

ST950 Traffic Signal Controller

Product Datasheet

YUNEX TRAFFIC

Overview

The ST950 is the latest in a long line of highly successful traffic signal controllers from Yunex Traffic. Building on more than 40 years of microprocessor-based traffic controller design, the ST950 family offers both familiarity and many exciting new user and maintenance features.

The controller family is compatible with the whole range of Yunex Traffic street-furniture, including Helios traffic signals, nearside signals and wait indicators, which all offer significant power and cost savings compared with conventional incandescent solutions.

How we help?

With integrated UTMC OTU, Stratos Remote Monitoring and MOVA functionality, the ST950 offers great flexibility, providing both intersection and pedestrian methods of control, at LV (230V), ELV (40V, 42V and 48V) Plus⁺ options.

With Plus⁺ technology, the ST950 can offer significant benefits including health and safety, environmental, socioeconomic, installation & maintenance and overall scheme delivery time and cost.

Solution benefits

- Simple installation and easy to configure with IC4 configuration software
- LV (230V), ELV (40V, 42V and 48V) and Plus⁺ lamp drive systems
- Reduced power costs
- Reduced cabling costs
- Increased electrical safety for personnel and members of the public in the event of damage to the signal installation
- Reliable lamp monitoring of very low power LED traffic and pedestrian signals

Solution features

- Fully integrated UTMC OTU and MOVA 7 & 8 functionality
- Fully integrated Stratos Remote Monitoring
- Easy to use web-based user interface
- Inbuilt live graphical site map
- Multi-Language capability
- Local and remote user access with optional PKI security and user action logging
- Up to 32 phases, 32 stages and 8 independent streams
- Up to 240 digital inputs/output lines
- Integral lamp monitoring of all phases and signal colours
- Modular construction with various cabinet and rack options available
- Dual processor safety system with separate applications processor
- Multi-mode operation
- Supports configuration changes with signals on

Technical Specification

Variants	• ST950 • ST950 LED • ST950 ELV • ST950 Plus⁺ • ST950 S (Small Intersection utilising Plus⁺ technology) • ST950 SP (Small Pedestrian utilising Plus⁺ technology)
Approvals and specifications	• Designed to meet UK TOPAS 2500 specification, all appendices • Designed to meet EN12675 (Traffic Signal Controllers – Functional Safety Requirements) • Designed to meet EN50278 (Road Traffic Signal Systems) • Designed to meet EN50293 (Electromagnetic compatibility. Road traffic signal systems) • Designed to meet UK TOPAS 2513 (Performance Specification for Wig Wag Signal Control Equipment) • Designed to meet UK TOPAS 2523 (Traffic Control Equipment Interfacing) • CE and UKCA Approved • RoHS Compliant
Inbuilt modes of operation	• Manual • Fixed-Time • Vehicle Actuated • Urban Traffic Control • MOVA (Implements MOVA 7 and MOVA 8)) • LRT • Pedestrian Fixed Vehicle Period • Pedestrian Vehicle Actuated • Part-Time • Cableless Linking • Hurry Call • Emergency Priority
Phases and stages	• Number of hardware phases: 1-32 (Phase sequences programmable) • Number of independent streams: 8 • Number of stages: 32 • Number of switched signs: 0-32 • Number of max. green periods per phase: 8 • Number of phase delays: 120 • Number of call and cancel timers: 8 • Number of stage-based all red extension units: 7 • Number of phase-based intergreen delays: 64 • Number of hurry calls: 8 • Number of emergency/priority units: 8
High-speed vehicle detection	Integral speed discrimination, double/triple speed assessment • Number of assessors: 16
Cableless linking facilities	• Number of plans: 16 • Number of groups per plan: 32 • Number of time switch settings: 64 • Number of group influences: 10 • Timing sources 50/60Hz mains, Internal Crystal, NTP network time server or optional GPS clock

