

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/cm ²

CONFIGURABLE SPECIFICATIONS

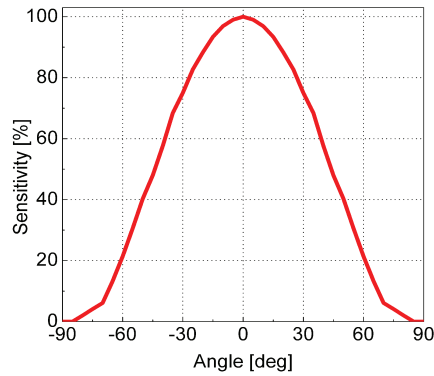
Parameter	Value (page 3 shows more detailed information)
Signal Output	0 to 5 V or 4 to 20 mA
Current Consumption	for 0 to 5 V = < 30 mA / for 4 to 20 mA = signal out / digital = < 17 mA
Connections	cable = 2 m cable with tinned leads on free end plug = 5 pin male connector with 2 m cable with tinned leads on free end

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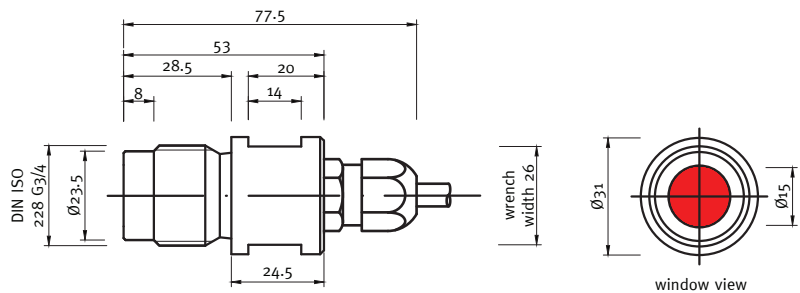
FIELD OF VIEW

2/2

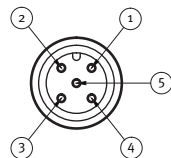
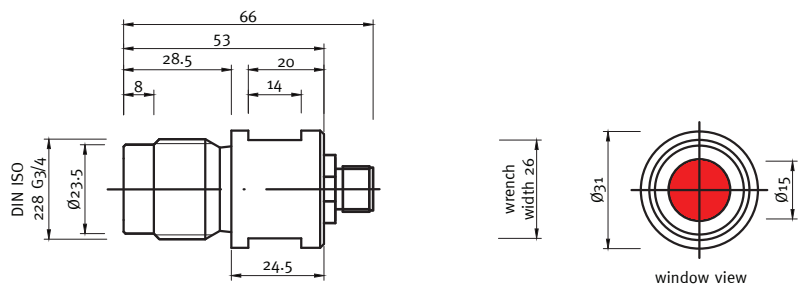


DRAWING

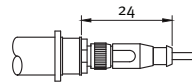
ANALOG CABLE



ANALOG PLUG



connector view
5 pin M 12 x 1
RSFM5

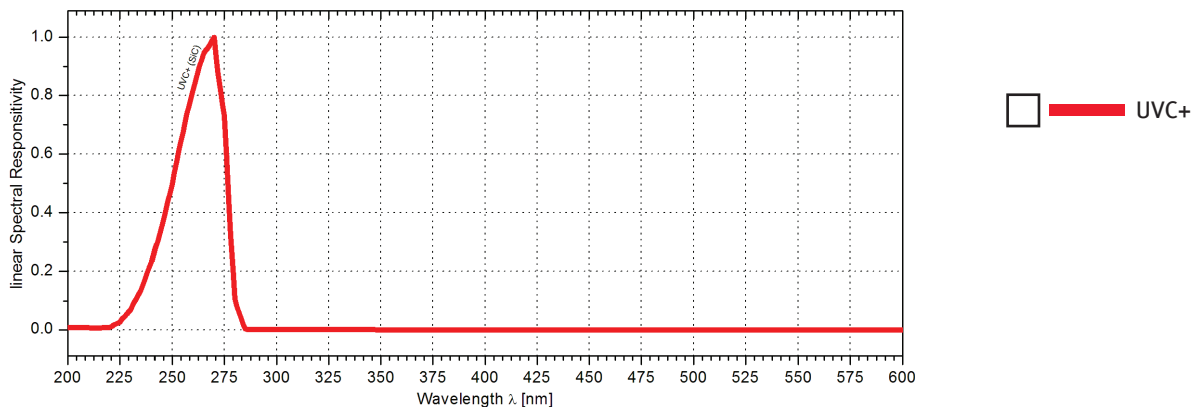


plug connection
5 pin M 12 x 1
e.g. Lumberg PRSFM 5

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Requirements questionnaire 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"
<input type="checkbox"/> 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.	<input type="checkbox"/> V ₋ = brown, V ₊ = white, V _{out} = green, shield = black	<input type="checkbox"/> V ₋ = 1, V ₊ = 4, V _{out} = 3
<input type="checkbox"/> 4 to 20 mA	4 to 20 mA current loop for PLC controllers. The current is proportional to the radiation, supply voltage is 24VDC.	<input type="checkbox"/> V ₋ = brown, V ₊ = white, shield = black	<input type="checkbox"/> 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