

GEO-SRA01

Albedometer compliant with ISO and WMO standards

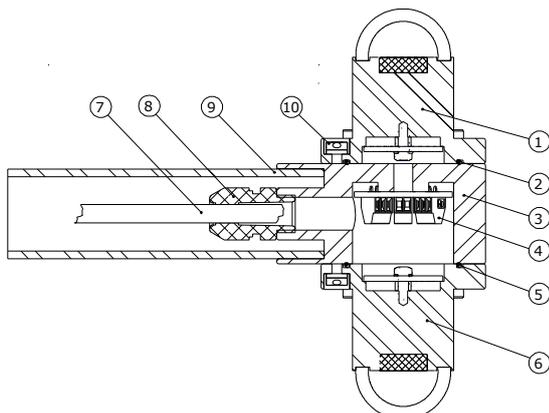


Figure 1 SRA01 albedometer: (1) upfacing pyranometer, (2) and (5) O-ring for sealing the body, (3) body of the albedometer, (4) connection block, (6) downfacing pyranometer, (7) cable, (8) cable gland, (9) mounting rod -not part of the delivery-, (10) level

SRA01 SPECIFICATIONS

Response time	3 s (95% response)
Zero offset (response to 200 W/m ² net thermal radiation)	<5 W/m ² unventilated
Zero offset (response 5° C/hr change in ambient temperat.)	<±2 W/m ²
Field of view	0-360° azimuth 0-180° zenith
Temp. response	<±1% (-10° to +40°C)
Cable	Standard length 5m

SRA01 albedometer is an instrument that can be used for measurement of the solar albedo. It is composed of two pyranometers, the upper one measuring global solar radiation, the lower one measuring reflected radiation. It complies with the latest ISO and WMO standards.

Albedo is defined as the ratio of diffusely reflected to incident solar radiation. In general, the albedo depends on the directional distribution of incoming radiation and surface properties. Albedos of typical surfaces range from about 4% for fresh asphalt, 15% for green grass and up to 90% for fresh snow.

For the working principle and specifications of the pyranometer, manual of LP02 pyranometer should be consulted.

Using SRA01 is easy: to calculate the radiation level of a single pyranometer, the voltage must be divided by the sensitivity; a constant that is supplied with each individual instrument. The albedo is calculated by dividing the reflected radiation by the incident radiation. SRA01 can directly be connected to most commonly used datalogging systems.

SRA01 can be used for general meteorological observations, building physics, roof reflectance studies, climate- and solar collector testing. A common application is for outdoor solar radiation measurements as part of a meteorological station. This application requires horizontal levelling; a level is included.

Mounting of the SRA01 by the user is done using a ¾ inch NPS rod, tightened by a screw. This mounting rod is not part of the delivery.

Applicable standards are ISO 9060 and 9847, WMO and ASTM E824-05 and E1918-06

OTHER SPECIFICATIONS

Pyranometer ISO classification:	second class
Spectral range:	305 to 2800 nm
Sensor sensitivity (nominal):	15 µV/ Wm ⁻²
Albedo range:	0 to 100%
Temperature range:	-40 to +80 °C
Mounting rod diameter:	¾ inch NPS (max. wall thickness SCH 80)

OPTIONS

Additional cable length x metres (add to 5m)