Technical Specification

Inputs and outputs	• Number of digital inputs: 0-240 compliant to TOPAS2523 • Number of isolated digital outputs: 0-96 compliant to TOPAS2523 • Actual number of inputs and outputs possible depends on configuration, up to a maximum of 240 in total
Environmental	• Operating ambient temperature range: -25°C to +70°C • The controller is proofed against driving rain and sand, dust conditions and industrial pollution. The cabinet rating is IP55
Lamp switch LV controller	• Lamp switching type: Solid state triac • Number of phase outputs per lamp switch card: 24 (arranged as 8 x 3 aspect phases) • Maximum lamp load per output switch: Standard Controller: 4A, LED Controller 4A (monitoring limited to 1A load) • Maximum number of lamp switch cards: 4 • Maximum total lamp load: 20A • Lamp supply voltage: As per input supply • Signal dimming: 120V, 140V, 160V AC RMS. Note 1: Dimming not supported for 100V and 110V mains input. Note 2: 120V dimming not recommended for LED controllers
Lamp switch ELV controller	• Lamp switching type: Solid state FET • Number of phase outputs per lamp switch card: 32 (each fully configurable as red, yellow or green drives) • Maximum lamp load per output switch: 2A (A phase may use multiple outputs where higher current required) • Number of lamp switch cards supported: 6 (3 max per ST950 cabinet) • Maximum total lamp load: 20A • Heavy current options: 40A • Lamp supply voltage: 48V RMS, (rectified and negative wrt protective earth) • Signal dimming: 27.5V RMS, (rectified and negative wrt protective earth) • 40V and 42V ELV lamp supply drives available as an option
Plus+ System Capability	• On-street power supply: 48V DC (300W to 1200W) • Maximum cable distance from controller to furthest node: 350m • Maximum number of Cabinet Interface Cards (Standard Cabinet): 3 • Maximum number of Cabinet Interface Cards (Small Cabinet): 1 • Maximum number of cable rings per Cabinet Interface Card: 3 • Typical number of signal nodes per ring (dependent upon equipment installed and length of ring cable): 18
Plus+ SmartLoop	• Approvals and specifications: Compliant with UK TOPAS 2512, Radio approvals to ETSI 300-330, UKCA and CE marked • Loop operating frequency: 30-120 KHz • Loop inductance: 20-2000 microhenries including feeder cable • Loop feeder length: 300m min • Recommended loop cable: 1.5 or 2.5sq.mm • Sensitivity: Set in defined steps from controller interface from 0.01% to 1% dL/L. • Presence time: Four pre-set presence time selections between 3.5 seconds and 2 hours. Set from controller interface. • Environmental: Operating temperature: -25°C to +80°C

Technical Specification

Other facilities	• Licenced facilities: Fully integrated MOVA 7 and MOVA 8, UTMC SCOOT UTC and Stratos Remote Monitoring functionality • Standby mode: Signals off, Software flash • Failure modes: Signals off, independently controlled fail flash, Software flash on a per-stream basis • Flash type – selectable: flash red or yellow per phase Mark/space and flash rate selectable for whole controller • Web based user interface with audible feed for maintenance activities • High-speed handset port 1200, 9600 and 19200 baud.
Electrical	• Input power supply (+20, -15%): 100V, 110V, 220V, 230V, 240V AC RMS • Supply frequency: 50/60Hz ±4% • Supply interruption: Continuous operation up to 50ms break • Supply failure: Automatic restart without operator intervention
Dimensions	Dimensions (mm) • Standard outer case: Height: 1160, Width: 730, Depth: 425 • Small outer case: Height: 1050, Width: 500, Depth: 425 • Rack system: Height: 266, Width: 482, Depth: 280
Signal Compatibility (drive and monitor)	• Standard UK HI incandescent signals • Standard UK LV regulatory signs • Yunex Traffic Helios LV LED signals • Yunex Traffic Helios ELV and Plus⁺ signal heads • Yunex Traffic Helios ELV and Plus⁺ regulatory signs • Yunex Traffic ELV and Plus⁺ nearside indicators • Yunex Traffic ELV LED and Plus⁺ wait indicators
Cuckoo kits	• ST950: Siemens T400 and ST800, Microsense MTC and Sentinel, Peek TSC3 and TRX • ST950 ELV: Siemens T400 and ST800, Microsense MTC and Sentinel, Peek TSC3 and TRX
Upgrade kits	• Siemens ST900 and ST900ELV
Weights (standard cabinet)	• Approximate weight of bare outercase: 30Kg • Approximate weight with a 16-phase ST950 controller: 75Kg • Approximate weight of ST950ELV controller with single HPU and Lamp Supply Transformer: 85Kg • Approximate weight of ST950ELV controller with two HPUs and two Lamp Supply Transformers: 100Kg
Outercase Material	• Powder coated aluminium • Grey: Aircraft Grey to BS381C No. 693 Semi-Gloss with Leatherette texture • Black: RAL 9005, Semi-Gloss with Leatherette texture
Security	• Screw-locks • S18 lock • Optional Yale RKA27C pattern barrel in place of S18 lock • Manual Panel door: Yale lock with a 900 pattern barrel

Elexon Code

Description	Part Number	Charge Code	Nominal Watts
ST950 8/16/24 Phase Traffic Controller	667/1/46950/ETC	79 06 018 000 100	18
ST950 ELV Traffic Controller	667/1/45950/0xx	79 06 067 000 100	67
ST950 ELV Low Inrush Traffic Controller	667/1/45950/5xx	79 06 025 001 100	25
ST950 Plus+ Traffic Controller	667/1/53010/ETC	79 06 022 001 100	22
ST950 Plus+ Traffic Controller + Additional CIC with support equipment	667/1/53100/ETC	79 06 036 000 100	36
ST950 Plus+ Traffic Controller + 2 Additional CICs with support equipment	667/1/53100/ETC	79 06 050 002 100	50

For complete information on Elexon codes please refer to Yunex Traffic document 667/RE/29050/000



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