DATASHEET

FI-500 FiberInspector™ Micro Fiber Optic End Face Inspection Scope with PortBright™ Illumination

Overview

Dirty fiber optic end faces are the major cause of problems in single-mode and multimode fiber optic systems.

The FI-500 FiberInspector™ Micro removes the hassle associated with inspecting fiber end faces, especially in low light and high cable density situations.

It is very simple to use.

Simply plug the cable into the FI-500 and touch the AF button. Within seconds, the fiber end face comes into sharp, clear view. And if you're working in a difficult to reach place or you can't get the image to stand still, just touch the pause button to freeze the image.

Just Right for Troubleshooting

Today's high density fiber patch panels make inspection a challenge. Finding the cable or port to test can be tough, especially in the low light conditions found in most data centers and wiring closets.

The FI-500 is designed to simplify the inspection process. The built-in PortBright flashlight helps you find the right port or cable. The small-profile probe fits into tight spots, and features push-button controls for simple operation. Autofocus provides a sharp view of the endface in under a second, while the pause button freezes the image on the crisp 320 x 240 display for more detailed inspection.

The FI-500 FiberInspector Micro fills the gap between a manual scope and a fully automated inspection scope. The FI-500 has the simplicity and practicality of a manual inspection scope, but with advanced features to reduce troubleshooting and inspection time.

Manual fiber inspection scopes are simple to use, but they don't work well on patch panels or situations where there is a high density of fiber. Holding it up to one eye and closing your other eye is often inconvenient or impractical, especially in a dark room.

Fully automatic inspection scopes analyze and grade the cleanliness of fiber connections which is important for many applications, but analysis is usually not needed for quick basic troubleshooting.

Important Benefits	**Typical Manual Scopes**	**FI-500 FiberInspector Micro**	**Typical Analysis Scope**

sales@prom-elec.com / ООО ПРОМЭЛЕКТРОНИКА

Illumination of small or dark ports		✓	
Autofocus for quick and stable images*		✓	Model dependent
Compact design to get into tight spaces		✓	Model dependent
Works on patch cords and bulkhead connectors		✓	✓
Wide range of tips to support most connectors		✓	✓
Capture and zoom to see small particles		✓	✓
End face analysis to highlight dirt			✓
Image storage			✓
Data transfer to PC or cloud			✓
Rugged digital design		✓	✓
Relative cost	**Low**	**Medium**	**High**

**If the APC tip (Angled Physical Contact) is not aligned with connector, the connector or probe may require rotation and repeating autofocus or manual focus.*

Fast, Easy Viewing of Fiber End Faces

FI-500 displaying a clean fiber endface

FI-500 displaying a dirty fiber endface

FI-500 provides immediate and in-depth visibility into fiber patch cords and bulkhead connectors.

1. Screw-on probe tips to support most connector types. FI-500 includes 4 UPC tips; SC, LC, 1.25 mm and 2.50 mm. Optional APC tip kit includes 4 APC tips; SC, LC, 1.25 mm and 2.50 mm. Other probe tips available.
2. PortBright built-in flashlight illuminates dark areas and dense panels.
3. Switch on PortBright with a convenient button on the probe.
4. Pause button holds the image for viewing when it's hard to get it just right.
5. Two-second autofocus reduces inspection time and keeps your other hand free. (If the APC tip is not aligned with connector, the connector or probe may require rotation and repeating autofocus or manual focus.)
6. Status bar to see battery charge and other information. Auto power off increases battery life.
7. Bright 320 x 240 backlit display.
8. Magnification of 200X with 1X, 2X, and 4X zoom settings.
9. Auto-center moves the fiber ferrule clearly into the frame for precision inspection.

Rugged construction; vibration and drop tested to 1 meter.

Compact design allows you to access dense and crowded panels.

No batteries to change in the probe. Probe is powered by display unit.

