SPEC SHEET

FTB Lite 975

SIMPLEX, DUPLEX, MULTI-FIBER BIDIRECTIONAL CERTIFIER

- The first and only fully automated, always-connected certifier, up to 24 fibers—bidir OLTS, with optional OTDR/iOLM onboard.

eXchange BUILT-IN

iOLM READY

CABLING INNOVATORS AWARDS GOLD HONOREE

WITH ALWAYS-ON LTE CONNECTIVITY

KEY FEATURES

- Simplex, duplex and multi-fiber test up to 24 fibers (24F)
- Bidirectional Tier-1 OLTS measurements: Insertion loss (IL), optical return loss (ORL), fiber length
- Upcoming OTDR-based capabilities (optional) for troubleshooting and fiber characterization with EXFO's intelligent Optical Link Mapper (iOLM)
- End-to-end automation from one-touch referencing, touchless FasTesT™ testing through reporting to advanced troubleshooting
- Polarity and continuity validation
- SmartRef™: One-touch referencing and troubleshooting with visual diagnostics. Supports remote referencing up to 10 km apart
- Lower ownership costs: No mandatory custom cables
- Always-on mobile connectivity 2G/3G/4G LTE
- Free 36-month basic data plan provided for real-time visibility (EXFO Exchange)
- Large 8-in high-visibility touchscreen optimized for maximum usability
- Compliant with recommended test procedures as per industry standards (IEC 61300-3-4, IEC 60793-1-40, ITU-T G.650, TIA-568.3)

APPLICATIONS

- Intra-data center
- Campus data center interconnect (DCI)
- Metro/longhaul DCI
- Telco and FTTx

RELATED PRODUCTS

Fiber inspection scope FIP-500

CD/PMD tester FTBx-570

Cleaning supplies for duplex and multi-fiber connectors

Test cords FTB Lite 975

EXFO

Up to 24-fiber connectors

Native simplex, duplex, multi-fiber (Base-8/12/16/24) link testing with port adapter.

Tier-1 and Tier-2 tester

Bidirectional OLTS (ORL, IL, length and polarity) and optional OTDR-based capabilities (via upcoming software update).

SmartRef™

One-touch and foolproof referencing for accurate validation with visual diagnostics. Supports remote referencing up to 10 km apart.

End-to-end automation

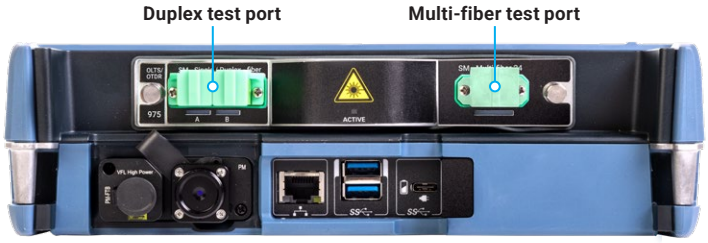
From touchless FasTesT™ testing through reporting and optional OTDR-based troubleshooting.

UP TO 24 FIBERS

Today's high-fiber-count environments require versatile testing for simplex, duplex, and multi-fiber 24.

The FTB Lite 975 supports evolving data center and AI infrastructure with a flexible design for test cords that streamlines certification across simplex, duplex, and base-8/12/16/24 multi-fiber cables with multiple connector types (MPO/MMC/LC).

Duplex model
Enables testing based on simplex and duplex fiber.



Multi-fiber model
Enables testing based on simplex, duplex and multi-fiber up to 24 fibers.

OTDR/iOLM-EQUIPPED MODEL HARDWARE-READY

Factory-configured at order with a forward-looking architecture, this test instrument is designed to evolve with your needs.

Upcoming capabilities via simple software updates

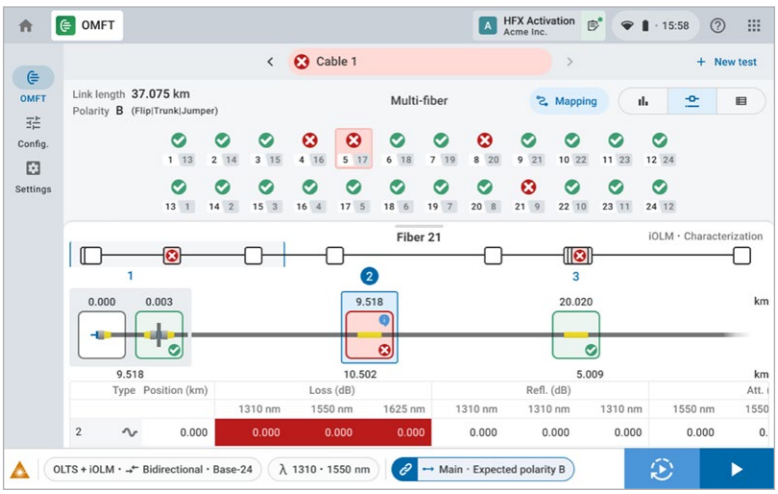
Unidirectional iOLM

Single-ended Tier-2 troubleshooting; test from one end to quickly locate faults on links under test. Remote unit is optional.

