CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

# RSR100

*Rotating Shadowband Radiometer*

## Lower Cost / Lower Maintenance
# Solar Resource Measurement System

### Measurements

- *Global Horizontal Irradiance (GHI)*
- *Diffuse Horizontal Irradiance (DIFF)*
- *Plane-of-Array Irradiance (POA)*
- *Direct Normal Irradiance (DNI)**
- *Back of Module Temperature (BOM)*
- *Solar Position/Air Mass*
- *Wind Speed*
- *Wind Direction*
- *Air Temperature*
- *Relative Humidity*
- *Barometric Pressure*
- *Precipitation*

**Computed*

## Overview

The RSR100, Rotating Shadowband Radiometer, offers a lower-cost option for providing solar measurements, GH, DIFF, and DNI. The RSR100 system utilizes the fast response time of a Li-Cor photocell diode (10 µsec) coupled with the burst measurement (up to 2 kHz), control, and processing capability of a Campbell Scientific datalogger to measure GHI and DIFF solar irradiance and compute DNI. An extensive range of additional sensors are available with the RSR100 for measuring meteorological and power parameters, such as wind speed and PV string performance. Reliable, low maintenance, low power requirements, and simple operation allow for long-term unattended remote solar resource assessment.

The RSR100 is built around Irradiance, Inc.'s RSR2™ Rotating Shadowband Radiometer. The RSR2™ is a second-generation instrument incorporating improvements in accuracy and mechanical reliability from collaborative research conducted at NREL, Sandia, and the University of Oregon Solar Monitoring Lab. Irradiance has manufactured over 500 RSR2™ units operating across six continents.

## Benefits and Features

- Contains a Campbell Scientific CR1000 Measurement and Control Datalogger
- Provides a lower-cost and low power option for GHI, DNI, and DIFF solar radiation measurements
- Fast to field with industry-proven design
- Factory fabrication, programming, and testing minimizes field wiring errors and reduces deployment time
- Complies with Modbus, PakBus, and DNP3 protocols
- Supports nearly all communication technologies such as RS-485, fiber, TCP/IP, cellular, and/or satellite
- Provides a battery back system that allows data collection during power outages and network failure
- Supports Web Service API
- Supports individual module and string level power measurements