

UV SENSOR “TOCON-probe”

Amplified UV Photodiode with M12x1 steel housing



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Amplified UV Photodiode with housing

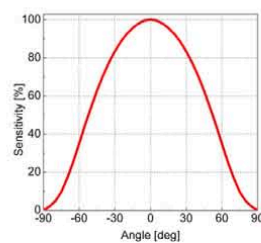
The sensor TOCON-probe is an amplified UV Photodiode inside a robust stainless steel M12x1 thread body. It is configured with an integrated sensor connector (Binder 5-Pin plug) and comes with 2 m connector cable. The sensor is easy to mount and connect.

The TOCON-probe is amplified and shielded against electromagnetic interference. The visible blind sensors are based on a Silicon Carbide (SiC) UV sensing chip, which guarantees highest radiation hardness, long term stability and $>10^{10}$ visible blindness (ratio of UV to VIS-IR sensitivity). Blue and GaP type sensors are based on a Galliumphosphide (GaP) UV sensing chip. Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), shows the output type (STEP 2) and to select a sensitivity range (STEP 3).

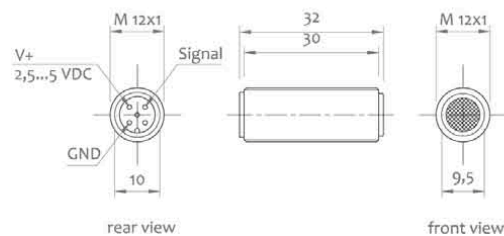
Picture



Field of View



Drawing



Specifications

Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Temp. Coefficient	<-0,3%/K
Operating Temp.	-25...+85°C
Storage Temp.	-40...+100°C
Humidity	<80%, non condensing
Signal Input Voltage V_{in}	2,5V...5V

Configurable Specifications

Parameter	Value
Sensors available	from 1,8pW/cm ² ... 18W/cm ²
Dynamic Range	4 orders of magnitude
Spectral Sensitivity	UV-Broadband, UVA, UVC, UV-Index, blue light, GaP (blue +visible)
Connections	5-Pin plug, see drawing

Please find the configuration guide at page 2 of this datasheet.

Monitor Accessories



Please consider our UV monitor and UV controller offer.

Calibration



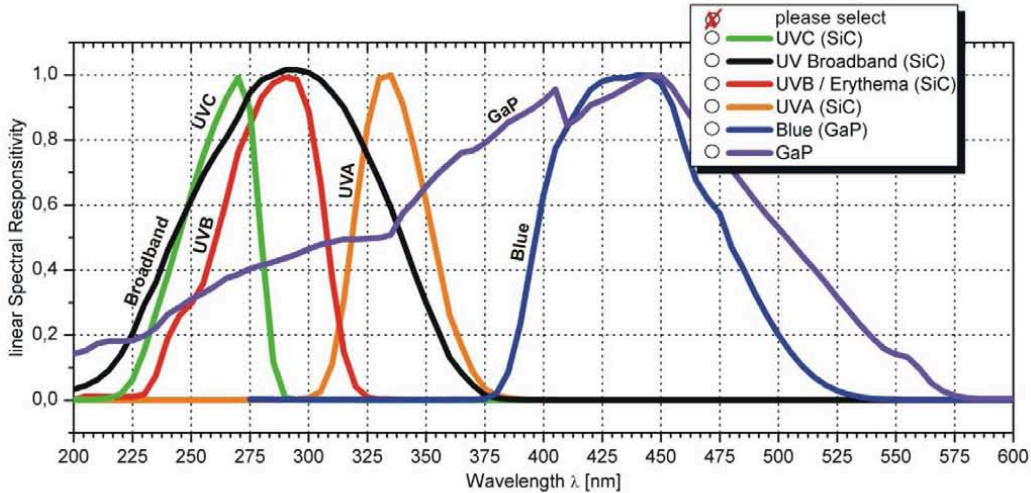
We are pleased to issue an individual quotation for NIST or PTB traceable calibration.

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STEP 1 → Configuration of the Spectral Sensitivity



Please select one spectral sensitivity curve.

STEP 2 → Signal Output

Signal output $V_{out} = 0 \dots V_{in}$ (where V_{in} = input voltage 2,5...5V)

Connect cable BROWN to GND, BLACK to V_{in} . BLUE is V_{out} .

Wrong wiring destroys the sensor.

STEP 3 → Sensitivity

The sensors are available from $1,8\text{pW/cm}^2$ to 18W/cm^2 . Dynamic range of a TOCON probe is 4 orders of magnitude. The TOCONs are offered at different sensitivity ranges.

The selection of the sensitivity range must be thorough. If the TOCON is too sensitive it will saturate below the upper limit of the radiation range to be measured. Conversely, a TOCON that is too insensitive gives no or a too low voltage output. Thus, for dynamic range selection, please estimate, it is best to calculate what is the max. radiation your TOCON must measure without getting saturated (the sensor will not be damaged if saturated).

For correct selection of a TOCON with a suited range please refer to the document [product overview](#) to be downloaded from the TOCON section of our web-page.

Probe mechanical design overview

Besides the ticked mechanical design of this datasheet other mechanical designs are available.

Type	Description
<input type="radio"/> UV-Surface	Standard surface-mount 180° FOV UV Sensor
<input type="radio"/> UV-Air	Standard axis oriented in-chamber UV Sensor
<input type="radio"/> UV-Cosine	Waterproof UV Sensor for outdoor use
<input type="radio"/> UV-Water	10 bar water pressure proof
<input type="radio"/> UV-DVGW	UV Sensor for DVGW certified water purifiers
<input type="radio"/> UV-MINILOG	UV Datalogger with PC software
<input checked="" type="radio"/> TOCON-probe	Amplified UV Photodetector in a M12x1 housing, only with voltage output available