KI 23400/KI 27400 Series

HANDHELD 2-WAY +LENGTH +ORL FIBER CERTIFIER

Test Applications

- SM, MM & both fiber types
- Tier 1 cable certification & reporting
- Bidirectional loss, length & ORL in one hook-up with integrated VFL (VisiTester)
- Optical power, continuity & polarity

Revision 23

The KI 2x400 series is a fast, accurate and easy bi-directional Tier 1 certifier for multimode and single mode fiber.

2-Way loss, length & ORL pass/fail are displayed in real time on both instruments, at multiple λ , for one test hook-up per fiber*.

The compact instrument is also a standalone light source, optical power meter and VFL.

The VisiTester feature mixes a VFL laser with the test signal, making a connected test fiber obvious at the other end.

Excel-based reporting software provides

Stampdar-opseloodised and

certification and reporting, ensuring a combination of flexibility, productivity, and confidence. Datalogging, download and a real time mimic display are also included.

* Length, ORL and VisiTester on selected instrument models



Features

- Ease to use, slim & versatile
- Loss, length & ORL tester for high fiber counts*
- Real time pass / fail
- Sunlight readable & backlit LCD
- SM, MM (EF Compliant) & quad test options
- Large memory & USB key file dump
- Interchangeable connectors
- Real-time, secure PC reporting software
- Continuity test tone with multi-Fiber ID
- VFL VisiTester option
- Long battery life, USB external power
- >25 calibration λ , 1% accuracy
- ISO 17025 traceable calibration
- 3-year warranty
- 3-year recommended calibration cycle
- Made in Australia







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KI 23400/KI 27400 Series - Handheld 2-way +ORL +Length Fiber Certifier

A pair of fully featured KI 23400/ KI27400 Loss Test Sets easily tests and reports fiber optic loss, length and ORL pass / fail against standards. Backed up by ILAC/ ISO 17025 traceable calibration, it is ideal for test applications requiring accuracy with high throughput.

The real-time and comprehensive test display helps the user ensure there is a good optical connection before storing a reading. This ensures superior practical accuracy and makes fault finding easier and quicker.

Two identical instruments are used, one of them automatically takes over as the master, and the same information is displayed at each end, which simplifies practical operation. The test procedure is the same for all fiber types.

The instruments provide flexible ways of working and, can be used with or without an on-site computer. They are compact,

lightweight and have >80 hours battery life. Associated ${\rm KITS}^{\rm \tiny TM}$

software is tightly integrated and provides an

TWO WAY AUTOTEST SPECIFICATIONS

and materials, while also improving test confidence.

easy workflow to set up, test and report against international standards or specific customer requirements, in a tamper-proof yet flexible reporting environment.

Test results can be stored in the 10,000 fibers memory, along with a text-input cable name and timestamp, and then dumped directly onto a USB memory key, providing limitless, secure, and future-

Using a pair of instruments, bi-directional test is achieved in real time over a single fiber with one hook-up, giving greatly superior

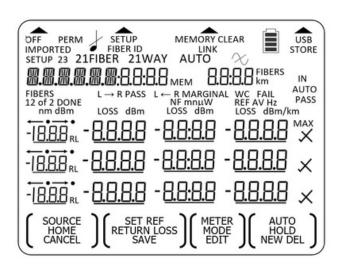
speed, accuracy and ease of use compared to conventional two-

step, two-fiber instruments. This saves training, skill, time, cleaning

All 3 loss, length & ORL measurements are seamlessly integrated

into the real time display. Loss referencing can be performed

proof data handling. These secure files or instrument memory can then be downloaded into KITS[™]. Alternatively, if a computer is available on-site, live readings can be clicked directly onto a customer report using our proven KITS[™] customizable Excel-based reporting software. Pass / Fail standards can be selected as: international, in-house, or ad hoc, so the user can enter updated standards as appropriate.



locally or remotely. VisiTester illuminates the test fiber, making the

other end easy to

find, particularly when cable or fiber labelling is mis-matched or missing.

A handy two-way Autotest communications feature helps both users step quickly through a large fiber array.

Fiber			Loss		Length	
Туре	Wavelengths	Range	Repeatability / Linearity	Range	Accuracy1	Resolution
MM	850, 1300 nm (62.5 μm) 850, 1300 nm (50 μm)	27 dB 24.5 dB	0.06 dB	6.0 dB / 20 Km 4.0 dB / 20 Km		
MM	850, 1300 nm VisiTester (62.5 μm) 850, 1300 nm VisiTester (50 μm)	24 dB 21.5 dB	0.06 dB	4.5 dB / 20 Km 4.5 dB / 20 Km		
SM	1310, 1550 (VFL) nm	47 dB	0.04 dB	30 dB / 128 Km	0.01 % ± 4 m	1 m (0.000~9.999 Km) 10 m (10.00~99.99 Km)
SM	1310, 1490, 1550, (VFL) nm 1310, 1550, 1625 (VFL) nm	44 dB	0.04 dB	27 dB / 128 Km	0.01 /0 1 4 11	100 m (100.0~127.9 Km)
SM	1310, 1550 nm, VisiTester	44 dB	0.04 dB	27 dB / 128 Km		
SM	1310, 1490, 1550, nm, VisiTester 1310, 1550, 1625 nm, VisiTester	41 dB	0.04 dB 0.04 dB	24 dB / 128 Km		
SM	1310, 1490, 1550, 1625 (VFL) nm	41 dB	0.04 0B	24 dB / 128 Km		

For detailed source & ORL specifications, refer Light Source and ORL specifications

Note 1: Up to 3 dB above optical measuring loss limit. Cable ORL variation and fiber/cable length mismatch are typically dominant



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ONE WAY AUTOTEST SPECIFICATIONS

Using a single instrument, the light source and power meter can be looped around in one-way Autotest mode, to measure loss only.

