

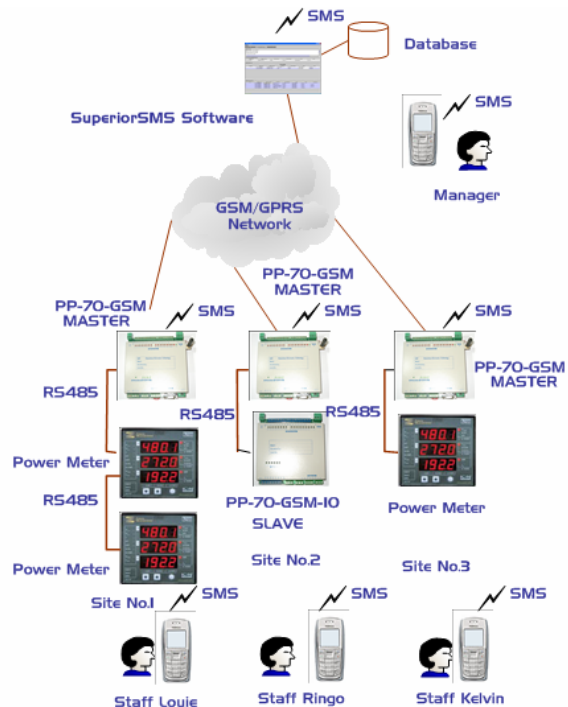
@WFMS - Wireless Facility Management System

Efficient and Cost Effective Wireless Monitoring and Control Solution for Facility Management

Efficient and cost effective Facility Management has become one of the most important issues and biggest selling points in most facility management companies today as they struggle to manage more facilities with fewer resources. The goal of **WFMS (Wireless Facility Management System)** is to provide an efficient yet cost effective solution employing the popular GSM wireless technology. **WFMS** allows the service providing companies to offer a performance based management service that minimizes the operating cost without compromising the quality and security of their performance. In addition to providing operational maintenance, the facility management companies must also concern themselves with the running conditions, downtime, efficiency and energy cost of the facility being managed.

WFMS is an **open** and user friendly Facility Management Solution specifically designed for the monitoring, control and data acquisition of unattended facilities. It is not uncommon to find that these facilities are already equipped with a Building Automation System (BAS). **WFMS** is designed to interface easily with any existing BAS and extract the relevant information that is critical for the facility's continuous and efficient operation. This information is then relayed to a remote central monitoring centre where the collected data is statistically analyzed and automatically determined how effectively or efficiently the facility is managed and operated.

WFMS allows the maintenance personnel to manage multiple facilities easily and efficiently without having to access these sites in person unless there is a critical alarm or during regularly scheduled on-site maintenance. This allows the maintenance personnel to focus their effort in performing proactive and preventive maintenance and finding new ways to improve the efficiency of the facility's operation. The historical data collected also allows the personnel to have a better understanding of the site's operations and can help improve the facility's overall performance, reliability and efficiency.



WFMS is suitable for a wide range of applications and can be easily integrated into existing facilities. Here are some example applications:

- Utility AMR System
- Water pumps control and water level monitoring for fresh water or waster water facilities
- Freezers Monitoring for Supermarkets or Cold Storage and Transport Facilities
- Energy monitoring and Peak Demand control
- Street Lights monitoring and control
- Transformer and Circuit Breaker monitoring
- HVAC monitoring for BMS
- Vehicle Monitoring for Security Enhancement



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PP70 GSM Master

The PP70 GSM Master is a GSM enabled, low-cost yet highly flexible I/O device with Modbus Mastering capability that can be easily deployed at any facilities. The PP70 GSM Master is also the heart of **WFMS** and allows for the remote monitoring of status inputs by exception reporting and the control of outputs via its on-board logic or remotely by the maintenance personnel. Integrated with Modbus Mastering capability, the PP70 GSM Master can retrieve data from other Intelligent Electronic Devices (IED) such as power meters, PLCs and other I/O devices via the Modbus protocol and relays the information back to the **WFMS SMS Server** over SMS messages. The received SMS messages will then be stored in its database for further analysis and then disseminated to the maintenance team if necessary.

Cost Effective

The **WFMS** requires no dedicated PC hardware and software for an on-site monitoring system, which means that no additional personnel are needed for supporting this system. As a result, the cost of ownership for **WFMS** is already significantly reduced. **WFMS** sends SMS alarm messages directly to the maintenance personnel's mobile phone to alert them of any anomaly requiring immediate attention. Therefore, the resources can be dedicated to providing maintenance service instead of spending their precious time maintaining an on-site monitoring system.

Accurate, Secure & Traceable

The SMS messages sent to the recipient's mobile phone and stored in the database of the **WFMS SMS Server** indicate clearly all essential data, including the time & date of the message, staff ID for whom the message is intended and equipment status or alarms.

Quality Assurance

The SMS records stored in the **WFMS SMS Server** provide a detailed and reliable audit trail for the verification of the maintenance procedure. The **WFMS** system ensures the conformance of the company's Quality Plan.

WFMS Applications

Pumps or Water Level Monitoring

The PP70 GSM Master can be deployed to control water pumps and monitors water levels for the Water Utility. The system signals to a main facility which in turn controls up-stream pumps to prevent flooding of down-stream pump stations.

