OPM120

Optical Power Meter

User Guide _ Version 1.0

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If you have any questions or need any assistance, please contact our service center.

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Please prepare the following information before you contact us and describe the problems.

- Product model and S/N
- Warranty information

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1. Safety Information

Read all safety information carefully before using this product to ensure personal safety and proper use.

- Assure the power supply conforming to the specification of this product and qualified for the country of use.
- Use batteries that meet the specifications of this product.
- Do not use damaged power cords, accessories or other peripheral equipment.
- Make sure the product is operated on the permitted ambient conditions.
- Never directly look into the optical outputs interface.
- Dangerous laser radiation:

2. Introduction

Ascentac OPM120 Series, Optical Power Meter, provides high accuracy for optical power measurement in fiber-optic network. It has a wide dynamic range from +6 to -70dBm or +26 to -50dBm. Offering seven calibrated wavelengths (85onm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm & 1650nm) makes it ideal for both singlemode and multi-mode fiber testing. Furthermore, its wavelength can be automatically selected when it is paired with Ascentac Optical Light source (OLS200). Technicians are not required to manually set up the calibration parameter. It speeds up the test and eliminates possible failures of setting.

Ascentac OPM120 Series also has the capacity to analyze the cable status. ''Low Power" alarm reads on screen when the measured value is lower than the threshold users set up. Test results can be stored up to 1000 records and easily transferred to PC via USB connection.

Its interchangeable connectors (SC, FC, LC, Universal 2.5mm or 1.25mm) are dust-and-drop protected. All other common features like relative measurements and auto-shutdown are included.

2.1 Features

- 7 calibration wavelengths (85onm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm, 1650nm)
- Automatic wavelength recognition for time saving and error-free (Must use with Ascentac OLS200 or OLM300 series)
- Analysis of cable status e.g. Low Power (Displayed on screen) (Threshold can be set up)
- Document results and generate reports to PC via USB connection
- Generous data storage up to 1000 records
- Auto shutdown & backlight sleep mode for extending the battery life (Programmable)
- Option: Function of Visual Fault Locator with CW (Continuous Wavelength) or modulated tones at 1Hz or 2Hz

2.2 Application

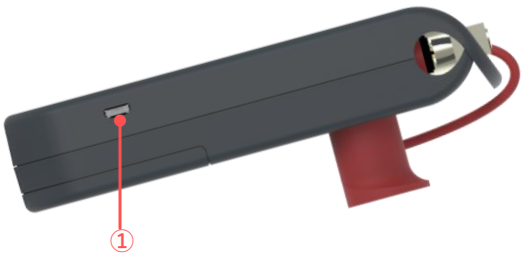
- Optical power or loss measurement in telecom or CATV installation and maintenance

3. Layout

3.1 Appearance

- Front

- Side



- Back

3.2 Instruction

Button	Function	Description
	Power on/off	Long press for two seconds to turn on/off the meter.
LASER	Laser on/off	Long press for two seconds to turn on/off the laser.
CW	VFL modulation output	Short press to switch modulation output. CW → 1Hz → 2Hz → CW
MIN/MAX MEAS	Record min. or max. value of optical power	Short press to record min. or max. value of optical power.
	Optical power monitoring	Long press for two seconds to turn on/off this function.
MODE REF	Mode switching	Short press to switch mode. OPM → VFL → OPM
	REF setting	Long press for two seconds to set reference value.
dBm mW	Measurement unit selection	Short press to switch measurement unit or cancel reference value.
LOAD SAVE	Data loading	Short press to load measurement results.
	Data saving	Long press for two seconds to save measurement results.
Power入	Wavelength selection	Short press to switch wavelength.
	Setting	Short press to access device setting.

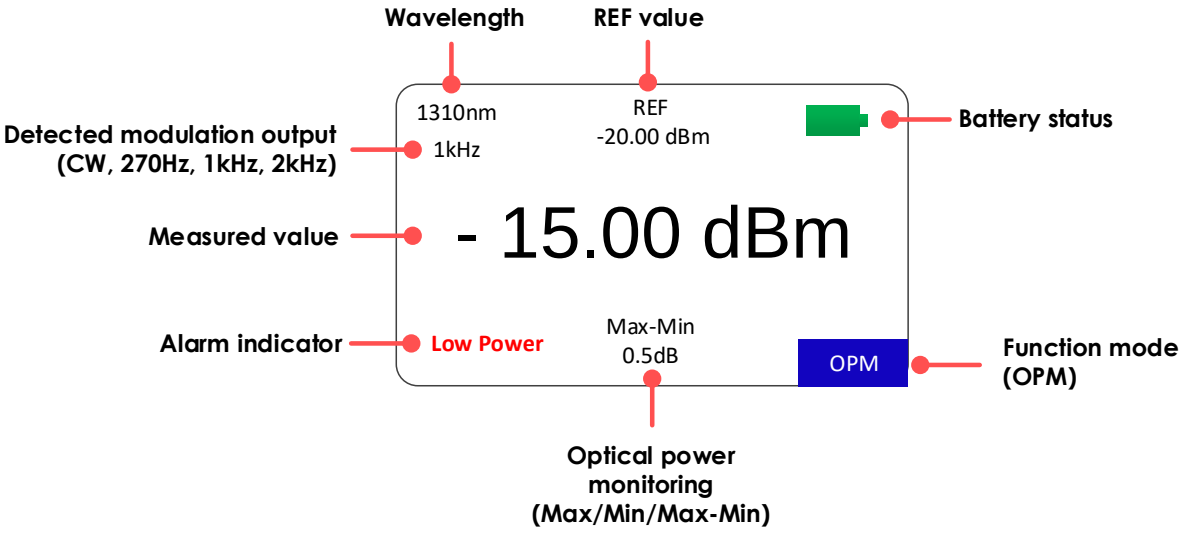
Item	Function	Description
1	USB	1. Power supply 2. Charge rechargeable batteries 3. Transfer measured record to PC
2	OPM optical connector	SC, FC, LC, Universal 2.5mm or 1.25mm
3	VFL optical connector	Universal 2.5mm
4	Battery	Dry batteries or rechargeable batteries (Charged by USB connection): AAA-size x 4

