# UV Sensor "UV-DVGW"

UV sensor for DVGW (40°) certified water purifiers

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## GENERAL FEATURES

**Properties of this sensor**

The "UV-DVGW" is a special sensor for DVGW certified water purifiers with 40° field of view. It complies with the standard DVGW W294-3(2006). 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 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 you may forward this document to factory or agent, or alternatively use the sensor probe online configurator at www.sglux.com. Please contact us for assistance.

## SPECIFICATIONS

| _Fixed Specifications_ **Parameter** | **Value** |
|---|---|
| Dimensions | please refer to drawing on page 2 |
| Weight | 120 g |
| Temperature Coefficient (30 to 65°C) | 0.05 to 0.075%/K |
| Operating Temperature | -20 to +80°C |
| Storage Temperature | -40 to +80°C |
| Humidity | < 80%, non condensing |
| Spectral Sensitivity | UVC, according to DVGW W294-3(2006), $f_{1Z}$ = 0.15 |

| _Configurable Specifications_ **Parameter** | **Value** (page 3 shows more detailed information) |
|---|---|
| Signal Output | 0 to 5 V or 4 to 20 mA or CAN bus signal (125kbit/s) or USB |
| Current Consumption | for 0 to 5 V = < 30 mA / for 4 to 20 mA = signal out / digital = < 17 mA |
| Connections | cable = 2 m cable with tinned leads on free end<br>plug = 5 pin male connector with 2 m cable with tinned leads on free end<br>CAN = 2 m cable with 8 pin male connector (to converter or else)<br>USB = with 1.5 m cable with USB-A plug |
| Measuring Range | to comply with purifier type, e.g. 100 W/m² |

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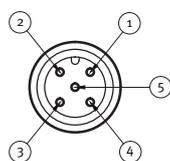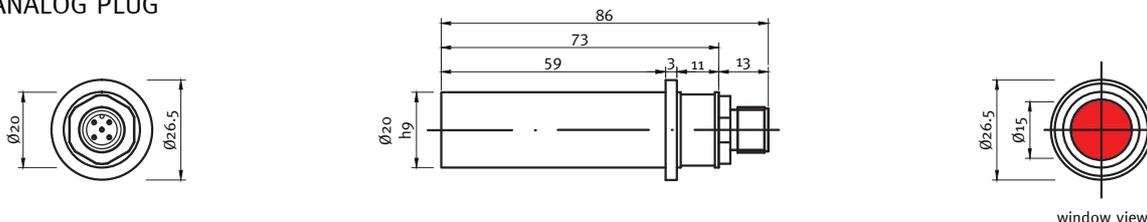The UV Experts

