FIP-500 fiber inspection scope

FOR FULLY AUTOMATED MULTI-FIBER, SINGLE-FIBER AND DUPLEX CONNECTOR INSPECTION

■ Fastest inspection in the industry for single-fiber, multi-fiber and duplex connectors, with the most reliable results. Self-contained, fully automated tool for zero-button testing all day without the need to recharge batteries or offload results.

COMPATIBLE WITH
EXchange

2021 LIGHTWAVE INNOVATION REVIEWS 4.5

2021 DIAMOND TECHNOLOGY REVIEWS BTR BROADBAND TECHNOLOGY REPORT 3.5

ISE NETWORK INNOVATORS' AWARDS 4.5

KEY FEATURES AND BENEFITS

Best-in-class optical performance for accurate and repeatable results

Zero-button inspection: 100% automated from inserting the probe to saving test results (auto-detect, auto-brightness, auto-focus, auto-center, auto-capture, auto-analysis, auto-save and auto-reset)

Fastest inspection in the industry: connect to MPO 12 fiber, analyze and save test results in less than 10 seconds, and the capability to select and inspect active fibers only for even faster results

Automatic detection of MPO connector layout up to 4 rows of 8/12/16 fibers

Automated threshold adjustment with SmarTips

Wide array of adapter tips for single-fiber, multi-fiber and duplex connectors (e.g., LC, SC, ST, OptiTap®, OptiTip®, MPO, LC duplex, SN, CS, Q-ODC duplex)

Smartphone-grade 2.4-inch color touchscreen

Quick-connect design: quarter-turn click for switching between any tips

On-board connector endface analysis (as per IEC standards)

Test all day without any interruption:
- Long-lasting battery
- Stores up test results locally - 2000 (MPO-12) or 10 000 (single-fiber)

Job management and reporting via EXFO Exchange platform

Compatible with FIP-400 tips [a]

APPLICATIONS

Central offices, exchanges and headends

Data centers

Wireless (e.g., 5G, FTTA, DAA, small cells)

Fiber-to-the-home (FTTH)

Military and aerospace

RELATED ACCESSORIES

Cleaning kits

a. **See FIP-500 compatibility with FIPT-400 tips matrix**.

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SPOT ON, EVERY TIME

Delivering the most reliable pass/fail results in the industry, the FIP-500 relies on innovative image capture techniques:

- Enhanced illumination technique based on two LEDs.
- Violet LEDs (415 nm light) for better contrast.
- Custom-carved lenses for optimal image quality.
- Dual-core CPU.

This unprecedented visibility of the connector endface translates into optimal accuracy and repeatability.

FAST MPO INSPECTION

Fully automated, the FIP-500 does everything on its own. It enables a truly zero-button inspection, in record time.
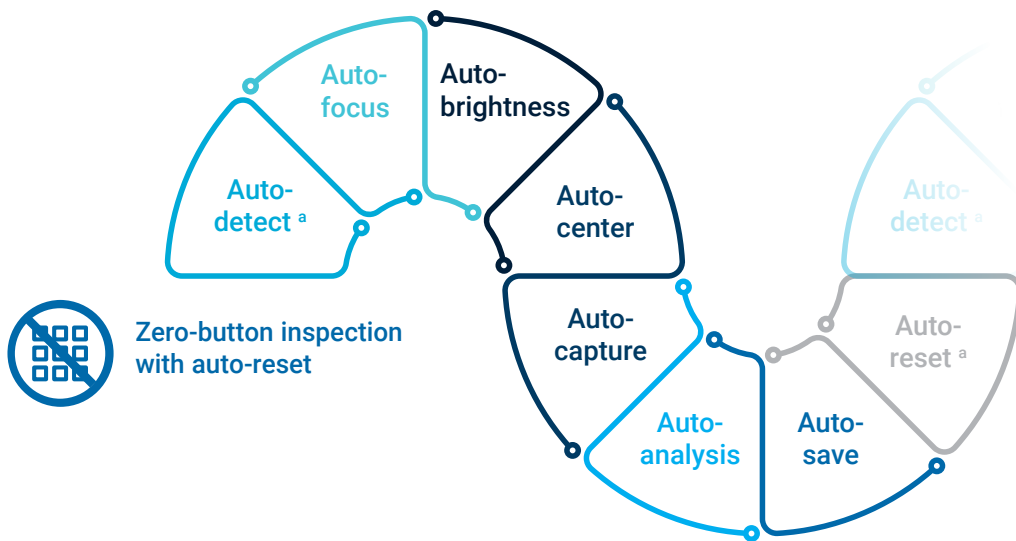
Did you know?

