

USER MANUAL

KI6101 OPTICAL PON METER

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1 WARRANTY

Information in this manual is given in good faith for the benefit of the user. It cannot be used as the basis for claims against Kingfisher International or its representatives, if accidental damage or inconvenience results from use or attempted repair of the equipment.

This product is guaranteed against defective components and workmanship for a period of 1 year from the date of delivery, unless specifically stated in the original purchase contract or agreement. This warranty excludes optical connectors or incorrect use. Opening the instrument will invalidate the warranty. Liability is limited solely to repair of the equipment.

1.1 Batteries

The instrument uses an internal 7.4V rechargeable Lithium battery providing continuous operation for up to 120 hours.

1.2 Avoid condensation

The instrument is resistant to normal dust and moisture, however it is not waterproof.

2 SHIPPING CONTENTS

Please contact us if you find anything missing after you open the instrument shipping package.

Description	Quantity
KI6101-APC	1
Carry Strap	1
External power supply	1
Manual	1
Soft carry pouch	1
Software CD	1
USB cable	1

Table 1, Standard contents

3 SAFETY



Take appropriate eye-safe precautions when handling live fibre.

These instruments contain no hazardous optical or electrical items. When using this equipment, optical safety precautions commensurate with the maximum available source power should be observed.

4 APPLICATION

The KI 6101 series Optical PON Power Meter is used for testing FTTX PON fiber optic communication systems. Connecting KI 6101 PON power meter in-line between OLT and ONT will allow simultaneous measurement of all PON signals: - voice/ data and video.

The KI6101 is a useful tool for both network engineers and maintenance operators.

5 INSTRUMENT FEATURES

1310nm:

Setup the threshold for 1310 nm wavelength, the 1310 LED shows:

Green: Pass; **Red**: Failure; **Blue**: Warning

1490nm:

Setup the threshold for 1490 nm wavelength, the 1490 LED shows:

Green: Pass; **Red**: Failure; **Blue**: Warning

1550nm:

Setup the threshold for 1550 nm wavelength, the 1550 LED shows:

Green: Pass; **Red**: Failure; **Blue**: Warning



Figure 1, KI6101-APC

USB port: PC communication

Charge port: Battery charging

ONT port: Used for testing – customer side.

OLT port: Used for testing – network side.

6 FUNCTIONS

KI6101 Optical PON Power Meter will allow doing the following:

1. Test the three PON network wavelengths: 1310, 1490 and 1550 nm.
2. Test the 1310 nm burst mode signal.
3. Set the threshold value, upload data, and perform calibration using the KI 6101 management software.
4. Save 1000 records and upload the records to the KI 6101 management software.
5. Supply 10 threshold value groups for operator to choose.
6. Menu Display.
7. Auto shut Off (On / Cancel)/ Auto backlit.
8. Real-time clock display.

7 TECHNICAL SPECIFICATIONS

Parameters	Values		
Standard Wavelength	1310 (Up)	1490 (Down)	1550 (Down)
Pass zone (nm)	1260~1360	1470~1505	1535~1570
Power range (dBm)	-40~+10	-40~+10	-40~+20
Isolation @1310nm (dB)		> 40	> 40
Isolation @1490nm (dB)	> 40		> 40
Isolation @1550nm (dB)	> 40	> 40	
Accuracy			
Uncertainty (dB)	±0.5		
linearity (dB)	±0.1		
Polarization Dependent Loss (dB)	< ±0.25		
Through Insertion Loss (dB)	< 1.5		
Resolution	0.01dB		
Unit	dBm/W		
General Specification			
Display	128*64 lattices		
Battery	7.4V 2800mAH rechargeable Li battery; continuous work to 120 hours		
Work Temperature	-10~60℃		
Storage Temperature	-25~70℃		
Dimensions	179 x 93 x 48 mm (7.05 x 3.66 x 1.89")		
Weight	0.5 kg (1.1 lb)		

Table 2

8 OPERATION



Figure 2, Button functions

8.1 Turning On & Off

Turn On:

Press [ON] for 2 seconds. Once the main menu is displayed, the meter is in working mode. Refer Figure 3 below.

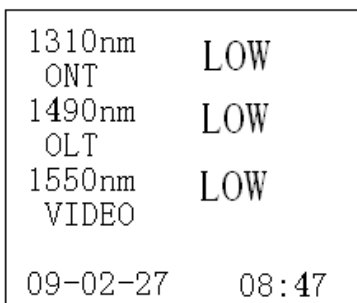


Figure 3, Main Menu

Turn Off:

Press [OFF] for 2 seconds to turn instrument Off.

8.2 Low Battery Warning

The “” symbol indicates low battery.

8.3 Set/Cancel Auto-Off Function

When the instrument is turned on, it is defaulted to Auto-Off mode, if there's no operation for 10 minutes, the instrument will switch off.

