SMARTFiber™

fiber optic power meter

user manual

Model No. 257836D

Hobbes® INNOVATION

Introduction

Hobbes' standard SMARTFiber with four wavelengths is an easy to use and lightweight fiber optic power meter that measures the power of light transmitting from an optical fiber.

The SMARTFiber includes interchangeable adaptor to connect FC, ST, and SC type fiber connectors. It utilizes an InGaAs detector to improved sensitivity and temperature stability to test for standard optical power from +3 to –60dBm dynamic range. It can test both single-mode and multi-mode fiber cables, with the optional adaptor, users can test 2.5mm and 1.25mm fiber cables.

For identification purposes, the SMARTFiber can also receive modulate signals (270Hz, 1KHz, 2KHz) simultaneously.

For fast and easy operation in testing the corresponding wavelengths, we recommend the Hobbes OPTISource as a complete set in auto-identifying wavelength of optical power source.

Features

- Simple to use and portable
- Calibrated at 850nm, 1300nm, 1310nm, 1550nm
- Accuracy: ±0.15dB±1nW@1300nm/ 1310nm/1550nm; ±0.25dB±1nW @850nm
- Optical power range from +3 to –60dBm
- Measurement units in dBm and Watt
- Ideal for both multi-mode and single-mode optical fibers
- Optional adapter to test both 2.5mm/ 1.25mm fiber cables.
- Can receive modulate signal (270Hz, 1KHz, 2KHz) simultaneously for identification
- Battery indicator and power auto off function
- Automatic wavelength detection (when used with Hobbes OPTISource as laser light source)

