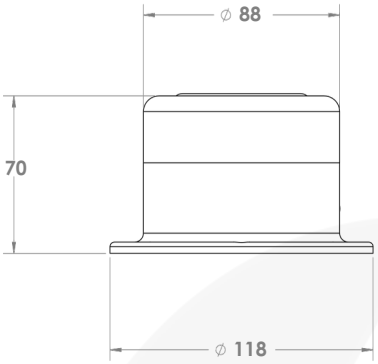
Modbus Perc-Irradiance Sensor



Overview

Modbus PERC Irradiance Sensors are specifically designed for lower-cost, high-accuracy solar irradiance measurements than thermopile pyranometers for outdoor monitoring of solar power plants. PERC Irradiance Sensors are a measuring device used to measure the intensity and wavelength of sunlight. The irradiance sensor uses photovoltaic (PV) cells to determine solar irradiance. Irradiance sensors measure the response of photovoltaic cells to sunlight and calculate the amount and intensity of sunlight based on this response.

Application Areas

- Solar Power Plant
- Agricultural Fields
- Greenhouse Applications
- Meteorological Measurement
- Industrial Applications

Specifications

Electrical Specifications	
Measurement Range	: 0 to 1600 W/m²
Operating Temperature Range	: –35…80°C
Resolution	: 0.1 W/m²
Uncertainty	: ≤2%
Response Time	: 0.5 sec
Drift	: <0.25%/ year
Field of View	: 175°
Tilt-Azimuthal Angle	: 0°- 0°
Protocol and Connection Output	: Modbus RTU - RS485
Supply Voltage	: 9-28 V DC
Temperature Range	: -40°C to +85°C
Current Consumption	: 25 mA @24 VDC
Top of Cell	: Front Sheet or Solar Glass
Cell Temperature Measurement Range	: –40…+100°C (PT1000 Class 1/10 DINB)
Cell Technology	: Monocrystalline PERC Cell

Mechanical Specifications	
Dimensions	: Ø118 x 70 mm
Housing	: Resistant Aluminyum
Protection	: IP 65
Standarts & Tests & Calibration	
Compatible Standard	: IEC 61724-1:2021 and IEC 60904
Calibration	: Calibrated under Class AAA sun simulator and natural sunlight according to IEC 60904-2 and IEC 60904-4 standarts
Stability Test	: Tested under natural sunlight by comparison with reference cells calibrated by independent testing organizations
Cell Strength Test	: Tested cell manufacturer under opposite current and reported
Cable and Connection Specifications	
Cable Length	: 2 m
Cable and Connector Type	: M8, IP 69K
White	: 9-28 V DC (+)
Brown	: GND (DC)
Yellow	: Data (+)
Green	: Data (-)