

Portable Soiling Sensor

The Portable Soiling Sensor is an innovative, patented product developed by SEVEN Sensor to measure dust levels directly on the solar panels of photovoltaic power plants.

Product Components

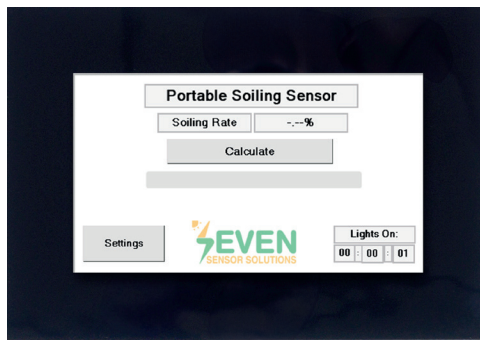
The Portable Soiling Sensor has a compact mechanical structure that houses lamps, sensors, an electronic board and an LCD screen.

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

With its real-time measurement capability, the Portable Soiling Sensor is an ideal solution for panel cleaning companies, which can quickly and easily assess a PV plant's cleaning needs with on-site measurements. It is also well suited to users who do not have a fixed Soiling Sensor on site or who manage several PV plants.



Benefits and Features

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

Accessory

Carrying Case

The carrying case is designed to transport and store the Portable Soiling Sensor safely in the field. The metal case has a custom foam interior that keeps the sensor, the battery charging adapter, the connection cables and the related accessories securely in place. The battery box is not carried in the case and is not included with it. The carrying case weighs 3,8 kg and is not part of the standard Portable Soiling Sensor package. For requests or further information, please contact the SEVEN Sales Team.

