OPM110
Optical Power Meter

User Guide _ Version 1.0

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Disclaimer

Warranty

Ascentac warrants the product against defects in material and workmanship within (1) year from the date of delivery. Under normal use and service, the product will be free from physical defects in material and workmanship during the warranty period, or the product will be repaired or replaced as determined solely by Ascentac.

During the warranty period, you and Ascentac will pay the shipping costs for repairing products for one time respectively. Products returned without proof of purchase or with expired warranty will be repaired or replaced by Ascentac's decision. You shall pay the charges, including maintenance cost, shipping, insurance, duties, taxes, import fees or others which may be caused.

This warranty provides you with specific legal rights. You may have additional rights which may vary from state to state and country to country. Because of individual state and country regulations, some of the above limitations and exclusions may not apply to you.

If any of the following conditions takes place, the warranty shall be null and void.
- Defects or malfunction caused by human factors, accident, improper use not conforming to product manual instructions, abuse or unauthorized alteration, modification or repair of the product.
- The label with S/N has been altered or damaged.

Notice: Ascentac makes no warranty of any kind with regard to the content in this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Service & Support

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

- Kaohsiung Office
  TEL: +886-7-398-1000
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  Address: 11F.-1, No.80, Minzu 1st Rd., Sanmin Dist., Kaohsiung City 80761, Taiwan (R.O.C.)

Please prepare below information before you contact us and describe the problems.
- Product model and S/N
- Warranty information

Content

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 OPM110 Series, Optical Power Meter, is widely with 7 wavelength selections, including 85onm, 1300nm, 1310nm, 1490nm, 1550nm, 1625nm & 1650nm. The dynamic range from +26 to -50 dBm or +6 to -70 dBm provides high accuracy for optical power measurement in fiber-optic networks. It can be used for absolute and relative optical power measurement.

Ascentac OPM110 Series has built-in visual fault locator (VFL) and features excellent mobility owing to its mini-size and light weight. It can be powered by dry batteries. Its low power consumption and auto shutdown function allow extended operation in the field.

The OLED display makes measured values read easily. The interface with clearly labeled and intuitive key pad is easy for use. What's even better is that Ascentac OPM110 Series is fairly budget-friendly.

2.1 Features

- 7 calibration wavelengths

- Maximum Dynamic Range of 76 dB

- Wavelength memory function

- Auto shutdown for extending the battery life

- Display Units: dB, dBm, mW

2.2 Application

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

3. Layout

3.1 Appearance

- Front

- Back

3.2 Instruction

Button	Function	Description
(power icon)	Power on/off	Long press to turn on/off the meter.
λ	Wavelength selection	Short press to switch wavelength.
Unit VFL	1. Measurement unit selection 2. Cancel REF setting	Short press to switch measurement unit or cancel REF setting. dBm → dB → mW
	1. VFL on/off 2. VFL modulation output	Long press to turn on VFL or switch its modulation output. (CW → 1 Hz → 2Hz → Off → CW)
REF Save	REF setting	Short press to set reference value.
	Data saving	Long press to save measurement results.

Item	Function	Description
1	VFL optical connector	Universal 2.5mm
2	OPM optical connector	Universal 2.5mm
3	Battery	Dry batteries: AAA-size x 3
4	USB Type C interface	Power supply