3.3 LED Indicator

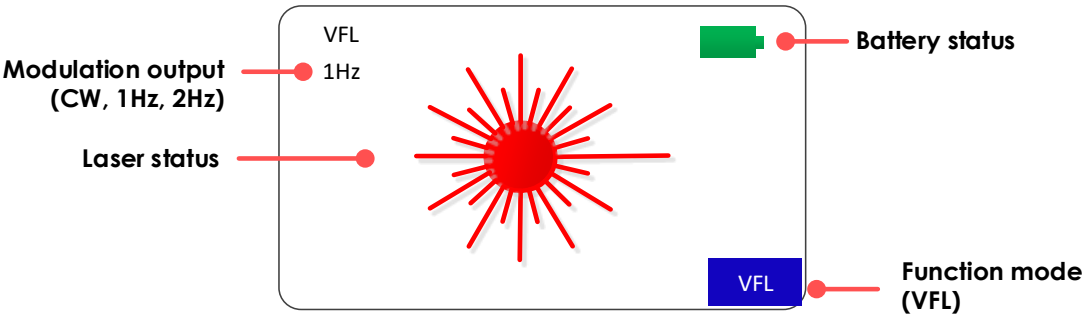
Item	LED Indicator	LED Status	Description
1	PASS/FAIL	Off	Without setting threshold
		Red	Setting threshold 1. Measured value of optical power is less than low power threshold. 2. With setting REF value, the loss value is higher than loss threshold.
		Green	Setting threshold 1. Measured value of optical power is equal to or higher than low power threshold. 2. With setting REF value, the loss value is equal to or less than loss threshold.
2	LASER	Off	No emitting light
		Red	Emitting light

4. Display

4.1 Optical Power Meter (OPM)



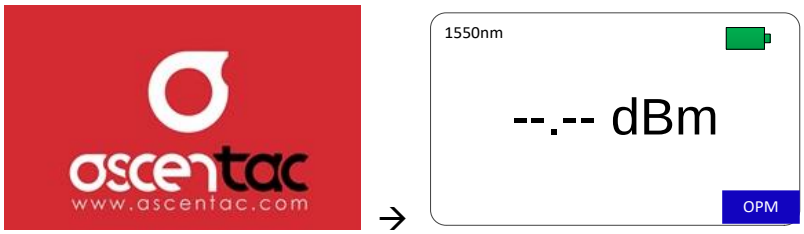
4.2 Visual Fault Locator (VFL) (Option)



5. Operation

5.1 Power-on

Press [⏻] key for two seconds to turn on the meter.
Startup screen → Enter into optical power measurement interface.



Note

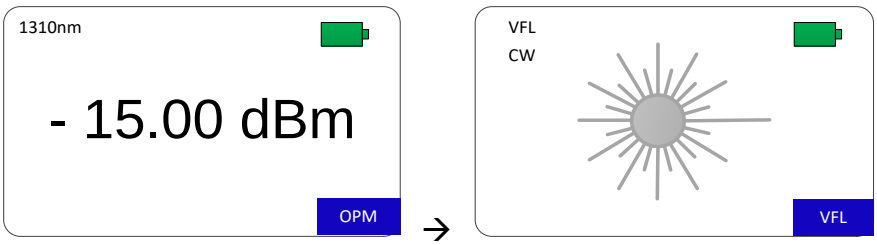
"--.-- dBm" is displayed when there is no input of optical light source.

5.2 Power-off

Press [⏻] key for two seconds to turn off the meter.

5.3 Switching Function Modes

Short press [MODE / REF] key to switch function modes.

