



## Spektron Irradiation Sensors

The Spektron 100, 200 and 300 are silicon sensors used for measuring the solar irradiation.

The Spektron 100 and 200 provide a voltage proportionally to the intensity of the solar irradiation.

The Spektron 300 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 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
- Assessment of evapotranspiration in farming

### Ease of use

The Spektron can be connected directly to a voltmeter or a data logger (e.g. the TRI-LOGG or the SIC 100 plus).

The voltage measured by the Spektron 100 and 200 can be converted into the unit of irradiation (W/m<sup>2</sup>), using the calibration value imprinted on the sensor.

### Robust casing

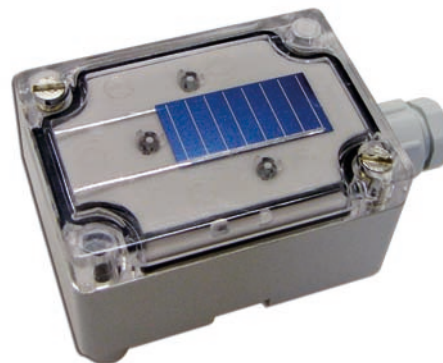
The Spektron can be used irrespective of the weather conditions and under any angle of inclination.

**TRITEC**



***The Spektron 100 (left) and 200 (right) merely differ in the casing. The 2-core extension cable is UV-resistant.***

***All Spektrons are calibrated at the Fraunhofer Institute for Solar Energy Systems ISE.***



***The Spektron 300 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.***



# Control and measuring instruments

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Model	Spektron 200	Spektron 100	Spektron 300
Measuring range	0 to 1500 W/m <sup>2</sup>	0 to 1500 W/m <sup>2</sup>	0 to 1500 W/m <sup>2</sup>
Sensor type	Monocrystalline cell (6 x 33 mm)	Monocrystalline cell (6 x 33 mm)	Monocrystalline cell (6 x 33 mm)
Sensor accuracy	± 5 % annual mean	± 5 % annual mean	± 5 % annual mean
Outlet	approx. 75 mV at 1000 W/m <sup>2</sup>	approx. 75 mV at 1000 W/m <sup>2</sup>	4 to 20 mA or 0 to 10 V or 0 to 3.125 V or 0 to 150 mV
Calibration	Fraunhofer Institute for Solar Energy Systems ISE, Freiburg	Fraunhofer Institute for Solar Energy Systems ISE, Freiburg	Fraunhofer Institute for Solar Energy Systems ISE, Freiburg
Design of the sensor	Measuring cell laminated in novafon and EH foil	Measuring cell enclosed in a weatherproof and UV-resistant plastic casing	Measuring cell enclosed in a weatherproof and UV-resistant plastic casing
Casing material	Z-profiled aluminium plate, connection encapsulated	Polycarbonate, UV-resistant, with PG screw joint	Polycarbonate, UV-resistant, with PG screw joint
Mounting	6 mm drill hole to be fixed with screws	Drill holes to be fixed with screws and backside slot to be fixed with hose clips	Drill holes to be fixed with screws and backside slot to be fixed with hose clips
Connection type	Cable, 3 m	Cable, 6 m	PG screw joint
Dimensions (l x b x h)	110 x 40 x 40 mm	70 x 50 x 45 mm	70 x 50 x 45 mm
Weight	200 g (incl. cable)	400 g (incl. cable)	120 g
Warranty	2 years	2 years	2 years