KI 2600XL / 9600XL Series

Large Area Detector Power Meter / Radiometer

Optical Test Applications

- Testing optical power, attenuation & continuity
- Duplex, ribbon & POF fiber
- Fiber bundles & free space
- Unusual fiber optic connectors
- Active Area to 5 mm diam or 3.5 x 7 mm
- Power from -70 dBm / 100 pW to + 15 dBm / 32 mW
- Wavelength range 350 ~ 1700 nm



Revision 29

The KI 2600XL & KI 9600XL series Optical Power Meters / Radiometers have large area optical detectors. Typical test applications include specialty fiber optic or free space systems employing multi fiber connectors such as MPO/MT/MTP and MTRJ, large core fiber such as POF, fiber bundles, and high-power pump lasers.

Up to 1% traceable accuracy, ease of use and high availability combine to achieve superior measurement confidence.

Detector & calibration options cover a wide range of optical connectors, fiber types, wavelengths and power levels.

Since these meters are ideal for both free space & fiber applications, they are ideal traceable transfer standards for calibrating fiber optic laboratory equipment.

For KI 2600XL, powerful KITS software provides a practical logging / acquisition / reporting environment straight out of the box.

Features

- 5 mm diameter Ge, InGaAs & Si detectors
- 7 x 3.5 mm Ge detector
- Very long battery life
- Industry standard screw-on connector adaptors
- Up to 31 genuine 1% traceable calibration wavelengths
- KI 2600 external power / charger via USB
- KI 2600 memory with text, timestamp, USB dump, KITS™ data logging / reporting software
- Test Tone Detection
- Max / min recording
- Compact, rugged and light weight
- Sunlight readable display
- ISO 17025 traceable calibration certificate
- 3 years warranty
- 3 years recommended calibration cycle
- Made in Australia

KI 2600XL / 9600XL Series – Large Area Detector Power Meter / Radiometer

The XL series Large Area Detector Optical Power Meters measure absolute and relative light levels. High accuracy and simplicity of use make them ideal for field and laboratory use.

The industry standard 7/8" 28 TPI screw on connector interface can be equipped with almost any connector style.

Operational savings result from up to 1000-hour battery life, and no range changing delays.

The meters display mW, µW, nW, dB, dBm to 0.01 dB resolution. A separate reference for each λ can be stored and displayed.

Tight total uncertainty specifications cover the entire measuring range, operating temperatures, connector types and fiber types. Calibration is ISO 17025 traceable.

The handy tone detector is a useful craft aid for fiber identification. The actual modulation frequency is measured and displayed, so that source modulation frequencies can be checked.

For fiber optic specific versions of this power meter, or for general features of a particular instrument range, please refer to the general KI2600 & KI9600 brochures. Please see other brochures for matching light sources, or complete inspection & test kits.

Additional general features of the premium KI2600XL range include: more calibration wavelengths, high power capability, external power & charging, captive dust cover for optical connector, larger display, memory, USB key data dump, text naming, computer interface & software featuring live data logging or reporting in multiple languages.

Please see other brochures for POF or MPO applications for these power meters, other versions of these power meters, matching light sources, or complete inspection & test kits.

Please enquire for non-standard calibration wavelengths or connector styles.

SPECIFICATIONS

Response λ, nm	Damage level dBm	Calibration λ nm	Power range dBm	Tone[6] & Autotest Min dBm	Mid range linearity dB[1]	Calibration Accuracy %[2]	Polarization Sensitivity dB[4]	λ Sensitivity ± 30 nm dB[3]	Response uniformity across detector
KI 2600XL-InGaAs5 (5 mm InGaAs detector):									
600 ~ 1700	+15	780, 820, 850, 880, 910, 940	+10 ~ -50	-30	0.04	1 % (0.06 dB)	< 0.05	0.2	1 % (0.06 dB)
		980,1270,1290,**1300,1310,1330,1350, 1370,1390,1410,1430,1450,1470, 1490,1510,1530,1550,1570,1590,**1610,1625, 1650	+10 ~ -60	-40					
KI 2600XL-Ge5 (5 mm Ge detector):									
600 ~ 1650	+20	660,780,820,1590,1610,1625,1650	+15 ~-30	-25	0.06	1 % (0.06 dB	< 0.05	0.2	2 % (0.09 dB)
		850,880,910,940,980,1270,1290,**1300, 1310, 330,1350,1370,1390,1410,1430, 1450,1470,1490,**1510,1530,1550,1570	+15 ~ -40	-35					
KI 2600XL-Ge7 (7 x 3.5 mm Ge detector):									
600 ~ 1650	+20	660,780,820,1590,1610,1625,1650	+15 ~ -30	-25	0.06	1 % (0.06 dB)	< 0.05	0.2	2 % (0.09 dB)
		850,880,910,940,980,1270,1290,**1300, 1310,1330,1350,1370,1390,1410,1430, 1450,1470,1490,**1510,1530,1550,1570	+15 ~ -40	-35					
KI 9600XL-Ge5 (5 mm Ge detector):									
600 ~ 1650	+20	660,780,1610,1625	+10 ~ -30	-25	0.06	2 % (0.09 dB)	< 0.05	0.2	2 % (0.09 dB)
		850,**1300,1310,1390,1490,**1550	+10 ~ -40	-35					
KI 9600XL-Ge7 (7 x 3.5 mm Ge detector):									
600 ~ 1650	+20	*660,780,1610,1625*	+10 ~ -30	-25	0.06	2 % (0.09 dB)	< 0.05	0.2	2 % (0.09 dB)
		850,**1300,1310,1390,1490,**1550	+10 ~ -40	-35					
KI 2600XL-Si5, KI2601XL-Si5 (5 mm Si detector):									
350 ~ 1100	+15	400,430,470,490,520,550,580, 600,635	+10 ~ -50	-35	0.04	1 %[5] (0.06 dB)	< 0.05	0.2	1 % (0.06 dB)
		650,660,670,700,740,780,**820,850,880, 910,940,980**	+10 ~ -60	-45					
KI 9600XL-Si5 (5 mm Si detector):									
350 ~ 1100	+15	470,520	*+5 ~ -50*	-35	0.04	2 % (0.09 dB)	< 0.05	0.2	1 % (0.06 dB)
		635,650,660,780,820,**850,**980	+5 ~ -60	-45					
				Typical	typical		typical	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±5 dBm, 23±3°C, ±0.5 nm, 20±3 nm FWHM, PC ceramic connector, 50 µm fiber.

