KI 7740C Series

TWO WAY OPTICAL LOSS TEST SET

Optical Communications Test Applications

- Single mode & multimode cable
- General testing & maintenance
- Standards compliant LAN certification

Revision 20

The KI 7740C series is a very fast and easy bi-directional loss tester. Average fiber optic link loss is automatically displayed in real time on both instruments, at multiple wavelengths, via a single fiber.

Featuring 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 and fiber types from +27 to -70 dBm with 2% Traceable Accuracy.

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

Features

- Autotest compatibility with other instruments
- Reliable, rugged & field proven
- Simple to use
- Patented low cost Interchangeable connectors
- Excellent optical power stability on source
- Excellent re-connection repeatability
- High measurement confidence
- Mode controlled multimode sources
- Multimode sources come with 50 & 62.5 µm fiber mandrel wraps
- Long battery life
- Large memory
- Instant Pass / Fail indication
- Flexible real-time PC reporting software
- External power & USB data interfaces
- Sunlight readable display and backlight
- 3 years calibration cycle
- 3~7 years warranty
- Made in Australia

KI 7740C Series - TWO WAY OPTICAL LOSS TEST SET

This is a very fast and easy 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 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.

The instrument provides instant accurate and traceable measurements, with a high stability light source.

All emitters feature excellent repeatability and stability. Reconnection repeatability is < 0.1 dB, resulting in exceptional measurement accuracy.

The optical connector adaptor is easily changed as required, and is protected with a captive dust cap. This instrument meets the general requirements of MIL PRF 28800F class 2.

The long battery life eliminates the requirement for rechargeable batteries and time consuming recharging procedures.

High availability is the result of >190 hours of battery life, patented interchangeable optical connectors for both of the ports, 3-year calibration cycle and superior reliability.

The instrument is also a stand-alone traceable power meter, multi-light source and optical tone generator.

850 / 1300 nm LED sources are ideal for multimode testing. They meet the Encircled Flux (EF) standard compliance, and provide the most consistent and reliable testing results.

The new InGaAs detector has wider wavelength response range from 600 ~ 1700. It provides good response for all common wavelengths. A Si detector is cost effective for 850 nm and industrial applications.

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] dB	Calibration Accuracy[2] %	Polarization Sensitivity dB	Total Uncertainty[3] dB	λ Sensitivity ± 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	0.02	1 % (0.06 dB)	< 0.005	0.3	0.03
H5 (InGaAs) detector									
800 ~ 1700	+25	*820, 850, 980* **1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625**, 1650	*+15 ~ -50* +15 ~ -60	*-35* -40	0.02	1 % (0.06 dB)	< 0.005	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	0.02	1 % (0.06 dB)	< 0.005	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	*+15 ~ -60* +15 ~ -60	*-45* -50	0.04	1 % (0.06 dB)	< 0.005	0.5	0.03
Si detector									
350 ~ 1100	+5	**635, 650, 660, 780, 850, 980**	+0 ~ -70	-50	0.02	1 % (0.06 dB)	< 0.005	0.3	0.03
					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: H3B can sustain the damage level for 2 minutes.

Note 5: At calibration wavelengths in bold type.

LIGHT SOURCE SPECIFICATIONS

Parameters	1310/1550 nm laser	Other lasers	LED	Comments
2 λ source power (dBm)	-7	-7	-26 (62.5 µm)	± 1 dB for Laser, ± 3 dB for
3 or 4 λ source power (dBm)	-10	-10	-41 (10 µm)	LED (@ 62.5µm only)
Short term stability, dB	0.04[6]	0.06[6]	0.01	For 15 min, typical ±Δ2°C, after warm up, ORL < -25 dB
Stability over temperature, dB	0.6	0.6	0.35	Typical
λ tolerance, nm	20	6.5	-	At 25 °C
λ width, nm	3	< 1	-	FWHM, typical
Mode Controlled Source	-	-	Yes	Mode controlled[7]
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, ± 2 %			-

Note 6: For ORL < -25 dB.

Note 7: 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	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	1270/874/670 bi-directional 2 λ/3 λ/4 λ loss test results
Power	2 alkaline C cells (7.6 A/Hour); External DC with 2.5mm +ve pin or via USB port. Selectable auto-off, low battery indicator, backlit display
Tone detection	150 ~ 9999 Hz ± 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

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

ORDERING INFORMATION

Description	Part number
Instrument, LTS-2W 1310-1550-1625 nm, APC, InGaAs	KI7410C-INGAAS-APC
Instrument, LTS-2W 1310-1550 nm, InGaAs	KI7742C-INGAAS
Instrument, LTS-2W 1310-1550 nm, APC, InGaAs	KI7742C-INGAAS-APC
Instrument, LTS-2W 850-1300 nm, Ge	KI7744C-Ge

Please enquire for: other wavelength combinations; high Power measurement and large area power meter detector options.

STANDARD ACCESSORIES

Description	Quantity
Option, Hybrid Adaptor, Ceramic Sleeve, SC/SC (OPT046)	2
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LC, metal body (OPT076)	2
Option, Hybrid Adaptor, Ceramic Sleeve, SC/ST (OPT040)	2
50 & 62.5 µm fiber mandrel wraps for multimode sources (OPT701)	1
C cell batteries	2
AA-to-C size battery converter (OPT101)	2
Carry Pouch	1
Leather protective holster	1
Operation manual	1
Quick reference guide	1
Calibration certificates	1 set
QA certificates	1 set
USB A/B type cable	1
KITS™ recording/reporting software	Downloadable free from website

OPTIONAL ACCESSORIES

Description	Part number
Option, Carry Case, KI2x/KI7x/KI3x, small	OPT153
Option, Carry Case, Cletop, Cleaning Sticks, KI2x/KI3x/KI7x, large	OPT154A
Option, Power Pack, KI7x IEC 100-240 V 2.5 mm Plug	OPT103B

Please visit kingfisherfiber.com for a wide range of FiberTester kits

OPTIONAL INTERCHANGEABLE CONNECTOR ADAPTORS

Description	Part number
Option, Hybrid Adaptor, Ceramic Sleeve, SC/FC	OPT051
Option, Hybrid Adaptor, Ceramic Sleeve, SC/D4	OPT055
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000	OPT060
Option, Hybrid Adaptor, Ceramic Sleeve, SC/E2000 Green	OPT060G
Option, Hybrid Adaptor, Ceramic Sleeve, SC/LSA-DIN47256	OPT071
Option, Hybrid Adaptor, Ceramic Sleeve, SC/MU	OPT080
Option, Hybrid Adaptor, Ceramic Sleeve, SC/Universal 2.5 mm	OPT081
Option, Hybrid Adaptor, Metal Sleeve, SC/SMA 905/906	OPT082

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