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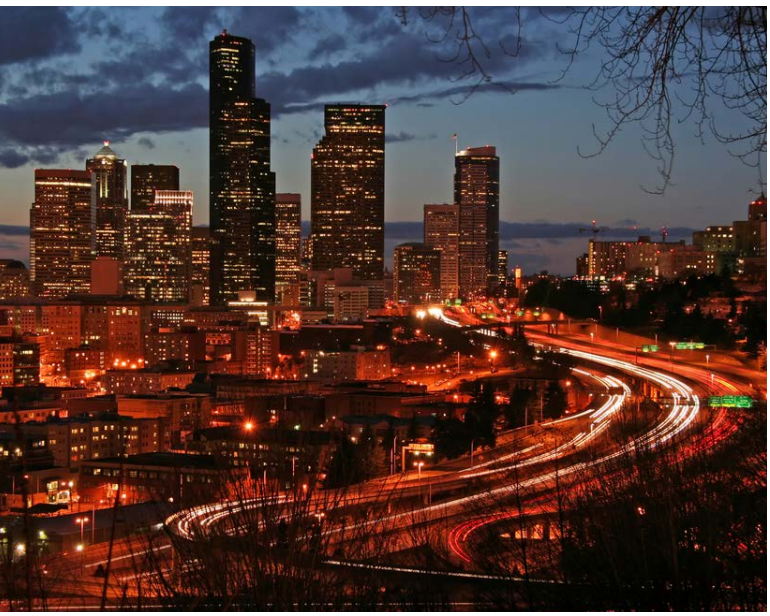
Stratos Outstation

Gemini 3 Platform



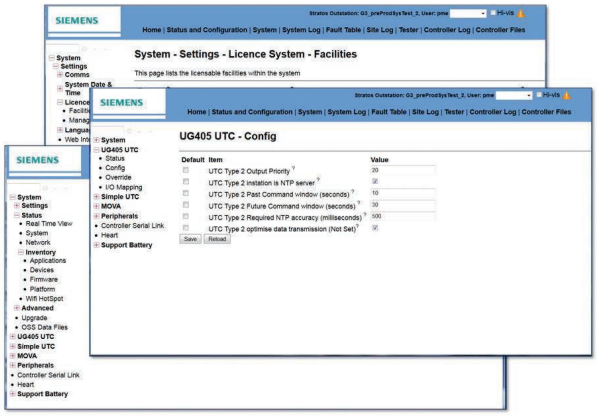
- Powerful, future proof platform – easily updatable to support all new Stratos functionality
- UTMC UG405 compliant communications for UTC operation
- Inbuilt 4 stream MOVA 7
- Manual or automatic MOVA activation from UTC or Stratos central system
- Easy configuration – future plug and play setup when connected to the Stratos system
- Common look and feel with ST950
- Wide range of communication options including copper, fibre, GSM, GPRS, 3G and Mesh radio
- Multi language support

The Stratos Outstation is a powerful new platform for use with traditional UTC systems but will also support new Stratos functionality as it becomes available.

Using the latest Arm processor technology this small, compact unit initially provides UTMC OTU and MOVA 7 functions but is able to be updated remotely as new Stratos functionality, including advanced local fixed time plan control, vehicle count and classification and detailed monitoring of a wide variety of on-street controllers becomes available.

Full implementation of UG405

The Stratos Outstation fully support the latest UG405 protocol which 'timestamps' all data exchanged between either a traditional UTC or Stratos central system and the outstation, ensuring a highly tolerant solution even when communications are of a poor quality. This is of particular benefit where variable latency and intermittent data loss are likely to be encountered, for example, where IP based wireless solutions are employed. It ensures that the Stratos Outstation is able to function more reliably than TC12, or earlier UTMC OTUs, allowing a wider range of communication options to be considered.



Four streams of integrated MOVA

The Stratos Outstation implements four MOVA 7 streams which may be introduced manually or automatically, for example via time table control via the central system. In addition MOVA can be configured, downloaded and operated both locally and by a user remotely, using the same user interfaces and tools in both cases. All communication with MOVA is undertaken over the same link as used for UTMC control so no additional communication provision is required.

