User Manual

KI6106 / T6106 series 10G/XG PON Power Meter

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 Kingfisher International 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.

The warranty will be voided if the following instance happens:-

1) Opening the instrument.
2) The instrument has been immersed in water or subjected to extreme environmental conditions.

Liability is limited solely to repair of the equipment.

CONTENTS

1. The instrument

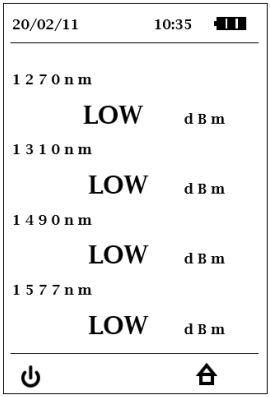
2. Technical specifications

Standard wavelengths (nm)	1270 (upstream)	1310 (upstream)	1490 (downstream)	1577 (downstream)
Pass zone(nm)	1260 ～ 1280	1290 ～ 1330	1470 ～ 1505	1570 ~1585
Range(dBm)	-30 ～ 10	-30 ～ 10	-45 ～ 10	-45 ～ 10
Isolation @1270 (dB)		> 30	> 40	> 40
Isolation @1310 (dB)	> 30	-	> 40	> 40
Isolation @1490 (dB)	> 40	> 40	-	> 40
Isolation @1577 (dB)	> 40	> 40	> 40	-
Uncertainty(dB)	± 0.5			
Polarization Dependent Loss (dB)	< 0.25			
Linearity(dB)	± 0.1			
Insertion Loss(dB)	< 1.5			
Resolution	0.01dB			
Measurement unit	dBm / dB / W / Pass / Fail			
Memory capacity	99 records of 4 λ with date/time stamp			
Auto power off time	10 minutes after last key press			
Battery type	7.4V 1000mAH rechargeable Lithium battery			
Battery life	10 hours			
Power supply/charger	Input *100~240V, 50/60Hz 0.3 A*; Output: *8.4V, 0.5A* Connector: *1.3(ID) x 3.5(OD) x 9.5 (L) mm ID=positive, OD=negative*			
Operating / storage temperature	-10 ~ 50 ℃ / -25 ~ 70 ℃			
Dimensions / Weight	200 * 90 * 43 mm / 330g			

3. Operation instructions

3.1 ON / OFF instrument

To switch on instrument, press and hold [ON]. The home display below will be seen.



The instrument is now ready for measurements. Power levels of the respective wavelengths in live fibers will be displayed automatically when appropriately connected at OLN & OLT ports.

Note:

ONT (left port): for upstream 1270 & 1310 nm tests

OLT (right port): for downstream 1490 & 1577 nm tests

To switch off instrument, press and hold [OFF].

3.2 Auto Power Off mode

When instrument is switched on, Auto Power Off mode is enabled by default (indicated by symbol, ⏻).

When Auto Power Off mode is enabled, instrument will switch off automatically if no subsequent key is pressed 10 minutes after it was switched on.

To disable/enable Auto Power Off mode, press [OFF] in turn.

3.3 Setting Time

To enter Time Setting mode, press and hold [►] at home display.

Use [◄, ►] to select the digit to be edited; the selected digit will be highlighted. Use [▲, ▼] to edit the value of selected digit. Press [OK] to save changes or press [OFF] to exit Time Setting mode without saving.

Date and time format:

Date: YY/MM/DD
Time: HH:MM

Time Setting mode will exit automatically if no subsequent key is pressed 10 sec after it was selected.

3.4 Selecting measurement unit

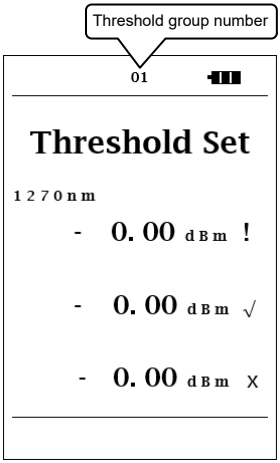
At home display, press [F2] to select measurement unit (dBm or nW).

3.5 Relative Measurement Mode

Press and hold [▼] to enter Relative Measurement mode; all displayed values will be “zero-ed” and the measurements unit will change to dB.

To exit Relative Measurement mode, press [F2].

3.6 Alert/Pass/Fail threshold setup



The alert/pass/fail threshold values for 1270, 1310, 1490, 1577 nm can be individually preset. These preset values can be stored in 3 groups (01, 02, 03).

To enter Threshold Setup mode (see picture on the right), press and hold [▲] at home display. Note that this mode will exit automatically if no subsequent key is pressed 10 sec after being selected.

To preset and save threshold values, see steps ❶ ~ ❹ below.

❶ Choose a threshold group number from the available 01, 02, 03 using [▲, ▼].

❷ Use [◄, ►] to select wavelength from the available 1270, 1310, 1490, 1577 nm.

❸ Press and hold [OK] to enter editing mode.

Use [◄, ►] to move cursor and highlight the digit on display to be edited.

Use [▲, ▼] to change value of selected digit.

Use [▼] to change the sign (positive or negative) of the value.