4. Display

Wavelength ——— 1550nm

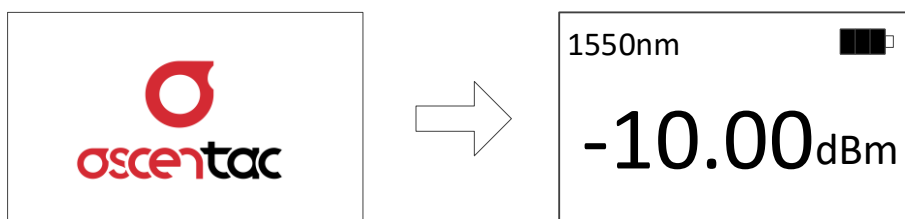Measured value ——— **-10.00** dB

Reference value ——— -10.00

Battery status

VFL
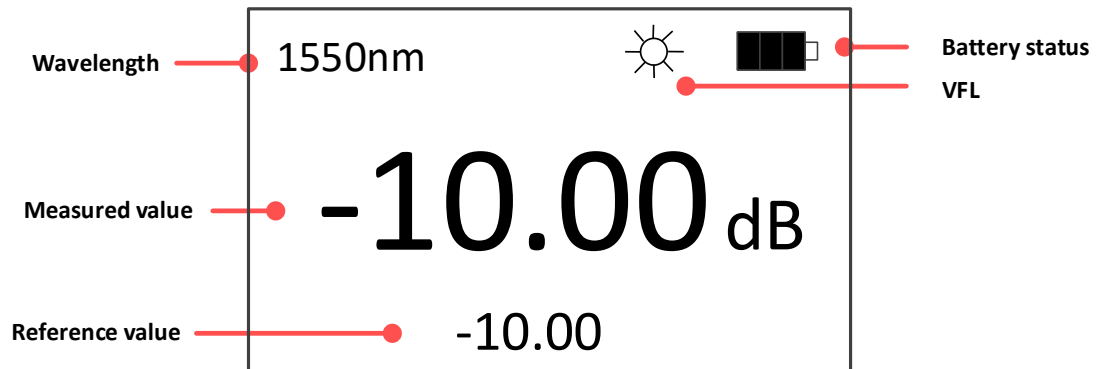
5. Operation

5.1 Power-on

Long press [⏻] key to turn on the meter and enter into the home screen for optical power measurement.

Note

1. "--.-- dBm" is displayed when there is no input of optical light source.
2. The default wavelength is 1550nm. The wavelength to be selected before the meter is turned off will be automatically memorized.

5.2 Power-off (Default: 10 mins)

Long press [⏻] key to turn off the meter.

Note

1. Please turn off the laser before turning off the meter.
2. Without any operation, the meter will be automatically turned off after 10 minutes.

5.3 Switching Wavelength

Short press [λ] key to switch the desired wavelength.
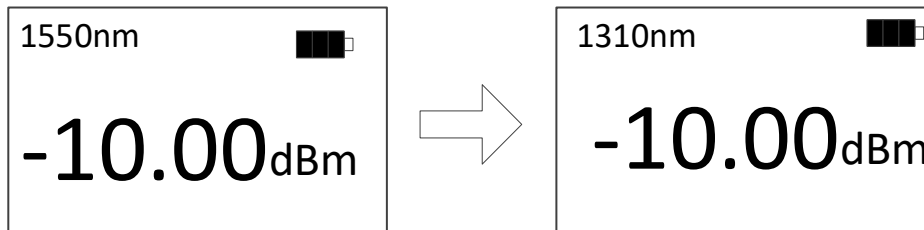850nm → 1300nm → 1310nm → 1490nm → 1550nm → 1625nm → 1650nm → 850nm

5.4 Setting Measurement Units (Default: dBm)

Short press [Unit/VFL] key to switch measurement units.
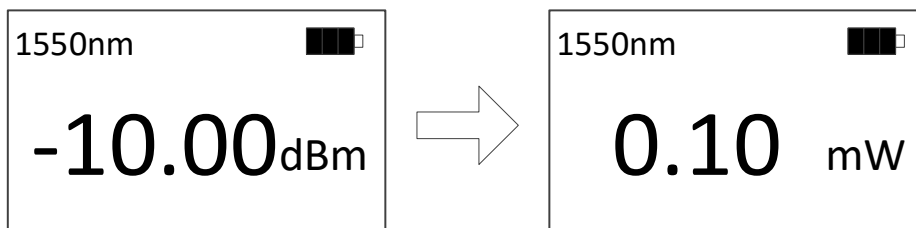
Note

1. The measured value will round off to the 2nd decimal place when the measurement unit is switched.
2. From dBm to mW
   - If the value is less than 0.1mW, the measurement unit will be uW.
   - If the value is less than 0.1uW, the measurement unit will be nW.
   - If the value is less than 0.1nW, the measurement unit will be pW.

5.5 Turning on VFL (Default: Off)

Long press [**Unit / VFL**] key to turn on VFL.

```
┌──────────────────────┐        ┌──────────────────────┐
│ 1550nm          ▮▮▯  │        │ 1550nm      ☼  ▮▮▯  │
│                      │   ⇨    │                      │
│  -10.00dBm           │        │  -10.00dBm           │
└──────────────────────┘        └──────────────────────┘
```
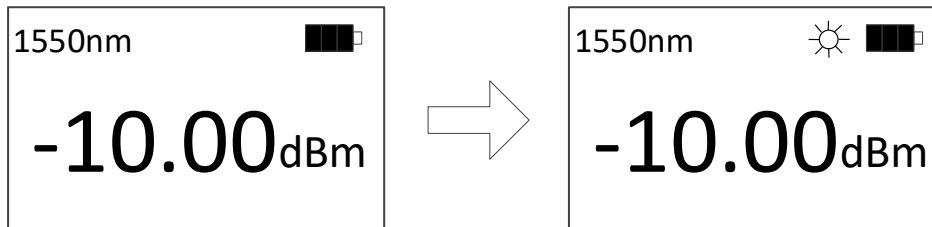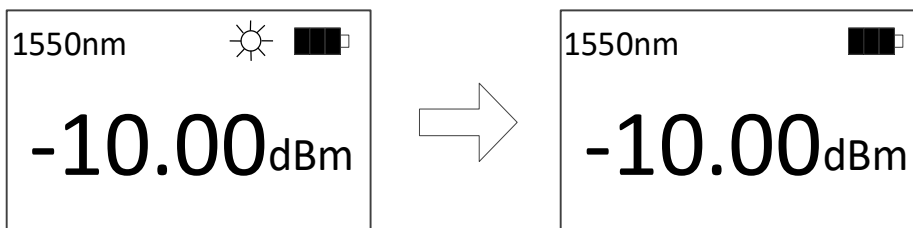
5.6 Setting VFL Modulation Output (Default: CW)

