

# CWDM POWER METER

## Operation Instructions



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## 1. Features

The Appointech CWDM handheld power meter has calibrated readings for CWDM wavelengths from 1470 to 1610nm, which are MUXed in a single fiber. The operation is very user-friendly. Firstly connect the incoming fiber containing all the CWDM wavelengths to the unit. After turning on with the ON/OFF key, the last selected input wavelength is shown on the LCD. Each individual input wavelength to be measured can be selected by pressing the  $\lambda$ -key until the correct wavelength value is shown on the LCD display, together with its corresponding power value. When the ( $\lambda$ s) key is pressed, all the eight channels with power values are displayed. Therefore, this unit can also be used as a CWDM wavelength identifier. The power unit can be selected among dBm, mW, uW, and nW by pressing dB/dBm key. When this key is pressed for about three second until dB is flashing, the current input power value is taken as the reference, and the following measurements will be the difference with respect to the reference.

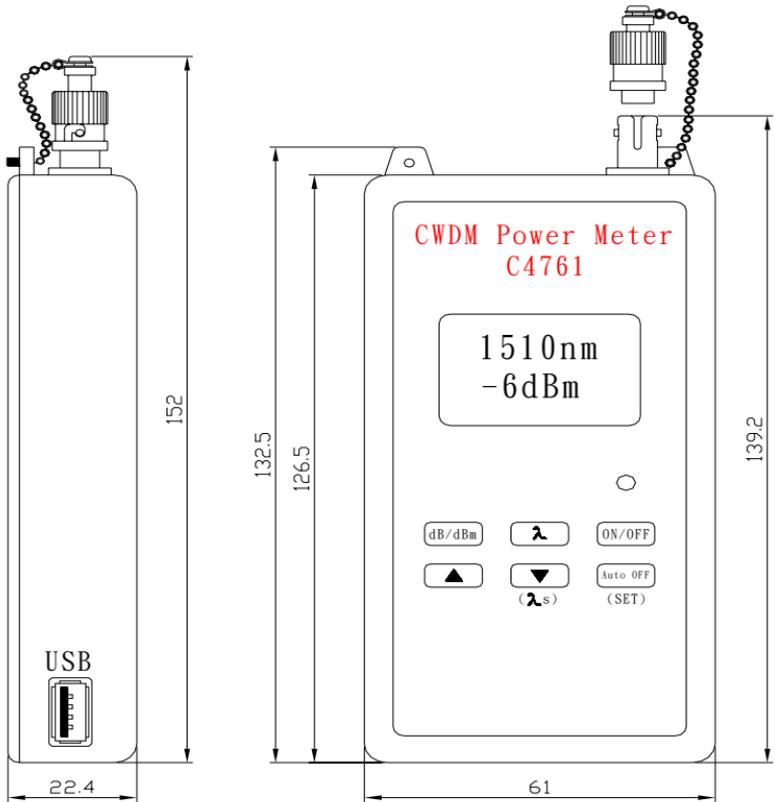
When the unit is turned on, the auto-off feature is enable, as indicated by a cross on the power symbol. The unit will be automatically shut off after about 30 minutes on-time for saving the battery life, in case not in use for a prolonged

time. To turn it back on, press the ON/OFF key again. The auto-off feature can be disabled by pressing the “Auto Off” key, as indicated by the power symbol without a cross.

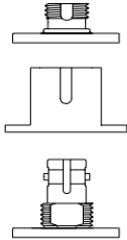
A battery symbol shows the level of remained power in the battery. When an empty battery symbol is shown on the LCD display, the battery power is too low to assume proper operation. Charging is required. The included rechargeable battery works with a power adaptor (100~240VAC) of a USB connector, which is also included. When charging in OFF-mode, the indicator LED is on until charging has been completed. It takes about 4 hours to have full charge. After full charge, the unit can continuously operate for 8 hours.

The unit can also be calibrated on-site with respect to the customer’s own power standard by pressing the up ▲ and down ▼ keys until the expected power value in dBm is shown on the LCD. The on-site calibration switch is located inside the battery compartment behind the rubber jacket. The switch is preset at “normal” for measurement. When calibration is needed, the switch is moved to the left side marked “Cal”. A tool symbol is shown on the LCD to indicate calibration mode. Make sure that the switch is moved back to “Normal” when calibration is done.

