

# SERIES 300 POWER MONITORS



**EigenLight's Series 300 Power Monitors** provide continuous readout of optical power being carried by an optical fiber. By combining state-of-the-art electronic design with precision fiber optic engineering, these devices allow convenient measurement of optical power while a system or test set is operating.

Series 300 Power Monitors are optically passive. Designed with low insertion loss, low polarization-dependent loss, and ultra-high return loss, these devices can be installed in the most sensitive fiber optic systems without affecting system performance.

## FEATURES

- Absolute or Relative Optical Power Readout
- Optional Analog Output for Data Logging
- Typical Battery Life of 3 Years
- Auto Power On/Off (Light Activated)
- Dual LCD Displays for Easy Viewing

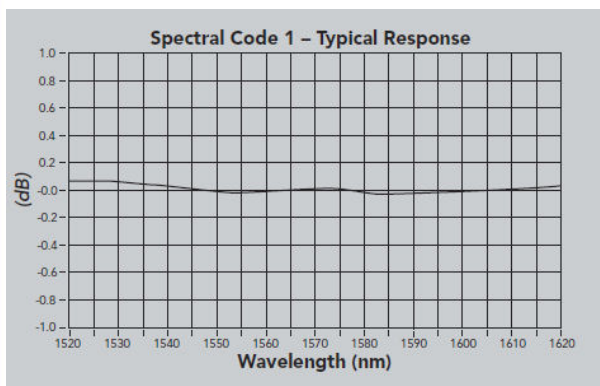
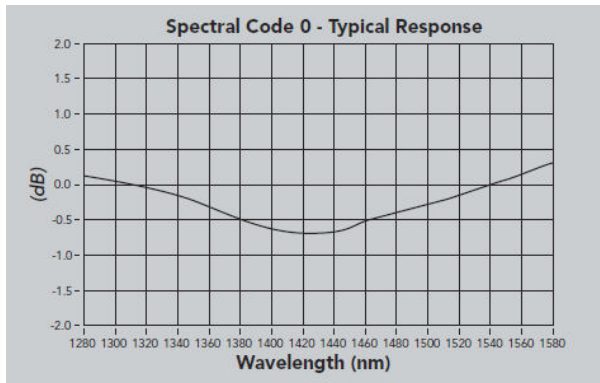
## SPECIFICATIONS

	<b>Model 310</b> Standard Monitor	<b>Model 320</b> Low-Loss, High Power
Fiber Type <sup>1</sup>	Single-Mode, SMF-28e	Single-Mode, SMF28e
Power Range	-50 dBm to +16 dBm	-40 dBm to +26 dBm
Insertion Loss	<0.5 dB	<0.2 dB
Absolute Accuracy <sup>2</sup>	+/- 0.2 dB	+/- 0.2 dB
Return Loss	>70 dB	>70 dB
Power	4 Lithium Coin Cells (CR2032)	4 Lithium Coin Cells (CR2032)
Battery Life	3 Years Typical (Slow Mode)	3 Years Typical (Slow Mode)
Display Resolution	0.1 dB	0.1 dB
Display Refresh Rate	0.1 Sec/0.8 Sec (Fast/Slow Mode)	0.1 Sec/0.8 Sec (Fast/Slow Mode)
Analog Output Voltage	1 millivolt/dBm (0dBm = 0 millivolt)	1 millivolt/dBm (0dBm = 0 millivolt)
Analog Output Impedance	40 kΩ	40 kΩ
Operating Temperature	0°C to +40°C	0°C to +40°C
Storage Temperature	-10°C to +60°C	-10°C to +60°C
Relative Humidity	<95% Non Condensing	<95% Non Condensing
Size (Housing Only)	9.5 x 3.7 x 3.6 cm	9.5 x 3.7 x 3.6 cm
Weight	140 grams (5 oz.) with Batteries	140 grams (5 oz.) with Batteries
Housing Material	Flame Retardant ABS Plastic	Flame Retardant ABS Plastic

1. Other fiber types available.

2. Measured at Output and Calibrated Wavelengths

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**Relative or Absolute Power Measurement**  
The dB/dBm mode button allows you to measure either absolute or relative optical power.

**Ultra-Long Battery Life**  
Series 300 power monitors have typical battery life of 3 years as a result of a proprietary detection circuit that samples the optical power for a short time during each measurement cycle.