Model numbers

257836D
Fiber optic power meter for wavelength:
850nm, 1300nm, 1310nm and 1550nm

257836DA
257836D with 2.5mm to 1.25mm adapter

Specifications

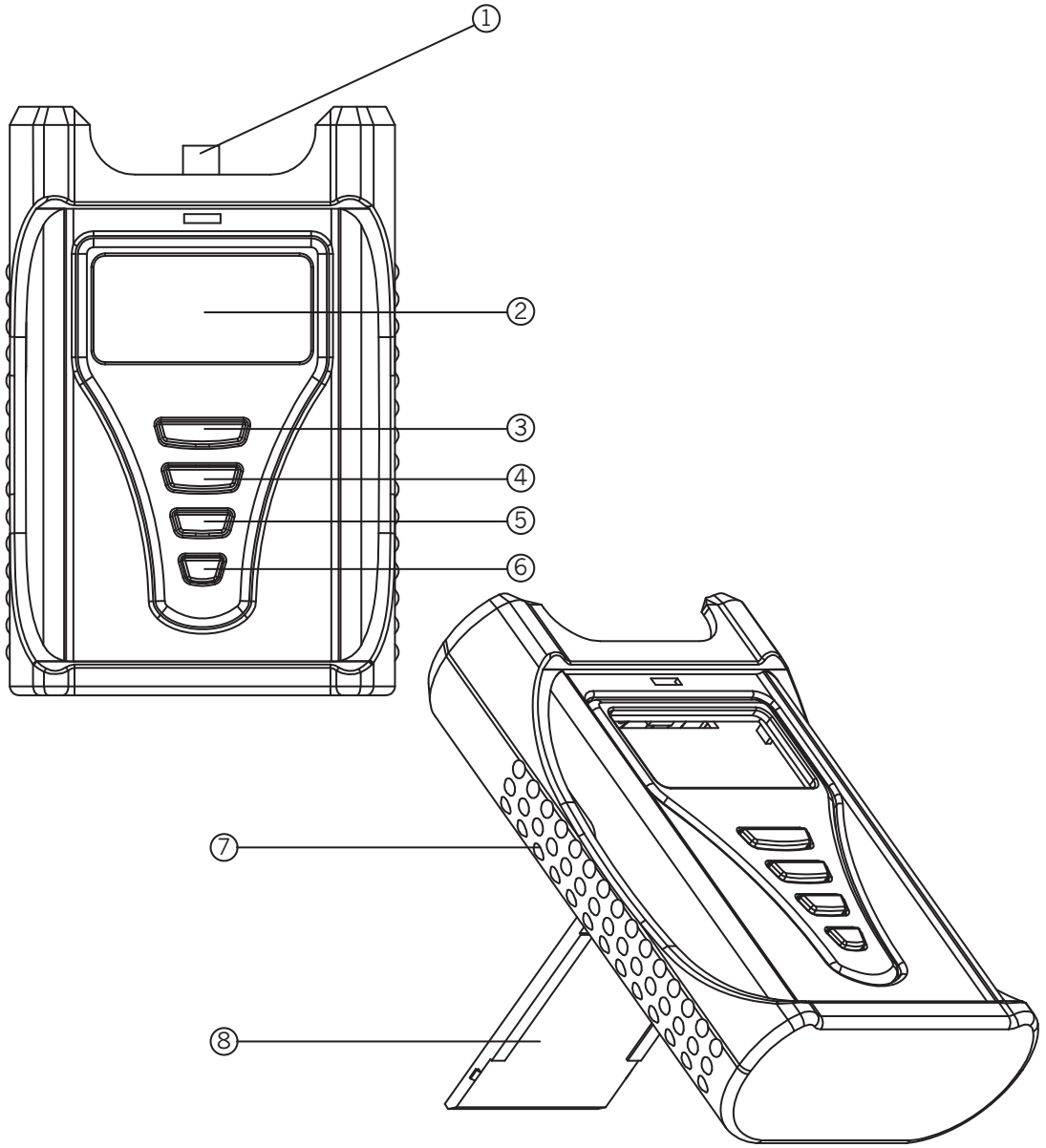
Sensor Type	InGaAs
Wavelength	850nm, 1300nm, 1310nm, 1550nm
Dynamic Range	+3 to –60dBm
Accuracy	±0.15dB±1nW@ 1300nm/1310nm/ 1550nm;±0.25 dB ±1nW@850nm
Resolution	0.01dBm
Unit	dBm, Watt
Fiber Connector	Interchangeable adaptor for FC, ST and SC
2.5mm to 1.25mm adapter spec.	Insertion Loss: ≤0.3dB Pull strength test: 100~300g 2.5mm and 1.25mm universal
Battery	AAA battery x4 (6V)
Dimension (LxWxH) **Weight**	Around 131x86x40mm Around 230g

Key Definition

Marking	Name	Function
⏻	Power button	Power Unit on/off
λ	Wavelength selection button	Wavelength Selection: 850, 1300, 1310, 1550nm
W <=> dBm	Absolute value measurement mode button	Optical power measurement in Watt or dBm
Auto Off	Auto off button	Set or cancel auto off function

Product Description

1. Interchangeable Adaptor
2. LCD Display
3. Power on/off
4. Wavelength selection button
5. Absolute value measurement unit
6. Power Auto-off
7. Rubber Cover (Skid proof)
8. Stand



Power

1) Power on:
   Press the button and hold it until the unit powers on.

2) Power off function:
   Press the button and hold it until the unit powers off.

Remark:
The battery status will be shown on the lower right corner of the screen.

Wavelength Select

Wavelengths (850nm/1300nm/1310nm/1550nm) are selected by pressing the λ button.

Remark:

a) In order to receive the correct result, select the appropriate wavelength base on the source specification before testing the cable. The connector for the power meter is located on the top side of the device.

b) With the optional adapter, it can test suitable 2.5mm and 1.25mm ferrule diameter connectors.

