

PYRAsense10 LPS10...

SPECTRALLY FLAT CLASS A PYRANOMETER SERIES

INTRODUCTION

PYRAsense is our new family of pyranometers that brings solar global radiation measurement to a higher level!

We produce a full range of pyranometers, all based on the thermopile principle, very precise.

Depending on the model and according to ISO 9060:2018 and WMO (World Meteorological Organization) recommendations, our PYRAsense are all classified as Spectrally Flat Class A, Class B and Class C.

The LPS10... is the top level of the series. It has been designed especially for those applications where the best performance is a must such as:

- Environemntal studies
- Research
- Meteorology
- PV monitoring

FEATURES

Integrated diagnostic for digital models

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

Built-in **days-of-operation counter** to optimize your maintenance schedule effortlessly, ensuring peak performance.

Effortless installation

Integrated bubble level the adjustable feet 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.

Shield your investment

ASA protection screen to ensure unparalleled thermal stability against UV radiation, high impact and shock resistance. Moreover, this material remains free from yellowing and retains its properties unchanged over time.

CONFIGURATION & MEASUREMENT

The sensors

Using the PC application software DATAsense, it is possible to configure the sensor (e.g., Modbus parameters, measuring range for the analog output, etc.), monitor the measurements in real time and save the values detected during the connection in a file.

Passive, analog or 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.

The irradiance range

It is configurable for the analog output.

Calibration report

The pyranometers are supplied factory calibrated according to ISO 9847:2023 (Type A1) standard and with an individual Calibration Report.





SMART TECHNOLOGY

Digital models with internal diagnostic sensors to keep operating conditions always under control.

Built-in days-of-operation counter.



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

Configuration and real time data monitoring via software.



ACCURATE & RELIABLE Supplied factory calibrated with individual Calibration Report. ISO 17025 Calibration Certificate available upon request.



ACCORDING TO THE STANDARD Spectrally Flat Class A according to ISO

WMO recommendations & IEC 61724-1 requirements fully compliant.



GREAT FLEXIBILITY Wide variety of outputs choice.



EXTENDED WARRANTY
4 years in addition to the standard 2
years for a total of 6 years warranty

Technical specifications according to ISO 9060:2018

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

Additional measurements in digital models

II nre	range	-40+80 °C
Internal temperature	resolution	0.1 °C
tem	accuracy	± 0.5 °C (060 °C)
idity	range	0100 %RH
Internal relative humidity	resolution	0.1 %RH
lı relati	accuracy	± 3 %RH @25 °C (2080 %RH)
e a	range	3001100 hPa
Internal pressure	resolution	0.1 hPa
	accuracy	± 1 hPa (060 °C)
Tilt sensor	range	0°+180°
	resolution	0.1°
0,	accuracy	< 0.5°

Ordering codes

LPS10...

M00	Modbus output, without tilt	
МОТ	Modbus output, with tilt	
MA0	Modbus + configurable analog output, without tilt	
MAT	Modbus + configurable analog output, with tilt	
0C0	2-wire (current loop) 420 mA output	
0P0	mV output	

General specifications

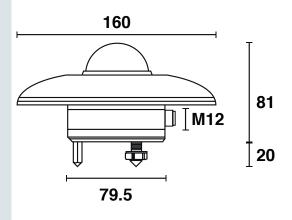
General specifications				
Sensor	Thermopile			
Typical sensitivity	612 μV/Wm ⁻²			
Measuring range	-2004000 W/m² The irradiance range for the analog output is 02000 W/m² by default, and is configurable in LPS10Mxx			
Resolution	0.1 W/m ²			
Viewing angle	2π sr			
Spectral range (50%)	2832800 nm			
Output	Dipending on the model: RS485 Modbus-RTU RS485 Modbus-RTU + analog configurable 420 mA (default), 020 mA, 01 V, 05 V or 010 V - 2-wire (current loop) 420 mA passive in mV			
Power supply	730 Vdc for RS485 output 1030 Vdc for analog output 1530 Vdc for 010 V output			
Consumption (digital models)	Modbus output models: 15 mA @ 24 Vdc 21 mA @ 12 Vdc Modbus + analog output models: 37 mA @ 24 Vdc & lout=22 mA 43 mA @ 12 Vdc & lout=22 mA			
Connection	5-pole M12 8-pole M12 (for LPS10MAx)			
Weight	620 g approx.			
Operating conditions	-40+80 °C 0100 %RH Max. altitude 6000 m			
Bubble level accuracy	< 0.2°			
Protection	IP 67			

Housing: anodized aluminium Screen: ASA Materials

Dome: optical glass

MTBF > 10 years

degree



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