MaxTester 940/945 Fiber Certifier OLTS

OPTIMIZED FOR DATA CENTER AND ENTERPRISE TIER-1 FIBER CERTIFICATION



KEY FEATURES

7-inch, high-resolution touchscreen—the widest screen on the market

Leading FasTesT™ performances: certifies two fibers at two wavelengths in 2.6 seconds

Onboard assistant and diagnosis for elimination of reference errors

Built-in Encircled-Flux compliancy as per ANSI/TIA and ISO/IEC

100% automated fiber inspection: one-step process with pass/fail analysis at both ends of the fiber

Certifies to multiple industry standards simultaneously

Optional optical return loss (ORL) measure (MaxTester 945)

Market-leading onboard PDF reporting solution and essential PC-based post-processing included for all users

Batch processing of results with FastReporter software

Best-in-class singlemode distance range of 160 km

EXFO Connect-ready for cloud-based test asset management

APPLICATIONS

Data centers

Enterprise structured cabling

RELATED PRODUCTS



OTDR/iOLM FTB-720C QUAD OTDR/iOLM



Fiber inspection scope FIP-400B (WiFi or USB)

FastReporter

Advanced data post-processing software FastReporter



THE FIBER CERTIFIER OLTS WITH THE EXPERT BLUE TOUCH

The MaxTester 940/945 Fiber Certifier OLTS is the first tablet-inspired test solution that has been specifically designed to certify fiber cabling in data centers and enterprise networks. The unit's intuitive Windows-like user interface ensures a minimal learning curve. The MaxTester 940/945 Fiber Certifier offers icon-based functions, instant boot-up, as well as onboard assistance and onboard professional reporting.



TABLET-INSPIRED DESIGN

With the most user-friendly display in the industry (7-inch, high-resolution touchscreen), the MaxTester 940/945 Fiber Certifier delivers unprecedented user experience, and the unit's integrated WiFi/Bluetooth allows for high connectivity. The MaxTester 940/945 Fiber Certifier guarantees a full day of fieldwork with 12 hours of battery autonomy and internal memory capacity of 150,000 test results.

FULL-FLEDGED UNITS AT BOTH ENDS

Both the main and remote units are full-fledged to maximize the efficiency of each technician:

- FasTesT™ results with diagnostics are displayed on both units at the end of each test.
- · Both technicians can certify the fiber connectors with a fiber inspection scope via the large touchscreens available on the both units.





ONBOARD MULTISTANDARD CERTIFICATION



The MaxTester 940/945 Fiber Certifier lets you certify to both cabling and application standards simultaneously. You can therefore certify the cabling (i.e., the physical quality of the fiber and its components, such as splices and connectors), as well as the application that the fiber can carry; for instance, IEEE or Fibre Channel.

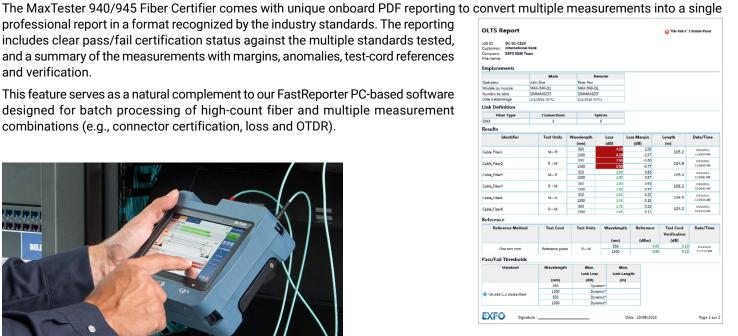
ONBOARD PDF REPORTING

professional report in a format recognized by the industry standards. The reporting includes clear pass/fail certification status against the multiple standards tested, and a summary of the measurements with margins, anomalies, test-cord references and verification.

This feature serves as a natural complement to our FastReporter PC-based software designed for batch processing of high-count fiber and multiple measurement combinations (e.g., connector certification, loss and OTDR).



