

# FMP-10 & FMS-10 MPO Tester

## Manual

Please read this guide before use

## Specification

<b>FMP-10 &amp; FMS-10</b>	
<b>FMS-10 MPO Light Source</b>	
Optical Interface	12 cores MPO port (female)
Wavelength	850nm
Spectral type	VCSEL
Channel	12
Data Interface	USB
Wavelength Recognition	Reserved
Modulation	CW (Low/High Power mode)、270Hz、1kHz、2kHz
<b>FMP-10 MPO Power Meter</b>	
Sensor	InGaAs
Optical Interface	12 cores MPO port (female)
Calibrated Wavelength	850nm, 1300nm, 1310nm, 1550nm
Channel	12
Test Range	-60dBm~+3dBm
Resolution	±0.01dB
Uncertainty	±0.5dB
Maximum input power	+13dBm
Unit	dBm/dB(REF)
Threshold Setting	4 wavelength
Reference Setting	4 wavelength
Data storage	300sets
Data interface	USB
Wavelength Recognition	Yes
Polarity Test	According to TIA-568-C.0
Frequency Recognition	270Hz、1kHz、2kHz
<b>General</b>	
Display	TFT-LCD
Auto Power-Off	Yes
Power Supply	NiMH batteries /AC adapter
Working Hours	≥10 hours
Working Temp	0℃~50℃
Humidity	0~95% (non condensing)
Dimension	190L×105W×55H mm
Weight	About 700g

## Safety Instructions

### Warning



To avoid the risk of injury or death, always observe the following precautions before initializing the unit:

- To prevent hazardous radiation exposure, use only the controls or adjustments and perform only procedures specified for the laser source.
- If using a voltage-reducing autotransformer to power the unit, ensure that the common terminal connects to the earthed pole of the power source
- Use only the type of power cord supplied with the unit.
- Willfully interrupting the protective earth connection is prohibited.
- Never look into the end of an optical cable connected to an optical output device that is operating. Laser radiation is invisible, and direct exposure can severely injure the human eye. For more information, see the user's manual of the laser source in use.
- Do not use the unit outdoors.
- To prevent potential fire or shock hazard, do not expose the unit to any source of excessive moisture.
- Do not operate the unit outdoors
- Do not interrupt the protective earth grounding. Any such action can lead to a potential shock hazard that can result in serious personal injury
- To prevent potential fire or shock hazard, do not expose the unit to any source of excessive moisture.
- Unless absolutely necessary, do not attempt to adjust or perform any maintenance or repair procedure when the unit is open and connected to a power source.
- Repairs are to be carried out only by a qualified technician.
- Do not attempt any adjustment, maintenance, or repair procedure to the unit's internal mechanism if immediate first aid is not accessible
- Disconnect the power cord from the unit before adding or removing any components.
- Operating the unit in the presence of flammable gases or fumes is extremely hazardous
- Do not perform any operating or maintenance procedure that is not described in the user's manual

## Standard Configuration

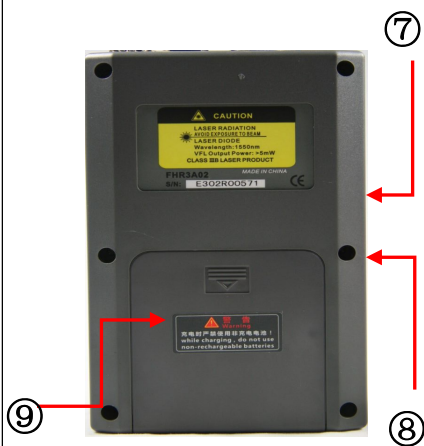
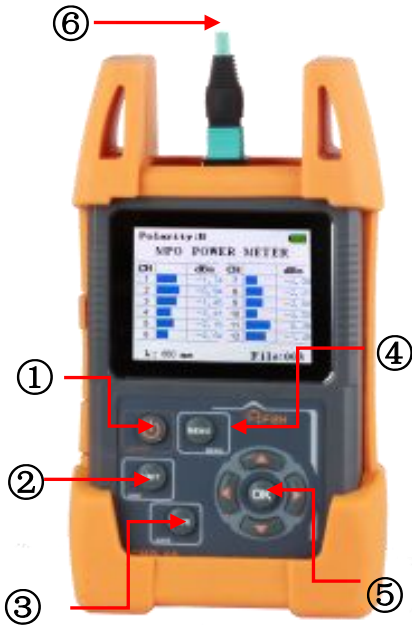
FMP-10 & FMS-10 tester、 power adapter、 Standard MPO jumper。