The 2-way test ports also operate as one-way Autotest light sources, compatible with other Kingfisher Autotest power meters, or as basic light sources.

The power meter is also compatible with other Kingfisher Autotest sources with matching wavelengths.

One-way Autotest provides fast & easy loss testing at up to 3 λ , in one direction, along with the source nominal power level and λ , with either local or remote referencing.

ber Type	Wavelengths	Loss Range	Loss Repeatability / Linearity
MAA	850, 1300 nm (62.5 μm)	27 dB	
MM	850, 1300 nm (50 μm)	24.5 dB	0.06 dB
N4N4	850, 1300 nm, VisiTester (62.5 μm)	24 dB	
MM	850, 1300 nm, VisiTester (50 μm)	21.5 dB	0.06 dB
SM	1310, 1550 nm	47 dB	0.04 dB
SM	1310, 1490, 1550, nm 1310, 1550, 1625 nm	44 dB	0.04 dB
SM	1310, 1550 nm, VisiTester	44 dB	0.04 dB
SM	1310, 1490, 1550, nm, VisiTester 1310, 1550, 1625 nm, VisiTester	41 dB	0.04 dB
SM	1310, 1490, 1550, 1625 (VFL) nm	41 dB	0.04 dB

OPTICAL POWER METER SPECIFICATIONS

The power meter port uses the same interchangeable connector adaptors as the other ports.

ISO17025 Traceable calibration at many wavelengths at 1% accuracy, and full linearity test, is the best in the industry. The tight Total Uncertainty specification covers the full range of power levels, ambient temperatures, connectors, and fibers, without user dark current offset. The multi-Fiber ID feature tests common test tones and, can also positively identify 1 of 12 test tones from multiple test sources. This can speed up continuity / polarity testing.

Please enquire for non-standard power meter configurations such as high-power detectors up to +33 dBm, POF / MPO. MTP / MXC applications, special connectors, wavelength selective detectors, special calibrations etc.

Response [] Nm InGaAs deteo	Damage level dBm ctor	Calibration 🛛 nm	Power range dBm	Tone6 & Autotest Min dBm	Midrange linearity2 dB	Calibration Accuracy3 %	Polarization Sensitivity5 dB	D Sensitivity ± 30 nm4 dB
		780, 820, 850, 980	+10 ~ -60	-40				
600 ~	+15	1270, 1290, 1300, 1310, 1330,			0.04	1%	< 0.05	0.2
1700	115	1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+10 ~ -70	-50	0.04	(0.06 dB)		
					Typical		Typical	typical

Note 2: Mid-range linearity excludes top 5 dB and bottom 10 dB of range.

Note 3: Calibration condition: non coherent light, -3505 dBm, 23010C, 00.5 nm, 2003 nm FWHM, PC ceramic connector, 50 0m fiber.

Note 4 At calibration wavelengths in bold type.

Note 5: For APC connector only.

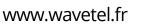
Note 6: For tone detection up to 1000 Hz.



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LIGHT SOURCE SPECIFICATIONS

The emitters feature excellent repeatability and stability. Reconnection repeatability is < 0.1 dB, which contributes to exceptional test confidence.

LED sources are Encircled Flux (EF) compliant, to provide the most consistent and reliable testing results.

The Zero Warm Up (Ultra Stable) source option uses a unique optical design, to provide zero warm up, ultra-high temperature stability, and is unaffected by varying back reflection. It provides unmatched test stability in arduous conditions.

The multi-Fiber ID feature tests common test tones and, can also

positively identify 1 of 12 test tones from multiple test sources. This can speed up continuity / polarity testing.

Please enquire for non-standard source configurations such as other wavelengths, power levels, connectors etc.

Up to 2 test ports with 6 assorted LED or laser emitters can be custom specified per instrument, making this a versatile tester for mixed multimode / single mode fiber testing.

Laser options can be compliant with CWDM standards to cover typical cable qualification for O, E, S, C, & L bands, including the water absorption peak, 1625 and 1650 nm.

	1310 / 1550 nm F-P Laser	1490 / 1625 nm CWDM7 Laser	650 nm VisiTester	850 / 1300 nm LED	Comments
Power accuracy		🛛 1 dB (LED	@ 62.5 µm)		Refer to ORDERING INFORMATION for specific model's nominal power level.
Short term stability (dB) KI274008 / KI234009	0.04 / 0.03	0.06 / 0.04	NA	0.01	
Stability over temp (dB) KI27400 / KI23400	0.6 / 0.2	0.6 / 0.2	NA	0.35	Typical / Max
linitial tolerance (nm)	20	6.5	5	NA	At 25 🛛 C
🛙 width, nm	3	< 1	3	NA	FWHM, typical
0 nm/0C	0.4	0.1	0.1	0.4	Typical
Mode Controlled Source	NA	NA	NA	Mode controlled	50/125 compliant: IEC 61280-4-1 {Ed.1.0}, TIA/EIA 526-14A & TIA TSB-178.
Reconnection repeatability (dB)	0.1	0.1	0.1	0.05	95 % confidence
Laser output power	Adjust	able over 7 dB in 0.01 d	B steps	NA	
Modulation	270 Hz, 1 kHz,	2 kHz 🛛 2 %, 12 multi-F	iber ID tones, 2 Hz blir	nk for VisiTester	

Note 7: CWDM laser wavelengths: 1270, 1290, (1310), 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, (1550), 1570, 1590, 1610 nm

Note 8: For 15 min, typ. [] [] 2[]C, after warmup, ORL < -25 dB

Note 9: For 15 min, max, 0 0 30C

VisiTester or VFL SPECIFICATIONS

On "V" part numbers the unique VisiTester mixes a powerful red laser with Two-Way Autotest, so at the far end, the active test fiber winks, making the fiber to be tested obvious to the user. The red laser is mixed with a test tone for a clip-on fiber identifier. This mixed signal extends practical fault-finding options since a clipon fiber identifier can be used simultaneously. The red laser can also be selected in stand-alone mode, for typical fault-finding applications.