Specifications

General Specifications	
Temperature range without the power adapter	Operating: 0 °C to +50 °C Storage: -30 °C to +60 °C
Tenperature range with the power adapter	Operating: 0 °C to +40 °C Storage: -20 °C to +60 °C
Humidity range	Operating: 0% to 95% °C (0 °C to +50 °C) H non-condensing Storage: 0% to 95% (35 °C to 45 °C) RH non-condensing
Altitude	Operating: 4,000 meters Storage: 12,000 meters
Vibration	2 g, 5 Hz to 500 Hz
Shock	1 meter drop test
Safety	IEC 61010-1 3rd Edition IEC 62133

Display	
Magnification	1x, 2x, 4x
Frames per second	≥12
Battery type*	Rechargeable NiMH, 2 x 1.2V, 2700 mAh
Battery life*	3 hours of continuous probe use 6 hours of typical probe use

Charge time	4 hours minimum
Power adapter	Input: 100 to 240 VAC±10%, 50/60 Hz Output: 6 VDC, 3 A maximum Class II
Display	3.2 inch TFT LCD, 320 x 240
Software upgrades	Upgrades can be installed from a USB drive
Input	USB 2.0, Type A
Dimensions	5.5 in x 3.2 in x 1.5 in (14.0 cm x 8.0 cm x 3.9 cm)
Weight	9.7 oz (275 g)

**Tested using Gold Peak GH230AAHC batteries.*

Probe	
Magnification	200x. Zoom function has 1x, 2x and 4x settings
Camera type	5 Megapixel 1/4-inch CMOS sensor
Field of view	610 µm x 460 µm
Resolution	1 µm
Light source	LED, >100,000 hr life
End face illumination	Coaxial blue LED
Port illumination	2 white LEDs
Power	Supplied through the USB interface
Output	Video output through USB 2.0 interface
Dimensions	4.6 in x 2 in x 0.95 in (117 mm x 51 mm x 23 mm) (length depends on adapter tip)
Weight	4.4 oz (125 g)(with no adapter tip)

Fiber Inspection and Cleaning

Dirt, dust, and other contaminants are the enemies of high-speed data transmission over optical fiber. Today's network applications require more bandwidth than ever, making loss budgets tighter than ever. Hence, it is critical that all optical connections are free of contaminants to avoid having application performance issues.

Eliminate the #1 Cause of Fiber Failure

In a survey of installers and network owners commissioned by Fluke Networks, end face contamination was found to be the leading cause of fiber failures. Dirt and contaminants cause insertion loss and back-reflection that inhibit the light transmission and raises havoc with transceivers. And because dirt can migrate from one end face to another upon mating, both sides of any connection must be inspected. Further, mating contaminated connectors can cause permanent damage as microscopic debris is crushed between end faces in physical contact. Therefore, you must always inspect and clean before mating as a preventative measure and not only after experiencing problems. Even factory-terminated patch cords or pigtails must be inspected as protective caps do not keep end faces clean. Avoiding this common cause of failure starts with inspecting the end face and eliminating any contamination before insertion into a bulkhead or piece of

equipment.

Range of Inspection Options

With a range of solutions, Fluke Networks always has the right tool for you to easily inspect endfaces on a wide variety of connectors.

Fiber Test, Inspection, Cleaning and Certification	SimpliFiber® Pro Test Kits	CertiFiber® Pro OLTS	MultiFiber™ Pro MPO Power Meter	VisiFault™ Visual Fault Locator	Fiber QuickMap™ and OneShot™ PRO	FI-500 FiberInspector™ Micro	FI-7000 FiberInspector™ Pro
One button operation				✓	✓	✓	
Locate faults				✓	✓		
Fiber length					✓		
Check connectivity	✓	✓	✓	✓	✓		
Check polarity	✓	✓	✓	✓			
Optical power measurement	✓	✓	✓				
Encircled flux compliant	✓	✓	✓				
Dual-fiber loss testing		✓					
MPO fiber testing			✓				✓
Pass/fail results		✓	✓				✓
View fiber bulkhead and end faces						✓	✓ + MPO
Capture and analyze bulkhead and end faces							✓
PortBright illumination						✓	
Autofocus						✓	

About Fluke Networks

Fluke Networks is the worldwide leader in certification, troubleshooting, and installation tools for professionals who install and maintain critical network cabling infrastructure. From installing the most advanced data centers to restoring service in the worst weather, our combination of legendary reliability and unmatched performance ensure jobs are done efficiently. The company's flagship products include the innovative LinkWare™ Live, the world's leading cloud-connected cable certification solution with over fourteen million results uploaded to date.

1-800-283-5853 (US & Canada)
1-425-446-5500 (International)
http://www.flukenetworks.com

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