※All changes with standard accessory and optional accessory price are subject to change without notice

Num	Items	Description
<b>Front Panel</b>		
①	<b>Power switch</b>	Long Press: Power ON/OFF the meter
②	<b>TWIN switch</b>	Reserved,
③	<b>Modulation Switch</b>	Long Press: Save current power value Short Press: Select modulation mode(CW/270Hz/1KHz/2KHz).
④	<b>Test Switch</b>	Start/r stop a test
⑤	<b>Navigation Panel</b>	1.Select certain channel 2.Switch between high/low power by "ok" button
⑥	<b>MPO Port</b>	
<b>Back Panel</b>		
⑦	<b>12VDC Port</b>	
⑧	<b>USB Port</b>	
⑨	<b>Battery compartment</b>	Contain 4*AA batteries

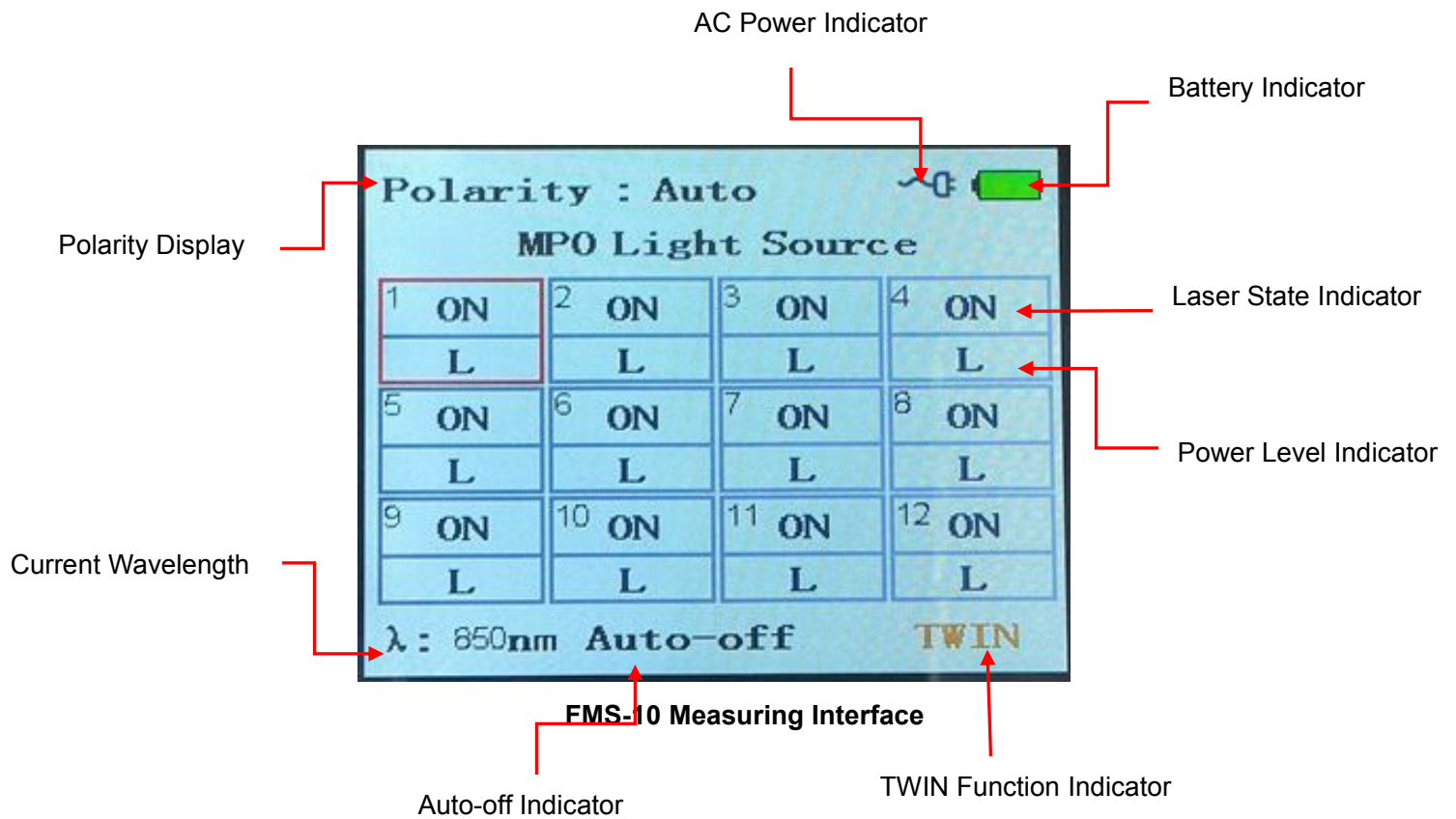


Num	Icon	Description
<b>Front Panel</b>		
①	<b>Power Switch</b>	Long press: Switch on/off meter
②	<b>Unit Switch</b>	Short Press: Switch power wavelength Long Press: Zeroing current power value
③	<b>Save button</b>	Save current power value
④	<b>Menu Switch</b>	Switch to main menu or last menu
⑤	<b>Navigati on Panel</b>	
⑥	<b>MPO Port</b>	
<b>Back Panel</b>		
⑦	<b>USB Port</b>	
⑧	<b>12VDC Adapter port</b>	
⑨	<b>Battery compart ment</b>	Contain 4*AA batteries