or

Onboard bidirectional OTDR/iOLM

Complete link characterization of every element along the link for each individual fiber (e.g., connectors, splices), enabled by EXFO's patented iOLM technology.



WHY IS ACCURACY CRITICAL IN HIGH-FIBER-COUNT CONTEXTS?

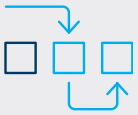
Today's networks operate with increasingly tight optical budgets. Any deviation in referencing can directly induce false negative measurements, impact pass/fail decisions and overall confidence in the infrastructure.

SmartRef™ (patent pending)

With SmartRef™, the FTB Lite 975 ensures :

- An optimized reference without multiple manual steps, removing operator dependency and reducing the risk of errors.
- Stable and repeatable reference values, independent from connectors repeatability, unlike traditional methods.
- High-accuracy results no matter the configuration or connector types, eliminating compatibility constraints.

With SmartRef™, the FTB Lite 975 delivers the easiest referencing ever:



High-accuracy

Runs an automatic process in one-step, optimized for multifiber connections, to minimize errors and false negatives—backed by ±0.1 dB IL measurement uncertainty.

Remote

Reduces dispatches by referencing 2 units remotely using the fiber under test (FUT), up to 10 km.

Visual diagnostic

Eliminates guesswork with detailed visual diagnostics of each individual fiber on the link (24F, duplex, simplex).

Flexibility

Allows flexible and precise referencing, every time, for all connector types—a major innovation.

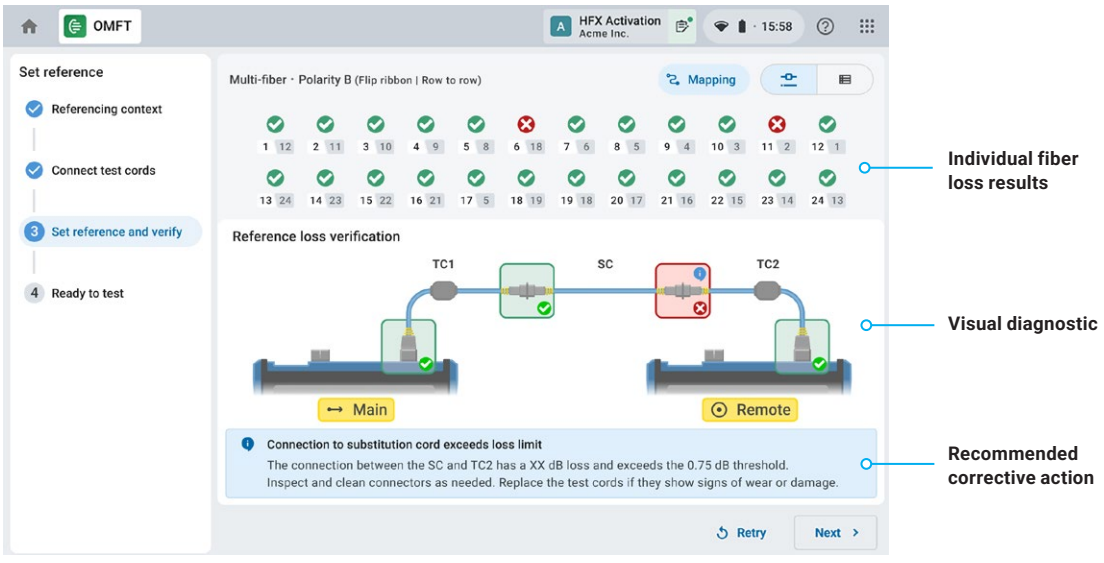


Figure 1. Reference assistant with visual diagnostic and recommended action when the reference process is failing.

