

## UV PROBE SENSORS IN ROBUST HOUSINGS WITH PREAMPS

### UV\_Air



- handy and robust stainless steel housing
- with teflon diffusor for cosine correction
- with male thread for comfortable mounting

### UV\_Cosine



- special housing with wide angle characteristics and cosine correction
- with male thread for comfortable mounting
- water protection class inside IP68, outside IP65
- delivery with mounting set (locknuts and sealing ring)

### UV\_DVGW



- for the use in water purification systems
- compliant to the technical rule DVGW W294-3 (2006)
- spectral characteristic and angle behaviour given by DVGW standards

### UV\_Water



- stainless steel housing with 10bar pressure water resistance
- for use immersed in water
- with 1/4" thread for comfortable mounting

### Introduction

The applications of UV Sensors are quite varied and therefore the required sensitivity, environmental endurance, spectral response, field of view and electronic output interface must be tailored for individual conditions of use.

This publication presents a variety of different UV Sensors covering a broad range of industrial and scientific UV Sensor applications.

All of the probes are amplified and shielded against electromagnetic interference. The sensors are based on Silicon Carbide (SiC) UV photodiodes, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity).

Please find at page 5 an individual four step configuration procedure which allows the prospective user to select among different probe mechanical designs (STEP 1), to select the correct spectral response (STEP 2), different output types (STEP 3) and to select a sensitivity range (STEP 4). Please feel invited to contact us for assistance.

### UV Sensor “UV-Surface”

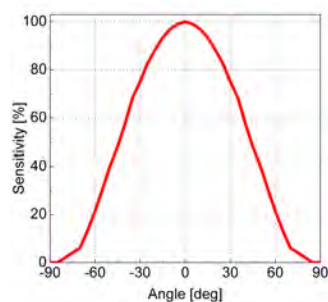
#### Standard surface-mount 180° FOV UV Sensor

The sensor **UV-Surface** is a cosine corrected sensor to be used for industrial or scientific UV radiation measurements of radiation arriving at a surface, horizontal or vertical or any orientation. On request it is also available in a submersible version. Available calibrated (NIST or PTB traceable) on request.

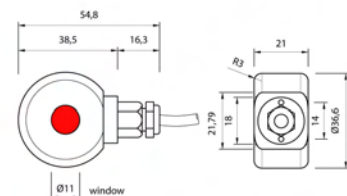
#### Picture



#### Field of View



#### Drawing



### UV Sensor “UV-Air”

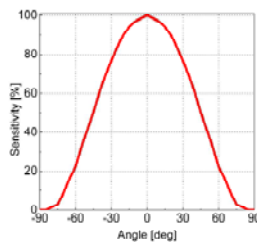
### Standard axis oriented in-chamber UV Sensor

The sensor **UV-Air** is a cosine corrected axial looking UV sensor with a male thread (M22x1,5) with many mounting possibilities inside UV radiation chambers. Available calibrated (NIST or PTB traceable) on request.

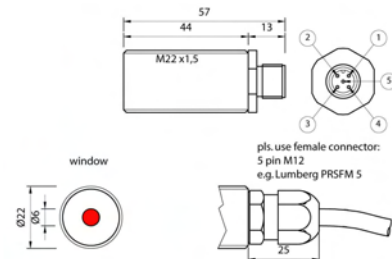
#### Picture



#### Field of View



#### Drawing



### UV Sensor “UV-Cosine”

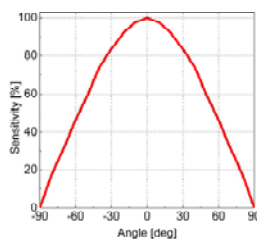
### Waterproof UV Sensor for outdoor use

The sensor UV-Cosine is an outdoor cosine corrected waterproof sensor (IP68 at window side, IP65 at plug side, or, on request IP68 for submerge applications). The PTFE housing is stain repellent.

