

UV Sensor "UV-Cure"

Sensor for strong UV irradiation

GENERAL FEATURES

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Properties of the UV-Cure

The sensor UV-Cure is an axial looking UV sensor for measurement of high UV radiation to control i.e. curing or drying processes where strong UV light is present. A male thread (M22x1.5) allows many mounting possibilities i.e. inside UV radiation chambers. It has an integrated temperature sensor and a diffuser made of radiation hard and temperature resistant microporous quartz glass. The sensor contains an integrated amplifier and is shielded against electromagnetic interference. It is available with a NIST or PTB traceable calibration.

Sensor configuration options

Sensor configuration options are spectral response, signal output type and measuring range. The signal output is a voltage of 0...5 V or a current of 4...20 mA. Besides the analog UV sensor series a digital sensor series with a 125kbit/s CAN bus interface is available. The useful measuring range of any sglux analog UV sensor is 3 orders of magnitude corresponding to 5 mV to 5 V or 4.02 mA to 20 mA output. Our highest sensitivity range is 1 nW/cm² ... 1 μW/cm². Our lowest sensitivity range is 20 mW/cm² ... 20 W/cm². Customers may specify any 3 decade range between these limits. Please contact us for assistance. Alternatively, page 3 of this datasheet allows to check off and enter his or her requirements and forward this document to factory or agent.

About the Silicon Carbide (SiC) detector chip

Most of our sensors base on a SiC detector chip. SiC provides the unique property of extreme radiation hardness, near-perfect visible blindness, low dark current, high speed and low noise. These features make SiC the best available material for UV detectors. For more details please find a list of publications on our website.

SPECIFICATIONS

Fixed Specifications

Parameter	Value
Dimensions	please refer to drawing on page 2
Weight	140 g
Temp. Coefficient (30 ... 65°C)	0.05 ... 0.075%/K
Operating Temp.	-20 ... +80°C
Storage Temp.	-40 ... +80°C
Humidity	< 80%, non condensing
Temperature Sensor	Electrical resistance PT100 Type K, class B

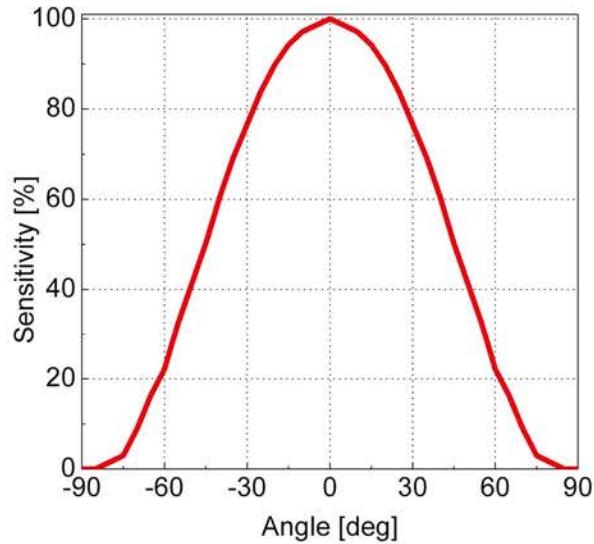
Configurable Specifications

Parameter	Value (page 3 shows more detailed information)
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, Bluelight and UV+VIS
Signal Output	0 ... 5 V or 4 ... 20 mA
Current Consumption	for 0 ... 5 V = < 30 mA / for 4 ... 20 mA = signal out
Connections	2 m cable with tinned leads or 5 pin male connector with mating connector and tinned leads on free end
Measuring Range	from 1 nW/cm ² ... 1 μW/cm ² to 20 mW/cm ² ... 20 W/cm ²

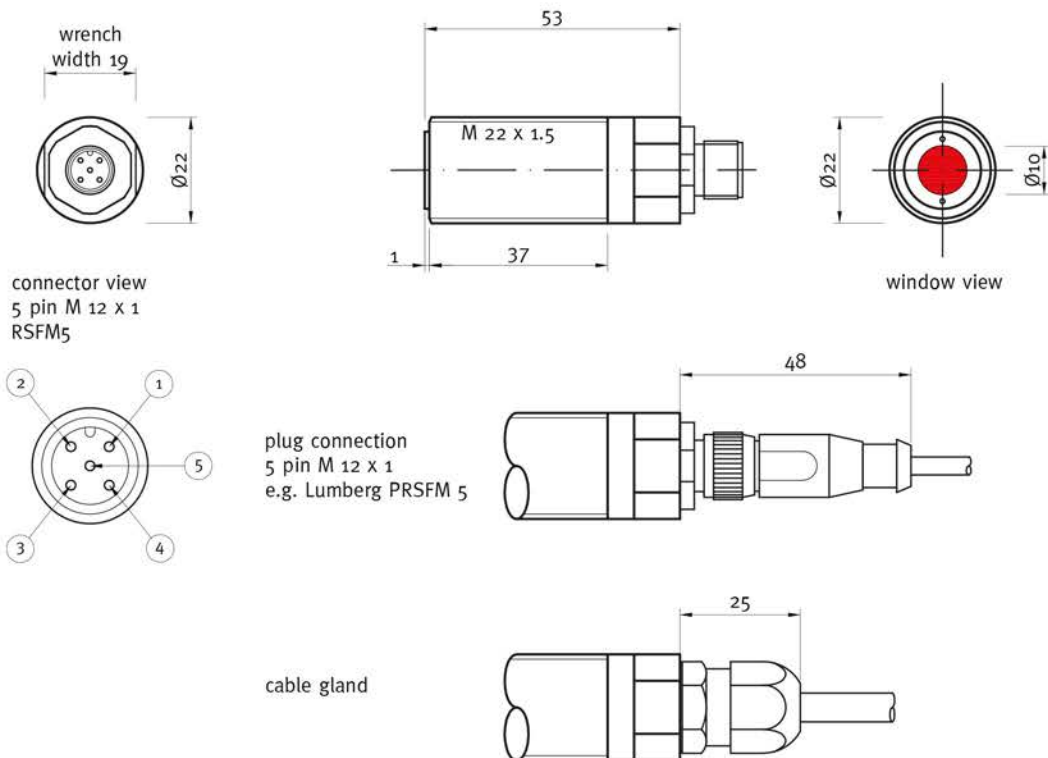
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FIELD OF VIEW