Fully web based user interface

The UTMC OTU implements a fully 'web based' user interface which has a common look and feel with the ST950 controller range. The Interface enables users to interact with the unit without the need to be familiar with 'old style' 3 character handset commands, improving the user's interactive experience and reducing potential training costs.

The web presentation is identical whether accessed either locally or via the central system and by enabling easy access to all outstation features remotely, costly site visits can be avoided.

Compatible with a wide range of controllers

The Stratos Outstation offers a highly efficient serial interface to Siemens controllers as well as a fully functional TR2523 parallel interface to any third party controller which supports this interface

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 Outstation firmware and configurations

The Outstation Support Server (OSS) provides a management facility for a wide range of Siemens equipment including the Stratos Outstation, the ST950, Electra VMS signs and earlier UTMC OTUs.

Whilst it is possible to operate a Stratos Outstation 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.

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 TC12 style OTUs as it allows configuration changes to be simply effected from the Central System, 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, ensuring a fully up to date set of configuration data is always maintained.

Range of physical variants

The Stratos Outstation offers a range of alternate physical variants to suit differing controller types.

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

Provision for mounting communications equipment is usually made elsewhere in the controller cabinet.

Freestanding: This version is similar to the semi-integral type but includes an I/O card offering 16 solid state 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 Stratos Outstation 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 Outstation.

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.

In all build variants the Outstation is able to provide battery backed power for a selected range of communications equipment which will be supported in the event of a mains power failure, ensuring that critical mains failure events are able to be communicated to the Central System.

When replacing existing freestanding TC12 equipment a special TC12 to UTMC OTU interface card is available, enabling connections to be made to the controllers I/O using the existing wiring, significantly reducing on-street installation time.

Future Stratos functionality

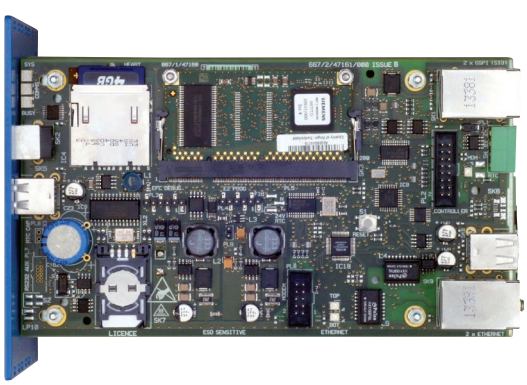
The powerful nature of the Stratos Outstation is such that is fully capable of supporting advanced Stratos functionality as it becomes available. New firmware and configuration data may be downloaded from the Stratos system usually without the need for a site visit.

Future Stratos functionality will include:

Adaptive plan control enabling fixed time plans to be downloaded to the Outstation and run without the need to rely on regular communication with the Stratos Central System.

Vehicle classification offering logging of a wide range of road usage parameters, including speed, flow, occupancy, headway and vehicle class. Up to 16 collection channels are provided and time-stamped data may be logged on a per vehicle basis, or aggregated into ‘bins’, the characteristics of which are easily configured as part of the outstation configuration.

Remote Monitoring allowing both Siemens and third party traffic controllers and other on-street equipment to be monitored, so that their fault and operational status can be quickly transmitted to the Stratos Central System.



Technical specification

Inbuilt modes and features
- UTMC OTU Type 1
- UTMC OTU Type 2
- MOVA 7 (up to 4 streams) (Licensed option)

Power Supply
- 92-264VAC 50/60Hz ±4%
- Transients To BS EN50293:2001
- Power Consumption 30W max
- Power break support times – 50ms
- Battery backup time - Internal battery Minimum 1 minute – software controlled

Communications
- Two 10/100 Ethernet interfaces
- Four USB host ports
- One USB device port (USB Handset)
- One RS232 Modem port
- One RS232 TR0141 / TR2500 user port
- RS232 handset port provided by adaptor cable

Inputs and outputs – basic unit
- Switchable 24V / 1A protected modem / router power output
- External battery backup input
- LV or ELV lamp supply monitor input
- Digital inputs (TR2523 compliant): 8
- Outputs (Isolated TR2523 compliant changeover): 2

Inputs and outputs – expansion
- Digital inputs (TR2523 compliant): 48
- Outputs (Isolated TR2523 compliant changeover): 16
- Maximum number of I/O cards: 3
- Maximum number of inputs: 152
- Maximum number of isolated digital outputs: 50

