

Application Note

MaxiMet & MetPak monitoring at Solar Farms

Reference: AN0024

Introduction



The fully integrated, compact station MaxiMet and the flexible professional station MetPak are used in the solar farm market to provide additional important meteorological parameters and are often used alongside ISO 9060 second class, first class and secondary reference solar radiation sensors to assist the solar farm owner/operator with monitoring the expected power yield from the solar farm as this will often be required for regulatory requirements and investment purposes.

Monitoring

Other parameters monitored alongside solar radiation usually include temperature, humidity, wind and rain to provide the owner / operator with information that can indicate a possible increase or reduction in the efficiency of the solar farm:

- During periods of rain the solar production is reduced, however, the rainfall can be used as an indication of how often a panel may need to be cleaned.

- The temperature input on the MetPak can be used to monitor the temperature on the back of a solar cell to help monitor cell efficiency which is dependent on temperature.

- Wind inputs are also used to help understand wind loading on large solar cells and to help change the angle of incidence where required when the wind is above desired thresholds.

- Solar sensors can be added additionally mounted on the array angle of incidence to capture both the reference level of solar radiation according to WMO standards (through the MaxiMet / MetPak standard installation with the solar sensor vertically orientated) as well as the actual panel level of solar radiation measured by the additional solar sensor mounted at the angle of incidence on the edge of the solar panel.

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MaxiMet and MetPak provide the owner / operator with compact integrated solutions for most of the required meteorological parameters and there low or no maintenance approach helps to reduce integration costs and long-term running costs.

Installation

An example of a MetPak installation in Italy provided by Lombard & Marozzini can be seen below:



Further installations carried out across the UK by Parabell can be seen below:



