

Sentinel Controller

Microsense Sentinel Controller



Features:

- Available in 3 versions for cost-effective implementation
- Complies with UK Highways Agency Specification TR2210A (formerly TR0141C)
- MOVA 4.2 dual stream capability
- LRT capability
- Three versions with multiphase operation: 4 phase pedestrian, up to 8 phase and up to 32 phase
- Self contained rack mounted design
- Employs common hardware platform for both Intersection and Pedestrian control
- Flash ROM to enable configuration data download
- Configurable for Intersection and/or Pedestrian functionality
- Supports lamp monitoring of both Halogen and LED Signal Heads
- Conforms to BS EN 12675 controller's spec. and safety spec. HD638 S1

The Microsense Sentinel Controller has been specifically designed to meet the UK Highways Agency Spec. TR2210A and is fully configurable for Intersection and/or Pedestrian functionality.

The Sentinel provides exceptional flexibility by being available in 3 versions, for cost-effective deployment and employs a common hardware platform for both Intersection and Pedestrian control.

The four standard versions of Sentinel are:

- A: 4 phase pedestrian crossing controller, in a small case.
- B: 8 phase junction controller, in a small case.
- C: Up to 32 real phases for complex junction control, in a large case.
- D: Flashing warning controller

Compliant with HA specs MCE 0109 and MCE 0113 and the Department of Transport guidance note on the Highway and Vehicle Engineering Aspects of Street Running Light Rapid Transport Systems April 1989.

Hardware:

The Sentinel has been designed in a self-contained 6U rack configuration, which is incorporated in a swing frame.

The 16 bit CPU module has flash memory, to enable configuration data to be downloaded and site changes to be saved. The CPU has an optional I/O interface card, to provide outputs and extra inputs for a UTC interface and an optional integral lamp monitoring card to



monitor lamp currents for both general and red lamp monitoring. The lamp switch card is equipped to provide 8 phases (signal groups) per board, up to a maximum 32 phases capability.

The outercase has a single access door, which enables mounting against a wall or in an alcove.

Safety Features:

Extensive features have been included in the Sentinel, to ensure safe operation at all times.

Comprehensive monitoring facilities are available using a handset port.

Green-Green Conflict Monitoring:

Two independent systems are provided, to monitor the green aspects for hazardous displays.

Additionally, one system performs a test on the second system, to check for its correct operation.

Program Validation:

Checks are continually made on the validity of the program and configuration data (RAM, Flash ROM and EPROM) memory.

Watchdogs:

Each processor system has its own watchdog circuit, to detect failure.



Head Office

15 Narborough Wood Park, Desford Road
Enderby, Leicestershire LE19 4XT
T 0845 201 2750 • F 0845 201 2850
Email: sales@tseu.net • www.tseu.net

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Configuration:

Configuration of a controller can be performed by Microsense or the user and an upgrade path is available to the existing Windows-based configurator software. A PC running Microsoft Windows is used for configuration. Configuration data is stored in flash ROM or EPROM, with timing data in battery backed memory. The same software suite can be used to modify or reconfigure a controller.

Updating Configuration Data:

New configurations can be downloaded from a PC with dongle protection. Working data such as timings or plans can be modified using a handset, without the necessity to reconfigure the controller. These changes can be saved to flash ROM for security.

SPECIFICATIONS:

Modes of Operation:

Manual; Fixed Time; Vehicle Actuated; Hurry Call; Cableless Linking; UTC; Part Time; MOVA; LRT and Bus Priority.

Safety Monitoring:

Two independent green conflict monitors. Green compliance checked.

Watchdog:

Each processor has its own watchdog.

Program data checks:

Each processor performs its own checks.

Configuration data:

Held in flash memory or EPROM.

Engineers' Handset:

25-way 'D' socket; RS232 interface.

Supply Voltage:

230 V + 20% -15% 48 - 52 Hz

Power Consumption (quiescent):

10A controller 40 50W

20A controller 60 75W

30A controller 75 90W

Aspect loads:

4A maximum per aspect (red, yellow or green etc)

Beeper load:

200 mA maximum @ 18 V DC

Controller load:

Small case 10A only, Large case, 10A, 20A and 30A versions

Supply interruption:

Continuous operation with up to 50 ms mains break.

Environmental:

Temperature -15°C to +60°C ambient. Relative humidity 95%. Designed to meet UK Highways Agency Specification TR2130. Corrosion resistant cases finished in standard colours or to customer specification.

EMC:

Designed to meet European Standard EN 50293.

Dimensions:

Small Case Controller:

947mm (H) x 505mm (W) x 486mm (D)

Large Case Controller:

1245mm (H) x 697mm (W) x 486mm (D)

Weight:

Small Case Controller 100kg nominal

Large Case Controller 130kg nominal

Ordering Information:

Single pedestrian controller	MSC1P
Dual pedestrian controller	MSC2P
Small case 8 phase controller	MSC8S
Small case flashing warning ctrlr	MSCFWC
Large case controller	MSC - XX

Number of phases 8 to 32
(multiples of 8):

Please contact the Sales Department for further details or with enquiries about our product range.

Note: Intersection controllers are normally supplied to customer' spec. The spec's given here are intended to assist customers in formulating this. We invite enquiries covering features or expansion possibilities, not covered here.