

UV Sensor "UV-DVGW"

Calibrated UV sensor for DVGW certified water purifiers with 40° field of view

GENERAL FEATURES



The „UV-DVGW“ is a calibrated UV sensor for DVGW certified water purifiers with 40° field of view.

It is suitable for low pressure and medium pressure lamps and complies with the guideline DVGW W294-3(2006). It does not comply with the new standard DIN 19294 because this standard excludes 40° FOV sensors.

SENSOR SPECTRAL RESPONSIVITY

The below figure 1 shows the sensor's microbicidal weighted spectral responsivity.

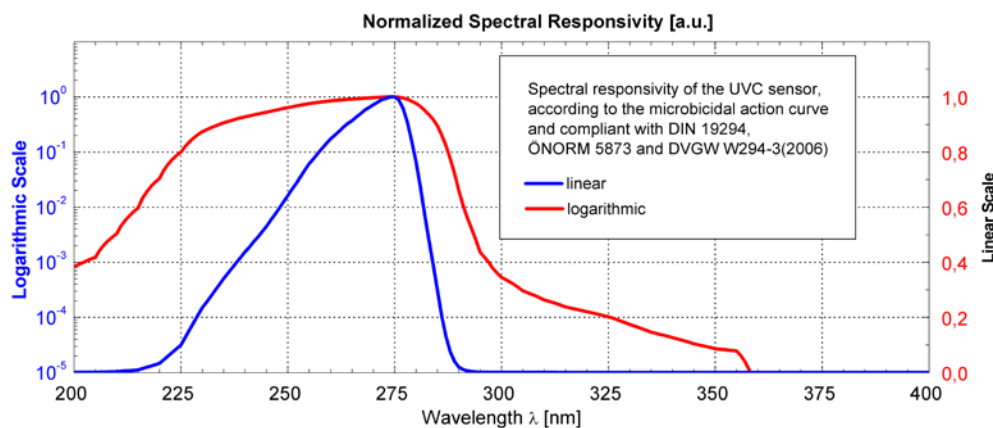


Figure 1: sensor's spectral responsivity

GENERAL SPECIFICATIONS

<i>FIXED SPECIFICATIONS</i>	Parameter	Value
	Dimensions, Field of view	Please refer to drawing and graph on page 4.
	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
	Time constant	0.1s +/-20% - other time constants on request, device has 1st order low pass characteristics
	Spectral sensitivity	UVC, according to DVGW W294-3(2006), f1Z = 0.15

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SIGNAL OUTPUT SPECIFICATIONS

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Signal Output 0 to 5 V	0 to 5V voltage output proportional to the irradiance
Supply voltage	7,5 to 24 VDC
Current consumption	< 30mA
Connections	cable version: GND=brown, V+=white, V _{OUT} =green, shield=black 2m cable length, other lengths available (max.20m) plug version 0-5V: GND=1(brown), V+=4(black), V _{OUT} =3(blue) plug version 0-10V: GND = 2(white), V+=4(black), V _{OUT} =1(brown)
Dark offset voltage	< 3mV
Measurement range	3 orders of magnitude
Signal Output Photo current	photodiode current approx. 1 nA ... 1 µA, needs external transducer such as the sglux Radikon Simple. This signal output allows operating temperatures between -40°C and 170°C
Connections	shielded high temperature resistant wire cable with open wires (BNC plug on request), 2m cable length
Measurement range	The measurement range depends on the applied transducer.
Signal Output 4 to 20 mA	4 to 20mA current loop for PLC controllers - The current is proportional to the irradiance.
Supply voltage	24 VDC +-10% (down to 12V possible if compliance voltage and loop resistance is considered)
Current consumption	=signal out
Connections	cable version: I _{OUT} =brown, V+=white, shield=black 2 m cable length, other lengths available (max.20 m) plug version: I _{OUT} =1(brown), V+=4(black)
Measurement range	3 orders of magnitude
Sensor compliance voltage	8,5 V
Max. loop resistance	645 Ohm @ 24V and 145 Ohm @12V
offset	4 mA +- 0,01 mA

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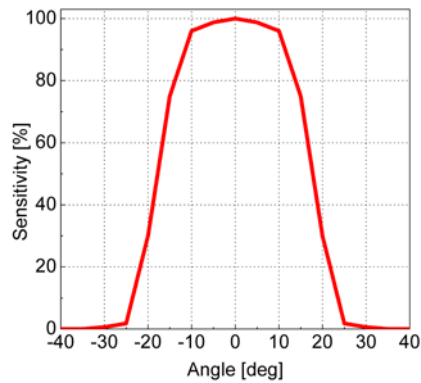
▶ 3/4