Compact, intuitive tablet-inspired design.

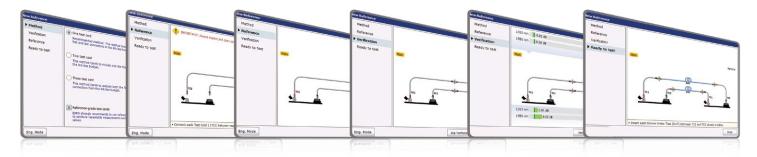




ONBOARD ASSISTANCE AND DIAGNOSIS

The MaxTester 940/945 Fiber Certifier provides a foolproof method against test-cord reference mistakes and negative loss thanks to its step-by-step wizard that guides technicians through the referencing and verification process, as per industry standards. The MaxTester 940/945 Fiber Certifier goes even further by diagnosing the possible causes for fail results and provides guidance to fix issues.





BUILT-IN ENCIRCLED FLUX COMPLIANCY

Each MaxTester 940/945 Fiber Certifier comes with a built-in Encircled Flux (EF)-compliant multimode light source. Furthermore, in order to maximize measurement accuracy and avoid invalid results, EXFO designed reference-grade test cords in compliance with ISO/IEC 14763-3 standard requirements.



EXFO's test cords are made from reference-grade connectors, and the fiber used is strictly controlled to ensure proper core size and geometry. For multimode testing, this makes it possible to remain within Encircled Flux template limits at the output of the test cord, without the need for an external EF-mode conditioner. These high-quality, reference-grade test cords are less fragile and less expensive than EF-conditioned test cords, helping to reduce your overall equipment cost of ownership.



EXFO's test cords are also color-coded to prevent manipulation errors when they are connected to the test ports and device under test. The user interface displays animated instructions with the same color codes to facilitate the test process.

THREE YEARS OF PEACE OF MIND FOR REPAIRS AND CALIBRATION



The MaxTester 940/945 Fiber Certifier has been rigorously tested to guarantee the highest standards of reliability and durability. This is why we feel so confident about offering a warranty and a recommended calibration interval of three years.

You can safely use this highly-reliable instrument for accurate test results while significantly reducing your certifier's cost of ownership (your cost of calibration and the related downtime will be divided by a factor of three).

OPTICAL PLUG-AND-PLAY OPTIONS

The MaxTester 940/945 features plug-and-play optical options that can be purchased whenever you need them, at the time of your order or later on. In either case, installation is a snap: you can do it yourself with no need for any software updates.

Visual fault locator (VFL)

The plug-and-play VFL easily identifies breaks, bends, faulty connectors and splices, in addition to other causes of signal loss. This basic, yet essential, troubleshooting tool should be part of every field technician's toolbox. Visually locating faults by creating a bright-red glow at the exact location of the fault on singlemode or multimode fibers, it can detect faults over distances of up to 5 km.



Quad option for multimode units

The MaxTester 940/945 Fiber Certifier multimode units offer maximum flexibility by featuring a unique quad-ready ability. Upgrading to the quad option is easy and instantaneous thanks to a software key that activates singlemode wavelengths that are precalibrated at the factory to enable you to test singlemode fibers immediately after the upgrade, without any other constraints. This will save you both time and money.

