OMM300C

Optic Multi Meter

User Guide _ Version 1.0

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Please prepare the following 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 OMM300C Series designed to meet the demands of field engineering applications, the OMM300C Series features an Automatic Wavelength Recognition function when paired with compatible light sources and optical power meters. The device can store up to 1,000 test data records, which can be transferred to a PC via USB for generating test reports.

This series is powered by three AA alkaline batteries and is also compatible with rechargeable batteries, which can be charged through the Mini USB port.

2.1 Features

- 3-in-1 Design: Integrates Laser Source, Optical Power Meter (OPM), and Visual Fault Locator (VFL)
- Wavelength Recognition
- Real-time Power Monitoring
- Data Transmission
- Internal memory stores up to 1,000 test data records

2.2 Application

- Link Optical Power Measurement
- Link Optical Loss Measurement
- Fiber Optic Network Installation & Maintenance
- CATV Installation & Maintenance

3. Product Description

3.1 Appearance

① VFL Port

② OPM Port

③ LCD Display

④ OPM Wavelength Select Button

⑤ VFL Control Button

⑥ OPM Unit Switch Button

⑦ OPM Reference Button

⑧ OLS Modulation Button

⑨ OLS Wavelength Select Button

⑩ OLS Port

⑪ Mini USB Port

⑫ Power Button

⑬ Data Storage Button

⑭ OLS Power Botton

4. Operation

4.1 Power-on & Power-off and Power Saving Settings

Press the " ⏻ " key to turn the device on. To turn the device off, press and hold the key for more than two seconds.

The device features an auto power-off function; it will automatically shut down after approximately ten minutes of inactivity. To disable this feature and keep the device powered on indefinitely, press and hold the " ⏻ " key for two seconds during startup. The "***PERM*** " icon will appear in the upper-left corner of the LCD, indicating that the power-saving function has been deactivated.

4.2 Backlight Control

While the device is powered on, short press the **" ⏻ "** key to toggle the backlight on or off. The backlight is designed to illuminate the display screen for use at night or in low-light environments.

4.3 OPM - Measurement Wavelengths

To meet specific engineering requirements, it is necessary to measure optical signals at different wavelengths. Ensure that the corresponding wavelength is selected on the device for power measurement; if the selected wavelength on the OPM does not match the actual wavelength of the signal being tested, the resulting measurements will be inaccurate or meaningless.

After powering on the device, press the "Wavelength" key to cycle through the available measurement wavelengths. The currently selected wavelength will be displayed on the LCD screen.

The calibrated measurement wavelengths for this series are: 850nm, 1300nm, 1310nm, 1490nm, 1550nm, and 1625nm.

4.4 OPM - Wavelength Identification (Optional)

Please ensure that your device is equipped with the optional Wavelength Identification module. This feature must be paired with a compatible Laser Source to function correctly, allowing the OPM to automatically identify and match the corresponding wavelength.

Press and hold the "Wavelength" key to enable the Wavelength ID function. The " Id " icon will appear on the display, indicating that the function is active.

To exit Wavelength ID mode, press and hold the key again. The current Wavelength ID settings will be saved upon power-off.

4.5 OPM - Display Units

The “Unit” key is used to switch between different display units to meet various testing requirements. Each press of the key cycles through dBm, and nW/μW/mW.

Notes:

dBm: Represents the logarithmic value of the measured optical power.

nW/μW/mW: Represents the absolute value of the measured optical power.

The relationship between mW and dBm is defined by the following :

10 log(mW)=(dBm) ; 1mW=1000Uw、1uW=1000nW

4.6 OPM - Reference Measurement

The Reference Value setting is typically used before testing a physical link to zero out attenuation that should not be included in the actual link loss, or to compare the difference between the measured power and a standard reference level.

The "REF" key is used to set or view the reference value. Short press this key to display "REF" and the currently stored reference value in dBm. When this key is pressed and held for 2 seconds or longer, the device will overwrite the previous setting with the current measurement as the new reference value. The "REF" icon will flash three times on the screen, after which the display will show the relative difference in dB. (Note: Each wavelength can have its own independent reference value.)

4.7 OPM - Data Saving

The device features a data storage function capable of saving the current measurement wavelength and data to the internal memory, which are displayed alternately during review and stored in dBm units. Press and hold the "Save/View" key to store data; the data index number will flash three times in the upper-left corner at the wavelength position before disappearing, indicating a successful save. The index number increases sequentially, and the device can store up to 1,000 records, after which it will overwrite existing data starting from the first entry. Short press the "Save/View" key to view all stored data and short press again to exit, using the "Wavelength" and "Unit" keys to scroll up or down through the records, or press and hold for rapid scrolling.

4.8 OLS On/Off

Press the "OLS On/Off" key to turn on the laser source; the current output wavelength will be displayed at the bottom of the screen.

4.9 OLS - Output Wavelength Selection

Select the corresponding wavelength to match the optical power meter based on engineering requirements. After turning on the light source, press the "Output Wavelength" key to cycle through different wavelengths, which will be shown on the display. Press and hold the "Output Wavelength" key to enable the Wavelength Identification function; the corresponding wavelength will be displayed and will flash continuously. Press and hold the key again to disable the Wavelength Identification function. Depending on the specific configuration, the laser sources in this series can be set to provide up to three wavelengths from the following: 850nm, 1300nm, 1310nm, 1490nm, 1550nm, and 1625nm.

4.10 OLS - Carrier Output

In practical engineering, an audio signal needs to be loaded onto the optical signal for fiber identification; the device supports three carrier frequencies: 270Hz, 1kHz, and 2kHz. Each press of the "Modulation" key will cycle through the different carriers, and the current carrier frequency will be displayed on the screen simultaneously.

4.11 Visual Fault Locator (VFL)

The device can be equipped with an optional VFL module. When this module is included, the "VFL" key controls the power and flashing mode of the visual laser. Short press the key once to cycle through the VFL operating states: CW (Continuous Wave) -> Flashing -> OFF. The red laser is emitted from the VFL output port located in the center.

5. Charging

This device features a charging function. When using rechargeable batteries and the low-power indicator appears, you should turn off the device and charge it promptly; prolonged low-voltage conditions will shorten the lifespan of the rechargeable battery. Charging begins automatically once the charger is correctly connected to the device, or you may use a computer's USB port for charging. The battery level indicator will flash during charging and stop flashing once charging is complete. At this point, fast charging has finished and the device is ready for use. If charging is not stopped, the device will enter a trickle charge state to compensate for natural discharge with a low current, but this should not exceed 48 hours. The meter can still be used while charging.

Never plug in the charger when rechargeable batteries are not in use, as this may cause the device to overheat, catch fire, or even explode.