KI 9600 Series

Optical Power Meter

Optical Communications Test Applications

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

Revision 15

The KI 9600A series shirt-pocket 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
- 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-hour battery life
- Max / Min recording & display hold
- 9 calibrated wavelengths
- Compact, rugged & light weight
- 3-year calibration cycle
- 3-year warranty
- Made in Australia

KI 9600 Series - Optical Power Meter

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 hours of 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.

TECHNICAL SPECIFICATIONS

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

Note 1: Midrange 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, linearity over temperature & range, and fiber core diameter up to 200 µm.

Note 4: H5 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 ~ 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 ~ -70 dBm
Measurement accuracy	
Midrange linearity[1]	0.04 dB
Polarization Sensitivity	< 0.005 dB
Total Uncertainty[3]	0.5 dB

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

GENERAL SPECIFICATIONS

Parameters	Value
Battery life	300 hours
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 with captive dust cap, 2.5-meter drop tested
Tone detection	200 ~ 2500 Hz ± 2 %
Calibration cycle	3 years
Max / min	Recording feature for stability testing
Power	2 alkaline AAA cells. Selectable auto-off, low battery indicator

ORDERING INFORMATION

Description	Part number
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
Instrument, Power Meter Ge 1550nm	KI 9600WS01-Ge

STANDARD ACCESSORIES

Description	Quantity
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC (OPT046)	1
Carry pouch (OPT156*)	1
Wrist strap	1
Calibration certificate	1
QA certificate	1
Quick guide	1

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	Part number
Option, accessories pack KI9000, includes:	OPT148
1) Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST (OPT040)	1
2) Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body (OPT076)	1
3) Soft carry pouch	1
4) AAA alkaline batteries	2

OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number	Description	Part number
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051	Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body	OPT076	Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G
Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST	OPT040	Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 1.25 mm	OPT084
Option, Hybrid Adaptor, Ceramic Sleeve, SC/D4	OPT055	Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, Ceramic Sleeve, SC/MU	OPT080	Option, Hybrid Adaptor, Metal Sleeve, SC/SMA 905/906	OPT082
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LSA-DIN47256	OPT071	Option, Hybrid Adaptor, Ceramic Sleeve, SC/F3000 or LC Simplex, plastic body	OPT072

The power meter works with both PC and APC connectors.

AUTHORIZED DEALER

KINGFISHER INTERNATIONAL

Kingfisher International Pty Ltd
720 Springvale Road, Mulgrave
VIC 3170 Australia

T +61 3 8544 1700
F +61 3 8544 1793
E sales@kingfisher.com.au

kingfisherfiber.com