Dirty or damaged connectors remain the no.1 cause of network outages worldwide.

With fiber going deeper everywhere and with the hassles in inspecting single- or multi-fiber connectors removed by the FIP-500, not testing is no longer a viable option.
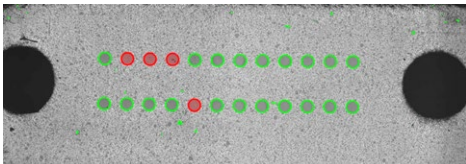
Auto-focus

Auto-brightness

Auto-detect [a]

Auto-center

Zero-button inspection with auto-reset

Auto-capture

Auto-analysis

Auto-save

Auto-detect [a]

Auto-reset [a]

Inspecting an MPO-12?

Simply insert a connector in the FIP-500 and—within 10 seconds—a pass/fail result is automatically obtained without the need for any settings or further manipulation.

AUTOMATED THRESHOLD ADJUSTMENTS

A new patented feature in the latest FIP-500 software release allows you to automatically adjust pass/fail thresholds to the type of connector under test simply by tapping a SmarTip on top of the FIP-500! This remarkable level of automation prevents threshold selection mistakes and makes fiber inspection easier than ever!

EXFO FIP-500
How to use SmarTip mode

EXFO
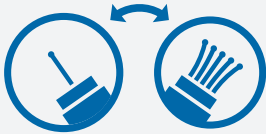
LESS HANDLING, MORE DOING

Smartphone-grade touchscreen
The FIP-500 has an integrated high-quality capacitive color touchscreen designed to be visible in bright sunlight or in dark areas, from any angle.

Connectivity
The FIP-500 can be connected via Bluetooth®, WiFi and USB-C to a computer or smartphone to share notes.

Quick-connect tips
Swap tips in a quarter-turn click, a small but life-changing innovation. No loose parts, not a second wasted. Tip switching can be done with one hand, if needed.

Intuitive GUI
The touchscreen-based GUI is very user-friendly for any technician, regardless of their experience.

Longer reach
By design, the FIP-500 provides longer reach and better handling for inspection in dense fiber environments or on top of telecom towers.
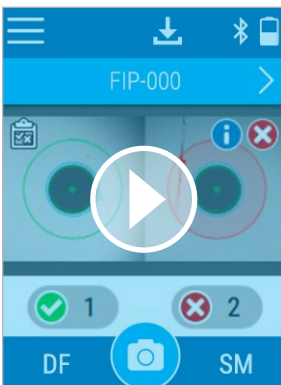
Integrated flashlight
Integrated flashlight to illuminate the port under inspection.

WiFi software updates
WiFi connectivity for easy software updates without the need to connect to any external device.

THE ONLY FIBER INSPECTION SCOPE THAT NATIVELY SUPPORTS DUPLEX CONNECTORS

An industry first: Thanks to a patent-pending feature, the FIP-500 supports simultaneous inspection of the two ferrules of duplex connectors such as LC, SN, CS, Q-ODC duplex. Support for more connectors is on the way.

50% OF TIME SAVED
• Dual fiber pass/fail view
• Duplex inspection in a single action
• Efficient design: long reach and narrow even for APC applications

FIP-000

1   2
DF   SM

LC-DF-U
LC-DF-A

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SWIFT AND COMPREHENSIVE REPORTING

Inspection made by the FIP-500 scope can be processed in Exchange and FastReporter post-processing PC software to generate reports free of charge.
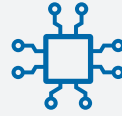
FastReporter
Data post-processing software

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TEST ALL DAY WITH LOTS OF BATTERY LIFE AND MEMORY

Long battery life
The FIP-500 is powered by a lithium-polymer rechargeable battery which can support a full day of continuous use.

High storage capacity
With an internal memory that can save up to 2000 MPO test results or 10 000 single-fiber test results, there is no need to stop and offload results. Bluetooth connectivity ensures that results can be shared easily.

These features, added to an ergonomic hand grip, all come together in helping the technician to close jobs all day without any interruption. This battery life and memory space combo is unique in the industry, and will give field teams equipped with the FIP-500 yet another solid advantage on the competition.

COST OF OWNERSHIP

The FIP 500 was designed to make connector inspection easier, faster, and cheaper, so it pays for itself sooner.

No training required
Zero-button, fully automated inspection combined to an intuitive GUI makes it easy for any technician to make the most of the FIP-500, without training.

Fewer tips and no loose parts
By default, the FIP-500 provides a longer reach than regular tips, reducing the overall number of tips that a technician needs to carry around. The simple yet innovative quarter-turn mechanism used to fasten tips means that there are no loose parts that can easily be lost while changing tips.

