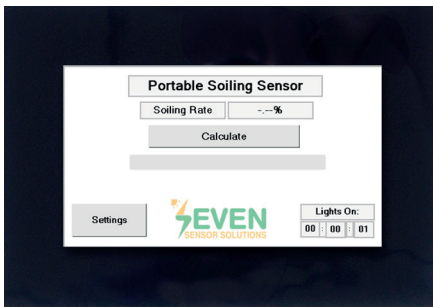
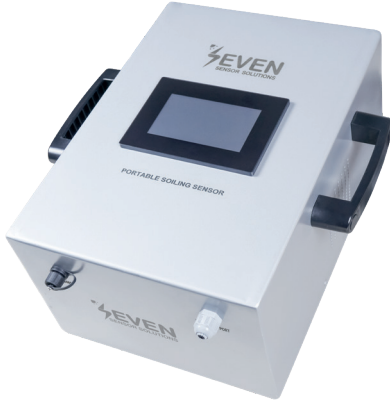


## Portable Soiling Sensor



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

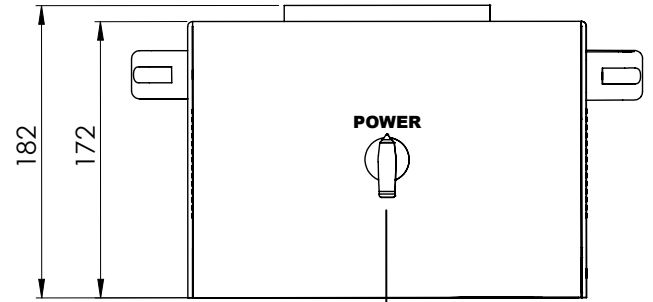
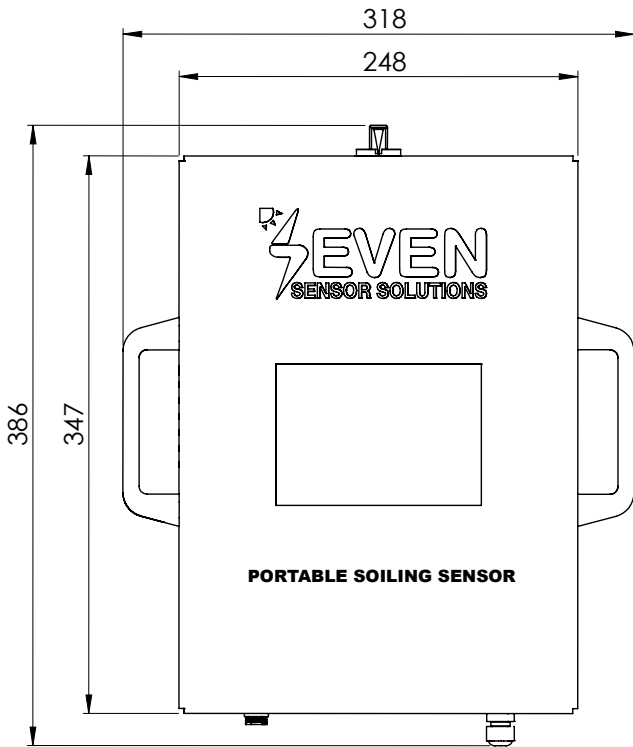
## Models

	3S-SMS-P
Soiling Ratio	0% - 100%
Resolution	0.1%
Uncertainty	$\leq 2\%$
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	3 hours
Battery Charging Time	3 hours
Dimensions	318 mm x 386 mm x182 mm (W x L x H)
Weight	8.6 kg
Origin	TÜRKİYE

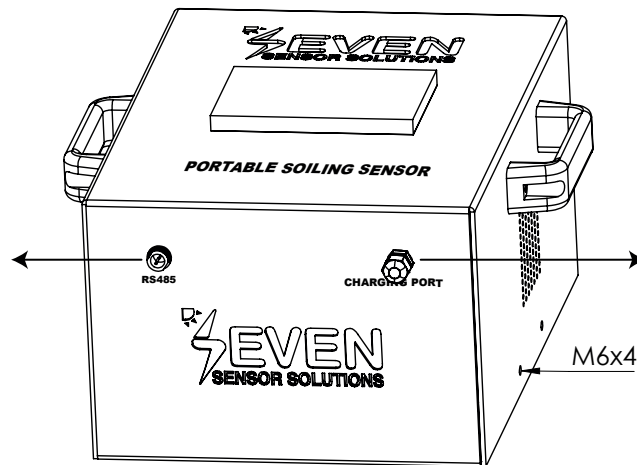
# 3S-SMS-P

Portable Soiling Sensor

## Technical Drawings



The "POWER" switch is used to turn the sensor on and off.



With the RS485 digital output, the sensor connects to the GUI via a computer. Sensor parameters can be entered, and software updates can be performed through the GUI.

The battery inside the Portable Soiling Sensor is charged via the "CHARGING PORT."

**Note:** All dimensions are in mm.

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