Autofocusing Ultra High-Resolution Fiber End Scope

DATASHEET

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Features

- 400X High Resolution
- Autofocusing Activated by a Foot Switch
- Magnification Switch for Fiber Core or Full Connector Surface
- Dual Display Option for Fiber Core and Full Connector Surface
- Clear Illumination Optics
- Rechargeable Battery for >3 hr Portable Application
- USB PC Interface with Bar Code and Automatic Pass/Fail Determination
- PM Stress Field Key Examination
- All Connector Adaptors/Bare Fiber

Applications

The FSCO 500 Auto-focusing Video Microscope is a high-performance fiber connector inspection system designed to provide convenient and accurate end-face analysis. It delivers ultra-clear images using a unique blue LED illumination that enhances contrast and reveals minor scratches and defects. The microscope features automatic focusing activated by a pushbutton or foot switch, eliminating delicate manual adjustments. With dual magnification, users can examine both the detailed fiber core and the entire connector surface, with images displayed alternately on one screen or simultaneously on two displays. A USB interface allows connection to a computer for image capture, barcode identification, and automatic pass/fail defect analysis according to configurable QA standards. The system supports over 40 connector adapters and also enables bare fiber inspection using a precision sliding fiber clamp similar to those used in PM fusion splicers, making it suitable for checking polarization-maintaining fiber stress-field orientation. An optional video microscope probe can be connected to inspect connectors mounted on patch panels and to detect and count contamination particles.

Specifications

Parameter	Min	Typical	Max	Unit
Magnification		400X/80X		
Screen Size		9		inch
Connector Type		LC, LC/APC, FC, FC/APC, SC, MPO		
Bare Fiber Adaptor		125		µm
Operating Temperature	-5		50	°C
Storage Temperature	-40		85	°C
Dimensions		1.8(OD) x 6.5 - 7.2(L)		mm
Weight		3		lb

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Ordering Information (Part Number)

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Prefix	**Type**	**Dual Screen**	**Particle Counting**	**Inside Probe**	**Bare Fiber Adaptor**	**Connector [1][3]**	**Connector [1][3]**	**Connector [1][3]**	**Connector [1][3]**
FSCO-	500 = 5	Non = 1 Yes = 2	Non =1 Yes =2	Non =1 Yes =2	No = 0 Yes = 1	General = 1 FC/PC = 2 SC = 4 ST = 6 LC/PC = 7 Duplex LC/PC = 8 MPO = 9 FC/APC = A PM FC/APC [2] = D LC/APC = B Special = 0	General = 1 FC/PC = 2 SC = 4 ST = 6 LC/PC = 7 Duplex LC/PC = 8 MPO = 9 FC/APC = A PM FC/APC [2] = D LC/APC = B Special = 0	General = 1 FC/PC = 2 SC = 4 ST = 6 LC/PC = 7 Duplex LC/PC = 8 MPO = 9 FC/APC = A PM FC/APC [2] = D LC/APC = B Special = 0	General = 1 FC/PC = 2 SC = 4 ST = 6 LC/PC = 7 Duplex LC/PC = 8 MPO = 9 FC/APC = A PM FC/APC [2] = D LC/APC = B MTP = M Special = 0

[1]. The unit comes with two generic adapters without thread/locking keys having passing hole sizes of 2.5 mm for FC/SC/ST connectors and 1.25 mm for LC/MU connectors.

[2]. Permanent fixture. Key aligned to a horizontal grid line on the screen.

[3]. The connector cannot be installed directly onto bare fiber, as it is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer can remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SM28 fiber and decreases further with smaller core fibers.

Fiber Core Illuminator

Fiber core image highly depends on the surface preparation. For example a plasma cleaned surface is idea. We provide an LED illuminator with a 2.5mm hole that matches with FC/SC/ST, as well as bare fiber adaptor (included). Using this Fiber Core Illuminator, the core image can be seen regardless the surface condition. Below illustrates how to use this tool.