



M B Control &  
Systems Pvt. Ltd.

Innovative Electronics For You

## Industrial Automation Systems



Power Generation | Power Transmission | Power Distribution  
Renewable Energy | Heavy Industries



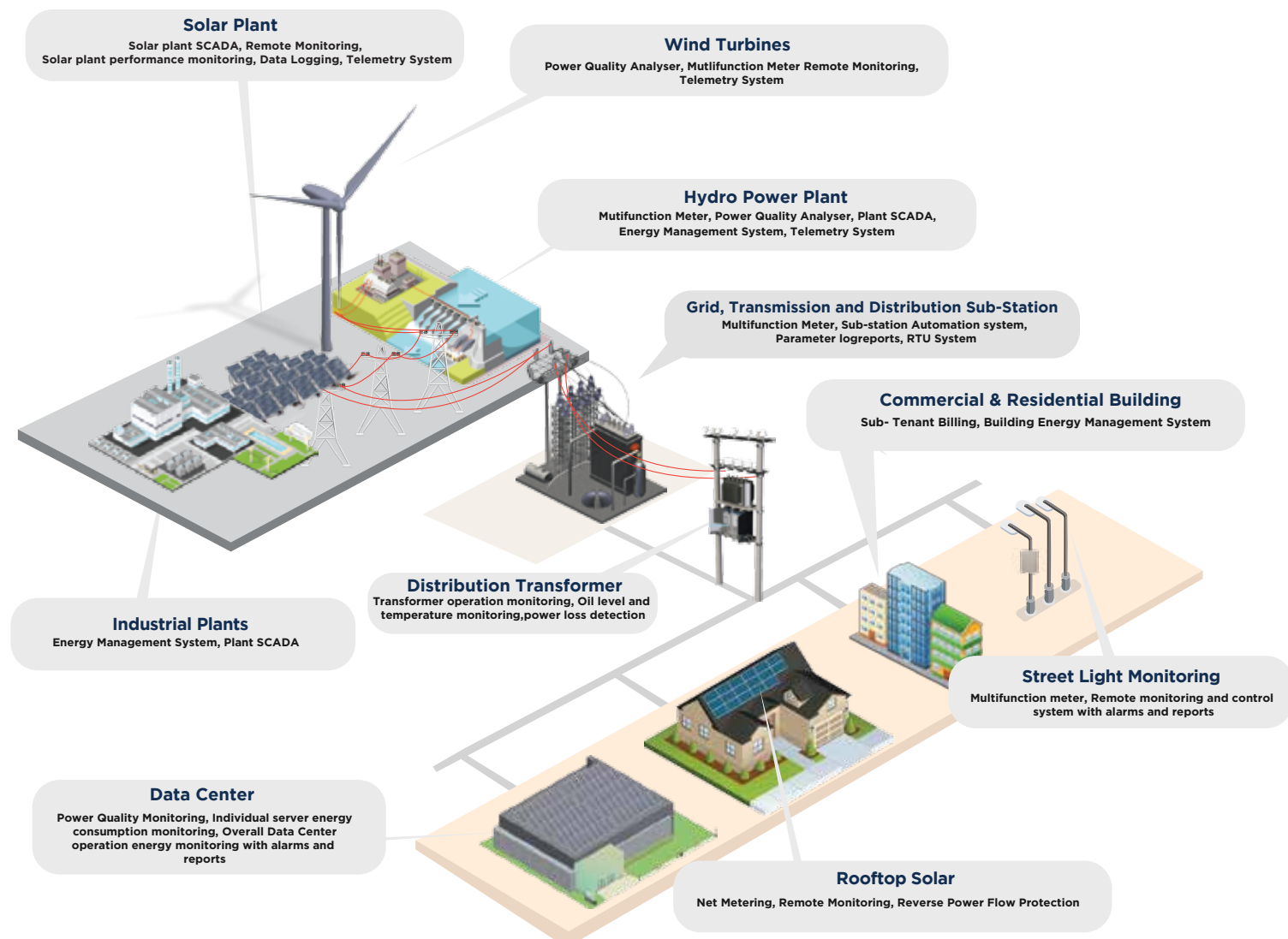
# MB CONTROL & SYSTEMS PVT. LTD.

