

Directions for use (English Edition)

Overview

Handheld light power meter/luminous power red pen all-in-one machine series product mainly used for measuring to continue optical signal capacity and fibre-optical route closed-open testing. It applies single chip microprocessor to carry out control, and with completed function. It was widely used on optical cable construction and maintenance, fibre-optical communication, optical cable sensing, light CAT etc. areas. Machine body pattern design conforms to human body engineering requirements, and it applies advanced cold molding technology, it is beautiful and durable. Optical power meter red light pen all-in-one machine applies built-in detector and laser, and it could make it protected very well. Light power meter/all-in-one machine has delicate appearance, auto power off, two kinds of red light mode, three kinds of backlight mode, wavelength memory function, fibre-optical work identification, manual calibration, red light with higher capacity, wide testing range.

Note: the version of the instruction is subject to change without notice.

Product characteristic

1. Support lighting
2. Supporting auto power off
3. Supporting on/off background light
4. Supporting memory wavelength function
5. Supporting fibre-optical work identification
6. Supporting customer self-alignment
7. Supporting red light normally flash and flicker

8. Supporting SC, FC interface, ST interface
9. Supporting charger baby/computer power supply (apolegamy)
10. Supporting linear(mW) and nonlinearity index (dB) displayed at the same time
11. Support RJ45 test (apolegamy)
12. Charging battery life work time is 48 hours (apolegamy)
13. Support PC terminal, mobile phone end real time operation(apolegamy)
14. Support three kinds of data modes for offline, PC, and mobile phones(apolegamy)

Technical index

Wavelength range	800~1700
Type of Detector	InGaAs
Power measurement range	-70~+6 -70~+10 -50~+26
Uncertainty	±5%
Standard wavelength (nm)	850/980/1270/1300/1310/1490/1550/1577/1625
Display resolution	Linear indication: 0.1% Logarithmic indication: 0.01dBm
Working wavelength of red light(nm)	650
Red power	5MW, 15MW, 20MW, 30MW (apolegamy)
Frequency identification (HZ)	0/270/1000/2000
Wireless effective distance(m)	50
Save the number of data (pcs)	40

Input voltage (V)	3~6
working temperature (°C)	-10~+60
Storage temperature (°C)	-25~+70
Auto off time (min)	10
Battery Working Time(h)	≥48
Instrument size (mm)	118*69*30
Power Supply	2 Section 7 battery, rechargeable lithium battery (apolegamy) and external input
weight (g)	127~146

* Note: The data is for reference only, please refer to the actual data

- Note:**
1. Range of wavelength: a standard working wavelength that we specified: $\lambda_{\min}$ - $\lambda_{\max}$, the optical power meter within this range can work well with all indicators meeting requirements.
 2. Power measurement range: the maximum power that the meter can measure as per required indicators.
 3. Uncertainty: the error between the test results and standard test results over a standard optical power.

Press key description

1. Startup & Shutdown

It could start up immediately after pressing 1 second, and long press this key under startup status could shutdown immediately. Startup default open auto power off function (10min), start up shortly press this key until power mark at the upper side of LCD disappeared, then close auto power off function.

2. UNIT

Changing data display unit. It could select dBm, dB, nW unit accordingly, and test data will show corresponded result, conversion relationship of nW, dBm is: $10 \log(nW) = 0(dBm)$ The RJ45 test mode is opened by the key for 3 seconds, then the press is closed, and the screen displays RJ45 when it is opened.

3. REF

It could achieve automatic zero clearing to press this key, and set current test result as or confirmed as reference value, and carrying out relative power measurement, and display screen will show setting dBm value. Save the current test numeric screen by 3 seconds, and the REF is saved.

4. λ

It could select 6 types of different wavelength (850nm, 980nm, 1270nm, 1300nm, 1310nm, 1490nm, 1550nm, 1577nm, 1625nm), and it will show at LCD screen at the same time.

5. LIGHT

Open/close red light, shortly press to start up or close, lower right hand of LCD displays 650 word typeface when opens it at the same time. Notice! Do not look at the laser light directly, so as not to cause harm to the eyes.

(luminous power red pen all-in-one red light function) Press the key can close or open background light; LCD top left corner can show the hint at the same time. (light power meter backlight)

6. LED

Open / close the LED light, open or close short. Long press open HZ recognition and then exit.

LCD display description

Measured power value will show with way of dB, dBm, mW, uW, nW, and display wavelength is 6 types and current work status etc.

Background light switch

Light power meter LCD POWER	Light	isplay*. Switch backlight tips
Luminous power red pen all-in-one LCD POWER	Led+Light	isplay*. Switch backlight tips

Calibration function description

Pressing λ + "REF" + "UNIT" key at the same time, then enters user mode, and lower right corner of screen displays letter "CAL", and following functions are valid after pressing this combination key.

Function	Key	Remark
Increasing 0.05dB	REF	1.01158
Reducing 0.05dB	UNIT	0.99855
Keep	Power key	Shortly press (Stored in flash)
Switching wavelength	Enter	
Restore factory settings	REF+UNIT	Displaying "FAC", and reading the default value in array at the same time.

Note: Pressing "REF" and "UNIT" keys makes all-in-one machine at the same time and restore factory status.

Measurement to relative power and absolute power

1. Absolute power

If currently selected measurement wavelength is 1310nm, accessed the detected light, and the screen displays current value including linearity and nonlinearity of absolute light power.

2. Relative power

After setting well wavelength, under absolute light power mode, accessed measuring light, and measured current power value; then press REF key once again at this moment, current power value will become single reference value (takes dBm as unit). It displays current absolute power value and current relative power value is 0dB at the moment, accessed another measuring light, displaying absolute light power value and relative light power value of current measuring light.

Standard configuration

The main engine, the product warranty card, the certificate, the use description, the two section 7 dry battery (apolegamy), the lithium battery (apolegamy), and the charger (apolegamy).

Solutions to common faults

Malfunction Tips	Cause	Solution
LCD monitor weak	Insufficient power	Charge or change battery
Could not display when starting	Lack of power or other	Restart machine or charge, change battery
Abnormal data display of LCD	Adapter fault, dirty or be locked	Reconnect adapter and clean sensor
Red light weak	Insufficient power	Charge or change battery

Routine maintenance and maintenance

1. Please keep cleaning of the sensor frequent and there should be no fat, no pollution and not use dirty and not standard adapter. Do not insert the end face of bad polished surface, or it will damage the end face and there will be error in testing.
2. Stick to an adapter as much as possible.
3. Once the machine is unused, please cover the dust cap to keep the end face clean prevent from exposing in the air and prevent from attaching the dust which leads to the wrong measurement.
4. Carefully plug optical adapter connector to avoid port scratches.
5. Clean the sensor surface periodically. When cleaning the sensor surface, wipe it gently in the circumferential direction with a special cleaning swab.

Quality Guarantee

1. In 12 natural month when users receive, our company will make a promise to the material and process of the products. The warranty period is from the receive date to the 12th month. When the purchased products were founded out with quality issue in this period, our company will do correspondent handle or change. But under all circumstance, the responsibility will not surpass the purchase value of the product.
2. If the instrument is in the process of using the problem, according to the common failure prompt program still can not be solved, the user must not open the shell, please contact us.
3. As to the malfunction made by the disadvantage of the product, our company will be in charge of repairing or changing product for free.
Note: This warranty is only applicable to the normal use of the instrument, and without damage or normal use, due to product quality or material defects caused by failure, our company is responsible for free repair or replacement. Our company has the right to refuse the warranty for unforeseen circumstances, improper use and unauthorized maintenance.