

In-line Optical Power Monitor – Continuous Fiber

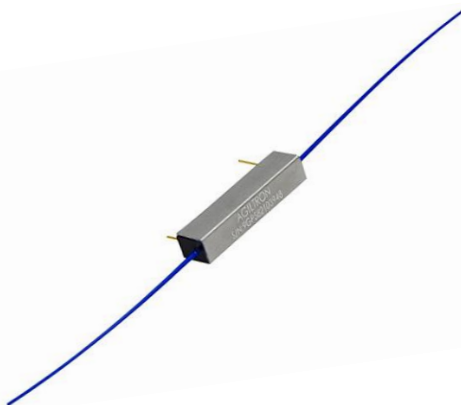
(Ultra-Broad Band, Low Loss, High Power, High Directivity, All Fiber Types, All Wavelengths)

(Protected by U.S. Patent No: 9535218)



DATASHEET

[Return to the Webpage](#)



Applications

- ASE light sources
- EDFA gain modules
- Raman amplifiers
- Optical channel monitoring
- Optical fiber test instruments

Features

- Low insertion loss
- Ultra low return loss
- Flat broadband response
- Low PDL
- High directivity
- High reliability



Agiltron ILPM Series Fiber Optic Tap Power Monitors deliver unmatched performance for in-line optical power measurement and precision power control. They feature ultra-low insertion loss, high directivity, high power handling capability, minimal polarization and wavelength dependence, and low cost. The ILPM Series is based on a patented design that taps apportion of light through a groove formed along the side of a continuous optical fiber. This approach eliminates the need for lenses and optical coatings typically used in conventional fiber tap monitors, resulting in superior performance and reliability. The continuous-fiber structure is particularly well suited for compatibility with various fiber types, ultra-broad operating wavelengths, and high-power applications. Each power monitor is packaged in a miniature ceramic housing that integrates a GaAs or silicon PIN photodiode. The devices are qualified to meet GR-1209 and GR-1221 standards. Due to their high sensitivity to electrostatic discharge (ESD), warranty coverage applies only to fully metal-covered modules with proper ESD protection. Handle these devices with extreme care and avoid direct hand contact at all times.

Specifications

| Parameter | Min | Typical | Max | Unit |
|--|----------|---------|------|------|
| Operation Wavelength | 300-2000 | | | nm |
| Responsivity ^[1] | 5 | 20 | 60 | mA/W |
| Polarization Stability (PM Fiber) | 0.1 | 0.2 | 0.25 | dB |
| Insertion Loss | 0.2 | 0.4 | 0.6 | dB |
| Polarization Dependent Loss ^[2] | | | 0.01 | dB |
| Polarization Extinction Ratio (PM Fiber) | 28 | 30 | 38 | dB |
| Directivity ^[3] | 25 | 28 | 40 | dB |
| Return Loss | | 55 | | dB |
| Max Optical Power ^[4] | | 1 | 500 | W |
| Dark Current@-5V, 23C | | | 1 | nA |
| 3dB bandwidth@-5V bias | 10 | 50 | 200 | MHz |
| Capacitance | | | 10 | pF |
| Max. Forward Current | | 10 | | mA |
| Max. Reverse Current | | 5 | | mA |
| Max. Reverse Voltage | | 10 | | V |
| Operating Temperature | -5 | | 75 | °C |
| Storage Temperature | -40 | | 85 | °C |

Notes:

- [1]. It is tap ratio depended.
- [2]. PDR, responsivity variation with polarization, only for non-PM fiber version.
- [3]. The responsivity ratio between forward and backward directed light.
- [4]. Need to specify the max level so that the device can be optimized to avoid saturation.

Warning: The device is extremely ESD-sensitive. Its dark current increases by unprotected handling. It is recommended to be handled under a certified ion fan once the package is removed.

Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

Rev 12/27/25

P +1 781-935-1200

E sales@agiltron.com

W www.agiltron.com

In-line Optical Power Monitor – Continuous Fiber

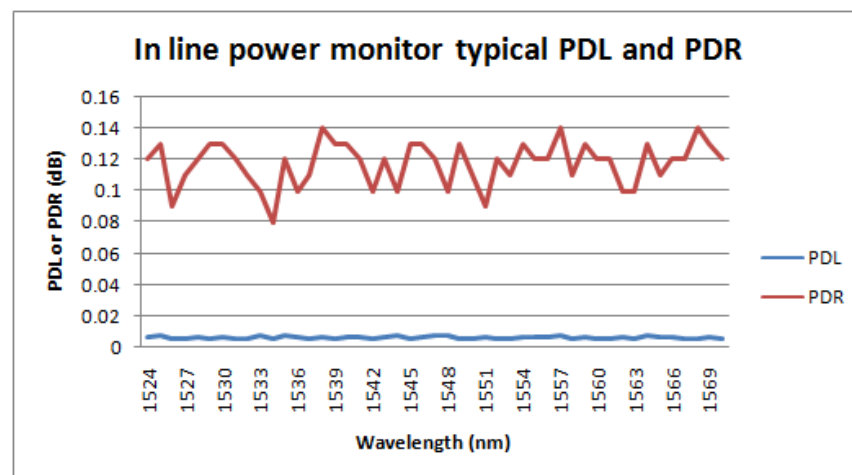
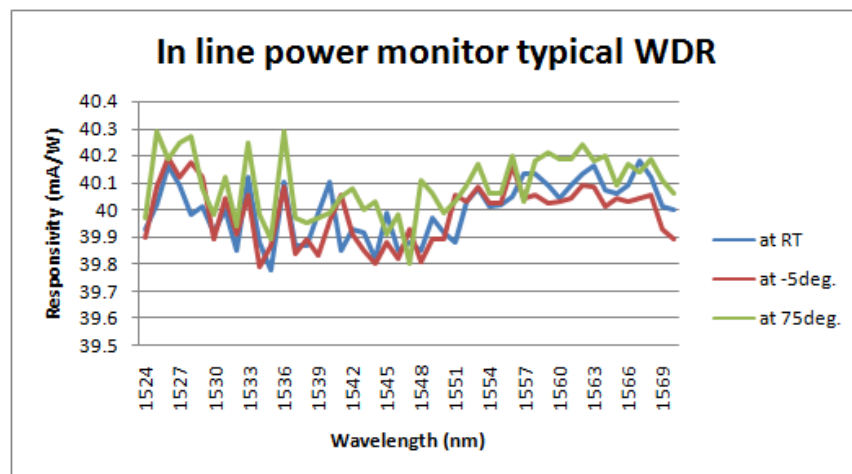
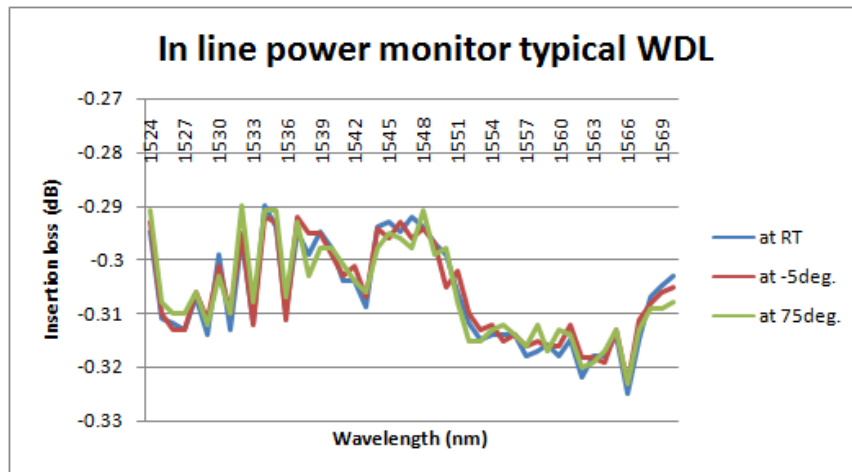
(Ultra-Broad Band, Low Loss, High Power, High Directivity, All Fiber Types, All Wavelengths)

(Protected by U.S. Patent No: 9535218)



