

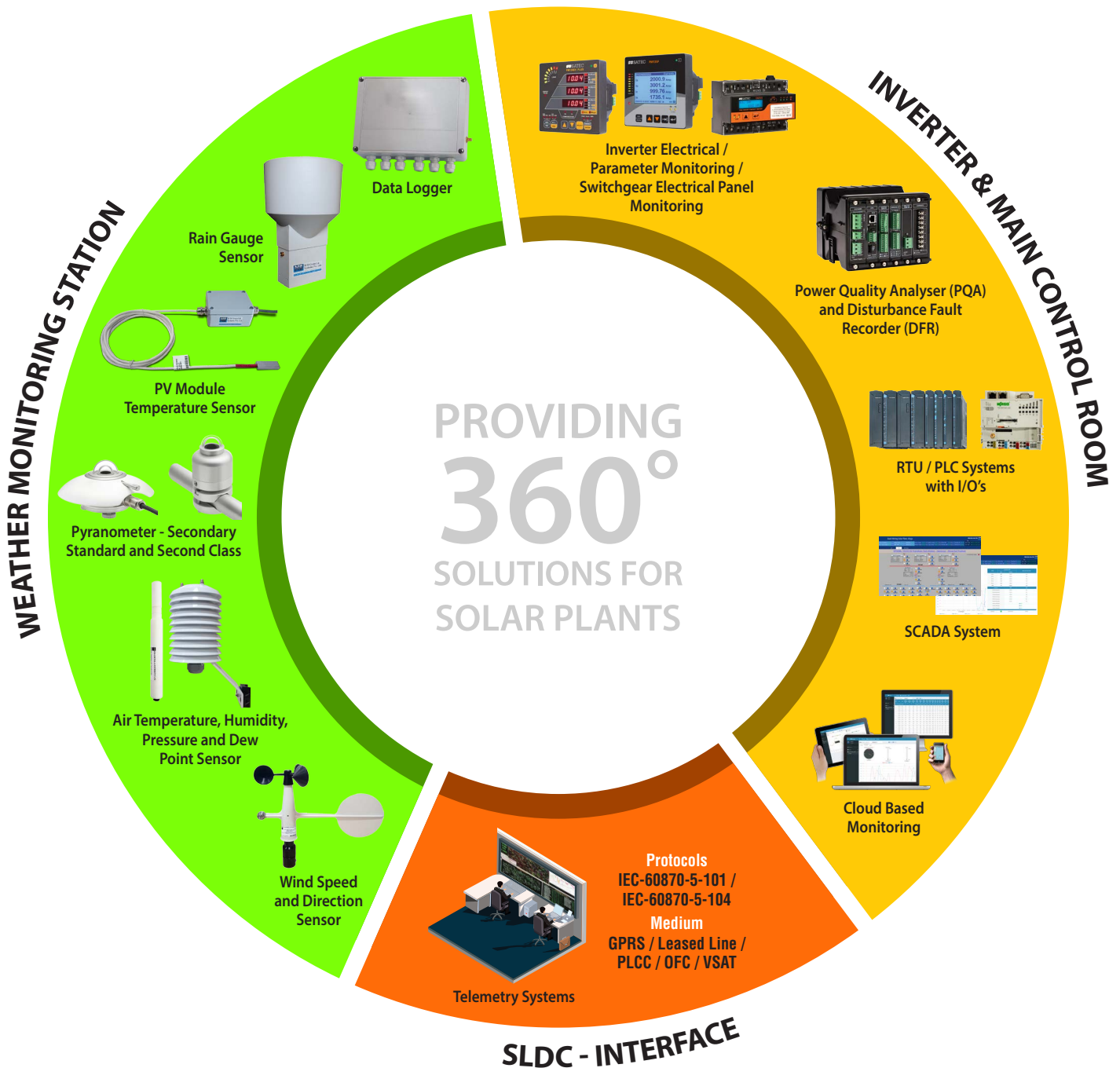


SOLAR PLANT MONITORING AND CONTROL – GROUND MOUNTED (MW SCALE)

- Monitor parameters from Sting Combiner Boxes (SCB's), inverters, weather stations, meters and other IED's
- Weather Monitoring Station (WMS)
- Data logging
- ICR's communication to MCR via Modbus/Rf/OFC
- SCADA System with reports and alarms
- Monitor solar plant generation performance
- Remote user access and reports
- Telemetry System - SLDC Interface

INTRODUCTION

According to International Energy Agency (IEA), solar energy has tremendous potential in the energy sector and since 2016, solar power has been the fastest growing source of new energy globally. Managing solar plants require precise monitoring and SCADA systems that is designed to address the unique challenges of maximising Photovoltaic (PV) power generation. At MBCS, we realise this and are committed to offer technological solutions addressing the needs of Solar Power Industry worldwide. We act to leverage as a single vendor in Solar Plant Automation System to harness this non-conventional resource and promote green energy to create a low carbon future in the most cost effective, reliable, and efficient way.



SOLAR PLANT MONITORING - SMART SOLUTION

In solar plants, it is essential to monitor and ensure optimal performance for higher solar yield. Our offerings allow complete monitoring and preventive maintenance of solar plants to meet the above stated objectives as per latest IEC standards.

Solar plant monitoring is done using PLC/ RTU systems, SATEC intelligent Multi-function meters, Weather Monitoring Stations, SCADA pages and reports. Further, as per CEA guidelines, we provide Telemetry Systems as per latest communication guidelines.

Required parameters and status information of Inverters, meters, weather Station, IED's, relays, etc. are collected from each Inverter Control Rooms (ICR). All these parameters are then displayed via local SCADA HMI pages in the Main Control Room (MCR).



Function performed by our system :

- PLC/RTU System will communicate with all SMB's, Inverters, Transformers, MFM etc. via Modbus RTU/TCP
- Communicate with all protection and control relays via IEC-61850 protocol
- Monitor digital status via optically isolated digital inputs
- Monitor time stamped (one msec. resolution) SOE
- Provide required time stamped parameters and SOE to local and remote SCADA
- Monitor weather parameters through weather sensors
- Local SCADA system provides display of all parameters from the solar plant
- Provide required reports and performance analysis
- Provide reports and alarm event alerts via emails
- RTU system shall also provide required telemetry System: Communicate with remote SLDC and provide required real time parameters to SLDC
- Communicate with SLDC can be via available communication media- like GPRS, Leased lined, PLCC, V-SAT, and Radio etc.
- Optional - Redundant telemetry communication links and communication with multiple SCADA centers



Local & Remote Monitoring

Why MBCS?

With 37+ years of experience in delivering automation system projects combined with 12GW+ expertise in solar, it makes us the perfect technology partner for EPC's/ Plant owners/ Consultants etc. We offer 360° approach in solar plant automation reducing integration costs, delivery time and ensuring high performance of the plants.

- Leading automation solution provider combined with in-house hardware and software development.
- Manufacturing, engineering, testing, commissioning and after sales service offered by us, ensuring reliability and cost advantage.
- Integrated automation solution package, from string level monitoring to SLDC data interfacing.
- Proven systems – already installed and operational in multiple sites



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