Fiber-Optic Tester

FOT-700

- Complete flexibility: optical source, power meter, or OLTS
- Error-free testing
- Complete test documentation

Fiber-optic T&M, monitoring, manufacturing and assembly solutions

EXFO

Handheld Versatility

Fiber-optic installation and maintenance requires accurate characterization of link loss in order to ensure that the loss budget is not exceeded—an application EXFO's FOT-700 Fiber-Optic Tester is ideal for. In addition, this versatile tool comes in three configurations (source, power meter and OLTS) to better suit your needs.

When used as a source, the FOT-700 is the only unit of its kind that offers up to four test wavelengths in a single, portable unit. As a power meter, the FOT-700 provides various wavelength ranges, at both high and low power. And, for even more versatility, it also constitutes an optical loss test set (OLTS), combining up to two sources and a power meter in one instrument. This configuration greatly facilitates technicians' tasks, as there are fewer units to carry and the risk of error is substantially reduced, thanks to key features such as the λ-Auto function.

Flexibility from the Ground Up

Flexibility isn't simply an idea that was grafted onto the FOT-700 Fiber-Optic Tester. In fact, EXFO has engineered it right into the design of this handheld test unit. This means that you get to specify exactly what you need to suit your application, whether you test multimode LANs, singlemode telephone networks or fiber-optic CATV systems.

The FOT-700 Fiber-Optic Tester is the ideal tool for network installation, maintenance, repair and troubleshooting. The two optical ports on the FOT-700 are factory-configured to deliver a power meter, optical source or an OLTS (optical loss test set). With 10 optical source configurations and three power meter configurations to choose from, you can tailor the FOT-700 Fiber-Optic Tester to your application.

L-Band Testing at 1625 nm

The FOT-700 supports L-band (1570 to 1610 nm) testing. Measuring optical loss at 1625 nm provides out-of-band testing at a wavelength that corresponds to the worst-case attenuation for signals transmitted in the L-band. Testing at 1625 nm is important because telecommunications service providers are now using the L-band window to increase transmission capacity beyond the 1550 nm window.

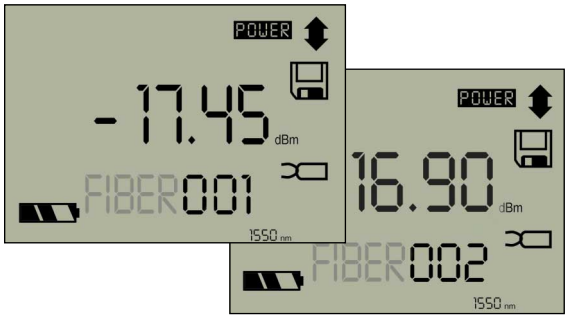
Error-Free Testing

Every single configuration of the FOT-700 Fiber-Optic Tester delivers intelligent features to make testing easy and eliminate errors. The λ Auto automatic wavelength recognition feature ensures that the wavelength settings on the power meter and source match. In λ–Auto mode, the power meter automatically adjusts to the source wavelength. Eliminate wavelength testing errors and maximize efficiency where it counts—in the field.

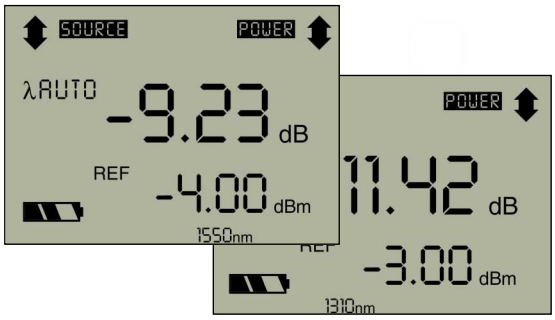
When testing with a dual-wavelength light source, the FOT-700's power meter automatically alternates between the two wavelengths. The result? You not only eliminate worries about mismatched wavelengths, but also obtain a dual-wavelength measurement in seconds.

Complete Test Documentation

All power meters and OLTS configurations of the FOT-700 Fiber-Optic Tester hold up to 1000 dual-wavelength, single-fiber measurements. In addition, the fiber-nametag function gives you precise fiber identification for easy and fast data retrieval. Eight characters are available to name fibers, giving you the possibilty to enter complete fiber names.



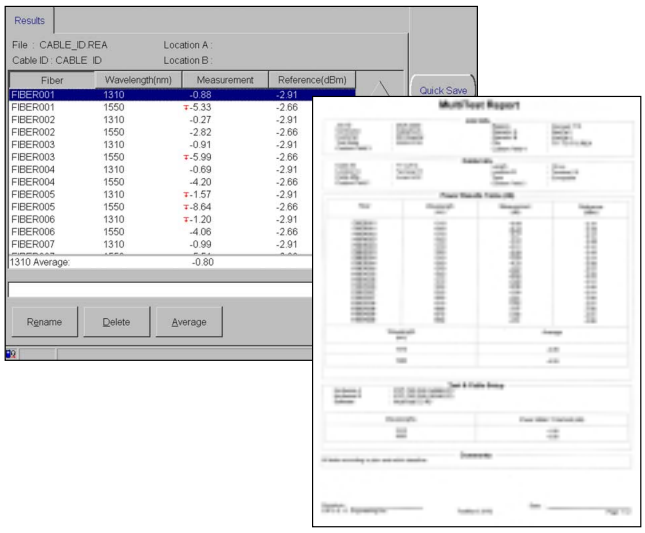
Three of the eight characters of the fiber nametag are visible at one time.