**Analog Output (Optional)**  
Optional micro phone jack provides analog voltage output for data logging.

**Wavelength/Speed Control**  
The wavelength select button allows you to choose the operating wavelength within a broad spectral range. It also allows you to switch the response time between a fast and slow mode of operation.

**Durable Construction**  
Internal steel-tube construction provides excellent durability for field, factory or laboratory environment.

**Dual LCD Displays**  
LCD displays on both front and back allow easy viewing of the readout in any configuration, and eliminate the need to bend or loop the cable in order to view the display.

**Pigtail Interface**  
Pigtails on input and output allow you to install power monitor in place of jumper cable. All industry-standard fiber optic connectors are available.

**Directivity**  
Each device transmits light in both directions but detects light propagating in the forward direction only.

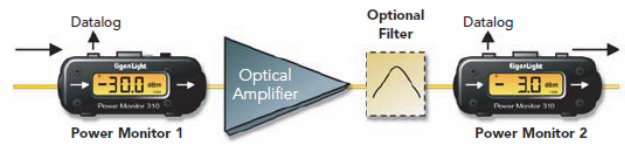
## APPLICATIONS

### LIGHTWAVE SYSTEMS



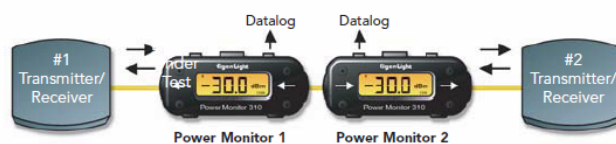
Monitor Reading = Optical Power Delivered to Receiver

### OPTICAL AMPLIFIERS



Monitor 2 Reading - Monitor 1 Reading = Amplifier Gain (dB)

### BI-DIRECTIONAL TRANSMISSION SYSTEMS



Monitor 1 Reading = Optical Power Delivered to Receiver #1  
Monitor 2 Reading = Optical Power Delivered to Receiver #2

# SERIES 300 POWER MONITORS

## POWER MONITOR ACCESSORIES



**SERIES 300 MONITOR MOUNT**  
Anodized aluminum mount with magnetic base for mounting. Product Code: M3

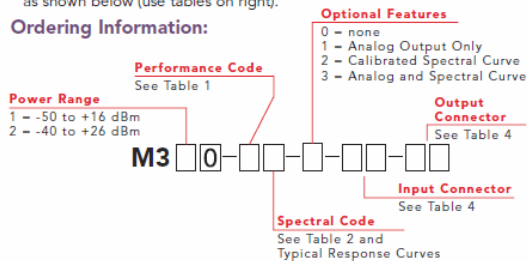


**CARRYING CASE**  
High-impact plastic carrying case for field transport and storage of power monitors and accessories. Product Code: C3

### Ordering Information and Accessories

1.5 meter pigtail on input/output standard on all models.  
Specify model, options and fiber optic connector type when ordering, as shown below (use tables on right).

#### Ordering Information:



**TABLE 1: Performance Code**

Code Description	Polarization Stability <sup>1</sup>	PDL <sup>2</sup>	Directivity <sup>3</sup>
0 Standard	<0.2 dB	<0.05 dB	>20 dB
2 Low Polarization Dependence	<0.1dB	<0.02 dB	>20 dB

**TABLE 2: Spectral Code**

Code Description	Fiber Type	Range	Calibration
0 Standard	Single Mode	1280 – 1580 nm <sup>4</sup>	1310, 1550 nm
1 WDM	Single Mode	1520 – 1620 nm <sup>5</sup>	1550 nm

**TABLE 3: Accessories** (See Accessories Brochure)

M3	Anodized aluminum mount with magnetic base for mounting (Series 300)
C3	High-Impact plastic carrying case for field transport and storage

**TABLE 4: Connectors<sup>6</sup>**

Code	Connector Type
10	FC
15	FC/APC
20	ST
25	ST/APC
30	SC
35	SC/APC
40	LC
50	MU
90	Bare Fiber

For more information on all of our products visit our website:

[www.eigenlight.com](http://www.eigenlight.com)

1. Maximum Change in Monitor Reading with Polarization

2. Polarization Dependent Loss

3. Sensitivity to Forward Directed Light Relative to Backward Directed Light

4. See Above Graph: Spectral Code 0 Typical Response

5. See Above Graph: Spectral Code 1 Typical Response

6. Super PC Polish Standard