## 2. Functions



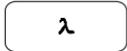
Unit:mm



FC, SC, ST Connector



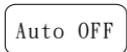
Power switch



Wavelength selection



Unit selection



Auto off  
enabled/disabled



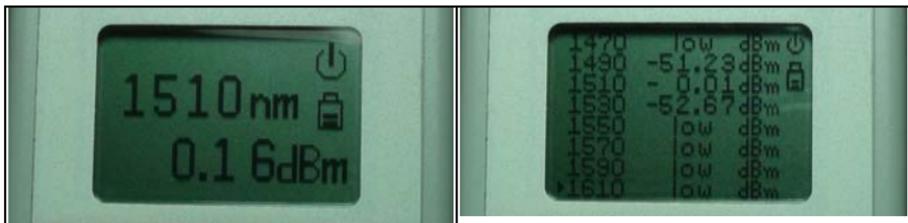
On-Site  
calibration

### 3. Operation

1. Press ON/OFF-key to turn on.



2. Press  $\lambda$  -key until the correct input wavelength is displayed. The displayed power value is the measured value. Press the  $\blacktriangledown$  ( $\lambda$  s) key to display all the eight wavelengths with power values.



The “low” indicates power  $< -60$ dBm. The power readings at two adjacent channels are the small cross-talk from 1510nm.

3. To cancel auto-off function, press the Auto Off key. A power symbol without a cross is shown on the LCD.



4. The power unit is normally in dBm. When the dB/dBm key is pressed for about 3 seconds until dB is flashing on the LCD, the current input power level is taken as the new reference at 0 dB, and the following measurement will be the difference in dB, with respect to the new reference. The reference value is stored in the unit even after the unit is turned off. A new reference can be set by pressing dB/dBm key again. The unit can also be selected as mW,  $\mu$ W, or nW by pressing dB/dBm key.



5. When battery power is too low to assume proper operation, an empty battery symbol is shown on the LCD display. When charging is required, plug in the USB connector of the power adaptor (100~240VAC). When charging in OFF-mode, the indicator LED is on until charging has been completed. It takes about 4 hours to get full charge.

## 6. Calibration procedure:

- 6.1 Remove the rubber jacket. Move the switch inside the battery compartment to CAL position. A tool symbol is shown on the LCD.
- 6.2 The power of a stabilized light source of the wavelength to be calibrated is first measured with the standard power meter in dBm, then with the power meter to be calibrated, whose wavelength is set at the given wavelength, and unit set at dBm.
- 6.3 The (Set) key is pressed to initiate calibration, as indicated by the S-symbol on the LCD.
- 6.4 The power reading in dBm is changed by pressing the up ▲ and down ▼ keys until the expected power value is shown on the LCD. The power readings in other units are calibrated together in the same time.
- 6.5 The (set) key is pressed again to complete the current calibration. The tool symbol is back to indicate the new calibration factor has been stored.
- 6.6 The same procedure 6.2 to 6.5 is repeated for calibrating another wavelength.

After all calibrations are completed, move the calibration switch back to “Normal”. Replace the battery compartment cover and rubber jacket.

## 4. Specifications

Detector Material	InGaAs
Calibration Wavelength	CWDM 1470 ~ 1610nm
Input Power Range	-1: +3 ~ -60dBm. -2: +23 ~ -40dBm
Accuracy	+/-0.25dB
Display	LCD displays power in selected unit, wavelength. Warning symbol for low battery, Auto-Off Enable/disable
Operation Temp; Humidity	-15°C ~55°C 0~95%RH
Storage Temp; Humidity	-35°C ~70°C 0~95%RH
Power Requirements	Rechargeable Lithium battery
Dimensions (L x W x H)	16x7x3 cm (without case)
Weight	<0.2Kg

# **Appointech Inc.**

## **Products Profile**

### **Connectorized Modules:**

LD, LED, PIN, PIN-TIA  
Dual LD, Dual LED, BIDI

### **Transmitter/Receiver Modules:**

1x9,2x9;SFF,SFP,  
BIDI

Bit Rate up to 2.5Gb/s

### **Test Instruments:**

LED Light Source  
GPON, CWDM Light Source  
GPON, CWDM Power meter  
Fiber Fault Locator

### **Custom Design**

OEM

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