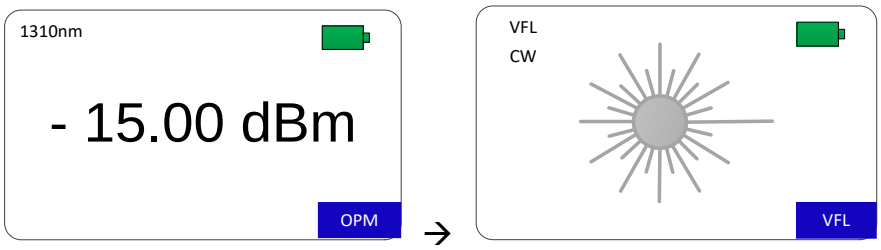


Note

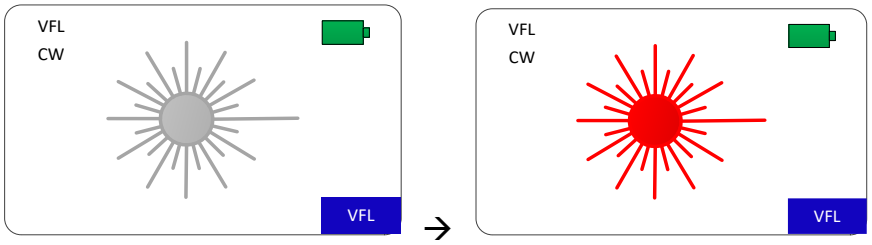
[LASER] & [CW] key are not available in OPM mode.

5.5 Turning on VFL (Option)

1. Short press [MODE/REF] key to switch to VFL mode.



2. Press [LASER] key for two seconds to turn on VFL.

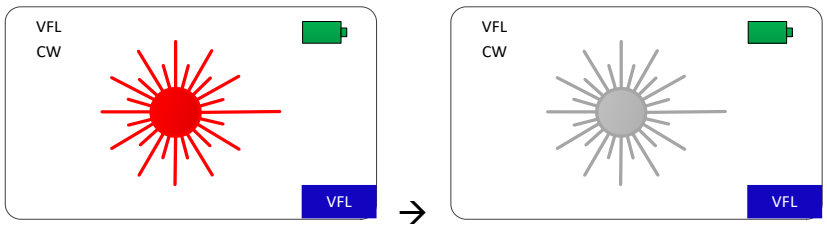


Note

" " refers to emitting light.

5.6 Turning off VFL (Option)

Press [LASER | key for two seconds to turn off VFL.



Note

" " refers to no emitting light.

5.7 Setting VFL Modulation Output (Option)

Short press [CW] key repeatedly until the desired modulation output is displayed. (CW → 1Hz → 2Hz → CW)

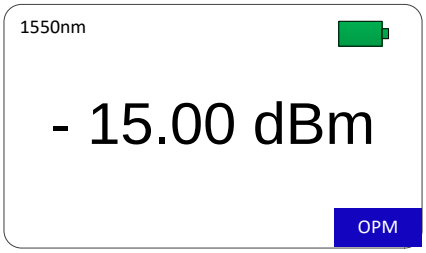
Note

Modulation output can't be selected by [CW] key if the current mode is OPM mode.

5.8 Setting Wavelength

1. Short press [MODE/REF] key to switch to OPM mode.

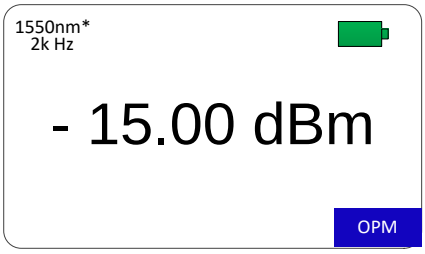
2. Short press [Power⅄] key repeatedly until the desired wavelength is displayed.



Note

1. Wavelength can't be selected in VFL mode.
2. [CW] key is not available in OPM mode.

3. OPM120 series can automatically recognize the wavelength if the modulation output of optical light source is 2kHz from Ascentac OLS200 or OLM300 series.

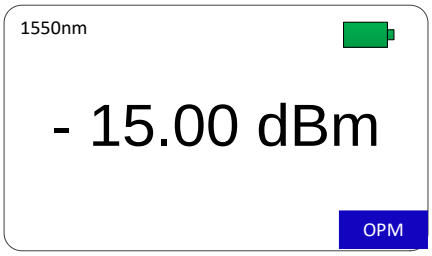


Note

"*" behind the wavelength refers to automatic wavelength recognition.

5.9 Setting Reference Value (Default: OFF)

1. Short press [MODE/REF] key to switch to OPM mode.



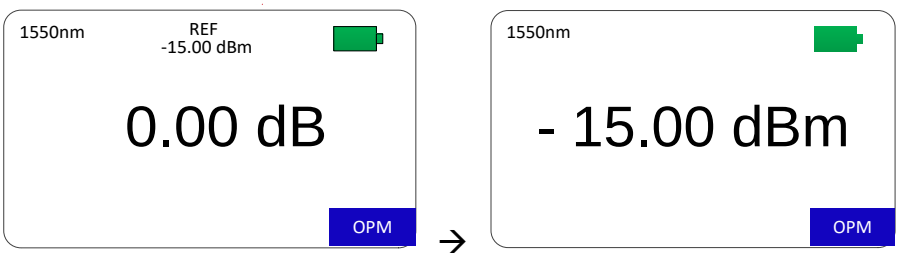
2. Long press [MODE/REF] key for two seconds to set the reference value.

Note

1. The measurement unit will be dB after setting the reference value.
2. The reference value can't be set in VFL mode.
3. Long press [MODE/REF] key for two seconds under unit mW. The unit of REF value will be dBm. The unit on display is dB.