Signal Output USB	USB output with USB-A (to computer) or µUSB connector (to smartphone)
Supply voltage	5V (USB powered)
Current consumption	< 17 mA
Connections	USB2.0-A connector (to computer, free software "UVPLOT" is available) or USB2.0-micro-B connector (to a smartphone device like the Radiometer SXL55) 2m cable length.
Measurement range	4 orders of magnitude
Signal Output CAN bus	CAN Bus with VSCP protocol for integration into a bus system or to be used with the sglux UVTOUCH or the sglux Digibox
Supply voltage, current consumption	5 to 24 V +- 10%
Connections	8-pin M16 x 0.75 connector: Pins 1&7 = CAN low, Pins 3&8 = CAN high, Pin 6=V+, Pins 2&4&5 = GND, 2m cable length, other lengths available
Measurement range	4 orders of magnitude
Available displays and converters	UVTOUCH and Digibox
Signal Out MOD bus	MOD bus RTU over RS-485 (connection parameters programmable)
Supply voltage, current consumption	5 to 24V +-10%, typ. 20mA, max. 25mA
Connections	5-pin M12 connector at sensor side and Binder cable M12-A Series 763 with open wires, Shield =1 (shield), V+ = 2 (red), GND = 3 (black), B = 4 (white), A = 5 (blue)

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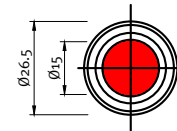
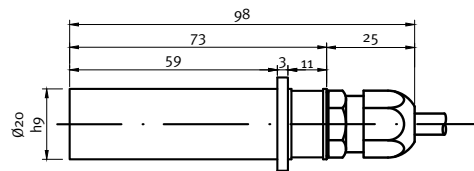
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FIELD OF VIEW



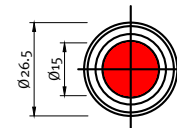
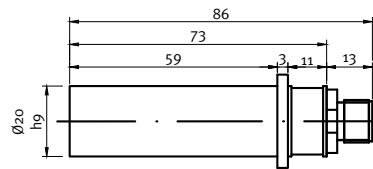
DRAWING (values in mm)

ANALOG CABLE

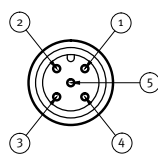


window view

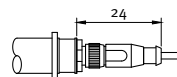
ANALOG PLUG



window view

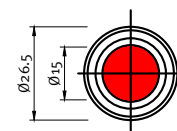
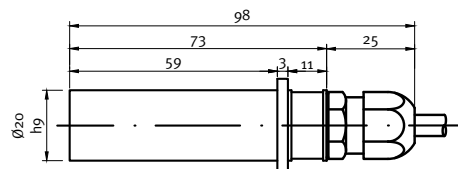


connector view
5 pin M 12 x 1
RSFM5



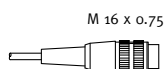
plug connection
5 pin M 12 x 1
e.g. Lumberg PRSFM 5

DIGITAL



window view

CAN



KVF 80 plug



pin layout

USB



USB Type A



Micro USB

Sensor Probes Overview

LABORATORY & EXPERIMENTS



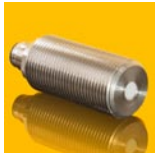
UV-Surface

Universal radiometric UV sensor for calibration and reference measurements, cosine correction. Often used with radiometer SXL55.



UV-Cosine

Waterproof dirt repellent UV sensor for outdoor measurement, cosine field of view. Also available as UVI sensor (ERYCA), M20x1,5 thread



UV-Air

Axial measuring screw-in UV sensor very good EMC properties, M22x1.5 thread,



TOCON-Probe

Miniature UV sensor with 0 to 5 V voltage output, M12x1 thread

SPECIAL APPLICATIONS



UV-Arc

Waterproof UV sensor for measurement of electric arcs between overhead contact wires and pantograph, complies with EN 50317, G3/4" thread



sglux ERYCA

high accuracy UV-Index sensor, measurement uncertainty is < 5%. The sensor complies with ISO 17166, M20x1,5 thread



UVI-Solo

like sglux ERYCA but configured as a ready-to-mount system (available for pole or railings assembly)



UV-Wireless

wireless UV sensor with a display unit for intensity and dose measurement

DUTY SENSORS MONITORING

UV DISINFECTION OF AIR, SURFACES AND WATER



UV-Sanitize

UV sensor for monitoring of air and surface UV disinfection systems, configurable for monitoring of Hg low pressure lamps, excimer lamps or xenon flash lamps, M20x1,5 thread



UV-Water-G3/4

UV sensor for operation in pressurized water (10 bar), for Hg medium and low pressure lamps. Also available as UV-Water-G1/4, G3/4" thread



UV-Water-PTFE

PTFE UV sensor for operation in pressurized water (10 bar), only for Hg low pressure lamps or LEDs, G1/4" thread



UV-ÖNORM / UV-DVGW

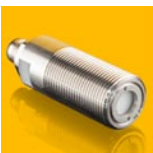
UV sensor for DVGW(160°) and ÖNORM certified water purifiers, also available as UV-DVGW (40°). The sensors comply with ÖNORM M5873, DVGW W294(06), DIN19294



UV-Radial

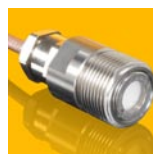
Waterproof side looking UV sensor for monitoring of lamp bundles, for operation in a cladding tube or directly in water, M20x1,5 thread

HIGH UV RADIATION



UV-Cure

UV sensor for high irradiance (> 100W/cm²) for LED curing or cooled medium pressure lamps, M22x1,5 thread (temperature sensor available).



UV-Cure_HT

Like UV-Cure but for temperatures up to 170°C, e.g. for uncooled medium pressure systems, M22x1,5 thread