OZ Optics LIMITED
OZ Optics
shop.ozoptics.com
www.ozoptics.com

219 Westbrook Road
Ottawa, ON, Canada, K0A 1L0

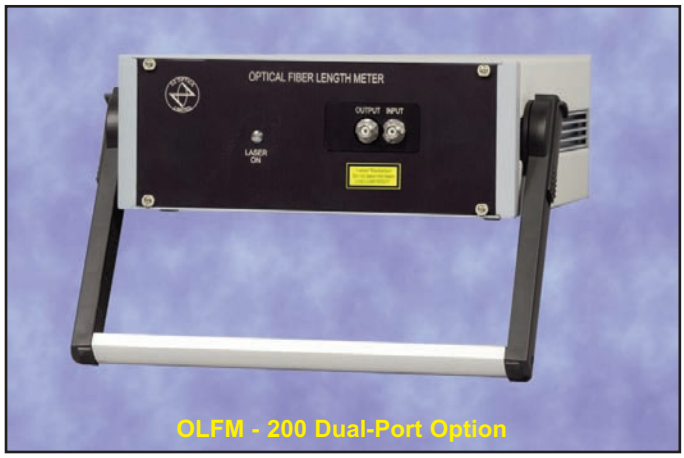
Toll-free: 1-800-361-5415
Telephone: 1-613-831-0981
Fax: 1-613-836-5089
sales@ozoptics.com

FIBER LENGTH METER

Features and Benefits

- Measures lengths from a few mm up to 500 m
- Better than 2 mm resolution
- Less than 0.1% measurement error
- No dead zone. Can measure fibers less than 1 cm long
- Takes absolute and relative measurements
- Works with singlemode, multimode, polarization maintaining, and specialty fibers
- Rapid, continuous (1 Hz) measurement of optical fiber lengths
- Saves time spent manually measuring fiber lengths
- Improves quality control
- Rack mount and bench top units

OFLM - 100 Single-Port Option



OLFM - 200 Dual-Port Option

Fiber Length Meter

Applications

- Optical fiber cable assembly
- Production testing
- Optical network field installations
- Quality control and acceptance testing
- Fiber optic sensor assembly and testing
- Low-cost dynamic strain sensor
- Construction of fiber interferometers
- Ring laser manufacturing
- Cable management

Product Description

The OZ Optics Optical Fiber Length Meter (OFLM-100) delivers fast, accurate and reliable measurements of optical fiber lengths. This powerful tool saves time and money while preventing measurement errors and improving quality control.

With resolution and repeatability of less than 2 mm, the OFLM-100 delivers highly accurate optical path length measurements for distances up to 500 m. The system reports and records its measurements to any Windows based personal computer, allowing easy data logging and report writing.

For any application requiring precise and well-controlled optical fiber lengths, the OFLM-100 saves time and money while improving quality and performance. You will find the OFLM-100 to be an innovative and essential tool.

The OFLM-100 is an essential tool for constructing and testing fiber optic cables, fiber optic sensors, and other optical fiber systems where length must be controlled. Take your optical fiber systems to the next level of quality and cost control with the OFLM-100 today.

Please Contact OZ with your optical fiber length and strain monitoring requirements.

Standard Product Specifications:

Optical Specifications (Single-Port Option)

Parameter	Value	Comments
Fiber types that could be measured	Singlemode fiber with 3.5 micron and larger cores, PM fiber with 3.5 micron and larger cores, Multi-mode fibers	Separate models required for multimode fibers larger than 62.5/125.
Resolution	<2 mm	
Repeatability	<3 mm	
Accuracy	±(0.1% + 1.5 mm)	Accuracy is affected by variations in the fiber index of refraction which are set by the user.
Optical connector	Super FC/PC standard	Other connectors available on request.
Minimum distance	<1 cm	
Maximum distance	150 m	

Optical Specifications (Dual-Port Option)