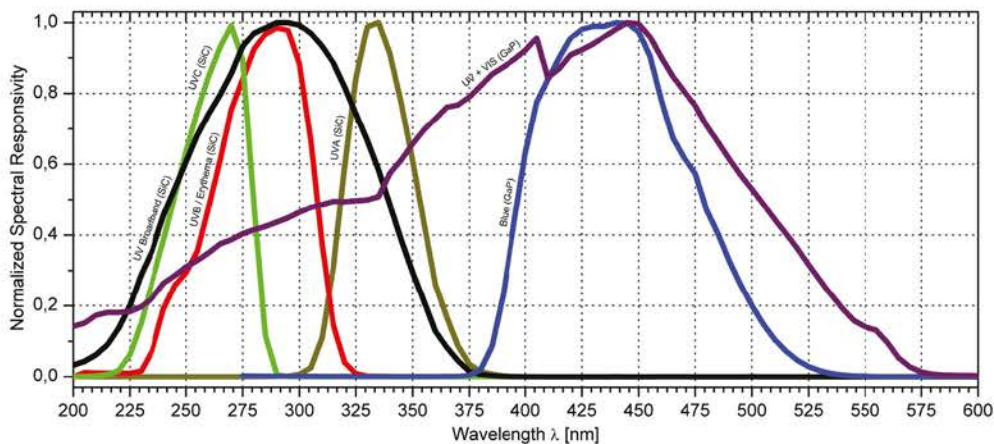
DRAWING



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STEP 1 Configuration of Normalized Spectral Responsivity



Please select

- UV Broadband (SiC)
- UVC (SiC)
- UVB / Erythema (SiC)
- UVA (SiC)
- Blue (GaP)
- UV + VIS (GaP)

STEP 2 Signal Output

Please tick your selection. The pin configuration is shown in drawings on page 2.

Output Type	Description	Connection = "cable"	Connection = "male plug"
<input type="checkbox"/> 0 ... 5 V	0 ... 5 V voltage output proportional to radiation input. Supply voltage is 7 ... 24VDC, current consumption is < 30 mA.	<input type="checkbox"/> V ₋ = brown, V ₊ = white V _{out} = green, shield = black	<input type="checkbox"/> V ₋ = 1, V ₊ = 4, V _{out} = 3
<input type="checkbox"/> 4 ... 20 mA	4 ... 20 mA current loop for PLC controllers. The current is proportional to the radiation, supply voltage is 24VDC.	<input type="checkbox"/> V ₋ = brown, V ₊ = white, shield = black	<input type="checkbox"/> V ₋ = 1, V ₊ = 4

STEP 3 Measuring Range

We configure your UV sensor for intensities across 10 orders of magnitude from 1 nW/cm² to 20 W/cm². For good dynamic behaviour the max. intensity at the probe position needs to be known as precisely as possible. Please fill that value and the peak wavelength, if known, into the box below. If only a rough estimate is possible, please let us know the lamp type and measuring distance for further refinement of the range.

Please fill in following information:

OR

<input type="checkbox"/>	<input type="text"/>	Max. irradiation mW/cm ²	<input type="checkbox"/>	<input type="text"/>	Lamp type / power
<input type="checkbox"/>	<input type="text"/>	Peak wavelength	<input type="checkbox"/>	<input type="text"/>	Measuring distance betw. lamp and sensor

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DESIGN OVERVIEW



UV-Surface → Top looking surface-mount UV sensor

For UV radiation reference measurements of radiation exposed to a surface.



UV-Air → Threaded body UV sensor

With M22x1.5 thread for many mounting possibilities i.e. inside UV radiation chambers.



UV-Cosine → Waterproof cosine corrected UV sensor for outdoor use

Stain repellent for outdoor or in-water measurements.
Particularly suited for UV-Index measurements.



UV-Water-G3/4 → 10 bar water pressure proof UV sensor with G3/4" thread

Used in pressurized water systems. Suited for low and medium pressure lamps.



UV-Water-PTFE → 3 bar water pressure proof UV sensor with G1/4" thread

Used in pressurized water systems. Only suited for low pressure lamps.



UV-DVGW → UV sensor for DVGW (40°) certified water purifiers

Complies with standard DVGW294-3(2006), suited for certified water purifiers.



UV-DVGW-160 → UV sensor for DVGW (160°) and OENORM certified water purifiers

Complies with standard DVGW294-3(2006) and OENORM 5873-2, suited for certified water purifiers with 160° field of view.



UV-Cure → Sensor for strong UV irradiation, working temperature up to 170° (338°F)

To control curing processes or other high temperature operations where strong UV light is present.



TOCON-Probe → Miniature UV sensor

Miniature UV sensor in M12x1 housing. Available with 0...5 V voltage output.