

RCH-109

<https://www.gigahertz-optik.de/en-us/product/RCH-12>

Product tags: UV



Description

In UV curing applications requiring deep curing of adhesives and paints, longer-wave radiation in the blue spectral range is used to excite the photoinitiators. UV radiometers for these applications must be designed in such a way that they only measure the irradiance in the actinic range of the photoinitiators.

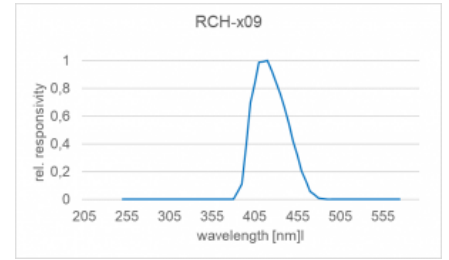
Product description

RCH-109 irradiance detector

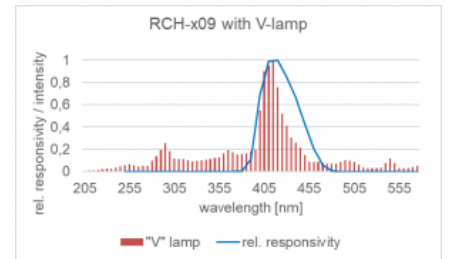
The UV detector RCH-109 was specially developed for use in UV curing with discharge lamps. It offers all the features and functions of the detectors of the RCH series (link to RCH-xxx series data sheet). Its spectral responsivity covers the wavelength range from 390 to 460 nm, which is used in particular for deep curing of adhesives and paints.

Calibration

The detectors are calibrated with regard to their responsivity to irradiance and are supplied with a factory calibration certificate that corresponds to the high standard of the measuring laboratory for optical radiation measurements of Gigahertz-Optik. If necessary, a test certificate accredited according to DIN EN ISO / IEC 17025 can optionally be created for the detector with the associated measuring device.



Typical spectral responsivity (relative) of the RCH-109 detector



Relative spectral responsivity of the RCH-109 detector together with the typical emission spectrum of a doped discharge lamp.



RCH-109 detector with rigid light guide

Specifications

General

Short description

UV detector for measuring the irradiance in UV curing with discharge lamps
[Link to RCH-xxx series datasheet](#)

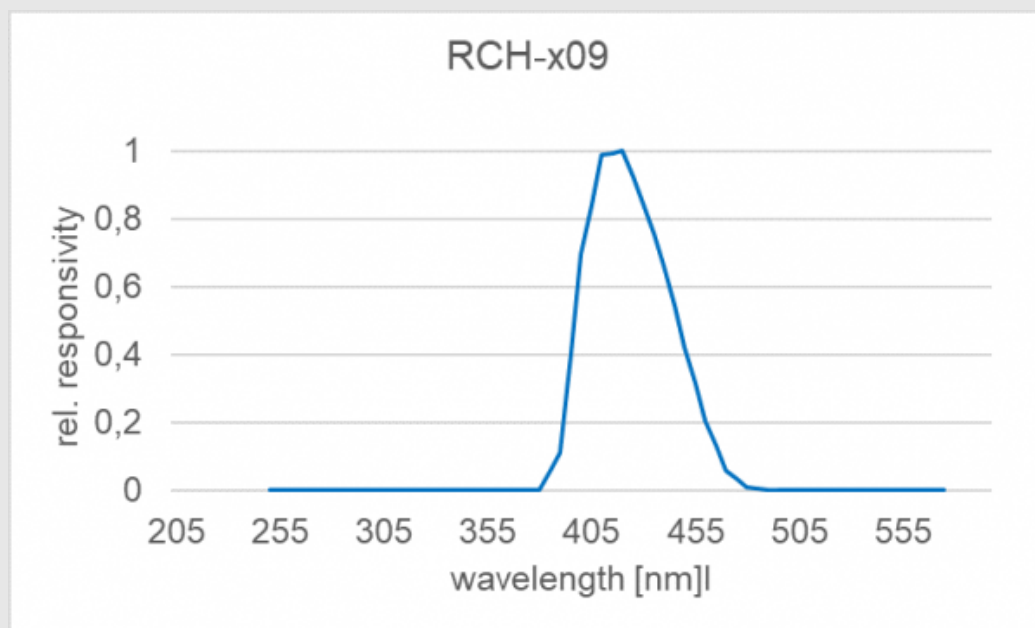
Main features

Detector for the high UV radiation levels in UV radiation curing. Large safety distance between the handle and the radiation sensor of the detector. For use with all gigahertz optics measuring devices.
Link Optometer selection table

Measurement ranges	Spectral responsivity 390 nm to 460 nm. Linear measuring range from 0.1 mW / cm ² to 40,000 mW / cm ² with measuring device X1-1
typical applications	UV radiation curing with medium pressure lamps
Calibration	Calibration of the irradiance responsivity in A / (W / cm ²) with factory calibration certificate of the measuring laboratory of the Gigahertz-Optik. Optional DIN EN ISO / IEC 17025 accredited test certificate