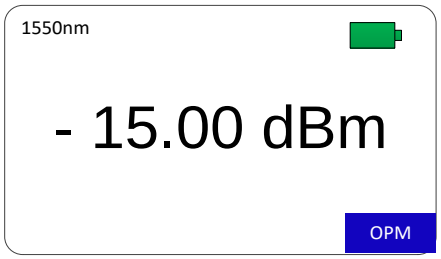
5.10 Cancelling Reference Value

Short press [dBm/mW] key to cancel the reference value.

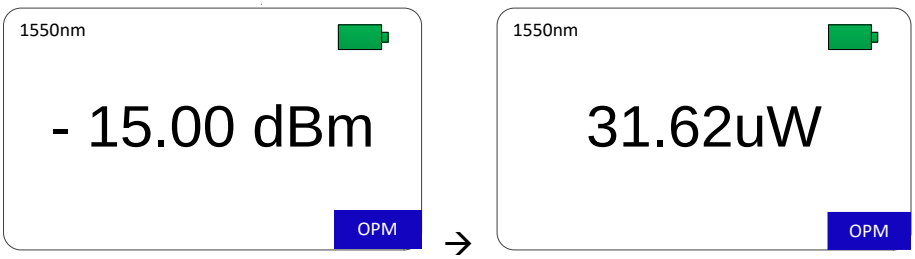


5.11 Setting Measurement Units (Default: dBm)

1. Short press [MODE / REF] key to switch to OPM mode.



2. Short press [dBm / mW] key to switch measurement units.

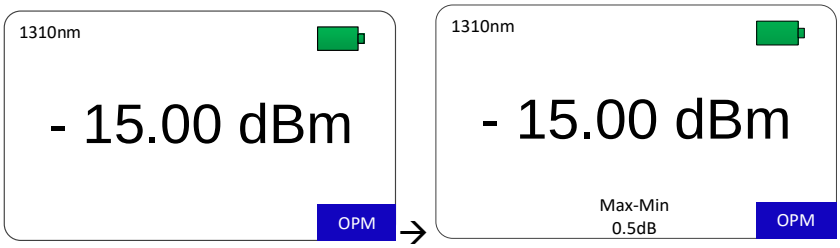


Note

The measurement units can't be switched in VFL mode.

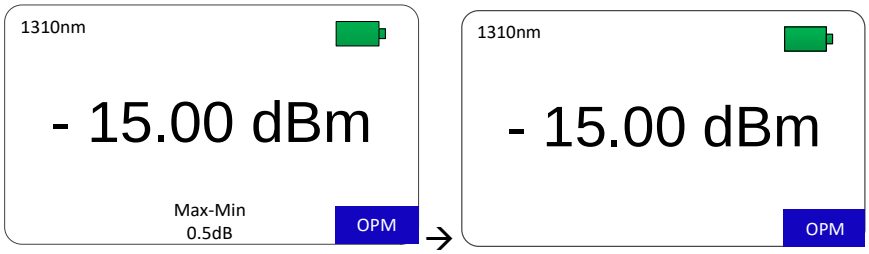
5.12 Optical Power Monitoring

1. On the display of optical power measurement, press [MIN/MAX MEAS] key for two seconds to access optical power monitoring.



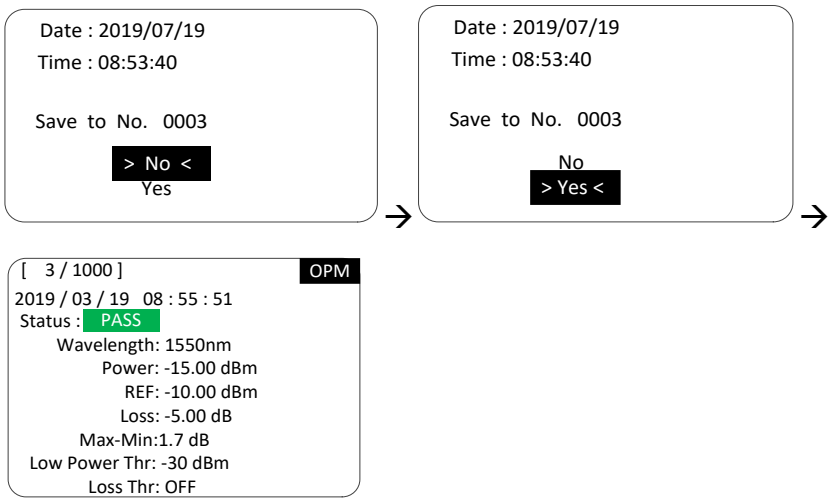
2. Short press [MIN/MAX MEAS] key to switch monitoring mode.
   - Monitoring mode: Max → Min → Max-Min → Max
   - Definition of monitoring mode:
     - Max: Record the maximum value of optical power.
     - Min: Record the minimum value of optical power.
     - Max-Min: Record the difference of the above value.

3. Long Press [MIN/MAX MEAS] key for two seconds to turn off monitoring mode.



5.13 Saving Measurement Result

1. On the display of optical power measurement, long press [LOAD SAVE] key for two seconds to save measurement result. Press [↑] [↓] to select "Yes" and press [↵] to confirm it.