Critical Freezers and Cold Storage Monitoring

If deep freezers in Supermarkets or air conditioners in Cold Storage Facilities are out of service during evenings and weekends, the effect can be devastating! The PP70 GSM Master can be deployed to monitor the operating conditions of freezers and air conditioners and send SMS alarms to the maintenance team for any abnormal conditions. This allows the service personnel to take immediate action and minimize the damage.

Transformer and Circuit Breaker Monitoring

The PP70 GSM Master can be deployed to remotely monitor the status of a wide variety of electrical equipment such as circuit breakers, transformers, MCBs in switchboard, UPS, Battery Charger, Gen Set, status by-pass switches, ... etc.

Water Treatment Facilities Monitoring System

The PP70 GSM Master can be deployed to monitor the directional flow of water in water treatment facilities. The current flow is sent to the central monitoring software with SMS messages to indicate instantaneous water flow and its direction. The **WFMS** allows the maintenance staff to take immediate action to control any irregular flow activities.

Street Lights Monitoring and Control

The PP70 GSM Master can be deployed for the remote controlling of street lighting and failure monitoring. The unit controls a group of street lights and sends the lighting status to the central control room via SMS messages. The street light can also be turned on/off via SMS messages. The unit is capable of entering a standalone operation mode where the street light is controlled by a time schedule.

Utility AMR for Energy Monitoring

The PP70 GSM Master can be deployed for Remote Energy Monitoring and Peak Demand control. Each PP70 GSM Master can be configured to regularly poll a group of MODBUS energy meters and periodically sends SMS messages, containing vital energy usage data like kWh and kW Demand, to the central monitoring station for analysis and bill verification.

Vehicle Monitoring for Security Enhancement

The PP70 GSM Master can be deployed to remotely monitor the vehicle's security status to determine the battery status, if the door has been opened by intruder, if any windows has been broken, and if the ignition has been started. The unit sends SMS alarms silently and wirelessly to the owner, without alerting the intruder, so that appropriate action can be taken.

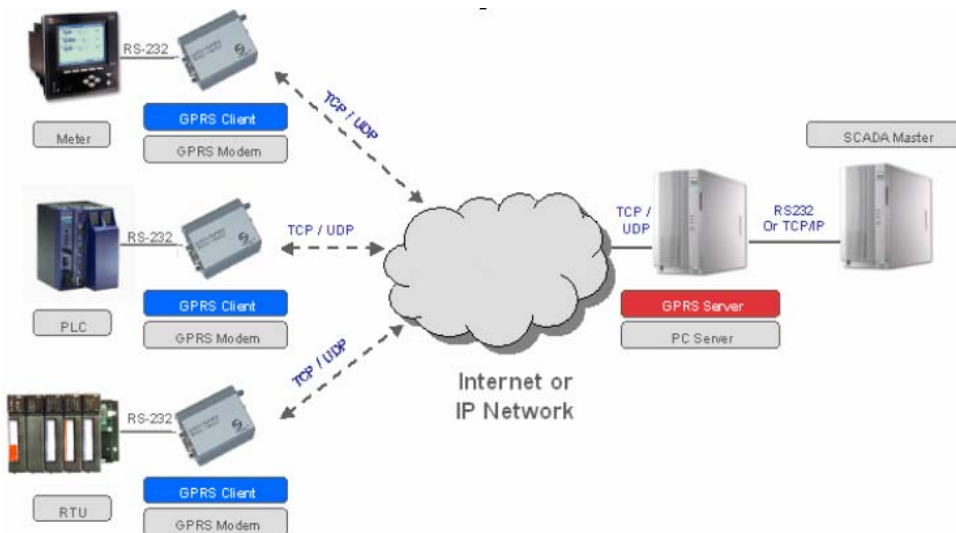
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SuperiorGPRS

SuperiorGPRS, an innovative solution, transfers telemetry data transparently via GPRS networks with no need for equipment manufacturers or software providers to change their products. SuperiorGPRS manages the communications links and provides “online” connectivity, ideal for existing or new applications that require cost-effective “real-time” communications functionality.

Applications

- Water Utilities – fresh and waste water level alarms, pump control, sensors measurement...
- Electrical utilities-fault indicators, reclosers, transformer temperature alerts
- Metering-water, electricity and gas
- Rental equipment monitoring
- Building management
- Streetlights monitoring and control
- Security-movement detection and video transmission
- Automatic vehicle location



Features

- Automatic connection to GPRS network
- User-friendly Graphical User Interface (GUI) for configuration, diagnostic and statistical data
- Supports numerous industry SCADA protocols
- Secure and reliable delivery of data packets
- Easy to configure – setup within minutes
- Developed in Australia and Hong Kong

Advantages and Benefits

- Quick to install and easy to use
- Lower capital cost than private radio networks
- Lower operating costs than GSM and CDMA
- Operating costs based on amount of data transferred, not time connected
- Compatible with existing equipment, protocols and infrastructure
- Solution is completely transparent
- Supports different equipment vendors
- Continuous “online” status providing “real-time” communications
- Detailed diagnostic and statistical information to check quality of links and amount of data used

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