To cancel the Auto-Off mode:

Press [Menu]

Press [Down] to access 2nd page of the menu, refer Figure 5.

Highlight the System State and press [Enter]

When displayed, the symbol “” indicates that the meter is in Auto-off mode.

Press [Off] to cancel Auto-Off function. The symbol “” will disappear.

8.4 Setting Ref Value

Press [Menu] and Press [Enter] to access the menu, refer Figure 4.

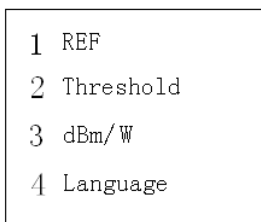


Figure 4

Highlight “REF” and press [Enter].

Press [Up] or [Down] to highlight one of the 1310, 1490 & 1550 nm wavelengths, and the instrument displays reference value in dBm and loss in dB for this wavelength.

8.5 Select preset threshold

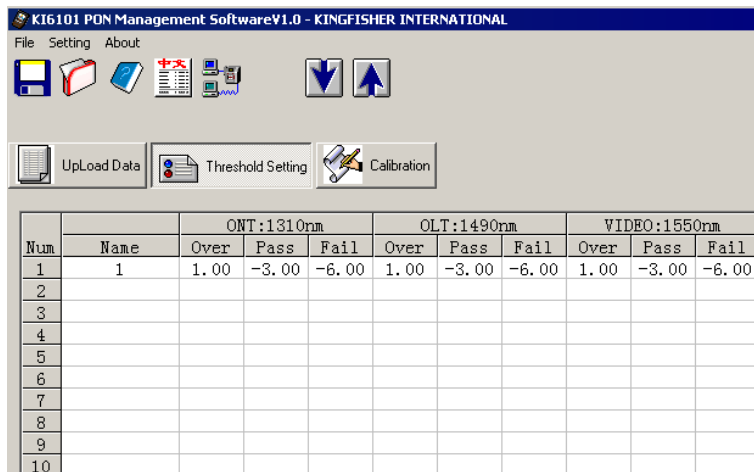
To select threshold value,

Press [Menu]

Highlight “Threshold” and press [Enter]

Press [Up] or [Down], then press [Enter] to select a threshold

NOTE: There are total of 10 preset thresholds, which include “Over, Pass & Fail” for 1310, 1490 & 1550 nm, and they can be set using KI6101 management software. Once modified, a threshold value can be passed into instrument.



The screenshot shows the KI6101 PON Management Software V1.0 interface. It includes a menu bar (File, Setting, About), a toolbar with icons for file operations and navigation, and a main workspace with buttons for 'UpLoad Data', 'Threshold Setting', and 'Calibration'. Below these is a table for setting thresholds.

Num	Name	ONT:1310nm			OLT:1490nm			VIDEO:1550nm		
		Over	Pass	Fail	Over	Pass	Fail	Over	Pass	Fail
1	1	1.00	-3.00	-6.00	1.00	-3.00	-6.00	1.00	-3.00	-6.00
2										
3										
4										
5										
6										
7										
8										
9										
10										

8.6 Choosing dBm or W

Press [Menu]

Press [Down] to highlight “dBm/W” and press [Enter].

Press [Up] or [Down] to select “dBm” or “xW”, and press [Enter].

8.7 Changing Language

Press [Menu]

Press [Down] to highlight “Language”, then press [Enter].

Note: There are English & Chinese language available for user to select.

8.8 Setting the Clock

Press [Menu]

Press [Down] to access 2nd page of menu, refer Figure 5 below.

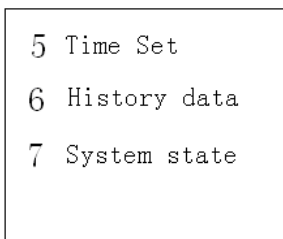


Figure 5

Highlight “Time Set” and press [Enter] to set time.

Press [Up] or [Down] to select “date” and then press [Enter].

Press [Enter] to scroll through the date and time.

Note: The format of date is YY-MM-DD, for time is HH-MM.

8.9 History Data

Press [Menu]

Press [Down] to access 2nd page of menu, refer Figure 5 below.

Highlight “History data” and press [Enter].

The instrument displays:

- | | |
|-----------|------------------------------|
| Data View | - view data |
| Del Cur | - delete current data record |
| Del All | - delete all data records |

Press [Up] or [Down] to access previously saved data.

9 MAINTENANCE AND CALIBRATION

9.1 General maintenance

All optical adaptors are subject to wear and tear. Kingfisher International recommends:-

- To increase instrument connector lifetime, keep the test cords connected to the instrument at all times.
- Keep test cords and adaptors clean at all times.
- Fit end caps to all connectors when not in use.
- Keep the instrument in a dry place, avoid moisture.

9.2 Recommended re-calibration interval

The recommended re-calibration interval is 3 years; excluding connector wear.