

UV Sensor "sglux ERYCA"

Waterproof cosine corrected UV sensor for UV-Index measurements

▶ 1/4

GENERAL FEATURES



This UV sensor, also called "**UV-Cosine_UVI**", is designed for high accuracy UV-Index measurements. The measurement uncertainty of this sensor is 5% only. The spectral responsivity and the field of view (cosine type) are in near perfect accordance with the requirements defined in the ISO 17166 standard. The housing is made of PTFE. It is waterproof and stain repellent with a male threaded body (M20x1.5). The sensor contains integrated electronics and is shielded against electromagnetic interference. The sensor's output can be configured as a voltage of 0 to 5 V or a current of 4 to 20 mA. Digital output sensors are available with a MOD bus, a CAN bus or a USB interface. The UV sensor is available with a PTB traceable calibration.

For customers that like to purchase a ready-to-install system to monitor the UV-Index we produce the "UVI-Solo" and the "stand alone UV Index transmitter". The UVI-Solo is a waterproof pole or railings mounted UV-Index sensor. The integrated leveling mechanism allows a precise zenith alignment. UVI-Solo's measurement function bases on the sglux ERYCA. The solar cell powered stand-alone UV Index transmitter measures the UV Index and transmits the values via cellular radio using the MQTT protocol to a server where the obtained values are stored. By default this server is hosted by sglux (ThingsBoard open IoT). Alternatively the user's server can be used. The unit does not require any wiring to the building where it is placed. It can also be used where lightning protection requirements exclude wires on the roof of a building. The unit also bases on the UV sensor "sglux ERYCA". For further information please refer to the related datasheets at www.sglux.com.

SPECTRAL RESPONSIVITY

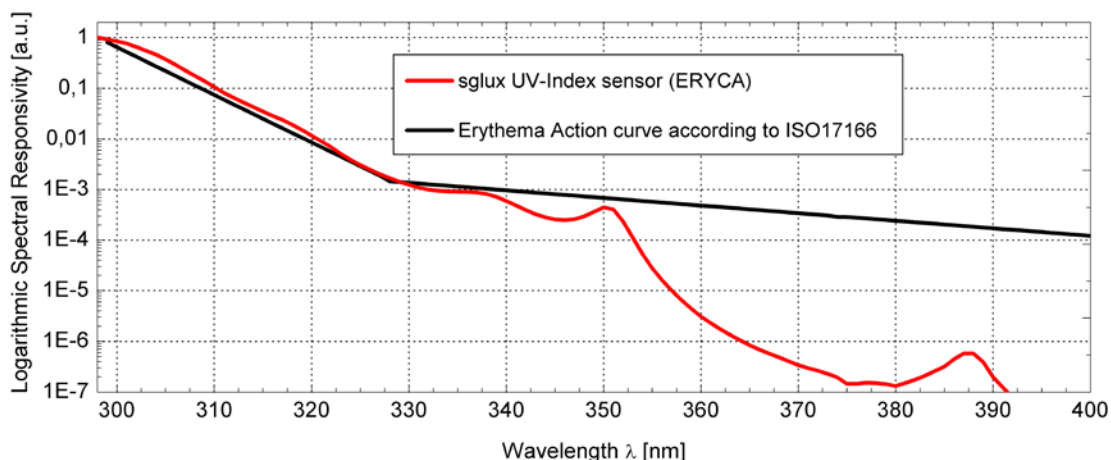


Figure 1: spectral responsivity of the sglux ERYCA compared with the Erythema action curve as defined by ISO 17166

UV Sensor "sglux ERYCA"

Waterproof cosine corrected UV sensor for UV-Index measurements



GENERAL SPECIFICATIONS

▶ 2/4

<i>FIXED SPECIFICATIONS</i>	Parameter	Value
	Dimensions	Please refer to drawing on page 4.
	Field of view	Please refer to graph on page 4.
	Weight	27 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 responsivity	UV-Index as defined by ISO 17166
	Measurement range	UVI 0 ... 30

SIGNAL OUTPUT SPECIFICATIONS

Signal Output 0 to 5 V or 0 to 10V 0 to 5V or 0 to 10V voltage output proportional to the irradiance

Supply voltage	7.5 to 24 VDC (0 to 5V output) and 12 to 24 VDC (0 to 10V)
Current consumption	< 30mA
Connections	2m cable version: V-=brown, V+=white, V _{OUT} =green, shield=black cable version is not available for 0 to 10V voltage output 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	< 3 mV
Measurement range	UVI 0 ... 30



UV Sensor "sglux ERYCA"