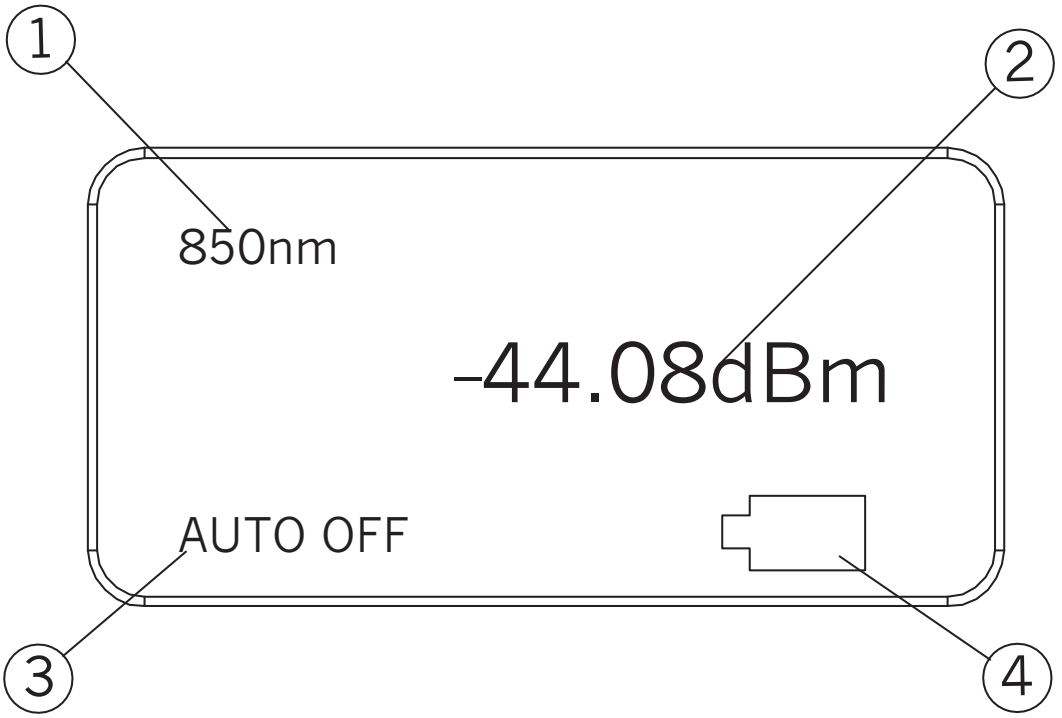
c) When the SMARTFiber is connected to Hobbes OPTISource, they can cooperate to finish the “auto-identify the sourcing wavelength” function. The Hobbes OPTI-Source works in “Auto-identify wavelength” mode, the SMARTFiber identifies and automatically switches to the corresponding wavelength the Hobbes OPTISource sent, without having to select the wavelength manually. At the same time SMARTFiber’s LCD will display “Auto”.

W/dBm:

W/dBm button is used to measure the optical power by Watt or dBm.

Auto Off:

Auto off button is used to set or cancel Auto off function. The power auto off time is 5 minutes.



1. Wavelength
2. Measurement unit (dBm/Watt)
3. Auto Off
4. Battery indicator

Preparation Before Use

Physical check:

Check the physical appearance for damages or other abnormal symptoms which may have been caused during transportation before operation. Check contents if all items are included on the packages.

Operation check:

Connect the Power Meter with the Light Source using optical cable and press the wavelength button to select the specific wavelength of optical signal to be measured. (850, 1300, 1310,1550nm).

The result of the optical power measurement and the set wavelength are shown on the screen.

Instructions for Operation

Step 1:

Press the Power button to turn the power meter on and the optical power will be displayed on the Screen.

