

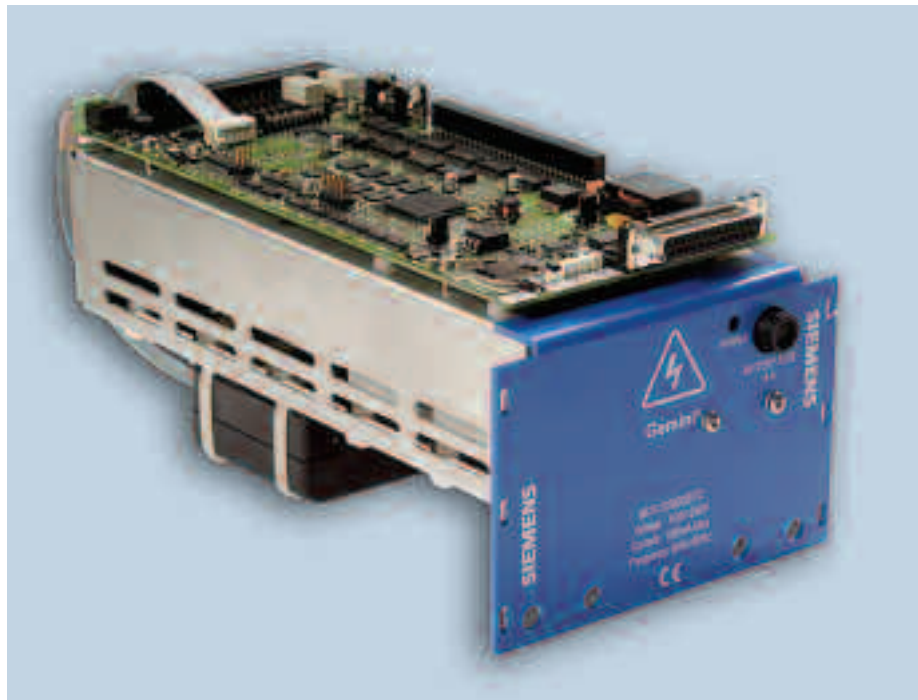


RMS

Remote Monitoring System

Traffic Solutions

SIEMENS



Remote Monitoring System

The Siemens Remote Monitoring and Control System (RMS) is an easy to use and highly reliable facility, enabling the efficient monitoring and management of a wide range of on-street equipment. The system features an advanced installation, which allows operators to appreciate the status of all monitored equipment at a glance, using a fully user customisable map-based display.

Equipment monitoring is performed by Siemens Gemini outstation which is easily installed in most equipment housings. Fault and status reporting is via a PSTN or GSM network, allowing the most cost-effective communications infrastructure to be chosen on a site-by-site basis.

RMS provides the optimum solution for monitoring applications. The system also offers the option of a fully featured, entry level Urban Traffic Control system, employing dial-up links for the most efficient coordination of traffic signals. RMS may also be used for the remote control of various equipment including variable message signs. Direct interface to the Siemens Sietag reader also provides an integrated bus and emergency vehicle priority system, complete with detailed recording of travel times and events.

Operator interface

Equipment is identified by symbols positioned on the map identifying their location and these are dynamically colour coded to reflect the fault status of the site. Greater detail sub-maps may be defined and simply accessed to improve the clarity of the display where overcrowding of Gemini outstation symbols occurs. To further improve operator recognition of reported faults, an audible and visual alarm may be enabled which can be configured to remain on top of all running applications until the receipt of the fault information has been acknowledged.

Faults are time-stamped and logged on receipt at the installation and innovative tabbed displays allow easy filtering of information to be viewed. Where hard copy records of fault receipts are required, fault information may be automatically directed to up to two local or networked 'logging' printers.

Integration with other systems

Siemens RMS installation may be installed on the same machine as a Siemens Prefect fault management system, allowing faults to be passed automatically from RMS to Prefect and then directly on to the maintenance organisation for action, without operator intervention. This close integration allows both applications to share the same communication modems and telephone lines, reducing infrastructure costs. Where a single machine is not desirable, integration is still possible via a network or simple serial interconnection. To enhance further the task of managing on-street equipment, data such as pictures, textual notes and log information uploaded from traffic controllers may be attached to the site symbol on the map. Data is accessed by simply selecting the site symbol and picking the information to be displayed from a list of available items. The appropriate application for viewing the information is started automatically.

Siemens RMS offers direct connections to other UTM systems providing information on the current status and operation of equipment connected to RMS. This allows the complete network situation to be monitored on a UTM common database such as Siemens Comet system, as well as the implementation of DUSC control in response to an incident or congestion.

Bus priority and access control

Up to eight Sietag readers may be connected to the Gemini Outstation Monitoring Unit (OMU) using a specially designed interface card to provide a sophisticated local bus priority and access control system. Vehicles equipped with tags are recognised and logged at the Gemini.

- Easy to use and sophisticated operator interface
- Seamless integration with other systems
- Effective bus priority and access control
- Integrated access to Siemens MOVA equipment
- Customisable to match system features to operational needs
- Easy to install with comprehensive customer support
- Proven and highly reliable outstation units



White and blacklists can be configured at the instation and downloaded to the Gemini to provide access control based on vehicle identity, operator identity, time and date. Ranges can be specified so that large numbers of vehicles can be granted access with minimum configuration effort. The above features also allow the Gemini to recognise priority vehicles and pass priority requests to traffic control equipment, providing a very cost-effective bus priority and access control system.