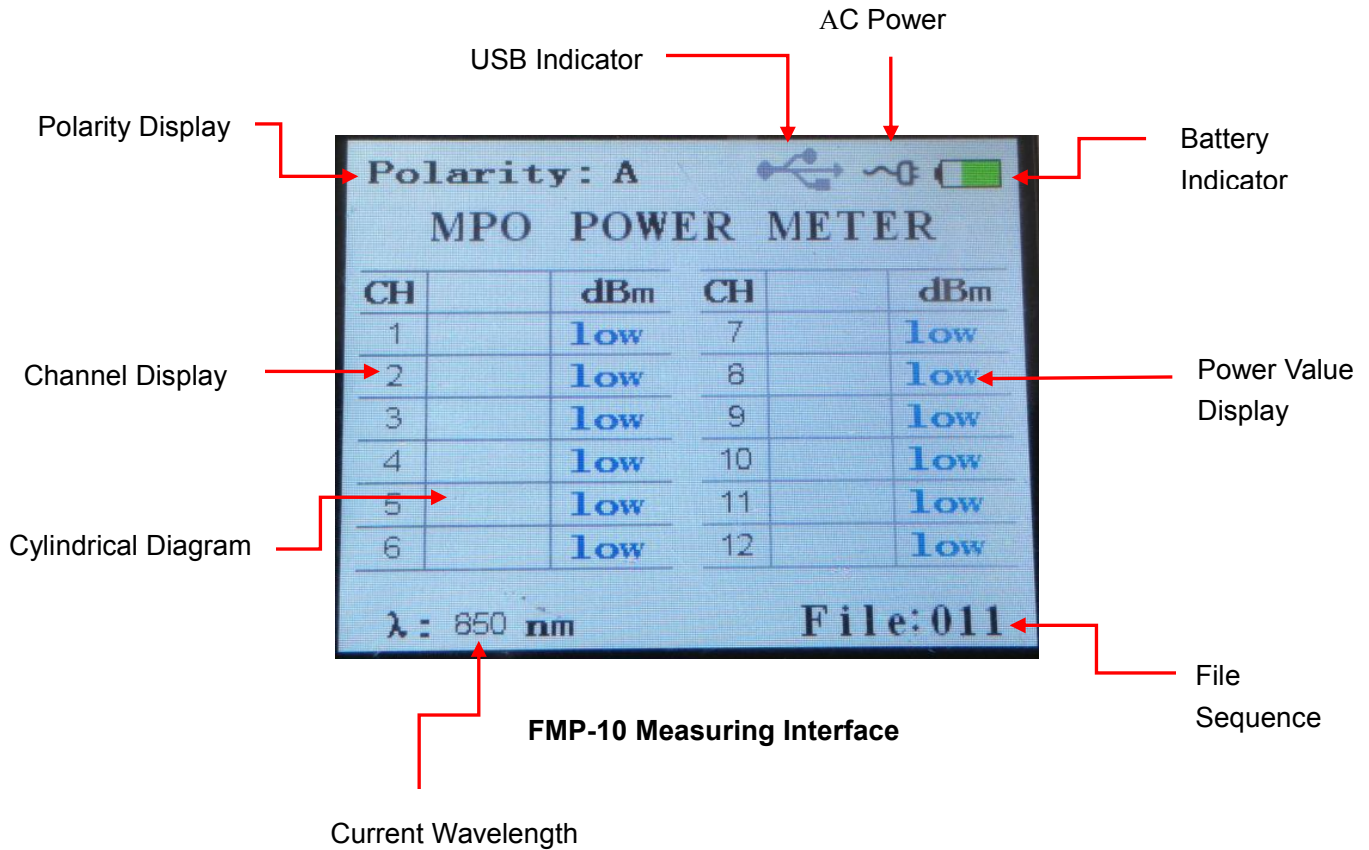


## 2.Interface

### 2.1 FML-10




## 2.2 FMP-10





### 3. Application

<p><b>Caution</b></p> 	<p><b>For accurate measurement please preheat the equipment no less than 15 minutes.</b></p>
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<p><b>Warning</b></p> 	<p><b>Don't direct the optical port to human eyes,laser may cause permanently damage !</b></p>
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#### 3.1 FMP-10