APPLICATION NOTE

Learn more about SmartRef™

Download your free copy for an in-depth read >

WHITE PAPER

High-precision referencing in multi-fiber OLTS applications

Get your free copy >

PRODUCT OVERVIEW [a]

1. Simplex and duplex SC optical ports
2. Laser-active LED
3. Singlemode multifiber port (MPO-24)
4. VFL
5. Power meter
6. 10/100/1000 Mbit/s Ethernet port
7. Two USB 3.0 ports
8. Charger/battery LED
9. USB-C PD port
10. Mount for hand/shoulder strap
11. Power on/off/stand by button
12. Power ON/OFF LED status indicator
13. Speaker
14. 8-inch (203-mm) color touchscreen
15. Built-in LTE/Wi-Fi/Bluetooth radios
16. Kickstand

a. Model on display: FTB-LITE-975-SM1-DMF24

SPECIFICATIONS[a]

TECHNICAL SPECIFICATIONS – OLTS

		For simplex and duplex connectors: FTB-LITE-HP-975-SM1-DF FTB-LITE-HP-975-SM3-DF	For simplex, duplex and multi-fiber connectors: FTB-LITE-HP-975-SM1-DMF
Testing speed	Unidirectional[b]	≤ 3 s	Simplex/Duplex fiber: ≤ 3 s Multi-fiber (12/24): 4/5 s
	Bidirectional	≤ 3 s	Simplex/Duplex fiber: ≤ 3 s Multi-fiber (12/24): 5/6 s
Connector interface type		Simplex- and duplex-fiber SC/APC (2 × SC/APC, uniboot-compatible)	Simplex- and duplex-fiber SC/APC (2 × SC/APC, uniboot-compatible) MPO-24 APC-pinned (male)
Wavelengths (nm)		1310 ± 20, 1550 ± 20, 1625 ± 10	1310 ± 20, 1550 ± 20
Insertion loss range (dB)		45	
Total insertion loss measurement uncertainty (dB)[c]		±0.1	
Insertion loss repeatability (dB)		±0.05	
Insertion loss display resolution (dB)		0.01	
ORL display resolution (dB)		0.01	
Length measurement range (km)		120[d]	
Length measurement uncertainty (m)[e]		±2	
ORL measurement limit (dB)[f]		45	
ORL measurement uncertainty[f, g]		±1.5 dB (up to 45 dB)	
Polarity types		A-B (crossover) A-A (straight)	Duplex port: A-B (crossover), A-A (straight) Multi-fiber port: A (straigh ribbon), B (flip ribbon)
Laser safety		Class 1, USA FDA: 21 CFR 1040.10, EU: EN/IEC 60825-1	

OTHER TECHNICAL SPECIFICATIONS – OTDR (OPTIONAL)

	For simplex and duplex connectors: FTB-LITE-HP-975-SM1-DF FTB-LITE-HP-975-SM3-DF	For simplex, duplex and multi-fiber connectors: FTB-LITE-HP-975-SM1-DMF24
Wavelengths (nm)[c]	1310 ± 20, 1550 ± 20, 1625 ± 10	1310 ± 20, 1550 ± 20
Dynamic range (dB)[h]	41/40/38	39/38

a. Typical. All specifications valid at 23 °C ± 2 °C with an SC/APC connector, at 1550 nm, after 15 min warm-up.
b. Two wavelengths, IL, fiber length, continuity.
c. Typical, including connector uncertainty.
d. Based on G.652 standard, for multifiber.
e. For a 5 km link, the total insertion loss is 3 dB, and the reflectance is –42 dB, excluding uncertainty related to the index of refraction.
f. At calibrated wavelengths.
g. Requires a good entry connector's health.
h. Typical dynamic range with longest pulse and three-minute averaging at SNR = 1.

OTHER TECHNICAL SPECIFICATIONS – BUILT-IN POWER METER (GEX) (OPTIONAL) [a]

Calibrated wavelengths (nm)	850, 1300, 1310, 1342, 1358, 1490, 1550, 1577, 1625, 1650
Selectable wavelengths (nm)	850, 1300, 1310, 1342, 1358, 1490, 1550, 1577, 1625, 1650
Power range (dBm) [b]	27 to −50
Uncertainty (%) [c]	±5
Display resolution (dB)	0.01 = max to −40 dBm 0.1 = −40 dBm to −50 dBm
Tone detection (Hz)	270/330/1000/2000

OTHER TECHNICAL SPECIFICATIONS – VFL (OPTIONAL)

	VFL	High-Power VFL
Operation mode	Flashing (slow/fast) and continuous	Flashing (slow/fast) and continuous
Flashing frequency (Hz)	1 or 4	1 or 4
Wavelength (nm) (typical)	650	660
Emitter type	Laser	Laser
Power output (mW) (max.)	1	5
Distance range (km) (typical) [d]	7	12
Laser safety class	2	3R