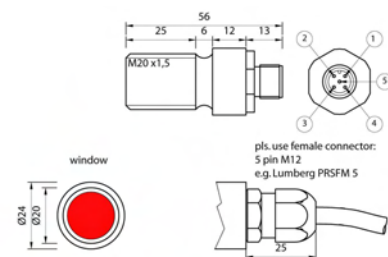
#### Picture



#### Field of View



#### Drawing



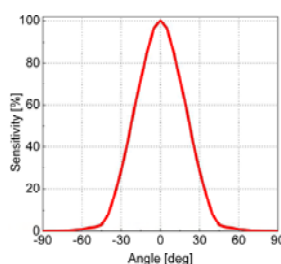
### UV Sensor “UV-Water” 10 bar water pressure proof

The sensor **UV-Water** is a water proof (10 bar or 150 psi) UV sensor to be included into pressurized water systems (G1/4” thread). This UV sensor is suited for use in food and beverages machinery. On request it is available in a submersible version. Available calibrated (NIST or PTB traceable) on request.

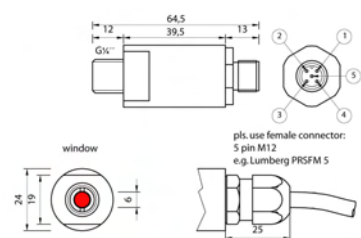
#### Picture



#### Field of View



#### Drawing



### UV Sensor “UV-DVGW”

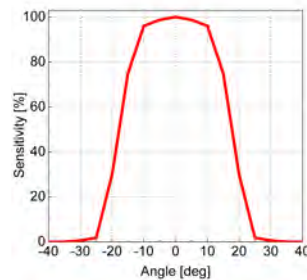
### UV Sensor for DVGW certified water purifiers

The sensor **UV-DVGW** is a special type suitable for use with DVGW certified water purifiers. It complies with the standard DVGW W294-3(2006). Always delivered calibrated according to DVGW requirements.

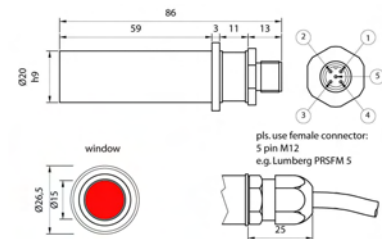
Picture



Field of View



Drawing



### UV Sensor “UV-MINILOG”

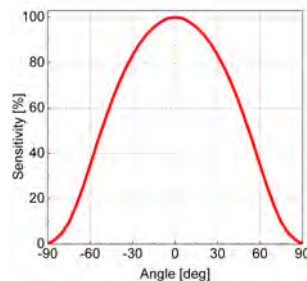
### UV Datalogger with PC software

The sensor UV-MINILOG is a battery powered UV datalogger with a large internal data storage (2 million readings). It can log data for up to 18 months without recharging. It is IP67 water proof and comes with free PC software. The UV-Minilog can be equipped with all UV sensors to be selected at STEP 2 and STEP 4 of the page 5 configuration guide.

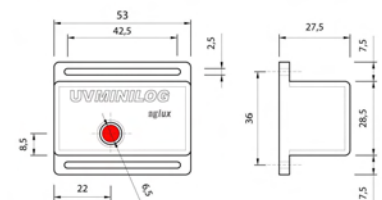
Picture



Field of View



Drawing



### UV Sensor “TOCON”

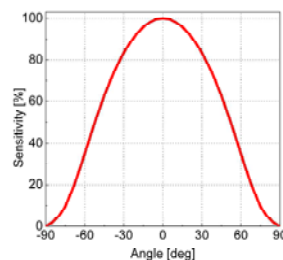
### Pre-amplified UV Photodiode

The sensor TOCON is a pre-amplified UV Photodiode consisting of SiC chip and hybrid preamp inside a hermetic TO-39 package. The TOCON can be equipped with all specifications to be selected at STEP 2 and STEP 4 of the page 5 configuration guide.

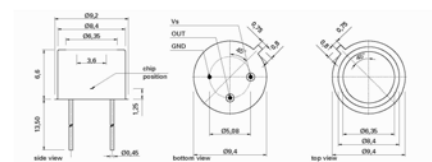
Picture



Field of View



Drawing



### Specifications, valid for all UV Sensors

#### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Storage Temp.	-40...+80°C
Humidity	<80%, non condensing for Air versions; 100% immersed for submerible

#### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5

Please find the configuration guide at page 5 of this catalog.

#### Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

#### Calibration



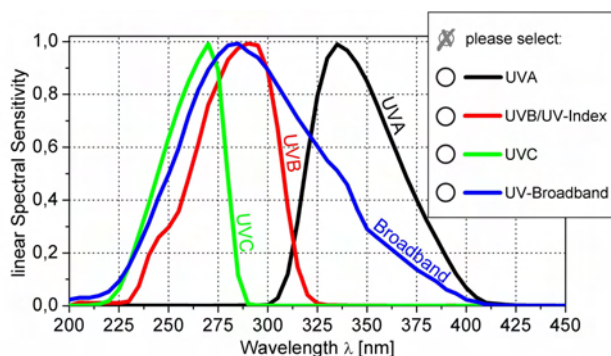
We are pleased to issue an individual quotation for NIST or PTB traceable calibration.

### STEP 1 → Selection of probe mechanical design

Please tick your selection. Please find detailed description of the mechanical design above

<input checked="" type="checkbox"/> Type	Description
<input type="checkbox"/> UV-Surface	Standard surface-mount 180° FOV UV Sensor
<input type="checkbox"/> UV-Air	Standard axis oriented in-chamber UV Sensor
<input type="checkbox"/> UV-Cosine	Waterproof UV Sensor for outdoor use
<input type="checkbox"/> UV-Water	10 bar water pressure proof
<input type="checkbox"/> UV-DVGW	UV Sensor for DVGW certified water purifiers
<input type="checkbox"/> UV-MINILOG	UV Datalogger with PC software
<input type="checkbox"/> TOCON	Pre-amplified UV Photodiode

### STEP 2 → Configuration of the Spectral Sensitivity



Please select one spectral sensitivity curve (shown left). Other spectral responses are available on request.

In the UV, we use SiC photodetectors which makes the probe radiation hard and stable. The visible blindness is better than  $10^5$ .

### STEP 3 → Signal Output

Please tick your selection. The pin configuration is shown in the drawings on previous pages.

<input checked="" type="checkbox"/> Output Type	Description	<input checked="" type="checkbox"/> Connection = "cable"	<input checked="" type="checkbox"/> Connection = "male plug"
<input type="checkbox"/> 0...5V	0...5V voltage output proportional to radiation input, supply voltage is 7..24VDC, current consumption is <30mA	<input type="checkbox"/> V <sub>0</sub> =brown, V <sub>+</sub> =white, Out=green, Shield=black	<input type="checkbox"/> V <sub>0</sub> =1, V <sub>+</sub> =2, Out=3
<input type="checkbox"/> 4...20mA	4...20mA current loop for PLC controllers. The current is proportional to the radiation, supply voltage is 24VDC	<input type="checkbox"/> V <sub>0</sub> =brown, V <sub>+</sub> =white	<input type="checkbox"/> V <sub>0</sub> =1, V <sub>+</sub> =2
<input type="checkbox"/> USB	The signal is transmitted via USB to a computer. Software is included.	----->	<input type="checkbox"/> Standard USB-A plug, 1,5 m cable
<input type="checkbox"/> Pulse	UV pulse counting for pulses > 30ns, signal out is 5V when the pulse intensity is above threshold and 0V when below.	<input type="checkbox"/> V <sub>0</sub> =brown, V <sub>+</sub> =white, Out=green, Shield=black	<input type="checkbox"/> V <sub>0</sub> =1, V <sub>+</sub> =2, Out=3

### STEP 4 → Sensitivity

We configure your UV sensor for intensities across 10 orders of magnitude from 1nW/cm<sup>2</sup> to 10W/cm<sup>2</sup>. For good dynamic behaviour the min and max. intensity at the probe position needs to be known as precisely as possible. Please fill that value, if known, into the box below. If only a rough estimate is possible, please estimate it in the range selection fields. We will contact you for further refinement of the range.

max. radiation in mW/cm<sup>2</sup> or, if not precisely known, range estimation

- 1nW/cm<sup>2</sup> ... 10μW/cm<sup>2</sup>  10μW/cm<sup>2</sup> ... 100mW/cm<sup>2</sup>  100mW/cm<sup>2</sup> ... 10W/cm<sup>2</sup>

# UV SENSOR “UV-Air”

## Standard axis oriented in-chamber UV Sensor



### UV Sensor “UV-Air”

### Standard axis oriented in-chamber UV Sensor

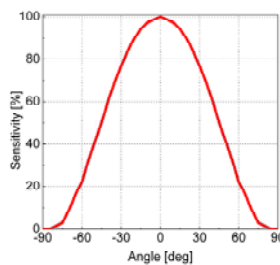
The sensor **UV-Air** is a cosine corrected axial looking UV sensor with a male thread (M22x1,5) with many mounting possibilities inside UV radiation chambers. Available calibrated (NIST or PTB traceable) on request.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