##### 3.1 1Measurement

FMP-10 could display maximum 12channel power value,showed as follow figures:

**Zeroing:** Long press"Unit"button to set zero for all the channels.

**Unit switch:**short press"Unit"button to switch unit between "dB" and "dBm"

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If power value shows "high" or "low" that mean value is out of the range

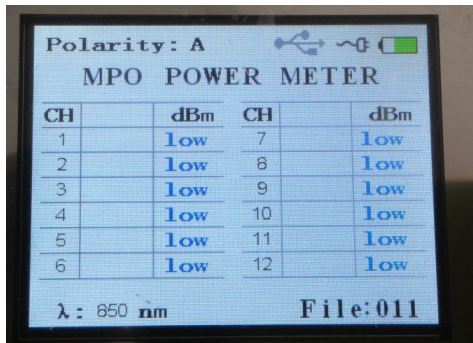


Figure 1

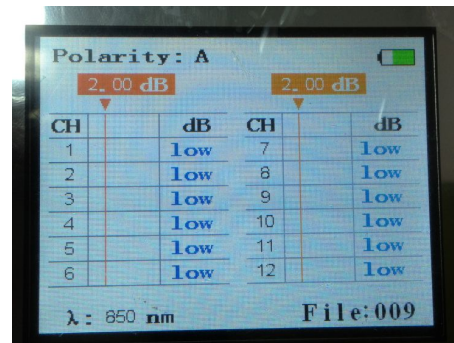


Figure 2

#### 3.2 Setting

FMP-10 has ten menu items,showed as follow:

