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RA3209 Optical Power Meter

Product Overview

Portable optical power meter is an accurate and durable handheld meter designed for the installation, operation and maintenance of optical fibre network. It is a compact device with backlight switch and auto power on-off ability. Besides, it provides ultra-wide measurement range, high accuracy, user self-calibration function and universal port. In addition, it displays linear indicators (mW) and non-linear indicators (dBm) in one screen at the same time.

Features

- Self calibration by user himself
- Rechargeable lithium battery supports continuous work for up to 48 hours.
- Linear indicators (mW) and non-linear indicators (dBm) display in one screen
- Unique FC/SC/ST universal port (see Figures 1, 2), no complex conversion
- Optional auto power-off ability
- Backlight ON/OFF

RA3209 Optical Power Meter

Know the product:

Figure1: connect with FC

Figure2: connect with SC

Specifications

Model	A	B
Measurement range	-70～+3	-50～+26
Type of probe	InGaAs	
Range of wave length	800～1700	
Uncertainty	±5%	
Standard wave length (nm)	850、980、1300、1310、1490、1550	
Resolution	Linear indication: 0.1%　Logarithmic indication: 0.01dBm	
Working temperature (℃)	-10～+60	
Storage temperature (℃)	-25～+70	
Auto power-off time (min)	10	
Continuous working hours	At least 48 hours	
Dimensions (mm)	190×100×48	
Power supply	AA Rechargeable Battery	
Weight(g)	400	

RA3209 Optical Power Meter

Notice:

Range of wave length: a standard working wave length that we specified: λmin – λmax, the optical power meter within this range can work well with all indicators meeting requirements.

Measurement range: the maximum power that the meter can measure as per required indicators.

Uncertainty: the error between the test results and standard test results over a popular optical power.

Function descriptions

1. LCD

It displays the optical power measurement results in forms of dB, dBm, mW, uW, nW; the set wave length is 850nm , 980 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm, etc.

2. ON/OFF

To power on the meter, press and hold ON/OFF till information appears in LCD; while in power-on state, press the key to power off the meter.

3. dB

Measure relative optical power under preset wave length.

4. ZERO

Press this key to zero the optical power meter.

5. λ

Press λ key to select wave length, there are six wave length, i.e.: 850nm , 980 nm, 1300 nm, 1310 nm, 1490 nm, 1550 nm for your choice, their values will appear in LCD respectively.

6. LIGHT

Press this key to turn on/off the back light of LCD.

7、AUTOOFF

Press this key to enable or disable AUTOOFF function of the meter.

Operating Instructions

Power ON/OFF

1. Press and hold ON/OFF on the panel till information appears in LCD.
2. Press ON/OFF on the panel, information disappears from LCD, the meter is powered off.

Measure absolute optical power

1. Power on the optical power meter.
2. Set wavelength to be measured, press λ key to select wave length, the default wavelength will be 1310nm.
3. Connect in the light to be measured, the values that screen shows are current measurement results, including linear and non-linear power value

RA3209 Optical Power Meter

Measure relative optical power

1. Set wavelength to be measured.
2. Connect in the light to be measured while in absolute measurement mode, get current power value.
3. Press db key, current optical power value will become current reference value (in unit of dBm).
4. Connect in another light to be measured, the absolute optical power value and relative optical power value of current light will appear in the screen.

Special functions

The product provides three modes, i.e.: factory mode, user mode and working mode, it usually enters working mode.
Factory mode
The measurement and calibration are made by the factory.
User mode
Press λ+Light together, the system will enter user mode, and the “nm” at the end of the first line will be absent. Press λ+Light together again, the system will exit user mode and enter working mode; the “nm” at the end of the first line will appear again.

Functions of keys

Functions	Keys
Increase by 0.05	Light
Decrease by 0.05	dB
Save	Zero
Change wave length	Λ
Reset default settings	λ+ Zero

Remarks: in the event error occurs when user calibrates or operates the meter himself, he can press λ+ Zero together while in User Mode to reset default settings.

10 minutes’ auto off

Press AUTOOFF to enable AUTO OFF function, the icon “OFF” will appear on the left top of the screen, then the meter will automatically turn off if there are no operations within 10 minutes.

LED backlight ON/OFF

While in working mode, press LIGHT to turn on backlight, the symbol “a little sun” will appear on the left top of the screen indicating backlight is on.

Serial port commissioning

Connect serial port plug to PC’s serial port, you can access data and calibrate the meter (see the Figure on the right) via PC.

RA3209 Optical Power Meter

Charging

While in normal working, the power volume indicator will not appear in the screen; however, when the battery is going to run out, the power volume indicator will blink once a second, the meter will automatically power off after the indicator blinks for ten times; if so, you can insert the meter into supplied charger for charging (see the Figure on the right), this way saves a lot of trouble and cost in replacing battery.

Standard configurations

Name
Host
Rechargeable lithium battery
Warranty card
Oxford soft bag
Charger
Data cable (optional)
Pass Certificate

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Maintenance

1. Regularly clean the end of sensor, keep it free of grease, dirt. Don't use dirty, non-standard connector, don't insert in the end in poor polishing conditions, otherwise the sensor's end may be damaged, otherwise the performance of entire system may degrade.

2. Use only one adapter if possible.

3. If you are not going to use the tester for the time, cover the dust-proof cap immediately to keep the end clean. Long-time exposure in air may gather dust therefore influencing measurement accuracy.

4. Plug and unplug the adapter with care, don't leave any scratches on the ports.

5. Regularly clean the surface of sensor, when cleaning the sensor, please gently wipe the surface using cotton swab by circling the perimeter.

RA3209 Optical Power Meter

Troubleshooting

Fault description	Diagnosis	Solution
LCD image is weak	Power is insufficient	Charge the meter
No display after power-on	Power is insufficient / other reason	Restart / charge the meter
No charge or a little charge in LCD readings	Optical adapter's connector is faulty or contaminated/ display is locked	Check whether the optical adapter's connector is properly connected, clean the terminal of sensor.