

# ATC

*Moving Traffic*

## **ADVANCED WARNING SIGN CONTROLLER (AWSC4)**

The AWSC4 Advanced Warning Sign Controller is a new generation of advanced warning systems to warn road users of a Railway Level Crossing currently in use and therefore to prepare to stop. This product was developed to meet the needs of VicTrack and VicRoads in addressing an increase in road user fatalities at Railway Level Crossings.

The product is available in two models, the AWSC4 model which operates in areas where power is generally available. The second model the AWSC4S is Solar powered to allow for the versatility of installation in remote areas where power may not be available.

The AWSC4 model of the product is an easy to deploy solution that minimizes the amount of civil works to install. The AWSC4S model requires an additional cabinet to house the solar power regulator & batteries.

Each model is capable of driving from 1 to 4 signs each fitted with two (2) Yellow aspect LED Lanterns that are Extra Low Voltage and low power units.

An independent Flasher Unit interfaces to the railway train detection system and is activated when a train is detected approaching the road crossing. The flashing signals will continue to flash until a train has cleared the railway crossing.

Monitoring of all main functions in the system is achieved via a modem communications link using the 3G (UMTS) mobile telephone network that can be customized to any client requirements.

The AWSC4 model uses an integrated industrial temperature range 650VA uninterruptable Power Supply (UPS) and GEL batteries with a sophisticated temperature sensing system that adjusts charging according to the battery temperature. The AWSC4S model uses the same GEL batteries installed in an additional cabinet with Solar Power capability.

The AWSC4 is designed for outdoor use and is based on the highly proven and rugged ATSC4 Traffic Signal Controller. The unit is designed to monitor all cable connections to the Warning Signs as well as the Railway cable.

The AWSC4 is capable of detecting tilting of the signs as well as the loss of a LED Lantern that will allow crews to attend to the replacement of faulty LED aspects.





## LAPTOP USER INTERFACE

- Serial Port RS-232 interface.
- Windows based User Interface to view system status.
- Comprehensive Fault Log with colour codes Faults and Errors.
- External Inputs Status in real time.
- UPS Status points in real time.
- Status of all LED Lantern aspects.
- Status of Railway Cable interface.

## POWER FEATURES

- 240v ac 50Hz.
- 110v ac 60Hz.
- Industrial Temperature Grade UPS (-40°C to + 74°C).
- Optional Auto-Transfer Switch (ATS) to isolate UPS.

## COMMUNICATIONS

- UMTS (3G) Modem Data and Voice Circuit.  
ACMA Approved (850MHz).
- Optional Fibre Optic Modem.
- Optional Radio Communications.
- RMS Protocol (XML based) Command Set.

## RAILWAY INTERFACE

- Dry contact relay interface for feedback to Railway.
- Cable Monitor to Railway Signal Controller.
- Provide 28vac to Railway Signal Controller "Rail Call" Relay.

## SPECIFICATIONS

|                   |  |
|-------------------|--|
| EMC               | AS61000.6.2.2006 – General Standards   |
| Environmental:    | AS60529 IP45   |
| Wiring:           | AS3000 - 2000,<br>Certificate Suitability Office Fair Trading 9002N  |
| Controller:       | VicRoads TCS-057-2-2007<br>VicRoads TC-1203 – Controller Foundations<br>VicRoads TCS-011-1-1999 Roadside Cabinets. |
| Railway:          | AS1742 Part 7: Railway Crossings.  |
| Road Signs:       | AS1743 Road Signs – Specifications   |
| Lanterns:         | AS2144 Traffic Signal Lanterns.  |
| Solar Regulator : | +24vdc output, temp compensated battery charging.  |
| Inverter:         | 650W load output, 240ac, 50Hz  |
| Solar Panels:     | 130W peak output, three bus bar electrodes.  |

## CONTROLLER

- Solid State switching of LED Lantern Loads.
- 3G (UMTS) Communications Connectivity.
- Redundant Lantern Drive
- Logging of all events in Fault Log Accessible by Laptop.
- Remote Dial in Capability.
- Industrial Grade AMD Elan SC520 CPU.
- Fail to Flash unit.
- Manual Test Switch to test Flashing Warning Signs.
- Flasher independent of Logic Rack CPU operation.

## FUNCTIONALITY

- Fail to Flash Safety Function
- Drives from 1 to 4 Warning Sign LED Lantern Pairs
- Independent Flasher Unit with Lamp status.
- Interfaces to Railway Presence Detector Relays
- Monitors all Warning Sign Cables.
- Monitors Railway Interface Cable.
- Monitor 16 status inputs
- UPS Battery Backup for 12 Hours (AWSC4).

## TRAFFIC SIGNAL DISPLAYS SIGNS

- Two 200mm Yellow AS2144 compliant LED Lanterns per sign.
- Use of Extra Low Voltage (ELV) power for safe maintenance
- Cable sensing for all signs (up to 4).
- Tilt Sensing in case sign is pushed off vertical axis.

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