Field-replaceable batteries
The battery is field-replaceable, so no need to send it back to the factory when the battery reaches the end of its lifecycle (counted in years).

Future-proof
The FIP-500 supports the inspection of MPO connectors with up to 4 rows by default. Regular software updates will enable new features.

Warranty
Comes with a 3-year warranty and EXFO's proven durability.

PRINT YOUR OWN BENCHTOP STAND

Scan this QR code to download the CAD files and procedure to print your own support.

For further details about EXFO's fiber inspection tips, browse our **tip guide**.
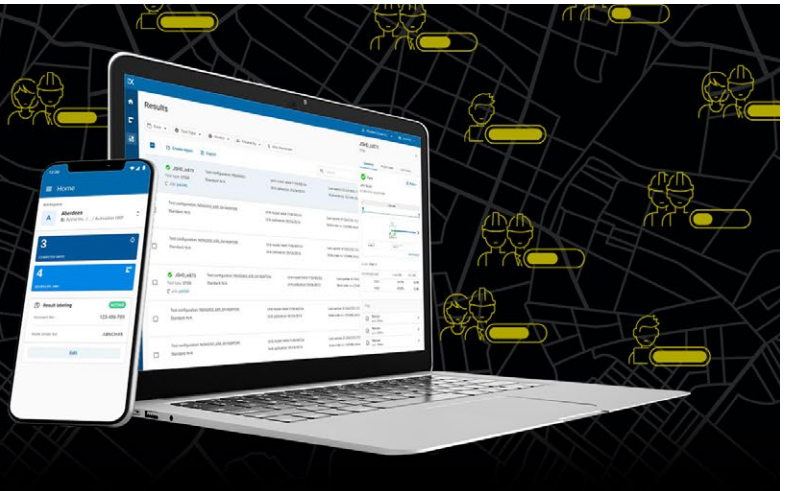
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PRODUCT OVERVIEW

1 Power button

2 Battery status LED

3 Optical head (to switch between multi-fiber and single-fiber)

4 Interchangeable tip to fit multi-fiber connector

5 Trigger (for optional use)

6 Dual-function LED:
• Pass/Fail status
• White flashlight to illuminate the port under inspection

7 Quick-connect mechanism to attach optical head and tip

8 Touchscreen

9 Protective bumper around screen

10 Bumper material with texture on the handle to ensure good grip

11 Hook for wrist strap

12 USB C recharging port

13 Interchangeable tip to fit single-fiber connector

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MANAGE FIELD TESTS.
STREAMLINE WORKFLOWS.
UNLOCK INSIGHTS.

Interconnect all parts of your field test
ecosystem through EXFO Exchange,
our open collaborative software platform.

KEY BENEFITS

Connect operations with real-time visibility
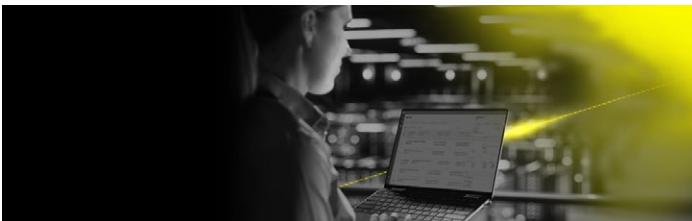
Increase collaboration and build trust with business partners

Boost efficiency with automated processes

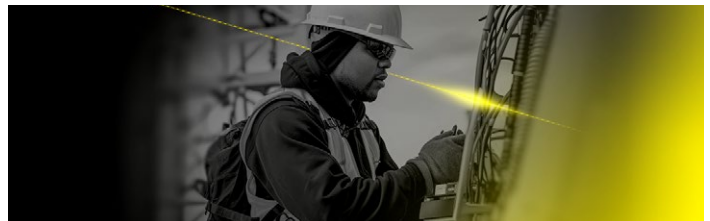**Reduce maintenance costs**

Unlock insights to see what matters

From the office
Invite your workforce and contractors to join your
organization's workspace on EXFO Exchange.
This will help you better organize projects and gain
unprecedented visibility in real time over job progress
and MoP compliance. Optimize closeout package
generation to close jobs rapidly and monetize/get
paid faster.

From the field
Request an invitation from your team manager
to complete jobs faster and better, save results
automatically and share them in real time.

