MODEL GEO-LP02
SECOND CLASS PYRANOMETER

Figure 1 GEO-LP02 second class pyranometer

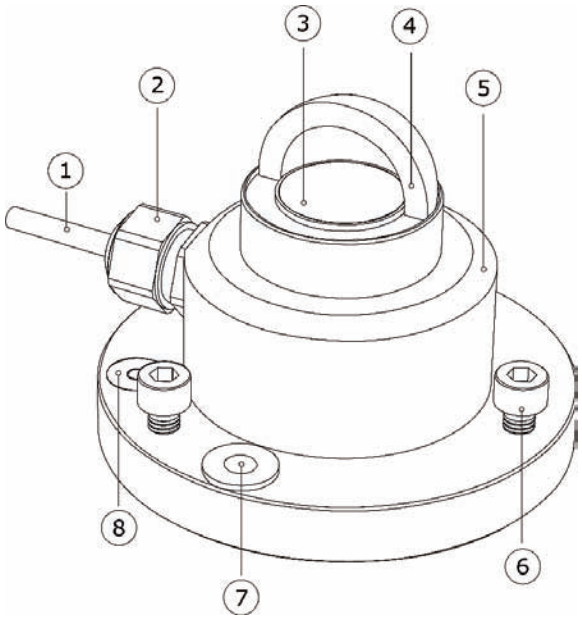

Figure 2 GEO-LP02 overview: (1) cable, (2) cable gland, (3) ther-mal sensor with black coating, (4) glass dome, (5) sensor body, (6) levelling feet, (7) mounting hole, (8) bubble level

ACCESSORIES

Model SP-101: tilted adjustable (0º to 90º) support. Made 100% from stainless steel with outdoor paint extra protection.

GEO-LP02 is a solar radiation sensor that is applied in most common solar radiation observations. It complies with the second class specifications of the ISO 9060 standard and the WMO Guide. GEO-LP02 pyranometer is widely used in (agro-) meteorological applications and for PV system performance monitoring.

INTRODUCTION

GEO-LP02 is a solar radiation sensor that is applied in general observations. It measures the solar radiation received by a plane surface from a 180º field of view angle. This quantity, expressed in W/m^2, is called "hemispherical" solar radiation. GEO-LP02 pyranometer can be employed outdoors under the sun, as well as indoors with lamp-based solar simulators. Its orientation depends on the application and may be horizontal, tilted (for plane of array radiation) or inverted (for reflected radiation). GEO-LP02 pyranometer is a very good alternative to silicon cell (photodiode-based) pyranometers, which do not comply ISO 9060 standard.

OPERATION

The irradiance in W/m^2 is calculated by dividing the GEO-LP02 output, a small voltage, by the sensitivity. This sensitivity is provided with GEO-LP02 on its calibration certificate.

USE AS A SUNSHINE DURATION SENSOR

GEO-LP02 may be used, in combination with appropriate software, to estimate sunshine duration. This is much more cost-effective than using a dedicated sunshine duration sensor. Ask for our application note.

Specifications	
ISO classification	Second class
WMO performance level (WMO-No.8, 7th edition)	Moderate quality
Response time (95%) **Response time (63%)**	< 18s < 6s
Zero offset a **(response to 200 W/m² net thermal radiation)**	< ± 15 W/m² unventilated
Zero offset b **(response to 5 ºC/h change in ambient temperature)**	< ± 4 W/m²
Resolution	10 W/m²
Non-stability	< ± 1% change per year
Non-lineartity	< ± 1% (100 to 1000 W/m²)
Directional response	< ± 25 W/m2
Spectral selectivity	< ± 5 % (0.35 to 1.5 µm)
Temperature response	< ± 3 % (-10 to +40 °C)
Tilt response	< ± 2 % (0 to 90° at 1000 W/m²)
Spectral range (50% points)	300 to 2800 nm
Spectral range (20% points)	285 to 3000 nm
Measuring range	0 to 2000 W/m²
Sensitivity range	7 to 25 µV/(W/m²)
Sensitivity (nominal)	15 µV/(W/m²)
Calibration traceability	to WRR
Calibration uncertainty	< 1.8 % (k = 2)
Sensor resistance range	40 to 60 Ω
Field of view	180º
Levelling	bubble level and adjustable levelling feet are included
IP protection class	IP 67

Options

- Addicional cable length in multiples of 5 m (add to the standard 5m)

MORE INFORMATION

Data Logger **Model METEODATA-2000C/3000C**

METEODATA-3000C
Data Logger/Transmitter Unit
(3G/GPRS, radio or satellite)