On "F" part numbers the VFL on a separate optical port offers a stand-alone fault and continuity finder.

Parameters	Values
Wavelength	650 ± 5 nm
Power	0 dBm ± 1 dB (@ SM / MM fiber)
Laser Safety	Class 1, IEC60825-2
Blink rate (Stand-alone mode)	CW or 2 Hz



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ORL SPECIFICATIONS

The full-featured ORL meter can operate in stand-alone mode or integrated with Autotest.

In two-way Autotest, the ORL is measured at each end of the link, and the results displayed on both instruments.

A Zero-function compensates for residual reflections, and to

provide extended measurement range with improved linearity. A User-Calibration Mode compensates for losses in a test set-up, which improves overall accuracy.

Multimode ORL ports all have APC connectors to ensure the full ORL measuring range.

Parameters		Laser	LED
	1 or 2 🛛	3 or 4 [] 0 ~ 57 dB	
Range9	0 ~ 60 dB	0~57 dB	0 ~ 30 dB (62.5 μm) 0 ~ 27.5 dB (50 μm)
Port isolation / residual9		>50 dB	> 20 dB
ORL linearity9	0.1 dB 55 ~ 60 dB: 1 dB after zero offset	0.1 dB 52 ~ 57 dB: 1 dB after zero offset 0.2 dB	0.1 dB 22.5 ~ 30 dB: 1 dB after zero offset 0.2 dB
ORL calibration accuracy10	0.2 dB	0.2 dB 0 ~ 45 dB: 0.01 dB	0 ~ 30 dB: 0.01 dB
Resolution	0 ~ 50 dB: 0.01 dB 50 ~ 65 dB: 0.1 dB	45 ~ 60 dB: 0.1 dB	30 ~ 45 dB: 0.1 dB
🛛 available		See source options in LIGHT SOURCE SPECIFI	CATIONS

Note 9: Instruments with PC connectors will have reduced ORL range due to ORL limitations of the PC connector, typically around 40 dB. We suggest an APC instrument connector is always preferable unless low-range ORL measurements are acceptable

Note 10: Under calibration conditions: ORL of approximately 14.5 dB, 25 $\hbox{I\!C}$

GENERAL SPECIFICATIONS

The practical interchangeable optical connectors are dust & drop protected and are very simple to swap over or clean. SC adaptors are supplied, with others available including small form factor LC and universal styles. The metal-free adaptors avoid damaging contamination of connectors in high power systems.

The instrument has excellent battery life. Flexible instrument power options include alkaline or rechargeable batteries, with a jumper selectable on-board battery charger. External power is via micro-USB. The custom LCD is clearly sunlight readable, operates over a wide temperature range, and has a reliable LED backlight.

Memory operation is simple, with 10,000 fiber capacity, and the memory can be easily dumped directly onto a USB key, providing effectively infinite capacity. Auto-incrementing identification text is stored with each test result and, can meet standard-based labelling schemes. The user can go back and re-test a fiber.

Firmware & software updates (with standards and other updates) are free.

Parameters	Value	Parameters	Value
Battery life	Laser/LED source: 50 hours in Autotest, typical	Operating/Storage	-15 to 55 °C / -25 to 70 °C
Size	Power meter: 100 hours, typical 190 x 105 x 35 mm (7.5 x 4.1 x 1.4")	Relative humidity	0 ~ 95 %
Weight	420 gm (0.9 lb.) / Shipping 1.5 Kg (3.3 lb.)	Tone detection	150 ~ 9900 Hz ± 1 %
LCD size	74 x 55 mm / 2.9 x 2.2"	Recommended calibration cycle	3 years
Case	Polycarbonate / rubber edges & corners, moisture resistant, 1-meter drop tested	Power	2 Alkaline AA cells or 2 x NiMH AA cells, user selectable charging; Ext power input via micro-USB or USB-C depending on instrument
Dust cap	Captive, functions as tilt bail when open		version; Selectable auto-off, low battery
Memory	Test results & timestamp for 8,000 fibers, unlimited on USB memory key		indicator, backlit display

Australian and international patents. Technical data is subject to change without notice as part of our program of continuous improvements. Class 1 Laser / LED infra-red device compliant with IEC60825-2.