M.B Control & Systems Pvt. Ltd. an ISO-9001-2008 company, since its inception in 1983, has been committed to providing innovative Electronic Systems, Solutions and Equipments for control and monitoring of industrial/ utilities assets and installations. We design, manufacture, install, commission and maintain industrial/ utilities Electronics Systems on turnkey basis.

We are one of the leading manufacturers and solution providers for Telemetry Systems, Energy Management Systems, Remote Data Collection Systems, RTU Systems, SCADA Systems, Sub-Station Monitoring and Control Systems, Renewable Energy Plant Monitoring and Control System, Datacenter Monitoring Systems, Distribution Transformer Monitoring and Control, Street Light Monitoring and Control Systems, Multifunction Meters, & Power Quality Monitoring etc.

Our team of experts are available located pan India to provide support and technical solutions to questions ranging from generic to complex. We consider excellence of products and service as a key to gaining customer loyalty and satisfaction.

## SOLUTIONS



# MULTIFUNCTION POWER METERS/POWER QUALITY ANALYSERS

We offer full range of Multi-Function Power Meters. These Multi-Function Meters can effectively measure, control and analyze parameters for Power Quality and Fault Analysis. These can be used as standalone systems or be integrated in SCADA based power management systems. User defined registers and high speed communication enables real time parameter monitoring and accurate energy balancing.

PAS software is a comprehensive analysis and engineering software designed to program and monitor all SATEC devices at no extra charge. It is supplied to configure and analyse disturbance and faults.

## PM 130 EH+



- **Multifunction three phase four quadrant Power Meter – Panel mounted**
- LED Display
- Alarm & Control Functions via built in PLC logic
- Communication ports- RS485, RS232 and ETH
- NV data log memory
- Meets accuracy class 0.5S and 0.2S as per IEC - 62053-22- 2003, IS- 14967
- Optional I/O Modules: 4AO, 4DI + 2DO, 8DI, 12DI+4DO
- Optional Communication Module: ETH, RS-485, RS-232, Cellular Modem
- Protocols available- MODBUS RTU, MODBUS TCP, DNP3, Profibus, IEC-60870- 5-101 and IEC-60870-5- 104

## PM 135



- **Multifunction three phase four quadrant Power Meter – Panel mounted**
- LCD Display
- Alarm & Control Functions via built in PLC logic
- Communication ports- RS485, RS232 and ETH
- NV data log memory
- Meets accuracy class 0.5S and 0.2S as per IEC - 62053-22- 2003, IS- 14967
- Optional I/O Modules: 4AO, 4DI + 2DO, 8DI, 12DI+4DO
- Optional Communication Module: ETH, RS-485, RS-232, Cellular Modem
- Protocols available- MODBUS RTU, MODBUS TCP, DNP3, Profibus, IEC-60870- 5-101 and IEC-60870-5- 104

## EM 133



- **Multifunction three-phase Power Transducer – DIN Rail mounted**
- LCD Display
- Built-in clock, calendar, 2DI and 1 DO
- Alarm & Control Functions
- Direct current measurement up-to 63A
- NV data log memory
- Meets accuracy class 0.2S and 0.5S as per IEC - 62053-22- 2003 and class 0.2 as per IEC-60688
- Optional I/O Modules: 4AO, 4DI + 2DO, 8DI, 12DI+4DO
- Communication ports- Optical port, & RS-485
- Optional Communication Module: ETH, RS-485, RS-232, Cellular Modem
- Protocols available- MODBUS RTU, MODBUS TCP, DNP3, Profibus, IEC-60870- 5-101 and IEC-60870-5- 104

## BFM - II



- **Multi-channel DIN Rail Multi-Function Meter- Wall or DIN Rail mounted**
- Configurable from 18 to 54 channels (each channel can be configured as single or three phase inputs)
- Real Time Clock and TOU
- NV Data log memory – 256 MB
- Optional LCD Display
- Wide range of HACS (High Accuracy Current Sensors) available
- Meets accuracy class 0.2S and 0.5S according to IEC 62053-22 including HACS
- Optional I/O Modules : 9 DI , 18DI, 9DO, 4 AI
- Communication ports- RS485, ETH and Cellular Modem

