

Hand-Held Fiber Microscopes

For Fiber Optic Termination Inspection



Fiber Optic Termination Inspection Microscopes

Ever-increasing bandwidths make quality terminations a necessity. Cleanliness and polish quality must be near-perfect in order to ensure low attenuation levels. Microscopic inspection provides a fast, affordable method for evaluating terminations. For years, the only choices for Fiber Termination Microscopes have been either too expensive, or lacking quality. Finally, a company has produced professional quality instruments at a price that makes good sense – the *advanced* “L” series and “C” series microscopes from Westover Scientific, Inc. Designed for field use or laboratory inspection of optical fiber connectors, this rugged instrument will provide years of service while delivering true optical performance.

Special features include:

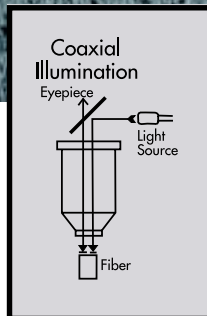
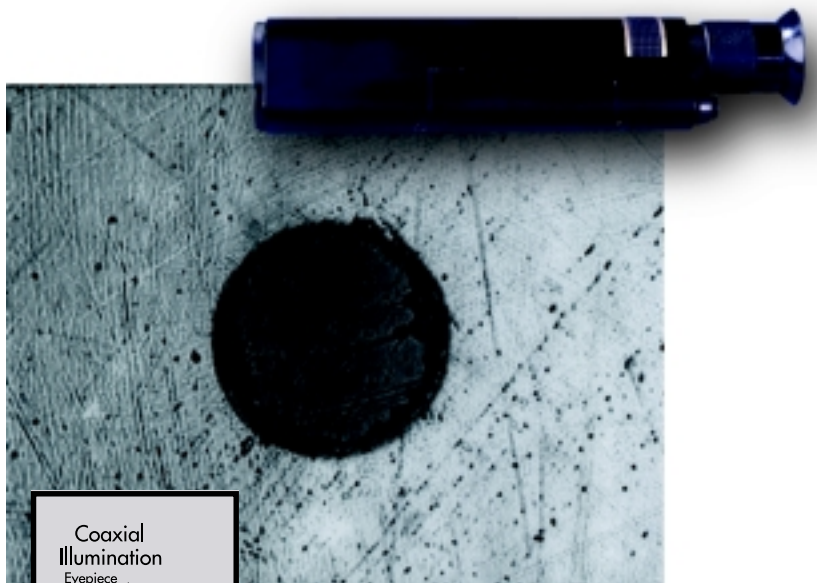
- LED illumination - provides 100,000 hrs. lamp life and extends battery life up to 30 hrs. of continuous use.
- Laser safety filter installed (Data sheet available)
- Precision optics from 100x to 400x
- Versatile interface - uses interchangeable, pre-centered universal or dedicated adapters
- Clear, bright images
- Smooth focus control
- Momentary or push button on/off switch
- Ergonomic design and rubber eye cup for comfortable use



Hand-Held Fiber Microscopes

Lighting Methods: *Termination Microscopes*

There are different types of microscopes available for termination inspection. Some utilize *oblique illumination* while others use *coaxial illumination*. We offer both types of microscopes, explain the simple differences, and allow you to choose. Here is a breakdown of the two lighting systems...

