

# PYRANOMETER HE20K

The pyranometer is a fully electronic sensor used to monitor the incidental global solar radiation, that is the sum of the radiation directly produced by the sun, plus the radiation reflected by the atmosphere.

Knowing the intensity of solar radiation is of utmost importance for several sectors like agriculture, architecture, biology and medicine, whose activities may be affected by regular insolation and the global heating.

## TECNOLOGY AND FUNCTIONING

The pyranometer's sensitive part is a 64 high quality elements thermopile, producing an electronic impulse when exposed to solar radiation. The electronics, designed by CAE, capture the signals and translates them into data ready for transmission.

Particular care is given to design and construction details, such as the use of a sealed container with a double glass dome, the presence of hygroscopic salts to maintain inside air dry and clean and the presence of a white screen to protect the sensor from the deterioration produced by solar radiation. Measurement conditions are therefore



optimized, for the best accuracy of recorded data.

## TECHNICAL SPECIFICATIONS

- Measurement range:  $0 \div 1500 \text{ W/m}^2$
- Spectral window:  $305 \div 2800 \text{ nm}$
- Non linearity:  $\pm 1.5\%$  in the range  $0 \div 1000 \text{ W/m}^2$
- Operative temperature range: from  $-40$  to  $+60 \text{ }^\circ\text{C}$
- Accuracy:  $5\%$  (overall daily) 1<sup>a</sup> class WMO (ISO9060)
- Influencing parameters: sensitiveness dependence from temperature  $< 2\%$  in the range from  $-10$  a  $+40 \text{ }^\circ\text{C}$
- Size:  $150 (\varnothing) \times 115 \text{ mm}$
- Weight:  $1 \text{ Kg}$  (with screen)



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