## ▶ FIELD OF VIEW
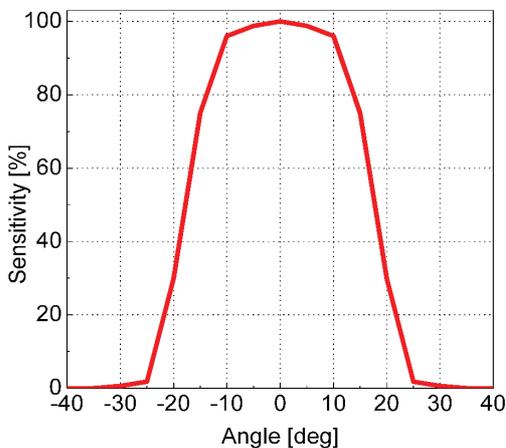


## ▶ DRAWING

### ANALOG CABLE



window view

### ANALOG PLUG



window view
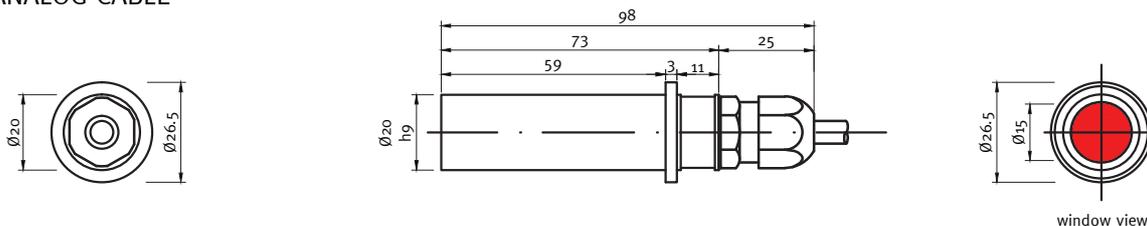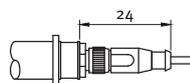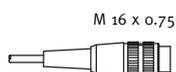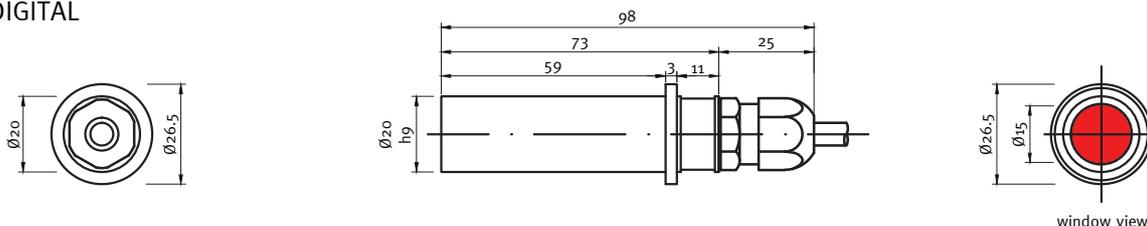
connector view
5 pin M 12 x 1
RSFM5

plug connection
5 pin M 12 x 1
e.g. Lumberg PRSFM 5

### DIGITAL



window view

M 16 x 0.75

KFV 80 plug

pin layout

# UV Sensor "UV-DVGW"

Requirements questionaire sheet

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▶ STEP 1 ⋯⋗ Configuration of Normalized Spectral Responsivity



□ ▬▬ UVC
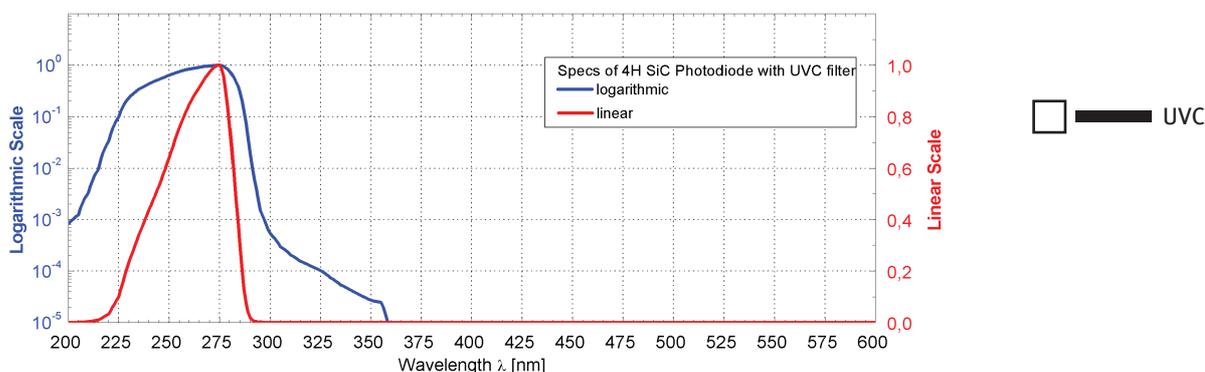
The UV-DVGW sensor is always configured with UVC responsivity according to DVGW W294-3(2006).

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▶ STEP 2 ⋯⋗ Signal Output Type Selection

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

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

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▶ 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.

| max. UV intensity | 1µW/cm² | 10µW/cm² | 100µW/cm² | 1 mW/cm² | 10mW/cm² | 100mW/cm² | 1 W/cm² | 10 W/cm² | 20 W/cm² |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

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# Sensor Probes Overview and Accessories

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## 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-DVGW-160** ┈┈> UV sensor for DVGW (160°) and ÖNORM certified water purifiers

Complies with standard DVGW294-3(2006) and ÖNORM 5873-2, 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 ÖNORM M5873