# senseca

# ALBEDOMETER LPS11...

## MAXIMIZE YOUR DATA ACCURACY WITH THE NEW CLASS A ALBEDOMETER

www.senseca.com

## INTRODUCTION

Next to the new series of pyranometers, now you can unlock the power of precise solar radiation measurements also with our state-of-the-art albedometer series. Designed to exceed industry standards, our albedometers redefine accuracy and reliability.

Specifically suitable for applications such:

- **Climatology**
- **Automatic Weather Stations (AWS)**
- **Agricolture**
- **Environmental research**

## FEATURES

### How do they work

Picture this - two pyranometers, one mission - measuring global solar radiation from every angle. Our albedometers have thermopile sensors facing upwards and downwards, capturing both incident and reflected solar radiation. This means you get a comprehensive view of your solar data, allowing for unparalleled insights.

### What's albedo?

Albedo, the secret sauce of solar insights! Measure the fraction of solar radiation reflected from the ground with our Albedometers. It's not just data; it's Solar Reflectance in action. Calculate net radiation effortlessly by subtracting reflected global radiation from incident global radiation.

### Precision beyond par: ISO 9060:2018!

Our albedometer series doesn't just meet standards; it sets them. Fully compliant with ISO 9060:2018 and WMO's "Guide to Meteorological Instruments and Methods of Observation," these instruments redefine accuracy and reliability. Moreover, they are calibrated individually as per the WRR standard, they are robust and reliable.

## CONFIGURATION & MEASUREMENT

### Powered by Precision, Not Electricity!

Our albedometers are not just accurate; they're eco-friendly too. Totally passive, they don't require any power supply. Simplify your setup - direct outputs from the electric signals of the pyranometers to your data logger or automatic data processor.

### Integrated bubble level

To ease horizontal positioning during installation and grant accurate measurements.

If it's time to upgrade your solar insights, Senseca albedometers are the right chioce for accuracy, reliability, and a clear view of the sun. Don't just measure solar radiation, master it!

**ROBUST HOUSING**
Rugged body designed to operate even at low temperatures without loss of accuracy

**ACCURATE & RELIABLE**
Supplied factory calibrated with individual calibration report
ISO 17025 calibration certificate available upon request

**EASY TO SET UP & QUICK TO INSTALL**
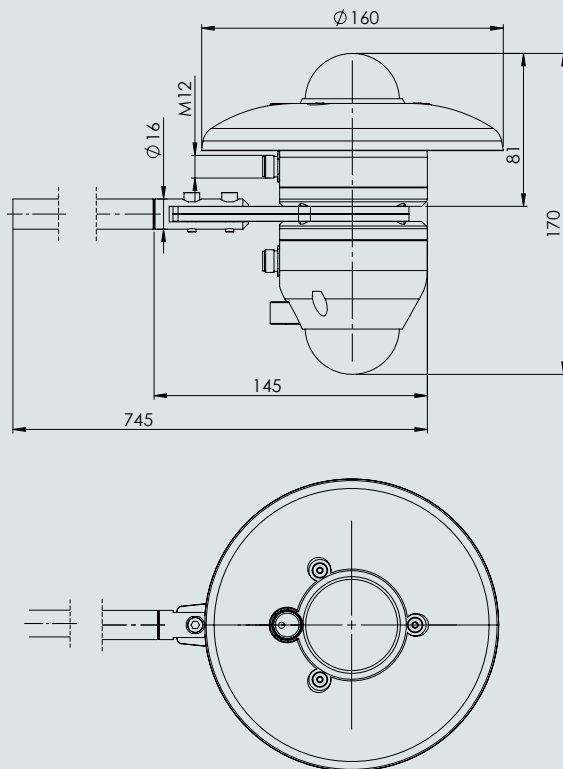Integrated bubble level to ensure accurate installation in any position

**ACCORDING TO THE STANDARD**
Follows recommendations of the WMO - fully compliant with ISO 9060:2018

Making the unknown, known

## Technical specifications according to ISO 9060:2018

| | |
|---|---|
| Classification | Spectrally Flat Class A |
| Response time (95%) | < 2 s |

**Zero offset**

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

## General specifications

| | |
|---|---|
| Sensor | Thermopile |
| Typical sensitivity | 6...12 µV/Wm$^{-2}$ |
| Measuring range | -200...4000 W/m² |
| Viewing angle | 2π sr |
| Spectral range (50%) | 283...2800 nm |
| Output | Passive in mV |
| Connection | 2 5-pole M12 connectors |
| Weight | 1.4 kg approx. |
| Operating conditions | -40...+80 °C 0...100 %RH |
| Bubble level accuracy | < 0.2° |
| Protection degree | IP 67 |
| Materials | Housing: anodized aluminium Screen: ASA Dome: optical glass |
| MTBF | > 10 years |



## Ordering codes

| | |
|---|---|
| **LPS110P0** | Spectrally Flat Class A albedometer. Supplied with solar radiation protection screen, 2 female M12 free connectors (only if the optional connection cables are not ordered), mast fixing support and calibration report. The connection cables and the fixing accessories must be ordered separately. |



V 1.0