LP-9901

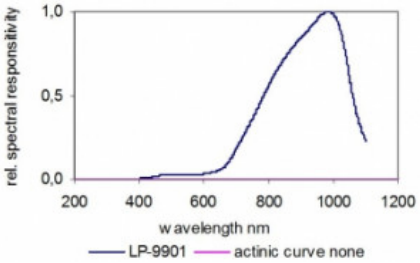
https://www.gigahertz-optik.com/en-us/product/lp-9901

Product tags: VIS , NIR

Description

Laser Radiation Detector

Laser radiation is measured in the same radiometric measurement units as polychromatic light sources. But Laser detectors are generally listed separately since they are designed specifically for laser measurement and calibrated accordingly. A typical Laser detector consists of a photodiode with or without attenuating filter calibrated at the Laser wavelength(s).



Typical Spectral Responsivity

Measurement of Laser Power in W

To measure Laser power the detector area must be larger than the LASER spot size on the detector surface so that the total beam power is measured. Flat surface Laser detectors offer active areas of up to 1cm². Bare photodiodes can measure very low Laser power levels in the picowatt range but are limited to about one milliwatt before saturation of the photodiode. The upper range limit can be extended using neutral density filters. When using bare photodiodes or attenuating filters back reflected Laser radiation must be considered for both hazard and application implications.

Measurement of Laser Power Density in W/m²

Measuring Laser power density is identical to the measurement of irradiance. Flat surface Laser detectors can be used to measure the Laser power density if the Laser radiation overfills the detectors active area. For Laser hazard measurements a Laser power density detector with a 7mm diameter active area representing the maximum opening of human eyes pupil is recommended.

Flat Surface Laser Detector

The LP-9901 flat surface Laser detectors feature a 7mm Diameter active area. The neutral density filter extend the measurement range up to 50 mW in the spectral range from 400 nm to 1100 nm.

Traceable Calibrations

Calibration of radiant power in W is performed at Gigahertz-Optik's Calibration Laboratory for Optical Radiation Quantities.

Specifications

Specification	
spectral responsivity	400 nm - 1100 nm Si & ND Filter

Active Area	7 mm Ø
typical responsivity	1.3 mA/W @ 633 nm 20 mA/W @ 900 nm
max. radiant power	100 mW @ 633 nm @ 1 mA 50 mW @ 900 nm @ 1 mA
Cable Length	2 m with BNC (-1), calibration data (-2) or ITT (-4) connector
Max. signal current	1 mA
temperature range	(0 - 40) °C
Calibration	Calibration of radiant power responsivity in A/W and calculated spectral irradiance sensitivity in A/(W/m²) in steps of 10 nm from 400 nm to 1100 nm

Configurable with

Product Name	Product Image	Description	Show product
P-9710-2		High quality optometer for pulse-energy measurements of short pulses in photometric, radiometric and LASER application. Features: pulse energy measurement, CW, dose, simple and safe detector exchange, battery, main power, RS232	https://www.gigahertz-optik.com/en-us/product/p-9710-2
P-9710-4		High quality optometer for pulse-energy measurements of short pulses in photometric, radiometric and LASER application Features: pulse energy measurement with external Trigger input, CW, dose, simple and safe detector exchange, battery, main power, RS232	https://www.gigahertz-optik.com/en-us/product/p-9710-4
TR-9600		High-speed 1µs or 100ns rise time data logger optometer. Features: Laboratory device for recording of clocked intensity progress readings in single light flashes, flash sequence or modulated light. Calculation of pulse data e.g. peak intensity, pulse length, pulse half width , pulse energy and pulse repeat rate, etc.	https://www.gigahertz-optik.com/en-us/product/tr-9600
P-9802		Light meter for laboratory use with up to 24 measurement heads. Features: For use with up to 24 photometric and/or radiometric measurement heads. RS232 interface.	https://www.gigahertz-optik.com/en-us/product/p-9802
P-2000		Two-channel optometer. Features: For use with most photometric and radiometric detectors supplied by Gigahertz-Optik. Modes: CW, pulse energy from both single and multiple flashes, effective luminous intensity (Blondel-Rey), data logger and others.	https://www.gigahertz-optik.com/en-us/product/p-2000
P-9710		High-quality device for measurement of CW-, single pulse and modulated radiation. Features: Optometer for all detector heads with calibration data plug. Measurement modes: CW, pulse energy, dose, peak-to-peak, effective luminous intensity (Blondel-Rey), data logger, battery, main power, RS232	https://www.gigahertz-optik.com/en-us/product/p-9710

Product Name	Product Image	Description	Show product
X9-3		Broadband radiometer for LASER power. Features: Mobile light meter. Flat Profile 7mm dia aperture detector or compact integrating sphere detector. 400 to 1100nm spectral range.	https://www.gigahertz-optik.com/en-us/product/x9-3

Purchasing information

Article-Nr	Modell	Description
Product		
100107	LP-9901-1	Detector head, cable with BNC connector, protection cap, calibration certificate
100208	LP-9901-2	Detector head, cable with calibration data connector, protection cap, calibration certificate
100480	LP-9901-4	Detector head, cable with ITT connector, protection cap, calibration certificate
Re-calibration		
15300583	K-LP9901-SD	Re-calibration, calibration certificate