



## **OP960 SERIES**

Insertion Loss & Return Loss Meters



## **PRODUCT OVERVIEW**

OptoTest's new OP960 Series Insertion Loss (IL) and Return Loss (RL) Meters build on the well proven capabilities of the fastest RL meters in the industry, the OP940 Series, with increased speed and enhancements that make them even easier to use. A larger and sharper touchscreen, built-in Ethernet capability, and upgraded cases and components make the OP960 the preferred choice for fiber optic cable manufacturers looking for a complete, simple, and accurate testing solution with a small footprint.

## **KEY FEATURES & BENEFITS**

#### Faster Testing Speeds

A measurement time of two seconds per channel, using the front panel in Dual ILRL mode or via software, is **over 30% faster** than the previous industry leader, the OP940. Testing 24 fiber MPO using the OP960 in the same mode yields a **24 second savings** compared to the OP940.



#### Bigger and Sharper Touchscreen

The OP960 touchscreen has **35% more area and 70% more pixels** than the OP940 for improved ease of use. Simple front panel controls are easy to navigate without sacrificing functionality. IL and RL can be **tested simultaneously with results updating in real time**. Help menus are readily accessible on every screen to guide you through the features and options.

#### • Ethernet and USB

The OP960 supports Ethernet communication (TCP/IP and UDP) in addition to USB for more flexible remote connectivity and control.

#### Upgraded Cases and Components

The OP960 is designed with durability in mind and housed in a new case that is **sturdier than ever**, making it possible to stack equipment on top. Improved components and circuitry **increase reliability and extend service life** long into the future.



#### **CALIBRATION**

This product can be calibrated in-house, on-site, or remotely.



#### **TECH SUPPORT**

Our team of experts is ready to assist you.



#### WARRANTY

OptoTest offers a three-year warranty on this product.

## **APPLICATIONS**

- Manufacturing Testing
- R&D Testing



#### **ISO CERTIFIED**

Our Quality Management System is certified and in compliance with ISO 9001:2015.



#### MADE IN THE USA

We proudly design & manufacture our equipment in California, United States.

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## **PRODUCT SPECIFICATIONS**

| Return Loss                     | Single Mode, FTTX                    | Multimode             |  |
|---------------------------------|--------------------------------------|-----------------------|--|
| Source Wavelength               | 1310nm, 1550nm<br>1490nm*, 1625nm*   | 850nm, 1300nm         |  |
| Calibrated<br>Measurement Range | -10dB to -80dB                       | -10dB to -58dB        |  |
| Measurement Linearity           | ±1dB (-12dB to -72dB)                | ±1dB (-10dB to -45dB) |  |
| Distance Range                  | up to 2500 meters                    |                       |  |
| Mandrel-free minimum distance   | 1.7 meters (both reflections <-45dB) |                       |  |



\*FTTX only.

| Insertion Loss                               | Single Mode              | FTTX               | Multimode                                   |  |
|--|--------------------------|--------------------|---|--|
| Source Center Wavelength                     | ±30nm from nominal       | ±30nm from nominal | ±30nm from nominal                          |  |
| Source Bandwidth                             | <10nm                    | <10nm              | <140nm (850nm) <200nm (1300nm)              |  |
| Internal Fiber                               | 9/125µm (SMF28)          | 9/125μm (SMF28)    | 50/125µm, 62.5/125µm, 105/125µm             |  |
| Launch Condition                             | N/A                      | N/A                | Available upon request                      |  |
| Output Power* (typical)                      | -1.5dBm                  | -2.5dBm            | -18dBm(850nm) -20dBm(1300nm):<br>62.5/125µm |  |
| Insertion Loss Stability**                   | ±0.02dB                  | ±0.02dB            | ±0.02dB                                     |  |
| Measurement Linearity (Relative Accuracy)*** |                          |                    |   |  |
| Deviation ± 0.05dB                           | 0dBm to -65dBm at 1490nm |                    |   |  |
| Deviation ± 0.01dB                           | <10dB power variation    |                    |   |  |

<sup>\*</sup>For single channel systems. \*\*Over 1 hour with a max. change of 1°C. \*\*\*For 1, 2, and 3mm detectors.

| Measurement Timing            | Single Mode | FTTX  | Multimode |
|-------------------------------|-------------|-------|-----------|
| IL and RL, Dual Wavelength    | <2s*        | 4s    | <2s*      |
| Switching Time (Multichannel) |             | 100ms |           |