GENERAL SPECIFICATIONS

Display	8-inch (203 mm), 1280×800, color touchscreen (viewable in sunlight)
Interfaces	USB-A ports (2) USB-C port with power delivery RJ45 LAN 10/100/1000 Mbit/s
RF comms [e, f]	Bluetooth, Wi-Fi, 2G/3G/4G LTE, GNSS (GPS/GALILEO/QZSS)
Storage	OLTS – simplex/duplex: 60,000, multi-fiber: 40,000
Battery	Rechargeable battery, up to 10 hours [g] of operation (bidirectional, 2 wavelengths)
Power supply	Input: AC/DC adapter, 100 to 240 V AC, 50 to 60 Hz, 1.5 A max. Output: 5 to 20 V DC, 3.0 A max., 45 W max., USB-C power delivery standard supported
Weight (including battery and module)	2.4 kg (5.3 lb)
Size (H × W × D)	198 mm × 249 mm × 71 mm (7.8 in × 9.8 in × 2.8 in)
Temperature Operating Storage	−10 °C to 40 °C (14 °F to 104 °F) −40 °C to 70 °C (−40 °F to 158 °F)
Relative humidity	0 % to 95 % non-condensing

SERVICE AND CALIBRATION INFORMATION

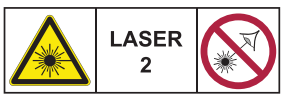
Warranty	1 year

LASER SAFETY [g] (COMPLIES WITH FDA 1040.10 AND IEC 60825-1:2014-05)

Without VFL (option): **IEC 60825-1:2014-05**

DO NOT EXPOSE USERS OF TELESCOPIC OPTICS

With VFL (option): **IEC 60825-1:2014-05**



DO NOT STARE INTO BEAM

With high-power VFL (option): **IEC 60825-1:2014-05**

AVOID DIRECT EYE EXPOSURE

Applicability:
Class 1M, 2M and 3R

WARNING: Viewing the laser output with telescopic optical instruments (for example, telescopes and binoculars) may pose an eye hazard and thus the user should not direct the beam into an area where such instruments are likely to be used.

a. At 23 °C ± 1 °C, 1550 nm and FC connector. With modules in idle mode. Battery operated after 30-minute warm-up.
b. Typical.
c. At calibration conditions.
d. Depends on fiber attenuation and ambient light conditions.
e. Free 36-month basic data plan provided.
f. Restrictions may apply depending on country/region which will prevent EXFO from providing mobile connectivity. Contact EXFO for details.
g. Battery life varies significantly based on device configuration, usage, network and feature configuration, signal strength, settings and other factors.

PURPOSE-BUILT TEST CORDS (INCLUDED)

Designed to support various types of connectors, these compact cords seamlessly adapt to a wide range of commercially available connectors. Simplex, duplex and multi-fiber test cords (12/16/24 fibers) are included with the unit to accommodate testing links with various connectors and configurations.

- 25-m long prepackaged test cords.
- Compatible with SmartRef™ for highly accurate results.

SIMPLEX TEST CORDS	
Part number	**Used to test links with connector**
SC-SM-SCA-SCA-25	SC/APC
SC-SM-SCA-SCU-25	SC/UPC
SC-SM-SCA-LCA-25	LC/APC
SC-SM-SCA-FCA-25	FC/APC
SC-SM-SCA-FCU-25	FC/UPC

DUPLEX TEST CORDS	
Part number	**Used to test links with connector**
DC-SM-SCA-SCA-25	Duplex SC/APC
DC-SM-SCA-SCU-25	Duplex SC/UPC
DC-SM-SCA-LCA-25	Duplex LC/APC
DC-SM-SCA-FCA-25	Duplex FC/APC
DC-SM-SCA-FCU-25	Duplex FC/UPC

MULTI-FIBER TEST CORDS	
Part number	**Used to test links with connector**
MC-MF24-SM-92F12	MPO-12/APC unpinned
MC-MF24-SM-92M12	MPO-12/APC pinned
MC-MF24-SM-92F16	MPO-16/APC unpinned
MC-MF24-SM-92M16	MPO-16/APC pinned
MC-MF24-SM-92F24	MPO-24/APC unpinned
MC-MF24-SM-92M24	MPO-24/APC pinned
MC-MF24-SM-116F16	MMC-16/APC unpinned
MC-MF24-SM-116M16	MMC-16/APC pinned
MC-MF24-SM-116F24	MMC-24/APC unpinned
MC-MF24-SM-116M24	MMC-24/APC unpinned

SUBSTITUTION CORDS

Multi-fiber substitution cords are also offered to accommodate testing multi-fiber links with different genders, i.e., pinned (male) vs unpinned (female). When side-by-side referencing is preferred (not remote), and TC1 and TC2 genders don't match, a substitution cord must be used for reference.

