UV Sensor "UV-ÖNORM"

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

**GENERAL FEATURES**

**Properties of this sensor**
The "UV-ÖNORM" is a special sensor for DVGW and OENORM certified water purifiers with 160° field of view. Suitable for low pressure and medium pressure lamps. It complies with the standard DVGW W294-3(2006) and OENORM 5873. The sensor contains integrated electronics and is shielded against electromagnetic interference. Sensor configuration options are signal output type and measuring range. The signal output is either a voltage of 0 to 5 V, a current of 4 to 20 mA, CAN bus interface or USB. The UV sensor is always delivered calibrated according to DVGW and OENORM requirements.

A water-proof measurement window ("WIN294") is available.

The measuring range of analog sglux UV sensors is 3 orders of magnitude corresponding to 5 mV to 5 V or 4.02 mA to 20 mA output. The highest sensitivity range is 1 nW/cm² to 1 µW/cm². The lowest sensitivity range is 20 mW/cm² to 20 W/cm². The digital sglux UV sensors contain an integrated microprocessor that converts the UV radiation into 125kbit/s digital CAN bus data. A large dynamic range of 5 orders of magnitude allows to measure low radiation and strong radiation without changing the probe. Customers may specify any range between the mentioned limits.

Page 3 of this datasheet allows to enter requirements of the needed sensor. After selection please forward this document to factory or agent. Please contact us for assistance.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Fixed Specifications</th>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>please refer to drawing on page 2</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>120 g</td>
<td></td>
</tr>
<tr>
<td>Temperature Coefficient (30 to 65°C)</td>
<td>0.05 to 0.075%/K</td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20 to +80°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40 to +80°C</td>
<td></td>
</tr>
<tr>
<td>Humidity</td>
<td>&lt; 80%, non condensing</td>
<td></td>
</tr>
<tr>
<td>Spectral Sensitivity</td>
<td>UVC, according to DVGW W294-3(2006) and OENORM 5873, $f_{iz} = 0.15$</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configurable Specifications</th>
<th>Parameter</th>
<th>Value (page 3 shows more detailed information)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Output</td>
<td>0 to 5 V or 4 to 20 mA or CAN bus signal (125kbit/s) or USB</td>
<td></td>
</tr>
<tr>
<td>Current Consumption</td>
<td>for 0 to 5 V = &lt; 30 mA / for 4 to 20 mA = signal out / digital = &lt; 17 mA</td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td>cable = 2 m cable with tinned leads on free end plug = 5 pin male connector with 2 m cable with tinned leads on free end CAN = 2 m cable with 8 pin male connector (to converter or else) USB = with 1.5 m cable with USB-A plug</td>
<td></td>
</tr>
<tr>
<td>Measuring Range</td>
<td>to comply with purifier type, e.g. 100 W/m²</td>
<td></td>
</tr>
</tbody>
</table>
UV Sensor "UV-ÖNORM"

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

FIELD OF VIEW

DRAWING

ANALOG CABLE

ANALOG PLUG

DIGITAL

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Rev. 4.2 Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.
**UV Sensor "UV-ÖNORM"**

Requirements questionnaire sheet

**STEP 1 ➔ Configuration of Normalized Spectral Responsivity**

The UV-DVGW sensor is always configured with UVC responsivity according to DVGW W294-3(2006) and OENORM 5873.

**STEP 2 ➔ Signal Output Type Selection**

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

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Description</th>
<th>Connection = &quot;cable&quot;</th>
<th>Connection = &quot;male plug&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5 V</td>
<td>0 to 5 V voltage output proportional to radiation input. Supply voltage is 7 to 24VDC, current consumption is &lt; 30 mA.</td>
<td>V = brown, V+ = white, Vout = green, shield = black</td>
<td>V = 1, V+ = 4, Vout = 3</td>
</tr>
<tr>
<td>4 to 20 mA</td>
<td>4 to 20 mA current loop for PLC controllers. The current is proportional to the radiation, supply voltage is 24VDC.</td>
<td>V = brown, V+ = white, shield = black</td>
<td>V = 1, V+ = 4</td>
</tr>
<tr>
<td>CAN bus signal</td>
<td>VSCP protocol according to the following specifications: <a href="http://download.sglux.de/probes-digital/vscp-protocol/">http://download.sglux.de/probes-digital/vscp-protocol/</a></td>
<td>Pins 1 &amp; 7 = CAN low Pins 3 &amp; 8 = CAN high Pins 2 &amp; 4 &amp; 5 = GND</td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>The signal is transmitted via standard USB-A plug to a computer. Software and 1.5 m cable are included.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STEP 3 ➔ Measurement Range Selection**

Please mark your approx. max. UV intensity to be measured. The dynamic range for analog UV sensors is 3 orders of magnitude and for digital UV sensors it is 5 orders of magnitude.

<table>
<thead>
<tr>
<th>max. UV intensity</th>
<th>1µW/cm²</th>
<th>10µW/cm²</th>
<th>100µW/cm²</th>
<th>1 mW/cm²</th>
<th>10mW/cm²</th>
<th>100mW/cm²</th>
<th>1 W/cm²</th>
<th>10 W/cm²</th>
<th>20 W/cm²</th>
</tr>
</thead>
</table>
Sensor Probes Overview and Accessories

**SENSOR PROBES OVERVIEW**

**UV-Surface** → Top looking surface-mount UV sensor
For UV radiation reference measurements of radiation exposed to a surface (diameter 38 mm).

**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** → 10 bar water pressure proof UV sensor with G1/4“ thread
Used in pressurized water systems. 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-ÖNORM** → UV sensor for DVGW (160°) and OENORM certified water purifiers
Complies with standard DVGW294-3(2006) and OENORM 5873, suited for certified water purifiers with 160° FOV.

**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 to 5 V voltage output.

**ACCESSORIES FOR ANALOG SENSOR PROBES**

**Sensor Monitor 5.0**
measuring and control module

**RADIKon**
converter box and measurement controller

**ACCESSORIES FOR DIGITAL SENSOR PROBES**

**UVTOUCH** →
digital multi-channel UV radiometer

**DIGIBOX**
CAN-to-USB converter

**Control Pad** → windows 8 based 10.1" tablet computer display unit

**WINDOWS**

**WIN294** →
measurement window acc. to DVGW 294-3 and OENORM M5873