LOGICS POWERAMR PRIVATE LIMITED

Solar Plant Management & Industrial IoT Solutions

System Integrator and Pioneer in Solar Plant Management, Energy Management Systems, Metering Automation, Weather Sensors, Scada, Analytics, Data Loggers, Water Management System

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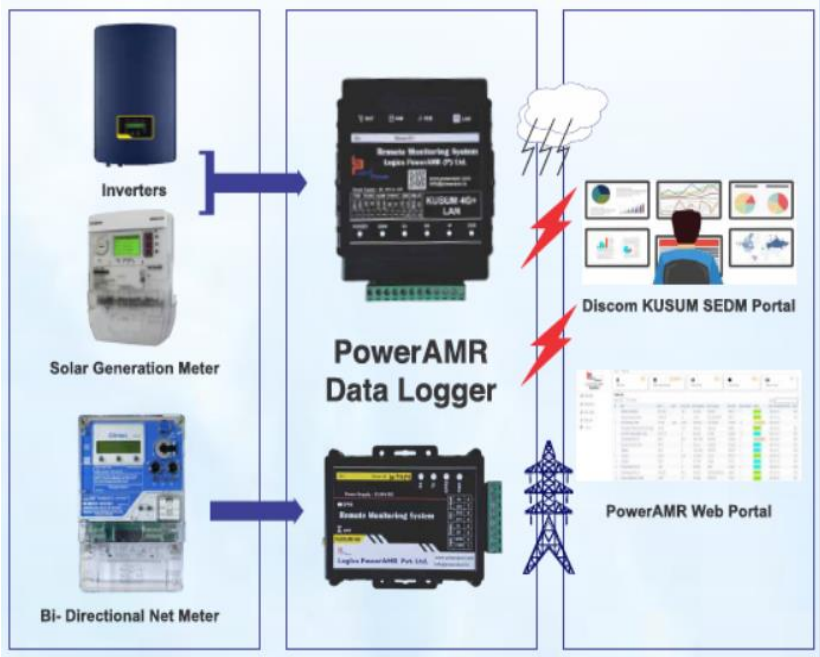
Remote Monitoring System (RMS) for PM-KUSUM

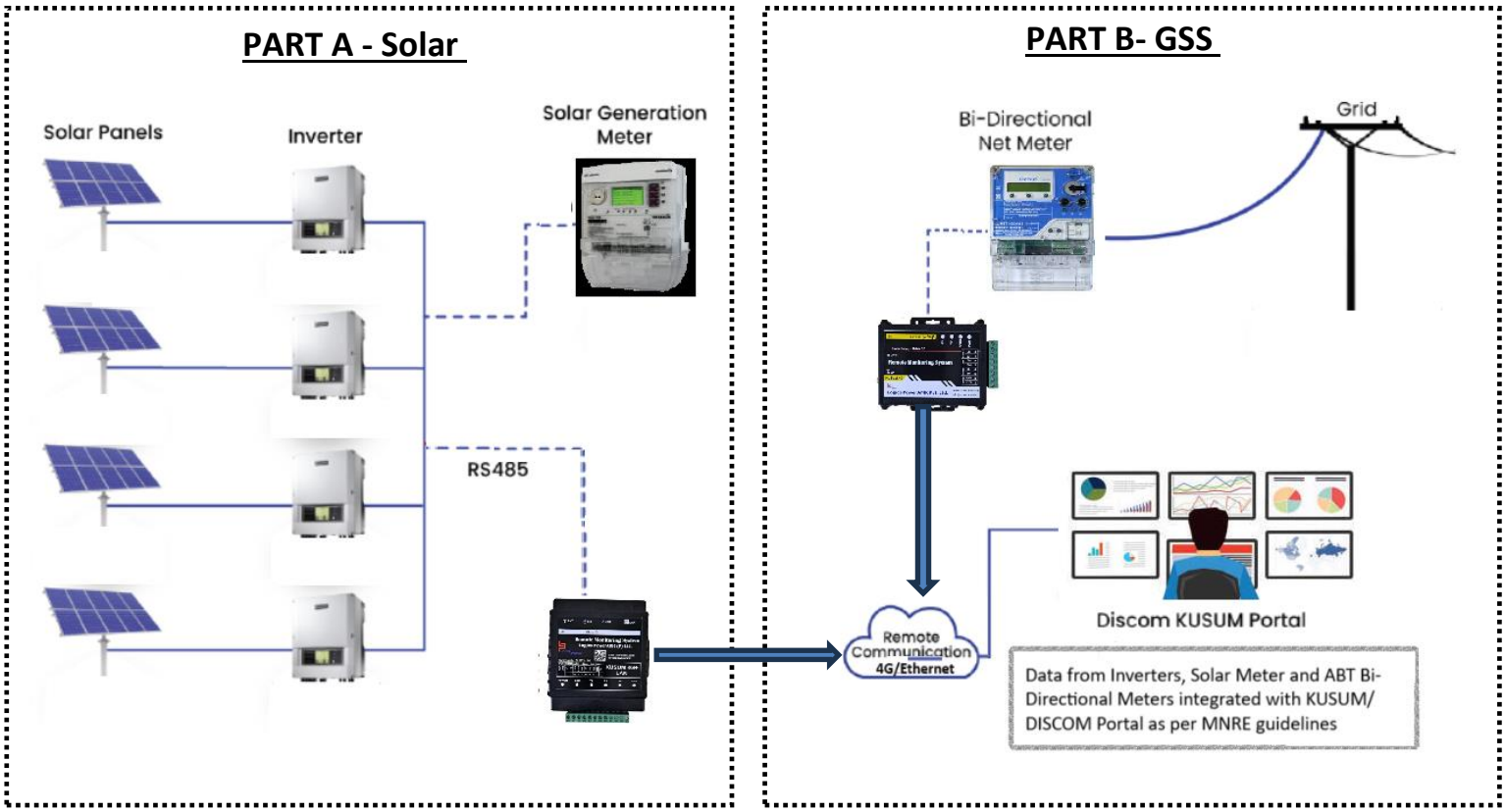


KUSUM Data Logger

- Industrial IoT based DCU- Kusum Data logger with data acquisition system for providing a single point interface for Inverters, Energy meters with common state level software platform as per MNRE guidelines and simultaneously sending data to Client Portfolio for Centralized Data Monitoring.
- RMS shall interface with Net meter, Generation meter and inverters through Modbus RS485 RTU protocol
- The system provides seamless integration with Discom/KUSUM portal, accurate and reliable readings

