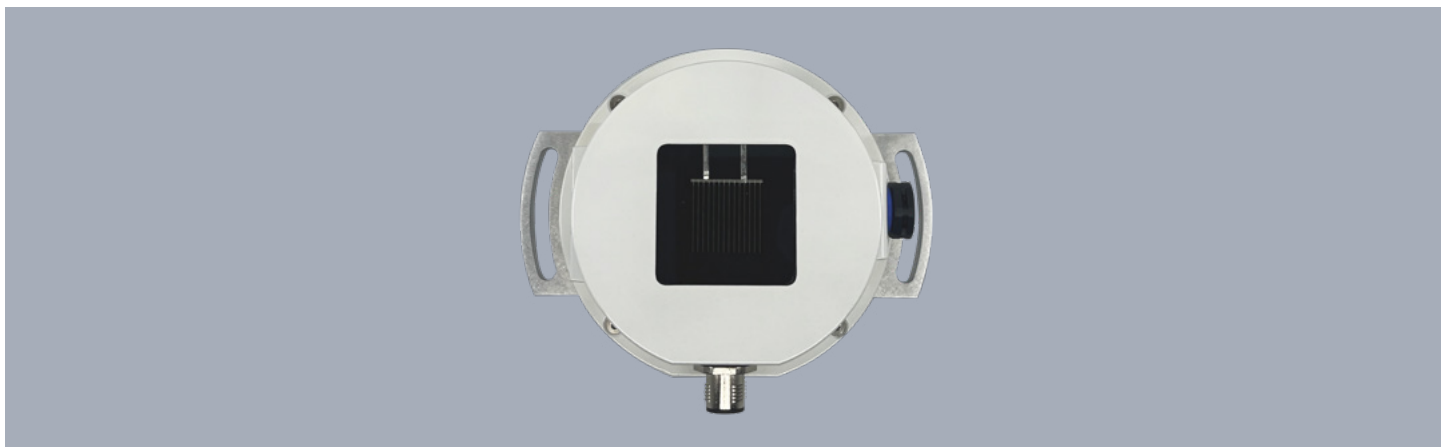


# Reference Cells

Outdoor Mono crystalline Silicon analog reference cell



## RR-1070A Reference Cell — Precision You Can Trust for Every PV Technology

Engineered for the next generation of solar performance analysis, the **RR-1070A** is more than just a reference cell—it's a gateway to highly accurate irradiance monitoring tailored to today's diverse PV landscape. What sets it apart? Every RR-1070A comes with a **measured External Quantum Efficiency (EQE)** curve, unlocking the ability to perform **precise spectral mismatch corrections** across all PV module technologies—not just silicon.

Compact yet powerful, the RR-1070 features a **20 × 20 mm stable encapsulated silicon solar cell**, calibrated against the **AM1.5G spectrum** to deliver reliable and repeatable irradiance data in real-world conditions. Whether you're monitoring silicon, thin-film, or emerging solar technologies, this reference cell empowers you to calculate **Performance Ratios (PR)** with unmatched confidence and traceability.

The RR-1070A easily integrates with the **EKO M-Box Modbus converter**, enabling **digital output of irradiance and cell temperature**, streamlining system integration. The modular setup allows for extension with **EKO pyranometers** and **PT-100 temperature sensors**, making it the ideal solution for comprehensive, high-accuracy solar monitoring.

With the RR-1070A, irradiance measurement meets precision, spectral insight, and plug-and-play versatility—giving you the data quality needed to drive smarter decisions in PV performance and yield analysis.

### Ideal for:

- PV system performance monitoring
- PV module testing and certification
- Solar simulator calibration
- Outdoor irradiance monitoring for yield analysis

### Key Features

- High-precision crystalline silicon solar cell
- Calibrated to IEC 60904-2 / IEC 60904-4
- Integrated 10kΩ NTC
- Rugged and weatherproof design
- Plane of array (POA) mounting
- Low maintenance / long-term stability
- Ready for SCADA/DAQ integration
- Shunted with a 0.2 ppm/°C resistor

### Synergy with other EKO Instruments Sensors



Pyranometers



Pyrhemliometers



DAQ / SCADA



Albedometer



Sun Trackers



M-Box



## General Specifications

ISO 9060:2018	Class C
Response time 95%	< 0.1 Sec
Non-stability (change/year)	± 1.5%
Non-linearity (100 to 1000W/m <sup>2</sup> )	± 1%
Spectral error	± 5%
Temperature response (-20°C to 50°C)	± 1%

## Technical Features

Wavelength range (nm)	400 - 1100 (Mono Crystalline Silicon)
Irradiance range (W/m <sup>2</sup> )	0 to 2000
Signal output	Analog (~ 65mV @ 1000 W/m <sup>2</sup> )
Operating temperature range	-40 to 80 °C
Ingress protection	IP 67
Calibration traceability / uncertainty	AM1.5 / 25 °C / 1000 W/m <sup>2</sup>
Standard cable length	Optional lengths 5, 10, 20, 30, 50m
Area silicon cell	20 x 20 mm

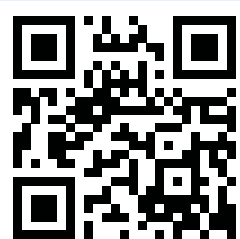
## For Additional Support

If you need any additional information or support, write us an email to one of our offices.

More information can be found on the product page.

### QR

Use the QR code to visit our website, contact our team, or to find out more about, other related products, and the full range of industry-leading EKO sensors and instruments.



ES France - Département Bio-tests & Industries  
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 90



e-mail : [bio@es-france.com](mailto:bio@es-france.com)  
Site Web : [www.es-france.com](http://www.es-france.com)