KEY FEATURES

Centralized and organized data

Easy integration

Consolidated reporting service

Process automation

Collaboration

Get **started >**

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SPECIFICATIONS

End-to-end inspection and analysis time [a]	MPO-12: 10 s MPO-24: 15 s Single-fiber: 4 s
Field of view	Multi-fiber: 2.03 mm x 5.16 mm Single-fiber: 0.75 mm x 0.75 mm
Pass/Fail analysis	IEC 61300-3-35 ED.3(2022) [b], IEC 61300-3-35 (2015), user-set criteria
Camera sensor	2 sensors of 5 megapixel
Light source	2 violet LEDs at 415 ±15 nm
Lighting technique	Coaxial, pulsed
Display	2.4 in IPS color LCD 166 dpi + capacitive touchscreen
CPU	1.4 GHz dual core
Connectivity	Bluetooth®, WiFi and USB-C
Battery type	Lithium-ion polymer (Li-Po) rechargeable battery
Autonomy	11 hours [c]
Connector	USB-C
Local storage capability	10 000 single-fiber connectors measurements or 5000 duplex-fiber connectors measurements or 2000 multi-fiber connectors (MPO 12) measurements The available memory for storage is 1.2 GB (on the entire system's 2 GB)

GENERAL SPECIFICATIONS

Size (H x W x D)		196 mm x 230 mm x 59 mm (7 $\frac{3}{4}$ in x 9 $\frac{1}{16}$ in x 2 $\frac{5}{16}$ in)
Reach [d]		99 mm (3 $\frac{15}{16}$ in)
Weight [e]		580 g (1.28 lb)
Temperature	Operating Storage	−10 °C to 40 °C (14 °F to 104 °F) −20 °C to 60 °C (−4 °F to 140 °F)
Humidity range		0 % to 95 % non-condensing
Supported languages		Chinese (Simplified), English, French, German, Japanese, Korean and Spanish

GP-2300   GP-2269   GP-2227   GP-2299   GP-2302   GP-10-071   GP-10-116

ACCESSORIES (INCLUDED)

GP-2300	Protective cap and cord assembly
GP-2269	USB-A to USB-C cable (for charging and transfer of inspection results)
GP-2227	USB AC adapter (includes interchangeable plugs for Australia, Europe, North America and UK)

ACCESSORIES (SOLD SEPARATELY OR INCLUDED WITH KITS)

GP-10-071	Small-sized soft carrying case
GP-10-116	Rigid carrying case
GP-2299	Compartmented plastic case for STIP and optical heads
GP-2302	Belt holster to carry FIP-500 and tips

a. Typical.

b. Full SFOV and partial LFOV

c. Typical. Measured in eco mode − backlight 35% − Bluetooth/WiFi off. One (1) single-fiber test per minute.

d. From FIP-500 body to the extremity of the adapter tip.

e. FIP-500 weight including optical head for multi-fiber (OHMF) and MPO UPC tip (STIP-MPO-U). Excluding the protective cap (GP-2300).

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ORDERING INFORMATION

FIP-500-KIT-XX

FIP-500 kits
FIP-500-KIT-1 = MPO UPC inspection
Includes FIP-500-1 with interchangeable multi-fiber optical head (OHMF), MPO/UPC SmarTip (STIP-MPO-U) and soft carrying case (GP-10-071)
FIP-500-KIT-2 = MPO APC inspection
Includes FIP-500-1 with interchangeable multi-fiber optical head (OHMF), MPO/APC SmarTip (STIP-MPO-A) and soft carrying case (GP-10-071)
FIP-500-KIT-3 = MPO UPC and APC inspection
Includes FIP-500-1 with interchangeable multi-fiber optical head (OHMF), MPO/UPC SmarTip (STIP-MPO-U), MPO/APC SmarTip (STIP-MPO-A) and soft carrying case (GP-10-071)
FIP-500-KIT-4 = Single-fiber UPC bulkhead adapter and patchcord inspection
Includes FIP-500-1 with interchangeable single-fiber optical head (OHSF), SC and FC/UPC bulkhead SmarTip (STIP-SC-FC-U), universal 2.5 mm UPC patchcord SmarTip (STIP-U2.5-U), LC/UPC bulkhead adapter SmarTip (STIP-LC-U), universal 1.25 mm UPC patchcord SmarTip (STIP-U1.25-U) and soft carrying case (GP-10-071)
FIP-500-KIT-5 = Single-fiber APC bulkhead adapter and patchcord inspection
Includes FIP-500-1 with interchangeable single-fiber optical head (OHSF), SC/APC bulkhead adapter SmarTip (STIP-SC-A), universal 2.5 mm APC patchcord SmarTip (STIP-U2.5-A), LC/APC bulkhead adapter SmarTip (STIP-LC-A), universal 1.25 mm APC patchcord SmarTip (STIP-U1.25-A) and soft carrying case (GP-10-071)

FIP-500-1-XX-XX-XX-XX-XX

Configuration [a]
FIP-500-1 = Supports interchangeable optical heads

RF option
NRF = Without RF version (for high-security data centers, government defense agencies, etc.)

