
Silicon UVB Sensor E 1.c

7.1416.20.xxx



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Contents

1	Models	3
2	Application	3
3	Construction.....	3
4	Mounting	3
5	Maintenance	3
6	Connecting diagram.....	4
7	Technical Data.....	5
8	Dimension	6
9	Warranty	6
10	EC-Declaration of Conformity	7

1 Models

Order-No.	Meas. range	Electr. Output	Operating voltage
7.1416.20.040	0...approx. 0.5 W/m ²	0... 20 mA	+10...+24 V DC
7.1416.20.041	0...approx. 0.5 W/m ²	4... 20 mA	+10...+24 V DC
7.1416.20.051	0...approx. 0.5 W/m ²	0... 5 V	+10...+24 V DC
7.1416.20.061	0...approx. 0.5 W/m ²	0... 10 V	+14...+24 V DC

2 Application

Measuring transmitter for short-wave radiation which can cause irreversible damages of the human skin.. The relative spectral sensitivity of the sensor is especially suited to the erythem-curve acc. to DIN 5050. This sensor determines exactly the skin-damaging components of the spectral range.

3 Construction

The dome consists of uv- transmissive plastic, and the case is made of weather-proofed, anodized aluminium. The instrument is protected against rain and jets of water. In addition, the use of Silicagel prevents the dome from steaming up on the inside.

4 Mounting

The UVB-sensor E1.c is screwed onto a plane horizontal ground plate with a pg21-thread, and is made as level as possible. Please take care that the sunshine reaches the sensor all-day without shadow. The mounting near buildings or trees can affect the measuring values in a negative manner.

The electrical connection is to be carried out according to the connecting diagram. Please use a 4-core, watertight cable as extension lead. A cable length of up to 50 m is possible for instruments with voltage output. It is advisable to use a shielded cable.

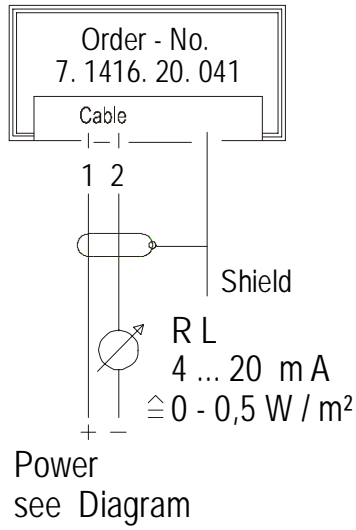
Please pay attention to the operating voltage.

5 Maintenance

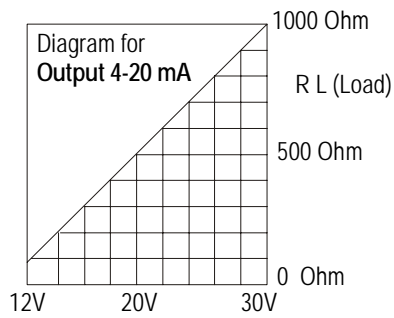
The instrument should be easily accessible for cleaning, as dirt and soiling affect the measuring results considerably. Depending on local conditions, the instrument should be cleaned at least twice a year with a soft and damp cloth. Please use residue- and solvent-free liquid cleansing agents without scrubbing alloy. The dome must not be damaged!

6 Connecting diagram

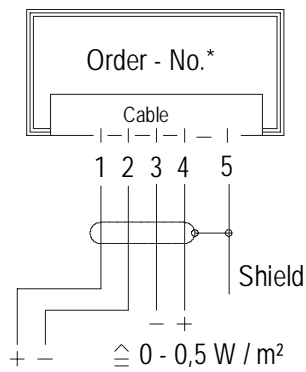
Order – No.
7.1416.20.041



RL - Function of the Main Power



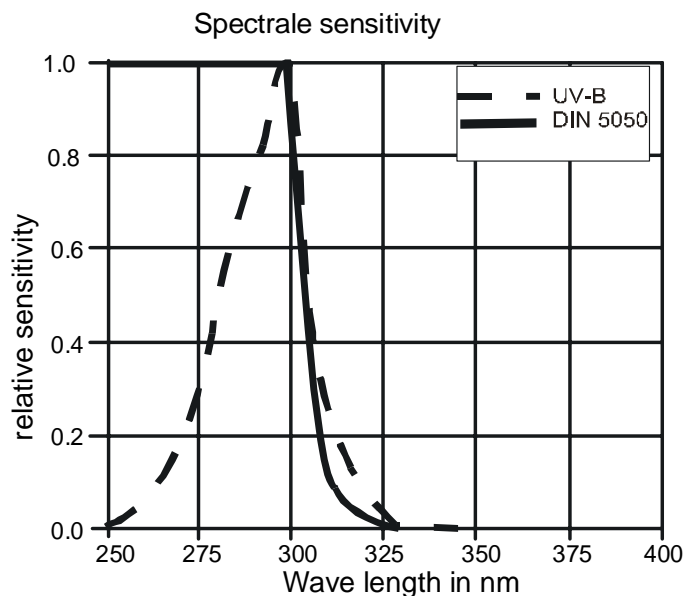
Order – No.
7.1416.20.040
7.1416.20.051
7.1416.20.061



