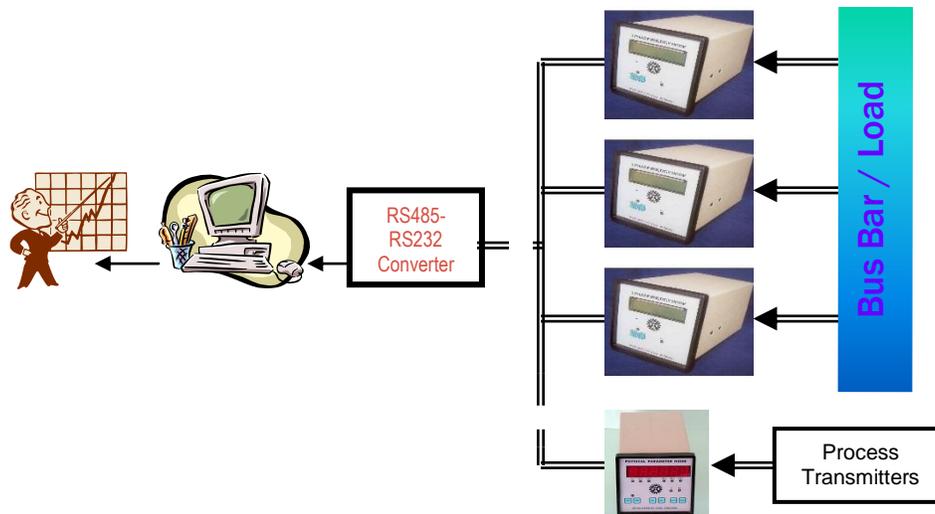


## MODBUS BASED ENERGY MANAGEMENT SYSTEM



The Energy Management System (EMS) acquires data from different energy consuming areas in various sections of the plant and logs the information and generates reports. This information can be used for taking actions leading to improvement in energy efficiency. RS485 with MODBUS protocol has been adopted for energy monitoring and control in a small / medium scale industries. Network nodes have been developed for providing comprehensive electrical energy measurements as well as physical parameter measurements.

### Importance:

- ❖ EMS consists of Electrical Energy Node, Analog Input Node with MODBUS protocol.
- ❖ Max. of 32 Nodes can be connected in the network using twisted pair wire.
- ❖ Measures and displays the electrical energy consumption of each load / feeder
- ❖ Measures & displays physical parameters like Temperature, pressure, Steam flow, Compressed air flow, Steam Consumption etc.
- ❖ Calculates the Specific energy consumption (SEC), Maximum demand and generates control signals for taking appropriate actions

### Utility:

- ❖ Better utilization of energy in industry
- ❖ Energy conservation
- ❖ Provide smooth operation
- ❖ Ensure safety for both operating personnel and environment

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