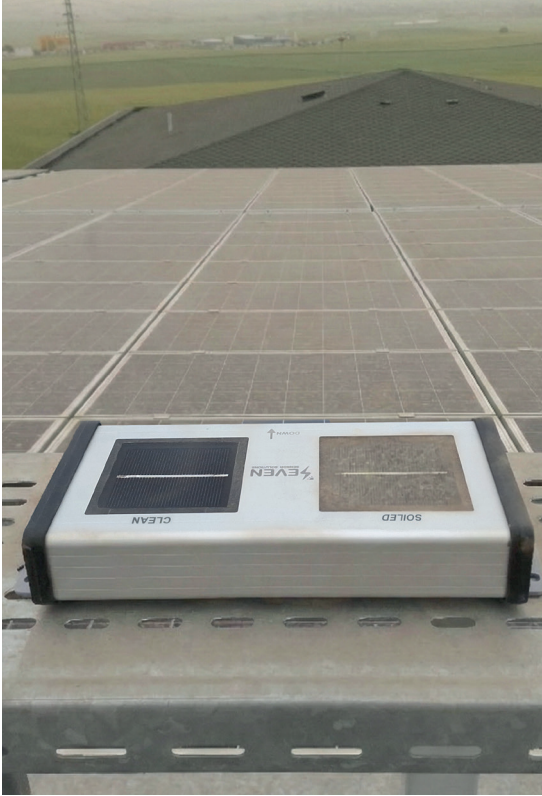




Manual Soiling Sensor

SEVEN Manual Soiling Sensor is designed to measure the energy losses in photovoltaic (PV) panels caused by dirt and dust accumulation due to environmental conditions. The sensor helps users monitor soiling levels and identify the need for regular maintenance and cleaning. If the soiling ratio measured by the sensor is 10%, this indicates that the plant is experiencing 10% energy loss. In this way, users can take the necessary actions according to the soiling level and increase energy efficiency.

The Manual Soiling Sensor has two cells, defined as clean and soiled. According to the sensor's measurement principle, the soiled cell is left to become soiled under the same conditions as the solar panels in the field, while the clean cell is cleaned manually by the user.

Thanks to its dedicated software, the sensor filters and compares the data received from the soiled and clean irradiance sensors and calculates a soiling ratio in compliance with the IEC 61724-1:2021 standard. According to this standard, the soiling ratio must be calculated as a single daily average value, using measurements taken within ± 2 hours of local noon, while excluding low irradiance values and unstable weather conditions from the calculation.

Benefits and Features

- | | |
|------------------------------------|------------------------------|
| • Economic Solution | • SunSpec Compliant |
| • Fast & Simple to Install | • SEVEN Remote Setup Service |
| • Manual Cleaning of Soiled Sensor | • SEVEN Customer Support |
| • Free Software Update | • 2 Years Warranty |

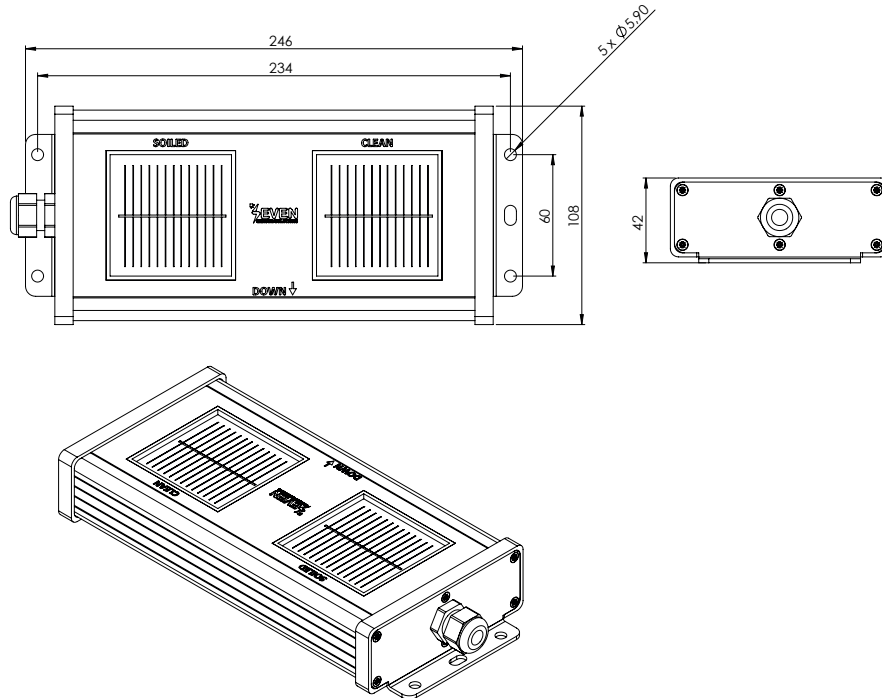
3S-SMS-MB-M

Manual Soiling Sensor

Technical Specifications

Soiling Ratio	0% - 100%
Resolution	0,1%
Uncertainty	≤1%
Data Output	RS485 up to 38400 Baud
Communication Protocol	Modbus RTU
Output Rate	1/s
Operating Temperature Range	-40°C to +85°C
Operating Humidity Range	0 to 100 %RH
Power Supply	12 to 30 V DC
Power Consumption	20 – 50 mA @ 24 V DC
Cable Length and Features	3 m, 3x2x0.22 mm ² , 24 AWG, LI2YC11Y-TP PUR Cable, UV and weather resistant
Galvanic Isolation	1000 V between power supply and RS485 Bus
IP Rating	IP 68
Dimensions	246 mm x 108 mm x 42 mm (W x L x H)
Weight	700 g
Standard	IEC61724-1:2021 (Annex C)
Origin	TÜRKİYE

Technical Drawings



Note: All dimensions are in mm.

*SEVEN has the right to make modifications on this documentation without notice.