Note

- Date: Refer to the saving date.
- Time: Refer to the saving time.
- Save to No.: Refer to data saving number.
- Status:
  - ----
    Without setting Low Power Thr. & Loss Thr..
  - **PASS**
    Measured value of optical power ≥ Low Power Thr.
    Measured value of loss ≤ Loss Thr
  - **Low Power**
    Measured value of optical power < Threshold of low power
  - **Loss**
    Measured value of loss > Loss Thr.
- REF: Reference value can be saved if there is a reference value. However, the status of REF will be "OFF" if users don't set reference value.
- Loss: If there is a reference value, loss value will be saved. If there is no reference value, the status of Loss will be "--.--".

- MEAS: Without monitoring mode, the status of MEAS will be "OFF". With monitoring mode, the value will be displayed. (e.g., MAX-MIN: 1.7dB)

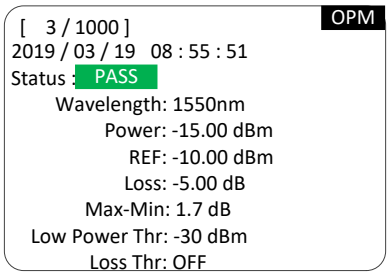
2. Press [↵] to save measurement result and return to the display of optical power measurement; press [ESC] to discard saving and return to the display of optical power measurement.

   Note

   Measurement result can't be saved in VFL mode.

5.14 Loading Measurement Result

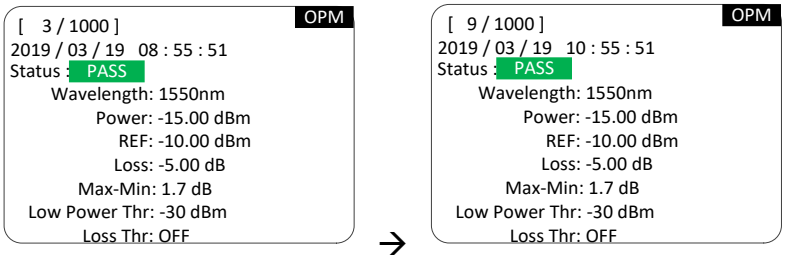
1. On the display of optical power measurement, short press [LOAD / SAVE] key to load measurement result.



Note

- Date: Refer to the saving date.
- Time: Refer to the saving time.
- Save to No.: Refer to data saving number.
- Status:
  - ----
    Without setting Low Power Thr. & Loss Thr.
  - **PASS**
    Measured value of optical power ≥ Low Power Thr.
    Measured value of loss ≤ Loss Thr.
  - **Low Power**
    Measured value of optical power < Threshold of low power
  - **Loss**
    Measured value of loss > Loss Thr.
- REF: Reference value can be saved if there is a reference value. However, the status of REF will be "OFF" if users don't set reference value.
- Loss: If there is a reference value, loss value will be saved. If there is no reference value, the status of Loss will be "--.--".
- MEAS: Without monitoring mode, the status of MEAS will be "OFF". With monitoring mode, the value will be displayed. (e.g., MAX-MIN: 1.7dB)

2. Press [↑] [↓] to select the data.



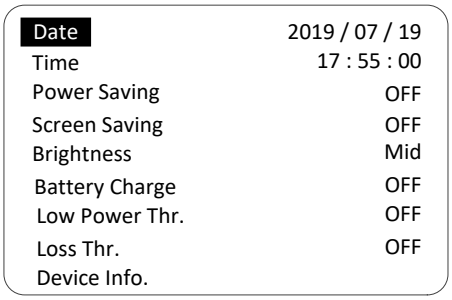
3. Press [ESC] to return to the display of optical power measurement.

Note

On the display of loading measurement result, only [↑] [↓] [ESC] are available.

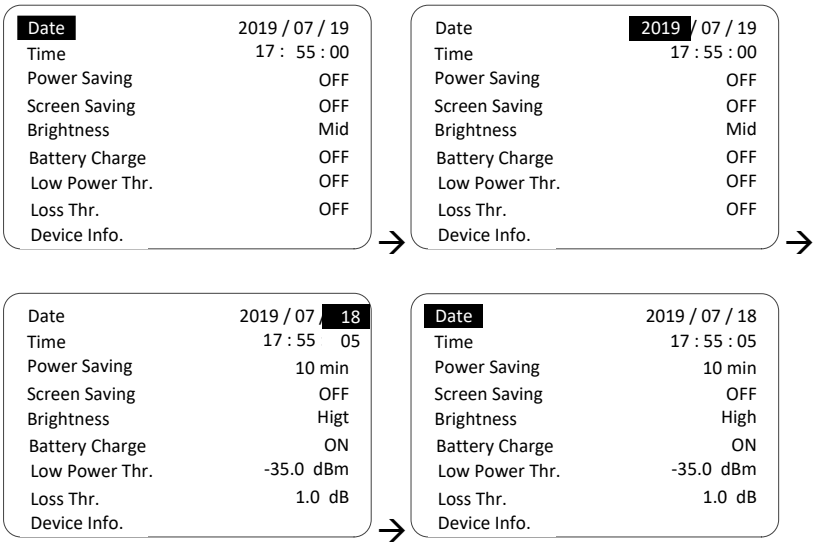
5.15 Device Setting

Short press [⚙] key to access setting as below image.