❹ After all the 3 threshold values (see below) for the selected wavelength are correctly set,

Alert (displayed as **!**)

Pass (displayed as √)

Fail (displayed as x)

press [OK] to save settings. *Note that if invalid threshold values have been entered, the unit will automatically exit Threshold Setup mode and return to home display without saving those values.*

❺ Use [►] to select the next wavelength and, repeat steps ❸ ~ ❹ above to set and save the respective threshold values. Do the same until the threshold values for all wavelengths are setup and saved.

❻ To exit Threshold Setup mode, press [OFF] to return to home display.

3.7 Measurement with Pass/fail Display Mode

When performing measurements in this mode, measurement results (based on the threshold values set in section 3.6) for each wavelength will be automatically displayed. The symbols used to indicate measurement results are as below,

Alert (displayed as " **!** ")

Pass (displayed as " √ ")

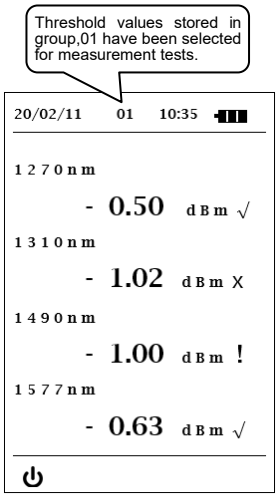
Fail (displayed as " x ")

To activate Pass/Fail Display mode:

Press and hold [▲] at home display. Select a threshold group number from the available 01, 02, 03 using [▲, ▼]. Press [OK]. See an example of the display on the right.

To deactivate Pass/Fail Display mode:

Press and hold [OK].



3.8 Data management

Measurement data can be saved in instrument's internal memory. A max of 99 records of 4 wavelengths with time stamp can be saved. Data saved in internal memory can be retrieved for viewing on instrument.

To save measurement data:

Press [F1], the symbol ▭ indicates that instrument is in Data Save mode. Press [OK] now will save current measurement data into memory, otherwise press [OFF] to exit without saving. To save data into the next empty memory location, repeat the above.

Data Saving mode will exit automatically if no subsequent key is pressed 10 sec after being selected.

To retrieve saved measurement data:

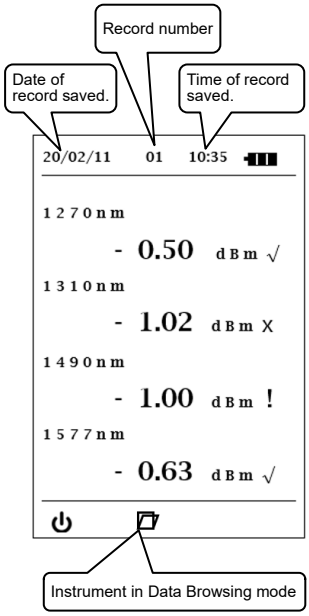
Press and hold [◄] to enter Data Browsing mode (indicate by the symbol ⧉). The 1'st data record (01) saved will be retrieved and displayed, see example on the left.

Use [▲, ▼] to choose the desired saved test data record (01 ~ 99). The chosen test data record is displayed with date, record number and time information.

Press and hold [OK] *to delete all data records,*

Press [OFF] *to exit Data Browsing mode*,

Data Browsing mode will exit automatically if no subsequent key is pressed 10 sec after being selected.



3.9 Battery / Power

The instrument can be powered by either the supplied rechargeable Lithium battery or, by the supplied charger alone.

When operating the instrument with Lithium battery installed, as battery voltage drops below 6.7volt, a symbol ▭ will be displayed, and instrument will beep for a short instant before powering off automatically.

To recharge, plug connector of the supplied charger into the charging-jack of instrument. Recharging takes 4 - 6 hours. Charging indicator on charger turns from red to green when instrument is fully charged.

Standard instrument comes with a charger of US-type AC plug. If require, order suitable AC plug adapter from Optional Accessories section below.

4. Maintenance

- Keep the sensors' surfaces clean and free of dust or other contaminant by cleaning them regularly.
- Do not use unclean or nonstandard adapters.
- Change adapter carefully if necessary and keep any spare adapter in dirt/dust free environment.
- When the instrument is not in use, keep the optical connectors covered with dust caps at all the time. Exposing the sensor for a long period of time will allow dust to be accumulated on surface of the sensor; this will in turn result in measurement inaccuracy.
- Always consider leaving test cords connected to the PON meter. This will prolong the life of the instrument ONT & OLT connectors.

5. Safety

	Take appropriate eye-safe precautions when handling live fibre.

Avoid condensation

The instrument is resistant to normal dust and moisture; however, it is not waterproof. If moisture gets into the instrument, remove the batteries and dry it out carefully for at least one hour before using it again.

Storage

During prolonged storage, remove batteries to eliminate the possibility of acid leakage. Use only high-quality batteries.

6. Box Content

Description	Quantity
Instrument with installed Lithium battery	1
Power supply/charger (with US plug)	1
User manual	1
Soft carry pouch	1
SC/APC--SC/APC or SC/PC--SC/PC Patchcord	1
Software CD	1
A-B(mini) USB cable	1
Cleaning cotton stick pack	1

7. Optional Accessories

Description	P/N
AC Power Adapter Plug, US-to-UK	OPT093
AC Power Adapter Plug, US-to-AUS	OPT094
AC Power Adapter Plug, US-to-EUR	OPT095