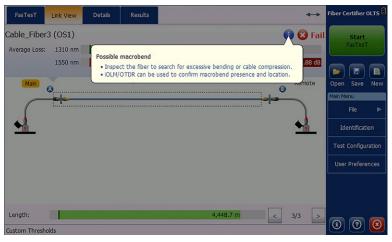


Test efficiency

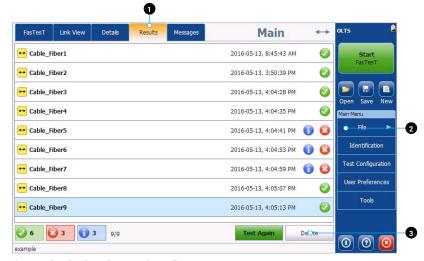
- FasTesT™: acquisition time less than three seconds
- · Online reporting-live from the field
- Maximum simplicity and fast learning curve with onboard user assistance:
 - Port LED indicators: guide the user through the referencing and testing processes. LED indicators show the user which optical port to connect to the fiber.
 A beep indicates that the connection is established to confirm continuity.
 - Onboard diagnosis: throughout the referencing and testing processes, the MaxTester delivers real-time information on test cord health as well as pass/fail results according to preset or custom criteria. When testing, the MaxTester delivers loss and length data, and can even identify the presence of a macrobend (refer to side picture).
 - Margin meters: indicate the result status as well as the margin according to preset thresholds.
- The MaxTester 940/945 includes a Test Again feature allowing the user to retest failed fibers in three steps:
 - 1. Go back in test results
 - 2. Quickly and correctly identify the failed fiber by looking at the pass/fail status
 - 3. Press Test Again

Optimized test sequence

- Real-time continuity feature: the main and remote units emit visual and audible signals to let the technicians on both ends know that a connection has been established on the specific fiber under test. This also allows the technicians to start the test right away, saving time on each fiber tested.
- Text messaging capabilities: allows users to send text messages through the fiber under test faster than other test sets in the industry.



Onboard diagnosis helps the technician take proper action



See results clearly and test again easily

- 1 Results tab lists all the fibers tested in a cable
- 2 Pass/Fail status indicated under Results
- 3 Test Again button to retest a "failed fiber" using the same settings





DISCOVER THE INDUSTRY'S FIRST FULLY AUTOMATED FIBER INSPECTION SCOPES

Housing a unique automatic focus adjustment system, EXFO's fiber inspection scope series automates each operation in the sequence of inspecting a connector endface. The result: **fiber inspection is now a quick, one-step process that can be performed by technicians of all skill levels.**

Automated models

The FIP-500: wireless, autonomous and fully automated scope featuring the fastest inspection in the industry for both multifiber and single-fiber connectors. All-day testing without the need to recharge batteries or offload results.

The FIP-435B: connected to EXFO platforms or your smart device, this fully automated wireless scope enables connector certification in one step. View and store results on your EXFO platform or smart device.

The FIP-430B: fully automated inspection scope featuring USB wired connectivity to PC and EXFO platforms.

Semi-automated and manual models

The FIP-420B: semi-automated scope featuring a manual focus adjustment. USB wired connectivity to PC and EXFO platforms.

The FIP-410B: basic inspection features for manual inspection. USB wired connectivity to PC and EXFO platforms.







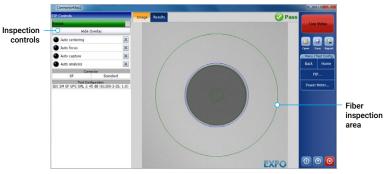
FEATURES		USB WIRED		WIRELESS	AUTONOMOUS
	FIP-410B	FIP-420B	FIP-430B	FIP-435B	FIP-500
Image capture	•	•	•	•	•
Five-megapixel CMOS capturing device	•	•	•	•	•
Automatic fiber image-centering function and focus adjustment		•	•	•	•
Automatic fiber image-focus adjustment			•	•	•
Onboard pass/fail analysis		•	•	•	•
Pass/fail LED indicator		•	•	•	•
USB connectivity to an EXFO platform or PC	•	•	•	•	
Wireless connectivity to an EXFO platform or PC				•	
Wireless connectivity to a smartphone				•	•
Semi-automated multifiber / MPO inspection	•	•	•	•	
Fully automated multifiber / MPO inspection					•
Onboard touch screen and data storage					•
SmarTips with automated thresholds and quick-connect mechanism					•

For more information, visit www.EXFO.com/fiberinspection.