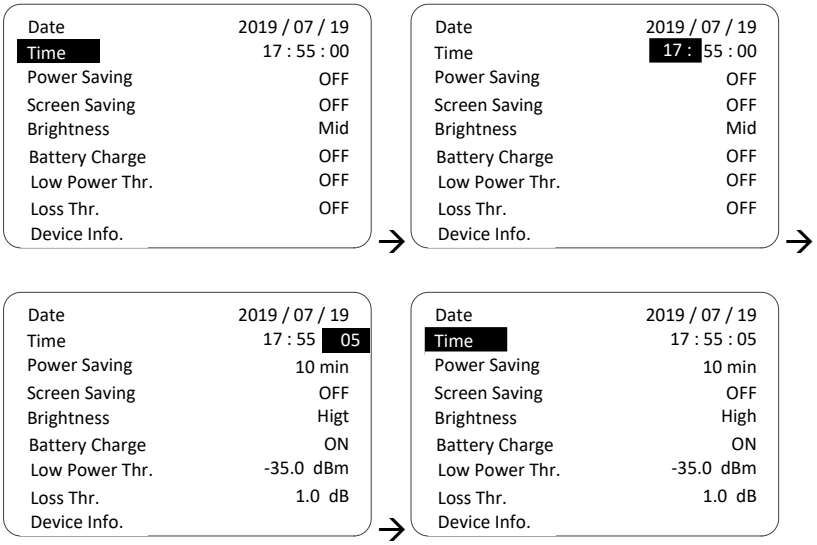
5.15.1 Date

1. Press [↑] [↓] to move to "Date" and press [↵] to access year setting.
2. Press [↑] [↓] to select year and press [↵] to access month setting; press [ESC] to discard change and return to the original display.
3. Press [↑] [↓] to select month and press [↵] to access date setting; press [ESC] to discard change and return to access year setting.
4. Press [↑] [↓] to select date and press [↵] to confirm it; press [ESC] to discard change and return to access month setting.



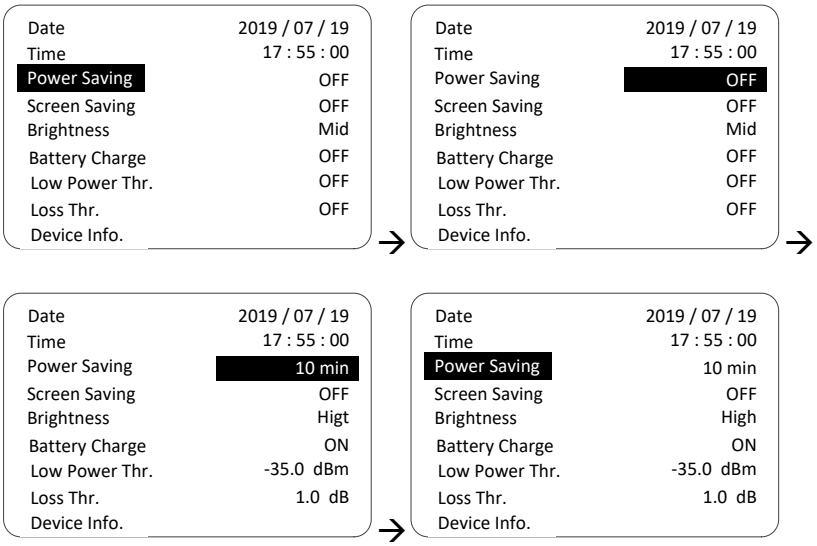
5.15.2 Time

1. Press [↑] [↓] to move to “Time” and press [↵] to access hour setting.
2. Press [↑] [↓] to select hour and press [↵] to access minute setting; press [ESC] to discard the change and return to the original display.
3. Press [↑] [↓] to select minute and press [↵] to access second setting; press [ESC] to discard the change and return to access hour setting.
4. Press [↑] [↓] to select second and press [↵] to confirm it; press [ESC] to discard change and return to access minute setting. (10 secs/unit)



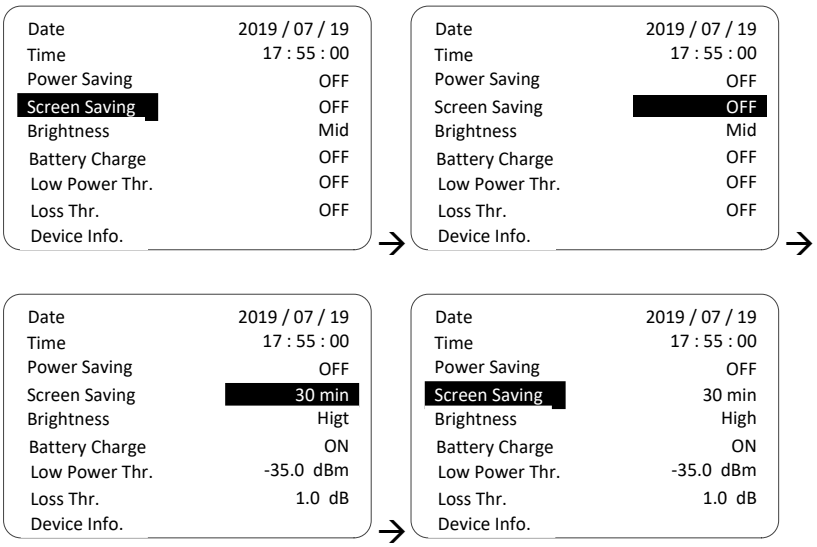
5.15.3 Power Saving (Default: 10 mins)