You can save both wavelength values seen alternating on-screen, in only one operation.

Professional Data Management

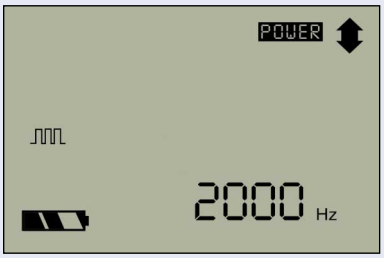
Nowadays, installers and subcontractors need quick, easy ways of producing documentation to show that their work is up to spec. Thanks to EXFO's ToolBox Handheld software included with the FOT-700, you can download data to your PC via the RS-232 port and produce high-quality documents in a matter of minutes. View, export or print your data in graph or table form.



Features That Go Further

Fiber Identification

Fiber identification is an integral part of testing, especially when it comes to patch panels and multifiber installations. To speed up the tedious and sometimes hazardous process of finding the right fiber, the FOT-700 has a built-in fiber ID function to transmit and detect signals at 270 Hz 1 KHz, and 2 kHz.



When the test unit finds the correct fiber, an identifier appears on the LCD screen.

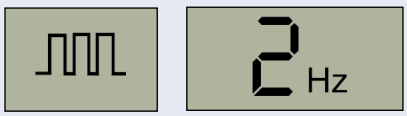
Variable Sources Output Power

The singlemode sources come with a variable output power that can be adjusted over a 10 dB range.

Attenuation is visible on-screen.

Visual Fault Locator

The optional visual fault locator (VFL) picks up link faults by shining a visible red light through them. The VFL easily detects connection flaws and cracked cables when checking system continuity.



The VFL can be used at either 1 Hz, 2 Hz or in CW.

Three-Way Powering

Three-way powering provides hours and even days of operating time. When the rechargeable NiMH batteries run low, intelligent circuitry transfers the power supply over to the four replaceable AA alkaline batteries. The unit can also be used with an AC power adapter/charger while recharging.

The operating power mode is directly displayed on-screen.

Power Meter Specifications[1,2]

Models	-702	-702X	-703
Type	Ge	GeX	InGaAs
Calibrated wavelengths (nm)	850, 1300, 1310, 1550, 1625	850, 1300, 1310, 1550, 1625	850, 1300, 1310, 1550, 1625
Dynamic range (dBm)	+10 to -60	+ 23 to -46	+ 4 to –70
Uncertainty (%) at –20 dBm	± 6	± 6	± 6
Linearity (dB)	± 0.05 (+7 to –53 dBm) ± 0.1 (–53 to –55 dBm)	± 0.05 (+7 to –30 dBm) ± 0.1 (–30 to –39 dBm)	± 0.05 (0 to –46 dBm) ± 0.1 (–46 to –57 dBm)
Display resolution (dB)	0.01 (+10 to –56 dBm) 0.1 (–56 to –60 dBm)	0.01 (+23 to –42 dBm) 0.1 (–42 to –46 dBm)	0.01 (+4 to –63 dBm) 0.1 (–63 to –70 dBm)
Tone detection (Hz)	270/1000/2000	270/1000/2000	270/1000/2000

Optical Source Specifications[3]

Models	-12C/D	-02BL	-03BL	-04BL	-23BL	-34BL
Type	850/1300	1310	1550	1625	1310/1550	1550/1625
Source type	LED	laser	laser	laser	laser	laser
Wavelength (nm)	850 ± 35/ 1300 (1270-1350)	1310 ± 30	1550 ± 30	1625 ± 20	1310 ± 30/ 1550 ± 30	1550 ± 30/ 1625 ± 20
Fiber type	MM	SM	SM	SM	SM	SM
Output power (dBm)						
9/125 µm	–	> -4	> -4	> -4	> -4	> -4
50/125 µm (-12C)	> -21/-23	–	–	–	–	–
62.5/125 µm (-12D)	> -18/-20	–	–	–	–	–
Spectral width (typ.)[4] (nm)	< 50/<145	< 5	< 5	< 10	< 5/< 5	< 5/< 10
Stability in time (8 h) (Δ/2) (dB)	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1	± 0.1
Stability in temp. (dB)	± 0.5	± 0.5	± 0.8	± 0.8	± 0.5/± 0.8	± 0.8/± 0.8

Optical Source Specifications[3]

