

# RCH-108

<https://www.gigahertz-optik.de/en-us/product/RCH-11>

**Product tags: UV**



# Description

In UV curing applications requiring deep curing of adhesives and paints, longer-wave UV radiation in the UV-A and blue spectral regions 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.

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## Product description

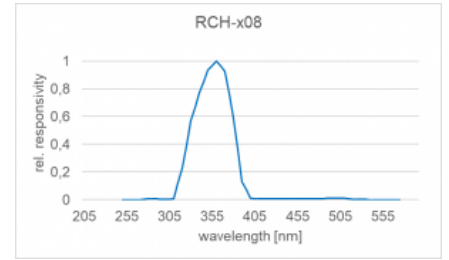
RCH-108 irradiance detector

The RCH-108 UV detector 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 320 to 390 nm, which is used in particular for deep curing of adhesives and paints.

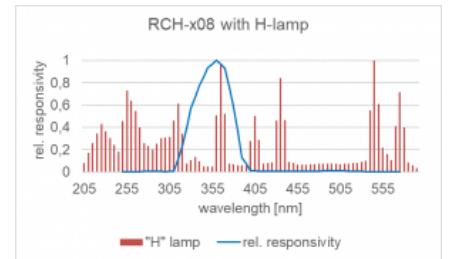
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## Calibration

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 optics. 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 sensitivity (relative) of the RCH-x08 detectors*



*Relative spectral responsivity of the RCH-x08 detectors together with the typical emission spectrum of a mercury lamp.*