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ORDERING INFORMATION

Description	S	ource Po	ower (dB (µn		iber Type	Ports	P/N
	Laser		LED		VisiTester / VFL		
	SMF	SMF	50	62.5	SMF		
	Re	fer to LIC	GHT <mark>SOU</mark>	RCE SPI	ECIFICATIONS	for Pow	ver Accuracy specifications
KI27400 series: Loss Testing							
Instrument, LTS-2W 1310-1550-1625 nm Laser APC, InGaAs Instrument, LTS-2W 850-1300) -7	-	-	-	-	2	KI27410-InGaAs-APC
nm LED, 1310-1550 nm Laser, InGaAs Instrument, LTS-2W 850-1300 nm LED, 1310-1550 nm	1-3	-35	-25.5	-23	-	3	KI27424-InGaAs
Laser APC, InGaAs	-3	-35	-25.5	-23	-	3	KI27424-InGaAs-APC
KI27400 series: Loss Testing, Length, VisiTester (depends on model)							
Instrument, LTS-2W Length VisiTester, 850-1300 nm LED, InGaAs	_	-39	-29.5	-27	0	2	KI27403LV-InGaAs
Instrument, LTS-2W Length VisiTester, 1310-1550 nm Laser, InGaAs		• •	-29.5		-	_	
Instrument, LTS-2W Length VisiTester, 1310-1550 nm Laser APC, InGaAs,	-7	-	-	-	0	2	KI27422LV-InGaAs
Instrument, LTS-2W Length VisiTester, 1310-1550-1625 nm Laser APC, InGaAs	-7	-	-	-	0	2	KI27422LV-InGaAs-APC
Instrument, LTS-2W Length VisiTester, 1310-1490-1550-1625 nm Laser APC, InGaAs	-10	-	-	-	0	2	KI27410LV-InGaAs-APC
Instrument, LTS-2W Length VisiTester, 850-1300 nm LED, 1310-1550 nm Laser, InGaAs	-7	-	-	-	0	2	KI27416LV-InGaAs-APC
Instrument, LTS-2W Length VisiTester, 850-1300 nm LED, 1310-1550 nm Laser APC, InGaAs	-7	-39	-29.5	-27	0	3	KI27424LV-InGaAs
Instrument, LTS-2W Length VisiTester, 850-1300 nm LED, 1310-1490-1550-1625 nm Laser APC, InGaAs	-7	-39	-29.5	-27	0	3	KI27424LV-InGaAs-APC
	-7	-35	-25.5	-23	-	3	KI27425L-InGaAs-APC
(123400 series: Loss, Length, ORL, VisiTester or VFL (depends on model), Ultra Stable (U,	/S, dep	ends on	model)				
Instrument, LTS-2W ORL Length VisiTester, 850-1300 nm LED APC, InGaAs	-	-39	-29.5	-27	0	2	KI23403OLV-InGaAs-APC
Instrument, LTS-2W ORL Length VisiTester, 850-1300 nm LED APC, 50 Im, Ge	-	-39	-29.5	-27	0	2	KI234030LV-InGaAs-APC-50U
Instrument, LTS-2W ORL Length VisiTester, 1310-1550 nm U/S Laser, InGaAs	-7	-	-	-	0	2	KI234220LV-InGaAs
Instrument, LTS-2W ORL Length VFL, 1310-1550 nm U/S Laser APC, InGaAs	-3			-	0	3	KI234220LF-InGaAs-APC
Instrument, LTS-2W ORL Length VFL, 1310-1490-1550 nm U/S Laser APC, InGaAs	-7			_	0	3	KI234270LF-InGaAs-APC
Instrument, LTS-2W ORL Length VFL, 1310-1550-1625 nm U/S Laser APC, InGaAs	-7	-		_	0	3	
Instrument, LTS-2W ORL Length VFL, 1310-1490-1550-1625 nm U/S Laser APC, InGaAs			-	-	-		KI234100LF-InGaAs-APC
Instrument, LTS-2W ORL Length, 850-1300 nm LED APC, 1310-1550 nm U/S Laser APC, InGaAs	-7	-	-	-	0	3	KI23416OLF-InGaAs-APC
	-3	-38	-25.5	-23	-	3	KI234240L-InGaAs-APC

Please enquire for instrument with other combinations of wavelength, power levels, PC/APC connectors and measurement capabilities.

STANDARD ACCESSORIES

Description	Quantity
SC/SC (OPT046) Hybrid adaptors SC/LC (OPT076) Hybrid adaptors SC/ST (OPT040) Hybrid adaptors [only for KI23400 &	1 per port
KI27400 series with LED sources]	1 per port
SC PC Terminator (OPT703) [only for KI23400 series]	1 per port
SC APC Terminator (OPT704) [only for KI23400 series]	1
SC-SCAPC SMF Test Lead (OPT730-SCP-SCA) [only for KI23400 series with Laser sources]	1
SC-SCAPC MMF Test Lead (OPT706) [only for KI23400 series with LED sources]	1
SC-SC(APC) MMF Test Lead (OPT740-SCP-SCA) [only for KI23400 series with LED sources @ 50 [lm]	1
50 & 62.5 μm fiber mandrel wrap set for Multimode sources (OPT701) [only for KI23400 & KI27400 series with LED sources]	1
USB cable (USB-A to micro-USB or USBA to USB-C type)	1 set
Carry Pouch	1
Wrist Strap	1
Operation manual	1
QA certificates	1
ILAC/ NATA traceable calibration certificates including Power Meter, Light Source, Two-way detector	1 set
	1 set



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OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

This instrument is supplied with metal-free sleeve optical interchangeable connector adaptors. The source ferrule type is fixed, and customer specified as either PC or APC. The power meter is for both PC & APC. Green is associated with APC. You

can order any number of connector adaptors. Order quantity one per port. Universal adaptors are recommended to be used only on power meter ports.

Description	P/N	Description	P/N
FC	OPT051	E2000/LSH, Green	OPT060G
ST	OPT040	E2000/LSH	OPT060
LC	OPT076	1.25mm universal	OPT085
SC	OPT046	POF Multi-Connector	OPT077
MU	OPT080	2.5mm universal	OPT081
HFBR	OPT078	F3000	OPT072
LSA / DIN47256	OPT071	SMA	OPT082



OPTIONAL ACCESSORIES

Description	P/N
Option, Carry Case for 2 Instruments	OPT153
Option, Carry Case includes Cletop-style cleaner & Cleaning Sticks	OPT154B

AUTHORIZED DEALER

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KI 2000 Series LS / LTS / 2-way LTS / PM General Features



Revis ion: 5

Full Feature Family

Full featured handheld optical Power Meter (purple), Light Source (yellow), Loss Test Set (red). Calibrations of all instruments are ISO 17025 traceable.

Ease of Use

Fewer key-strokes with custom LCD and 3λ loss test display, Autotest & guided button usage.

All Systems

Models for all fiber optic systems inclusive of Telco, PON, LAN, WAN, MPO/MTP Ribbon fiber, POF. A meter can test many fiber & connector types.

VisiTester Option

Mixes a laser VFL with Autotest Light Source, so the active test fiber winks, making it obvious.



