



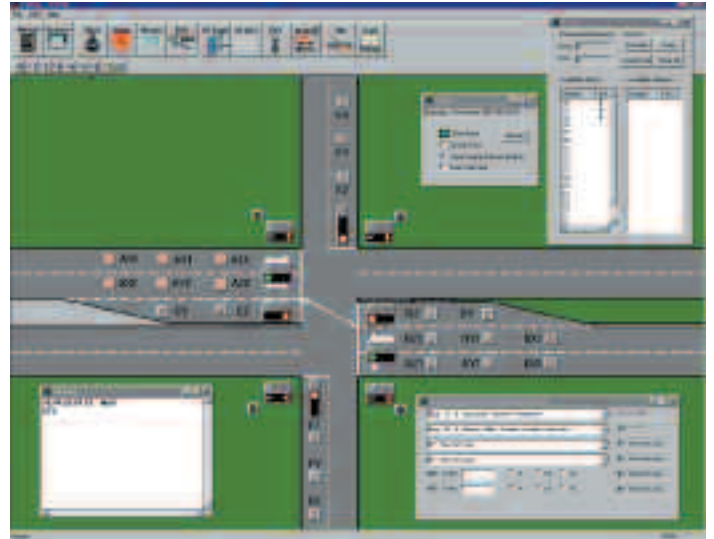
ST800 traffic controller

Traffic Solutions

SIEMENS



The ST800 is the latest high performance traffic controller from Siemens. It is designed for maximum flexibility in a wide range of applications including intersection and pedestrian traffic control. The ST800 family provides intersection, Pelican, Puffin and Toucan strategies to UK Department of Transport Specification TR2210 and meets the essential requirements of European Specifications prEN12675 and prEN50278.



ST800 traffic controller

Modular construction

Two main construction options are available:

- **Standard outercase** - A single-sided case provides a controller logic rack and frame which swings out for ease of access. Up to 32 phases can be accommodated together with detectors and ancillary equipment including Outstation Transmission Units (OTU), Outstation Monitoring Units (OMU) and other approved items.

The outercase provides all necessary street cable terminations using CET connectors, with ample room for additional terminations and cable separation if required. Manual panel access is provided through a separately locked access door contained within the main outercase door.

- **Free-standing logic rack** - A free-standing 19 inch 6U controller rack contains all essential controller electronics within a self-contained unit. An extensive range of mounting kits is available for fitting the equipment into a variety of existing cabinets, providing a particularly cost effective route to controller modernisation.

Phase cables are supplied which can be connected to existing terminals in the host cabinet further easing the upgrade process.

The controller design follows a modular concept which means that the equipment can be supplied to match individual user specification.

A basic controller comprises a processor board offering 16 buffered inputs and a single 8-phase lamp driver board. Expansion to a maximum of 32 phases is accomplished by the addition of up to three further lamp driver boards. Expansion I/O boards, integral OTU, and SDE/SA processor boards may be added as necessary.

Simplified installation

Installation is simplified by the modular nature of the equipment. The controller root and cabinet, complete with street cable and mains supply termination may be installed without the logic rack, which can be added at a later date.

An extensive inbuilt self-test facility which validates both the controller hardware and the street connections provides an invaluable aid to controller commissioning.

User configurable

Enhanced navigation aids and selectable levels of configuration complexity, insulate the user from controller facilities that are not being used, simplifying the configuration process.

The configuration generated by the system contains the data required to allow the controller to operate and also the IC4 source data, ensuring that it can never be lost. The data can be retrieved via the handset port in typically less than one minute and subsequently edited to create a new configuration.

Existing data for T200 and T400 controllers produced using the earlier IC3 system can be imported as the basis of new ST800 configurations, significantly easing controller upgrades. Similarly Linsig™ generated data files can be imported.

The optional emulator is a feature rich tool which links seamlessly with IC4 to provide an advanced environment for de-bugging and proving ST800 configurations. It ensures a highly accurate representation of the controller operation on a PC, using the same software source files as the controller firmware.



The IC4 Configurator provides a Windows™-based easy to use tool for generating configuration data sets for the controller. Data is entered via a series of 'forms' and is validated for correctness as part of a sophisticated error checking process.

Once configured most controller timings and many other parameters may be altered using a simple hand-held terminal. Using Siemens IC4 configurator, the changes made in this way can be easily identified and automatically incorporated into the controller configuration.