POWERFUL CONNECTOR ENDFACE IMAGE VIEWING AND ANALYSIS SOFTWARE

- · Automatic pass/fail analysis of the connector endfaces
- Lightning-fast results in seconds with simple one-touch operation
- · Complete test reports for future referencing
- · Stores images and results for record-keeping



Clear pass/fail results

FastReporter

TEST REPORTING AND AUTOMATION

Consolidated data management and post-processing solutions designed to improve results quality as well as auditing and reporting productivity. From the essentials to advanced features, FastReporter covers all your optical measurement post-processing needs.

FEATURES	SOLUTION		
	Basic (included)	Full subscription or USB dongle	
Number of files	Up to 24 results (unlimited for OTDRs)	Unlimited	
Measurement type	OTDR, iOLM, FIP, OLTS, OPM, CD, PMD		
Results viewer	•	•	
Reporting – Basic (PDF)	•	•	
Reporting – Advanced (Excel, PDF, custom)		•	
Basic analysis – Bidir (OTDR and iOLM)	•	•	
Advanced editing		•	
Automated validation and results correction		•	
Job management and identification edition (Via TestFlow account)	One file at a time Batch processin		
Hundreds of additional features		•	



SMALL ENOUGH TO BE HANDHELD. LARGE ENOUGH FOR FULL-SCREEN VIEWING.

PACKAGED FOR EFFICIENCY

- 1 Stylus
- 2 Singlemode source port
- High-power power meter (optional, for MaxTester 945 only)
- 4 Multimode source port
- 5 Visual fault locator
- 6 10/100 Mbit/s Ethernet port
- 7 Two USB 2.0 ports

- 8 InGaAs power meter
- 9 AC adapter
- Home/switch application and screen capture (hold)
- 1 Power on/off/stand by
- 12 Battery LED status
- 13 Built-in WiFi/Bluetooth
- 14 Stand support









SPECIFICATIONS

SOFTWARE UTILITIES	
Software update	Ensure that your MaxTester is up-to-date with the latest software.
VNC configuration	The Virtual Network Computing utility allows technicians to easily remote control the unit via a computer or laptop.
Microsoft Internet Explorer	Access the Web directly from your device interface.
Data mover	Transfer all your daily test results quickly and easily.
Centralized documentation	Instant access to user guides and other relevant documents.
Wallpapers	Enhance your work environment with colorful and scenic backgrounds.
PDF Reader	View your reports in PDF format.
Bluetooth file sharing	Share files between your MaxTester and any Bluetooth-enabled device.
WiFi connection	Wireless inspection scope interface, upload test results and browse the Internet.
Inspection scope	USB or WiFi scope to inspect and analyze connectors.

POWER METER SPECIFICATIONS	
Detector type	GeX
Uncertainty ^b	±(5 % + 10 nW)
Measurement range (dBm)	25 to -50 °
Wavelengths range (nm)	850, 1300, 1310, 1490, 1550, 1577, 1625, 1650
Tone detection (Hz)	270/330/1000/2000

FASTEST™ LOSS/LENGTH SPECIFICATIONS a			
Testing speed ^e	FasTesT™ Duplex: 2.6 seconds (two wavelengths, one direction, automated, IL + fiber length) FasTesT™ Simplex: 5 seconds (two wavelengths, bidirectional, automated, IL + ORL + fiber length)		
Input/Output connectors	Interchangeable adapter (LC, SC or FC) °		
Wavelengths (nm) ^e	Quad 850 ± 20 1300 ± 20 1310 ± 20 1550 ± 20	MM 850 ± 20 1300 ± 20	SM 1310 ± 20 1550 ± 20
Source type	LED (multimode) Laser (singlemode)	LED	Laser
Launch condition ^f	EF compliancy guaranteed at multimode source port Within TIA-526-14-B, ISO/IEC 14763-3 and IEC 61280-4-1 Encircled Flux template limits at the end of an EXFO reference-grade 50/125 μm test cord		
Length measurement range (km)	Multimode: 20 ^g Singlemode: 160		
Length measurement uncertainty e, h	±(0.5 m + 0.5 % x length)	
ORL measurement range (dB) b, e	50		
ORL measurement uncertainty (dB) b, e, i	±1		
Source			
Output power (dBm) ^e	Multimode: −25 Singlemode: 2.5		
Output power stability (dB)	±0.05 over 8 h		
Spectral width (FWHM) (nm)	850 nm: 30 to 60 1300 nm: 100 to 150		