Long Battery Life

Just 2x AA batteries work for 1000 hours for Power Meter, 90 hours for Light Source & Loss Test Set. Choice of batteries is available with a jumper selectable battery charger.



Total Uncertainty Specification

The Power Meter's unique Total Uncertainty Specification covers accuracy over all power levels, temperatures, connector and fiber types.





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USB Key Data

Results in internal memory can be copied onto a USB memory key with one button push, providing unlimited test data storage capacity, backup or send from a cell phone.



Autotest

Provides automatic real time multi λ loss testing up to 6 λ , with up to 3 λ displayed at once, with the respective source power levels. Use any Autotest source / meter / LTS with matching λ . One key-stroke to set all references or store all

One key-stroke to set all references or store all reading.

Large LCD Display

The large custom LCD screen, is sunlight readable & backlit. It displays loss test data for 3 λ including reference or source power levels in Autotest.

USB Power & Charging

Instruments can be powered or charged (if rechargeable batteries are fitted) via micro-USB.

Test Tone with Multi-Fiber ID Function

Multi-Fiber ID Sources and meters provide a tone feature which can uniquely identify up to 12 fibers, in addition to common test tones, perfect for high density polarity and continuity testing.

Class 1 Laser

Kingfisher Laser Light Sources are Class 1 as per international laser eye safety standard, IEC 60825-2 (2011).

Encircled Flux Compliant Multimode Light Sources

All LED sources are Encircled Flux (EF) standards compliant, to provide the most consistent and reliable testing results.

Ribbon Fiber Test

The large detector area XLversion Power Meter is ideal for testing MPO/MT/MTP ribbon fiber connectors up to 72 fibers, 1 mm POF, fiber bundles, or any fiber with an active area up to 3 mm across.



Text Naming for Test Data

Loss test results can be stored in the large memory, along with a user-input cable name. Capacity is $1000 4-\lambda$ tests with text, timestamp, reference levels etc.



Captive Dust Cap

The flip-over captive dust cap functions as tilt bail when open.







Worldwide recognized accuracy and quality



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Other Features

- Useful standard accessories include pouch & wrist strap, connectors & documentation.
- Selectable auto-off & low battery indicator
- Versatile, rugged, reliable, moisture resistant constructions
- Power averaging mode for modulated signal
- Max / Min recording & display hold
- Displays mW, μW , nW, dB, dBm to 0.01 dB resolution
- Zero-warm up time Light Source option
- Up to 6 mixed LED, Laser & VFL Light Sources
- Up to 25 genuine Power Meters calibration wavelengths
- 3 ~ 7 Year warranty
- 2-way LTS capable of ORL & Length measurements
- 2-way LTS with large memory for 10,000 fibers
- ILAC/ ISO 17025 traceable calibration certificate

Interchangeable Connector

The practical interchangeable optical connectors are dust & drop protected and very simple to swap over or clean. Refer to Kingfisher's websites below for details;

For standard instrument

For XL Power Meter



Most Kingfisher adaptors are metal free to avoid contamination of connectors in high power systems.







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Revision record:

