

# UVAB Sensor E 1.1

Instruction for use 7.1416.10.xxx



## 1. Application

In mutual independence the sensor detects the UV-A and UV-B radiation. The evaluation of measuring results refers to the erythem-curve acc. to DIN 5050. They give a clear information on the medically and biologically relevant correlation of these radiation ranges.

## 2. Construction

The dome consists of uv-transmissive quartz, and the case is made of weather-protected, anodized aluminium. Furthermore, the dome protects the sensor from weather influences and, thanks to its geometric form, corrects the Cos-error to the greatest possible extent. The measuring value is delivered as standardized analogue signal, in correspondence with the measuring range.

## 4. Model

Model – Nr.	Electr. Output	Power Supply
7.1416.10.040	0 ... 20 mA	+10... +24 V DC
7.1416.10.041	4 ... 20 mA	+10... +24 V DC
7.1416.10.051	0 ... 5 V	+10... +24 V DC
7.1416.10.061	0 ... 10 V	+14... +24 V DC

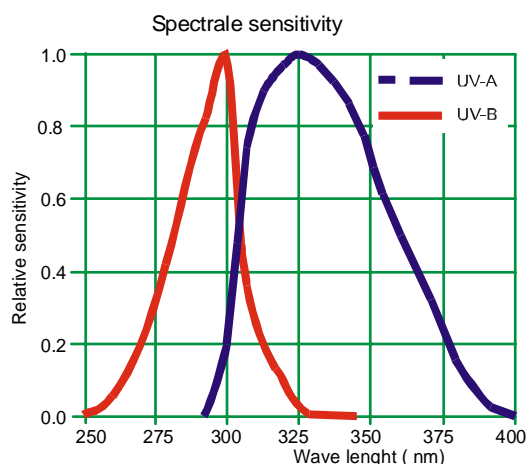
## 3. Technical Specifications

### UV-B

Meas. Range : 0 ..approx. 0,7 W/m<sup>2</sup>  
Spectral range : 0,265 ... 0,315 μm  
max. spectral sensitivity : 0,297 μm

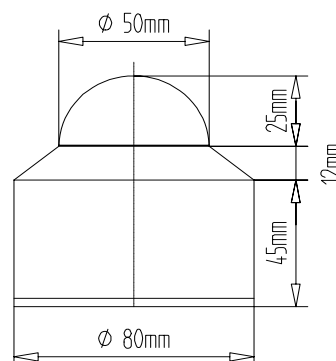
### UV-A

Meas. Range : 0 ....approx. 100 W/m<sup>2</sup>  
Spectral range : 0,310 ... 0,400 μm  
max. spectral sensitivity : 0,335 μm

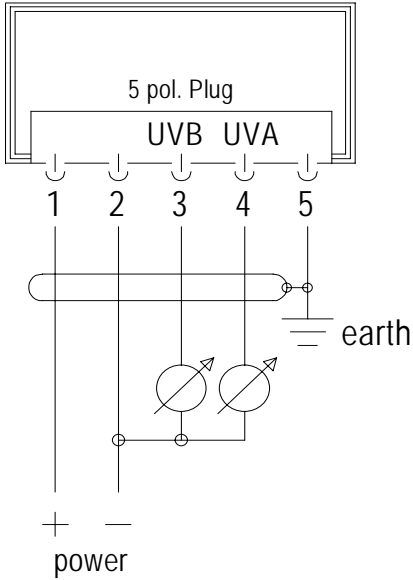
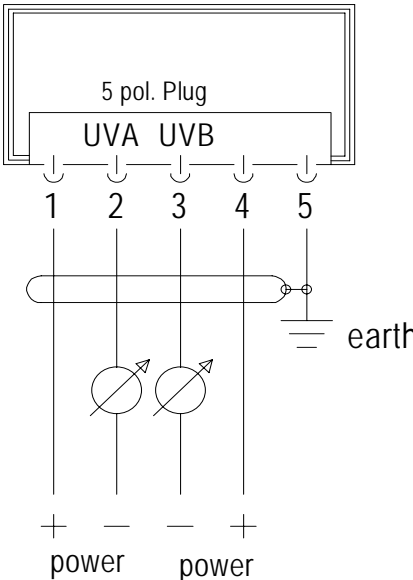


Electr. Output/meas. Range: **see enclosed test - certificate**

Power supply : see "configurations"  
Current consumption : 750 μA at U- output  
Temperature range : -30 ... +60 °C  
Switch-on delay : < 1 sec  
Switch-off delay : < 12 sec  
Cos - Correction : Error f2 < 3 %  
Linearity : < 1 %  
Absolute Error : < ±10 %  
Temp. coeffic. : < 0,2 % /K  
Cable : 5 m long, plug  
Dimensions : Ø 80 x 82 mm  
Dome : Quartz  
Weight : 0,30 kg



## Connecting Diagram

<p>7.1416.10.040 7.1416.10.051 7.1416.10.061</p>	<p>1: Vcc 2: GND 3: Output UV- B 4: Output UV- A 5: Housing</p>	 <p>The diagram shows a 5-pin plug with pins labeled 1, 2, 3, 4, and 5. Pin 1 is connected to the positive terminal of a power source. Pin 2 is connected to the negative terminal of the power source. Pin 3 is connected to the positive terminal of a UV-B sensor. Pin 4 is connected to the positive terminal of a UV-A sensor. Pin 5 is connected to an earth ground. The sensors are represented by circles with an arrow pointing towards the right.</p>
<p>7.1416.10.041</p>	<p>1: Vcc / UV- A 2: GND / UV- A 3: GND / UV- B 4: Vcc / UV- B 5: Housing</p>	 <p>The diagram shows a 5-pin plug with pins labeled 1, 2, 3, 4, and 5. Pin 1 is connected to the positive terminal of a power source. Pin 2 is connected to the negative terminal of the power source. Pin 3 is connected to the positive terminal of a UV-A sensor. Pin 4 is connected to the positive terminal of a UV-B sensor. Pin 5 is connected to an earth ground. The sensors are represented by circles with an arrow pointing towards the right.</p>

power supply and output see “configurations” and test certificate.

## **5. Mounting**

Screw the sensor UVAB E 1.1 with two screws M4 onto a plane horizontal ground plate. Make sure that no shadow is ever cast on the sensor by an obstacle and that the incident light can reach the sensor unimpeded.

Connect the sensor electrically as shown in the wiring diagram. Only the coupling supplied with the sensor may be used for data transmission. Use a 3-core, waterproof cable to lengthen the data transmission cable if required. A cable of up to 50 meters in length is possible for instruments with voltage output. In this case a cable with shielding. is recommended.

Moreover, in mounting the instrument, make sure that the instrument dome is easily accessible as dirt and impurities influence the measurement results considerably. - **Please bear the operating voltage in mind.**

## **6. Maintenance**

The electronic-optical part of the **sensor head** is maintenance-free. The synthetic dome and the case - depending on the local conditions - should be cleaned gently at least once a month with a soft moist cloth. Please use residue-free liquid cleansers without scouring additives and without solvents.

## **7. Guarantee**

Broken glass or damage resulting from improper handling is not included in the guarantee. The guarantee expires immediately if the instrument is opened.



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