LP-9901

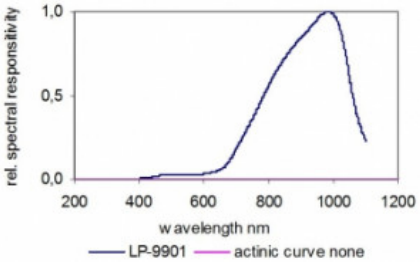
https://www.gigahertz-optik.com/en-us/product/lp-9901/

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 Laser Safety Detector 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	Go to product
TR-9600		High-Speed and Short Rise Time Data Logger Optometer (Transient Recorder Current Amplifier)	https://www.gigahertz-optik.com/en-us/product/tr-9600/
P-9802		Current Amplifier (Optometer) for Laboratory Use with up to 24 Measurement Heads	https://www.gigahertz-optik.com/en-us/product/p-9802/
P-2000		Two-Channel Optometer	https://www.gigahertz-optik.com/en-us/product/p-2000/
P-9710		High-End Optometer for Measurement of CW-, Single Pulse and Modulated Radiation	https://www.gigahertz-optik.com/en-us/product/p-9710/
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		
15295336	LP-9901-1	Detector head, cable with BNC connector, protection cap, calibration certificate
15295337	LP-9901-2	Detector head, cable with calibration data connector, protection cap, calibration certificate
15295720	LP-9901-4	Detector head, cable with ITT connector, protection cap, calibration certificate
Re-calibration		
15300583	K-LP9901-SD	Re-calibration, calibration certificate

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