Rev 23	Date	Editor	Change De															
	30ct2024	TO Ng	Changes	s mac	de are	as shown	below	,										
			Response 1 λ. Nm	Damage level dBm	Cal	ibration λ nm	Power range dBm	Tone ^{ll} & Autotest Min dBm	linearity ²	Calibration Accuracy ³ %	Polarization Sensitivity ⁵ dB	λ Sensitivity ± 30 nm ⁴ dB						
			InGaAs detector	r														
			600 ~ 1700	+15	1270, 1290, 1350, 1370,	20, 850, 980 1300, 1310, 1330, 1390, 1410, 1430,	+10 ~ -60	-4 <u>540</u> -50	0.04	1 % (0.06 dB)	< 0.05	0.2						
						, 1490, 1510, 1530, 90, 1610, 1625, 1650												
									Typical		Typical	typical						
						5 dB and bottom 10 d												
						ent light, -35±5 dBm, 2	:3±1°C, ±0.5 nm,	20±3 nm FWHM	I, PC ceramic connect	or, 50 µm fiber.								
					elengths in bold	d type.												
			Note 5: For AF															
			Note 6: For tor	ine detection	n up to 1000 Hz	2												
					1310 / 1550 nm F-P Laser	1490 / 1625 nm CWDM ⁴ CWDM ⁷ Laser	650 nm VisiTester	850 / 1300 nm LED		iments								
			Power accuracy			±1d8 (LED 4	(mu 5.59 ¢		Refer to ORDERIN specific model's n	GINFORMATION for prinal power level.								
			Short term stability k127400 ² k127400 ⁸ k123400 ⁹ k123400 ⁹	/	0.04 / 0.03	0.06 / 0.04	NA	0.01										
			Stability over temp KI27400 / KI23400	o (dB)	0.6 / 0.2	0.6 / 0.2	NA	0.35		al / Max								
			 λ initial tolerance () λ width, nm 	(nm)	20 3	6.5 < 1	5	NA NA		25 °C A typical								
			λ wdb, nm λ nm/°C		0.4	0.1	0.1	0.4	5	pical								
			Mode Controlled S	Source	NA	NA	NA	Mode controlle		IEC 61280-4-1 (Ed.1.0). TIA T\$8-178.								
			TIA/EIA 526-14A & TIA TSS-178.															
					0.1	0.1	0.1	0.05	repeatability (d8) 0.1 0.1 0.1 0.0 39 % controlence									
			repeatability (d8) Laser output powe	Br	Adjus	table over 7 dB in 0.01 dB	iteps	NA	95 % 0	onfidence								
			repeatability (dB) Laser output powe Modulation Note 62 CWDM laser	r wavelengths: 1	Adjus 270 Hz, 1 kHz 1270, 1290, (1310), 13	table over 7 dB in 0.01 dB . 2 kHz ± 2 %. 12 multi-Fib 330, 1350, 1370, 1390, 1410, 1	iteps er ID tones. 2 Hz bl	NA ink for VisiTester		onfidence								
			repeatability (dB) Laser output powe Modulation Note 62 CWDM laser Note 78 For 15 min, to Note 89 For 15 min, to	r wavelengths: 1 typ. ± 4 2°C, af	Adjust 270 Hz, 1 kHz 1270, 1290, (1310), 1) ber warmup, ORL <	table over 7 dB in 0.01 dB 2 kHz ± 2 % 12 multi-Fib 330, 1350, 1370, 1390, 1410, 1 -25 dB	rteps er ID torves. 2 Hiz bi 430, 1450, 1470, 1490	NA ink for VisiTester 1, 1510, 1530, (1550), 1;	570, 1590, 1610 nm									
			International Control	r wavelengths typ: ± Δ 2°C, af max; ± Δ 3°C Laser/Li	Adjus: 270 Hz, 1 kHz 1270, 1290, (1310), 11 her warmup, ORL < W ED source: 50 ho	table over 7 dB in 0.01 dB 2 kHz ± 2 %. 12 multi-Fib 330, 130, 1370, 1390, 1410, 1 -25 dB falue urs in Autotest, typical	neps er ID tones. 2 Hz bi 430, 1450, 1470, 1490 Parar	NA ink for VisiTester 1, 1510, 1530, (1550), 1 neters										
			repeatability (d8) Laser output powe Modulation Note 62 CWDM laser Note 62 For 15 min, t Note 69 For 15 min, n Parameters	r wavelengths: typ: ± a 2°C, at max; ± a 3°C Laser/Li Power r	Adjust 270 Hz, 1 kHz 1270, 1290, (1310), 11 ber warmup, CRL < V	table over 7 d8 in 0.01 d8 2 84tz ± 2 %. 12 multi-Fib 330, 1350, 1370, 1390, 1410, 1 -25 d8 (alue urs in Autotest, typical typical	iteps er ID tones. 2 Hz bl 430, 1450, 1470, 1490 Parar Operar	NA ink for VisiTester 1, 1510, 1530, (1550), 1 heters ing/Storage	570, 1590, 1610 nm Value									
			repeatability (dB) Laser output powe Modulation Note 62, CVDM laser Note 62, CVDM laser Note 62, For 15 min, n Parameters Battery life	r wavelengths: 1 typ: ± Δ 2°C, af max, ± Δ 3°C Laser/Li Power r 190 × 10	Adjust 270 Hz, 1 kHz 1270, 1290, (1310), 11 her warmup, ORL < V ED source: 50 ho meter: 100 hours.	table over 7 d8 in 0.01 d8 2 84tz ± 2 %, 12 multi-Fib 330, 1350, 1370, 1390, 1410, 1 -25 d8 (alue urs in Autotest, typical typical 4.1 x 1.41)	iteps er ID tones. 2 Hz bl 430, 1430, 1470, 1490 Paran Opera Relativ Tone d	NA ink for VipTester 1, 1510, 1530, (1550), 1 ing/Storage e humidity (letection 1	570, 1590, 1610 nm Value 15 to 55 °C / -25 to 70 ° 0 - 95 % 150 - 9900 Hz ± 1 %									
			repeatability (dB) Laser output powe Modulation Note 62, CWDM laser Note 62, CWDM laser Note 68, Fort 5 min, n Parameters Battery life Size	r wavelengths ' typ. ± 4 2°C, af max, ± 4 3°C Laser/L1 Power r 190 × 10 420 gm	Adjust 270 Hz, 1 KHz 1270, 1290, (1310), 11 ber warmup, ORL < V ED source: 50 hom meter: 100 hours. 15 x 35 mm (7.5 x	table over 7 d8 in 0.01 d8 2 84tz ± 2 %, 12 multi-Fib 330, 1350, 1370, 1390, 1410, 1 -25 d8 (alue urs in Autotest, typical typical 4.1 x 1.41)	iteps er ID tones. 2 Hz bl 430, 1450, 1470, 1490 Paran Operar Relativ Tone c Recorr	NA ink for VipTester 1, 1510, 1530, (1550), 15 ing/Storage e humidity (tetection 1	570, 1590, 1610 nm Value -15 to 55 °C / -25 to 70 ° 0 − 95 %									