Note 3: @ calibration wavelengths in bold type.

Note 4: For APC connectors only.

Note 5: 400, 430 nm are 4% (0.2 dB) accuracy.

Note 6: For tone detection up to 1000 Hz

VFL SPECIFICATIONS

Parameters	Value
Output power	+2 ± 1 dBm
Wavelength	650 nm
λ width	3 nm
Modulation	CW, 2, 270, 1k, 2k Hz

GENERAL SPECIFICATIONS

Parameters	KI 2600XL, KI2601XL	KI 9600XL
Battery life	Up to 1000 hours	300 hours
Size / Weight	190 x 165 x 38 mm (7.5 x 6.5 x 1.5") / 420 gm (0.9 lb.)	124 x 81 x 25 mm (4.9 x 3.2 x 1.0") / 150 gm (0.33 lb.)
Operating / Storage	15 to 55 °C / -25 to 70 °C	-15 to 55 °C / -25 to 70 °C
Relative humidity	0 ~ 95 %	0 ~ 95 %
Warranty	3 years	3 years
Recommended calibration cycle	3 years	3 years
Case	Polycarbonate / rubber edges & corners, moisture resistance, 1-meter drop tested	Polycarbonate / rubber edges & corners, moisture resistance, 2.5 meters drop tested
Dust cap	Captive, functions as tilt bail when slid open	(Use connector adaptor)
Tone detection	150 ~ 9900 Hz ± 1 %	200 ~ 2500 Hz ± 2 %
Max / Min	Recording feature for stability testing	Recording feature for stability testing
Power	2x Alkaline / Lithium AA cells or 2x NiMH AA cells, user selectable charging; Ext power input via micro-USB or USB-C depending on instrument version; Selectable auto-off, low battery indicator, backlit display	2x alkaline / Lithium AAA cells. Selectable auto-off, low battery indicator
Memory	1000 four-λ tests with date & time in internal memory, unlimited on USB memory key	N/A (display hold)
USB interfaces	Micro-USB for general USB & power; USB-A type connector for memory key only	N/A

FEATURE AND APPLICATION COMPARISON

5 mm Ge and InGaAs Detector Power Meters:				
Feature	Typical Application	KI 2600XL-Ge5	KI 2600XL-InGaAs5	KI 9600XL-Ge5
Autotest	Simultaneous multi- λ Loss test	☑	☑	
USB / KITS™ software	Data acquisition, pass /fail, computer display	☑	☑	
External Power		☑	☑	
Backlight		☑	☑	
5 mm Ge or InGaAs	Most connector styles, Max fiber exit diameter for NA= 0.2: 3 mm	☑	☑	☑
Power range		+15 ~ -40 dBm	+10 ~ -60 dBm	+10 ~ -40 dBm
Response Range		600 ~ 1650 nm	600 ~ 1700 nm	600 ~ 1650 nm
POF calibration λ		☑		☑
MMF calibration λ		☑	☑	☑
SMF calibration λ		☑	☑	☑

7 x 3.5 mm Ge Detector Power Meters:		
Feature	Typical Application	KI 2600XL-Ge7
Autotest	Simultaneous multi- λ Loss test	☑
USB / KITS™ software	Data acquisition, pass /fail, computer display	☑
External Power		☑
Backlight		☑
7 mm Ge	Most connector styles Max fiber exit diameter for NA = 0.2: 1 x 5 mm	☑
Power range		+15 ~ -40 dBm
Response Range		600 ~ 1650 nm
POF calibration λ		☑
MMF calibration λ		☑
SMF calibration λ		☑

