KI 9800 Series

Optical Light Source

Optical Communications Test Applications

- Single mode, multimode or POF/PCS cable loss testing
- Continuity testing
- Visual Fault Finder (VFL) option
- General testing & maintenance

Revision 29

The KI 9800A series Shirt-pocket Fiber Source is used to test optical loss, multi-fiber polarity checking or fault finding in all optical fiber systems, at 1 to 3 wavelengths.

High productivity, high stability, rugged construction and ease of use combine to achieve superior measurement confidence.

Features

- Source or VFL options for all fiber types
- Rugged shirt-pocket size with spring clip
- Excellent optical power stability
- Excellent re-connection repeatability
- Interchangeable connectors
- Long battery life
- Low-skill Limited Feature mode
- Multi-Fiber ID tone source feature
- Mode controlled multimode sources
- Eye-safe long distance VFL to 10 Km
- Autotest compatibility with other instruments
- Large sunlight readable display
- 3-year warranty & calibration cycle
- Made in Australia

KI 9800 Series - Optical Light Source

The KI 9800A Pocket Fiber Source is used for loss testing, polarity checking or fault finding on single mode, multimode, PCS or plastic optical fiber (POF) cable.

Tough construction includes general moisture resistance, rubber corners and proven ability to withstand drops of over 2 meters onto a hard surface. It meets the general requirements of MIL PRF 28800F Class 2.

Interchangeable optical connectors are dust and drop protected. An SC adaptor is supplied; other styles include the popular LC. Use of metal-free adaptors avoids contamination of connectors in high power systems.

Reconnection repeatability is < 0.1 dB, resulting in exceptional practical source stability.

When used with an Autotest compatible Power Meter or Loss Test Set, one button multi-wavelength loss testing is achieved.

Test tones can be used with a compatible Power Meter or clip on identifier for fiber detection, polarity checking, fault finding and route location.

When used with a Multi-Fiber ID compatible Power Meter, multiple sources can be set up to uniquely identify up to 12 fibers at a time.

1310 / 1490 / 1550 / 1625 nm laser sources are ideal for single-mode testing, with KI 9600 or KI 2600 series power meters.

850 / 1300 nm LED sources are ideal for multimode testing, in combination with KI 9600 or KI 2600 series power meters. They meet the Encircled Flux (EF) standard compliance to provide the most consistent and reliable testing results.

650 / 660 nm LED source options are ideal for POF testing, in combination with the KI 9600XL or KI2600XL series power meters.

The 850 nm VCSEL source for multimode fiber testing should only be used to meet special requirements.

The 635 nm laser VFL Visual Fault Locator with Class 1 eye safety is optimized for maximum visibility on short distance applications.

The 650 nm laser VFL Visual Fault Locator with Class 2M eye safety is optimized for long distance applications up to 10 Km. Both VFL options offer much improved eye safety compared to pen-style units when unplugged, and feature PC or APC interchangeable / replaceable connectors, tone / wink function, rugged case and AAA batteries.

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.

OPTICAL SPECIFICATIONS

	1310 or 1310/1550 nm Laser	1310/1625 nm Laser	1310/1490 / 1550 nm Laser	1310/1550 / 1625 nm Laser	635 nm Laser	650 nm Laser	850 nm VCSEL	850 / 1300 nm LED	660 nm LED	Comments
Output power (dBm) @ Fiber Type (µm)	0 @ 9/125	0 @ 9/125	-4 @ 9/125	-4 @ 9/125	-2 @ 9/125	+7 @ 9/125	-2 @ 62.5/125	-20 @ 62.5/125 -22.5 @ 50/125 -32 @ 9.5/125	-6 @ 1000 POF	± 1 dB (@ 9/125, 62.5/125, 1000 POF only)
Short term stability (dB)	0.04[1]	0.06[1]	0.04[1]	0.06[1]	N/A	N/A	0.12[1]	0.01	0.01	For 15 min, typical ± Δ 2°C, after warm up
Stability over temp (dB)	0.6	0.6	0.6	0.6	N/A	N/A	0.8	0.35	0.35	Typical, over temperature
λ initial tolerance (nm)	20	20	20	30	5	5	20	N/A	15	At 25 °C
λ width, nm	3	3	3	3	3	3	< 1	N/A	25	FWHM, typical
λ nm/°C	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.4	NA	Typical
Mode Controlled Source	N/A	N/A	N/A	N/A	N/A	N/A	Mode controlled[2]		N/A	
Reconnection repeatability (dB)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	N/A	95 % confidence
Modulation	270 Hz, 1 kHz, 2 kHz ± 2 %									
Blinking 2 Hz	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A	Yes	
Output power level	Adjustable over 3 dB in 0.1 dB steps						Fixed	Fixed	Fixed	

