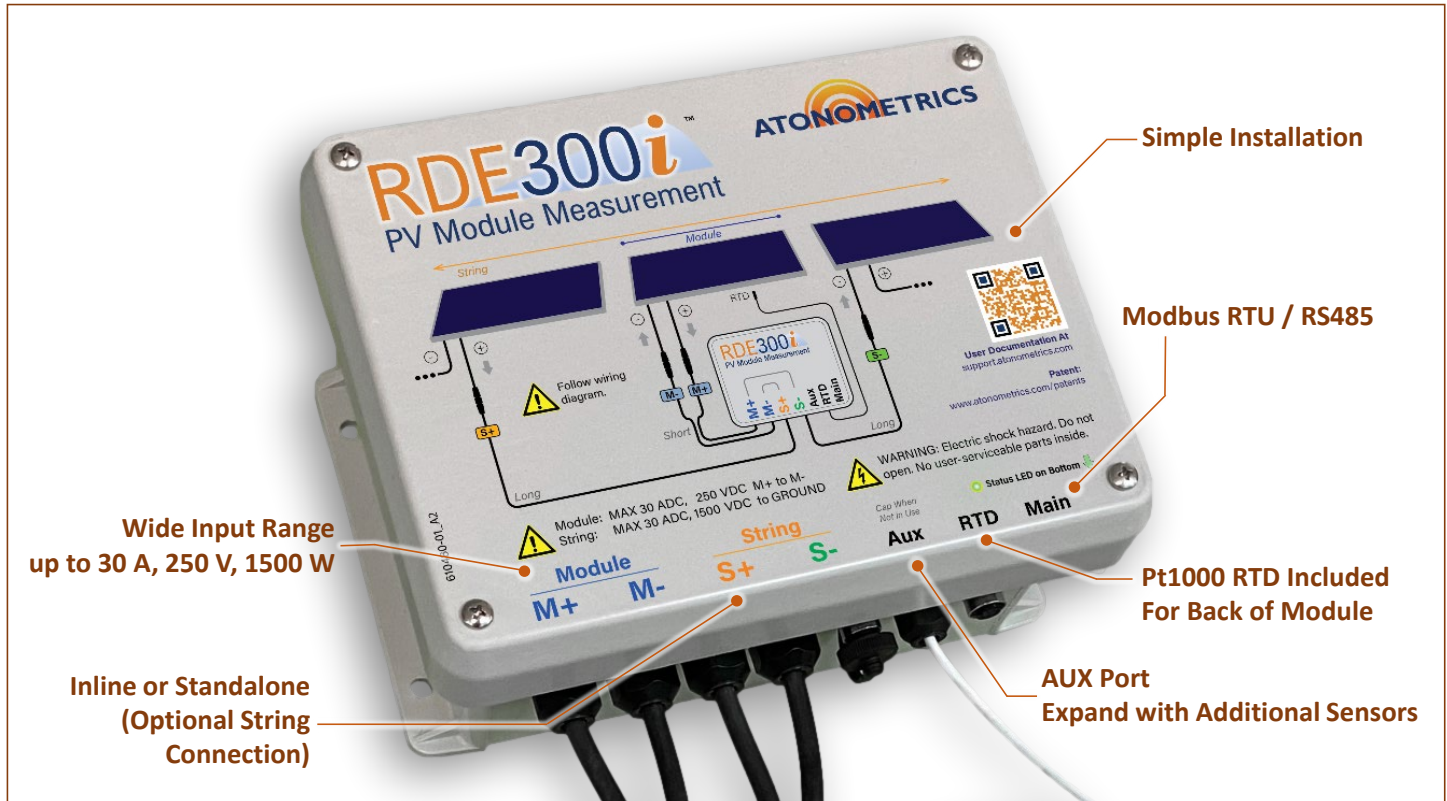


Inline PV Module I-V Measurement System with Built-In Applications for Irradiance, Soiling, and More



Built-In Monitoring Applications

- **Soiling:** automatically compare soiled module power output to clean module expectations
- **Irradiance:** use a calibrated reference module to measure total effective irradiance
- **Degradation:** track power over time

Get I-V Data on Individual Modules

- I-V Curves
- Current, Voltage, and Power (I_{sc} , I_{mp} , V_{oc} , V_{mp} , P_{max})
- Module temperature via included RTD

Inline or Standalone Options

- **Inline:** Use optional String connection to measure your grid-connected module in-situ, eliminating the need for standalone reference modules
- **Standalone:** Use with a standalone reference module only, with no String connection

Wide Input Range

- Each RDE300i unit works with a wide range of PV module types – with a single model
- Measure up to 30 A, 250 V, and 1500 W
- Crystalline or thin-film, bifacial or monofacial

Invisible to Your Array

- RDE300i performs periodic I-V curve measurements without disturbing your inverter
- Patent-pending technology keeps your target module near MPP even during I-V sweeps

Expandable, Flexible System

- Connect reference cells, soiling sensors, and additional RDE300i's on included AUX port
- RDE300i coordinates advanced multi-sensor applications with simple SCADA implementation

Specifications

Models	Inline Option	Includes String Input
	Standalone Option	No String Input
Power	Input Voltage	10-30 VDC
	Power Consumption	1 W (without AUX peripherals)
Environmental	Operating Temperature	-40 °C to 65 °C
PV Measurement	Module Voltage	0-250 VDC
	Module Current	0-30 ADC
	Module Power	0-1500 W (Inline), 0-1200 W (Standalone)
	Current Accuracy	<0.3% @ 5-30 A, 0.5% @ 1 A
	Voltage Accuracy	<0.3% @ 20-250 V, 0.5% @ 5 V
PV Cables	PV, Module Cables	MC4, 10 AWG (6 mm ²)
	PV, String Cables	MC4, 10 AWG (6 mm ²)
Array Wiring	Isolation	Max 1500 VDC from PV Inputs to Ground
RTD	Back of Module RTD Probe	Pt1000 ohm, 3-wire, self-adhesive disc, 3m standard cable
	Accuracy	IEC 60751 Class A
Power/Comm	Main/AUX Cables	Shielded M12, 5-pin (Power, Ground, RS485A/B)
		Order separately: length options 4m, 10m, 25m 50m, 100m
Communication	Physical Layer	RS485
	Protocol	Modbus RTU
	Baud Rates	9600, 19200, 38400, 57600
	Data Formats	8N1, 8N2, 8E1, and 8O1
	Minimum Scan Period	1 second
Enclosure	Material	Fiberglass
	Ingress Protection	IP66
Dimensions	Dimensions	9.31" x 7.31" x 4.92" (236 mm x 186 mm x 125 mm)
Standards	Measurement	IEC 61724-1 Class A
	Other	ROHS, 