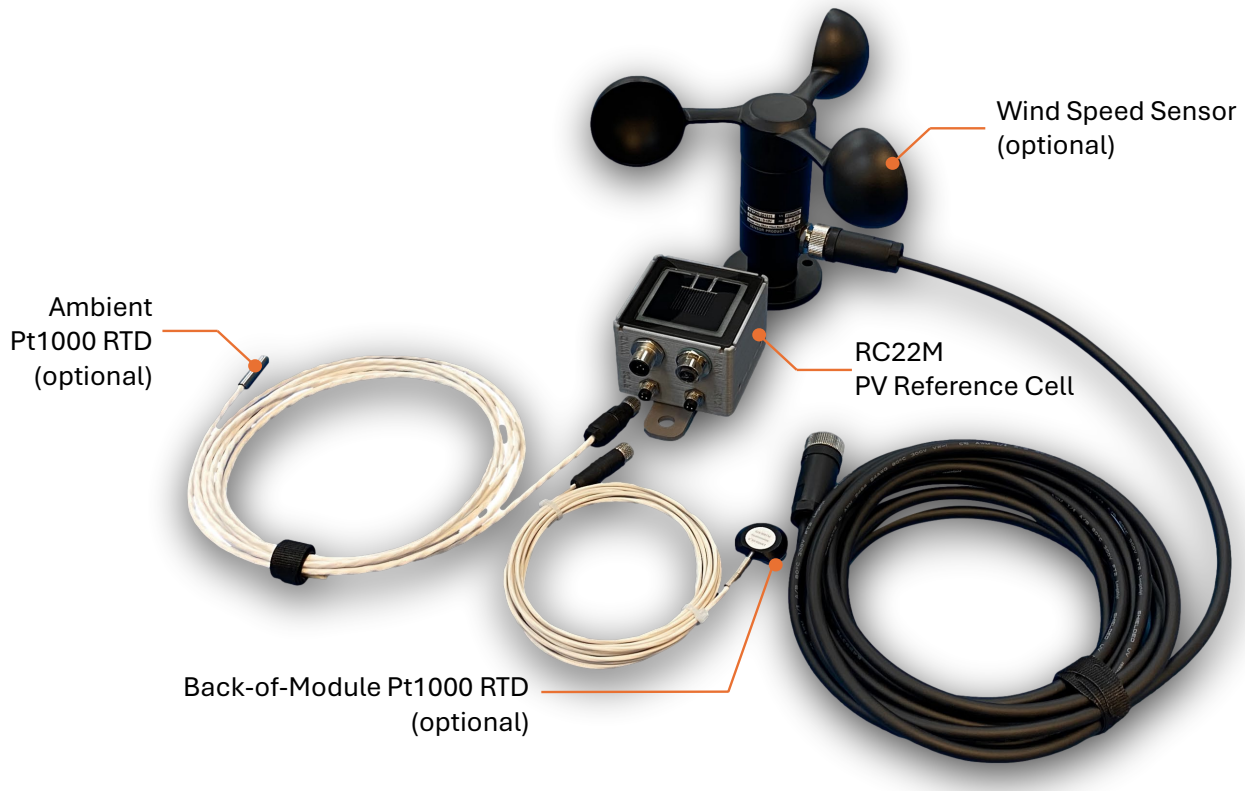


RC22M Reference Cell and Accessories

Irradiance, Temperature, and Wind Measurement System for Commercial and Industrial PV Arrays



Key Features

- Irradiance, wind speed, back-of-module temperature, and/or ambient temperature measurements
- Small package with simplified mounting features
- Digital communication over Modbus RTU (RS485)

Accurate Irradiance over Wide Range

- Accurate irradiance from 0 to 1500 W/m², thanks to high and low irradiance scales with auto-ranging
- Calibrations at both 1000 W/m² (STC) and 135 W/m² (BSTC)
- Unique glass-to-edge feature allows water roll-off and eliminates excess soiling
- Pair with Mars™ sensor to eliminate inaccuracy due to reference cell soiling

Miniature Met Station

- Easily expand the base RC22M with connectorized accessories
- Optional wind speed sensor provides wind speed data via the RC22M modbus registers
- Two temperature channels provide optional 3-wire Pt1000 RTD readout via RC22M modbus registers
- Optional back-of-module RTD has self-adhesive layer for easy peel-and-stick installation
- Optional ambient RTD

Ease of Installation

- Compatible cables with secure over-molded connectors available in multiple lengths
- Configuration manager software configures the RC22M and optional accessories

Specifications

Reference Cell	Model name	RC22M
	Measurement range	0 to 1500 W/m ²
	Resolution	0.1 W/m ²
	Operating temperature	-40 to 80 °C
	Input power	10-30 VDC
	Current consumption	Without wind sensor: typ. 6 mA; with wind sensor: < 60 mA
	Window	Low-iron solar glass
	Internal cell temperature	Pt1000 RTD
	Calibration data	Internally calibrated; no calibration data to manage
	Communication protocol	Modbus over RS485 (RTU), user-settable address
	Baud rate	9600, 19200, 38400, 57600
	Enclosure material	Anodized aluminum housing
	Ingress protection	IP67
	Dimensions	2.56 x 2.56 x 1.89 in / 65 x 65 x 48.0 mm
	Mounting	Side and bottom mounting holes
	Power and comm. cable	Shielded, weather resistant, UV-rated, 24 awg / 0.2 mm ² 4 m, 10 m, 25 m, 50 m, 100 m (order separately)
	Irradiance calibration	± 1.2% @ 1000 W/m ²
Measurement uncertainty	± 2.0% @ 1000 W/m ²	

RTDs (optional)	Sensing element	1000-ohm 3-wire Pt1000 RTD
	Accuracy	IEC 60751 Class A, ± (0.15 + 0.002t)
	Back-of-module probe option	3 m cable to anodized aluminum disc, 1.0 in (25 mm) diameter. Peel-and-stick adhesive: 3M VHB 9473PC, thermal conductivity 0.16 W/m-K meets IEC 61724-1, retention >9.8 N/cm.
	Ambient probe option	3 m cable to 50 mm probe. Optional radiation shield.

Wind Speed Sensor (optional)	Wind speed range	0 to 50 m/s
	Construction	Anodized aluminum housing
	Cable length	5 m
	Dimensions	7.87 in [200 mm] dia. x 5.26 in [133.5 mm] high

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