

User Manual

3λPON™

3-Lambda PON Power Meter



INTRODUCE

TheFibers 3-Lambda PON Power Meter (3λPON) is designed to measure both wavelength and optical power of 3 wavelength optical signals in FTTH, BPON, EPON and GPON. Also Optical Insertion Loss Measurement is available. 3λPON is used for optical installation and Maintenance with FTTH service activation & troubleshooting. 3λPON is suitable for outdoor field application.

AVAILABLE APPLICATIONS

- Fiber To The Home (FTTH) and FTTH, BPON, EPON, GPON
- Fiber Optic Installation and Maintenance
- Fiber Optic Product Manufacturers and Installers
- FTTH Service Activation & Troubleshooting

STANDARD PACKAGE

- a. Power Meter (included Battery)
- b. AC Power Adaptor / Battery Charger
- c. Leather Pouch
- d. Necklace
- e. Manual
- f. Case

WARRANTY

3λPON™ you bought is passed our all inspection and then is shipped to the customers. TheFibers give you a warranty for one year from the buying date. During the warranty period, the returned product by freight prepaid from the customer, TheFibers will provide repair and replacement for any defective product without additional charge which is needed to repair or replacement.

However please careful that the following are expressly NOT COVERED under warranty:

- Any loss, damage by using un-approved Battery and AC Adaptor
- In case the serial or warranty sticker is removed
- Failure to use products under abnormal operating conditions
- Any loss, damage by user fault
- Any damage by disassembly without permission

KEY FEATURES

- Simultaneous measurement of 1310/1490/1550nm (Voice/Data/Video)
- Auto Wavelength Detection type
- Handheld compact size and lightweight and cost-effective and easy operation
- Applicable for wavelength optical network such as FTTH / PON
- Also Works as a typical Insertion Loss (I/L) Meter
- Pass/Fail function available
- A robust, shock-proof, splash-proof design for field operation
- Auto power-off for low power consumption
- Data Storage upto 300 measurements

HARDWARE SPECIFICATIONS

Parameter	3λPON
PON Wavelength	ONU: 1310nm/Upstream OLT: 1490nm/1550nm/Downstream
Spectral Passband	1310+/-50nm (1260~1360nm) 1490+/-10nm (1480~1500nm) 1550+/-10nm (1540~1560nm)
Measurement Range	-50dBm ~ 10dBm
Accuracy	+/-0.5dB @ -20dBm
Resolution	0.01dB
Unit	dBm, dB, nm
Fiber type	Singlemode 9/125um
Optical Interface	SC/PC or SC/APC or FC/PC or FC/APC
Operation Mode	Power Meter / Insertion Loss Meter
Photodetector type	InGaAs
Display	2.1 inch LCD (with LED backlight)
Battery	3.7V Rechargeable Lithium Ion Battery
Battery Life	10 hours (continuous usage)
Battery Charging Time	3 hours
Data Storage	300 measurements
Operating Temperature	-10 ~ +50 °C (Humidity 0 ~ 90%)
Dimension	138 (H) x 73 (W) x 30 (D) mm
Weight	205g

PRODUCT BUTTON OVERVIEW

	Power	ON / OFF
	Backlight	LCD backlight ON / OFF
	Up	For up value and check saved data
	Enter	Save button in SET Mode
	Down	For down value and check saved data
	Mode	Change mode between PM and IL Mode
	Zero	For Decontrol mode, Zero Set, Data Deletion
	Wavelength	Select wavelength
	Store	Save or Check button for measured data

OPERATION

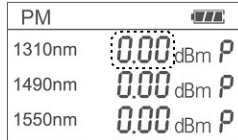
1) PM (Power Meter) Mode

When the power of 3λPON is on, tester's initial operating mode, PM (Power Meter) mode, is displayed on LCD screen. When you want to change to IL (Insertion Loss Meter) mode, push "MODE" button.

• Set Threshold Value for PASS/FAIL

- a. Push "ZERO" button.

