



ATC

Aldridge Traffic Controllers

SOLAR POWERED ACTIVE ADVANCED WARNING SIGN CONTROLLER (AWSC4-SOL) FACT SHEET

Introducing the Solar AWSC4-SOL Active Advanced Warning Sign Controller, a new generation of eco-friendly and economical advanced warning systems to warn road users of a Railway Level Crossing currently in use and therefore to prepare to stop.

This version of the product was developed to meet the market needs for an easy to deploy solution that minimizes the amount of civil works to install the unit.

This solution is based on the proven and Type Approved Advanced Warning Sign Controller, and integrated a set of solar panels that connect to a Solar Regulator and GEL batteries.

The warning sign lights driven by the AWSC4-SOL flash alternately once a second for the duration of the train presence at the level crossing. All warning sign lights flash synchronously.

A standalone system such as the Solar Powered AWSC4-SOL is designed with an intelligent Solar Regulator that can handle the current generated by the solar panels, performs temperature compensation for charging of batteries and has a very low voltage drop.

All of these qualities result in an integrated system able to withstand the elements of heat and cold, surge protection at multiple levels resulting in a protected and reliable product.

The Active Advanced Warning Sign Controller (AWSC4-SOL) 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 is the central module that interfaces to Railway signaling systems to act on a signal from the Railway Crossing Train Detection system that a train is about to go through a Railway Level Crossing.

Monitoring of all main functions in the system is achieved via a modem communications link that can be customized to any client requirements.

Remote support means an operator at a Traffic Management Centre can dial into the unit and request any diagnostic information.

The AWSC4-SOL 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 Active Warning Signs as well as the Railway cable.

The AWSC4-SOL 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.

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.

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.

CONTROLLER

- Solid State switching of LED Lantern Loads.
- Redundant Lantern Drive
- Logging of all events in Fault Log Accessible by Laptop.
- Remote Dial In Capability.
- Fail to Flash unit.
- Manual Test Switch to test Flashing Warning Signs.
- Flasher independent of Logic Rack CPU operation.

LCU POWER FEATURES

- 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

- Solar Panels +24vdc
- Solar Regulator provides short circuit, overload, reverse polarity, lightning and surge protection, high voltage disconnect, automatic recovery with all protections.
- Inverter outputs (650VA) available:
 - 240v ac 50Hz, 110V ac 60Hz
 - Industrial Temperature Grade UPS (-40oC to +74oC).
 - 2 Days Standby Capacity at Max Load.

COMMUNICATIONS

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

RAILWAY INTERFACE

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



SPECIFICATIONS

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|-------------------|---|
| Model | AWSC4-SOL |
| EMC | AS61000.6.2.2006 – General Standards C-Tick Approval #17700 Environmental: AS60529 IP45 |
| Wiring: | AS3000 - 2000, (Inverter output to AWSC4). |
| Certificate | Suitability Office Fair Trading 9002N |
| Controller: | VicRoads TCS-057-2-2007 VicRoads TC-1203 – Controller Foundations. VicRoads TCS-011-1-1999 Roadside Cabinets. |
| Railway: | AS1742 Part 7: Railway Crossings. |
| Road Signs: | AS1743 Road Signs – Specifications |
| Lanterns: | AS2144 Traffic Signal Lanterns. |
| Communications | AS60950.1, 850MHz, 3G (UMTS). |
| Solar Regulator : | +24vdc output, temp compensated battery charging. |
| Inverter: | 650W load output, 240ac, 50Hz (other voltages available). |
| Solar Panels: | 130W peak output, three bus bar electrodes. |



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