			repeatability (dB) Laser output powe Modulation Note 62 CWDM laser Note 62 CWDM laser Note 62 For 15 min, th Note 68 For 15 min, th Parameters Battery life Size Weight	r wavelengths: typ: ± 3 2*C, af max; ± 3 3*C Laser/Li Power r 190 × 10 420 gm 74 × 55 Polycart	Adjus 270 Hz, 1 KHz, 1270, 1290, (1310), 11 her warmup, ORL < V ED source: 50 hoi meter: 100 hours, 15 x 35 mm (7.5 x i (0.9 lb.) / Shippin mm / 2.9 x 2.2"	table over 7 dB in 0.01 dB 2 945 ± 2 % 12 multi-Re 330, 136, 170, 196, 140, 1 23 dB 404e urs in Autotest, typical typical 4.1 x 147 gg 15 Kg (3.3 lb.)	Iteos er ID tones. 2 Hz bl 430, 1450, 1470, 1490 Veran Relativ Tone d Recorr calibra	NA ink for VisTester 1 1510, 1530, 1550), 1 neters ing/Storage e humidity (etection 1 mended 3 ion cycle	Value 15 to 55 °C / -25 to 70 ° 50 - 95 % 50 - 950 Hiz ± 1 % 8 years 2 Alkaline AA cels or 2 x	C NMH AA celis user t power input via								
			repeatability (d5) Laser output powe Modulation Note 62 CWDM laser Note 62 CWDM laser Note 62 For 15 min, t Note 62 For 15 min, t Rerameters Battery life Size Weight LCD size	r wavelengths: r typ: ± a 2°C, at max; ± a 3°C Laser/LL Power r 190 × 10 420 gm 74 × 55 Polycart resistan Captive Test res	Adjun 270 Hz, 1 kHz 1270, 1990, (130), 13 ber warmup, ORL < W ED source: 50 hoi meter 100 hous; 5 x 35 mm (7.5 x 0, 9 lb.) / Shippin mm / 2.9 x 2.2" bonate / rubber t 1. "meter drop to 1. Sinctions as bit I	table over 7 dB in 0,01 dB 2 lefts ± 2 %, 12 multi-Fib 30, 130, 130, 130, 130, 140, 140, 1 28 dB urs in Autotest, typical typical 4,1 x 1,47 mg 15 Kg (3,3 lb.) edges & comers, moistur ested	tteps ar ID tones. 2 Hz bl sto, 1450, 1470, 1490 Opera Relativ Tone d Recom calibra e Power	NA ink for VisiTester 1530, 1530, 1530, 15 sing/Storage e humidity (detection 1 mended 2 sion cycle	Value 	C NMH AA cells user t power input via <u>depending</u> on								
			repeatability (dB) Laser output powe Modulation Note 62, CWDM laser Note 62, CWDM laser Note 62, For 15 min, n Parameters Battery life Size Weight LCD size Case Dust cap	r wavelengths: r typ: ± a 2°C, at max; ± a 3°C Laser/LL Power r 190 × 10 420 gm 74 × 55 Polycart resistan Captive Test res	Adjun 270 Hz, 1 kHz 1270, 1280, (1310), 11 1270, 1280, (1310), 11 1270, 1280, (1310), 12 1270, 1280, 1	table over 7 dB in 0.01 dB 2 lefts ± 2 %, 12 multi-Fib 30, 136, 1370, 1390, 1410, 1 40 le 40 le 41 x 1.47 41 x 1.47 ang 15 Kg (3.3 lb.) etges & comers. moistur tsted ball when open	tteps ar ID tones. 2 Hz bl sto, 1450, 1470, 1490 Opera Relativ Tone d Recom calibra e Power	NA ink for VisiTester 1530, 1530, 1530, 15 sing/Storage e humidity (detection 1 mended 2 sion cycle	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA cells user t power input via <u>depending</u> on								
			repeatability (dB) Laser output powe Modulation Note 62 CWDM laser Note 62 CWDM laser Note 62 For 15 mit t Note 62	r wavelengths: 't typ: ± a 2°C, at max, ± a 3°C Laser/L1 Power r 190 × 10 420 gm 74 × 55 Polycart resistant Captive Test res USB me	Adjun 270 Hz, 1 kHz 1270, 1280, (1351, 11 1270, 1280, (1351, 11 1270, 1280, (1351, 11 1270, 1280, (1351, 11 1270, 12800, 1280, 1280, 1280, 1280, 1280, 1280, 1280, 1280, 1280, 1280,	table over 7 dB in 0.01 dB 2 lefts ± 2 %, 12 multi-Fib 30, 136, 1370, 1390, 1410, 1 40 le 40 le 41 x 1.47 41 x 1.47 ang 15 Kg (3.3 lb.) etges & comers. moistur tsted ball when open	tteps ar ID tones. 2 Hz bl sto, 1450, 1470, 1490 Opera Relativ Tone d Recom calibra e Power	NA ink for VisiTester 1530, 1530, 1530, 15 sing/Storage e humidity (detection 1 mended 2 sion cycle	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA celis user t power input via <u>dependio</u> table auto-off. low display								
			repeatability (d5) Laser output powe Modulation Note 62, CWDM laser Note 62, CWDM laser Note 62, For 15 min, n Parameters Battery life Size Weight LCD size Case Dust cap Memory STANDARD ACO Description	r wavelengths: typ, ± à 2°C, at max, ± à 3°C Laser/LL Power n 190 × 10 420 gm 74 × 55 Polycart resistant Captive. Test res USB me CCESSORIE!	Adjun 270 Hz, 1 kHz 1970, 1980, (1930, 11, 1970, 1980, (1930, 11, 1970, 1980, (1930, 11, 1970, 1	table over 7 dB in 0.01 dB 2 lefts ± 2 %, 12 multi-Fib 30, 136, 1370, 1390, 1410, 1 40 le 40 le 41 x 1.47 41 x 1.47 ang 15 Kg (3.3 lb.) etges & comers. moistur tsted ball when open	tteps ar ID tones. 2 Hz bl sto, 1450, 1470, 1490 Opera Relativ Tone d Recom calibra e Power	NA ink for VisiTester 1530, 1530, 1530, 15 sing/Storage e humidity (detection 1 mended 2 sion cycle	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA cells, user t power input via <u>depending</u> on table auto-off, low display Quantity								