Optical head [b]
OHMF = Multi-fiber optical head (MPO, duplex, etc.)
OHSF = Single-fiber optical head
OHMF-A60 = Multi-fiber optical head with long-reach 60° angle
OHSF-A60 = Single-fiber optical head with long-reach 60° angle

Multi-fiber SmarTips [c]
STIP-MPO-U = SmarTip MPO/UPC for MPO 8/12/16 up to 4 rows
STIP-MPO-A = SmarTip MPO/APC for MPO 8/12/16 up to 4 rows
STIP-MPO-A-KL = SmarTip keyless MPO/APC for MPO 8/12/16 up to 4 rows [d]
STIP-OTIP-A = SmarTip for OptiTip® and HMFOC, APC male/female included
STIP-QODC-12-U = SmarTip for Q-ODC-12/UPC (12 fibers), male/female included
STIP-QODC-12-A = SmarTip for Q-ODC-12/APC (12 fibers), male/female included
STIP-IP9-MPO-A = SmarTip for IP9- MPO/APC 8/12/16 up to 4 rows
STIP-MMC-A = SmarTip for MMC 12/16/24 up to 2 rows

Duplex bulkhead SmarTips [c]
STIP-LC-DF-U = SmarTip for LC/UPC duplex bulkhead adapter
STIP-CS-DF-U = SmarTip for CS/UPC duplex bulkhead adapter
STIP-SN-DF-U = SmarTip for SN/UPC duplex bulkhead adapter
STIP-QODC2-DF-U = SmarTip for Q-ODC-2/UPC duplex bulkhead adapter
STIP-LC-DF-A = SmarTip for LC/APC duplex bulkhead adapter

Example: FIP-500-1-OHMF-OHSF-STIP-MPO-U-STIP-MPO-A-STIP-U2.5-A-STIP-U2.5-U

Single-fiber SmarTips [e]
Cord
STIP-U2.5-U = SmarTip for universal 2.5 mm, UPC patchcord
STIP-U2.5-A = SmarTip for universal 2.5 mm, APC patchcord
STIP-U1.25-U = SmarTip for universal 1.25 mm, UPC patchcord
STIP-U1.25-A = SmarTip for universal 1.25 mm, APC patchcord

Bulkhead
STIP-ST-U = SmarTip for ST/UPC bulkhead adapter
STIP-SFADP-400 = FIP-500 adapter to support FIPT-400 single fiber tips
STIP-LC-A = SmarTip for LC/APC bulkhead adapter
STIP-LC-U = SmarTip for LC/UPC bulkhead adapter
STIP-LC-A-L = SmarTip for LC/APC extended bulkhead adapter
STIP-LC-U-L = SmarTip for LC/UPC extended bulkhead adapter
STIP-LC-A-A60 = SmarTip for LC/APC, 60° angle bulkhead adapter
STIP-LC-U-A60 = SmarTip for LC/UPC 60° angle bulkhead adapter
STIP-SC-FC-U = SmarTip for SC/UPC and FC/UPC bulkhead adapter
STIP-SC-A = SmarTip for SC/APC bulkhead adapter
STIP-SC-A-L = SmarTip for SC/APC extended bulkhead adapter
STIP-SC-U-L = SmarTip for SC/UPC extended bulkhead adapter
STIP-SC-U-A60 = SmarTip for SC/UPC 60° angle bulkhead adapter
STIP-FC-A = SmarTip for FC/APC bulkhead adapter
STIP-OTAP-A = SmarTip for OptiTap bulkhead adapter
STIP-E-2000-U = SmarTip for E-2000/UPC bulkhead adapter
STIP-E-2000-A = SmarTip for E-2000/APC bulkhead adapter
STIP-MU-U = SmarTip for MU/UPC extended bulkhead adapter
STIP-DLX-A = SmarTip for DLX hardened fiber optic bulkhead adapter

a. More than one optical head or SmarTip can be ordered together with the FIP-500.
b. Both optical heads can be purchased together.
c. Multi-fiber optical head required.
d. For MPO 8/12/16 up to 4 rows. Compatible with CommScope inverted key system.
e. Single-fiber optical head required.

EXFO headquarters   **T** +1 418 683-0211   **Toll-free** +1 800 663-3936 (USA and Canada)

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

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