Product

spectral responsivity















Input optics	9 mm, diffuser
Dimensions	Measurement head: Height: 8 mm / Diameter: 37 mm Detector element: Length: 65 mm / Diameter: 15 mm
Light Guide	Rigid: 22 cm / 8.7 inch
typical responsivity	BLUE Peak 430 nm: 0.2 nA/(mW/cm ²)
max. Irradiance	40 W/cm ²
Max. signal current	100 µA

Miscellaneous

temperature range	up to + 100 °C
Cable Length	50 cm
Connector	-1,-2 or -4

Configurable with

Produktname	Product Image	Description	Show product
X1		<p>Four-channel USB optometer designed for mobile use.</p> <p>Features: Compact device for use with all photometric, radiometric, colorimetric, plant-physiologic and photo-biologic measurement heads from Gigahertz-Optik. USB interface. Battery operation or power supply USB.</p>	https://www.gigahertz-optik.de/en-us/product/X1
X1-2		<p>Four-channel RS232 optometer designed for mobile use.</p> <p>Features: Compact device for use with all photometric, radiometric, colorimetric, plant-physiologic and photo-biologic measurement heads from Gigahertz-Optik. USB and RS232 interface. Battery operation or power supply USB.</p>	https://www.gigahertz-optik.de/en-us/product/X1-2
P-9710		<p>High-quality device for measurement of CW-, single pulse and modulated radiation.</p> <p>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</p>	https://www.gigahertz-optik.de/en-us/product/P-9710
P-2000		<p>Two-channel optometer.</p> <p>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.</p>	https://www.gigahertz-optik.de/en-us/product/P-2000
P-9801		<p>Eight-channel optometer.</p> <p>Features: State-of-the-art 8 channel laboratory optometer with a signal amplifier and sample & hold ADC per channel for clocked recording of the measurement signals. RS232 and IEEE488 interface. Trigger input and output.</p>	https://www.gigahertz-optik.de/en-us/product/P-9801
P-9802		<p>Light meter for laboratory use with up to 36 measurement heads.</p> <p>Features: For use with up to 36 photometric and/or radiometric measurement heads. RS232 interface.</p>	https://www.gigahertz-optik.de/en-us/product/P-9802
X1-RM		<p>Optometer in 3HE housing for use in 19" racks.</p> <p>Features: Its USB and RS232 remote interface and two additional RS232 device interfaces make the device highly flexible when it comes to system integration. Its four signal inputs enable use with all photometric, radiometric, colorimetric, plant-physiologic and photo-biologic measurement heads from Gigahertz-Optik.</p>	https://www.gigahertz-optik.de/en-us/product/X1-RM
X1-PCB		<p>Optometer module.</p> <p>Feature: The X1 optometer is available as a printed circuit board either with or without a housing and is suited for applications that do not require a keyboard or display. Four signal inputs enable connection with all measuring heads from Gigahertz-Optik.</p>	https://www.gigahertz-optik.de/en-us/product/X1-PCB
P-9202-4		<p>Fast response time trans-impedance signal amplifier.</p> <p>Features: High quality analogue amplifier with current-voltage conversion. Minimal diode offset voltage for short circuit operations. Bandwidths of up to 330kHz. 1µs rise time. Large I-U amplification range from 10pA/V to 1mA/V.</p>	https://www.gigahertz-optik.de/en-us/product/P-9202-4

Produktname	Product Image	Description	Show product
P-9202-5		<p>Universal trans-impedance signal amplifier.</p> <p>Features: High quality analogue amplifier with current-voltage conversion. Minimal diode offset voltage (1 mV) for short circuit photodiode operations. 5µs to 20ms rise time depending on the amplification. Large I-U amplification range – 1×10-10A/V to 1×10-3 A/V.</p>	https://www.gigahertz-optik.de/en-us/product/P-9202-5
P-9202-6		<p>Highly sensitive trans-impedance signal amplifier.</p> <p>Features: High quality analogue amplifier with current-voltage conversion with minimal diode offset voltage (0.5mV) for short circuit photodiode operation of . 2.5s to 25s rise time depending on the amplification. Large I-U amplification range – 1×10-11A/V to 1×10-4 mA/V.</p>	https://www.gigahertz-optik.de/en-us/product/P-9202-6
X1-PCBC		<p>Optometer module.</p> <p>Feature: The X1 optometer is available as a printed circuit board either with or without a housing and is suited for applications that do not require a keyboard or display. Four signal inputs enable connection with all measuring heads from Gigahertz-Optik.</p>	https://www.gigahertz-optik.de/en-us/product/X1-PCBC

Purchasing information

Article-Nr	Modell	Description
Product		
15296583	RCH-109-1	Detector with -1 connector and rigid light guide
15297053	RCH-109-2	Detector with -2 connector and rigid light guide
15297055	RCH-109-4	Detector with -4 connector and rigid light guide
Re-calibration		
15300364	K-RCHn09-I	Calibration with Certificate