

# Data Logging System

## DESCRIPTION:

The Solar Data Logger (SDL) from SERTEL Systems is a Remote Solar Plant monitoring equipment which enables you to collect and store important data regarding the health and performance of your PV Solar plant. The system collects relevant information from your inverters, energy meters and vital sensors such as irradiation and cell temperature sensors and stores the information automatically in our SERTEL servers with automatic storage in on-board memory during network outages. The historical data can then be viewed through our SERTEL web portal which provides an easy interface to view your data and perform related analytics. The equipment works with a wide variety of industry standard inverters and energy meters. The system can also be integrated with SERTEL's Solar Display units to display power and energy generation data locally as well as remotely.



## Key Features of the Solar Data Logger

1. Interface to Solar irradiance, cell temperature, humidity, ambient temperature sensors and weather stations.
2. Interfacing the billing energy meters; supports

import/export meters, multi-function meters, and Static KWh meters with digital interface in the plant with provision to add multiple meters and/or sub-plants within a plant.

3. Supports wide variety of inverters - RefuSol, ABB Central and String Inverters, Zever Solar Inverters, Delta Inverters and Huawei Inverters.
4. Possible to connect different types/models of inverters within a single plant.
5. On-Board GPRS module, no need of external modems and routers for network connectivity. Algorithm to maximize the data communication even during weak network signal conditions.
6. Very low power consumption.

## Technical Information

### Supported Inverters

1. RefuSol inverters
2. ABB String Inverters
3. Zever Solar Inverters
4. ABB Central Inverters
5. Delta Inverters
6. Huawei Inverters, etc

### General

1. Power Supply : 12V DC
2. Power Consumption : <2 Watts Standby
3. Installation/Mounting : 35mm DIN Rail Mountable
4. Field Cable Termination : Easy to install Push-Button Terminal Block

## Interface and Communication Protocols

1. Ethernet with RJ-45
2. RS-485, RS-232
3. Modbus, USS, SunSpec, Custom Protocols
4. Irradiance and cell temperature sensors with RS-485 output.
5. Energy meters/Multi function meters with Modbus RTU protocol.
6. Internet connectivity through GPRS.
7. Portal connectivity with Wired LAN with



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internet connection if available.

#### 8. Supported Networks

GSM/GPRS/2G/3G/4G.

#### Auxiliary Plant Components

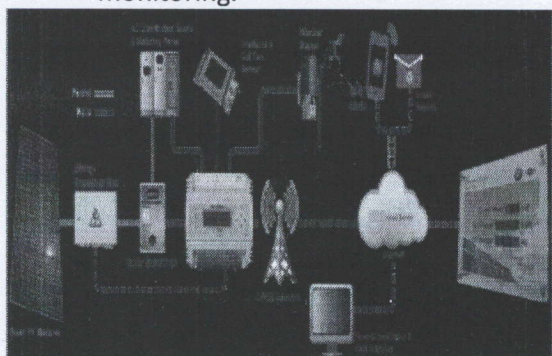
1. Solar irradiance, Cell temperature Sensors
  2. Humidity, Ambient Temperature Sensors
  3. Weather Stations, Rain Sensors
  4. String Monitoring boxes etc
- Response Time  
1 second @ 5m/s flow

#### FUNCTIONAL SETUP

- Stores all data to the on-board non-volatile memory during
- network unavailability with provision to recover data to PC in case of hardware failure.
- Server synchronised on-board data logger clock used for the data time stamp.
- The key config. parameters in the logger can be modified from the cloud server.
- Auxiliary plant components such as String Monitoring boxes, Rain Sensors, can be connected.
- Provision for communicate through wired with internet
- connection if it is available at site.
- All plant data are stored into SERTEL server.
- The historical data and analytics are available through SERTEL Portal.
- Options for local or remote public displays for solar power and energy monitoring.

#### APPLICATION

- Meteorology Lab
- Pharmaceutical
- Ventilation air conditioning
- Food processing industries
- Testing and Calibration Lab
- Research Lab etc.



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