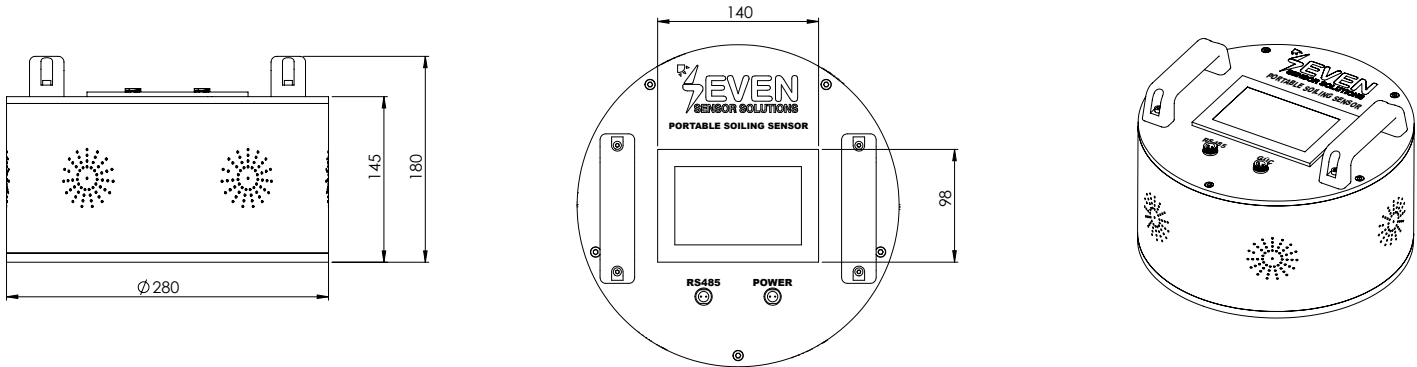


Technical Specifications

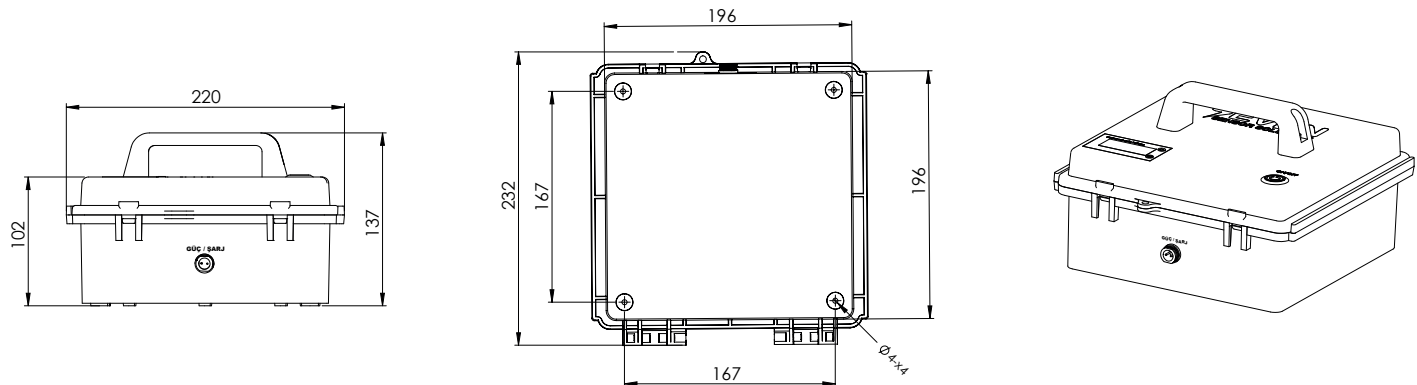
	3S-SMS-P
Soiling Ratio	1% - 20%
Resolution	0,1%
Uncertainty	≤ 2%
Data Output	RS485
Operating Temperature Range	-10°C ... +50°C
Operating Humidity Range	0 ... 90% RH
Power Supply	12 V 24 Ah Lithium Battery
Operating Time	5 hours
Battery Charging Time	3 hours
Portable Soiling Sensor Dimensions	Ø 280 x 180 mm (D x H)
Portable Soiling Sensor Weight	4 kg
Battery Box Dimensions	220 x 232 x 137 mm (W x L x H)
Battery Box Weight	3,6 kg
Origin	TÜRKİYE

Technical Drawings

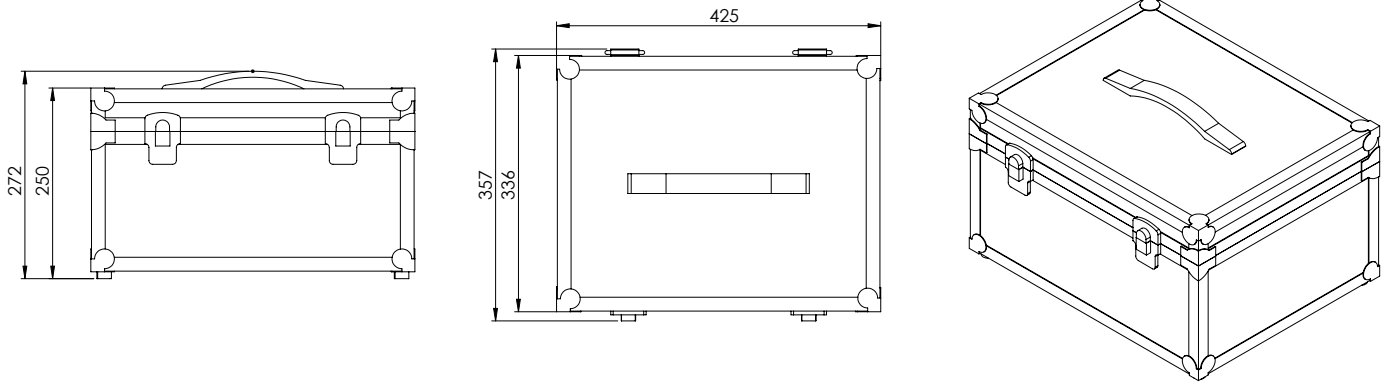
Portable Soiling Sensor



Battery Box



Carrying Case



Note: All dimensions are in mm.

Note: SEVEN reserves the right to make changes to this document without prior notice.