

RCH-010

<https://www.gigahertz-optik.com/en-us/product/rch-4>

Product tags: UV



Description

In UV curing applications involving the curing of paints, UV-B with short-wave UV-A radiation is the typically used spectral range for stimulating 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.

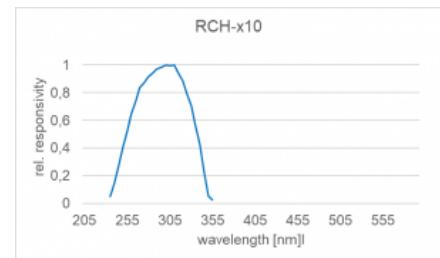
Product description

RCH-010 Irradiance Detector

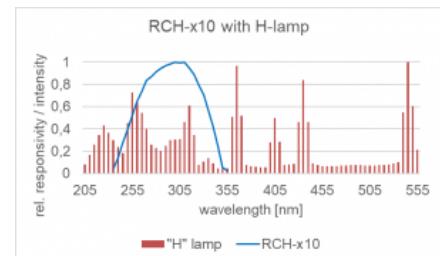
The RCH-010 UV detector was specially developed for use in UV radiation curing with discharge lamps. It offers all the features and functions of the detectors of the [RCH series](#). Their spectral responsivity covers the wavelength range from 255 to 335 nm, which is used in particular for curing paints.

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-010 detectors



Relative spectral responsivity of the RCH-010 detectors together with the typical emission spectrum of a mercury lamp.



RCH-010 detector with flexible 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 255 nm to 335 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	[image src="/var/www/html/web/assets/9d51166d28/Fig1-Rch010.png" id="6412" width="600" height="361" class="leftAlone ss-htmleditorfield-file image" title="Fig1 Rch010"]
Input optics	9 mm, diffuser
Dimensions	Measurement head: Height: 8 mm / Diameter: 37 mm Detector element: Length: 65 mm / Diameter: 15 mm
Light Guide	Flexible: 50 cm / 20 inch
typical responsivity	H-Type 240 nm - 320 nm: 0.7 nA/(mW/cm ²)
max. Irradiance	40 W/cm ²
Max. signal current	50 µA
Miscellaneous	
temperature range	up to + 100 °C (short-term)
Cable Length	50 cm
Connector	-1,-2 or -4
Humidity	<80%, non-condensing
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 fault-currents 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.

Purchasing information

Article-Nr	Modell	Description
Product		
15296711	RCH-010-1	Detector with -1 connector and flexible light guide
15297043	RCH-010-2	Detector with -2 connector and flexible light guide
15297044	RCH-010-4	Detector with -4 connector and flexible light guide
Re-calibration		
15312251	K-RCHn10-I	Calibration with Certificate