Parameter	Value	Comments
Fiber types that could be measured	Singlemode fiber with 3.5 micron and larger cores, PM fiber with 3.5 micron and larger cores, Multi-mode fibers	Separate models required for multimode fibers larger than 62.5/125.
Resolution	<4 mm	
Repeatability	<3 mm	
Accuracy	±(0.1% + 1.5 mm)	Accuracy is affected by variations in the fiber index of refraction which are set by the user.
Optical connector	Super FC/PC standard	Other connectors available on request.
Minimum distance	<1 cm	
Maximum distance	500 m	

Electrical Specifications

Parameter	Value	Comments
Power requirements	120 V or 240 V AC, 50/60Hz	
Operating current	1 Amp	
Data Interface	USB	RS232 Communication is available as an option.

Environmental Specifications

Parameter	Value	Comments
Operating Temperature	0 to 40 °C	
Storage Temperature	-20 to 60 °C	

Software Specifications

Parameter	Value	Comments
Platform Requirements	Windows 2000 or above	

Ordering Information For Standard Parts

Bar Code	Part Number	Description
32694	OFLM-100-1-S-3-U	Single port, bench top, Optical Fiber Length Meter for singlemode or polarization maintaining fibers, or multimode fibers up to 62.5/125 microns with an FC connector receptacle, USB interface.
32284	OFLM-100-2-S/M-3-U	Dual port, bench top, Optical Fiber Length Meter for singlemode, polarization maintaining, or large core multimode fibers, with an FC connector receptacle, USB interface.

Ordering Information for Custom Parts:

Optical Fiber Length Measurement System: **OFLM-*A*-*B*-*F*-*X*-(*I*)**

A = Configuration:
100 for bench top unit
200 for rack mount unit

B = # of ports:
1 (1 port)
2 (2 ports)

F = Fiber Type:
S for singlemode or polarization maintaining fibers, and multimode fiber up to 62.5/125
M for large core multimode fibers
S/M for both (for the case of Dual-Port System)

I = Computer Interface
R: RS232 interface
U: USB interface

X = Receptacle Code
3 = FC (Compatible with super PC and ultra PC finishes)
SC = SC receptacle
LC = LC receptacle

Frequently Asked Questions (FAQs):

Q: How does the fiber length meter work?
A: For the single port option, it calculates the fiber length by measuring the phase difference between the launch pulse and the reflected signal from the end of the fiber.
For the dual port option, it calculates the fiber length by measuring the phase difference between the launched pluse and the detected pulse.

Q: What is the operating wavelength of the device?
A: The wavelength of operation is 633nm to 650nm. This is the standard.

Q: Can the optical fiber length meter be implemented to operate at a different wavelength?
A: No. 633nm is the only option. However, it will work with fibers designed for any wavelength.

Q: Can the length of patchcords with connectors other than the standard super FC/PC be measured?
A: Yes. The device could be implemented with the connector type the customer orders.

Q: Can the user measure the length of any assembled patchcord?
A: It depends on which of the two options the user orders.

For the single port option, the end of the fiber under test must be flat cleaved or polished in order for the reflected light to be sufficient for detection. If not, the device will not function
For the dual port option, both ends of the fiber under test must be accessible. In this case, the end finish or cleave is not an issue.

Q: Can we measure optical fibers longer than 500m?
A: For a Dual-Port version of the instrument, 500 meters should be considered to be the upper limit (based on a fiber with a 9 micron core), although it might be able to measure fibers that are very slightly longer than 500 meters operating under ideal conditions. Depending on the properties of the fiber being measured, the limit might be less. Similarly, for a Single-Port version, 150 meters is the upper practical limit. The actual limit depends on the core size and the cleave or polish at the far end of the fiber.

Q: Can I operate the meter without a computer?
A: No, you need to install OZ provided USB/RS232 driver (as applicable) and OZ-OFLM GUI on a host computer.

Q: What does the OZ-OFLM user interface look like?
A: The main GUI screen will look as follows: