

KI 2700XL Series

Hand Held Large Area Detector Loss Test Meter

Optical Communications Test Applications

- Testing optical power, attenuation & continuity
- MPO-12, MPO-24 to MPO-72 connectors
- POF & PCS fiber
- Wide range of interchangeable connector styles



Revision 6

The KI 2700XL series Optical Loss Test Set combines a Light Source with a large area detector Optical Power Meter with many useful features. It is a single direction loss test set which measures and displays loss at multiple wavelengths. Bi-directional testing is supported by PC reporting software.

The primary application is for specialist testing of MPO, POF and PCF fiber

Please enquire for other configurations.

Features

- Simple to use, versatile & rugged
- Interchangeable connectors on both source and meter ports.
- 5 mm diameter Ge or Si detectors
- LCD is large, clear, sunlight readable & backlit
- Long battery life, external power / charger via USB
- Simultaneous 2 λ loss display (850 / 1310 nm)
- Flexible real-time PC reporting software
- Continuity test tone with 12 fiber Multi-Fiber ID
- Encircled Flux compliant 850 / 1310 nm sources
- Multimode sources supplied with mandrel wraps
- Compact, rugged and light weight
- 3 ~ 7 Year warranty
- 3 years recommended calibration cycle
- ISO 17025 traceable calibration certificate
- Made in Australia

KI 2300XL / 2700XL Series – Hand Held Larger Area Detector Loss Test Meter

The KI 2700XL Loss Test Sets are fast and easy to use single directional loss testers which integrate a power meter and light source in a single automated unit. Calibration is ISO 17025 traceable.

A Silicon detector with 660 nm POF source is ideal for testing POF / PCS, or a Germanium detector with a multimode 850 / 1300 nm source is ideal for multimode MPO testing.

The Power Meter measures absolute/relative power and test tones. It displays mW, μ W, nW, dB, dBm to 0.01 dB resolution with no range changing delays. A separate reference for each λ is stored & displayed.

The tight Total Uncertainty specification covers all power levels, temperatures, connectors and fibers, without user dark current offset.

The emitters feature excellent repeatability and stability. Re-connection repeatability is < 0.1 dB, resulting in exceptional test accuracy.

Autotest provides fast & easy multi λ (wavelength) loss testing, along with the source nominal power level and λ , with either local or remote referencing.

Flexible instrument power options include a choice of batteries, with a jumper selectable battery charger. External power is via micro USB.

The instruments meet MIL PRF 28800F class 2 general requirements.

The multi-Fiber ID feature tests common test tones and, can also positively identify 1 of 12 test tones from multiple test sources. This can speed up continuity / polarity testing.

Loss test results can be stored in the large memory, along with a text-input cable name and timestamp, and then dumped onto a USB memory key, providing future-proof data handling.

Alternatively, live readings can be clicked directly onto a customer report using our proven KITS™ customizable Excel-based reporting software. Reports can be easily customized for any terminology, language or format. A one-button file dump only requires Windows OS.

This instrument uses 2 different series of interchangeable optical connector adaptors. The light source port uses an SC – X hybrid adaptor, and the power meter port uses a screw-on 7/8"-28 TPI adaptor. Please take care to specify the correct adaptors for your needs. Both types are very simple to swap over or clean. SC adaptors are supplied, with others available including small form factor LC styles. The metal free adaptors avoid contamination of connectors in high power systems.

Please enquire for configurations such as:

Source: High power detectors, special connectors, wavelength selective detectors, special calibrations etc.

Meter: Up to 6 sources, other wavelengths, power levels, connectors etc.

POWER METER SPECIFICATIONS

Response λ Nm	Damage level dBm	Calibration λ nm	Power range dBm	Tone & Autotest Min ⁵ dBm	Midrange linearity ¹ dB	Calibration Accuracy ² %	Polarization Sensitivity ⁵ dB	Total Uncertainty dB ^{3,4}	λ Sensitivity \pm 30 nm ⁴ dB
Si5 detector									
350 ~ 1100	+15	400, 430, 470, 490, 520, 550, 580, 600, 635, 650, 660, 670, 700, 740, 780, 820, 850, 880, 910, 940, 980	+10 ~ -50 +10 ~ -60	-45	0.04	1 % ⁶ (0.06 dB)	< 0.05	0.3	0.03
Ge5 detector									
600 ~ 1650	+20	635, 650, 660, 780, 820, 1590, 1610, 1625, 1650, 850, 880, 910, 940, 980, 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570	+15 ~ -30 +15 ~ -40	-37	0.06	1 % (0.06 dB)	< 0.05	0.5	0.03
				typical	Typical	max	Typical		

Note 1: Mid-range linearity @ 1550 nm for InGaAs & Ge, or 850 nm for Si. Non-coherent light, with APC connector. Excludes top 5 dB and bottom 10 dB of range.

