

## Spektron irradiation sensors

The Spektron 210 and 320 are silicon sensors used for measuring the solar irradiation. The Spektron 210 provides a voltage proportionally to the intensity of the solar irradiation. The Spektron 320 has an integrated amplifier. Therefore the sensor signal is amplified and output as a norm signal. The output signal ranges from 0 to 10 V, 0 to 3.125 V, 0 to 150 mV, and 4 to 20 mA at 0 to 1500 W/m<sup>2</sup>.

### Range of application

- Output and operational check of thermal and photovoltaic solar plants
- Controlling of shading equipment on buildings

- Instruction and training
- Sensor for control systems

### Ease of use

The Spektron can be connected directly to a voltmeter or a datalogger. The voltage measured by the Spektron 210 can be converted into the unit of irradiation (W/m<sup>2</sup>), using the calibration value imprinted on the sensor.

### Robust casing

The Spektron can be used irrespective of the weather conditions and under any angle of inclination.



Spektron 210: The 2-core extension cable is UV-resistant. All Spektron devices are calibrated beneath a sun light simulator against a reference sensor, which has been calibrated by the Fraunhofer ISE.



The Spektron 320 can output up to four different norm signals, due to its integrated circuit board. This board has to be powered with 5 to 30 V DC or 12 to 30 V DC.

CONTROL AND MEASURING INSTRUMENTS Sensors

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Model	Spektron 210	Spektron 320
Measuring range	0 - 1500 W/m <sup>2</sup>	0 - 1500 W/m <sup>2</sup>
Sensor type	Monocrystalline cell (13 mm / 33 mm)	Monocrystalline cell (33 mm / 40 mm)
Sensor accuracy	±5 % annual mean	±5 % annual mean
Outlet	Approx. 75 mV at 1000 W/m <sup>2</sup>	4 - 20 mA or 0 - 10 V or 0 - 3.125 V or 0 - 150 mV
Calibration	Sun Simulator Solar Constant 1200 with reference sensor calibrated by the ISE	Sun Simulator Solar Constant 1200 with reference sensor calibrated by the ISE
Design of the sensor	Measuring cell laminated in novafalon and EH foil	Measuring cell enclosed in glass
Supply voltage	-	5 - 30 V DC (at output signal ranges 0 - 3.125 V, 0 - 150 mV, 4 - 20 mA) or 12 - 30 V DC (at output signal ranges 0 - 10 V, 0 - 3.125 V, 0 - 150 mV, 4 - 20 mA)
Power consumption	-	Approx. 30 mW
Casing	Z-profiled aluminium plate, connection encapsulated	Polycarbonate, UV-resistant, with PG screw joint and pressure differential valve
Protection mode	IP65	IP65
Connection	Cable 3 m, 2 x 1.0 mm <sup>2</sup>	Connection terminals, 1.5 mm <sup>2</sup>
Mounting	6 mm drill hole to be fixed with screws	Mounting with drill hole to be fixed with a screw
Dimensions (L / W / H)	118 mm / 50 mm / 44 mm	150 mm / 80 mm / 60 mm
Weight	250 g (incl. cable)	300 g
Warranty	2 years	2 years
Norms	CE mark	CE mark