# UTMC OTU with MOVA

Keeping traffic and innovative ideas flowing

Traffic Solutions

SIEMENS

The Siemens UTMC OTU implements the latest UG405 protocol enabling users to leverage the full benefits of SCOOT MC3 and, in particular, to use a wider variety of communications links which can significantly reduce communication costs.

The UTMC OTU is also supported by an Instation component, the Outstation Support Server (OSS), which provides enhanced management of OTU firmware and configuration data.
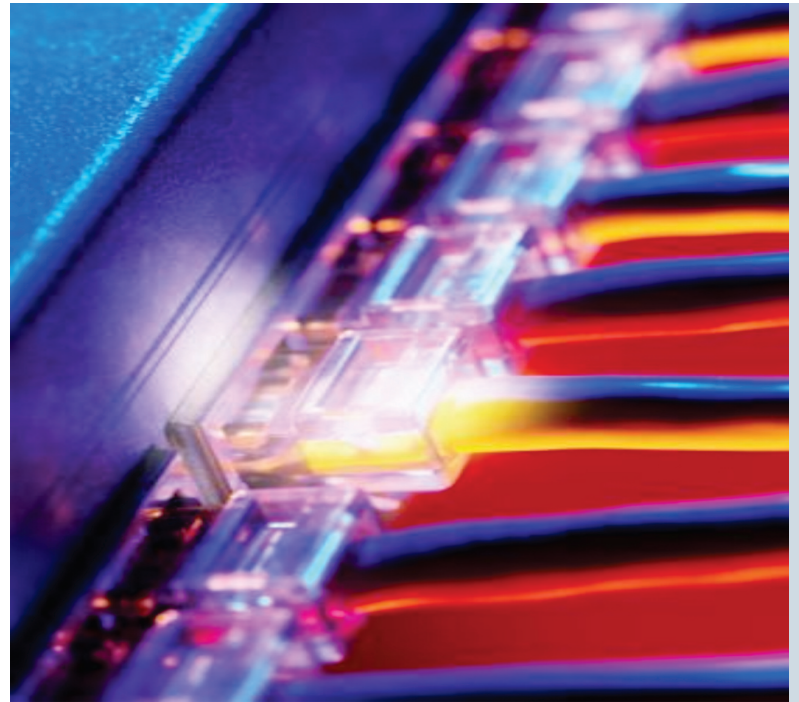
SCOOT Urban Traffic Control systems operate in over 200 cities and towns around the world. The latest version, SCOOT MC3, includes enhancements that remove the reliance on second-by-second communication. This increases the range of communication options available and in particular allows the use of packet based data-communications systems, such as 3G wireless.

Highlights of the UTMC OTU and OSS include:

### Full implementation of UG405

Both the Instation and OTU fully support the latest UG405 protocol which 'timestamps' all data exchanged between them, ensuring that the system is much more tolerant of poor quality communications.

This is of particular benefit where variable latency and intermittent data loss are likely to be encountered, for example, where solutions such as 3G wireless are employed. It ensures that the UTMC OTU is able to function more reliably than TC12, or earlier UTMC OTUs, allowing a wider range of communication options to be considered.

For use in "point to point" TC12 leased line applications, a V34 leased line modem option is available allowing TC12 units to be replaced with minimum infrastructure adjustment, providing compatibility with existing systems.

Four streams of integrated MOVA

The UTMC OTU implements four MOVA 6 streams which may be introduced manually or automatically, for example via time table control at the Instation. In addition MOVA can be configured, downloaded and operated both locally and by an operator at the Instation, using the same user interfaces and tools in both cases. All communication with MOVA is undertaken over the same link as used for UTC control so no additional communication provision is needed.
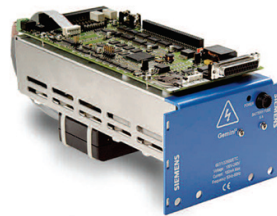
Fully web based user interface

The UTMC OTU implements a fully 'web based' user interface that enables users to interact with the unit without the need to be familiar with traditional 'three character' handset commands, reducing potential training costs. The web presentation is identical at both the Instation and outstation and by enabling easy access to all OTU features from the Instation, costly site visits can be avoided.

Close integration with Siemens controllers

When used with Siemens controllers the interface between the equipments is via a simple serial link, reducing both installation and maintenance costs. In addition, reliability is enhanced as many physical terminations are avoided. Additional features such as remote access to the controller handset and complete upload and download of controller data are also offered.

Efficient management of OTU firmware and configurations

The Outstation Support Server (OSS) provides a management facility for all UTMC OTU firmware and configuration data associated with OTUs within a particular system.

Whilst it is possible to operate a UTMC OTU without an associated Outstation Support Server (OSS), the full benefits of the system are best realised when this component is included in the overall system topology.

Firmware versions stored at the OSS may be downloaded directly from the OSS to equipment on street under the direct command of an operator. Alternatively, this process may be automated so that the OSS will interrogate outstations and automatically download the latest compatible firmware versions at specific times of the day (typically overnight).

- Implements UG405, offering a wide range of communication options.

- Replacement for TC12 OTUs where point to point analogue lines are provided.

- Semi-integral and free standing versions.

- Integrated implementation of four MOVA streams.