Siemens MOVA equipment

Siemens Gemini MOVA units may be integrated with the instation map display so that access to them is simply achieved by clicking on their map symbol. To simplify user activities, the instation manages communication with the MOVA unit and launches the appropriate TRL applications as required.

Matching system features to operational needs

In a multi-staff environment, ensuring correct levels of access and clear indication of functionality available to different operators are important considerations. With Siemens RMS, this is facilitated by the provision of five user-configurable log-on levels. A system administrator may set the facilities available at each level and the menu descriptions for each facility. Access to each level is enabled by a password defined by the system manager thus preventing access to the system by unauthorised personnel.

Installation and customer support

Continuing with the theme of ease of use, the instation software is supplied complete with an automated installation program. Existing database and outstation configuration files are automatically updated, maintaining 100% upwards compatibility with previous versions of Siemens Remote Monitoring systems. A dedicated Siemens software support team is also available to provide users with telephone and e-mail support.

Strategic control with DUSC

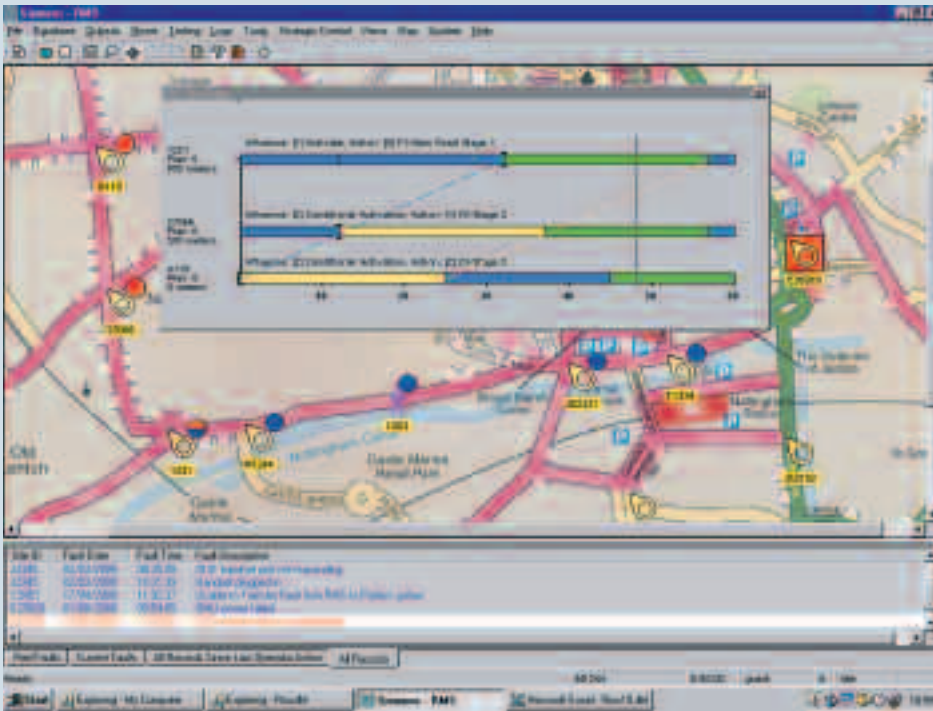
Strategic control is implemented using a cableless linking (CLF) principle, but with plans being prepared and downloaded from the instation and implemented in each outstation. Plan modification is simple and quick, because there is no need to hold the plans in the traffic controller configuration. Up to 16 plans, each with as many as 32 groups, complete with complex demand dependent conditioning, may be configured. Unlike some CLF implementations, DUSC allows complex conditions such as demand dependency to influence plan operation, enabling traffic flows to be maximised without disrupting intended green progressions. An advanced master time clock facility allows plans to be introduced by time and day of the week, or for public holidays and special occasions. Importantly, time synchronisation of the whole system is maintained from the instation by regular automatic status calls to each Gemini OMU. The frequency of these may be programmed by the operator but is typically set at once a day.

Outstation units

The Gemini OMU has been proven to be highly reliable in several thousand installations and its small 3U size enables it to be easily mounted in a wide variety of traffic controllers and other equipment.

The Gemini is able to monitor and report:

- Signal lamp failures and replacements
- Detector and push-button failures
- Detector counts (using N and N+1 algorithms)
- Violations of traffic controller timings
- Traffic controller status via handset terminal port
- Status of contact data (from barrier controllers, over height detectors, variable message signs or other equipment)
- Vehicle detections from Sietag readers (and provide priority based on these detections to an associated traffic controller)



Configuration

Configuration at the instation is accomplished using a simple forms-based editor. Data may be downloaded remotely via the telephone link, or locally on site if required. To ensure maximum utility of fault data generated by the Gemini, considerable flexibility is offered in defining limits and sensitivity for fault conditions as part of the configuration process. Once configured, the unit continuously monitors the operation of its associated equipment. When it detects a fault, it initiates an auto-dial sequence establishing a communication path to the instation over the telephone network. To minimise call costs, configuration options allow faults to be classified. Those faults that are non-urgent are recorded at the Gemini outstation but not uploaded unless requested by an operator at the instation, or an urgent fault is detected.

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