1. Press [↑] [↓] to move to "Power Saving" and press [↵] to set time.
2. Press [↑] [↓] to select time (OFF or 10 to 120 mins) (10 mins/interval) and press [↵] to confirm it; press [ESC] to discard the change and return to the original display.



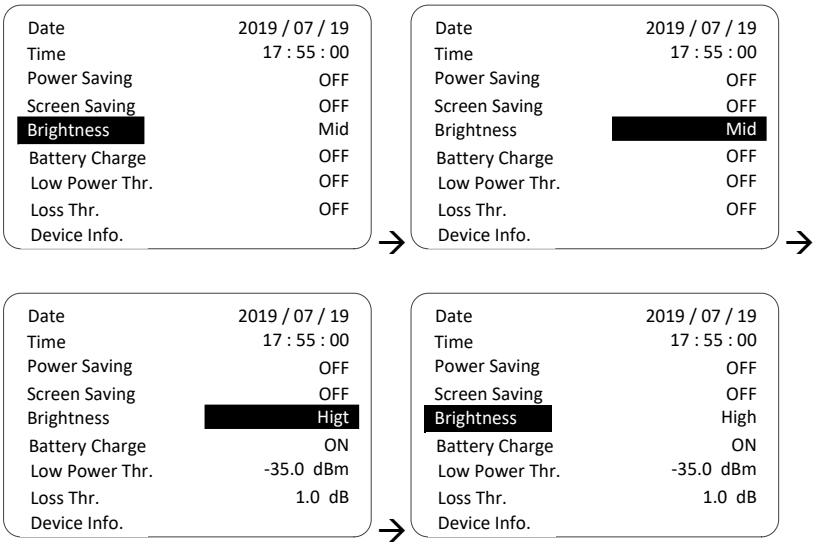
5.15.4 Screen Saving (Default: 5 mins)

1. Press [↑] [↓] to move to "Screen Saving" and press [↵] to access time interval setting.
2. Press [↑] [↓] to select time interval (OFF or 5 to 30 mins) (5 mins/interval) and press [↵] to confirm it; press [ESC] to discard change and return to the original display.



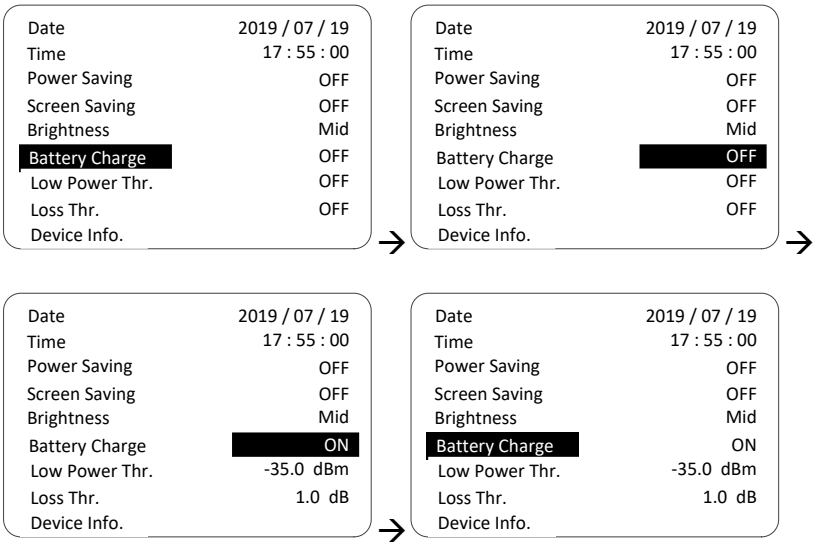
5.15.5 Brightness (Default: Mid)

1. Press [↑] [↓] to move to "Brightness" and press [↵] to access setting.
2. Press [↑] [↓] to select the brightness (High, Mid or Low) and press [↵] to confirm it; press [ESC] to discard the change and return to the original display.



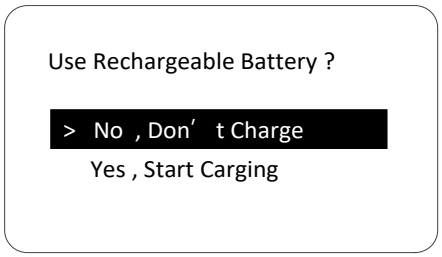
5.15.6 Battery Charge (Default: OFF)

1. Press [↑] [↓] to move to "Battery Charge" and press [↵] to access turning on/off battery charge.
2. Press [↑] [↓] to select turning on/off battery charge and press [↵] to confirm it; press [ESC] to discard the change and return to the original display.