Waterproof cosine corrected UV sensor for UV-Index measurements

▶ 3/4

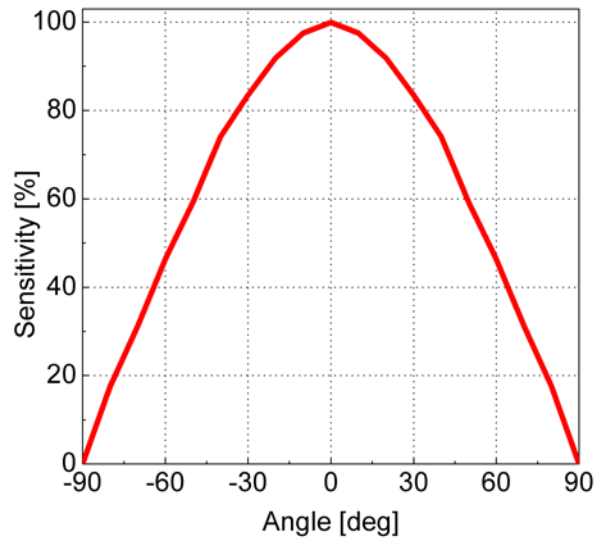
Signal Output 4 to 20 mA	4 to 20mA current loop for PLC controllers - The current is proportional to the irradiance.
Supply voltage	24 VDC +/-10% (down to 12V possible if compliance voltage and loop resistance is considered)
Current consumption	=signal out
Connections	cable version: IOUT=brown, V+=white, shield=black 2 m cable length, other lengths available (max.20 m) plug version: IOUT=1(brown), V+=4(black)
Measurement range	UVI 0 ... 30
Sensor compliance voltage	8.5 V
Max. loop resistance	645 Ohm @ 24V and 145 Ohm @12V
offset	4 mA +/- 0.01 mA
Signal Output USB	USB output with USB-A (to computer) or μ USB 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	UVI 0 ... 30
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 Output 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)



UV Sensor "sglux ERYCA"

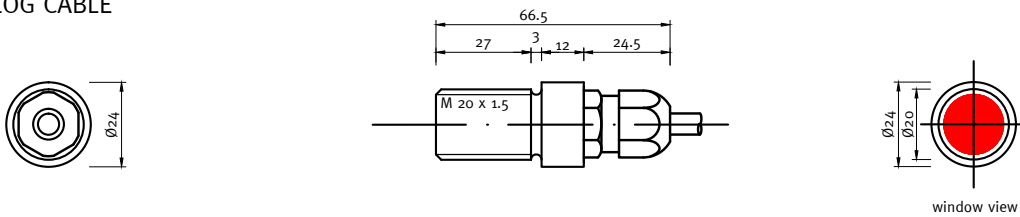
Waterproof cosine corrected UV sensor for UV-Index measurements

▶ **FIELD OF VIEW**

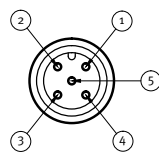
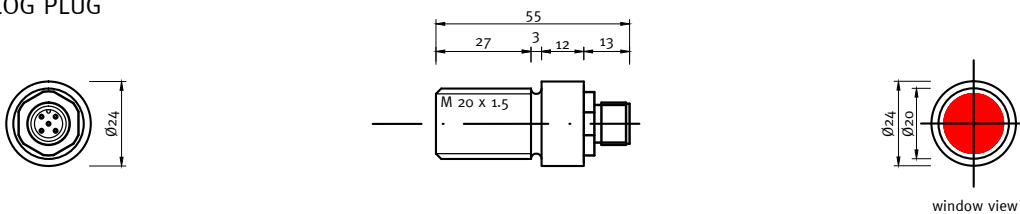


▶ **DRAWING** (values in mm)

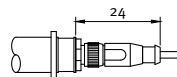
ANALOG CABLE



ANALOG PLUG

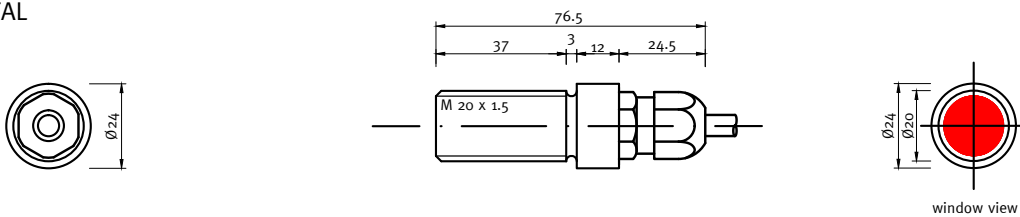


connector view
5 pin M 12 x 1
RSFM5



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

DIGITAL



CAN



USB



Sensor Probes Overview

LABORATORY & EXPERIMENTS



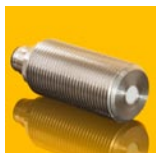
UV-Surface

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.



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

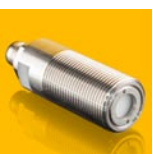
UV sensor for DVGW(160°) and ÖNORM certified water purifiers, also available as UV-DVGW (40°). The sensors comply with ÖNORM M5873, DVGW W294(06), DIN19294



UV-Radial

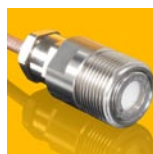
Waterproof side looking UV sensor for monitoring of lamp bundles, for operation in a cladding tube or directly in water, M20x1.5 thread.

HIGH UV RADIATION



UV-Cure

UV sensor for high irradiance (>100mW/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.