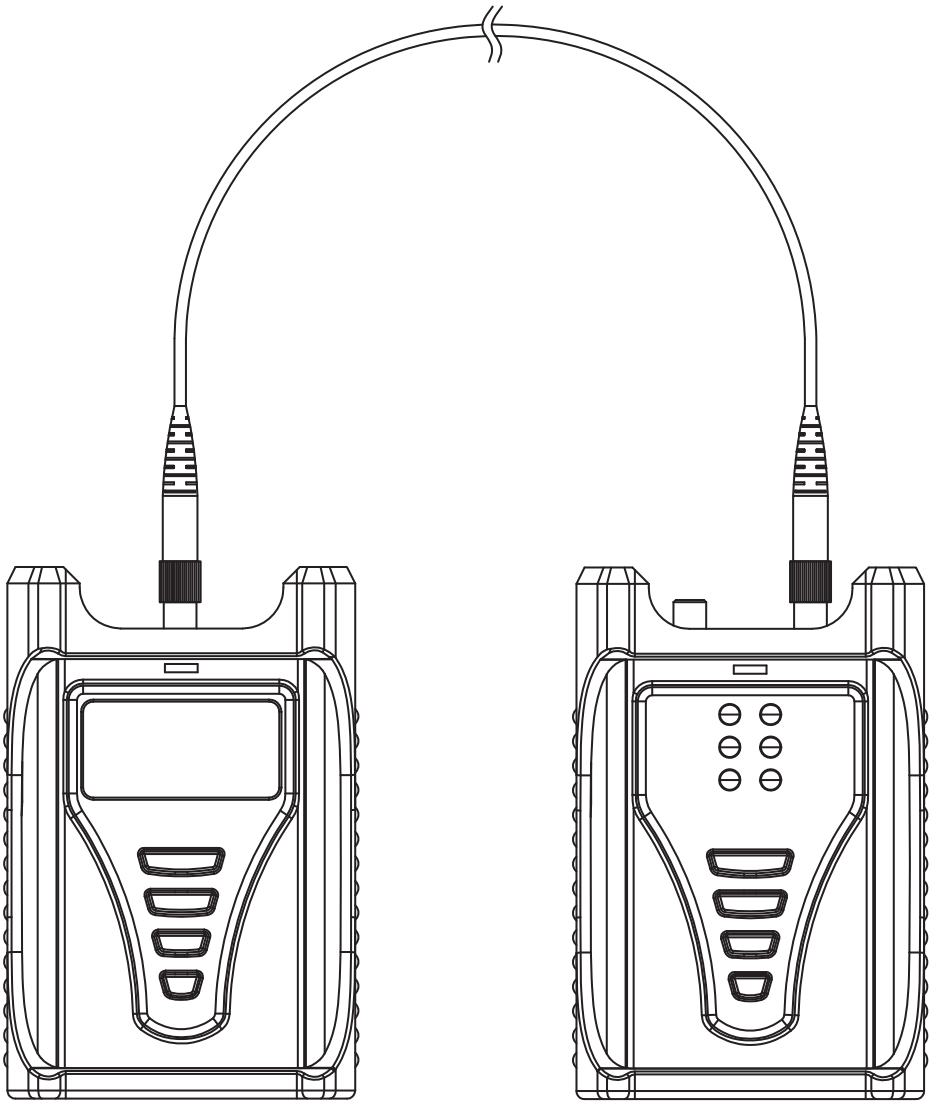
Step 2:

Select the wavelength by pressing λ button 850, 1300, 1310 and 1550nm.

Step 3:

Connect the optical cable to the power meter and the wavelength of the optical signal will be measured.

Step 4:
Press the W/dBm button to measure the optical power in the dBm or Watt.



SMARTFiber
(Power Meter)

OPTISource
(Light Source)

Instructions for Battery

The SMARTFiber displays a battery icon on the Screen to indicate the battery status.

When the “Low Batt” flashes on the screen, it is indicating that the battery status is low and need to be replaced.

After finishing using the SMARTFiber, please put batteries out.

Maintenance

Carefully check cleanliness of sensor surface. Do not use nonstandard optical connectors and plugs with bad polished ends as it can damage the sensor surface.

Storage Conditions

From –30 to +60°C and humidity non-condensing up to 95 % at temperature 35°C.

Warranty

The device is guaranteed for one year from the date of original sale.

The manufacturer will repair the device free of charge if manufacturer determines the product failed due to manufacture defect.

This warranty is only valid if the device is used for its intended purposes only.

Manufacturers warranty is voided if the product has been tampered and damaged from misused.

Hobbes®
INNOVATION