For non-UK applications the handheld terminal may be used to change more widespread parameters including number of stages and number and types of phases. This allows a single configuration PROM to be created and then quickly customised on-street.

Enhanced safety features

Two independent microprocessors and comprehensive hardware self-check features ensure an unprecedented level of controller safety. This is further improved by full equivalence monitoring on all aspect drives (red, amber, green) ensuring that mis-display of any signal colour is prevented.

For UK applications, conflicts or other major failures result in the signals being extinguished in a fail-safe manner. For non-UK use the controller also features a built-in hardware fail flash. This offers selectable 'off' or flash red/yellow for each phase, with programmable mark/space and flash rate.

Reliable facility rich software

The controller software offers many features and facilities including:

- 32 phases, 32 Stages
- 8 streams
- 8 maximum green sets
- 8 hurry calls which are in priority order
- 8 uni-directional detector loop units
- Stage ripple change facility for improved intersection capacity
- Fully configurable lamp sequences for worldwide application
- Fully integral lamp monitoring with enhanced red lamp monitoring to significantly ease configuration, commissioning and use
- Improved part-time and start-up modes, such that a stream may be sent in and out of part-time mode without affecting any others.
- Capability to provide different phase extension times on an input basis
- Enhanced CLF with plans now having up to 32 groups and the timings specified in seconds as part of the total cycle time
- Improved event timetable which supports actions based on 32 independent events and simplified programming
- Enhanced time system with full date details
- Date stamped rolling log providing detailed history of events and faults, coupled with improved presentation to aid recognition of entries
- Improved UTC mode with independent G1/G2 reply bits on a stream basis
- Enhanced handset facility running at 1200, 9600 or 19200 baud that can produce a 14 character single line display up to an 80 character by 24 line full screen status display, which displays the result of up to 10 handset commands simultaneously.



Technical specification

Modes of operation

Manual
 Vehicle Actuated
 Vehicle Actuated - Ripple
 Pedestrian Fixed Vehicle Period
 Urban Traffic Control
 Bus/Light Rail Transit
 Part Time
 Fixed Time
 Cableless Linking
 Pedestrian Vehicle Actuated
 Puffin/Toucan
 Hurry Call
 Emergency Priority

Phases and stages

No. of hardware phases	1-32
No. of software phases	0-32
Phase sequences	Programmable
No. of independent streams	8
No. of stages	32
No. of max. green periods	8
No. of phase delays	120
No. of call timers	8
No. of cancel timers	8
No. of all red extension units	7
No. of hurry calls	8
No. of emergency/priority units	8

High speed vehicle detection

Speed discriminations	Double/triple
Speed assessment	
No. of assessors	16

Cableless linking facilities

No. of plans	16
No. of groups per plan	32
No. of time switch settings	64
No. of plan influence tables	16
No. of group influences	10
Timing sources	50/60Hz mains Internal crystal GPS clock
Holiday clock	64 days 32 holiday periods

Other facilities

Standby mode:	Signals off
or software flash	
Failure mode:	Signals off
or hardware flash	

Hardware flash - selectable flash red or yellow per phase. Mark/space and flash rate selectable for whole controller.

Signal dimming	120V, 140V, 160V
High speed handset port	1200, 9600 and 19200 baud

Port is auto bauding to match incoming data

Electrical

Power supply	115V -20% +15% 230V -20% +15%
Supply frequency	50/60Hz
Lamp switching type	Solid state
Phases per lamp switch card	8
Max. load per output	4A
Max. load per lamp switch card	20A
Max. controller lamp load	20A

(Heavy current option available for higher lamp loads)

Environmental

Designed to meet:	UK TR2210 EU prEN12675 EU prEN50278
Supply interruption:	
Continuous operation up to	50ms break
Supply failure:	
Automatic restart without operator intervention	
Operating temperature range	-25°C to +65°C

Dimensions

Standard outercase	Height 1160mm Width 725mm Depth 420mm
Rack system	Height 266mm Width 482mm Depth 280mm

(Rack system requires minimum 15mm clearance in front of fixing plane)

Cuckoo kits

Siemens controllers:	GEC controllers:
Siemens T70	GEC 25
Siemens T90	GEC CX
Siemens T200	GEC3000
Siemens T400	
Siemens TCUG case	
Ferranti controllers:	
Ferranti MK1 (single and double case)	
Ferranti MK2	

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