www.poweramr.in/ www.poweramr.com	1st Floor, A-55, Office No 3, Sector 16, Noida, UP- 201301
info@poweramr.in	+91 8368403516, 8076963066

System Architecture



Part-A:

- Data Logger shall collect the data from inverters, MFM/ ABT Meter and plant side devices through RS485 port and MODBUS RTU protocol.
- This solution includes supply of Data Logger with panel and required accessories as per communication requirements

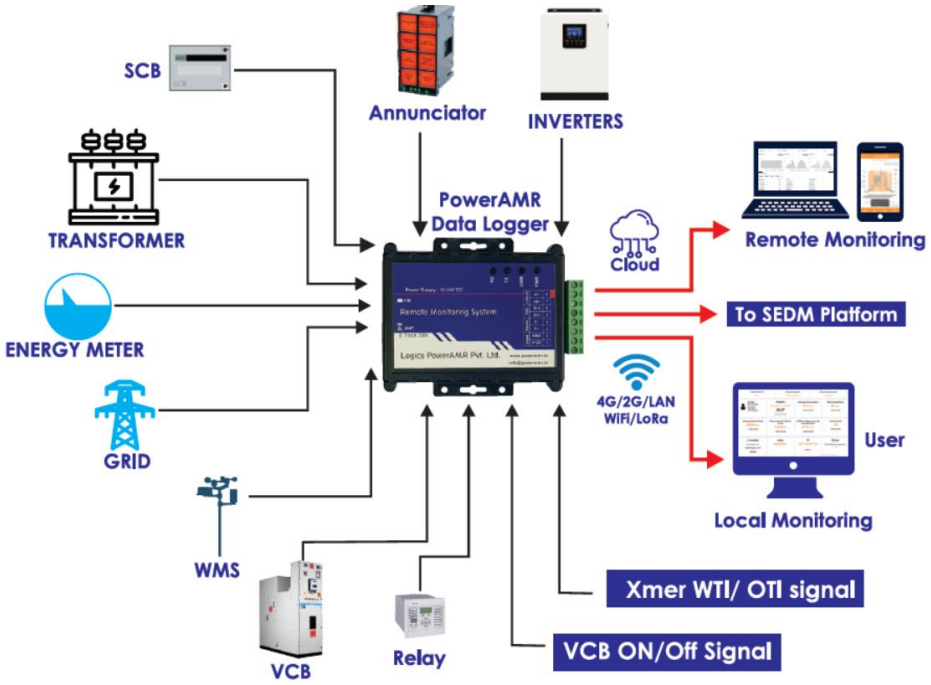
Part-B:

- Data Logger shall interface with ABT net meter (Main or Check) through RS 485 port or DLMS protocol.

Key Features

- **Integration with DISCOM/ SEDM portal-** Single point interface with common state level software platform for all plants under PM-KUSUM
- **Real-Time Monitoring**: Ensure maximum uptime and improved energy efficiency with plant-level control and performance analytics.
- **Centralized Management**: Coordinate multiple plants efficiently with district-level CMS for seamless performance tracking. Option to send data simultaneously to two servers
- **Cloud-Based Reports** & **Analytics**: Access detailed, customizable insights for data-driven decision-making
- **Advanced Data Protocol** (**MQTT**): Enable fast, secure data transfers to ensure reliable communications across systems.

Other SCADA Parameters



Optional Parameters

- Transformer WTI/OTI Parameters
- Numerical Relay
- VCB MFM Parameters
- VCB Status
- Analog & Digital Signals
- Annunciator
- Weather Monitoring Sensors
- Line Loss Between receiving and generation end

Procedure-

1) Panel at Solar Plant side shall house the Data Logger and accessories to read the inverters and Solar generation meter. This is only indicative and subject to change reference to your site installation.
2) Panel at GSS side shall mount the data logger to read the ABT Bi-directional Net meter and check meter
3) RMS shall communicate with State level server as per communication architecture guidelines provided by MNRE through MQTT protocol.
4) There is a possibility that the ABT net meter and main Check meter might be sealed from the grid side by authority. Customer shall provision for appropriate cable outside the panel to allow for Data Logger connection direct through RS485/RS232/DLMSAs per metering panel 2, to be connected with the grid.
5) We will provide integration with DISCOM/MNRE portal.
6) Customer Login shall be provided by DISCOM/MNRE, as per their approved provision

Details required for KUSUM data logger-

1) Solar end-
   - Plant size (DC), Plant Size (AC),
   - Make, no and Rating of inverters
   - Solar ABT meter/ MFM- make and model
   - Distance between inverters and solar meter

2) GSS end-
   - Bidirectional (ABT) Meter make and model

3) Login required for Centralized Monitoring through Logics PowerAMR Dashboard or only KUSUM compliance for integration with DISCOM/ SEDM Portal

4) Other Parameters, if any, required to integrate along with its datasheet and communication protocol