MULTI-FIBER SUBSTITUTION CORDS	
Part number	**To accommodate gender change**
MC-MPO12-TrkPB	MPO-12/APC unpinned to pinned
MC-MPO16-TrkPB	MPO-16/APC unpinned to pinned
MC-MPO24-TrkPB	MPO-24/APC unpinned to pinned
MC-MMC16-TrkPB	MMC-16/APC unpinned to pinned
MC-MMC24-TrkPB	MMC-24/APC unpinned to pinned
MC-MPO12-JMPPB	MPO-12/APC pinned to unpinned
MC-MPO16-JMPPB	MPO-12/APC pinned to unpinned
MC-MPO24-JMPPB	MPO-24/APC pinned to unpinned
MC-MMC16-JMPPB	MMC-16/APC pinned to unpinned
MC-MMC24-JMPPB	MMC-24/APC pinned to unpinned

ACCESSORIES (OPTIONAL)

GP-10-061	Medium-size soft carrying case	GP-2242	Replacement hand strap
GP-10-097	Rigid carrying case	GP-2304	Spare AC/DC adapter
GP-1008	VFL adapter (2.50 mm to 1.25 mm)	GP-2318	Replacement kickstand
GP-2155	Carry-on size backpack	GP-2324	Replacement battery
GP-2235	Spare stylus	GP-2321	Touchscreen protector film (qty 5)
GP-2320	Utility glove		


GP-10-061


GP-10-097


GP-1008


GP-2155


GP-2235


GP-2242


GP-2304

ORDERING INFORMATION

FTB-Lite-975-XX-XX-XX-XX-XX-XX-XX-XX

Optical configuration
SM1-DF = SM simplex/duplex fiber, 1310/1550 nm
SM3-DF = SM simplex/duplex fiber, 1310/1550/1625 nm
SM1-MF24 = SM simplex/duplex/multifiber 24, 1310/1550 nm

Base hardware
OLTS = OLTS capabilities
iOLMC = OTDR-based capabilities (iOLM), including OLTS capabilities

Power meter and VFL
00 = Without power meter or VFL
VFL = Visual fault locator
VFLHP = High power VFL
VPM2X = VFL and power meter; GeX detector
VPM2XHP = High-power VFL and power meter; GeX detector

Connectivity
FRF = With full RF capability (LTE, GNSS, Wi-Fi and Bluetooth)

Single-fiber test cord
SC-SM-SCA-SCA-25 = SM SC/APC, 25 m
SC-SM-SCA-SCU-25 = SM SC/UPC, 25 m
SC-SM-SCA-LCA-25 = SM LC/APC, 25 m
SC-SM-SCA-LCU-25 = SM LC/UPC, 25 m
SC-SM-SCA-FCA-25 = SM FC/APC, 25 m
SC-SM-SCA-FCU-25 = SM FC/UPC, 25 m

Duplex-fiber test cord
DC-SM-SCA-SCA-25= SM duplex SC/APC, 25 m
DC-SM-SCA-SCU-25 = SM duplex SC/UPC, 25 m
DC-SM-SCA-LCA-25 = SM duplex LC/APC, 25 m
DC-SM-SCA-LCU-25 = SM duplex LC/UPC, 25 m
DC-SM-SCA-MDCA-25 = SM duplex MDC/APC, 25 m
DC-SM-SCA-MDCU-25 = SM duplex MDC/UPC, 25 m

Multi-fiber test cord
MC-MF24-SM-92F12 = SM MPO-12/APC unpinned (female), 25 m
MC-MF24-SM-92M12 = SM MPO-12/APC pinned (male), 25 m
MC-MF24-SM-92F16 = SM MPO-16/APC unpinned (female), 25 m
MC-MF24-SM-92M16 = SM MPO-16/APC pinned (male), 25 m
MC-MF24-SM-92F24 = SM MPO-24/APC unpinned (female), 25 m
MC-MF24-SM-92M24 = SM MPO-24/APC pinned (male), 25 m
MC-MF24-SM-116F16 = SM MMC-16/APC unpinned (female), 25 m
MC-MF24-SM-116M16 = SM MMC-16/APC pinned (male), 25 m
MC-MF24-SM-116F24 = SM MMC-24/APC unpinned (female), 25 m
MC-MF24-SM-116M24 = SM MMC-24/APC pinned (male), 25 m

Example: FTB-LITE-HP-975-SM1-MF24-OLTS-VPM2X

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