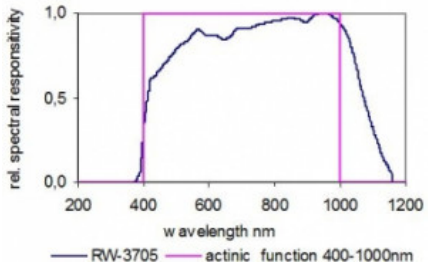
RW-3705

https://www.gigahertz-optik.com/en-us/product/rw-3705

Product tags: VIS , NIR

Description

The spectral responsivity range of the model RW-3705 covers the VISNIR range from 400 nm to 1000 nm.



Typical Spectral Responsivity

General Purpose Light Measurement Detector

The RW-37 series of radiometric detectors are primarily used for spectral broadband irradiance measurements within a defined spectral range of polychromatic radiation. Optical filters are used to shape the bare photodiode response to the desired spectral bandpass. The computer aided optical filter design produces the best possible broadband radiometric response within the spectral sector specified.

Cosine Field-of-View

A cosine F.O.V. characteristic of the detectors spatial responsivity is effected by the diffusor window of RW-37 detectors

Designed for Wide Dynamic

The RW-37 detectors are designed for the highest possible irradiance sensitivity for low irradiance level applications. Hwever the wide range linearity of the photodiodes coupled with the Gigahertz-Optik optometers's wide dynamic signal range amplifiers enable the RW-37 series detectors to be used in applications with high irradiances as well. The upper range is limited only by the detector maximum operating current and its specified operation temperature.

Compact Housing

The RW-37 series irradiance detectors are built in a compact 37mm diameter black anodized aluminum housing. The shadow ring around the diffusor support the wide-angle cosine response. A side M6 tapped mounting hole allows the detector be fixed in place. The 37-type standard housing allows other SRT-M37 type accessories to be attached using the SRT-M45/37-B adapter for radiance or intensity measurements.

Traceable Calibrations

Calibration of irradiance in W/m² and/or W/cm² as well as the detector's relative spectral responsivity is performed at Gigahertz-Optik's Calibration Laboratory. Besides the regular calibration with spectral broadband reference lamps alternative calibrations with monochromatic or custom type reference lamps can be supplied as an option. The calibration and its traceability are confirmed in the calibration certificate supplied with each detector.

Specifications

Specification	
spectral responsivity	radiometric (400 - 1000) nm
typical responsivity	10 nA/(W/m²)
Max. signal current	1 mA
Input optics	11 mm Ø diffusor window
Input optics	Cosine F.O.V.
Housing	37 mm Ø, 32 mm height
Mounting	side M6 thread hole
Connector	coaxial cable 2 m Long, with BNC (-1), calibration data (-2) or ITT (-4) connector
temperature range	(5 - 40) °C
min. signal current	depends on optometer
Rise time	100 ns

Downloads

Type	Description	File-Type	Download
Drawing	RW-3705		

Configurable with

Product Name	Product Image	Description	Show product
P-9710		High-quality device for measurement of CW-, single pulse and modulated radiation. 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	https://www.gigahertz-optik.com/en-us/product/p-9710
P-9710-2		High quality optometer for pulse-energy measurements of short pulses in photometric, radiometric and LASER application. Features: pulse energy measurement, CW, dose, simple and safe detector exchange, battery, main power, RS232	https://www.gigahertz-optik.com/en-us/product/p-9710-2

Product Name	Product Image	Description	Show product
P-9710-4		High quality optometer for pulse-energy measurements of short pulses in photometric, radiometric and LASER application Features: pulse energy measurement with external Trigger input, CW, dose, simple and safe detector exchange, battery, main power, RS232	https://www.gigahertz-optik.com/en-us/product/p-9710-4
GB-GD-360-RB40		Goniometer for the measurement of 2π sources. Features: Measurement of the luminous and radiant intensity distribution as well as luminous flux and radiant power from compact spot lamps and light-emitting diodes. Measurement distance 100 mm to 2000 mm. Remote control. Optional Lightmeters, user software, etc.	https://www.gigahertz-optik.com/en-us/product/gb-gd-360-rb40
X1		Four-channel USB optometer designed for mobile use. 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.	https://www.gigahertz-optik.com/en-us/product/x1
X1-2		Four-channel RS232 optometer designed for mobile use. 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.	https://www.gigahertz-optik.com/en-us/product/x1-2
X1-RM		Optometer in 3HE housing for use in 19” racks. 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.	https://www.gigahertz-optik.com/en-us/product/x1-rm
X1-PCB		Optometer module. 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.	https://www.gigahertz-optik.com/en-us/product/x1-pcb
X1-PCBC		Optometer module. 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.	https://www.gigahertz-optik.com/en-us/product/x1-pcbc
TR-9600		High-speed 1µs or 100ns rise time data logger optometer. 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.	https://www.gigahertz-optik.com/en-us/product/tr-9600
P-9802		Light meter for laboratory use with up to 24 measurement heads. Features: For use with up to 24 photometric and/or radiometric measurement heads. RS232 interface.	https://www.gigahertz-optik.com/en-us/product/p-9802
P-9801		Eight-channel optometer. 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.	https://www.gigahertz-optik.com/en-us/product/p-9801

Product Name	Product Image	Description	Show product
P-2000		Two-channel optometer. 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.	https://www.gigahertz-optik.com/en-us/product/p-2000
x9-7		Broadband radiometer for irradiance. Features: Mobile meter. Detectors with different bandwidths and spectral ranges to select. For use with polychromatic radiation sources.	https://www.gigahertz-optik.com/en-us/product/x9-7
P-21		High-quality touchscreen device for measurement of CW-, single pulse and modulated radiation. 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, USB	https://www.gigahertz-optik.com/en-us/product/p-21

Purchasing information

Article-Nr	Modell	Description
Product		
15296519	RW-3705-1	Detector head with -1 connector, calibration certificate.
15297081	RW-3705-2	Detector head with -2 connector, calibration certificate.
15297082	RW-3705-4	Detector head with -4 connector, calibration certificate.
Calibration		
15300577	K-FOV	Calibration of the F.O.V
15306577	K-RW3705-SD	Calibration of the spectral irradiance sensitivity in A/(W/m²) and A/(W/cm²) of an RW-3705 detector. Calibration of the relative spectral sensitivity from 400 nm to 1000 nm in 10 nm steps absolutely scaled with sampling point at 608 nm. Calibration certificate.
15311990	KP-RW3705X1-E-I	Option: DIN EN ISO/IEC 17025:2018 Test Certificate (DAkkS). Integral irradiance in the wavelength range from 400 nm to 1000 nm. In combination with X1 optometer.
15311991	KP-RW3705P9710-E-I	Option: DIN EN ISO/IEC 17025:2018 Test Certificate (DAkkS). Integral irradiance in the wavelength range from 400 nm to 1000 nm. In combination with P-9710 optometer.
Re-calibration		

Article-Nr	Modell	Description
15300159	K-RW3705-I	Integral irradiance sensitive calibration in A/(W/m²) and A/(W/cm²) of the RW-3705 light detector. Calibration certificate.
15300580	K-Si-SR	Re-calibration of the relative spectral responsivity.
15311988	KKP-RW3705X1-E-I	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate. In combination with X1 optometer.
15311989	KKP-RW3705P9710-E-I	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate. In combination with P-9710 optometer.