

KI 7340C Series

PREMIUM TWO WAY OPTICAL LOSS TEST SET
WITH OPTICAL RETURN LOSS (ORL)

Optical Communications Test Applications

- Attenuation testing
- System power testing
- ORL testing
- Continuity testing



Revision 28

The KI 7340C series is the industry's fastest and easiest bi-directional loss tester. Average fiber optic link loss and ORL each end is automatically displayed in real time on both instruments, at multiple wavelengths, via a single fiber.

Featuring zero warm up, high speed and high accuracy, results can either be stored in internal memory, or inserted directly into a customized acceptance report on a PC, with one mouse click.

Detector & calibration options cover a wide range of connector types, fiber types and CWDM wavelengths from +27 to -70 dBm with 1% traceable accuracy.

It is a robust, reliable and easy to use instrument for high performance single mode or multimode fiber optic cable testing.

Features

- Very high productivity
- Reliable, rugged & field proven
- Zero warm up & high accuracy
- Full feature ORL testing
- Autotest compatibility with other instruments
- Mode controlled multimode sources
- Multimode sources come with 50 & 62.5 μ m fiber mandrel wraps
- 3 ~ 7 years warranty
- ISO 17025 traceable calibration certificate
- Interchangeable connectors
- Long battery life
- Large memory
- Flexible real-time PC software
- Instant Pass / Fail indication
- Up to 4 LED or laser sources
- Compact & light weight
- Made in Australia

KI 7340C Series - PREMIUM TWO WAY OPTICAL LOSS TEST SET WITH OPTICAL RETURN LOSS (ORL)

This is the industry fastest and easiest bi-directional loss test set. From start of test to acceptance report takes one mouse click and 4 seconds per wavelength.

The real-time loss and ORL display on both instruments means that cable certification and rectification use the same procedure, which simplifies training and operating procedures.

Autotest is available on both Test and Meter ports and is compatible with all other Autotest instruments. When a pair of identical models are used, the HOLD functions provide handy communication method between two users, so they can synchronize while working through successive fibers.

High availability is the result of zero warm up, >190 hours battery life, patented interchangeable optical connectors for both ports, superior reliability and ISO 17025 traceable calibration.

The instrument is also a standalone traceable power meter, multi-light source and Optical Return Loss Tester.

The ORL Zero function compensates for residual reflections and provides extended measurement range with improved linearity.

The ORL User Calibration Mode compensates for stray losses in a test set-up, which improves overall accuracy.

Multimode LED sources feature standards compliant beam geometry & modal distribution across the fiber core, results in greatly improved measurement accuracy.

The new InGaAs detectors have wider wavelength response range from 600 ~ 1700 nm. It provides good response for all common wavelengths.

Flexible KITS™ PC software is a real-time measurement, Pass/Fail assessment and reporting solution. Easily customized for any language and reporting format, it also supports memory download, data logging, label printing, legacy instruments and enterprise level data management.

POWER METER SPECIFICATIONS

Response λ (Nm)	Damage level (dBm)	Calibration λ (nm)	Power range (dBm)	Tone & Autotest Min (dBm)	Midrange linearity ¹ (d)	Calibration Accuracy ² (%)	Polarization Sensitivity ⁶ (dB)	Total Uncertainty ³ (dB)	λ Sensitivity \pm 30 nm ⁵ (dB)
InGaAs detector									
600 ~ 1700	+15	780, 820, 850, 980 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+5 ~ -60 +5 ~ -70	-45 -50	0.04	1% (0.06 dB)	< 0.05	0.3	0.03
H5 (InGaAs) detector									
800 ~ 1700	+25 ⁴	820, 850, 980 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+75 ~ -50 +15 ~ -60	-35 -40	0.04	1% (0.06 dB)	< 0.05	0.3	0.03
H3B (InGaAs) detector									
800 ~ 1700	+30 ⁴	820, 850, 980 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+27 ~ -40 +27 ~ -50	-25 -30	0.04	1% (0.06 dB)	< 0.05	0.35	0.03
Ge detector									
600 ~ 1650	+25	780, 820, 850, 980 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+75 ~ -60 +15 ~ -60	-45 -50	0.06	1% (0.06 dB)	< 0.05	0.5	0.03
Si detector									
350 ~ 1100	+5	635, 650, 660, 780, 850, 980	+0 ~ -70	-50	0.04	1% (0.06 dB)	< 0.05	0.3	0.03
					typical		typical	max	typical

Note 1: Mid-range linearity @ 1550 nm for InGaAs & Ge, or 850 nm for Si. Non-coherent light, with APC connector. Excludes top 5 dB and bottom 10 dB of range.

