

**masibus**<sup>®</sup>  
Advanced Automation - Sure Solutions

## EMS Catalogue

We *manage* Savings *in* your *business*



Integrated Energy Management Solutions



[www.masibus.com](http://www.masibus.com)

# Save Energy with Masibus

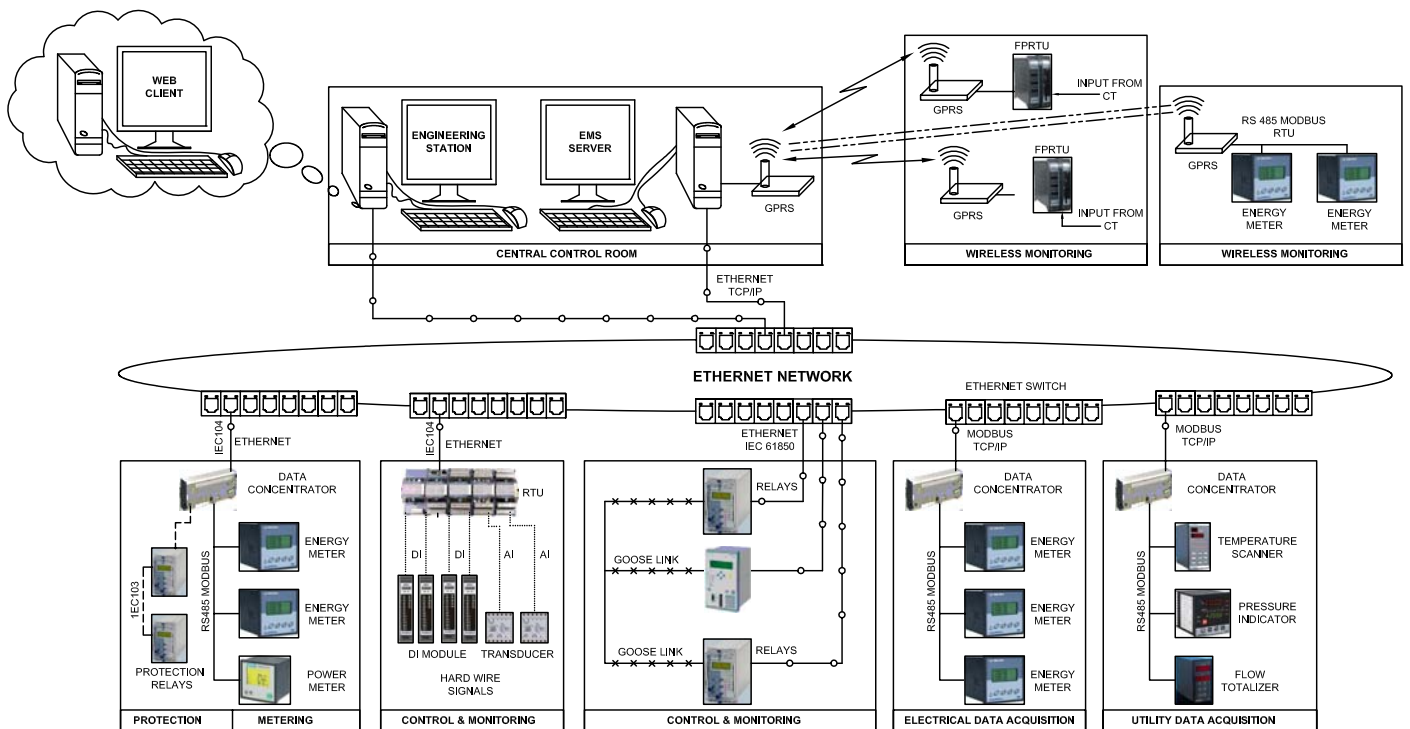
Masibus with its reputation for a strong customer orientation and technology advantage that characterizes its projects and products is amongst the top providers of total Energy Management Solution. Masibus offers computer aided energy optimization and management systems, combined with value added services of customization, installation, commissioning and services.

## Benefits of EMS system:

- **Understanding the behavior of energy systems** under various operating parameters based on which appropriate operational changes could be incorporated for achieving maximum energy efficiency of system within stipulated constraints
- **Preventive actions planning** can be done such as changing operating parameter, switching over to stand-by equipment, process modification etc. by identifying performance deterioration
- **Energy optimization planning** such as replacement of low efficiency equipment with energy efficient technologies
- **Maintenance planning** by reviewing comprehensive energy database
- **Implementation of energy efficient technologies** for future project and applications

Masibus' Computer aided energy management system offers the most needed specific-energy consumption data from the plant to the managers and serves as the most valuable MIS for top executive.

## Energy Management Solution



## EMS Offering

Masibus offers Integration of all electrical protection relays/metering, Feeder Pillar, GPS Time Synchronizing, Sequential recorder as well as utility like UPS, DG set, Battery and Battery charger, Fire alarm system etc. Masibus' main USP is system integration of third party hardware and software along with domain experience on handling communication protocols like Modbus-RTU, TCP/IP, DNP 3.0., IEC101/103/104/61850, IRIG B, SNTP, NTP, Profibus etc. Masibus offers Comprehensive Energy Management System to achieve ISO 50001.

