

MODEL GEO-SR12

FIRST CLASS SOLAR RADIATION SENSOR FOR SOLAR ENERGY TEST APPLICATIONS



Figure 1 GEO-SR12 First Class pyranometer for solar energy test applications

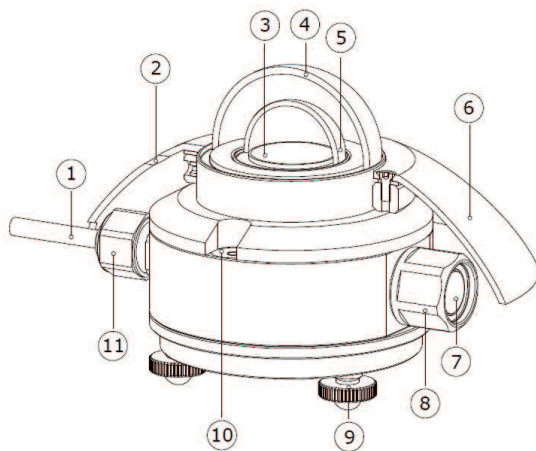


Figure 2 GEO-SR12 overview: (1) cable, (2) opening for fixation of sun screen, (3) thermal sensor with black coating, (4) outer dome, (5) inner dome, (6) sun screen, (7) humidity indicator, (8) desiccant holder, (9) levelling feet, (10) bubble level, (11) cable gland

ACCESSORIES

AC100, AC420 amplifiers, LI19 handheld readout.

CERTIFICATES

With certificates for individual testing of directional response.

GEO-SR12 is a solar radiation sensor that meets and exceeds the ISO-9060 Standard performance mandate for a First Class pyranometer, specific to “solar energy test applications”.

INTRODUCTION

The GEO-SR12 is supplied standard with a laboratory characterised directional response report, built-in case temperature sensor, and low power resistive heater for dew/frost prevention. Ideally suited for solar renewable systems performance and solar energy resource validation, the SR12 is the first COTS (Commercial Off-The-Shelf) pyranometer of its kind meeting the ISO-9060 First Class performance mandate for solar energy test applications.

ISO 9060 covers “Solar energy - Specification and classification of instruments for measuring hemispherical solar and direct solar radiation”. The official classification name for SR12 is “first class pyranometer for purposes of solar energy test applications” as defined by ISO 9060 paragraph 4.3.2. ISO recommends and approves this pyranometer type for outdoor testing related to solar energy use. The added temperature sensor is used for additional quality assurance. Also added is 1.5 W heating. Heating in the evening will help to keep dew and frost away and will promote evaporation of deposited rain and snow.

SPECIFICATIONS

ISO classification:	first class for solar energy test applications
Zero offset	< ±5 W/m ² unventilated
Spectral range:	285 to 3000 nm
Sensitivity (nominal):	15 µV/(W/m ²)
Operating temperature:	-40 to +80 oC
Irradiance range :	0 to 2000 W/m ²
Temperature response:	±2% (-10° to +50°C)
Calibration traceability:	WRR
Required heater power:	1.5 W @ 12VDC
Temperature sensor:	Pt100 (standard) 10kOhm Thermistor (optional)
Calibration uncertainty	< 1.8% (k=2)
Cable length:	5 m (standard) extended in multiples of 5 m (optional)