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

Note 3: Includes contributions of: varying optical connector types, calibration uncertainty, linearity over temperature & range, and fiber core diameter up to 200 μ m.

Note 4: H5 & H3B can sustain the damage level for 2 minutes.

Note 5: At calibration wavelengths in bold type.

Note 6: For APC connectors only.

LIGHT SOURCE SPECIFICATIONS

Parameters	1310/1550 nm laser	Other lasers	LED	Comments
2 λ source power	-7 dBm	-7 dBm	-26 dBm (62.5 μ m),	\pm 1 dB for Laser,
3 or 4 λ source power	-10 dBm	-10 dBm	-29 dBm (50 μ m), -41 dBm (10 μ m)	\pm 3 dB for LED (@62.5 μ m only)
Short term stability, dB	0.03 ⁷	0.05 ⁷	0.01	15 min, max, no warm up, Δ 3°C
Stability over temperature, dB	0.2	0.2	0.35	Max, over temperature
λ tolerance, nm	20	6.5	-	@ 25 °C
λ width, nm	3	< 1	-	FWHM, typical
Mode Controlled Source	-	-	Yes	Mode controlled ⁸
λ nm/°C	0.4	0.1	0.4	Typical
Reconnection repeatability, dB	0.1	0.05	-	95 % confidence
Laser output adjustment	Adjustable over 6 dB in 0.01 dB steps		-	-
Modulation	270 Hz, 1, 2 KHz, \pm 2 %		-	-

Note 7: For ORL < -25 dB.

Note 8: 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.

ORL SPECIFICATIONS

Parameters	Laser		LED
	1 or 2 λ	3 or 4 λ	
No of wavelength	1 or 2 λ	3 or 4 λ	
Measurement range ⁹	0 ~ 65 dB	0 ~ 60 dB	0 ~ 40 dB (for 62.5 μ m fiber) 0 ~ 37 dB (for 50 μ m fiber)
Port isolation ¹⁰	Standard > 30 dB; Optional > 50 dB		> 22 dB
ORL accuracy	0 ~ 50 dB: 0.5 dB 50 ~ 65 dB: 1 dB after zero offset	0 ~ 45 dB: 0.5 dB 45 ~ 60 dB: 1 dB after zero offset	0 ~ 30 dB: 0.5 dB 30 ~ 45 dB: 1 dB after zero offset
Resolution	0 ~ 50 dB: 0.01 dB 50 ~ 65 dB: 0.1 dB	0 ~ 45 dB: 0.01 dB 45 ~ 60 dB: 0.1 dB	0 ~ 30 dB: 0.01 dB 30 ~ 45 dB: 0.1 dB
λ available	See source options		

Note 9: After a zero offset, measurement range will be 10 dB better than the connector or other residual ORL. So, PC connectors have reduced range.

Note 10: Port Isolation is the passive return loss isolation of an ORL test port (with the instrument turned off). This is not relevant for manual ORL testing, when only one active ORL meter is connected. However, in Autotest, the ORL range is limited to the port isolation value when the link attenuation is small. If the standard 30dB port isolation is inadequate, order the 50dB port isolation built-in option, -ISO50, e.g. KI 73416C-InGaAs-ISO50. In any test situation, the Autotest ORL range limit (in dB) will be: port isolation (dB) + 2 x link loss (dB), up to the instrument specification.

