

TeleMON™: TELEMETRIC MONITORING SOLUTIONS

General Description:

TeleMON™ is to monitor Ambient Environment condition and / or Auxiliary Equipment conditions remotely. Using **TeleMON™**, the environment parameters such as temperature, humidity, air quality, fire, smoke, pressure, wind, light, etc. can be monitored remotely. Data collected by **TeleMON™** can be accessed and displayed at your remote station. Objectives that can be accomplished:

- Get environment data to your remote central place via Ethernet, WiFi, or GPRS
- Control auxiliary equipment which can influence the ambient environment
- Maintain a daily operating log
- See trends and analyse the data collected
- Make important decisions
- Get right alarms for optimum operation
- View the data on web browser on PCs, Laptops, and Smart phones

Applications:

- Monitoring of Ambient Environment at Solar Power Plants, Control Rooms, Machinery Room, Remote Unmanned Stations, Buildings and Complexes, Warehouses, Cold Storage areas, Hospitals, etc.
- Monitoring of Temperature and Humidity inside the Server racks, and Data Centres
- Monitoring and Supervisory Control of HVAC systems, Lighting, Water Supplies, Garden irrigators, Fountains, etc.

Salient Features:

- Remote Monitoring of ambient environment, states of auxiliary equipments and signals from other sensors
- Remote Control of auxiliary equipments such as valves, breakers, switches, etc.
- Networked Nodes can be connected to the **TeleMON™** on serial network
- Up to 32 Networked Nodes can be connected to the **TeleMON™** on a serial network so as to reduce wiring
- Configurable real time scanning time
- **TeleMON™** can be accessed by remote clients via Ethernet using simple TCP/IP protocol
- Web based monitoring and control of the parameters in real time and trending in real time and of historical data, which makes accessing data and visualization simple
- Up to 5 Clients can connect to **TeleMON™** for remote communication
- Data transfer from **TeleMON™** to remote station and vice versa using Dual Band GSM/GPRS network
- Provision for onboard datalogging with real time stamp with configurable periodicity.
- Front panel LED indications for Device health and Communication Status
- Powered using AC/DC
- Packaged in industrial grade metallic enclosure with DIN rail mounting or Flange mounting

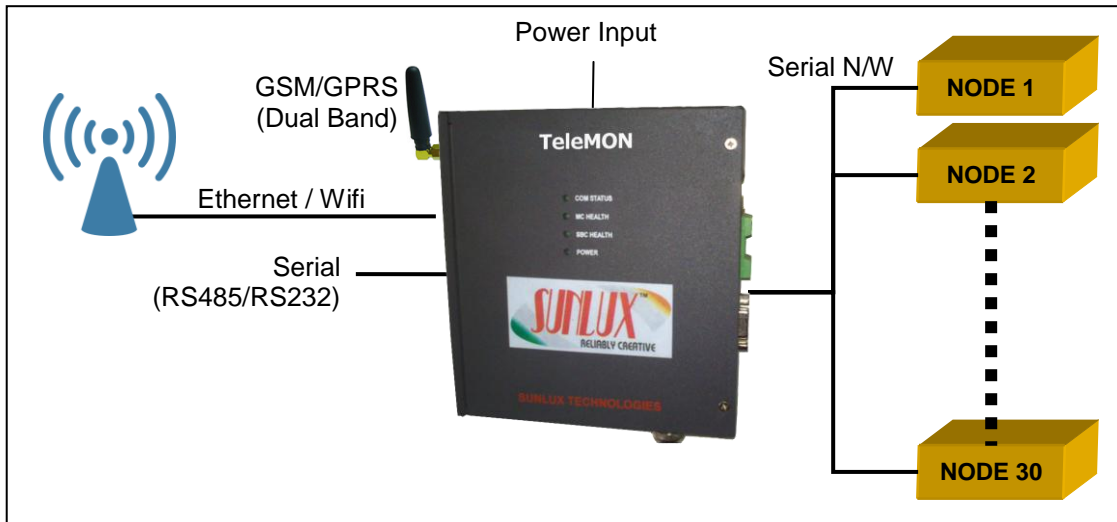


Figure: Architecture of **TeleMON™** and Networked Nodes

Networked Nodes:

Various Networked Nodes are being offered by Sunlux for different applications.

iOTA™ Series of Remote IO Modules:

Various combinations of industrial grade analog and digital IOs for signal acquisition in the field.

- **iOTA™ DIO-24S:** 12 DI, 12 Power Relay Outputs with Serial Com
- **iOTA™ AIO-8S:** 4 AI, 4 AO with Serial Com
- **iOTA™ MIO-14S:** 4 AI, 2 AO, 4 DI, 4 DO with Serial Com



AirySense™ Series of Ambient Remote Sensors:

Sunlux offers networked ambient environment sensors for monitoring and control applications

- **AirySense™-TH:** Ambient Temperature and Relative Humidity Sensor with additional 4 AI and Serial Com
- **AirySense™-CO2:** Ambient Carbon Dioxide Sensor with 1 AO, 1 Relay Output and Serial Com



Specifications:

CPU:

- ARM9 based 400MHz embedded processor
- Ethernet: 1x Port 10/100Mbps with Galvanic Isolation
- GSM/GPRS: Dual / Quad Band with up to 85.6kbps (uplink and downlink), provided with an external antenna and SIM card holder
- SD Card Interface up to 8GB and USB Based flash storage up to 16GB
- Software:
 - Embedded Linux Operating System
 - Modbus RTU Master to poll Modbus Networked Nodes
 - BACnet MS/TP Master to poll BACnet Networked Nodes
 - Connectivity to remote station via Ethernet on TCP/IP, Modbus TCP, BACnet IP or HTTP protocols
 - Webserver to allow remote monitoring and control from multiple systems
 - Connectivity to remote station via Data GPRS
 - Data logging to the SD Card / USB Flash at configurable periods

Serial Communication:

- Physical Layer: RS232 or RS485-Half Duplex (DIP switch configurable)
- Maximum Devices: 1 Device on RS232 and 32 Devices on RS485
- Maximum Length: Up to 150m for RS232 and 1000m for RS485
- Baud Rates (BPS): 4800, 9600, 19200, 38400, 57600, 115200 (software selectable)
- Protection against Short Circuit
- ESD: Complaint as per IEC 61000-4-2 Level 3 (Contact Discharge: 8kV, Air Discharge: 15kV)
- EFT: Complaint as per IEC 61000-4-4 Level 3 (1kV, 5kHz)

Power:

- Input Voltage: AC/DC 9-36VDC and 12-25VAC
- Frequency (for AC Input): 47-63Hz
- Power Consumption: <20W

Mechanical:

- Enclosure: Aluminium with powder coating
- Mounting: DIN Rail
- Dimensions: 110mm (W) x 110mm (H) x 60mm (D) (Connectors and antenna not included)
- Weight: ~500gm

Environmental:

- Operating Temperature: 0 to 65degC
- Operating Humidity: 20%RH to 90%RH Non condensing
- Ingress Protection: IP 30

Customized Solutions:

TeleMON™ can be customized for following attributes based on the customer's special requirements:

- Communication protocol between **TeleMON™** and remote client
- Scalability of number of nodes on the local device network
- Customized GUI / SCADA application software featuring real time monitoring, trending, alarms and notifications, and historical data visualization with analytics
- Localized automatic controls and interlocks at Networked Node level or **TeleMON™** level
- Alarms for critical parameters crossing abnormality thresholds
- Mounting arrangements

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