



# All-out Solar Radiation Sensor

It is a breakthrough sensing device that measures **Global Normal, Direct Normal and Diffuse Horizontal solar Irradiance without** moving parts: its game-changing design and proprietary algorithm summarizes in a single self-standing device the outputs of a pyranometer, a pyrliometer, an albedometer a spectroradiometer, and a monoaxial tracker controller while eliminating the need for extra equipment, such as solar trackers.

In its more advanced versions, it also calculates the **Optimal Inclination of the tracked PV panel**, the **Maximum Irradiation Angle** based on the current measurements of direct and diffuse irradiance.

It also delivers measurements of the **Global Horizontal**, the **Direct Beam Horizontal**, the **Global Tilted Irradiance**, spectral-weighted on the PV panel technology too, the **Ground Reflected Irradiance**, the **Reflected Tilted Irradiance**, and **all solar radiation components divided in four different spectral bands (IR, Red Green, Blue)**.



## Irradiation monitoring made simple, accurate, affordable

- ✓ Small, rugged, portable and lightweight
- ✓ Extremely easy to install and maintain
- ✓ No routine adjustments
- ✓ Polar alignment and tilt-plane independent
- ✓ Usable under any weather conditions
- ✓ Natively designed to be configured in wireless distributed sensing networks delivering highly accurate irradiation assessment and no need for routine calibration

### Cut costs, grow profits

CaptPro breakthrough technology exceeds state-of-the-art systems with comprehensive, cost-effective, single-tool monitoring of performance in PV installations.

By dramatically boosting the fine-grained localization of system failures, inefficiencies and production drops with unmatched, pin-point detail, it allows to **maximize energy production, reduce O&M costs, and to increase profitability for investors, owners, tracker manufacturers, and managers of PV plants.**

At the **same price of a single monitoring station** featuring pyranometers, pyrliometers and sun trackers, and with **sensibly lower maintenance cost**, a CaptPro wireless network provides **+300% more accurate information about plant performance, 10x more precise localization of faults, and the detection of production drops of the order of 1%, thus enabling an increase of up to +5% in energy yield.**

### Applications

- PV plant performance monitoring and yield forecasting
- Solar energy site prospecting
- Meteo monitoring

### CaptPro has been

- calibrated by **World Radiation Centre**
- tested by **DLR, SUPSI, Enel Green Power**

CaptPro is a **sunto** patented technology.