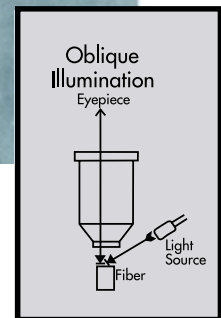
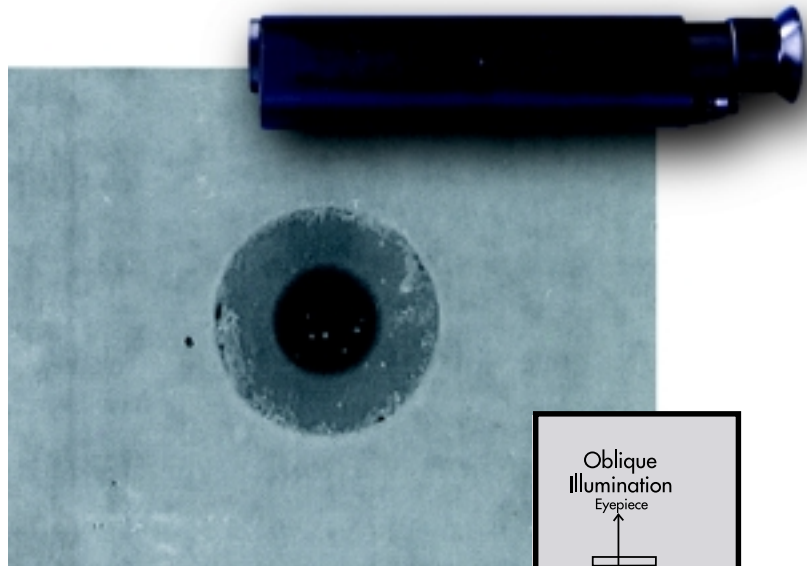


Oblique Lighting

L Series

Oblique lighting is most commonly found in basic field microscopes. This design incorporates a bulb directed at an angle towards the fiber. It produces a good image of core condition and contaminants. Scratches in the end-face are visible but not easily seen.

Westover "L Series" Fiber Microscopes feature this type of illumination. Some customers prefer oblique lighting because it doesn't show "too much". Technicians see enough to clean connectors and even polish to a low loss level, but not so much that inexperienced people might waste time or over polish.



Coaxial Lighting

C Series

Coaxial illumination is most commonly found in professional grade microscopes. This is the system preferred by more critical users. Light is introduced into the optical path (axis) so that it comes out of the tip of the objective and strikes the sample perpendicular to the fiber end-face. This produces excellent detail of scratches and contamination, but requires backlight to examine core condition.

The Westover "C Series" Fiber Microscopes feature this type of lighting system. For critical examination of polish quality, we strongly recommend this design.

So which type of illumination is best?

No one system is best for all applications. For best detail, choose coaxial illumination. If you need a tool for fast field inspection, we recommend oblique lighting. It is slightly less expensive and doesn't show "too much."

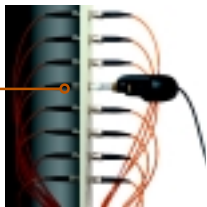
The images above demonstrate coaxial lighting versus oblique lighting. The damaged ferrule end face shown is exactly the same in both photos.

Video Fiber Inspection Probe (FBP)

The Westover Scientific Video Fiber Inspection Probe is a portable, video microscope used to inspect fiber optic terminations. More specifically, the FBP is used to inspect installed connectors that are located inside hardware devices or on the "backside" of patch panels. It eliminates the need to access the backside of patch panels or disassemble hardware devices prior to inspection.



- 1 The probe tip mates with the female bulkhead adapter or mating adapter. A variety of dedicated adapters are available which allow you to inspect several types of connectors.



- 2 The tiny, lightweight probe holds itself in place for hands free operation.



- 3 The image of the fiber will appear centered and in sharp detail on the hand held display.

The focusing mechanism on the probe allows you to set the initial focus position with a minimum of re-focusing when the probe is moved to another connector position.

Hand-Held Video Module

Ergonomic Hand-held Display presents instant, sharp images with the 2.5" TFT Active Matrix LCD. Crisp, clear images of microscopic debris and/or ferrule damage are projected to the LCD display with a 530-micron field of view.



Probe

This small, lightweight probe measures 4.2" long. In addition to being compatible with standard connectors (i.e. ST, SC, and FC), our design includes precision optics and lighting which have been optimized for inspecting small form-factor connectors - including 1.25mm (LC) connectors.

Video Output Module

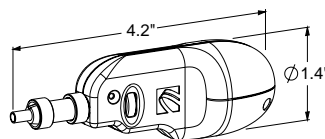
Accepts video input from the probe and another composite video source, i.e. Westover bench-top video inspection microscopes.