- Manual or automatic MOVA activation from the UTC Instation.

- Web based presentation of OTU and MOVA data.

- Complete automatic management of the OTU configuration and firmware via the OSS.
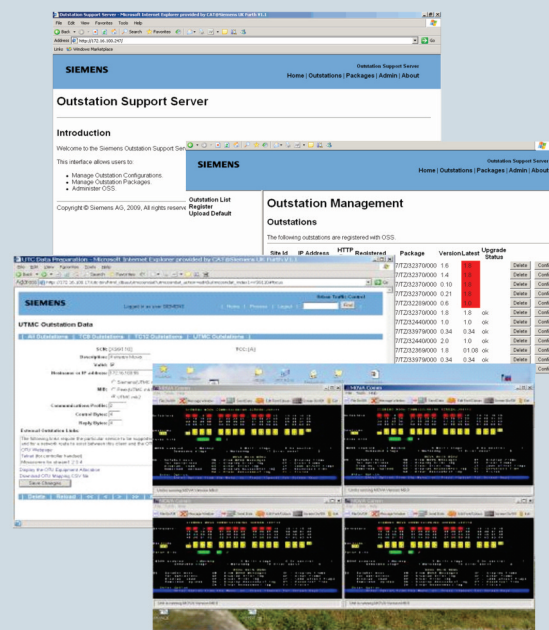
Configuration data management is also provided by the OSS. Several different configurations may be held at the OSS and selected for download to the outstation. This is fundamentally different from earlier OTUs as it allows configuration changes to be simply effected from the Instation, rather than having to travel to site.

However where configuration changes are made on site these are automatically up-loaded to the OSS, without the need for operator intervention, so ensuring that a fully up to date set of configuration data is always maintained.

The OSS is able to function within both Alpha and PC based Siemens systems as well as within other third party systems where Siemens UTMC OTUs are installed. Where the OSS is used within a Siemens PC SCOOT system it may be installed on the same server as the SCOOT system.

Range of physical variants

Semi-integral: This version is simply a 3U Gemini2 platform without any physical I/O or mounting for communications equipment. It is suitable for fitting into Siemens controllers and communicates via the controller's standard Enhanced Serial Port (ESP). Provision for mounting communications equipment is made elsewhere in the controller cabinet.

Freestanding: This version is similar to the semi-integral type but includes an I/O card offering 16 relay outputs and 48 inputs which may be used for control bits, reply bits and detector inputs in non-Siemens controllers where the ESP is not available.

11" and 19" 3U rack mounted: These versions provide a rack mounted OTU fitted with an I/O card offering 16 relay outputs and 48 inputs which may be used for control bits, reply bits and detector inputs. Provision is also made for the fitting of loop detector backplanes and detector cards, if required.
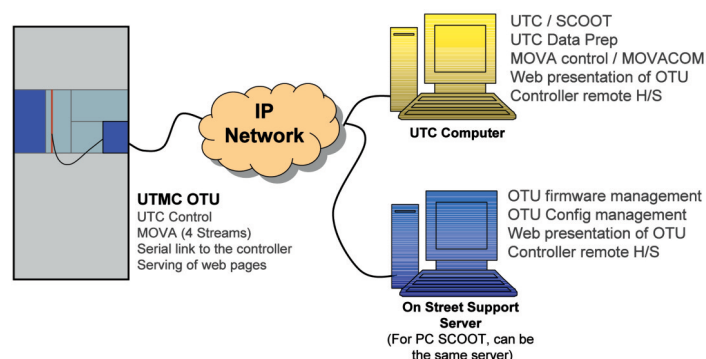
This 3U rack does not offer mounting facilities for communication equipment so this has to be provided elsewhere in the controller cabinet.

This version is suitable for fitting in both Siemens and non-Siemens controllers. When fitted to Siemens controllers, loop detector information and force/reply bit data is usually passed to the OTU via the Enhanced Serial Port avoiding the need for extensive physical wiring between the controller and the OTU.

11" and 19" 5U rack mounted: These are identical to the 3U versions above but also provide a 2U high shelf for mounting communication equipment and routers, complete with the provision of mains power and 24V AC power for any detectors that may be fitted in the rack.

Technical Specification

Communications

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

• V34 leased line modem for use in "point to point" TC12 leased line applications **Note: This modem requires two-wire presentation and the appropriate Instation equipment (modem rack and N-port) to be installed.**

Supported MIBs

• UTMC Type 1 (Simple) MIB
• UTMC Type 2 (UG405) MIB
• Note that use of the UG405 MIB requires the provision of an NTP server at the Instation,

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): Typically 20 minutes to allow unit to report supply failure providing communications equipment is supported during power fail.

• Operating temperature: -15°c to +60°c.

Physical options and part numbers

667/1/31601/004	Free-standing, for use in non Siemens controllers.
667/1/31601/014	Semi-Integral for use in Siemens controllers.
667/1/31601/311	3U 11" rack mounted UTMC OTU without modem tray.
667/1/31601/319	3U 19" rack mounted UTMC OTU without modem tray.
667/1/31601/511	5U 11" rack mounted UTMC OTU including 2U modem tray.
667/1/31601/519	5U 19" rack mounted UTMC OTU including 2U modem tray.