

## **1.1 ENVIRONMENT MONITORING SYSTEM**

To provide a critical alarm monitoring system which meet all aspects of facility monitoring. Online monitoring the following system:-

- Uninterruptible Power Supply (UPS) System
- Precision Air Conditioning System
- Air Conditioning System
- Fire Suppression System
- Early Smoke Detection System
- Water Detection System

### **GENERAL**

The EMS system shall consist of standalone unit that comes with complete monitoring and control software. The software shall be of user friendly built-in firmware and require no external software or equipment. The digital unit shall include Built-in Real-time-clock with capability to synchronize to Network Time Servers.

All configurations are user definable and the settings are accessible with common web browser such as Internet Explorer. The system can be managed locally or LAN or remotely over Internet or Intranet. The unit shall be able to be controlled remotely using Web access or SMS. The unit must have a built-in supervisory circuitry to ensure high reliability and stable operation. The unit operating voltage is between 9 to 30VDC and 2 Watts maximum power. The processor shall be 32 bit with 50MHZ microcontroller.

The unit shall include minimum of eight digital inputs, four analog inputs and two relay outputs. It shall accept dry contacts or voltage inputs and have display for important information and status.

The event log memory is easy to read. XML data structures which easily interface to third party applications. The system shall be able to store up to 500 history logs. The monitoring points can be added with optional Web Expansion controllers and automatic connectivity supervision when more than one controller is on the network.

### **STATUS AND ALARM ALERT**

The system shall send SMS alerts and Email notification to users instantly as the alarm happens and able to send SMS alarm messages to maximum of 40 mobile phones with time stamps and to email to 5 email address. This shall include alarm SMS repeats and escalations. The scheduled automatic and manual system status reporting is via SMS.

### **ANALOG OUTPUT**

The analog output shall be able to accept 4-20 mA signal from any sensor. The input description, scaling, trigger delay, high/low alarm point shall be configurable. The analog

input response time for individual selection for each analog input shall be programmable from 2 to 30 seconds (trigger sensitivity)

## **EVENT LOG**

The event log shall stores up to 500 History logs complete with Date and Time stamp and FIFO event recording. The data format shall be in XML(Extensible Markup Language) which allows users to define their own tags in Excel or Web Interface. The unit security shall be able to enable or disable XML data access from external application.

## **REMOTE MANAGEMENT**

The unit features also include remote command via SMS which able to query the equipments health Check / Input / Output or analog status, On / Off or Pulse output equipments or devices, Add / Edit / Delete mobile phone numbers, query operational / Authorizer / Escalation / Forwarder mobile phone number and also acknowledgements