Models	-VFL	-02BLVFL	-03BLVFL	-04BLVFL
Type	670-VFL	1310/670-VFL	1550/670-VFL	1625/670-VFL
Source type	laser	laser	laser	laser
Wavelength (nm)	670 ± 20	1310 ± 30/670 ± 20	1550 ± 30/670 ± 20	1625 ± 20/670 ± 20
Fiber type and size	MM/SM	1310-SM 670-MM/SM	1550-SM 670-MM/SM	1625-SM 670-MM/SM
Output power (dBm)	< -1	> -4/< -1	> -4/< -1	> -4/< -1
Spectral width[4] (nm) (typ.)	–	< 5/ –	< 5/ –	< 10/ –
Stability in time (8 h) (Δ/2) (dB)	–	± 0.1/ –	± 0.1/ –	± 0.1/ –
Stability in temp. (dB)	–	± 0.5/ –	± 0.8/ –	± 0.8/ –

Notes

1. All power meter specifications are for 1310 nm, after an offset nulling (following the warmup time of 20 minutes), at 23 °C ± 1 °C and with a FC/UPC connector.
2. In a 10 V/m radiated field (26-1000 MHz, 80 % AM Modulation with a 1 kHz sine wave), erratic 1 kHz detection may occur when the optical detector of the apparatus is exposed to a very weak light source.
3. All source specifications are for temperature of 23 °C ± 1 °C with a FC/UPC connector and after a warmup time of 20 minutes unless otherwise specified.
4. As defined per Telcordia TR-TSY-000887, rms for laser and FWHM for LED.

General Specifications

Power supply	AC/NiMH/alk.	
Battery life (NiMH + AA alk.) (h)		
source (1310 nm laser in λAuto)	150	
power meter	195	
Display screen	Custom LCD, 120 segments	
Data memory	1000 tests	
Communication port	RS-232	
Analysis software	ToolBox	
Dimensions	22.7 cm x 11.1 cm x 6.4 cm	8 15/16 x 4 3/8 x 2 1/2
Weight (with holster)	0.86 kg	1.9 lb
Temperature		
operating	-10 °C to 50 °C	14 °F to 122 °F
storage	-40 °C to 60 °C	-40 °F to 140 °F
Relative Humidity	0 % to 95 %, non-condensing	

Laser Safety

21 CFR 1040.10	CLASS 1 LASER PRODUCT
IEC 60825-1:1993+A1:1997+A2:2001	CLASS 1 LASER PRODUCT
	CLASS 1 LED PRODUCT
VFL option:	CLASS 2 LASER PRODUCT

Ordering Information[1]

FOT-70X-XXXXXXX-XX-XXXXXXX-XX

Detector code
2 = Ge
2X = GeX
3 = InGaAs
0 = No detector requested

First source code
VFL = VFL
12C = 850/1300 nm LED (50/125 µm)
12D = 850/1300 nm LED (62.5/125 µm)
02BL = 1310 nm laser
03BL = 1550 nm laser
04BL = 1625 nm laser
23BL = 1310/1550 nm laser
34BL = 1550/1625 nm laser
02BLVFL = 1310 nm laser and VFL
03BLVFL = 1550 nm laser and VFL
04BLVFL = 1625 nm laser and VFL
0 = No source requested

Examples:
FOT-703-23BL-EA-EUI-89 or FOT-700-12C-EI-EUI-91-23BL-EI-EUI-89

Source connector code
EI = UPC Universal Interface
EA = APC Universal Interface

The fixed baseplate (EI or EA) must be ordered with a removable universal connector adapter (EUI-XX).
Please specify one EUI from the following list:
EUI-28 = DIN 47256
EUI-76 = HMS-10 AG (EI only)
EUI-89 = FC narrow key
EUI-90 = ST (EI only)
EUI-91 = SC
EUI-95 = E-2000

Second source code
VFL = VFL
23BL = 1310/1550 nm laser
04BL = 1625 nm laser
04BLVFL = 1625 nm laser and VFL
0 = No source requested

NOTES
1. A fiber-optic adapter (FOA) that corresponds to the source connector selected will be supplied. If no source is selected, or if a different FOA is desired, please specify when ordering.

Standard Accesories

Standard accessories include User Guide, AC adapter/charger, built-in rechargeable NiMH battery pack, four AA alkaline batteries, connector adapter, FOA-01 (2 kHz live fiber detection adapter), carrying case, protective holster, shoulder strap, cleaning pads and Certificate of Calibration.

Find out more about EXFO's extensive line of high-performance portable instruments by visiting our Web site at www.exfo.com

Rugged Handheld Solutions

- OLTS
- Power Meter
- Light Source
- Talk Set

UNIVERSAL TEST SYSTEM

- OTDR
- OLTS
- ORL
- Switch

Optical Fiber

- OSA
- PMD
- Chromatic Dispersion Analyzer
- Multiwavelength Meter

DWDM Test Systems

Protocol

- 10/100 and Gigabit Ethernet
- SONET/SDH (DS0 to OC-192c)
- SDH/PDH (64 Kb/s to STM-64c)

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