LDM-9811

https://www.gigahertz-optik.com/en-us/product/ldm-9811

Product tags:

Description

LDM-9811 light detector for radiation protection

Radiance is the quantity used for the determination of blue light hazard and retinal thermal hazard to the human eye measured in the radiometric unit of W/(m2*sr). For spot source configurations irradiance is generally measured.

Viewer Module for Radiance Measurements

LDM-9811 is a modularly designed viewer module that is combined with PD-16 series detectors to form the complete radiance detector. A one piece machined aluminum housing ensures the best possible stability in laboratory and field use. The LDM-9811/PD-16 features a wide aperture high light throughput focusing objective. The useable measurement distance of the LDM-98 spans from 0.3m to infinitive.

Selectable Field-of-View

A selector knob on the LDM-9811 rear panel enables the selection of the three field-of-views 1.7, 11 and 100mrad specified to measure the limit values for spot and large area sources in the Blue-light hazard regulations.

Viewfinder for Precise Alignment and Focusing

The targeted spot to be measured is visible through the ocular viewfinder. In combination with the cross-hair targeting aid alignment of the LDM-9811 to the zone of interest is simple. Focusing is achieved by adjusting the sharpness of the image on the viewfinder screen.

Three Hazard Spectral Responsivities

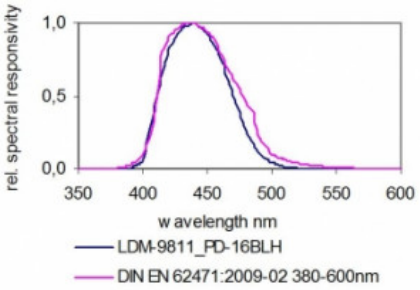
Gigahertz-Optik offers three exchangeable PD-16 type detectors for use on the LDM-9811 viewer module for the measurement of

- Blue light hazard - **Model PD-16BLH**
- Retinal Thermal Hazard - **Model PD-16RTH**
- Retinal Thermal Hazard IR-A - **Model PD-16-RTHA**

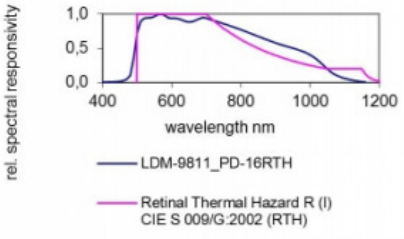
Due to limitations in photodiode detector technology the longer wavelength responsivity of the retinal thermal detectors is limited to 1150nm instead of 1400nm as specified.

Traceable Calibration

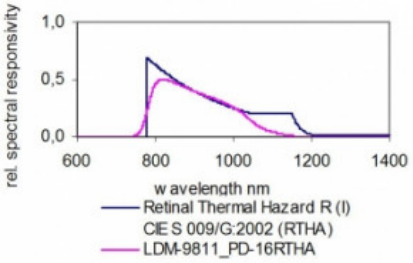
Calibration is performed by the Gigahertz-Optik GmbH calibration laboratory for optical radiation measurements quantities. As with all light detectors supplied by Gigahertz-Optik calibration of absolute detector responsivity as well as detector individual measured relative spectral



LDM-9811_PD-16BLH - Typical Spectral Responsivity



LDM-9811_PD-16RTH Typical Spectral Responsivity



LDM-9811_PD-16RTHA Typical Spectral Responsivity

responsivity data is included.

Specifications

Specification				
Version	LDM-9811+PD-16BLH	Spectral Function	Blue-light Hazard Actinic	
		Typical Responsivity	1.7 mrad; 0.2 nA/W·m^{-2}·sr^{-1} 11 mrad; 5.7 nA/W·m^{-2}·sr^{-1} 100 mrad; 380 nA/W·m^{-2}·sr^{-1}	
		Imax	1 mA	
		Sensing Area Cosine Diffuser	50 mm Ø Cosine	
		Cable Length	2 m	
		Operation Temperatur	(5 - 40) °C	
		Plug Type	-1,-2,-4	
Version	LDM-9811+PD-16RTH	Spectral Function	Retinal Actinic	
		Typical Responsivity	1.7 mrad; 0.3 nA/W·m^{-2}·sr^{-1} 11 mrad; 11 nA/W·m^{-2}·sr^{-1} 100 mrad; 780 nA/W·m^{-2}·sr^{-1}	
		Imax	1 mA	
		Sensing Area Cosine Diffuser	50 mm Ø Cosine	
		Cable Length	2 m	
		Operation Temperature	(5 - 40) °C	
		Plug Type	-1,-2,-4	
	Spectral Function		Retinal Actinic	
	Typical Responsivity		1.7 mrad; 0.2 nA/W·m^{-2}·sr^{-1} 11 mrad; 5 nA/W·m^{-2}·sr^{-1} 100 mrad; 360 nA/W·m^{-2}·sr^{-1}	
	Imax		1 mA	
	Sensing Area Cosine Diffuser		50 mm Ø Cosine	
	Cable Length		2 m	
	Operation Temp.		(5 - 40) °C	
	Plug Type		-1,-2,-4	
Spot Diameter	Distance / F.O.V.	100 mrad	11 mrad.	1.7 mrad
	0.3 m	19.9	2.2	0.4
	0.5 m	39.8	4.4	0.8
	1 m	89,6	9.9	1.8
	2 m	189.2	20.9	3.8
	10 m	986	109	19.8
Miscellaneous				
Max. signal current	1 mA			

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-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

Purchasing information

Article-Nr	Modell	Description
Measurement Head		
15296146	PD-16-BLH (-1 Connector)	Detector, Calibration Certificate
15297014	PD-16-BLH (-2 Connector)	Detector, Calibration Certificate
15297015	PD-16-BLH (-4 Connector)	Detector, Calibration Certificate
15296147	PD-16-RTH (-1 Connector)	Detector, Calibration Certificate
15297006	PD-16-RTH (-2 Connector)	Detector, Calibration Certificate
15297017	PD-16-RTH (-4 Connector)	Detector, Calibration Certificate
15296148	PD-16-RTHA (-1 Connector)	Detector, Calibration Certificate
15297018	PD-16-RTHA (-2 Connector)	Detector, Calibration Certificate
15297019	PD-16-RTHA (-4 Connector)	Detector, Calibration Certificate
Product		
15296136	LDM-9811	Viewer Module
Re-calibration		

Article-Nr	Modell	Description
15300580	K-Si-SR	Calibration of relative spectral responsivity from 250 nm to 1100 nm or within the detectors spectral response
15300445	K-LDM98_PD16BLH-I	Recalibration with Calibration Certificate
15300446	K-LDM98_PD16RTH-I	Recalibration with Calibration Certificate
15300444	K-LDM98_PD16RTHA-I	Recalibratin with Calibration Certificate
Accessories		
15297654	LDM-98Z-ND1	Ocular filter ND1
15297655	LDM-98Z-ND2	Ocular filter ND2
15297656	LDM-98Z-ND3	Ocular filter ND3
15305646	LDM-98Z-ND4	Ocular filter ND4