- ◆ 1 、 Wavelength                      Set wavelength
- ◆ 2 、 Threshold                         Set Threshold
- ◆ 3 、 Reference                         Set Reference value
- ◆ 4 、 Calibration                        Set Calibration value
- ◆ 5 、 File                                 File management
- ◆ 6 、 Back light                         Adjust backlight
- ◆ 7 、 About                                Check detail information of this meter

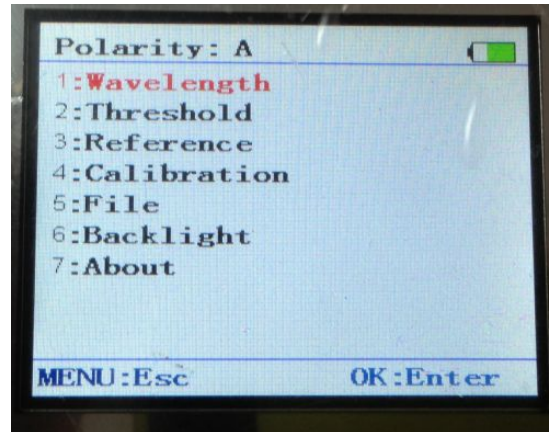


Figure 3

◆ **Wavelength**

User could choose 850nm、1300nm、1310nm、1550nm measuring wavelength.

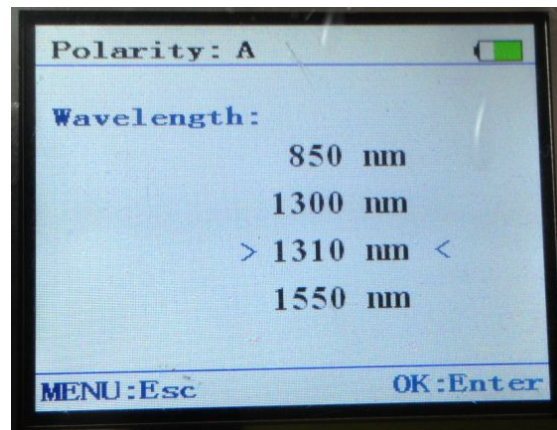


Figure 4

◆ **Threshold**

Set threshold for current test ,this setting will help user to quick judge whether channel is meet the requirement.

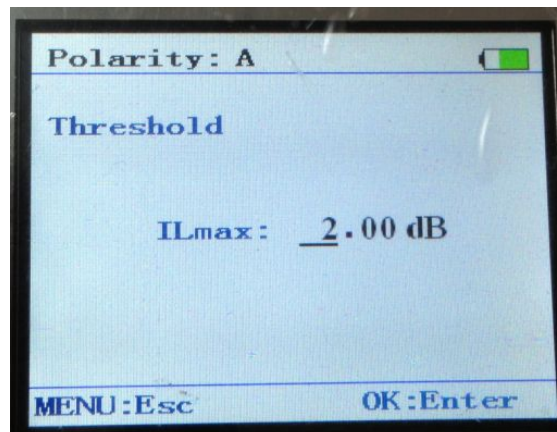


Figure 5

◆ **Reference**

Set reference value for current test.when use “dB”as unit,user should set reference value:

