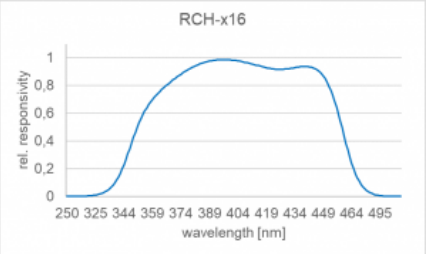
RCH-116

https://www.gigahertz-optik.com/en-us/product/rch-2

Product tags: UV , VIS

Description

In UV curing applications requiring deep curing of adhesives and lacquers, radiation in the UV-A and blue (visible) spectral range is used to excite the photoinitiators. UV radiometers for applications in which LED technology is used for object irradiation must be designed and calibrated in such a way to ensure that the irradiance is correctly measured for the spectral emission range of the LED.

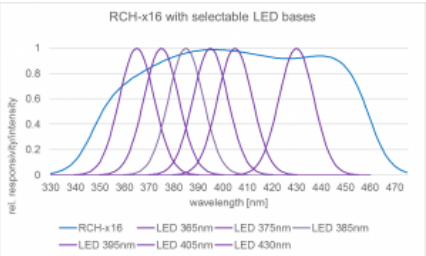


Typical spectral sensitivity (relative) of the RCH-116 detector

Product description

RCH-116 irradiance detector

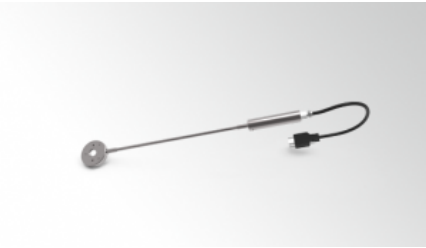
The RCH-116 UV detector was specially developed for use in UV radiation curing with UV-A LEDs. It offers all the features and functions of the **RCH series detectors** . Its spectral responsivity covers the wavelength range from 360 to 450 nm and thus applications for deep curing of adhesives and lacquers.



Relative spectral sensitivity of the RCH-116 detector together with typical UV LED emission spectra

Calibration

The detector is calibrated for 6 typical UV LED wavelengths in terms of its spectral irradiance responsivity and is supplied with a factory calibration certificate that corresponds to the high standard of the measurement laboratory for optical radiation measurement quantities 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.



RCH-116 detector with rigid light guide

Specifications

General	
Short description	UV detector for measuring the irradiance in UV curing with UV LEDs **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 360 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 spectral irradiance responsivity in A / (W / cm²) for 6 typical UV HLEDs wavelength. Factory calibration certificate of the measuring laboratory of the Gigahertz-Optik. Optional DIN EN ISO / IEC 17025 accredited test certificate
Product	
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, Length 22c m / 8.7 inch
spectral responsivity	[image src="/var/www/html/web/assets/8b26ca1eec/Fig2-RCH16.png" id="6387" width="500" height="300" class="leftAlone ss-htmleditorfield-file image" title="Fig2 RCH16"]
max. Irradiance	40 W/cm²
Max. signal current	100 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), spectcral missmatch 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 consiered. 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		
-	RCH-116-1	Detector with -1 connector and rigid light guide
15298855	RCH-116-2	Detector with -2 connector and rigid light guide
15297984	RCH-116-4	Detector with -4 connector and rigid light guide
Re-calibration		
15300571	K-UV-SR	Calibration of relative spectral responsivity from 250 nm - 550 nm
15300468	K-RCHn16-S	Re-calibration of irradiance sensitivity in A/(W/cm²) and A/(W/m²) at 365 nm, 375 nm, 385 nm, 395 nm, 410 nm and 430 nm using a 410 nm LED as reference lamp at about 2.5 mW/cm² irradiance level to scale the measured relative spectral responsivity from 360 nm to 450 nm. Factory calibration certificate.