Australian and international patents, technical data is subject to change without notice as part of our program of continuous improvements. Class 1 Laser/LED product, complies IEC60825-1 and 21CFR1040.10

GENERAL SPECIFICATIONS

Parameters	Values
Battery life	360 hours Power Meter / 190-hours laser in Autotest
Size	190 x 130 x 70 mm, 7.5 x 5.1 x 2.8"
Weight	500 gm, 1.1 lb. Shipping 1.5 Kg, 3.3 lb.
Temperature / Relative Humidity	-15 to 55 °C (Operating), -25 to 70 °C (Storage) / 0 ~95%
LCD size	68 x 26 mm / 2.7 x 1.0 "
Hidden keypad	For setting advanced functions
Case	Polycarbonate, 1-meter drop tested on concrete
PC interface	USB Type B
Memory	1269/874/667 bi-directional 2 λ /3 λ /4 λ loss and ORL test results
Power	2 alkaline C cells (7.6 A/Hour); External DC 9V with ID2.5mm(+ve)/OD5.5mm plug or via USB port. Selectable auto-off, low battery indicator, backlit display
Tone detection	150 ~ 9999 Hz \pm 1 %
Pass/Fail	Insertion & Return loss pass/fail criteria can be set for all λ
Max / min	Recording feature for stability testing
Power meter resolution	0.01 dB

ORDERING INFORMATION

Description	Part number
P/N with Optical Return Loss (ORL)	
Instrument, LTS-2W ORL 1310-1550 nm u/s ¹¹ , InGaAs	KI7343C-InGaAs
Instrument, LTS-2W ORL 1310-1550 nm u/s, APC, InGaAs	KI7343C-InGaAs-APC
Instrument, LTS-2W ORL 850-1300 nm LED, 62.5 μ m, APC, Ge	KI7344C-Ge-APC
Instrument, LTS -2W ORL 850/1300 nm LED, 50 μ m ¹² , APC, Ge	KI7344C-Ge-APC-50u
Instrument, LTS-2W ORL 1310-1490-1550 nm u/s, InGaAs	KI7347C-InGaAs
Instrument, LTS-2W ORL 1310-1490-1550 nm u/s, APC, InGaAs	KI7347C-InGaAs-APC
Instrument, LTS-2W ORL 1310-1550-1625 nm u/s, APC, InGaAs	KI73410C-InGaAs-APC
Instrument, LTS-2W ORL 1310-1490-1550-1625 nm u/s, APC, InGaAs	KI73416C-InGaAs-APC
P/N without Optical Return Loss (ORL)	
Instrument, LTS -2W 1310-1550-1625 nm u/s, APC, InGaAs	KI73410nC-InGaAs-APC

Note 11: u/s=Ultra stable laser source

Note 12: Multimode 50 μ m and 62.5 μ m models are fundamentally the same equipment, but each of the models is calibrated using 50 μ m and 62.5 μ m fiber respectively during the manufacturing process.

STANDARD ACCESSORIES

Description	Quantity	Description	Quantity
SC connector adaptor (OPT046)	2	Carry Pouch	1
LC connector adaptor (OPT076)	2	Leather protective holster	1
ST connector adaptor (OPT040)	2	C cell batteries	1
SC PC Terminator to check ORL reading (OPT703) ¹³	1	& AA-to-C size battery converter (OPT101)	1
SC APC Terminator to check ORL reading (OPT704) ¹³	1	Operation manual	1
PC-to-APC Test Lead to check ORL reading (OPT705) ¹³	1	Quick reference guide	1
USB cable: A/B type	1	QA certificates	1 set
KITSTM recording/reporting software	Downloadable free from website	ILAC/ NATA traceable calibration certificates (Power Meter, Light Source, Two-way detector & ORL)	1 set

Note 13: Not applicable for KI73410nC-InGaAs-APC

OPTIONAL ACCESSORIES

Description	Part number
Option, Carry Case, KI2x/KI7x/KI3x, small	OPT153
Option, Carry Case, Cletop, Cleaning Sticks, KI2x/KI3x/KI7x, large	OPT154A

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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. Green is associated with APC. You can order any number of connector adaptors. Order quantity two of each type.

Description	Part number	Description	Part number
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051	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/E2000	OPT060	Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G	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/Universal 1.25 mm	OPT084
Option, Hybrid Adaptor, Ceramic Sleeve, SC/F3000 or LC Simplex, plastic body	OPT072	Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body	OPT076



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