

# EMS WIRING SYSTEMS PTE LTD

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**Preamble:** To monitor the Data Center environmental condition and the status of mechanical and electrical equipment consisting of generators, high and low current electrical breakers, UPS, STS, PDUs, CRACs, Pre-Actions, FM200s, VESDAs, and Water Detection.

**Brief:** To alert (via SMS, Email, Email-to-SMS, and thru Visual and Audible alarms) Facility Managers if certain conditions or status are not met.  
To log the alarms, record temperature and humidity readings, voltage, current and power readings.  
To provide report generation of alarms history, tabulated and graphical readings of temperature and humidity, voltage, current and power.

**Summary:** Thru the aid of this system, Facility Managers no longer need to physically monitor the individual equipment of the Data Center thus allowing them to focus on their other duties. The system also proved to be robust.

## 1. System Schematic Diagram

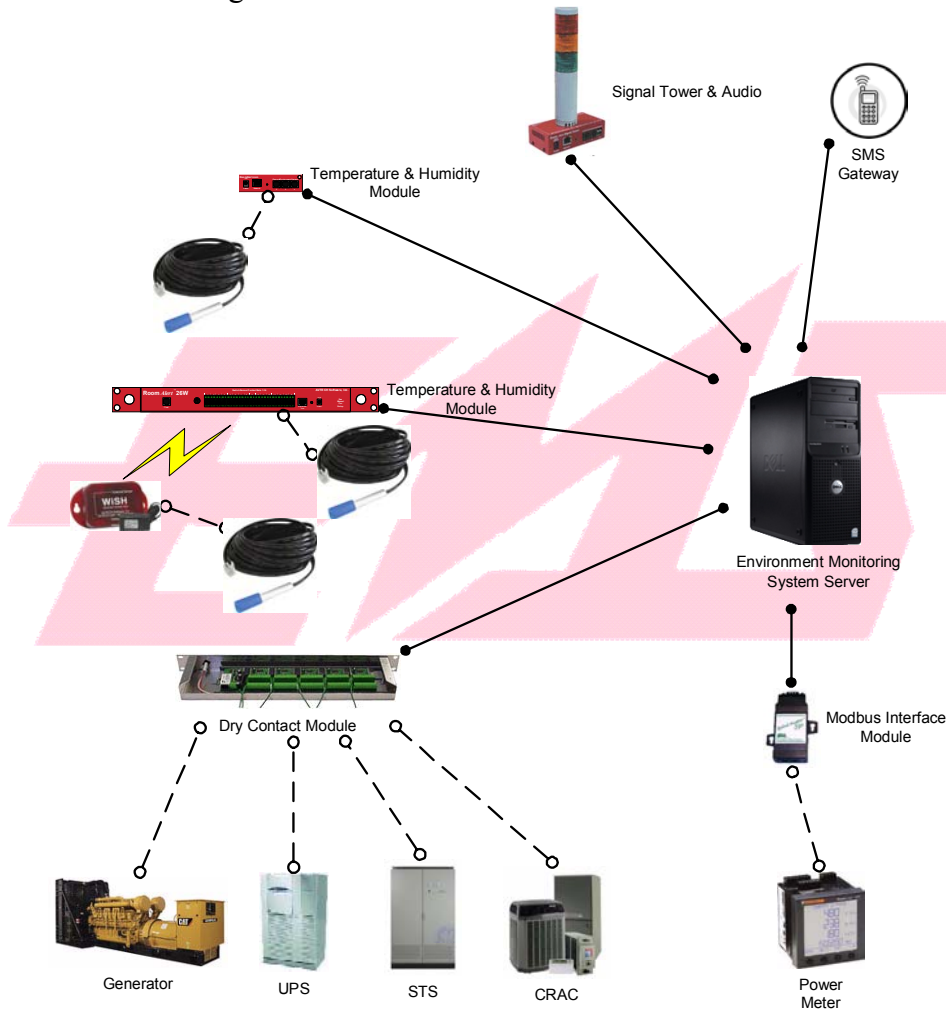








Figure 1 - Environment Monitoring System Diagram

## 2. System Components Used

Part Name	Description
	<p>Environment Monitoring System Server – The Environment Monitoring System Server is the central management and monitoring of all the wired and wireless monitoring points. The brain of the system that performs the monitoring, alerting, logging, and report generation.</p>
	<p>Temperature and Humidity Sensors – The Temperature and Humidity Sensors provides real time measurements of temperature and humidity for specific locations. The Temperature and Humidity sensors can be connected directly on the temperature and humidity module or it can be connected on the temperature and humidity module wirelessly using a wireless sensor hub for further installation flexibility.</p>
	<p>Dry Contact Interface Module – The Dry Contact Interface Module provides the communication between the EMS Server and devices that uses dry contact input or output (open or close contact) for status monitoring. Dry contact interface is usually used on mechanical and electrical equipments that require simple monitoring and control.</p>
	<p>Modbus Interface Module – The Modbus Interface Modoule provides the communication between the EMS Server and devices that uses Modbus RS232/RS485 interface. Modbus interface allows the system to read and write values to Modbus capable devices.</p>
	<p>Signal Tower and Audio – The Signal Tower and Audio provides visual and audible alerts when there is a fault or failure detected by the Environment Monitoring System Server. It provides instant alert on any person that can see the visual alarm or hear the audible alarm.</p>
	<p>SMS Gateway – The SMS Gateway provides instant alerts on mobile phones thru SMS or Short Messaging Service. With this technology incorporated on the system, the Facility Managers or the respective bodies' in-charge of monitoring will be able to do other task since full-time monitoring is not required does providing efficiency on work also.</p>