5 mm Silicon Detector Power Meters:			
Feature	Typical Application	KI 2600XL-Si5, KI2601XL-Si5	KI 9600XL-Si5
Autotest	Simultaneous multi- λ Loss test	☑	
USB / KITS™ software	Data acquisition, pass /fail, computer display	☑	
External Power		☑	
Backlight		☑	
5 mm Si	Most connector styles Max fiber exit diameter for NA= 0.2: 3 mm. POF = 1 mm diameter	☑	☑
Power range		+10 ~ -60 dBm	+5 ~ -60 dBm
Response Range		350 ~ 1100 nm	350 ~ 1100 nm
POF calibration λ		☑	☑
MMF calibration λ		☑	☑

ORDERING INFORMATION

To order Power Meter, please specify:
1) Instrument part number
2) At least one interchangeable adaptor (only limited instrument models come with adaptors, refer to STANDARD ACCESSORIES section)
3) Accessories as required.

Description	Part number
Instrument, Power Meter Ge 5mm	KI 2600XL-Ge5
Instrument, Power Meter Ge 5mm	KI 9600XL-Ge5
Instrument, Power Meter InGaAs 5mm	KI 2600XL-InGaAs5
Instrument, Power Meter Si 5mm	KI 2600XL-Si5
Instrument, Power Meter Si 5mm, VFL	KI 2601XL-Si5
Instrument, Power Meter Si 5mm	KI 9600XL-Si5
Instrument, Power Meter Ge 7mm	KI 2600XL-Ge7
Instrument, Power Meter Ge 7mm	KI 9600XL-Ge7

Please enquire for non-standard specifications.

STANDARD ACCESSORIES

	Quantity		
Description	KI 2601XL-Si5	KI 2600XL-x	KI 9600XL-x
Connector Adaptor XL 7/8-28, MTP / MPO 12 x n (OPT227)	-	1 (for KI 2600XL-Ge7 only)	1 (for KI 9600XL-Ge7 only)
Connector Adaptor XL 7/8-28, MTP / MPO 16 x n (OPT228)	-	1 (for KI 2600XL-Ge7 only)	1 (for KI9600XL-Ge7 only)
Connector Adaptor Hybrid SC/SC (OPT046)	1	-	-
Operating manual / Quick guide	1	1	1
QA certificate	1	1	1
ILAC/ NATA traceable Calibration certificate	1 set	1 set	1 set
Soft carry pouch	1	1	1
Wrist strap	1	1	1
USB cable (USB-A to micro-USB *or* USB-A to USB-C type)	1	1	-
KITS™ Recording/reporting software	Download from website for free		-

OPTIONAL ACCESSORIES

Description	Part number
Option, Carry Case, KI2x/KI7x/KI3x, small (Carry Case for 2 Instruments)	OPT153-CASE*
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

XL Series Adaptors (for Power Meter port):			
Description	Part number	Description	Part number
MPO optimized adaptor:		Option, Connector Adaptor XL 7/8-28, HFBR	OPT231
Option, Connector Adaptor XL 7/8-28, MTP / MPO 12 x n	OPT227	Option, Connector Adaptor XL 7/8-28, POF 2.5 mm universal	OPT225-POF
Option, Connector Adaptor XL 7/8-28, MTP / MPO 16 x n	OPT228		
Option, Connector Adaptor XL 7/8-28, MMC/MT ferrule	OPT233	*Other adaptors:*	
POF optimized adaptors:		Option, Connector Adaptor XL 7/8-28, CS	OPT200
Option, Connector Adaptor XL 7/8-28, SMA 905/906	OPT203	Option, Connector Adaptor XL 7/8-28, SC	OPT201
Option, Connector Adaptor XL 7/8-28, POF multi	OPT229[6]	Option, Connector Adaptor XL 7/8-28, ST	OPT202
Option, Connector Adaptor XL 7/8-28, Toslink	OPT230	Option, Connector Adaptor XL 7/8-28, FC	OPT204
Option, Connector Adaptor XL 7/8-28, HFBR	OPT231	Option, Connector Adaptor XL 7/8-28, Biconic	OPT205
Option, Connector Adaptor XL 7/8-28, POF SC	OPT201-POF	Option, Connector Adaptor XL 7/8-28, 1.25 mm Universal	OPT224
Option, Connector Adaptor XL 7/8-28, POF ST	OPT202-POF	Option, Connector Adaptor XL 7/8-28, 2.5 mm Universal	OPT225
Option, Connector Adaptor XL 7/8-28, POF FC	OPT204-POF	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.



Hybrid Series Adaptor (for VFL port of KI2601XL-Si5):			
Description	Part Number	Description	Part Number
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
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	OPT085
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060	Option, Hybrid Adaptor, SC/HFBR	OPT078
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		



AUTHORIZED DEALER

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