

Portable Soiling Sensor



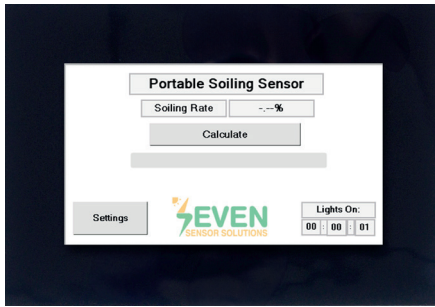
The Portable Soiling Sensor is an innovative product developed by SEVEN Sensor for measuring on-site dust levels on solar panels in photovoltaic power plants. A patent application has been filed for this device.

Product Components

The Portable Soiling Sensor, consisting of a compact mechanical structure, contains lamps, sensors, an electronic board, and an LCD screen.

Working Principle

The Portable Soiling Sensor calculates the soiling ratio on the panels by utilizing the reflection and scattering properties of light based on optical principles. For this calculation, the user must first enter parameters related to the characteristics of the solar panel and dust, such as the panel cell color, the color of the dust on the panel, and the dust tone, into the sensor via the LCD screen. Subsequently, the lamps reflect stable light with a high lumen value onto the panel surface. Reflected light is detected and measured by a high-precision sensor located within the mechanical structure. These irradiance values are read by the microcontroller on the integrated electronic board. The advanced software within the microcontroller analyzes this data and calculates the soiling ratio. The calculated soiling ratio is displayed digitally to the user on the sensor's integrated LCD screen.



Areas of Use

The Portable Soiling Sensor, with its real-time measurement capability, is an ideal solution for companies specializing in panel cleaning. Cleaning companies can quickly and easily determine the cleaning requirements of PV power plant fields through real-time, on-site measurements. Additionally, it is a suitable product for users who do not have a fixed Soiling Sensor at their PV power plant site or who have multiple PV power plant sites.

Benefits and Features

- Portability
- Easy Data Viewing
- Patent-Pending Innovative and Advanced Technology
- Instant and On-Panel Quick Soiling Measurement
- Free Software Update
- SEVEN Customer Support
- 2 Years Warranty or 500 h operation

Technical Specifications

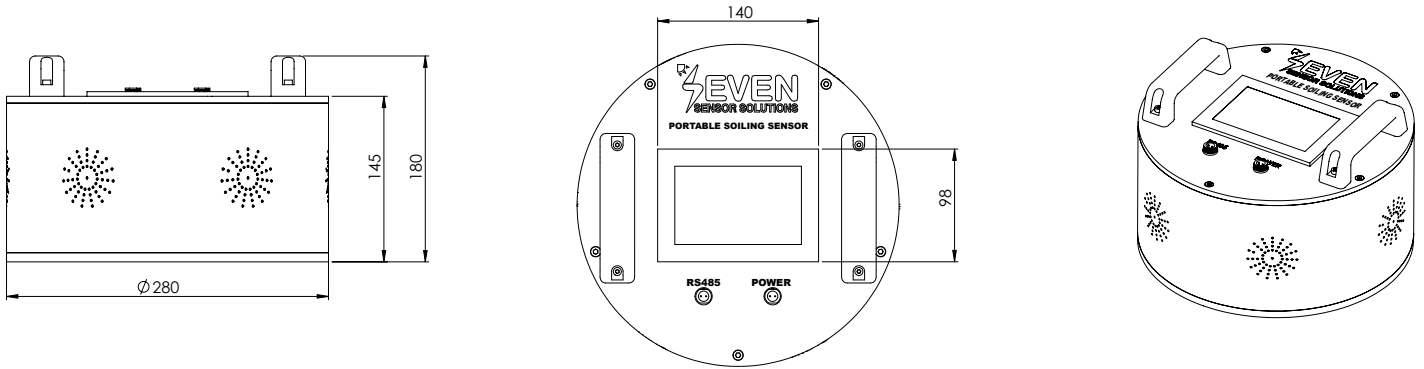
	3S-SMS-P
Soiling Ratio	0% - 100%
Resolution	0.1%
Uncertainty	≤ 2%
Data Output	RS485
Operating Temperature Range	-10°C to +50°C
Operating Humidity Range	0 ... 90 % RH
Power Supply	12 V 24 Ah Lithium Battery
Working Time	5 hours
Battery Charging Time	3 hours
Portable Soiling Sensor Dimensions	Ø 280 mm x 180 mm (D x H)
Portable Soiling Sensor Weight	4 kg
Battery Box Dimensions	220 mm x 232 mm x 137 mm (W x L x H)
Battery Box Weight	3.6 kg
Origin	TÜRKİYE

3S-SMS-P

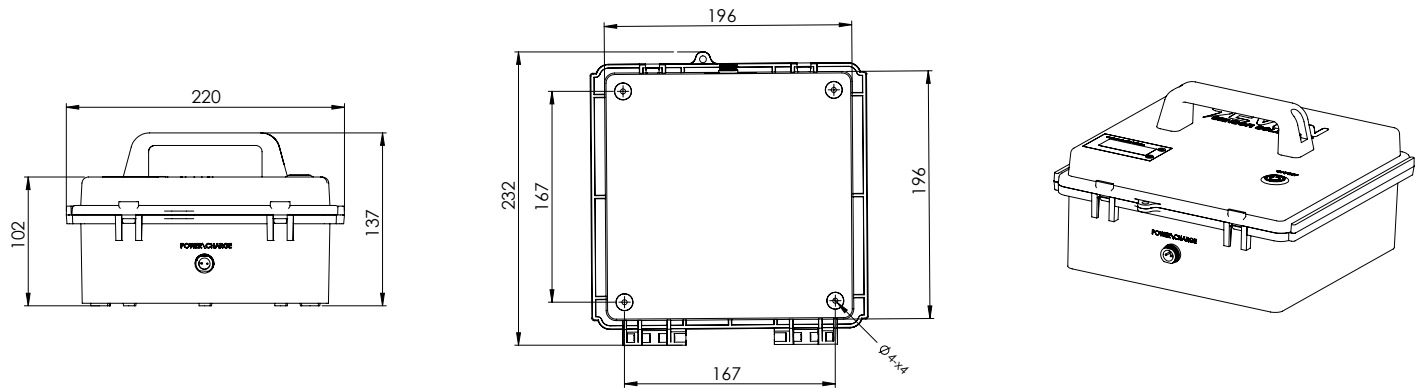
Portable Soiling Sensor

Technical Drawings

Portable Soiling Sensor



Battery Box



Note: All dimensions are in mm.

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