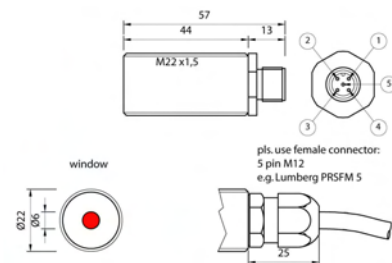
#### Picture



#### Field of View



#### Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	80 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Storage Temp.	-40...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5
	Please find the configuration guide at page 2 of this datasheet

## Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

## Calibration



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

# UV SENSOR “UV-Cosine”

## Waterproof UV Sensor for outdoor use



### UV Sensor “UV-Cosine”

### Waterproof UV Sensor for outdoor use

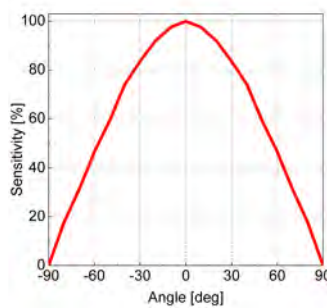
The sensor **UV-Cosine** is an outdoor cosine corrected waterproof sensor (IP68 at window side, IP65 at plug side, or, on request IP68 for submerge applications). The PTFE housing is stain repellent. Available calibrated (NIST or PTB traceable) on request.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

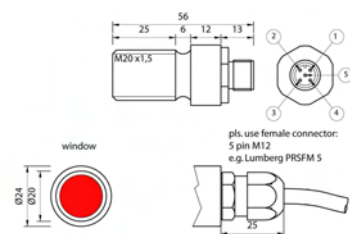
#### Picture



#### Field of View



#### Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	27 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5

Please find the configuration guide at page 2 of this datasheet

## Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

## Calibration



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

# UV SENSOR “UV-Water”

## 10 bar water pressure proof



### UV Sensor “UV-Water”

10 bar water pressure proof

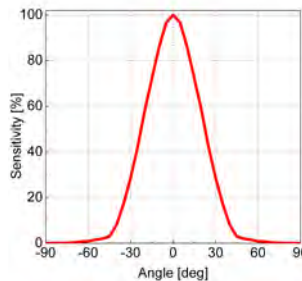
The sensor **UV-Water** is a water proof (10 bar or 150 psi) UV sensor to be included into pressurized water systems (G1/4” thread). This UV sensor is suited for use in food and beverages machinery. On request it is available in a submersible version. Available calibrated (NIST or PTB traceable) on request.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

#### Picture



#### Field of View



#### Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	108 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5

Please find the configuration guide at page 2 of this datasheet

### Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

### Calibration



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

# UV SENSOR “UV-DVGW”

## UV Sensor for DVGW certified water purifiers



### UV Sensor “UV-DVGW”

### UV Sensor for DVGW certified water purifiers

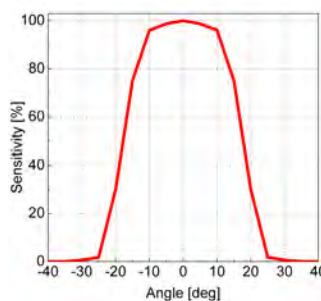
The sensor **UV-DVGW** is a special type suitable for use with DVGW certified water purifiers. It complies with the standard DVGW W294-3(2006). Always delivered calibrated according to DVGW requirements.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

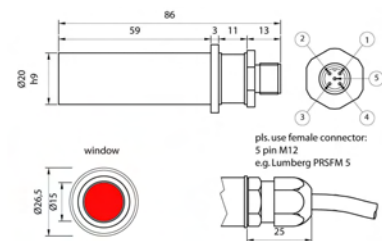
#### Picture



#### Field of View



#### Drawing



### Specifications

#### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	120 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

#### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UVC
Signal Output	0...5V, 4...20mA, USB
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5

### Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

### Calibration



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

### UV Sensor “UV-MINILOG”

### UV Datalogger with PC software

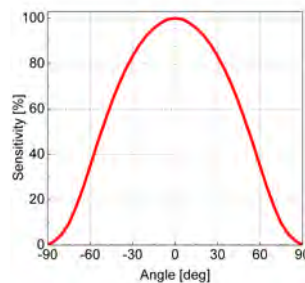
The sensor **UV-MINILOG** is a battery powered UV datalogger with a large internal data storage (2 million readings). It can log data for up to 18 months without recharging. It is IP67 water proof and comes with free PC software. The UV-Minilog can be equipped with all UV sensors to be selected at STEP 1 and STEP 3 of the configuration guide (page 2 of this datasheet).