Masibus' offerings improve system efficiency by providing real time data for control and monitoring. Remote control of switchgear equipments, automatic load shedding, logging of all operations & availability of historical data for analysis is the part of Masibus energy management offerings. Masibus optimizes by providing protection, metering, event recording, time synchronization & system integration of mentioned hardware and software solutions to the customer over media like Fiber/Wireless (GPRS solution).

Masibus manufactures its own products like Power transducers, Sequence event recorders, Energy meters (load managers) & GPS receivers. All substation automation applications need time synchronization for exact time analysis. Masibus offers GPS receiver which understand multiple communication protocol through time distribution rack (TDR). Masibus is well capable to integrate with third party IED's, Numeric relays & PLC's as our system has capabilities to interface with third party devices.

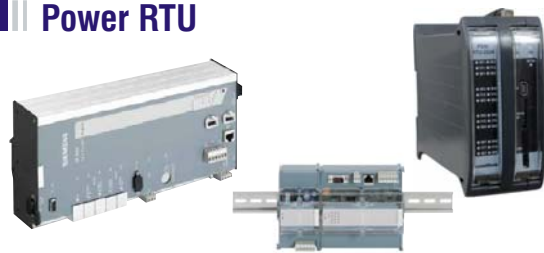
## Protection Relays and Meters

### Meters



- Measurement of V, I, KW, KVAR, Hz, KWh, KVARh, PF, Symmetry Factor, Voltage and Current harmonics up to 21st, THD
- Single-phase, three-phase balanced or unbalanced connection, four-wire connection
- PROFIBUS-DP or Modbus-RTU/ASCII or IEC 60870-5-103 communication protocol

### Power RTU



- Multiprotocol support
- Acquisition, processing & output of process data
- Integrated Web Server
- Facilitates seamless integration in existing automation
- Configurable Telecontrol function
- Interfacing and supplying of the I/O modules
- Bidirectional GSM communication
- SMS for alarm on user's cell phone

### Feeder Protection Relays



- Cold load settings
- Four settings Group
- Password protection -2 levels
- User programmable logic
- Self monitoring
- Circuit breaker trip and maintenance Counter
- Trip Timers

### Motor Protection Relays



- Sensitive earth-fault detection
- Intermittent earth-fault protection
- High-impedance restricted earth fault
- Inrush restraint
- Motor protection
  - Undercurrent monitoring
  - Starting time supervision
  - Locked rotor
  - Load jam protection
- Overload protection
- Temperature Monitoring
- Easily Programmable settings and user interface
- Thermal overload and restart inhibit protection

## EMS Solution comprises of

- Data Acquisition
- Monitoring
- Logging
- Controlling
- Reporting
- Predictive Maintenance
- Alarms
- Integration

Energy management is a critical activity in industries due to constraints in the availability of primary energy resources and the increasing demand for energy.

Industries like steel, fertilizers, power generation, petroleum refining and petrochemicals, which consume substantial quantum of energy, warrant effective control for survival. Endless energy inefficiency may result in closure of units.

EMS system (thermal and electrical energy) is the key to productivity, as timely actions such as maintenance, retrofit or revamp of the system could be initiated at the right time and cost for achieving optimal operation of the industry within the stipulated constraints.

## Applications

- Plant wide EMS at Power & Thermal Station for comprehensive Energy Management of electrical as well as thermal parameters
- Online monitoring and controlling of Utilities like Steam, Air, DG set etc
- Load Management System
- Wind/ Solar Plant Controlling & Monitoring
- Integration of all Energy related parameters for Power Plants/ Process Industries/ Manufacturing Units/ Utilities

## Reference Cases

- Commissioned Power Management System-Protection & Monitoring System with Software and Metering Hardware capable to integrate the electrical switchgear of Foundry division H.T. & L.T. side, Machine shop feeder, Heavy Machine shop, VVEL & Urla feeders to one of the biggest Engineering company engaged in Engineering, Fertilizer, Food Processing, Plant Growth Regulators, Construction and Exports over industrial standard protocol IEC 60870-5-104 & Wireless Solution.
- Commissioned Energy Management System, Centralized data acquisition of Numeric relay and load manger over industrial standard protocol IEC103/ Modbus through Serial looping system to Steel Industry
- Commissioned Energy Management System on turnkey basis with Real time datalogging of Energy Meters complying to IEC 687 & IEC 145 to Power Industry
- Energy Management System for Solar Plants, interfacing of Multifunction Meter on Fiber Optic network & Numerical Relays on IEC 61850 protocol.
- Engineered and Commissioned the EMS to transfer the power generation data from the plant to State Load Dispatch Centre (SLDC) on real time basis over to PVC manufacturing company

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