Note 1: ORL < -25 dB

Note 2: Multimode source mode distribution @ 50/125 is compliant with the following standards: IEC 61280-4-1 {Ed.1.0}, TIA/EIA 526-14A and TIA TSB-178.

GENERAL SPECIFICATIONS

Parameters	Value
Battery life	Laser/LED source: 40/35 hours in Autotest, typical
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
Power	2 Alkaline AAA cells. Selectable auto-off, low battery indicator
Multi-fiber ID	Up to 12 fibers
Calibration cycle	3 years

Class 1 or 2 Laser / LED infrared device. These are eye safe under all circumstances.
650 nm VFL only is Class 2M. Warning! Eye hazard if viewed with magnifying device. Compliant with IEC60825-1 and 21CFR1040.10.

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

ORDERING INFORMATION

Description	Part number
Instrument, Source 635 nm VFL Laser	KI 9807A
Instrument, Source 650 nm VFL Laser	KI 9808A
Instrument, Source 660 nm LED	KI 9809AM
Instrument, Source 850-1300 nm LED	KI 9812A
Instrument, Source 1310 nm Laser	KI 9820A
Instrument, Source 1310-1550 nm Laser	KI 9822A
Instrument, Source 1310-1550 nm Laser APC	KI 9822A-APC
Instrument, source 1310-1625 nm Laser APC	KI9825A-APC
Instrument, Source 1310-1490-1550 nm Laser	KI 9827A
Instrument, Source 1310-1490-1550 nm Laser APC	KI 9827A-APC
Instrument, Source 1310-1550-1625 nm Laser APC	KI 9828A-APC
Instrument, Source 850 nm VCSEL	KI 9840A

Please enquire for non-standard connectors, APC connector, and laser / LED wavelengths etc.

STANDARD ACCESSORIES

Description	Quantity
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC	1
50 & 62.5 µm fiber mandrel wraps set (OPT701) for MM LED source	1
Quick guide	1
Soft carry pouch (OPT156)	1
Wrist strap	1
QA certificate	1

OPTIONAL ACCESSORIES

Description	Part number
Option, accessories pack KI9000, includes:	OPT148*
i) ST metal-free interchangeable connector adaptor (OPT040)	quantity: 1
ii) LC metal-free interchangeable connector adaptor (OPT076)	quantity: 1
iii) Soft carry pouch (OPT156)	quantity: 1
iv) AAA alkaline batteries	quantity: 2

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 INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body	OPT076
Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST	OPT040
Option, Hybrid Adaptor, Ceramic Sleeve, SC/D4	OPT055
Option, Hybrid Adaptor, Ceramic Sleeve, SC/MU	OPT080
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LSA-DIN47256	OPT071
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G
Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 1.25 mm	OPT084
Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, SC/POF multi	OPT077[3]
Option, Hybrid Adaptor, Metal Sleeve, SC/SMA 905/906	OPT082
Option, Hybrid Adaptor, Ceramic Sleeve, SC/F3000 or LC Simplex, plastic body	OPT072

Note 3: 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

The light source is made for either PC and APC connectors at time of order. Universal connector adaptors may result in reduced performance when used with a light source.

AUTHORIZED DEALER

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