Other facilities
- Timing sources: Internal Crystal, NTP network time server, GPS clock
- Web based user interface
- USB Handset port or optional adaptor for RS232

Physical Size and weight
Basic with GSPI cables
- 120mm (W) x 130mm (H) x 250mm (L approx)
- 1.6 Kg

Basic with one I/O board
- 145mm (W) x 130mm (H) x 250mm (L approx)
- 1.8 Kg

Environmental performance
- Operating Temperature Range -34°C to +74°C
- Operating Humidity Range Up to 95% non-condensing
- Material / Finish Plated mild steel chassis
- Powder coated aluminium front panels

Approvals and specifications
- Highway Agency Approved to TR2522
- Compliant with relevant sections of TR2523 - Traffic Control Equipment Interfacing
- CE Approved
- RoHS Compliant

Part Numbers

Basic versions (non-rack mounted)

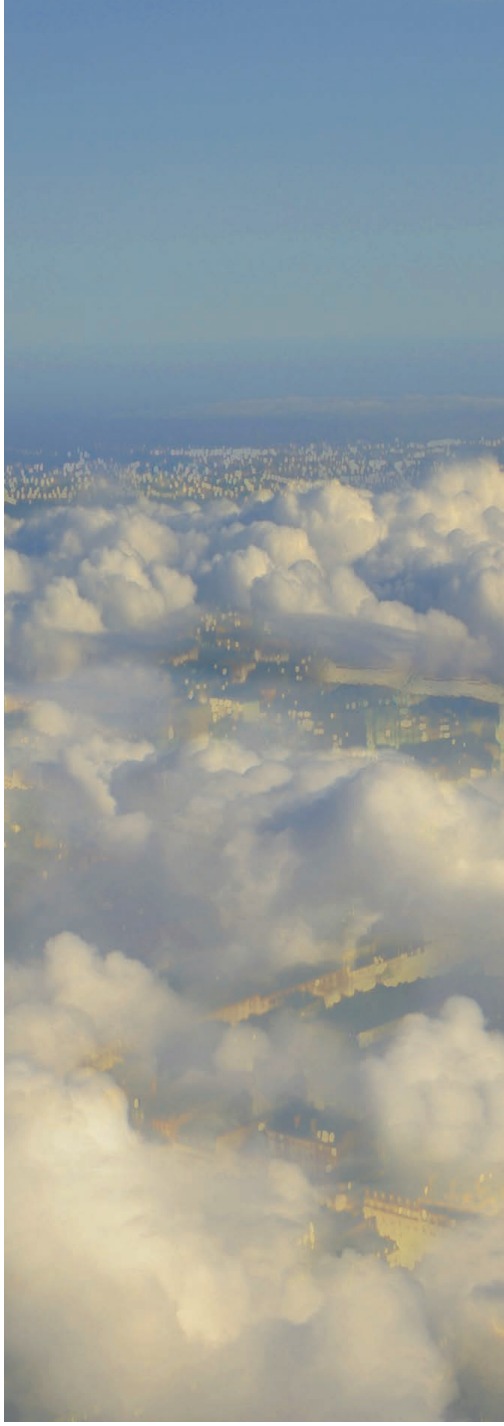
667/1/52250/004	Stratos Outstation free standing with 1 I/O card
667/1/52250/014	Stratos Outstation semi integral
667/1/52250/104	Stratos Outstation with TC12 interface card

11" rack mounted versions

667/1/52250/311	Stratos Outstation free standing with 1 I/O card
667/1/52250/511	Stratos Outstation free standing with 1 I/O card and 2U communications tray
667/1/52250/611	Stratos Outstation with TC12 interface card and 2U communications tray
667/1/52250/711	Stratos Outstation semi integral with 2U communications tray

19" rack mounted versions

667/1/52250/319	Stratos Outstation free standing with 1 I/O card
667/1/52250/519	Stratos Outstation free standing with 1 I/O card and 2U communications tray
667/1/52250/619	Stratos Outstation with TC12 interface card and 2U communications tray
667/1/52250/719	Stratos Outstation semi integral with 2U communications tray



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