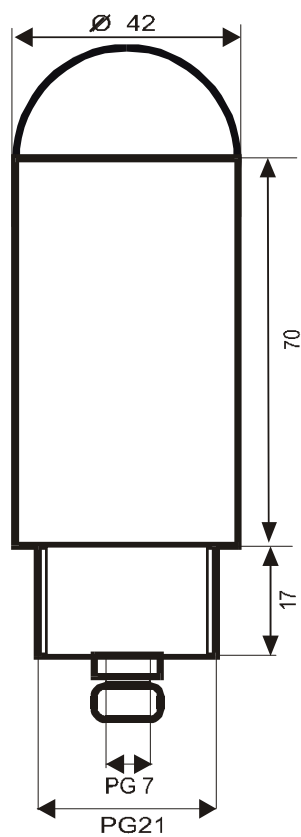
Power	Output	*Order-No.
10... 24 V DC	0 ... 20 mA	7. 1416. 20. 040
10... 24 V DC	0 ... 5 V	7. 1416. 20. 051
14... 24 V DC	0 ... 1 0 V	7. 1415. 20. 061

7 Technical Data

Meas. range	0...ca. 0,5 W/m ²		
Spectral range	265... 315 nm		
Max. spectr. sens.	297 nm		
Temperature range	-20°C - +60°C		
Output	Electr. Output:	Load:	
	7.1416.20.040	0 ...20 mA	see RL- Diagram
	7:1416:20:041	4 ...20 mA	see RL- Diagram
	7.1416.20.051	0 5 V	>1MΩ
7.1416.20.061	0 ...10 V	>1MΩ	
Power supply	Operation voltage:	Power consumption:	
	7.1416.20.040	10 ...24 V DC	typ. 3 mA + I out / max. 6 mA + I out
	7.1416.20.041	10 ...24 V DC, 2-leads-circuit	I out (4-20 mA)
	7.1416.20.051	10 ...24 V DC	typ. 3 mA / max. 6 mA
7.1416.20.061	14 ...24 V DC	typ. 3 mA / max. 6 mA	
Switch on time	< 1 sec		
Switch off time	< 12 sec		
Sensor type	Silicon photo diode		
Dom	Plastics		
Cosine correction	ault f2 <3%		
Linearity	< 1%		
Abs. fault	< 10%		
Kind of connection	5 m Kabel		
Weight	approx. 0.3 kg		



8 Dimension



9 Warranty

The warranty does not comprise damages caused by improper use, or broken glass. The right to claim under guarantee expires in case the instrument has been opened.

10 EC-Declaration of Conformity

Document-No.: 000319

Month: 06 Year: 08

Manufacturer: **ADOLF THIES GmbH & Co. KG**

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Description of Product: **Pyranometer; Silicon Pyranometer; UVAB Sensor; UVB Sensor; Silicon-Sensor PAR; Sunshine Indicator**

Article No.	7.1415.05.040	7.1415.05.041	7.1415.05.051	7.1415.05.061
7.1415.09.040	7.1415.09.041	7.1415.09.051	7.1415.09.061	7.1416.10.040
7.1416.10.041	7.1416.10.051	7.1416.10.061	7.1416.20.040	7.1416.20.041
7.1416.20.051	7.1416.20.061	7.1418.00.040	7.1418.00.041	7.1418.00.051
7.1418.00.061	7.1420.00.000			

specified technical data in the document: **021430/12/04; 021006/07/01; 021052/11/03; 021054/05/02; 021051/01/06; 021049/05/04**

The indicated products correspond to the essential requirement of the following European Directives and Regulations:

- 2004/108/EC DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC
- 2006/95/EC DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits
- 552/2004/EC Regulation (EC) No 552/2004 of the European Parliament and the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation)

The indicated products comply with the regulations of the directives. This is proved by the compliance with the following standards:

Reference number	Specification
IEC 61000-6-2: 2005	Electromagnetic compatibility Immunity for industrial environment
IEC 61000-6-3: 2006	Electromagnetic compatibility Emission standard for residential, commercial and light industrial environments
IEC 61010-1: 2001	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements

Place: Göttingen

Date: 26.06.2008

Legally binding signature:

issuer:

.....
Wolfgang Behrens, General Manager

.....
Joachim Beinhorn, Development Manager

This declaration certifies the compliance with the mentioned directives, however does not include any warranty of characteristics. Please pay attention to the security advises of the provided instructions for use.



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