

RCH-102

<https://www.gigahertz-optik.com/en-us/product/rch-1/>

Product tags: UV



Description

General

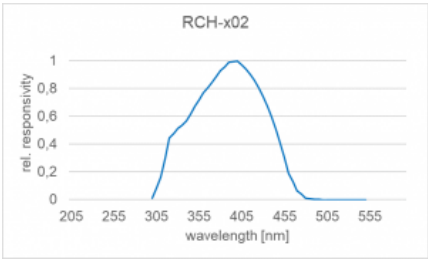
In UV curing applications requiring deep curing of adhesives and paints, longer-wave UV radiation in the UV-A and blue spectral regions is used to excite the photoinitiators. UV radiometers for these applications must be designed in such a way that they only measure the irradiance in the actinic range of the photoinitiators. See our [application note about general UV curing measurements](#) and our [product overview about UV curing meters](#).

Product description RCH-102 irradiance detector

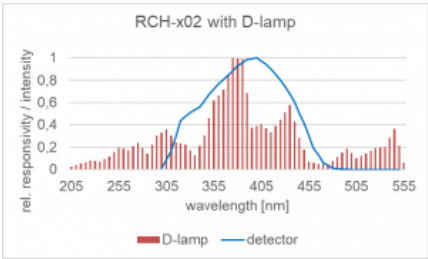
The UV detector RCH-102 was specially developed for use in UV curing with discharge lamps. It offers all the features and functions RCH-Series (see [RCH-xxx Series](#)) of the detectors. Its spectral sensitivity covers the wavelength range from 320 nm to 450 nm, which is used for deep curing of adhesives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



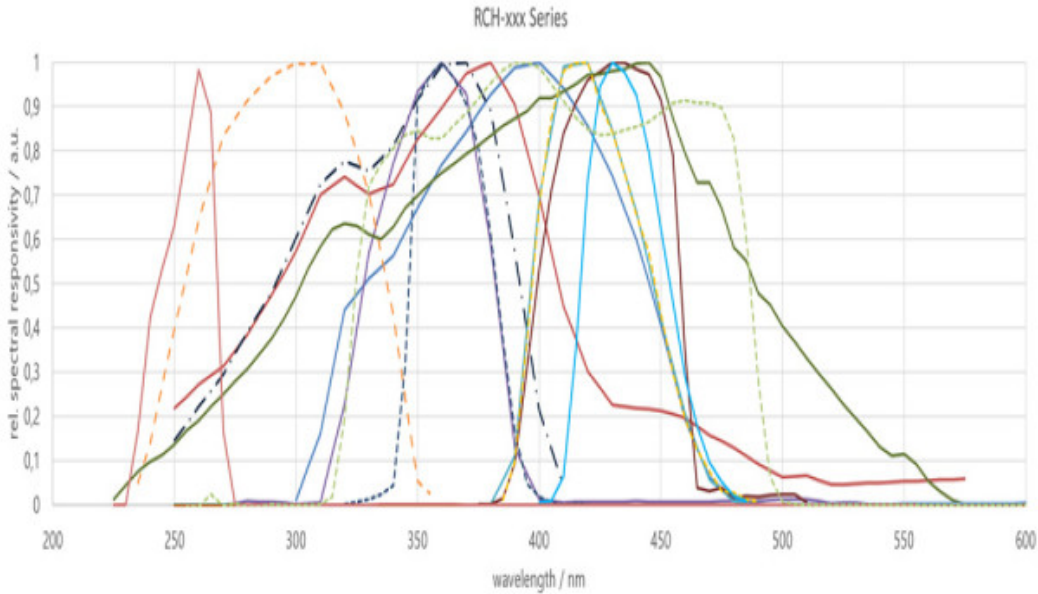
RCH-102 detector with rigid light guide"/>

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 / cm² to 40,000 mW / cm² 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: 50 cm / 20 inch
Typical responsivity	405 nm LED: 0.6 nA/(mW/cm ²) UV medium pressure lamp: 0.4 nA/(mW/cm ²)
max. Irradiance	40 W/cm ²
Max. signal current	100 µA
Measured Quantity	Irradiance (W/m ²)
Info	If a different light source needs to be measured than calibrated (spectral distribution), spectral mismatch correction factors should be applied in order to achieve a low measurement uncertainty. At very high humidity short-circuits of the radiometer at low measurement currents are possible and need to be considered. At higher temperature a temperature correction of the detector signal might be necessary in order to achieve a low measurement uncertainty.
Miscellaneous	
Temperature range	up to + 100 °C (short-time)
Humidity	<80%, non-condensing
Cable Length	50 cm
Connector	-1,-2 or -4

Configurable with

Product Name	Product Image	Description	Go to product
P-9710		High-End Optometer for Measurement of CW-, Single Pulse and Modulated Radiation	https://www.gigahertz-optik.com/en-us/product/p-9710/
X1		Four-Channel USB Optometer, Respectively Current Amplifier, Designed for Photometric and Radiometric Detectors for Mobile-Use	https://www.gigahertz-optik.com/en-us/product/x1/
X1-RM		Optometer in 3HE Housing for use in 19" Racks	https://www.gigahertz-optik.com/en-us/product/x1-rm/
X1-PCBCL		Optometer respectively Current Amplifier Module with 4 Input Channels and 7 Gain Ranges	https://www.gigahertz-optik.com/en-us/product/x1-pcb/
X1-PCBCL		Optometer module with 4 channels based on X1 technologie	https://www.gigahertz-optik.com/en-us/product/x1-pcbc/
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-9801		8-Channel High Class Current Amplifier/Optometer	https://www.gigahertz-optik.com/en-us/product/p-9801/
P-2000		Two-Channel Optometer	https://www.gigahertz-optik.com/en-us/product/p-2000/
RCH-xxx Series		UV Detectors for measuring the UV Curing Irradiance	https://www.gigahertz-optik.com/en-us/product/rch-xxx-series/

Product Name	Product Image	Description	Go to product
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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
15312685	RCH-102-5	Detector with -5 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

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- After-Sales Support
- Calibrations & Re-Calibrations ([ISO/IEC 17025 Calibration Services](#), [factory calibration](#), [Calibration of Third-Party Products](#))
- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

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Gigahertz Optik GmbH (Headquarter)

Tel.: +49 (0)8193-93700-0
Fax: +49 (0)8193-93700-50
info@gigahertz-optik.de

An der Kaelberweide 12
82299 Tuerkenfeld, Germany

Gigahertz-Optik, Inc. (US office)

Phone: +1-978-462-1818
info-us@gigahertz-optik.com

Boston North Technology Park
Bldg B - Ste 205
Amesbury, MA 01913 USA