*RCH-108 detector with rigid light guide*

# Specifications

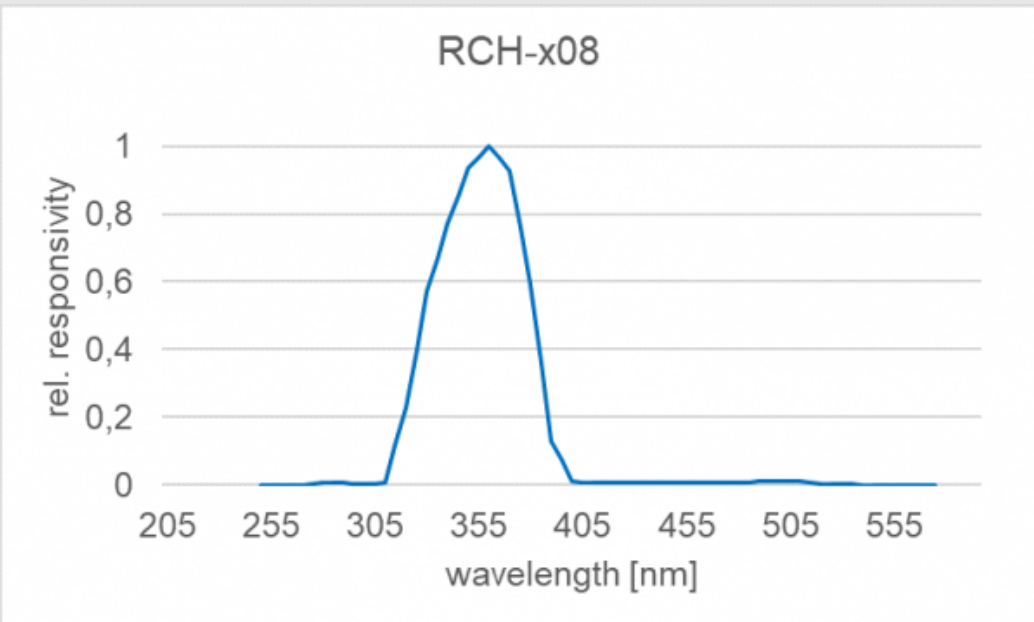
## General

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 320 nm to 390 nm. Linear measuring range from 0.1 mW / cm <sup>2</sup> to 40,000 mW / cm <sup>2</sup> with measuring device X1-1																						
typical applications	UV radiation curing with medium pressure lamps																						
Calibration	Kalibrierung der Bestrahlungsstärke Empfindlichkeit in A/(W/cm <sup>2</sup> ) mit Werkkalibrierschein des Messlabors der Gigahertz-Optik. Optionales DIN EN ISO / IEC 17025 akkreditiertes Prüfzertifikat																						
<b>Product</b>																							
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	UVA Peak 365 nm: 0.3 nA/(mW/cm <sup>2</sup> )																						
max. Irradiance	40 W/cm <sup>2</sup>																						
Max. signal current	100 µA																						
spectral responsivity	 <p style="text-align: center;"><b>RCH-x08</b></p> <table border="1"> <caption>Approximate data points from the spectral responsivity graph</caption> <thead> <tr> <th>Wavelength [nm]</th> <th>Relative Responsivity</th> </tr> </thead> <tbody> <tr><td>255</td><td>0.00</td></tr> <tr><td>305</td><td>0.00</td></tr> <tr><td>325</td><td>0.20</td></tr> <tr><td>345</td><td>0.80</td></tr> <tr><td>365</td><td>1.00</td></tr> <tr><td>385</td><td>0.80</td></tr> <tr><td>405</td><td>0.10</td></tr> <tr><td>455</td><td>0.00</td></tr> <tr><td>505</td><td>0.00</td></tr> <tr><td>555</td><td>0.00</td></tr> </tbody> </table>	Wavelength [nm]	Relative Responsivity	255	0.00	305	0.00	325	0.20	345	0.80	365	1.00	385	0.80	405	0.10	455	0.00	505	0.00	555	0.00
Wavelength [nm]	Relative Responsivity																						
255	0.00																						
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345	0.80																						
365	1.00																						
385	0.80																						
405	0.10																						
455	0.00																						
505	0.00																						
555	0.00																						
<b>Miscellaneous</b>																							
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>	<a href="https://www.gigahertz-optik.de/en-us/product/X1">https://www.gigahertz-optik.de/en-us/product/X1</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/X1-2">https://www.gigahertz-optik.de/en-us/product/X1-2</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9710">https://www.gigahertz-optik.de/en-us/product/P-9710</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-2000">https://www.gigahertz-optik.de/en-us/product/P-2000</a>
P-9801		<p>Eight-channel optometer.</p> <p>Features: State-of-the-art 8 channel laboratory optometer with a signal amplifier and sample &amp; hold ADC per channel for clocked recording of the measurement signals. RS232 and IEEE488 interface. Trigger input and output.</p>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9801">https://www.gigahertz-optik.de/en-us/product/P-9801</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9802">https://www.gigahertz-optik.de/en-us/product/P-9802</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/X1-RM">https://www.gigahertz-optik.de/en-us/product/X1-RM</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/X1-PCB">https://www.gigahertz-optik.de/en-us/product/X1-PCB</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9202-4">https://www.gigahertz-optik.de/en-us/product/P-9202-4</a>

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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9202-5">https://www.gigahertz-optik.de/en-us/product/P-9202-5</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/P-9202-6">https://www.gigahertz-optik.de/en-us/product/P-9202-6</a>
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>	<a href="https://www.gigahertz-optik.de/en-us/product/X1-PCBC">https://www.gigahertz-optik.de/en-us/product/X1-PCBC</a>

## Purchasing information

Article-Nr	Modell	Description
<b>Product</b>		
15296582	RCH-108-1	Detector with -1 connector and rigid light guide
15297051	RCH-108-2	Detector with -2 connector and rigid light guide
15297052	RCH-108-4	Detector with -4 connector and rigid light guide
<b>Re-calibration</b>		
15300363	K-RCHn08-I	Calibration with Certificate
15300461	K-RCHn08-I-Z01	Add-on Calibration at irradiance of 100 W/cm <sup>2</sup> , 66 W/cm <sup>2</sup> and 19 W/cm <sup>2</sup>
15300488	K-RCHn08-I-Z02	Add-on Calibration at irradiance of 179 mW/cm <sup>2</sup> , 5 W/cm <sup>2</sup> and 15 W/cm <sup>2</sup>
15300710	K-RCHn08-S	Monochrome Calibration at 365 nm