



**LAMBDA SCOPE**

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RL-300/8000

High Precision (0.1mm) Optical Fiber Length Meter

(Preliminary)



### **KEY FEATURES:**

- Capable of measuring multimode fiber or single mode length to 50m;
- 1310nm F-P laser diode;
- USB connection to PC using user-friendly GUI;
- High precision to <0.1mm; micrometer precision available upon request.

### **INTRODUCTION**

In certain scientific and engineering applications such as optical fiber interferometers, optical fiber lengths must be accurately measured and calibrated. To date, the fiber length measurement is based on the time-of-flight (TOF) principle where the time that it takes for an optical pulse to travel in a certain length of fiber is measured by means of optical time domain reflectometer (OTDR) technology. According to published data from commercial OTDR products, the best accuracy achieved by TOF method is approximately 25mm, which is considered not accurate enough for mission critical applications. There is a need to further improve the fiber length accuracy to better than 0.1mm.

Lambdascope's High Accuracy Fiber Length Meter can meet or exceed such a tough requirement. To our knowledge, our fiber length meter offers the highest fiber length measurement in the world. We can achieve the measurement accuracy to up to 1um depending on certain fiber arrangement and customization. The operation of the device is very simple via USB connected to a computer. Straightforward GUI interface is provided to initiate the measurement. The results can be saved to an Excel table for further processing if needed by the user.

## APPLICATIONS

- Optical interferometer experiment
- Mission critical applications

## GENERAL CHARACTERISTICS

Dimensions (D x W x H)	224 mm x 157 mm x 80 mm*
Warm-up Time	10 min.
Communication Interfaces	USB
Power Consumption	<5W
Operating Temperature	0 to 45 °C
Storage Temperature	-40 to 80 °C

Note:

\*The size can be made smaller to fit into an existing system.

## KEY SPECIFICATIONS

Model Type	RL-300	RL-8000
Default Fiber Type	SM or MM	SM or MM
Wavelength	1550, 1310nm	1550, 1310nm
Fiber length accuracy	<0.1mm	<1um
Max. fiber length range	50m	2m
Measuring Time	<30s	<1min.

## ORDERING INFORMATION

The part numbering designation for LAMBDA SCOPE products is as follows.

RL-300-FC/UPC (for FC/UPC connector, other connector types are available upon request)

RL-8000-FC/UPC