socket properly. While inserting the DC plug, make sure there is no dust or dirt on the terminals and both plugs are fully seated. Incomplete engagement may cause fuming, electric shock or equipment damage and may result in personal injury.

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.

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 the Optical Light Source are as follows:
- Main unit(including battery)
- Quality Check Report
- DC 6V Adapter
- Carrying Case
- User's Guide

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 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 . Please change the battery or recharge it.

4 Specifications

Optical Specifications

Output Wavelength((nm)	1310 nm, 1490 nm, 1550 nm, 1625 nm (± 20 nm)
Laser	Class 1
Spectral Width	5 nm
Stability: Short Term (15 minutes)	1310 nm < ± 0.05 dB 1490 nm < ± 0.10 dB 1550 nm < ± 0.05 dB 1625 nm < ± 0.10 dB
Stability: Long Term (5 hours)	1310 nm < ± 0.10 dB 1490 nm < ± 0.20 dB 1550 nm < ± 0.10 dB 1625 nm < ± 0.20 dB
Power	-5.0 dBm ± 0.5 dB
Frequency	270 Hz, 1 kHz, 2 kHz
Connector	SC/APC with dust protection and protection against loss
Power Supply	2x Ni-MH AA (2500 mAh), AC/DC charger

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	about 270 g (including batteries)

NOTE: Please be aware that we will not be responsible for the damage caused by customer's improper usage of AC power supply, especially when the instrument is working by internal batteries. The working hours of instrument might show a difference under a different circumstances and batteries status.

5 Operation

5.1 Display and controls

5.1.1 Front(Panel Board)

Key	Function
	Switches instrument on/off. The Auto-off function automatically switches off the Lightsource after 10 minutes. Long keypress while powering on to activate the instrument without Auto-off function. Short press activates the backlight.
	Wavelength Shifting Key: Switches the wavelength and non-activation/deactivation of the laser.
	SINGLE: Auto-wavelength recognition is off. TWIN: Auto-wavelength recognition is on. For more information on wavelength detection with Twin-Mode and ARGUS SFP-OPM, see page 10.
	Switching between Channel 1 and Channel 2. Channel 1 supports 1310, 1490 and 1550 nm. Channel 2 supports 1625 nm.
	Modulated Wavelength Shifting Key: Switches modulated wavelength and continuous wavelength.
	Switches the light power on and off for the selected wavelength and channel. If the output is active, the optical output power (always -5 dBm) is indicated on the display. The switched off port is signaled with a "LO".

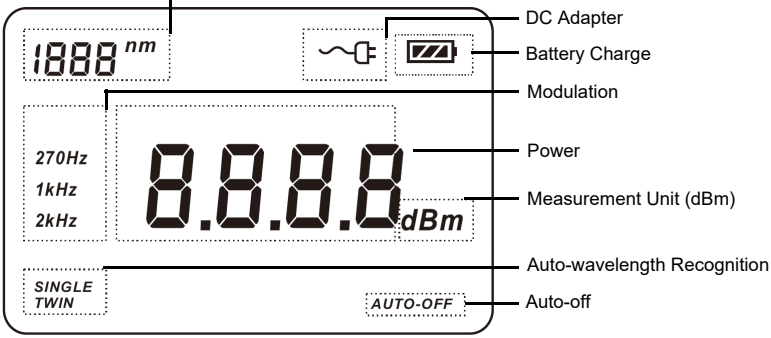
5.1.2 Back & top

2 connectors (SC/APC) / Channel 1 & Channel 2

Battery Plate
(including 2 units of AA recharging batteries)

DC 6v power input

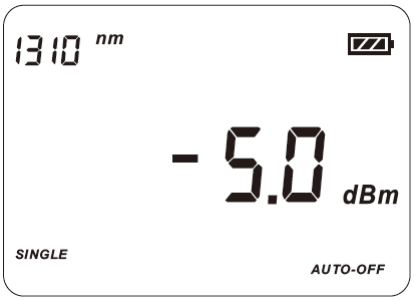
5.1.3 LCD



Wavelength
DC Adapter
Battery Charge
Modulation
Power
Measurement Unit (dBm)
Auto-wavelength Recognition
Auto-off

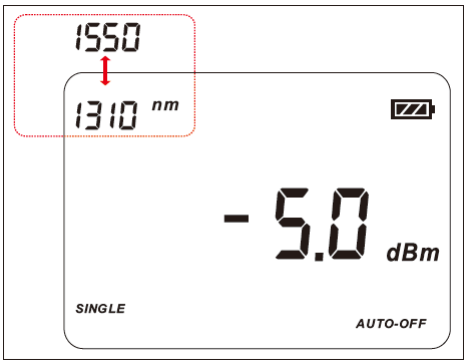
5.2 Turning the instrument on and off

Press the “ON/OFF” key briefly.
The instrument powers on (see the figure below).
Press the “ON/OFF” key briefly again.
The instrument powers off.
Note: Auto-off function
1 The instrument powers off automatically if no key is pressed within 10 minutes.
2 Press the “ON/OFF” key for about 2 seconds to power on the instrument with "Auto-off" function deactivated.



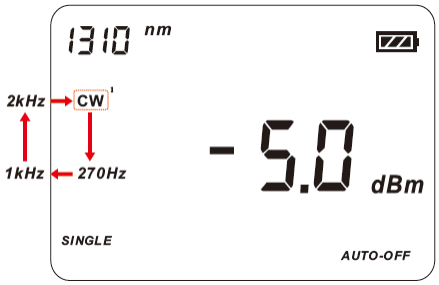
5.3 Switching the wavelength

Press the “λ” Key to switch the wavelength between 1310 nm, 1490 nm and 1550 nm (see the figure below).



5.4 Frequency Output

The instrument defaults to CW when it switches 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 Auto-wavelength Recognition

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

Note:

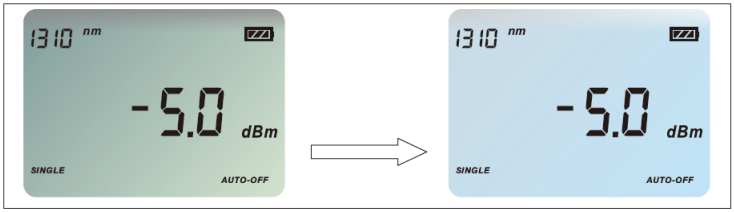
1). It is suggested to turn off the "TWIN" code when you do not use it. The optical power output of the laser source will be fluctuated.

2). The function of "TWIN" and Modulation cannot work together. When the "TWIN" is on, the modulation of the laser source module is closed automatically.

3). The wavelength will be shifted automatically according to the recognition when the "TWIN" of the power meter module is on. The modulated signal of 270Hz, 1kHz and 2kHz cannot be recognized and received.

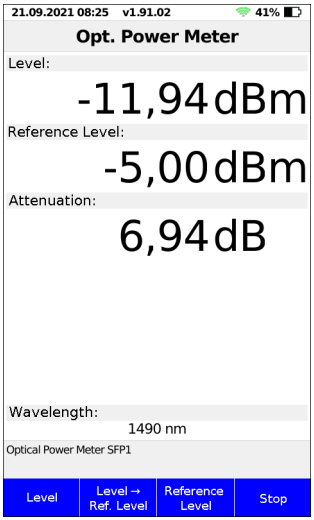
5.6 Switching backlighting of the LCD on and off

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



5.7 Connection with the ARGUS Optical Power Meter

The Optical Light Source can be connected to the ARGUS Optical Power Meter to accurately measure the attenuation of optical fibers.

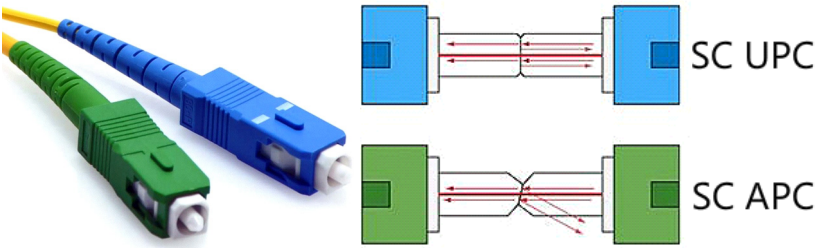


5.8 Wavelength detection with Twin Mode and ARGUS SFP-OPM

Wavelength detection can be performed with the ARGUS OPM-SFP using the twin mode. The bit sequence transmitted in twin mode is recognized in the ARGUS 300 with the OPM-SFP plugged in and assigned to a wavelength.

To test the wavelength detection, the power measurement is started with an ARGUS OPM-SFP on the ARGUS 300. Lightsource and ARGUS OPM-SFP must then be connected with an optical fiber. It must be noted that only SC/APC connectors (Fig.) may be plugged into the Lightsource connectors. SC/APC or SC/UPC can be plugged into the OPM-SFP.

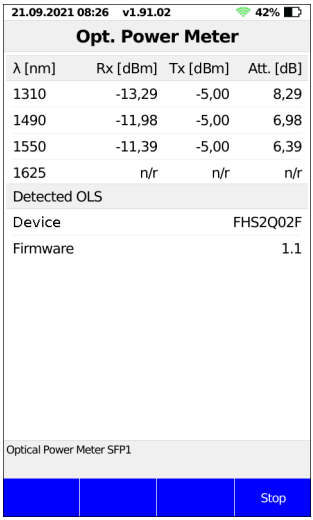
SC/APC = GREEN
SC/UPC = BLUE



Due to different grinds of the fiber, only SC/APC and SC/APC as well as SC/UPC and SC/UPC may be connected.

If the Lightsource and OPM have been connected, the twin mode will be started in the plugged channel. After a few seconds, the ARGUS 300 display will change to a table view showing the four possible wavelengths.

When using the twin mode in channel 1, the three wavelengths are detected one after the other and the loss on the used transmission path is displayed.



Channel 2 has only one wavelength, which is detected after a few seconds.

It is important that the device identifier and the firmware are also displayed. The firmware should match the firmware indicated in the Lightsource screen.

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.

To ensure the measurement accuracy, please send the instrument for calibration once a year.