			repeatability (db) Laser output powe Modulation Note 62 CWDM laser Note 62 CWDM laser Note 62 For 15 min, n Parameters Battery life Size Weight LCD size Case Dust cap Memory STANDARD ACC Description SC/SC (0P17046) SC/SC (0P17046)	r wavelengths: typ: ± a 2*C; af max; ± a 3*C Laser/LL Power r 190 × 10 420 gm 74 × 55 Polycart resistan Captive Test res USB me CESSORIE! Hybrid adapt	Adjun 270 Hz, 1 kHz 1270, 1380, (1351, 11 1270, 1380, (1351, 11 1270, 1380, (1351, 11 1270, 1380, (1351, 11 1270, 1280,	table over 7 dB in 0.01 dB 2 lefts ± 2 %, 12 multi-Fie 30, 130, 130, 130, 130, 140, 140, 1 245 dB urs in Autotest, typical typical 41x 147 ng 15 Kg (3,3 lb.) edges & comers, moistur sted bail when open for 8,000 fibers, unlimite	reos ar ID tones. 2 Hz bi Jajo, 1400, 1470, 1480 Relativ Tone d Recor calibra e Power d on	NA ink for VisiTester 1530, 1530, 1530, 15 ing/Storage eters ing/Storage eters ing/Storage ing/Storag	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA celis user t power input via <u>dependio</u> table auto-off. low display								
			repeatability (d5) Laser output powe Modulation Note 62, CWDM laser Note 62, CWDM laser Note 62, For 15 min, n Parameters Battery life Size Weight LCD size Case Dust cap Memory STANDARD ACC Description SC/SC (CPT046) i SC/ST (CPT046) i	r wavelengths: typ: ± a 2*C; aff max; ± a 3*C Laser/LI Power r 190 × 10 420 gm 74 × 55 Polycart resistan Captive Test res USB me CESSORIE! Hybrid adapt Hybrid adapt	Adjust 270 Hz. 1 HHZ 1270, 1280, (1370), 11 1270, 1280, (1370), 11 1270, 1280, (1370), 11 HZ ED source: 50 hol meter: 100 hours, 5 4 3 35 mm (7.3 k 3 35 mm (7.3 k 1 - meter drop tr, 1 - meter dro	table over 7 dB in 0.01 dB 2 VHz ± 2 /B 12 multi-Fib 300 (136) (137) (1900 440, 1 -23 dB We wrs in Autotest, typical typical 4 x 147 ng 15 Kg (3.3 lb.) sted al x Men open for 8.000 fibers, unlimite 400 & K127400 series with	reos ar ID tones. 2 Hz bi Jajo, 1400, 1470, 1480 Relativ Tone d Recor calibra e Power d on	NA ink for VisiTester 1530, 1530, 1530, 15 ing/Storage eters ing/Storage eters ing/Storage ing/Storag	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA cells user t pover input via <u>depending</u> on table auto-off, low display Quantity 1 per port 1 per port 1 per port								
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			repeatability (dB) Laser output powe Modulation Note 62 CWDM laser Note 62 CWDM laser Note 62 CWDM laser Size Battery life Size Weight LCD size Case Dust cap Memory STANDARD ACC Description SCAC (OPT046) SC/LC (OPT046) SC/SC (OPT046) SC/SC (OPT046) SC/SC (OPT046)	r wavelengths : typ: ± à 2°C; af max ± à 3°C Laser/LI Power r 190 × 10 190	Adjun 270 Hz, 1 kHz 1270, 1280, (1193), 11 1270, 1280, (1193), 11 1270, 1280, (1193), 11 128, 128, 128, 128, 128, 128, 128, 128,	table over 7 dB in 0.01 dB 2 945 ± 2 % 12 multi-Fie 130 (136, 137, 1390, 140, 1 23 dB We We We We We We We We We We	teos er ID tones. 2 Hz bio er ID tones. 2 Hz bio er ID tones. 2 Hz bio en Opera Relativ Tone c Relativ Tone c Relativ t tone c altera e Power el Dowrees LED sources	NA ink for VisiTester 1530, 1530, 1530, 15 ing/Storage eters ing/Storage eters ing/Storage ing/Storag	Value 15 to 55 °C / -25 to 70 ° - 95 % 150 - 9900 Hit ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging. E micro-USB or USB	C NMH AA cells user t pover input via <u>depending</u> on table auto-off, low display Quantity 1 per port 1 per port 1 per port								
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			repeatability (dB) Laser output powe Modulation Note 62, CWDM laser Note 62, CWDM laser Note 62, CWDM laser Note 62, CWDM laser Battery life Size Weight LCD size Case Dust cap Memory STANIDARD ACC Description SC/SC (OPT046) (SC/C (OPT076) SC/ST (OPT076) SC/ST (OPT076) SC/ST (OPT076) SC/ST (OPT076) SC/ST (OPT076) SC/SC (OPT076) SC/ST (OPT076) SC/SC (r wavelengths : you a 2 v c, at max, ± a 3 v C Laser/LI Power n 190 × 10 420 gm 74 × 55 Polycart resistan Captive Test res USB me CCESSORIES Hybrid adapt Hybrid Hybrid Hybrid Adapt Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid Hybrid H	Adjust 270 Hz. 1 HHz 1270, 1280, (1370), 11 1270, 1280, (1370), 11 1270, 1280, (1370), 11 Hz Haward, 1970, 19	sable over 7 dB in 0.01 dB 2 VHz ± 2 % 12 multi-Fib 30.136.137.1390, 1410, 1 23.0 dB We wrs in Autotest, typical typical wrs in Autotest, typical typical typical 4.1 x 1.47 ng 1.5 Kg (3.3 lb.) adges & comers. moistur ested 400 & K127400 series with ested 400 & K127400 series with (0.00) fbers. unlimite 400 & K127400 series with 400 a series 120 series with 400 a series with 120 series with 400 a sources (0.0710) (5 10,107 fbr K123400 series with 400 a sources (0.0710) (5	teos Ir ID tones. 2 Hz bio Ir ID tones. I Copera Relativ Tone c Relativ Ton	NA nk for VisiTester is (15%, 138), (550), 15 ing/Storage e humidity (1 etection 1 mended 2 son cycle (1 (1 (1) (1) (1) (1) (1) (1)	Value -15 to 55 °C / -25 to 70 ° 0 - 95 % 50 - 9900 Hz ± 1 % 3 years 2 Alkaline AA cells or 2 x selectable charging: b mitrument version Sele battey indicator, backit	C NMH AA cells user t power input via <u>detending</u> table auto-off. low display 1 per port 1 per port 1 per port 1 1 1 1 1 1								
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