Model GEO-MDFS2
Automatic Soiling Monitoring System
IEC 61724 Compliant

Soiling becomes an important factor on PV plant performance. It is actually the third factor in order of impact into energy production, after Solar Irradiation and Ambient Temperature.

Unlike other meteorological parameters, Soiling can be controlled by solar panel cleaning. **GEO-MDFS2** with **METEODATA** datalogger provides automatic soiling ratio calculation & configurable alarm in a PV plant useful for:

1) Planning ad-hoc cleaning schedule.

2) Obtain the Performance Ratio (PR) of PV plant on every instant for improved & detailed control of plant performance.

GEO-MDFS2 sensor provides up to 6 channels with information:

1. Clean Cell Radiation (W/m^2)
2. Dirty Cell Radiation (W/m^2)
3. Corrected Dirty Cell Radiation (W/m^2)
4. Solar Elevation Angle (º)
5. Soiling Ratio (%)
6. GEO-MDFS2 Status

GEO-MDFS2 meets IEC 61724 and it is based on the comparison of two solar reference cells: one clean and the other one soiled to obtain the **Soiling Ratio**.

It consists of Poly-crystalline Compensated Calibrated Cells for the measurement of Solar Irradiance with internal temperature compensation, both mounted on a common adjustable tilt stand.

Two Cleaning Control buttons: Clean Cell button when that cell is cleaned, and Pairing button when both cells are cleaned for automatic calibration / pairing function.

- ■ **Automatic Soiling Ratio Monitoring**
- ■ **Accurate Real-Time Measurement**
- ■ **Compensation of temperature, solar elevation angle, and hour of the day**
- ■ **Auto-Adjustment**
- ■ **Status Information**
- ■ **Mounted on a common adjustable tilt stand**
- ■ **METEODATA Datalogger / Communication unit**
- ■ **IEC 61724 with PV reference cell. Measurement Method 1 – Max power reduction due to soiling**

GEO-MDFS2 is engineered as an add-on for **METEODATA** datalogger. Thanks to the advanced capabilities of ultra-low-power autonomous **METEODATA** unit, Soiling Ratio can be obtained using any of the communication options available (3G / GPRS, radio link, satellite, Ethernet connection, MODBUS, etc.). From Central Station or SCADA is possible to manually or automatically get information from all measurement stations, remotely program all their functionalities. To assure availability of the soiling data when no communication or power is available, its Flash internal memory and batteries give autonomy of several months.

METEODATA
Datalogger / Communication Unit