



Weather measures peripheral module

General features

MTM-PV weather module is able to perform the following measures:

- Sun radiation from external silicon cell positioned on the same plane as PV panels (range $0 \div 1500 \text{ W/m}^2$).
- Sun radiation from external silicon cell positioned on horizontal plane (range $0 \div 1500 \text{ W/m}^2$).
- Temperature of PV panel, from digital probe located behind the panel (range $-40^\circ\text{C} \div +100^\circ\text{C}$).
- Environment temperature from digital probe (range $-40^\circ\text{C} \div +70^\circ\text{C}$).
- Wind speed (50 m/s max) from external anemometer (pulse output).

The weather module MTM-PV is installed near to the PV plant to ensure valid signals not corrupted from disturbances.

To guarantee high accuracy in sun radiation measurement, it is possible to preset the module with the calibration parameters of the used reference cell.

The module is arranged in an IP66 enclosure. It is powered directly by E2M-PV module, which is connected to via a RS485 bus over Modbus RTU protocol.

The E2M-PV module is able to manage up to two distinct MTM-PV modules.

The environment and panel temperature probes are supplied with the MTM-PV module, while the other probes (cell irradiation, pyranometer, and anemometer) are supplied optionally.

Technical specifications

- 1 voltage channel $0 \div 60 \text{ mV}$ ($0 \div 120 \text{ mV}$ on request) for calibrated sun radiation cell positioned on the same plane of PV panels (cell not included).
- 1 voltage channel $0 \div 60 \text{ mV}$ ($0 \div 120 \text{ mV}$ on request) for calibrated sun radiation cell positioned on horizontal plane (cell not included).
- 1 temperature input from digital temperature probe for panel temperature (range $-40^\circ\text{C} \div +100^\circ\text{C}$) (probe included).
- 1 temperature input from digital temperature probe for air temperature (range $-40^\circ\text{C} \div +70^\circ\text{C}$) (probe included).
- 1 input channel for pulse output anemometer (wind speed).
- Accuracy: class 1 for all the quantities.
- Average measures over 10 sec. interval.
- RS485 field bus terminal blocks with independent input and output blocks (daisy chain)
- Overvoltage suppressors for all inputs.
- Power supply: 12 Vdc from E2M-PV module.
- Plastic enclosure IP66 30x20x10 cm, with sealed cable glands.

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