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OP310
Handheld
Optical Power Meter

PRODUCT OVERVIEW

OptoTest's versatile OP310 Handheld Optical Power Meter is a full-featured, rugged, and accurate measurement instrument essential for installers, contractors, and field technicians needing to test power, loss, continuity, and faults on all types of fiber optic systems.

Large backlit display that can be read in difficult lighting conditions, strong moisture resistant polycarbonate case with shock protection, an integrated dust cover that doubles as a stand, and long battery life with flexible power options make the OP310 an ideal tool for outside work in harsh environments.

The OP310 is available in three versions:

- Standard InGaAs detector with a measurement range of +10 to -70dBm;
- High-Power InGaAs detector with a measurement range of +24 to -60dBm;
- Ge detector with a measurement range of +15 to -60dBm.

KEY FEATURES & BENEFITS

- **One-Touch Autotest Capability Using a Compatible OptoTest Light Source**
  One-touch autotest synchronizes the instrument settings and test process with a compatible OptoTest light source, such as the OP350, using the fiber under test. Enables fast, reliable, and repeatable testing in less time and with fewer user errors. Up to 6 wavelengths can be tested, with 3 wavelengths displayed simultaneously along with the nominal power level for each source.
- **Tone Detection with Multi Fiber ID**
  When used with an OptoTest light source incorporating multifiber ID, the OP310 can identify up to 12 different fibers, in addition to standard optical test tones, i.e., 270Hz, 1KHz, and 2KHz. This makes continuity testing, polarity testing, and fault finding fast and reliable.
- **Slow Mode Power Averaging for Unstable or Modulated Signals**
  Built-in power averaging mode ensures reliable and accurate measurements when a light source is pulsed or unsteady.
- **Large Internal Memory Supports Cable Naming and Time Stamps**
  The OP310 internal memory records up to 1,000 4-wavelength tests with the date and time. Users can input and store up to 20 cable text ID tags using the front panel controls. A standard USB port on the unit enables unlimited storage using an external USB drive.
- **Simple Controls with Large Backlit LCD Display**
  Multi-function buttons make accessing all measurement modes and features easy and intuitive. Up to 3 measurement wavelengths and power levels can be displayed simultaneously. High contrast display can be read in bright sun; backlight can be used in dark environments.

TECH SUPPORT
Our team of experts is ready to assist you.

WARRANTY
OptoTest offers a three-year warranty on this product.

APPLICATIONS

- Field Insertion Loss Testing
- Field Polarity Testing
- Field MPO/MTP® Testing (large area detector)
- Fiber Identification (when used with an optical light source)

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KEY FEATURES & BENEFITS (cont.)

- **Comprehensive Measurement Information with High Resolution**
  The meter displays mW, µw, nW, dB, and dBm with 0.01 dB resolution and no range changing delays. Separate reference values for each wavelength are also stored and displayed.
- **Interchangeable Connectors are Protected Against Drops and Impact**
  The OP310 accommodates all industry standard fiber optic connectors, including FC, LC, ST, D4, MU, LSA-DIN47256, and E2000. Built-in bumpers and an integral dust cover protect the connector interface against damage and contamination. The dust cover doubles as a stand when used on a benchtop or other surface.
- **Optional Visual Fault Finder**
  The OP310 can be ordered with an optional 650 nm Visual Fault Finder with an output power of 2 ±1 dBm for locating fiber breaks, bad splices, pinched fibers, bending losses, cracked connector ferrules, and more. Defects are easily identified by the bright red light escaping from the fiber or ferrule. Reduces the number of instruments needed to be held by the operator during aerial or underground work.
- **Long Battery Life and Flexible Power Options**
  An operating time of up to 1,000 hours allows for more time spent testing and less time and money spent changing batteries. The OP310 can be powered using two AA-type alkaline batteries, rechargeable NiMH batteries, or external micro USB power. Internal NiMH battery charging can be selected by moving a jumper in the battery compartment.
- **Rugged Moisture Resistant Case for Maximum Durability in the Field**
  The OP310 features a strong, moisture resistant polycarbonate case with rubber edges and corners to withstand harsh outside environments. The case has been designed and tested to withstand one meter drops onto a hard surface.

GENERAL SPECIFICATIONS

Battery Life	Up to 1000 hours laser & backlit off / 200 hours laser in blink mode
Size/Weight	7.5 x 4.1 x 1.4” (190 x 105 x 35 mm) / 0.9 lb (420 gm). Shipping 3.3 lb (1.5 kg)
LCD Size	2.9 x 2.2” (74 x 55 mm)
Operating /Storage	-15 to 55 °C / -25 to 70 °C
Relative Humidity	0 ~ 95 %
Case	Polycarbonate / rubber edges & corners, moisture resistance, 1-meter drop tested
Dust Cap	Captive, functions as tilt bail when slid open
Tone Detection	150 ~ 9900 Hz ± 1 %
Max/Min	Recording feature for stability testing
Power	2 x Alkaline / Lithium AA cells or 2 x NiMH AA cells, user selectable charging; Ext power input via micro-USB; Selectable auto-off, low battery indicator, backlit display
Memory	1000 4-λ tests with date & time in internal memory, unlimited on USB memory key
USB interfaces	USB-micro type connector for general USB & power; USB-A type connector for memory key only

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OPTICAL POWER METER SPECIFICATIONS

Response λ nm	Damage Level dBm	Calibration λ nm	Power Range dBm	Tone & Autotest Min dBm	Midrange Linearity[1] dB	Calibration Accuracy[2] %	Polarization Sensitivity[6] dB	Total Uncertainty dB[3,5]	λ Sensitivity ± 30 nm[5] dB
InGaAs Detector									
600 ~ 1700	+15	780, 820, 850, 980	+10 ~ -60	-45	0.04	1% (0.06 dB)	< 0.05	0.3	0.03
		1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+10 ~ -70	-50					
High-Power (InGaAs) Detector									
800 ~ 1650	+27[4]	820, 850, 980	+24 ~ -50	-35	0.04	1 % (0.06 dB)	< 0.05	0.35	0.03
		1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590, 1610, 1625, 1650	+24 ~ -60	-40					
Ge Detector									
600 ~ 1650	+20	635, 650, 660, 780, 820, 1590, 1610, 1625, 1650	+15 ~ -50	-40	0.06	1% (0.06 dB)	< 0.05	0.5	0.03
		850, 880, 910, 940, 980, 1270, 1290, 1300, 1310, 1330, 1350, 1370, 1390, 1410, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570	+15 ~ -60	-50					
					typical		typical	max	typical

1: *Mid-range linearity @ 1550 nm for InGaAs & Ge, or 850 nm for Si. Non-coherent light, with APC connector. Excludes top 5 dB and bottom 10 dB of range.*
2: *Calibration condition: non-coherent light, -35±5 dBm, 23±3°C, ±1 nm, 10±3 nm FWHM, PC ceramic connector, 100 µm fiber.*
3: *Includes contributions of: varying optical connector types, calibration uncertainty, linearity over temperature & range, and fiber core diameter up to 200 µm.*
4: *H5 can sustain the damage level for 2 minutes.*
5: *At calibration wavelengths in bold type.*
6: *For APC connector only.*