The value of 1310nm is blinked.



PM	
1310nm	0.00 dBm P
1490nm	0.00 dBm P
1550nm	0.00 dBm P

- b. By "UP/DOWN", select value.

- c. Save the value by "ENTER" button.

In case change of wavelength without "ENTER", the value is not saved.

- d. To set other wavelength, push "WAVELENGTH" button and repeat the above b and c.
e. Decontrol Set mode by push "ZERO".

• Calibrate Offset

If the measured value is different from the actual optical power, it can be adjusted by using the external laser source which power value is known.

- a. Connect 3λPON to the external Laser Source by using a reference optical cord.
b. Turn on and set the output power of the external laser source.
c. Push "ZERO" for over 2 seconds. Then disappear PASS/FAIL indication and the value of 1310nm is blinked.
d. By using "UP/DOWN" button, select the actual power value of the external laser source.
e. Save the value by "ENTER" button.
f. To offset other wavelength, connect to the other wavelength laser source and push "WAVELENGTH" button and repeat the above d and e.
g. Decontrol Set mode by push "ZERO".

[Factory Reset] If you push "ENTER" for over 2 seconds instead of the above e, "rSET" is indicated as Factory Reset.

2) IL (Insertion Loss Meter) Mode

• Measuring method in IL mode

- a. Select the IL mode by using "MODE" button.
b. Connect the cable or the DUT (Device Under Test) between the external Laser Source and 3λPON.
c. Turn on and set the output power of the laser source.
d. Carry out the "Zero Set" process as described in the section of "Zero Set" below.
e. Measure the insertion loss.
※ Prior to IL test process, "Zero Set" should be preceded.

• Set Threshold Value for PASS/FAIL

- a. Push "ZERO" button.

The value of 1310nm is blinked.



IL	
1310nm	0.00 dB P
1490nm	0.00 dB P
1550nm	0.00 dB P

- b. By "UP/DOWN", select value.
c. Save the value by "ENTER" button.
d. To set other wavelength, push "WAVELENGTH" button and repeat the above b and c.
e. Decontrol Set mode by push "ZERO".

• Zero Set

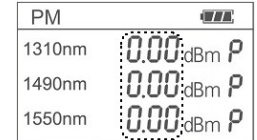
- a. Connect the reference cord (master cord) between the external laser source and 3λPON.
b. Turn on and set the output power of the laser source.
c. After stabilization of laser, push "ZERO" for over 2 seconds.
d. Push "ENTER" button and then the display value is changed to "0.00dB".
e. To zero set other wavelength, push "WAVELENGTH" button and repeat the above c and d.
f. Decontrol Set mode by push "ZERO".

3) Data Store Procedure

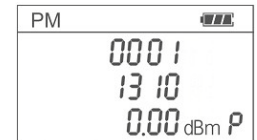
• Data Store or Data Check

Data Store or Check is available in PM mode and IL mode both.

- a. Push "STORE" button.
b. All 3 values are blinked.
c. Save the measured value by "ENTER" button.
d. By "UP/DOWN", you can check all the saved data.
e. By "WAVELENGTH" button, you can check the saved data per wavelength.
f. Decontrol Store or Check mode by push "STORE".



PM	
1310nm	0.00 dBm P
1490nm	0.00 dBm P
1550nm	0.00 dBm P



PM	
0.001	
13.10	
0.00 dBm P	

• Data Deletion

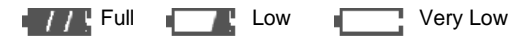
- a. Individual Deletion: Select data which you want to delete in Data Check mode by using "UP/DOWN" and push "ZERO".
b. Whole Deletion: In the Data Check mode, push "ZERO" for over 2 seconds and then show the right picture.



PM	
- - - -	
- - - -	
- - - - dBm	

4) Battery Indicator

Battery Indicator shows three stages. In case that battery is very low status, Indicator is flashing a one second interval.



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