

RCH-102

<https://www.gigahertz-optik.de/en-us/product/RCH-1>

Product tags: UV



Description

General

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.

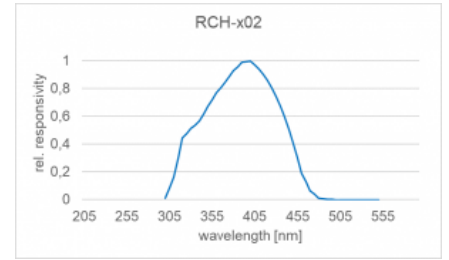
Product description

RCH-102 irradiance detector

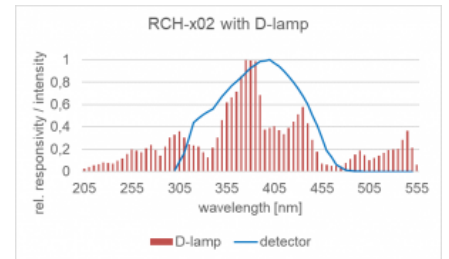
The UV detector RCH-102 was specially developed for use in UV curing with discharge lamps. It offers all the features and functions RCH-Series (link to RCH-xxx series data sheet) of the detectors. Its spectral sensitivity covers the wavelength range from 320 to 450 nm, which is used for deep curing of adhesives and paints in particular.

Calibration

The detector is calibrated with regard to its responsivity to irradiance and is supplied with a factory calibration certificate that conforms to the high standards 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 sensitivity (relative) of the RCH-x02 detectors



Relative spectral sensitivity of the RCH-x02 detectors together with the typical emission spectrum of a doped discharge lamp.



RCH-102 detector with rigid light guide










Specifications




General

Short description	UV detector for measuring the irradiance of medium pressure lamps in UV curing. 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.
Measurement ranges	Spectral responsivity 320 nm to 450 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	<p>The graph displays the relative spectral responsivity of various RCH models across a wavelength range from 200 nm to 600 nm. The y-axis represents relative spectral responsivity from 0.0 to 1.0. The x-axis represents wavelength in nm. The curves show different response profiles: RCH-x10 peaks at ~300 nm, RCH-x02 peaks at ~350 nm, RCH-x05 peaks at ~380 nm, RCH-x06 peaks at ~400 nm, RCH-x08 peaks at ~410 nm, RCH-x09 peaks at ~420 nm, RCH-x11 peaks at ~430 nm, RCH-x12 peaks at ~440 nm, RCH-x13 peaks at ~450 nm, RCH-x14 peaks at ~460 nm, RCH-x15 peaks at ~470 nm, and RCH-x16 peaks at ~480 nm.</p>
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: 50 cm / 20 inch
typical responsivity	UVABLU (320 - 460) nm: tbc. A/(mW/cm ²)
max. Irradiance	40 W/cm ²
Max. signal current	100 μA
Measured Quantity	Irradiance (W/m ²)
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
TR-9600		<p>High-speed 1µs or 100ns rise time data logger optometer.</p> <p>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.</p>	https://www.gigahertz-optik.de/en-us/product/TR-9600

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		
15309381	RCH-102-1	Detector with -1 connector and rigid light guide
15297677	RCH-102-2	Detector with -2 connector and rigid light guide
15297680	RCH-102-4	Detector with -4 connector and rigid light guide
Re-calibration		
15300571	K-UV-SR	Calibration of relative spectral responsivity from 250 nm - 550 nm
15300198	K-RCHn02-I	Calibration with Certificate
15300213	K-RCHn02-S	Monochrome Calibration at 395nm