$$P_D = P_R - REF$$

$P_D$ =Display power

$P_R$ = Real power

REF=Reference value

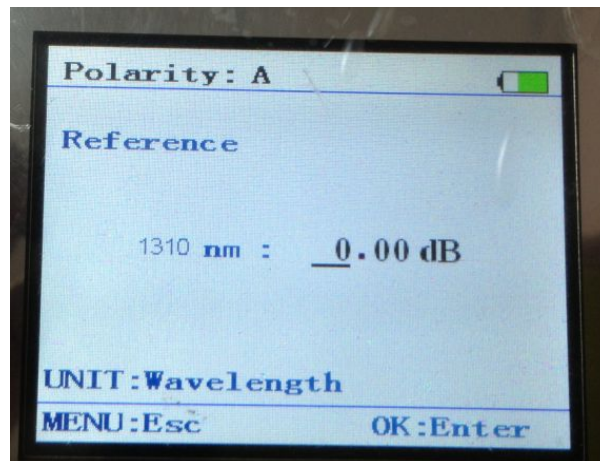


Figure 5

◆ **Calibration**

Set calibration value for the meter

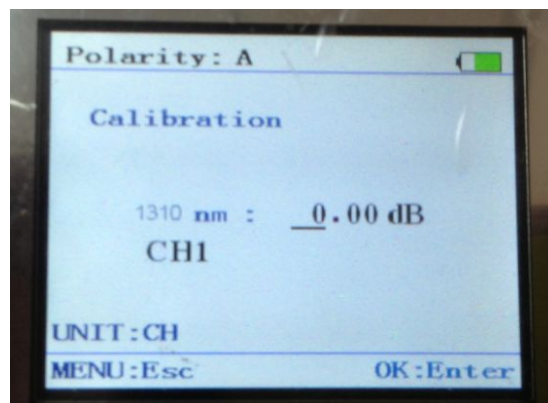


Figure 6

◆ **File**

User could check or delete the history files in this interface

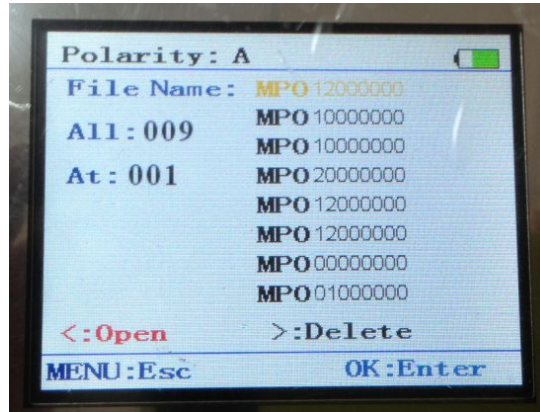


Figure 7

◆ **Back light**

Adjust backlight in this interface

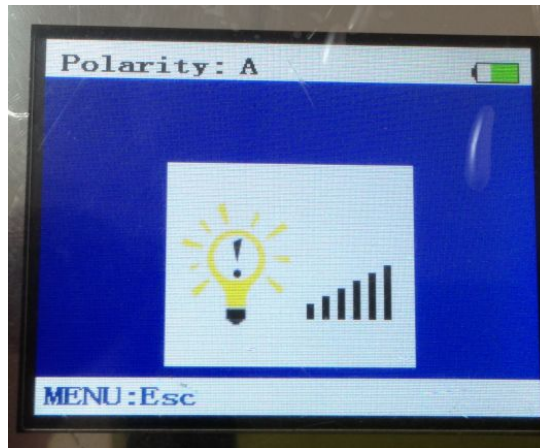



Figure 8

## 4.Q&A

Fault	Analyze	Slove
Test is not accurate	Connect port with a clean jumper and power meter, check whether measurement is accurate	Unload optical adapter, clean it and fiber terminal by swab, then check Power value.
		Lightly clean the sensor of power meter by swab, check Power value.
Blurred screen	Spots on the display, figure is not clear.	Restart, get away from the magnetic field.
Crash	Display not refresh.	Restart.

## 5.Maintenance

<p><b>Caution</b></p> 	<ul style="list-style-type: none"><li>➤ Unproper or polluted fiber and instructment may damage the port of device.</li><li>➤ Don't push connector hard, the ferrule of connector is fragile.</li><li>➤ Clean connector by alcohol and dust-free paper before test</li><li>➤ Cover the dust cap for tester every time after turn off , if there is a jumper connect to the tester we suggest not removeing it so as to reduce connection times</li></ul>
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