Capetti ELETTRONICA

WineCap Pro

Wireless pyranometer and anemometer

Wireless datalogger to measure solar radiation, wind speed and direction at high stability and accuracy. Free installation in any position. Excellent radio coverage and autonomy.

Suitable to monitor:

- Solar radiation
- Wind speed
- Wind direction

Main features

- Can be installed in any position
- Rugged and impact resistant case
- IP65
- Up to 5 years of autonomy
- Solar radiation: 0÷2,000W/m²
- Wind speed: 0.5÷70m/s
- Wind direction:0°-360°

General technical specifications

Power supply	8.5Ah - 3.6V type "C" lithium internal battery (*BAT2*)
Battery life (*)	Up to 5 years *(samples every 10 minutes and radio signal quality at least sufficient)*
Measures acquired *(3 input channels)*	• Solar radiation • Wind direction • Wind speed
Sampling interval *(*)*	Selectable from one minute to 24 hours *(10 minutes default)*
Datalogger capacity	64,000 samples (*for each channel*)
Working temperature	• Operative: -30°C ÷ +60°C • Warehousing: -40°C ÷ +70°C
Radio frequency	ISM 868MHz
Radio coverage	Up to 6Km in line of sight *(can be extended using WR12 battery powered repeaters)*
Sealing	IP65
Dimensions	90x120x50mm
Weight	350g
Case material	ABS
Mounting	Fix on 4 points
Connections	Wireless, USB
Cable external diameter	4.7mm maximum
Copper wire section	0.05 ÷ 2.5mm² / ÷ 14 AWG

Solar radiation

Transducer type	Thermopile
Measure range	0÷2,000W/m²
Spectrum range	0.3µm – 3µm
Zero offset	<20W/m² (@200Wm²)
Measure resolution	<8W/m²
Long term stability (1 year)	<±2%
Cosine law response	<±22W/m²
Temperature response (ΔT 50K)	<8%
Nonlinearity	<±2%
Expected daily uncertainty	<10%

Wind Speed

Measure range	0.5÷70m/s
Measure resolution	0.1m/s
Measure accuracy	5%

Wind Direction

Measure range	0°-360°
Measure resolution	<1°
Measure accuracy	3°

** battery life may be influenced by fieldwork conditions, sampling/measuring interval and system configuration.*
*** radio coverage can be extended using up to 32 WR12 repeaters (maximum 16 for each path) between the device and the gateway.*

WSD12-LVD

The **WSD12-LVD** wireless datalogger, provided with 3 measure channels, is made as a wireless pyranometer and anemometer with storage functionality of samples acquired.

It finds extensive use in environment monitoring as a measurer of global irradiation on the surface of solar panels (W/m²), correctly capturing the entire solar spectrum, and as a primary element of a meteorological station for measuring solar irradiation, wind direction and speed.

Device's main feature is the possibility to be installed **easily and rapidly in any position**. Can be fixed using dowels or directly glued on a surface.

The datalogger acquires three measure channels: solar radiation, wind speed, and wind direction.

Measure must be corrected with the cosine law, which define the maximum irradiation on a surface when the light weighs on it perpendicularly and reduces when the incidence angle decrease.

The radio module High Reliability (*unique 868MHz radio technology. implementing frequency hopping on 11 channels*) based on **WINECAP™ LuPo** protocol (***L****ong* ***R****ange*) provides an excellent radio range, low battery consumption and the certainty of data recovery in any situation (*black out/ signal obstacles*).

With a backup memory onboard may store the last 64,000. samples per channel even if the wireless link is down. Samples can be downloaded using a USB connection.

Using the configuration software, the sampling interval may be set and two thresholds per channel can be activated.

Can be interfaced with:

- all the **gateways** of MWDG product line
- all the **gateways** of MWLI product line

If necessary, radio coverage may be extended up to 16 times using **WR12 repeaters** (*battery powered repeaters with battery life up to 7 years*) between the datalogger and the **gateway**.

The features shown may be subject to change without notice.