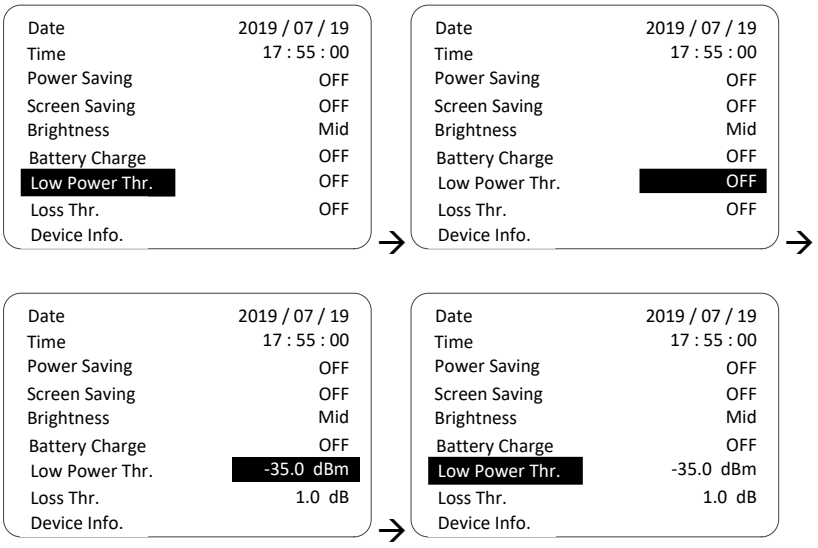
Note

Users are required to confirm whether to turn on battery charge again after the device detects USB connection.



5.15.7 Low Power Thr. (Default: -30dBm)

1. Press [↑] [↓] to move to "Low Power Thr." and press [↵] to access setting.
2. Press [↑] [↓] to select the low power threshold (OFF or 0 to -45 dBm) (1dBm/interval) and press [↵] to confirm it; press [ESC] to discard the change and return to the original display.

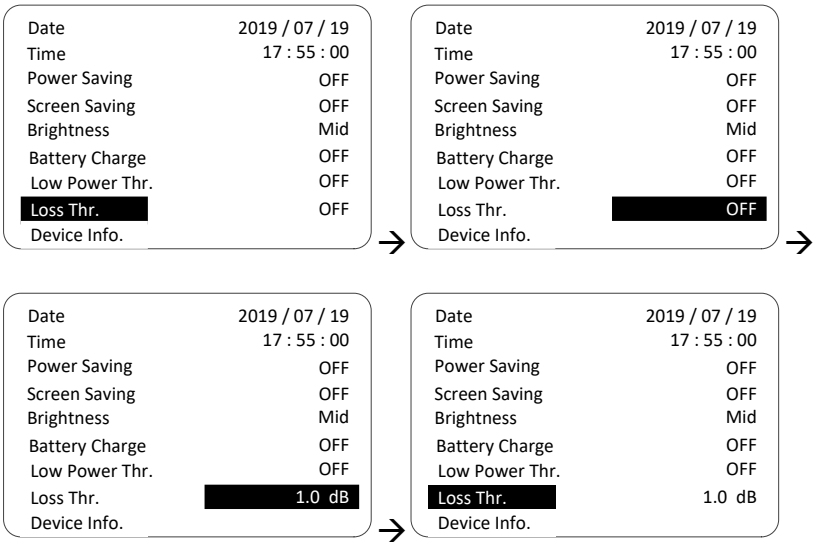


Note

"Low Power" will be displayed if the measured value of optical power is less than low power threshold. The Pass/Fail LED indicator on the device will be red.

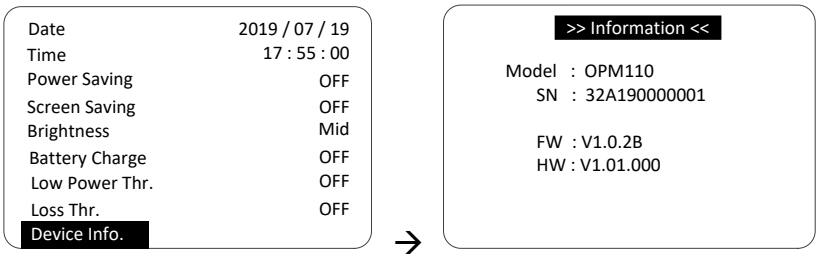
5.15.8 Loss Thr. (Default: 3dB)

1. Press [↑] [↓] to move to "Loss Thr." and press [↵] to set the threshold.
2. Press [↑] [↓] to select the threshold (OFF or 1 to 5 dB) (0.5dB/interval) and press [↵] to confirm it; press [ESC] to discard the change and return to the original display.



Note

"**Loss**" will be displayed if the value measured with long wavelength and the value measured with short wavelength are all higher than loss threshold. The Pass/Fail LED indicator on the device will be red.

5.15.9 Device Info.

Press [↑] [↓] to move to "Device Info" and press [↵] to view device information.