- a. All specifications valid at 23 °C \pm 1 °C and 1550 nm, on batteries and after 15 minutes of warm up, unless otherwise specified.
- b. ORL measurement available on MaxTester 945 singlemode wavelengths only.
- c. Specifications are provided with FC type connectors.
- d. Uncertainty is valid at calibration conditions.

- e. Typical.
- f. Measured at 850 nm with SC connector.
- g. At 1300 nm.
- h. In duplex.
- i. No discrete reflectance greater than $-65~\mathrm{dB}$. Up to $45~\mathrm{dB}$



VISUAL FAULT LOCATOR (VFL) (optional)

Laser, 650 nm ± 10 nm

CW/Modulate 1 Hz

Typical P_{out} in 62.5/125 μ m: > -1.5 dBm (0.7 mW)

Laser safety: Class 2



ENVIRONMENTAL SPECIFICATIONS

-10 °C to 50 °C (14 °F to 122 °F) -30 °C to 70 °C (-22 °F to 158 °F) ° Temperature Operating

Storage

Relative humidity 0 % to 95 % non-condensing

GENERAL SPECIFICATIONS		
Display	7-in (178-mm) outdoor-enhanced touchscreen, 800 x 480 TFT	
Size (H x W x D)	166 mm x 200 mm x 68 mm (6 ⁹ / ₁₆ in x 7 ⁷ / ₈ in x 2 ¾ in)	
Weight (with battery)	1.5 kg (3.3 lb)	
Interfaces	Two USB 2.0 ports RJ45 LAN 10/100 Mbit/s	
Storage	6 GB internal memory (150 000 test results, typical)	
Battery ^b	Rechargeable lithium-polymer battery 12 hours of operation	
Power supply	AC/DC adapter, input 100-240 VAC, 50-60 Hz, 9-16 V DCIN 20 W minimum	
Warranty	Three (3) years	
Recommended recalibration period	Three (3) years	

a. -20 °C to 60 °C (-4 °F to 140 °F) with the battery pack.



b. Typical.