<sup>\*</sup> Using the front panel in Dual ILRL mode or running OPL-Pro with real-time update enabled.

| Mainframe                  | OP965 Benchtop   | OP960 Rackmount  |  |
|----------------------------|--|--|--|
| Dimensions                 | 8.5" x 3.5" x 13"  | w/silicone corners: 17.8" x 3.8" X 14"<br>with ears (rack): 19" x 3.47" X 14.1"<br>w/out corners or ears: 17" x 3.5" X 13.9" |  |
| Display                    | 4.3" Touch Screen  |  |  |
| Power Supply               | Input: 90VAC 246VAC; 47Hz to 63Hz <b>Output:</b> 18V 5AV |  |  |
| Warm-up time               | 5-15 minutes   |  |  |
| Operating Temperature      | 0°C to 50°C  |  |  |
| Maximum Relative humidity* | 95%  |  |  |
| Remote Interface           | USB/Ethernet   |  |  |

<sup>\*</sup> For temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C.

#### **Laser Classifications**

All OP960 Insertion Loss and Return Loss Test Sets utilize a Class I Laser Source. Unless otherwise noted, all OP250, OP715, and OP750 source units with internal laser sources utilize a Class I Laser Source. Unless otherwise noted, all OP815 and OP850 Insertion Loss Test Sets with internal laser sources utilize a Class I Laser source. All OP280 Visual Fault Finder units utilize a Class III Laser Source.

OptoTest strongly suggests that all necessary precautions be taken whenever any Class I or Class III laser source is used.

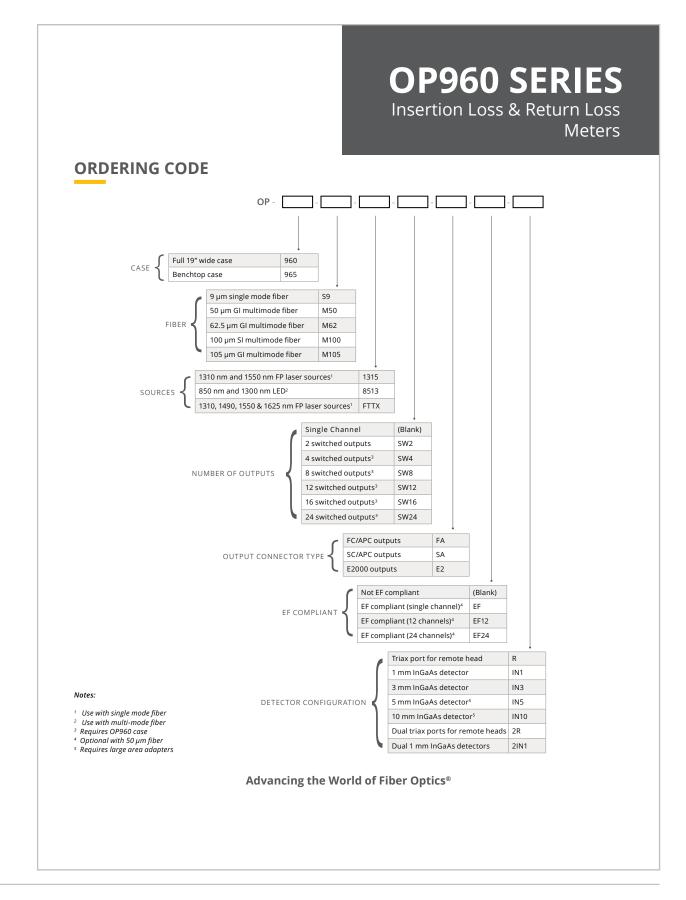
Specifications are subject to change, please confirm specific performance characteristics of the product at the time of ordering. All specifications are valid within  $temperature\ range\ of\ 18^{\circ}C\ to\ 24^{\circ}C\ unless\ otherwise\ noted.\ For\ additional\ specifications\ please\ contact\ Opto Test.$ 

Product specifications and descriptions in this document are subject to change without notice. DSOP960\_Rev.C\_12/09/21

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Germany and Other Countries Laser Components Germany GmbH Tel: +49 8142 2864-0 Fax: +49 8142 2864-11 info@lasercomponents.com www.lasercomponents.com





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www.lasercomponents.com