

# KI 9600A SERIES

## OPTICAL POWER METER



### OPTICAL COMMUNICATIONS TEST APPLICATION

- System power testing
- Attenuation testing
- Fiber identification
- Wavelength Selective Option for PON



Revision 14

The KI 9600A series Optical Power Meter is used for testing fiber optic communications systems.

2% calibration accuracy, ease of use and high availability combine to achieve superior measurement confidence.

Detector & calibration options cover a wide range of connector types, fiber types, common wavelengths and power levels from +24 to -60 dBm.

### FEATURES

- Shirt pocket size with spring clip
- 3 year warranty
- 3 year calibration cycle
- Patented low cost Interchangeable connector
- Multi-fiber ID for fiber identification
- Large sunlight readable display
- Displays dBm, dB, linear, tone Hz
- Power averaging mode for modulated signal
- Limited Feature mode for low skill measurement
- Simple to use
- 300 hr battery life
- Max / Min recording & display hold
- 9 calibrated wavelengths
- Compact, rugged & light weight
- Made in Australia

The small KI 9600A Pocket Fiber Meter is ideal for measuring absolute/relative light levels or test tones on single mode, multimode or plastic optical fiber (POF) systems. High traceable accuracy and ease of use make it perfect for field or laboratory.

Tough construction includes moisture resistance, rubber corners, a captive connector dust cap and it can be dropped over 2 meters onto a hard surface. This instrument meets MIL PRF 28800F Class 2.

When used with multiple KI 9800 sources, the Multi-Fiber ID feature uniquely identifies up to 12 fibers.

The tight total uncertainty specification covers the entire range of measurement, temperature, connectors and fiber types, without warm up or dark current offset. Calibration is fully traceable.

Operational savings come from a 3 year warranty & re-calibration cycle, 300 hr battery life, and fast operation.

The meter displays mW, μW, nW, dB, dBm to 0.01 dB resolution. A separate reference for each λ can be stored.

A Power Averaging Mode measures the average power of modulated signals.

A Limited Feature Mode enables a site manager to lock and track instrument settings to reduce measurement skill, and improve both test confidence and traceability.

Interchangeable optical connectors are dust and drop protected. Other styles include the popular LC.

The InGaAs meter is the preferred solution for single mode testing from 900 – 1650 nm.

Ge meters offer modest accuracy from 660 to 1550 nm.

H series meters are available for high power testing. They offer good immunity to wavelength and reflection effects.

For PON testing, the Wavelength Selective meter KI 9600WS01-Ge offers a simple way to measure 1550 nm light only.

For testing 1 mm POF, ribbon fiber, MT-RJ, expanded beam connectors etc, refer to the alternative KI 9600-XL brochure for instruments with large area detectors.

**SPECIFICATIONS**

Response λ nm	Damage level dBm	Calibration λ nm	Power range dBm	Tone & multi-fiber ID sensitivity dBm	Mid range linearity <sup>1</sup> dB	Calibration Accuracy <sup>2</sup> %	Polarization Sensitivity dB	Total Uncertainty <sup>3,5</sup> dB	λ Sensitivity <sup>5</sup> ± 30 nm dB
<b>InGaAs detector</b>									
600 ~ 1700	+15	<b>660, 850</b> 1300, 1310, 1390, 1490, 1550, 1610, 1625	+5 ~ -60	-40 -50	0.02	2 % (0.09 dB)	< 0.005	0.3	0.03
<b>H3B (InGaAs) detector</b>									
800 ~ 1700	+27 <sup>4</sup>	<b>850</b> 1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625	+24 ~ -40	-20 -30	0.02	2 % (0.09dB)	< 0.005	0.3	0.03
<b>H5 (InGaAs) detector</b>									
800 ~ 1700	+25	<b>850</b> 1300, 1310, 1390, 1490, 1550, 1590, 1610, 1625	+15 ~ -50	-30 -40	0.02	2 % (0.09dB)	< 0.005	0.3	0.03
<b>Ge detector</b>									
600 ~ 1650	+15	<b>635,650,660,780,1610,1625</b> <b>850, 1300, 1310, 1390, 1490, 1550</b>	+10 ~ -60	-40 -50	0.04	2 % (0.09dB)	< 0.005	0.5	0.04
					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.

**KI9600WS01-Ge SPECIFICATIONS**

Parameters	Value
Calibrated wavelength	1550 nm
Measurement of 1550 nm	1530 to 1625 nm
Isolation of 1490 nm pass band	> 25 dB
Isolation of 1310 nm pass band	> 30 dB
Max. permitted input level	+ 15 dBm
Measurement range	+10 to -70 dBm
<b>Measurement accuracy</b>	
Mid range linearity <sup>1</sup>	0.04 dB
Polarization Sensitivity	< 0.005 dB
Total Uncertainty <sup>3</sup>	0.5 dB

**GENERAL SPECIFICATIONS**

Parameters	Value
Battery life	300 hrs
Size	124 x 81 x 25 mm, 4.9 x 3.2 x 1.0"
Weight	0.15 kg, 0.33 lb. Shipping 0.5 kg, 1.1 lb
Operating / Storage	-15 to 55 °C / -25 to 70 °C
Relative humidity	0 ~ 95%
Case	Polycarbonate, 2.5 metre drop tested
Tone detection	200 ~ 2500 Hz ± 2 %
Max / min	Recording feature for stability testing
Power	2 alkaline AAA cells. Selectable auto-off, low battery indicator

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



## ORDERING INFORMATION

Description	P/N
Instrument, Power Meter InGaAs	KI 9600A-InGaAs
Instrument, Power Meter H3B	KI 9600A-H3B
Instrument, Power Meter H5	KI 9600A-H5
Instrument, Power Meter Ge	KI 9600A-Ge

## STANDARD ACCESSORIES

Description	Quantity
SC metal-free interchangeable connector adaptor (OPT046)	1
Carry pouch (OPT156*)	1
Wrist strap	1
Calibration certificate	1
Quick guide	1

## OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	P/N	Description	P/N
D4	OPT055	LC	OPT076
E2000/LSH, green	OPT060G	MU	OPT080
E2000/LSH	OPT060	1.25mm universal	OPT084
LSA / DIN47256	OPT071	2.5mm universal	OPT081
		SMA 905/906	OPT082

This instrument is supplied with metal-free sleeve optical interchangeable connector adaptors. The power meter works with both PC and APC connectors. The visible laser connector ferrule type is fixed and customer specified as either PC or APC. Green is associated with APC.

## OPTIONAL ACCESSORIES

Description	P/N
Option, accessories pack KI9000, includes:	OPT148
1) ST metal-free interchangeable connector adaptor (OPT040)	1
2) LC metal-free interchangeable connector adaptor (OPT076)	1
3) Soft carry pouch	1
4) AAA alkaline batteries	2

AUTHORISED DEALER



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