ORDERING INFORMATION MAX-940-XX-XX-XX-XX-XX-XX-XX ■ FastReporter Optical configuration ERT-SM1 = Singlemode OLTS 1310/1550 nm 00 = Without FastReporter ICERT-Q1 = Multimode OLTS 850/1300 nm FR = With FastReporter PC software ICERT-Q1-QUAD = Quad OLTS 850/1300 nm; Connectivity 1310/1550 nm 00 = Without RF components RF = With RF capability (WiFi and Bluetooth) Optical connector a EA-EUI-89 = APC/FC EA-EUI-91 = APC/SC Extra FIP-400B tips b **Bulkhead tips** EA-EUI-98 = APC/LC FIPT-400-FC-APC = FCAPC tip for bulkhead adapter FIPT-400-FC-SC = FC and SC tip for bulkhead adapter ° EI-EUI-89 = UPC/FC EI-EUI-91 = UPC/SC FIPT-400-LC = LC tip for bulkhead adapters EI-EUI-98 = UPC/LC FIPT-400-LC-APC = LC/APC tip for bulkhead adapter Optical options FIPT-400-MU = MU tip for bulkhead adapters 00 = Without optical option FIPT-400-SC-APC = SC APC tip for bulkhead adapter f VFL = Visual fault locator FIPT-400-ST = ST tip for bulkhead adapter Inspection scope model Patchcord tips 00 = Without inspection scope FIPT-400-U12M = Universal patchcord tip for 1.25 mm ferrules FP410B = Digital video inspection probe FIPT-400-U12MA = Universal patchcord tip for 1.25 mm ferrules APC Triple magnification FIPT-400-U16M = Universal patchcord tip for 1.6 mm ferrules FP420B = Analysis digital video inspection probe FIPT-400-U20M2 = Universal patchcord tip for 2.0 mm ferrules (D4, Lemo) FIPT-400-U25M = Universal patchcord tip for 2.5 mm ferrules ^e Automated pass/fail analysis Triple magnification FIPT-400-U25MA = Universal patchcord tip for 2.5 mm ferrules APC f Autocentering FP430B = Automated analysis digital video inspection scopec Multifiber tips Automated focus FIPT-400-MTP2 = MTP/MPO UPC tip for bulkhead adapter Automated pass/fail analysis FIPT-400-MTPA2 = MTP/MPO APC tip for bulkhead adapter Triple magnification FIPT-400-MTP-MTR = MTP/MPO multirow UPC tip for bulkhead adapter Autocentering FIPT-400-MTP-MTRA = MTP/MPO multirow APC tip for bulkhead adapter FP435B = Wireless analysis digital video inspection scope c, d Automated focus Tip kits Automated pass/fail analysis FIPT-400-LC-K = LC tip kit including: FIPT-400-LC: LC tip for bulkhead adapters, FIPT-400-LC-APC: LC/APC tip for bulkhead adapter, Triple magnification Autocentering FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules, FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC FIPT-400-LC-K-APC = LC tip kit including: FIPT-400-LC-APC: LC/APC tip for bulkhead adapter and FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC FIPT-400-LC-K-UPC = LC tip kit including: FIPT-400-LC: LC tip for bulkhead adapters and FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules FIPT-400-MTP-MTR-K = MTP/MPO multirow APC and UPC tip for bulkhead adapter Base tips APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC UPC = Includes FIPT-400-U25M and FIPT-400-FC-SC Example: MAX-940-ICERT-Q1-QUAD-EI-EUI-91-VFL-FP430B-UPC

- a. EUI adapters are the same on singlemode, multimode source ports and power meter ports. Multimode connectors are always UPC.
- b. Available with scope option.
- c. Includes ConnectorMax2 software
- d. Includes RF option
- e. Included in UPC base tips option.
- f. Included in APC base tips option.