Note 2: Calibration condition: non-coherent light, -35 \pm 5 dBm, 23 \pm 3°C, \pm 1 nm, 10 \pm 3 nm FWHM, PC ceramic connector, 100 μ m fiber.

Note 3: Includes contributions of: varying optical connector types, calibration uncertainty, linearity over temperature & range, and fiber core diameter up to 1 mm (for 5 mm detector, max NA= 0.5) or fiber core diameter up to 3 mm (for 5 mm detector, max NA= 0.3).

Note 4: At calibration wavelengths in bold type.

Note 5: For APC connector only.

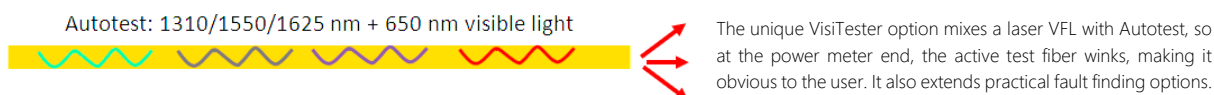
Note 6: 400, 430 nm are 4% (0.2 dB) accuracy

LIGHT SOURCE SPECIFICATIONS

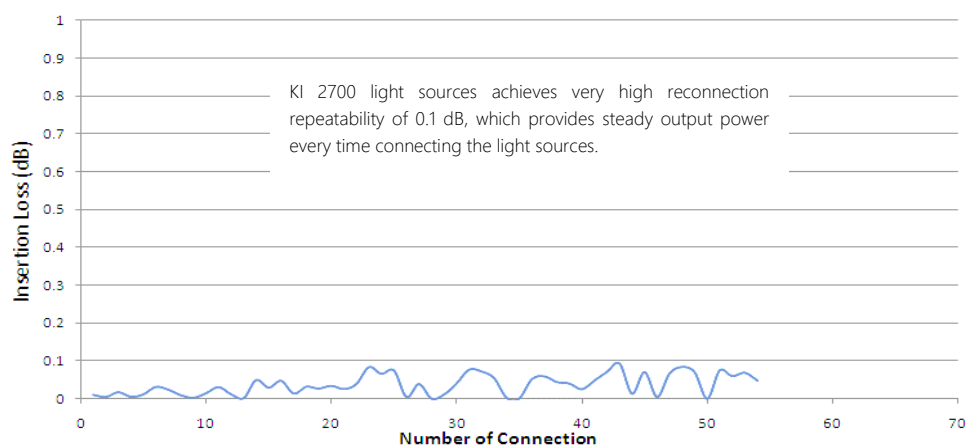
	850 / 1300 nm LED	660 nm LED	650 nm VisiTester ⁵	Comments
KI 2700XL series				
Short term stability (dB)	0.01	0.01	N/A	For 15 min, typical $\pm \Delta 2^{\circ}\text{C}$, after warmup, ORL < -25 dB
Stability over temp (dB)	0.35	0.35	N/A	Typical
Premium zero warm up & Ultra Stable KI 2300XL series				
Short term stability (dB)	0.01	N/A	N/A	For 15 min, max, $\pm \Delta 3^{\circ}\text{C}$ no warmup
Stability over temp (dB)	0.35	N/A	N/A	Max
Common for both KI 2700XL & KI 2300XL series				
Output power (dBm) @ fiber type (μm)	-20 @ 62.5/125 -22.5 @ 50/125 -32 @ 9.5/125	-6 @ 1000 POF	2 @ SMF	N/A
Output power accuracy (dB)	± 1 (@ 62.5/125 only)	± 1	± 1	N/A
λ initial tolerance (nm)	N/A	25	5	At 25 $^{\circ}\text{C}$
λ width, nm	N/A	15	3	FWHM, typical
λ nm/ $^{\circ}\text{C}$	0.4	N/A	0.1	Typical
Mode Controlled Source	Mode controlled	N/A	N/A	50/125 compliant: IEC 61280-4-1 {Ed.1.0}, TIA/EIA 526-14A & TIA TSB-178.
Reconnection repeatability ⁶ (dB)	0.05	N/A	0.1	95 % confidence
Modulation	270 Hz, 1 kHz, 2 kHz $\pm 2\%$, 12 Multi-Fiber ID tones, 2 Hz blink for VisiTester			

Class 1 Laser / LED infrared device. Compliant with IEC60825-1.