## PM 175



- **Multifunction three-phase Power Meter and Power Quality Analyzer– Panel mounted**
- Built in 2DI + 2DO. Optional 2AI.
- Event, Data and Waveform Log via 1 MB NV memory
- Alarm & Control Functions
- Accuracy class 0.2S according to IEC 62053-22-2003
- Advanced Power Quality Analysis and reports as EN-50160 and IEEE-519 standards
- Optional I/O Module: 2 AI
- Remote monitoring of data and waveforms via SATEC Expert Power service
- Protocols available- MODBUS RTU, MODBUS TCP, DNP3
- Two communication ports: Communications options available: COM1: RS-232/RS- 422/RS-485 Ethernet 10/100BaseT/ Profibus DP Cellular Modem COM2: RS-422/RS- 485

## PM 180



- **Disturbance and Fault Recorder– Panel mounted**
- Measurement and fault CT inputs.
- Up to 150A fault currents
- Non-volatile memory for data logging – 256MB
- Plugin modules for DI, DO and AI
- Remote monitoring of data and waveforms via Expert Power service
- Accuracy class 0.2S according to IEC 62053-22-2003
- Protocols available- MODBUS RTU, MODBUS TCP, DNP3, IEC-60870- 5-101 and IEC-60870- 5-104 and IEC-61850.
- Communications ports, RS485, RS232, ETH, IRG-B, cellular modem etc.

## ETC II



- **Data Concentrator Unit (DCU) and Communication Gateway- DIN Rail mounted**
- Communicate with multiple MFM
- Real Time Clock
- Non-volatile memory for data logging – 256MB
- Communication ports – RS485, RS232, ETH and cellular modem
- Protocols available- MODBUS RTU, & MODBUS TCP

## ETC I plus



- **Communication Gateway and protocol converter- DIN rail mounted**
- Communicate with multiple MFM with MODBUS master
- Communication ports – RS485
- Optional communication ports – ETH and Cellular modem
- Protocols available- MODBUS RTU, MODBUS TCP

## SMART GRID SOLUTIONS – TELEMETRY SYSTEM

Design, supply and install complete telemetry systems for all types of power generation plants, IPP, renewable energy, power consumers etc. The system can be implemented via any available means of communication like GPRS, Leased lines, PLCC, V-SAT, wi-fi, and Radio etc. (as per SLDC norms and Grid code.)



## SMART SOLUTIONS - INTEGRATED SCADA AND ENERGY MANAGEMENT SYSTEM

Our integrated SCADA and EMS system is the perfect solution for Power Generation, Transmission, Distribution, Industrial Plants, Renewable Plants, Oil & Gas, Substations, Buildings etc. With an extensive SCADA experience, we provide end-to-end turnkey solutions. Our company focuses on long term relations by providing SCADA solution to our clients with site engineers stationed at multiple locations for on-site services.



- Integrated SCADA with Energy Management System along with meters, RTU, data concentrator, software and data converters
- Option to integrate with air conditioning, water and gas meters
- Display Real Time parameters with energy
- Generate Reports
- Display trends, alarms, minimum, maximum and average values
- SMS and Email service for Alarms & Reports

## INDUSTRIAL INSTRUMENTATION

### MB THERM PID CONTROLLERS



- Microprocessor based
- Three point alarm with 19 alarm modes
- LED display for output relay and alarm status
- Display resolution I or 0.1 programmable at site Internal 14 bit resolution
- High display accuracy  $\pm 0.1\%$  FS  $\pm$  USD
- \*Output: Relay, SSR drive or 4-20mA
- Power consumption - 2VA mm,
- Size available – 48x48mm, 48x96, 96x48mm, 96x96mm

### MB THERM DIGITAL PANEL METER



- High accuracy
- Automatic ambient temperature Compensation for Thermocouple sensor
- Automatic wire resistance compensation for RTD sensor
- Low power consumption
- Input sensors can be selected by user

### POWER CONTROLLERS



- Available for single and three phase applications
- Load current range from 20A to 300A.
- Phase angle and ON/OFF control
- Zero voltage switching option
- Analog control input - 0-20mA, 4-20mA, 0-5V



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