ORDERING INFORMATION MAX-945-XX-XX-XX-XX-XX-XX Extra FIP-400B tips d Optical configuration Bulkhead tips FIPT-400-FC-APC = FC/APC tip for bulkhead adapter = Quad Port 1: 850/1300 nm IL and FIPT-400-FC-SC = FC and SC tip for bulkhead adapter ^e FIPT-400-LC = LC tip for bulkhead adapters length measurement Port 2: 1310/1550 nm IL. FIPT-400-LC-APC = LC/APC tip for bulkhead adapter length and ORL measurement FIPT-400-MU = MU tip for bulkhead adapters Connector a = FIPT-400-SC-APC = SC/APC tip for bulkhead adapter f FIPT-400-SC-UPC = SC/UPC tip for bulkhead adapter EA-EUI-89 = APC/FC narrow key EA-EUI-91 = APC/SC FIPT-400-ST = ST tip for bulkhead adapter EA-EUI-98 = APC/LC EI-EUI-89 = UPC/FC h Patchcord tips EI-EUI-91 = UPC/SC h FIPT-400-U12M = Universal patchcord tip for 1.25 mm ferrules EI-EUI-98 = UPC/LC h FIPT-400-U12MA = Universal patchcord tip for 1.25 mm ferrules APC FIPT-400-U16M = Universal patchcord tip for 1.6 mm ferrules VFL and power meter FIPT-400-U20M2 = Universal patchcord tip for 2.0 mm ferrules (D4, Lemo) 00 = Without VFL and power meter FIPT-400-U25M = Universal patchcord tip for 2.5 mm ferrules VFL = With VFL FIPT-400-U25MA = Universal patchcord tip for 2.5 mm ferrules APC f PM2X = With power meter; GeX detector VPM2X = With VFL and power meter; GeX detector Multifiber tips ^g FIPT-400-MTP2 = MTP/MPO UPC tip for bulkhead adapter WiFi and Bluetooth 00 = Without RF components FIPT-400-MTPA2 = MTP/MPO APC tip for bulkhead adapter RF = With RF capability (WiFi and Bluetooth) FIPT-400-MTP-MTR = MTP/MPO multirow UPC tip for bulkhead adapter FIPT-400-MTP-MTRA = MTP/MPO multirow APC tip for bulkhead adapter Inspection scope model b 00 = Without inspection scope Tip kits FP410B = Digital video inspection probe FIPT-400-LC-K = LC tip kit including: Triple magnification FIPT-400-LC: LC tip for bulkhead adapters, FP420B = Analysis digital video inspection probe FIPT-400-LC-APC: LC/APC tip for bulkhead adapter, Automated pass/fail analysis Triple magnification Autocentering FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules, FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC FIPT-400-LC-K-APC = LC tip kit including: FIPT-400-LC-APC: LC/APC tip for bulkhead adapter, FP430B = Automated analysis digital video inspection scope Automated focus FIPT-400-U12MA: universal patchcord tip for 1.25 mm ferrules APC Automated pass/fail analysis FIPT-400-LC-K-UPC = LC tip kit including: Triple magnification FIPT-400-LC: LC tip for bulkhead adapters, Autocentering FIPT-400-U12M: universal patchcord tip for 1.25 mm ferrules FIPT-400-MTP-MTR-K = MTP/MPO multirow APC and UPC tip for bulkhead adapter ^g FP435B = Wireless analysis digital video inspection scope c Automated focus Automated pass/fail analysis APC = Includes FIPT-400-U25MA and FIPT-400-SC-APC Triple magnification UPC = Includes FIPT-400-U25M and FIPT-400-FC-SC Autocentering Example: MAX-945-ICERT-Q1-QUAD-EA-EUI-91-VFL-RF-FP435B-APC

- a. Connector adapters are the same on singlemode source ports, multimode source ports and power meter ports. Multimode connectors are always UPC
- b. Includes ConnectorMax2 software
- c. RF option mandatory and included with this model.
- d. This list represents a selection of fiber inspection tips that covers the most common connectors and applications but does not reflect all the tips available. EXFO offers a wide range of inspection tips, bulkhead adapters and kits to cover many more connector types and different applications. Please contact your local EXFO sales representative or visit www.EXFO.com/FIPtips for more information.
- e. Included when UPC base tips are selected.
- f. Included when APC base tips are selected.
- g. Includes a bulkhead adapter for patch cord inspection.
- h. A hybrid REF Grade Test Cord will be supplied when EI (UPC) interfaces are required.

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EXFO serves over 2000 customers in more than 100 countries. To find your local office contact details, please go to www.EXFO.com/contact.

For the most recent patent marking information, please visit www.EXFO.com/patent. EXFO is certified ISO 9001 and attests to the quality of these products. EXFO has made every effort to ensure that the information contained in this specification sheet is accurate. However, we accept no responsibility for any errors or omissions, and we reserve the right to modify design, characteristics and products at any time without obligation. Units of measurement in this document conform to SI standards and practices. In addition, all of EXFO's manufactured products are compliant with the European Union's WEEE directive. For more information, please visit www.EXFO.com/recycle. Contact EXFO for prices and availability or to obtain the phone number of your local EXFO distributor.

For the most recent version of this spec sheet, please go to www.EXFO.com/specs

In case of discrepancy, the web version takes precedence over any printed literature.