Long press [**Unit / VFL**] key to select the desired modulation output.

CW → 1 Hz → 2Hz → OFF → CW

```
┌──────────────────────┐        ┌──────────────────────┐
│ 1550nm      ☼  ▮▮▯  │        │ 1550nm          ▮▮▯  │
│                      │   ⇨    │                      │
│  -10.00dBm           │        │  -10.00dBm           │
└──────────────────────┘        └──────────────────────┘
```
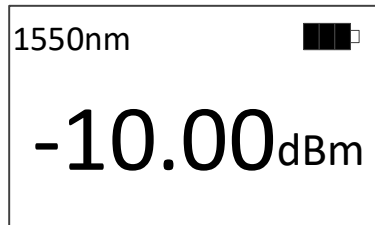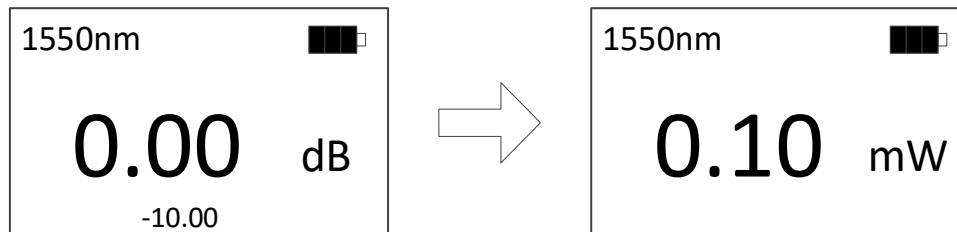
Note

☼

- ・ Without flashing: CW
- ・ Flashing once a second: 1Hz
- ・ Flashing twice a second: 2Hz
- ・ Without this mark: Off

5.7 Setting Reference Value (Default: OFF)

1. Short press [REF/Save] key to set the reference value.

```
┌─────────────────────────┐
│ 1550nm            ▮▮▮▯   │
│                         │
│   -10.00 dBm            │
│                         │
│                         │
└─────────────────────────┘
```

2. Short press [Unit/VFL] key to cancel the reference value.

```
┌─────────────────────────┐          ┌─────────────────────────┐
│ 1550nm            ▮▮▮▯   │          │ 1550nm            ▮▮▮▯   │
│                         │   ⟹      │                         │
│   0.00    dB            │          │   0.10    mW            │
│       -10.00            │          │                         │
└─────────────────────────┘          └─────────────────────────┘
```
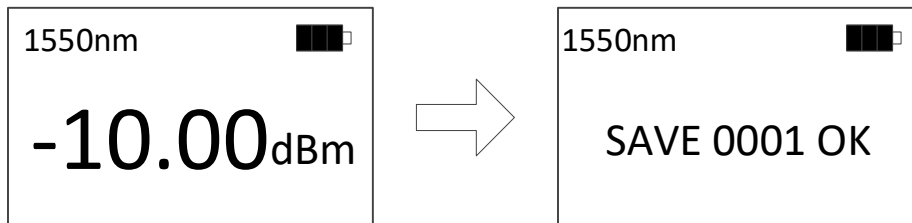
Note

1. The measurement unit on display will be dB after the reference value is set.
2. Short press [Unit/VFL] key to select the measurement unit or cancel the REF setting.
3. In the condition of that the displayed measurement unit is mW, short press [REF/Save] key and then the unit of reference value will be dBm and the unit of measured value will be dB.

5.8 Saving Measurement Result

Long press [$\frac{REF}{Save}$] key to save the measurement result.

1550nm ▮▮▮▷	1550nm ▮▮▮▷
-10.00dBm ⟹	SAVE 0001 OK

Note

1. Saving data includes the number of the record, wavelength and the measured value.
2. The number of the record will be from 0001 to 9999.