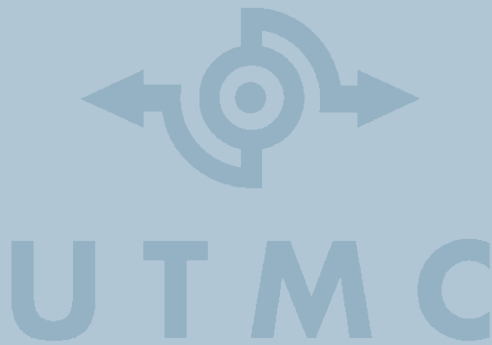




Gemini² high performance platform

Traffic Solutions

SIEMENS



Gemini²

The Siemens Gemini² unit is a powerful outstation platform which can be used in a wide range of traffic applications. Using the latest PowerPC™ technology this small, compact unit provides outstation applications for Siemens' highly reliable and successful UTMC systems, as well as remote monitoring, bus priority, vehicle classification and MOVA.

It provides an extremely effective means to monitor and control many different types of traffic equipment. Offering a range of flexible communications options, users are able to select the most efficient, depending upon the specific system and requirements of the individual site.

The use of a common hardware platform provides a cost effective implementation on-street, whilst minimising the requirement for large spares holdings and simplifying maintenance requirements.

Remote monitoring – Outstation Monitoring Unit (OMU)

Providing all outstation features within the Siemens Remote Monitoring System, Gemini² is capable of monitoring a wide variety of traffic signal and pedestrian controllers.

The unit is configured from a remote monitoring instation via a dial-up connection to perform the monitoring and control functions required. When a fault or other defined event is detected, it is logged at the unit and a call is made to the instation to report the occurrence. To minimise communication costs, it is possible to configure the unit so that particular types of fault are logged, but not reported unless a more urgent fault is detected or a call is made from the instation.

Connection to Siemens ST700, ST800 and ST900 controllers is made via a high-speed serial link allowing fault reporting and real-time data uploads to the instation to be undertaken

efficiently. Uniquely, Gemini² offers a free-standing interface to a wide range of third party controllers, allowing them also to be fully monitored by the Siemens Remote Monitoring System.

Dial-Up Strategic Control (DUSC)

DUSC adds fixed-time UTC functionality to a standard OMU whilst maintaining low communication costs. Control is implemented by fixed-time plans running locally within the Gemini outstation, which are prepared and downloaded from the RMS instation over dial-up communication networks, including fixed-line and GSM.

The plans at each site are offset from neighbouring sites by a time period that corresponds to the travel time between them. This technique significantly reduces costs by allowing traffic synchronisation to be achieved without the need for permanent communication connections.

To accommodate varying traffic patterns which occur throughout the day, and on different days of the week, an advanced master-time clock feature allows any one of up to 16 plans at each site to be introduced automatically, without the need for instation intervention.

As with the OMU, communication with Siemens ST700, ST800 and ST900 controllers is via a high-speed serial link. Third party controllers may be connected via a standard UTC interface, allowing both Siemens and non-Siemens controllers to be used within a single DUSC control area.

Bus priority and access control

When used for bus priority and access control applications, the Gemini² outstation is able to connect to up to 12 Sietag readers using a suitable I/O board, to provide both logging and priority, and access control functions. Vehicles to be given access and priority are fitted with an electronic tag that may be programmed with, for example, vehicle operator identification and the individual vehicle number.

- High performance platform for traffic control and monitoring
- Extensive functionality
 - UTMC UTC and SCOOT outstation
 - Remote monitoring
 - MOVA 6
 - Sieclass vehicle classifier
 - Car park occupancy monitoring
 - Dial-Up Strategic Control
- Choice of connectivity
 - Copper and fibre
 - GSM and GPRS
 - Wireless
- Semi-integral option for the ST700, ST800 and ST900 controllers
- Free-standing version for other controllers



Data from the tags may be filtered by the Gemini² unit which will log the information, and can be configured to output access requests to barriers or other equipment such as traffic controllers. Access and priority may be restricted by time of day and individual or groups of vehicles may be blacklisted.

Logged data may be uploaded to the RMS instation automatically or under manual control.

Sieclass vehicle classification

Sieclass offers logging of a wide range of road usage parameters, including speed, flow, occupancy and vehicle class.

Logged data is stored locally and may be automatically or manually uploaded to the instation via the telephone network, where sophisticated analysis tools allow data to be easily sorted and displayed. In addition to data logging, Sieclass is ideal for safety related solutions and may be configured to activate signs or other equipment, such as traffic controllers, when pre-programmed conditions are satisfied.

MOVA 6

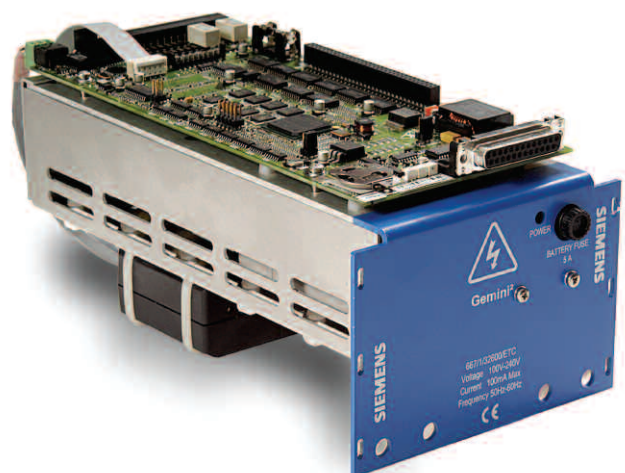
Implementing the latest version, Siemens' MOVA 6 allows single and dual-stream MOVA control to be executed at intersections and stand-alone pedestrian crossings.

MOVA is able to be run simultaneously with many other Gemini² applications including OMU, DUSC, Sieclass and bus priority control. When controlling Siemens ST700, ST800 and ST900 controllers, connection is via the same high-speed serial link that is used for all OMU functionality. For third party controllers Gemini² offers a fully featured free-standing UTC interface, ensuring that the benefits of MOVA 6 and Siemens RMS may be gained irrespective of controller type.

UTMC outstation

The Gemini² outstation provides an extremely cost-effective route to implementing UTMC on-street, whilst maximising commonality of spare parts with other outstations. Using the same Gemini² hardware, a traffic controller can be connected to a UTMC compliant UTC/SCOOT system, or a car park can be connected to a UTMC management system such as Comet – all using UTMC communications for easy implementation over modern communications networks.

With the flexibility offered by modern communications systems, the Gemini² UTMC outstation provides power and a mounting bracket for a variety of different communications interfaces, greatly simplifying the installation of a UTMC solution on-street. The outstation supports a number of interfaces including Ethernet, RS232 modems and RS485, allowing easy connection to a wide range of different applications.



Technical specification

Communications

Telephone

- Network type: Digital GSM 900, GSM 1800 or PSTN
- SIM type (GSM): Phase 2 (3V)
- Antenna options (GSM): Pole and case mounted
- Data rate: 19200 baud max (PSTN) and 9600 baud max (GSM)

UTMC

- Ethernet 10-base-T on board provides a simple path to implement a wide range of UTMC communications links

Electrical

- Power supply: 230V -20% +15%
- Supply frequency: 46 / 54Hz
- Power consumption: 8 Watts typical

Environmental

- Supply failure: Automatic restart without intervention
- Battery support (when support battery fitted): 20 minutes (typical) to allow unit to report supply failure
- Operating temperature: -15°C to +60°C
- Size: 3U high x 160mm wide
- Size (fully expanded): 3U high x 210mm wide

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