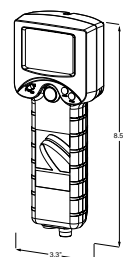
Specifications:

VIDEO FIBER INSPECTION PROBE (FBP)

Video Inspection Probe



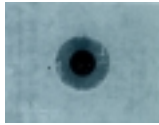
Hand-held Display



Microscopes

"L Series"

with oblique illumination using LED lamp



Catalog No.	Description
FM-L100	100x, universal "slip-grip" adapter included
FM-L160	160x, universal "slip-grip" adapter included
FM-L200	200x, universal "slip-grip" adapter included
FM-LX100	100x, NO adapter
FM-LX160	160x, NO adapter
FM-LX200	200x, NO adapter

"C Series"

with Coaxial illumination using LED lamp



Catalog No.	Description
FM-C100	100x, universal "slip-grip" adapter included
FM-C160	160x, universal "slip-grip" adapter included
FM-C200	200x, universal "slip-grip" adapter included
FM-C320	320x, universal "slip-grip" adapter included
FM-C400	400x, universal "slip-grip" adapter included
FM-C99	Deluxe Package: includes interchangeable eyepiece to configure for either 200x or 400x, and universal "slip-grip" adapter.
FM-CX100	100x, NO adapter
FM-CX160	160x, NO adapter
FM-CX200	200x, NO adapter
FM-CX320	320x, NO adapter
FM-CX400	400x, NO adapter
FM-CX99	Deluxe Package: includes interchangeable eyepiece to configure for either 200x or 400x NO adapter.

Adapters for FM series

Catalog No.	Description
FMA-U25	Universal adapter for 2.5mm ferrules with "slip-grip" mechanism (compatible with ST, SC, FC, and SMA)
FMA-UAPC	Universal adapter for APC type (8°) 2.5mm ferrules with "slip-grip" mechanism (compatible with APC versions of ST, SC, FC, and SMA)
FMA-U12	Universal adapter for 1.25mm ferrules with "slip-grip" mechanism (Compatible with LC or MU. For ideal performance with LC, please see FMA-LC)
FMA-ST	ST adapter
FMA-SC	SC adapter
FMA-FCPC	FC/PC adapter
FMA-SMA	SMA adapter
FMA-E2	E2000 adapter (SM or MM, Diamond or Suhner)
FMA-BIC	Biconic adapter
FMA-D4	D4 adapter
FMA-BF1	Bare Fiber adapter
FMA-LC	LC adapter
FMA-MTRJ-1	MTRJ adapter, simple type, remove rotate
FMA-MTRJ-2	MTRJ adapter, sliding carriage type
FMA-MMT-2	Mini-MT ferrule adapter (for assembly shops building the MTRJ), sliding carriage type
FMA-MT	MT ferrule adapter sliding carriage type
FMA-MTP	MTP adapter sliding carriage type
FMA-MPX	MPX adapter sliding carriage type



Other adapters in development.
Please call for recent information.

Parts and Accessories

Catalog No.	Description
FMP-TP1	Desktop Tripod for FM series
FMP-TP2	Clamp type Tripod for FM series
FMP-EP10	Eyepiece, 10x
FMP-EP16	Eyepiece, 16x
FMP-EP20	Eyepiece, 20x
FMP-OR020	Objective, 20x
FMP-OR010	Objective, 10x
FMP-HCASE	Canvas Soft-sided Case

CALL TODAY FOR A DEALER NEAR YOU:

All Westover Fiber Microscopes are warranted to be free of all defects in material and workmanship for a period of 12 months (1 year) from the date of delivery. The warranty does not apply to any instrument which has become worn, defective, damaged or broken due to abuse, misuse, tampering, or unauthorized repairs. Under this warranty, Westover Scientific will repair or replace, without charge to the purchaser, any part which upon our examination, appears to be defective in materials or workmanship.

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