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Wayguard GCP 5000 Crossing Predictor and Control System

Total Level Crossing Management



Just Add Power

The Wayguard GCP 5000 (Grade Crossing Predictor) is a single, simple-to-configure unit that has everything needed to control most level crossings. Just add a power supply and connect to the track and the crossing.

Providing a total level crossing solution has never been this simple.

Total Integration

Eliminate most of your design, wiring and testing costs because the Wayguard GCP 5000 is a single, integrated unit that is easy to connect and configure.

The integrated GCP 5000 costs no more than separate components so you save on every installation.

Improved Functions

- Simpler SEAR Ili configuration
- Ethernet DAXing
- Faster user interface with streamline menu structure
- Ethernet interface to PC
- Uses same accessories as GCP 4000

Benefits

- Minimises design, installation and whole-of-life costs
- Simplifies installation and testing
- Integrates train detection, comprehensive crossing monitoring, and barrier, light and bell drive all into one unit
- Controls even complex, multi-track crossings from one unit
- Inbuilt colour configuration and monitoring interface, or use external computer
- Simple configuration using pre-defined templates
- Up to 5 tracks per installation
- Integrated flasher drives up to 40 A lamp signals, or LED signals
- Integrated barrier control (including vital time delays)
- Generates exception alarms and logs everything with optional Wayguard SEAR Ili integrated data logger
- Simplified GCP & SEAR Ili configuration
- Ethernet DAX & PC communication

Description

The Wayguard GCP 5000 is a modular, complete level crossing control and management system—a one-box solution for most level crossings.

It suits crossings that have up to five tracks (or add additional units to expand). Just fit the modules you need for minimum cost.

Use one or two integrated flasher and barrier control modules. Each module provides a 20 A alternatively-flashing lamp output. Separate outputs drive the bells and barrier control.

Use the integrated data analyser and recorder module available with the full-width housing to instantly notify maintainers of any crossing problems, and to record absolutely everything at the crossings.

The Wayguard GCP 5000 is compatible with the GCP 4000 and uses most of its peripheral components.

Train Detection

Individual track modules monitor the train location on each track and provide a fixed warning approach time (for constant speed trains). They connect to the track each side of the road and eliminate the need for expensive cable routes to the strike-in points.

The separate island track circuit is integrated on the track module to detect static trains over the road and give fast crossing clearing. Likewise, multiple DAX outputs can be configured on each track for traffic light pre-emption and adjacent crossings starting. You can now also DAX single line track with Bi-DAX option.

Each train movement is fully recorded and can be exported to graph the move.

Crossing Control

No need to separately wire-in flashers and relays—now the lights, bells and barriers can all be directly driven from the crossing system.

Each crossing control module directly drives flashing lamps (up to 20 A), two bells and two barrier controls and is adequate for most crossings. Add a second module for high loads.

This equipment complies with Australia's Regulatory Compliance legislation when installed and used in accordance with the instructions supplied.



Brief Specifications

Number of tracks	Multiple-Track Crossing: 1–5 Multiple DAX per track (depends on housing)		
Maximum track length	Approx 3 km (depends on frequency, ballast and train shunt)		
Lamp output	20 A (voltage regulated) per Crossing Controller Module, max 2 modules (Basic Crossing and Multiple-Track Crossing only)		
Bell and barrier	Bell drive and barrier control circuit drive per Crossing Module		
Ballast resistance	Minimum 0.6 ohm.km		
Frequencies	GCP:	standard discrete frequencies in the range 45–999 Hz	
	Island:	2.14–20.2 kHz	
Supply voltage	9–16.5 Vdc		
Ambient temperature	–40°C to +70°C		
Dimensions (mm)	Two-Track Crossing:	591 wide	315 deep 563 high

The lamp drive outputs are voltage-regulated so incandescent lamp brightness won't vary. They work equally well with LED signals.

Configuration and Maintenance

Use the inbuilt user interface or an external laptop to completely configure and monitor the whole installation.

Select the appropriate template for the installation and simply complete the specific location parameters (track length, frequency, island etc).

Use the same interface to configure the light, bell and barrier control and to monitor crossing status. You can even extract data to graph the train moves.

Event Analysis and Recording

Maintain the integrity of crossings using the Wayguard SEAR Ili Event Alarm and Recorder. This optional module captures everything that happens at the crossing.

The SEAR Ili checks each operation and error, and generates an alarm should any fall outside a user-defined tolerance. It can then immediately update a maintenance control centre and push an e-mail or SMS message to an appropriate maintainer or supervisor.

Maintainers can remotely interrogate the SEAR Ili to determine the urgency of the alarm.

Standard configuration is **Multiple-Track Crossing**—1 to 5 independent tracks, controller, user interface and SEAR Ili

Please discuss any other requirements with us.

Design, Installation and Support

Our experts can assist you with application architectural engineering, design and design checking, commissioning support, on-going product support and maintenance programs.

See also:

- Datasheet 9G-3—Wayguard GCP 4000
- Datasheet 9G-4—Wayguard GCP Accessories
- Datasheet 9G-8—Wayguard PSO GCP 4000
- Datasheet 10H-3—Wayguard SEAR II
- Datasheet 10H-4—Wayguard SEAR II Accessories

Ordering

Please provide your requirements for:

- number of tracks
- number of DAX outputs per track
- maximum lamp current
- peripherals (shunts, couplers, blocking reactors etc)
- configuration & maintenance display
- SEAR Ili
- WAMS (Wayside Alarms Management System) SEAR Ili monitoring using common browser software

or refer to our Product List.

Contact us for a unique ATCS address.

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