DATASHEET

Typical Performance with SMF-28e Fiber



In-line Optical Power Monitor – Continuous Fiber

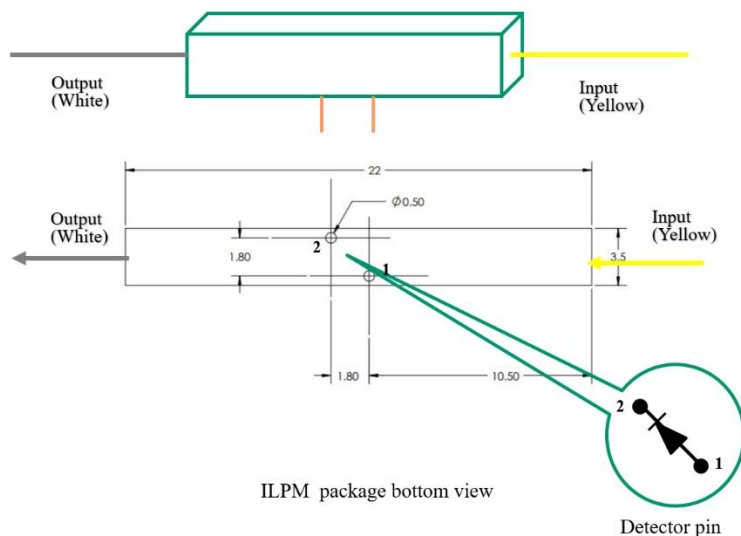
(Ultra-Broad Band, Low Loss, High Power, High Directivity, All Fiber Types, All Wavelengths)

(Protected by U.S. Patent No: 9535218)



DATASHEET

Mechanical Footprint Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

| Prefix | Tap ratio | Wavelength | Max Power | Package Type | Fiber Type | Fiber Cover | Fiber Length | Connector |
|--------|---|--|---|-----------------------------|---------------------------------------|---|--|---|
| ILPM- | 1% = 01 3% = 03 5% = 05 0.1% = 06 0.3% = 07 0.5% = 08 0.7% = 09 Special = 00 | 1550 = 5 350 = 3 450 = 4 530 = A 850 = 8 1060 = 6 1310 = 3 650 = 6 2000 = 2 750 = 7 950 = 9 Special = 0 | 0.5W = 05 0.2W = 02 1W = 10 5W = 50 10W = 1A 50W = 5A 100W = 1B 200W = 2B 300W = 3B 400W = 4B 500W = 5B 1kW = 1C | Standard = 1 Special = 0 | SMF28 = 01 Select Below | Bare fiber = 1 900um tube = 3 Special = 0 | 0.25m = 1 0.5m = 2 1.0m = 3 Special = 0 | None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 Duplex LC/PC = 8 MTP = 9 LC/APC = A LC/UPC = U SMA = S Special = 0 |

| | | | | | |
|----|------------|----|--------|----|--------------|
| 01 | SMF-28 | 34 | PM1550 | 71 | MM 50/125μm |
| 02 | SMF-28e | 35 | PM1950 | 72 | MM 62.5μm |
| 03 | Corning XB | 36 | PM1310 | 73 | MM 105/125μm |
| 04 | SM450 | 37 | PM400 | 74 | MM200 μm |
| 05 | SM1950 | 38 | PM480 | 75 | MM300 μm |
| 06 | SM600 | 39 | PM630 | 76 | MM400 μm |
| 07 | Hi780 | 40 | PM850 | 77 | MM600 μm |
| 08 | SM800 | 41 | PM980 | 78 | IRZS23 |
| 09 | SM980 | 42 | PM780 | 79 | IRFS32 |
| 10 | Hi1060 | 43 | PM350 | 80 | PCF |
| 11 | SM400 | 44 | PM405 | 81 | UV180nm |
| 12 | | 45 | PM460 | 82 | LMA-PM-10 |
| 13 | | 46 | | 83 | MM 1 mm |
| | | | | 84 | MM800 μm |

In-line Optical Power Monitor – Continuous Fiber

(Ultra-Broad Band, Low Loss, High Power, High Directivity, All Fiber Types, All Wavelengths)

