UV Sensor "UV-Arc"

water proof UV sensor with G3/4" thread for pantograph arc detection

▶ GENERAL FEATURES

Properties of this sensor

The UV-Arc is a waterproof sensor with a male threaded body (G3/4") to be used on trains to measure intensity and length of pantograph arcs according to EN 50317. This indicates the quality of the contact between a pantograph and the contact wire and allow a location of defects at the wire within a rail network. The UV-Arc sensor is configured for this special application. It contains a very sensitive photodiode with an additional filter to suppress solar UVB sensitivity. The time constant is adjusted to the typical arc lengths and the metal housing provides high EMC safety.

▶ SPECIFICATIONS

Fixed Specifications **Parameter**	**Value**
Dimensions	please refer to drawing on page 2
Weight	195 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+
Measuring Range	up to 400 µW/cm²

Configurable Specifications **Parameter**	**Value** (page 3 shows more detailed information)
Signal Output	0 to 5 V or 4 to 20 mA
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 plug = 5 pin male connector with 2 m cable with tinned leads on free end

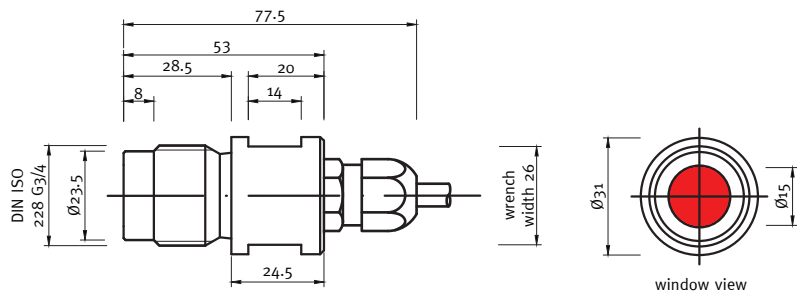# UV Sensor "UV-Arc"

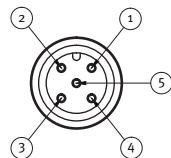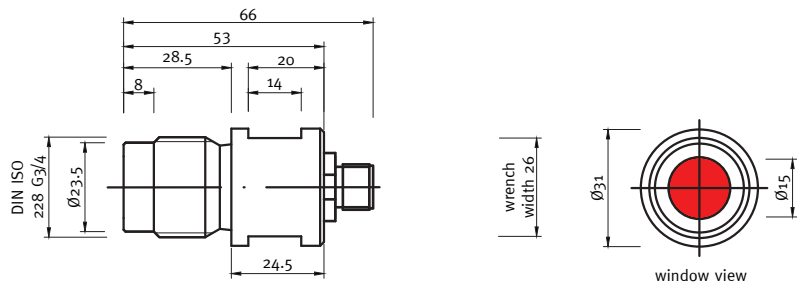water proof UV sensor with G3/4" thread for pantograph arc detection

▶ FIELD OF VIEW

Sensitivity [%] vs Angle [deg]

▶ DRAWING

ANALOG CABLE

Ø31

77.5
53
28.5 | 20
8 | 14
24.5

DIN ISO 228 G3/4
Ø23.5
wrench width 26
Ø31
Ø15

window view

ANALOG PLUG

Ø31

66
53
28.5 | 20
8 | 14
24.5

DIN ISO 228 G3/4
Ø23.5
wrench width 26
Ø31
Ø15

window view
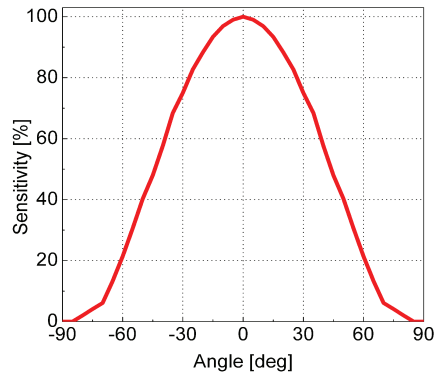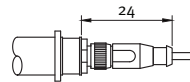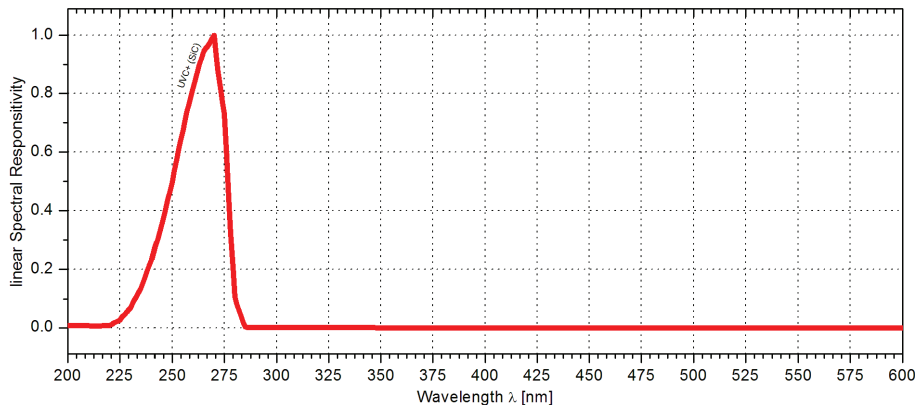
connector view
5 pin M 12 x 1
RSFM5

24

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

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Requirements questionaire sheet

▶ STEP 1 ⋯⋙ Configuration of Normalized Spectral Responsivity

▶ 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

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-DVGW-160 ····⟩ 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