

IRRADIANCE SENSOR SI-SERIES

Analogue interface 0...10 V, 4...20 mA



DESCRIPTION OF FUNCTIONS

The irradiance sensors of the Si-Series measure via a monocrystalline silicon solar cell the solar irradiance. To minimize influences of temperature to the measuring signal all of our irradiance sensors are using an active temperature compensation via a temperature sensor laminated to the back surface of the solar cell.

Additionally to the solar irradiance measurement our Si-Sensors with the extension "-T" are able to measure the solar cell temperature. This solar cell temperature can approximately be used as module temperature.

The particular sensors are available with the connection cable 3 m, 15 m and 30 m.

ITEM NO

	Si-V-010	Si-V-010-T	Si-I-420	Si-I-420-T
Cable length 3 m	423.039	423.042	423.045	423.048
Cable length 15 m	423.040	423.043	423.046	423.049
Cable length 30 m	423.041	423.044	423.047	423.050

TECHNICAL DATA

	Si-V-010	Si-V-010-T	Si-I-420	Si-I-420-T
Power supply	24 V DC (12...28 V DC)			
Current consumption	typical < 1 mA	typical < 1 mA	typical 5 ... 23 mA	typical 10 ... 46 mA
Solar cell	Monocrystalline silicon (50 mm x 33 mm)			
Spectral range	340...1190 nm			
Mesuring range				
Irradiance	0...1500 W/m ²			
Temperature	-	-40...+90 °C	-	-40...+90 °C
Measurement uncertainty				
Irradiance	±5 W/m ² ±2.5 % of measured value			
Temperature	-	1 K (-35...+70 °C) 1.1 K (-35...+80 °C)	-	1 K (-35...+60 °C) 1.3 K (-35...+80 °C)
Output signal				
Irradiance	0...10 V	0...10 V	4...20 mA	4...20 mA
Temperature	-	0...10 V	-	4...20 mA

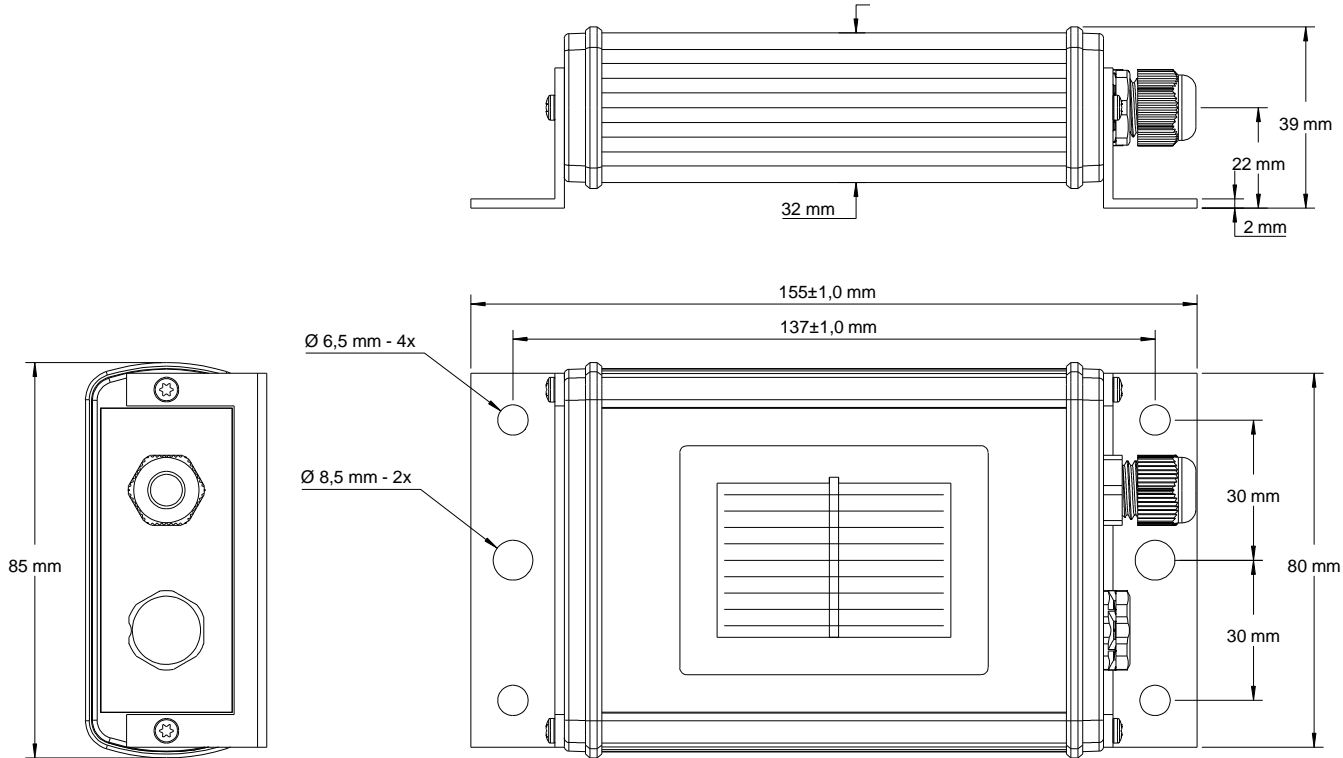
DATA LOGGER

		<i>Si-V-010</i>	<i>Si-V-010-T</i>	<i>Si-I-420</i>	<i>Si-I-420-T</i>
Gradient					
	Irradiance	150	150	93.75	93.75
	Temperature	-	13	-	8.125
Offset					
	Irradiance	0	0	-375	-375
	Temperature	-	-40	-	-72.5
Abbreviation					
	Irradiance	SRAD	SRAD	SRAD	SRAD
	Temperature	-	T	-	T

INSTALLATION

		<i>Si-V-010</i>	<i>Si-V-010-T</i>	<i>Si-I-420</i>	<i>Si-I-420-T</i>
Installation		meteocontrol recommends installation on the Universal sensor holder (Item-No.: 423.455)			
Enclosure		Powder-coated aluminium			
IP protection class		IP 65			
Operating temperature		-35...+80 °C			
Dimension (W x H x D)		155 x 39 x 85 mm			
Weight		ca. 350 g			
Connection cable		Si-Sensor with shielded cable, 0.14 mm ² , UV- und heat resistant			
Assignment of connections					
	Power supply	24 V = red, GND = black			
	Irradiance	Orange			
	Temperature	brown			

SCALE DRAWING



Further information: www.meteocontrol.com