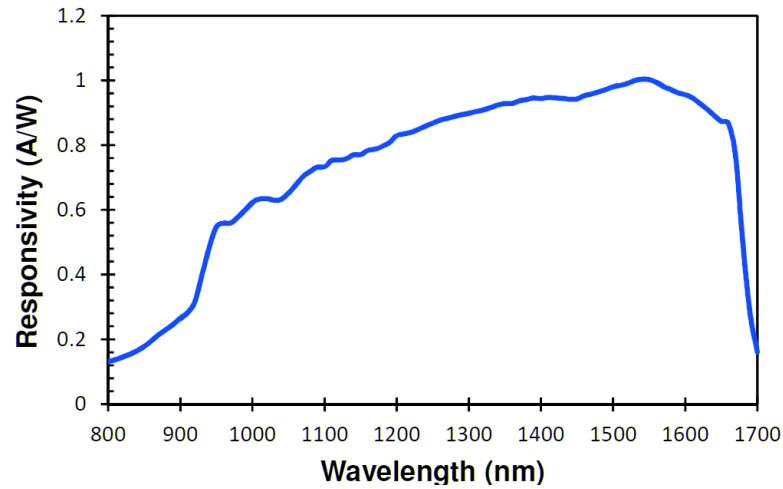
(Protected by U.S. Patent No: 9535218)



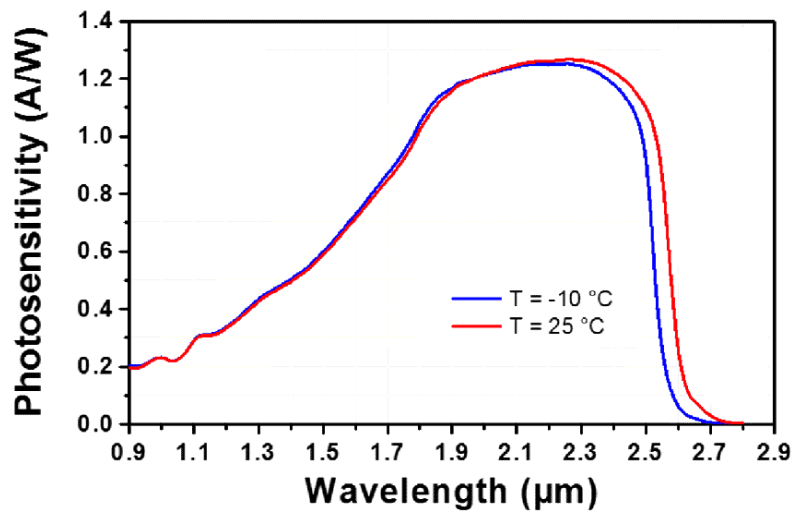
DATASHEET

Spectral Response

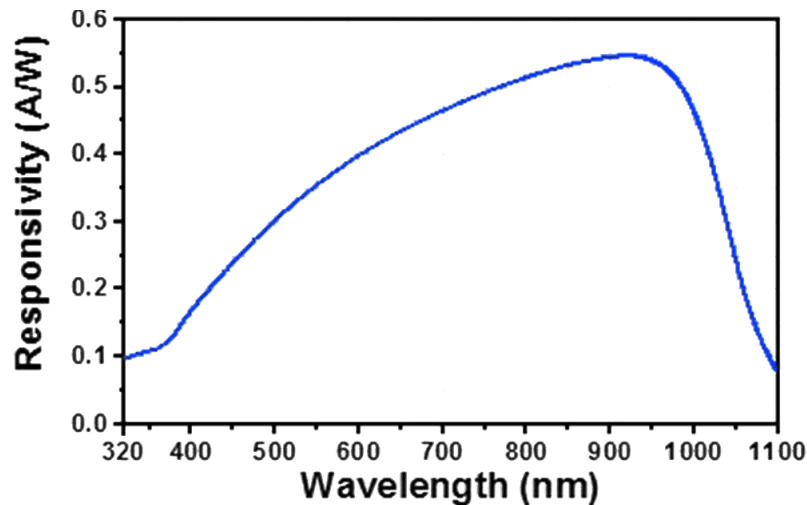
■ GaAs Detector



■ Extended GaAs Detector



■ Silicon Detector



In-line Optical Power Monitor – Continuous Fiber

(Ultra-Broad Band, Low Loss, High Power, High Directivity, All Fiber Types, All Wavelengths)

(Protected by U.S. Patent No: 9535218)



DATASHEET

Caution Electrostatic Sensitivity



- Never touch laser diode and the module using hands
- Always use protections when handle a laser diode
- Recommend mounting the laser diode using an ionic gun and ESD finger cots



Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 μm .

Maximum power = 30 mW.



*Caution - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

*IEC is a registered trademark of the International Electrotechnical Commission.