Note 5: VisiTester options:



Note 6: Reconnection Repeatability:



GENERAL SPECIFICATION

Parameters	Value	Parameters	Value
Battery life	Laser/LED source: 90/80 hours in Autotest, typical	Operating/Storage	-15 to 55 °C / -25 to 70 °C
Size	190 x 105 x 35 mm (7.5 x 4.1 x 1.4")	Relative humidity	0 ~ 95 %
Weight	420 gm (0.9 lb.) / Shipping 1.5 Kg (3.3 lb.)	Tone detection	150 ~ 9900 Hz ± 1 %
LCD size	74 x 55 mm / 2.9 x 2.2"	Warranty	3 years
Case	Polycarbonate / rubber edges & corners, moisture resistance, 1-meter drop tested	Recommended calibration cycle	3 years
Dust cap	Captive, functions as tilt bail when slid open	Power	2x Alkaline AA cells or 2x NiMH AA cells, user selectable charging; Ext power input via micro USB; Selectable auto-off, low battery indicator, backlit display
Memory	1,000 four λ tests with date & time in internal memory, unlimited on USB memory key		

Australian and international patents. Technical data is subject to change without notice as part of our program of continuous improvements.

ORDERING INFORMATION

Description	No of Ports	Part number
Instrument, LTS 660 nm LED, Si 5mm	2	KI2709XL-Si5
Instrument, LTS 850-1300 nm LED, Ge 5mm	2	KI2703XL-Ge5

Please enquire for non-listed part number such as: Wavelength, Power Levels, PC / APC Connectors, VisiTester option, and Premium zero warm up & Ultra Stable options.

STANDARD ACCESSORIES

Description	Quantity
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC (OPT046)	1 per port
50 & 62.5 μ m fiber mandrel wrap set for multimode sources (OPT701)	1 set
USB-A to USB-micro type cable	1
KITS™ reporting software	Download from website for free
Carry pouch	1
Carry strap	1
Operation manual	1
ILAC/ NATA traceable calibration certificate	1 set
QA certificate	1

This instrument is supplied with metal-free sleeve interchangeable optical connector adaptor for the Light Source port only.

OPTIONAL ACCESSORIES

Description	Part number
Option, Carry Case, KI2x/KI7x/KI3x, small (Carry Case for 2 Instruments)	OPT153*
Option, Carry Case, Cletop, Cleaning Sticks, KI2x / KI9x, large	OPT154B*

Please visit kingfisherfiber.com for a wide range of FiberTester kits.

OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number	Description	Part number
For Power Meter port:			
<i>MPO optimized adaptor:</i>			
Option, Connector Adaptor XL 7/8-28, MTP / MPO 12 x n	OPT227	Option, Connector Adaptor XL 7/8-28, HFBR	OPT231
Option, Connector Adaptor XL 7/8-28, MT ferrule	OPT232	Option, Connector Adaptor XL 7/8-28, POF 2.5 mm universal	OPT225-POF
<i>POF optimized adaptors:</i>			
Option, Connector Adaptor XL 7/8-28, SMA 905/906	OPT203	<i>Other adaptors:</i>	
Option, Connector Adaptor XL 7/8-28, POF multi	OPT229 ⁶	Option, Connector Adaptor XL 7/8-28, SC	OPT201
Option, Connector Adaptor XL 7/8-28, Toslink	OPT230	Option, Connector Adaptor XL 7/8-28, ST	OPT202
Option, Connector Adaptor XL 7/8-28, POF SC	OPT201-POF	Option, Connector Adaptor XL 7/8-28, FC	OPT204
Option, Connector Adaptor XL 7/8-28, POF ST	OPT202-POF	Option, Connector Adaptor XL 7/8-28, Biconic	OPT205
Option, Connector Adaptor XL 7/8-28, POF FC	OPT204-POF	Option, Connector Adaptor XL 7/8-28, 1.25 mm Universal	OPT224
		Option, Connector Adaptor XL 7/8-28, 2.5 mm Universal	OPT225
		Option, Connector Adaptor XL 7/8-28, LC	OPT226A

Note 6: For: Mini Toslink, unterminated POF cable, HFBR series (simplex and duplex), 2.5mm. The user turns the turret to the required hole size. Actual hole size 3.85, 3.5, 3.2, 2.55, 2.4, 2.3 mm x 8.5 mm deep

Adaptors are suitable for both PC and APC polish connectors. Other styles available on request.



Description	Part Number	Description	Part Number
For Light Source port:			
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051	Option, Hybrid Adaptor, Ceramic Sleeve, SC/LSA-DIN47256	OPT071
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC	OPT046	Option, Hybrid Adaptor, SC/POF multi	OPT077 ⁶
Option, Hybrid Adaptor, Ceramic Sleeve, SC/MU	OPT080	Option, Hybrid Adaptor, Metal Sleeve, SC/SMA 905/906	OPT082
Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST	OPT040	Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, Ceramic Sleeve, SC/D4	OPT055	Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 1.25 mm	OPT084
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060	Option, Hybrid Adaptor, SC/HFBR	OPT078 ⁷
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G	Option, Hybrid Adaptor, Ceramic Sleeve, SC/F3000 or LC Simplex, plastic body	OPT072
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body	OPT076		

Note 7: For POF Light Source (e.g. K12709XL-Si5) only.

