

# KI XL METER SERIES

## LARGE AREA DETECTOR OPTICAL POWER METER



### OPTICAL COMMUNICATIONS TEST APPLICATIONS

- Testing power, attenuation & continuity
- Duplex connectors like MT-RJ, MU
- Ribbon fiber connectors like MPO/MT/MTP
- Large diameter fiber, eg POF
- Unusual optical connectors
- Single mode & multimode fiber
- Testing high power up to + 33 dBm or 2 W
- Fiber bundles up to 3 mm diameter



### FEATURES

The KI 2600XL & KI 9600XL series Large Area Detector Optical Power Meters have a large area optical 5 mm detectors and high power 2 mm detectors. Typical applications include testing fibre optic communications systems employing multifibre connectors such as MPO/MT/MTP and MTRJ, large core fibre such as POF, and fiber bundles.

Up to 1% 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.

- 5 mm dia Ge & Si detectors
- 2 mm dia high power InGaAs & Ge detectors
- Industry standard screw-on connector adaptors
- Calibrations at 6 - 10 wavelengths
- KI 2600 external power / charger via micro USB
- KI 2600 memory with text, timestamp, USB dump, KITS™ data logging / reporting software
- 3 year warranty & calibration cycle
- Long battery life
- Test Tone Detection
- Max / min recording
- Compact, rugged and light weight
- Sunlight readable display
- Made in Australia

The XL series Large Area Detector Optical Power Meters measure the absolute and relative light level in multimode and single mode optical communication systems. High accuracy and simplicity of use make them ideal for field and laboratory use.

The 5 mm diameter detector is ideal for testing 1 mm POF, MT-RJ duplex connectors, MPO/MT/MTP ribbon fiber connectors with up to 12 fibers in a row, large fiber bundles, or any other fiber arrangement with an active emission area up to 3 mm across.

Silicon (Si) detectors are optimized for visible light to 1000 nm spectrum making them suitable for POF and most multimode applications. Germanium (Ge) detectors are optimized for infra-red light up to 1650 nm, making them suitable for multimode and single mode applications. The high power 2 mm InGaAs & Ge detectors allow +33 dBm (2 W) in maximum power testing.

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

Operational savings result from the 3 year re-calibration cycle, 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.

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

For general purpose 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.

Please enquire for non standard calibration wavelengths or connector styles.

**SPECIFICATIONS**

Response λ Nm	Damage level dBm	Calibration λ nm	Power range dBm	Tone & Autotest Min dBm	Mid range linearity <sup>1</sup> dB	Calibration Accuracy <sup>2</sup> %	Polarization Sensitivity dB	Total Uncertainty <sup>3</sup> dB	λ Sensitivity ± 30 nm <sup>5</sup> dB
<i>KI 2600H3BXL-InGaAs2 (filtered 2 mm InGaAs detector):</i>									
800 ~ 1700	+33 <sup>4</sup>	850 <b>1300,1310,1390,1490,1550,1590,1610,1625</b>	+33 ~ -35 +33 ~ -40	-35 -40	0.02	1 % (0.06 dB)	< 0.005	0.35	0.03
<i>KI 2600H3BXL-Ge2 (filtered 2 mm Ge detector):</i>									
600 ~ 1650	+33 <sup>4</sup>	780,850,1590,1610,1625 <b>1300,1310,1390,1490,1550</b>	+33 ~ -35 +33 ~ -40	-35 -40	0.04	1 % (0.06 dB)	< 0.005	0.5	0.04
<i>KI 2600XL-InGaAs5 (5 mm InGaAs detector):</i>									
800 ~ 1700	+15	850 <b>1300,1310,1390,1490,1550,1590,1610,1625</b>	+10 ~ -55 +10 ~ -60	-55 -60	0.02	1 % (0.06 dB)	< 0.005	0.35	0.03
<i>KI 2600XL-Ge5 (5 mm Ge detector):</i>									
600 ~ 1650	+25	780,1590,1610,1625 <b>850,1300,1310,1390,1490,1550</b>	+15 ~ -35 +15 ~ -40	-35 -40	0.04	1 % (0.06 dB)	< 0.005	0.5	0.04
<i>KI 9600XL-Ge5 (5 mm Ge detector):</i>									
600 ~ 1650	+15	780, 1625 <b>850, 1300,1310,1490,1550</b>	+10 ~ -35 +10 ~ -40	-35 -40	0.04	2 % (0.09 dB)	< 0.005	0.5	0.04
<i>KI 2600XL-Si5 (5 mm Si detector):</i>									
350 ~ 1100	+10	470, 520 <b>635, 650, 660, 780, 850, 980</b>	+5 ~ -50 +5 ~ -60	-40 -50	0.02	1 % (0.06 dB)	< 0.005	0.3	0.03
<i>KI 9600XL-Si5 (5 mm Si detector):</i>									
350 ~ 1100	+10	470, 520 <b>635, 650, 660, 780, 850, 980</b>	+5 ~ -50 +5 ~ -60	-40 -50	0.02	2 % (0.09 dB)	< 0.005	0.3	0.03
					typical	typical	typical	max	typical

Note 1: Mid range linearity excludes top 5 dB and bottom 10 dB of range.

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

Note 3: Includes contributions of: varying optical connector types, calibration uncertainty, full temperature, dynamic range and fiber core diameter up to 200 μm.

Note 4: H3B can sustain the damage level for 2 minutes.

Note 5: At calibration wavelengths in bold type

**GENERAL SPECIFICATIONS**

Parameters	KI 2600XL	KI 9600XL
Battery life	Upto 1000 hrs laser off / 200 hrs laser in blink mode	300 hrs
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
Case	Polycarbonate / rubber, 1 metre drop tested	Polycarbonate, 2.5 metre drop tested
Tone detection	150 ~ 9900 Hz ± 1 %	200 ~ 2500 Hz ± 2 %
Max / min Power	Recording feature for stability testing 2 x Alkaline / Lithium AA cells Or 2 x NiMH AA cells, user selectable charging; Ext power input via micro USB; Selectable auto-off, low battery indicator, backlit display	Recording feature for stability testing 2 alkaline AAA cells. Selectable auto-off, low battery indicator
Memory	999 four λ tests with date & time in internal memory, unlimited on USB memory key	
USB interfaces	Micro USB, for general USB & power; USB A type connector, for memory key only	N/A



## PRODUCT SELECTION

Ge and InGaAs detector Power meters:

Feature	Typical Application	KI 2600XL-Ge5	KI 2600XL-InGaAs5	KI 9600XL-Ge5
Autotest	Simultaneous multi- $\lambda$ Loss test	√	√	
USB / KITS™ software	Data acquisition, pass /fail, computer display	√	√	
External Power		√	√	
Backlight		√	√	
5 mm Ge or InGaAs	MPO/MT/MTP, POF, MT-RJ, most connector styles	Max fiber core dia 3 mm		
Power range		+15 ~ -40 dBm	+10 ~ -60 dBm	+10 ~ -40 dBm
Response Range		600 ~ 1650 nm	700 ~ 1700 nm	600 ~ 1650 nm
POF calibration $\lambda$		650, 660, 780 nm		650, 660, 780 nm
MMF calibration $\lambda$		850 nm	850 nm	850 nm
SMF calibration $\lambda$		1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625 nm	1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625 nm	1300, 1310, 1490, 1550, 1625 nm

High power detector Power Meters:

Feature	Typical Application	KI 2600H3BXL-Ge2	KI 2600H3BXL-InGaAs2
Autotest	Simultaneous multi- $\lambda$ Loss test	√	
USB / KITS™ software	Data acquisition, pass /fail, computer display	√	
External Power		√	
Backlight		√	
2 mm Ge or InGaAs	MPO/MT/MTP, POF, MT-RJ, most connector styles	Max fiber core dia 1.2 mm	
Power range		+33 ~ -40 dBm	+33 ~ -40 dBm
Response Range		600 ~ 1650 nm	800 ~ 1700 nm
POF calibration $\lambda$		650, 660, 780 nm	
MMF calibration $\lambda$		850 nm	850 nm
SMF calibration $\lambda$		1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625 nm	1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625 nm

Silicon detector Power Meters:

Feature	Typical Application	KI 2600XL-Si5	KI 9600XL-Si5
Autotest	Simultaneous multi- $\lambda$ Loss test	√	
USB / KITS™ software	Data acquisition, pass /fail, computer display	√	
External Power		√	
Backlight		√	
5 mm Si	MPO/MT/MTP, POF, MT-RJ, most connector styles	Max fiber core dia 3 mm	
Power range		+5 ~ -60 dBm	+5 ~ -60 dBm
Response Range		300 ~ 1100 nm	300 ~ 1100 nm
POF calibration $\lambda$		650, 660, 780 nm	
MMF calibration $\lambda$		850 nm	850 nm

**ORDERING INFORMATION**

To order Power Meter, specify:

- 1) Instrument P/N.
- 2) At least one interchangeable adaptor.
- 3) Accessories as required.

Description	P/N
5 mm Ge Power Meter	KI 2600XL-Ge5
	KI 9600XL-Ge5
5 mm InGaAs Power Meter	KI 2600XL-InGaAs5
Filtered 2 mm Ge Power Meter	KI 2600H3BXL-Ge2
Filtered 2 mm InGaAs Power Meter	KI 2600H3BXL-InGaAs2
5 mm Si Power Meter	KI 2600XL-Si5
	KI 9600XL-Si5

Please enquire for non-standard specifications.

**STANDARD ACCESSORIES**

Description	Quantity	
	KI 2600	KI 9600
Operating manual		1
Calibration certificate		1
KITS™ Recording/Reporting software		1
Soft carry pouch		1
Wrist strap		1
USB A to USB micro cable(OPT188B)	1	

**OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS**

Description	P/N	Description	P/N	Description	P/N
SC	OPT201	Universal 1.25 mm	OPT224	Biconic	OPT205
FC	OPT204	Universal 2.5 mm	OPT225	Toslink <sup>5</sup>	OPT230
D4	OPT206	MTRJ	OPT223	Diamond 3.5mm Threaded	OPT208
LSA/DIN	OPT207	MPO	OPT227	POF cable, mini Toslink,	OPT229
SMA 905/906 <sup>5</sup>	OPT203	EC	OPT221	HFBR series, 2.5, 1.25 mm <sup>5</sup>	

Adaptors are suitable for both PC and APC polish connectors.

Other styles available on request.

Note 5: Suitable for POF fiber. Other adaptors pinhole may need to be enlarged by user, if used with POF.



**OPTIONAL ACCESSORIES**

Description	P/N
Option, Carry Case for 2 Instruments	OPT153
Option, Carry Case includes Cletop-style cleaner & Cleaning Sticks	OPT154A

Please visit [kingfisherfiber.com](http://kingfisherfiber.com) for a wide range of FiberTester kits.

AUTHORISED DEALER

