LPY-SA Series PYRANOMETER (A Class)

A new family of pyranometers with diagnostic features and tilt sensor

LPY-S is new family of pyranometers that brings solar global radiation measurement to a higher level! Depending on the model and according to ISO 9060:2018 and WMO (World Meteorological Organization) recommendations,
they are classified as:
• “Spectrally Flat” Class A (High quality)
• “Spectrally Flat” Class B (Good quality)
• “Spectrally Flat” Class C (Moderate quality)
The pyranometers are based on an accurate thermopile sensor and have been designed to meet multiple needs: from the best economical solution for measuring solar efficiency (Class C) to the solution for those applications where the best possible performance is a must (Class A).

FEATURES

Internal diagnostic sensors
To measure temperature, relative humidity, and pressure. You can keep an eye on the operating condition of your pyranometer and predict any maintenance work in advance, thus always ensuring reliable measurements.

Integrated bubble level

To ease horizontal positioning during installation. Moreover, the pyranometer can be equipped with an optional tilt sensor which allows continuous monitoring of the correct installation.

Protection screen
To resist UV solar radiation.

RS485 Modbus-RTU isolated output + optional additional analog output Configurable 0…10 V, 0…5 V, 0…1 V, 4…20 mA or 0…20 mA

SMART TECHNOLOGY
Internal diagnostic sensors to keep operating conditions always under control

LOW MAINTENANCE
Thanks to diagnostics, you always know when you need to take actions.
Average life span greater than 10 years

ACCORDING TO THE STANDARD
Spectrally Flat Class A according to ISO 9060. WMO recommendations & IEC 61724-1 requirements fully compliant

EASY TO SET UP AND QUICK TO INSTALL
I ntegrated bubble level and optional tilt sensor to ensure accurate installation in any position.

GREAT FLEXIBILITY
RS485 Modbus-RTU output galvanically isolated + optional analog output, user configurable

Technical Specification

Sensor	Thermopile
Measuring range	-200…4000 W/m2 The irradiance range for the analog output is user configurable (default 0…2000 W/m2)
Resolution	0.1 W/m
Viewing angle	2π sr
Spectral range (50%)	283 ÷ 2800 nm
Output	RS485 Modbus-RTU (isolated) Optional additional analog output configurable 4…20 mA (default), 0…20 mA, 0…1 V, 0…5 V or 0…10 V
Power supply	7…30 Vdc for RS485 output 10…30 Vdc for analog output (except 0…10 V) 15…30 Vdc for 0…10 V outpu
Consumption	15 mA @ 24 Vdc
Connection	5-pole M12 (version with only RS485 Modbus-RTU output) 8-pole M12 (version with additional analog output
Weight	620 g approx.
Operating conditions	-40…+80 °C / 0…100 %RH
Bubble level accuracy	< 0.2°
Protection Degree	P 67
MTBF	> 10 years
Materials	Housing: anodized aluminium Screen: ASA Dome: optical glass

BLITZ SENS

Technical specifications according to ISO 9060:2018

Response time (95%)	< 2 s
Zero offset a) response to a 200 W/m2 thermal radiation	< | ± 7 | W/m2
Zero offset b) response to a 5 K/h change in ambient temperature	< |±2| W/m2
Zero offset c) total zero offset including the effects a), b) and other sources	< |±10| W/m2
Long-term instability (1 year)	< | ± 0.5 | %
Non-linearity	< | ± 0.2 | %
Directional response (up to 80° with 1000 W/m2 beam)	< | ± 10 | W/m2
Spectral error	< | ± 0.2 | %
Temperature response (-10…+40°C)	< | ± 0.5 | %
Tilt response	< | ± 0.2 | %

Additional measurements

Internal Temperature	
range	-40…+80 °C
resolution	0.1 °C
accuracy	± 0.5 °C (0…60 °C)
Internal Relative Humidity	
range	0…100 %RH
resolution	0.1%RH
accuracy	± 3%RH @25 °C (20…80 %RH)
Internal Pressure	
range	300…1100 hPa
resolution	0.1 hPa
accuracy	± 1 hPa (0…60 °C)
Tilt	
range	0°…+180°
resolution	0.1°
accuracy	< 0.5°

BLITZ SENS