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## 1. Brief introduction

Model NF-902 is used as an optical fiber light source, along with a suitable meter such as the NF-906 is used to determine the loss of an optical fiber cable.



### 1.1 Summarize

Optical light source NF-902 providing 1310/1550 nm wavelength for single mode fiber, together with optical power meter it acts as a perfect solution in fiber optical field meter.

### 1.2 Product features:

- ◆ Providing 2 wavelengths output and wavelengths can be selected according to customers needs.
- ◆ CW, 0HZ modulation output at 650nm, and CW, 270Hz, 1KHz, 2KHz modulation output at other wavelengths.

- ◆ High stability of the output power
- ◆ FC/SC/ST or other type connectors can be required.
- ◆ Compact size and decent appearance
- ◆ Large LCD, easy operation with LCD backlight.


### 1.3 Technical parameters

Model	NF-902
Wavelength(nm)	1310,1550
Emitter Type	FP-LD
Modulation Frequencies	CW / 2Hz(650)/ 270Hz,1KHz,2KHz
Fiber Type	SM、MM
Output Stability(dBm)	±0.04@20℃@15min
Optical connector	FC(SC/ST can be interchangeable)
Operating Temperature(℃)	-10~+60
Storage Temperature(℃)	-25~+70
Automatic Shutdown Time(min)	15
Battery Serving Time(h)	60
Overall Dimension(mm)	185×105×50
Power supply	9V Battery, AC Adapter
Weight(g)	350

### 1.4 Applications

1. Provide light source for optical power meter.
- 2.2 wavelengths output:1310,1550.
3. A fast, stable and cost effective test solution.

## 2. Functional description

2.1 Press  button to startup and shutdown

2.2 Auto-off function

The unit will turn off after 15mins if non-operation.


2.3 Backlight

The backlight is on when the tester is turned on and when any key is pressed. The backlight times out after approximately 30 seconds of inactivity to conserve battery cover.

2.4 Description for front panel


(1) Power Key 

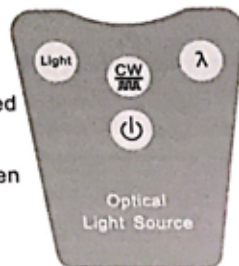
- Used to turn on the tester, if press it by 2s continuously, the meter will be turned off.
- Auto-off function selection: this key can be used to activate or shut down the Auto-off function, in addition, if there is no operation over 15mins, the power meter will be off automatically.

(2) wave key 

For wavelength selection.

(3) Mode key 

Modulation control output and modulated light output can be selected by pushing Mode key . When modulated light output is selected, a dot appears in LCD.



### 3. Handling instruction for NF-902 optical light source

#### 3.1 Description for the information on LCD

After press power (⏻) key to start the meter, the following information will be shown on LCD:



(1) If the meter is supplied by battery, the icon (🔋) at the left bottom will be ON. With the reduce of electric amount of battery, the display segment of battery becomes less and less till empty.

(2) When connect with AC adapter, a icon (🔌) will be lightened at the middle of screen, at the same time, the electric amount icon (🔋) is ON as well.

(3) At the left lower position, it is a "Auto-off" icon. After start, the Auto-off function is activated simultaneously and the icon is lightened as well, but if there is no operation, the meter will be shut down 15mins later.

(4) At the middle display-area of screen, the value of wavelength will be displayed, the unit is nm.

(5) At right upper display-area of screen, shows reference frequency value, the unit is Hz.

#### 3.2 Operation

1. Connect the tested bridle wire to light source and power meter as shown in the following fig:



Light Source

Power Meter

2. Turn on the light source to enter working mode and press the wave key (λ) select wavelength to be tested.
3. Press the mode key (CW/300), choose the 0Hz, 270Hz, 1KHz or 2KHz light output.
4. Turn on the fiber power meter and select specified wavelength.
5. Press the power key (⏻) to turn the tester off.

#### Attention:

- 1) once not using for a long time, please take out the battery.
- 2) If the Handheld Light Source is not used for a long time, the light output port must be protected with the dustproof hat.
- 3) Do not look into Handheld Light Source adapters directly when light source is on, laser output does harm to your eyes.

## 4. Maintenance

As a high sensitive electric & optical instrument, this optical power meter must be maintained carefully so as to acquire high precision and flexibility, thus, please pay close attention to the following items :

- ◆ Before use, clean the optical fiber connector all the time
- ◆ Away from dust
- ◆ Only a dry and clean place is allowable to store this instrument and keep away from direct sunshine.
- ◆ Over temperature or large temperature variation shall be avoided.
- ◆ Away from unnecessary impact or vibration.
- ◆ If any liquid splashed onto the surface or the inner of instrument, cut off the power supply and restart it till dried completely.

### 4.1 Probe cleanness

Clean the probe of optical power meter regularly.

1. Open the dustproof cap
2. Screw off the adapter of power meter
3. Use 2.5mm special cotton swab with some anhydrous alcohol to clean the surface of probe slightly.

**WARNING:** when clean the probe of optical power meter, it is forbidden to use any hard thing to touch the surface of probe in case cause damage to probe; in addition, keep away from a strong force to avoid crack of probe. Otherwise, the accuracy of measurement value will be reduced, even failed to carry out any measurement.

**ATTENTION:** when the optical power meter is not operated, cover the dust-cap to keep the optical power meter clean.

### 4.2 9V battery replacement

For NF-902 Optical light source, available to be supplied by single 9V battery. Open the back cover to install or take out the battery. When install or take out the battery, the following information may be helpful for your operation:

- ◆ When the battery energy is lower or no 9V battery installed, a icon [ ] will be on screen.
- ◆ Only an eligible 9V battery can be engaged
- ◆ If no use for a long time, take out the 9V battery in case of corrosion and damage to internal components.

### 4.3 Calibration and measurement

Under proper conditions, if this meter can be used in a right way, a better performance can be guaranteed. In order to guarantee the performance, it is strongly suggested that a calibration per year should be implemented. If there is deviation, please calibrate it again.

### 4.4 Transportation

When under transportation, keep the meter at the specified temperature range. And it is suggested the operation should be done as the follows:

- ◆ Only the original packing material can be used
- ◆ Away from high humidity or obvious temperature variation
- ◆ Away from direct sunlight
- ◆ Away from unnecessary impact and vibration.

## 5. Common faults and solutions

Common faults	Possible reason	Solution
Inaccurate measure result	Mismatch wavelength of light source	Check the correct wavelength is selected
Unable to start or no screen display	Inadequate 9V battery	replace new battery
Dim LCD display	Inadequate battery	Use power adapter or change the battery
Some variation of optical power when initial start	No preheating for optical maser	Turn on the light source and activate the operating wave-length, then carry out measure-ment after 30min preheating
Lower output power of light source	Unclean connectivity port of light source	Clean the connectivity port completely

## 6. Warranty

NF-902 is warranted against defects in materials and workmanship for a period of one year from the date of purchase.

NOTE: if the damage caused by improper operation or wrong cleanness of optical connector, our company will charge for the maintenance or replacement.

## 7. Standard configuration

- (1). NF-902 Handheld light source ----- 1 piece
- (2). Operation Manual----- 1 piece
- (3). AC Adapter----- 1 piece
- (4). 9V battery----- 1 piece
- (5). Cotton swab----- 1 piece
- (6). Toolkit----- 1 piece

## Diagram of series products



NF-306



NF-868



NF-8208



NF-268



NF-806R



NF-816



NF-468L



NF-3468



NF8108-M



NF-388



NF-903



NF-906A