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

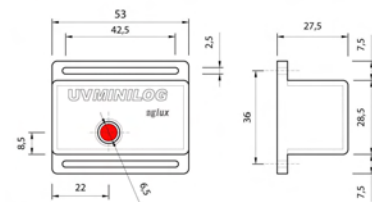
#### Picture



#### Field of View



#### Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	70 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Storage Temp.	-40...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	USB
Connections	mini USB

Please find the configuration guide at page 2 of this datasheet

## Calibration



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

### UV Sensor “TOCON”

### Pre-amplified UV Photodiode

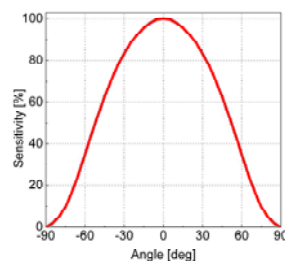
The sensor TOCON is a pre-amplified UV Photodiode consisting of SiC chip and hybrid preamp inside a hermetic TO-39 package. The TOCON can be equipped with all specifications to be selected at STEP 1 and STEP 3 of the page 2 configuration guide.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

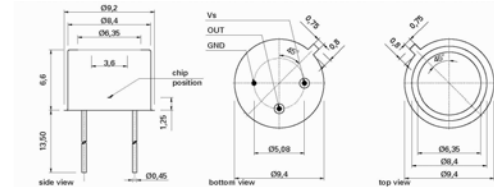
Picture



Field of View



Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	1,3 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Storage Temp.	-40...+80°C
Humidity	<80%, non condensing

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 5pin male plug

Please find the configuration guide at page 2 of this datasheet

## Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

## Calibration



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

# UV SENSOR “UV-Surface”

## Standard surface-mount 180° FOV UV Sensor



### UV Sensor “UV-Surface”

### Standard surface-mount 180° FOV UV Sensor

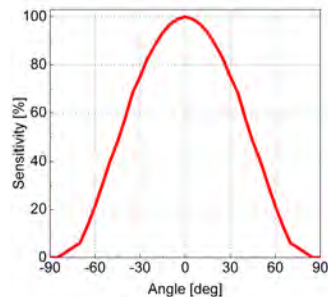
The sensor **UV-Surface** is a cosine corrected sensor to be used for industrial or scientific UV radiation measurements of radiation arriving at a surface, horizontal or vertical or any other orientation. On request it is also available in a submersible version. Available calibrated (NIST or PTB traceable) on request.

The probe is amplified and shielded against electromagnetic interference. The sensor is based on a Silicon Carbide (SiC) UV photodiode, which guarantees highest radiation hardness, long term stability and  $>10^5$  visible blindness (ratio of UV to Vis-IR sensitivity). Please find at page 2 an individual configuration procedure which allows the prospective user to select the correct spectral response (STEP 1), different output types (STEP 2) and to select a sensitivity range (STEP 3). Please feel invited to contact us for assistance.

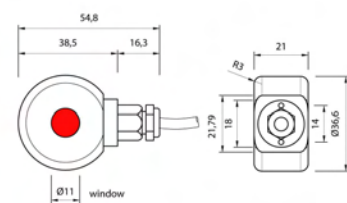
#### Picture



#### Field of View



#### Drawing



## Specifications

### Fixed Specifications

Parameter	Value
Dimensions	pls. refer to the drawing
Weight	56 g
Temp. Coefficient	0,035%/K
Operating Temp.	-20...+80°C
Humidity	<80%, non condensing, on request: 100% submersible

### Configurable Specifications

Parameter	Value
Absolute Sensitivity	1nW/cm <sup>2</sup> ... 10W/cm <sup>2</sup>
Spectral Sensitivity	UV-Broadband, UVA, UVB, UVC, UV-Index
Signal Output	0...5V, 4...20mA, USB, impulse count
Connections	2m cable or 2m cable with 5 pin male connector type Lumberg PRSFM5

Please find the configuration guide at page 2 of this datasheet

### Monitor Accessories



Please consider our UV monitor and UV controller offer → [www.sglux.com/monitor](http://www.sglux.com/monitor)

### Calibration



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