MIPRO RAILWAY SOLUTIONS

LEVEL CROSSING SYSTEM

MIPRO'S LEVEL CROSSING SYSTEM PROVIDES A RELIABLE FUNCTIONALITY IN THE HARSHEST CONDITIONS

MIPRO

RELIABLE AND HIGHLY AVAILABLE LEVEL CROSSING SYSTEM

Mipro's level crossing system is a highly available, modular level crossing solution that is adaptable to various environments and customer-specific requirements. It is designed for the most demanding conditions and for a broad range of applications.

Mipro's LC system is ideal for primary and secondary lines, industry lines and marshalling yards. It provides open interfaces to utilise existing and any other external level crossing equipment. Mipro LC provides:

- Modularity for flexible system structure and functionality
- Open interfaces to allow the use of existing equipment
- Integrated or stand-alone solutions according to customer needs
- Total solutions with flexible and cost-effective installations
- Effective remote and local diagnostics to ensure high availability
- Reliability and quality based on Safety Integrity Level SIL4 approved platform

MODULARITY PROVIDES FLEXIBILITY IN SYSTEM STRUCTURE AND FUNCTIONALITY

Mipro LC provides a modular and highly scalable system structure for both hardware and software. It can therefore be flexibly adapted to various requirements and applications. Software configuration is based on the track geometry and can be easily modified in the event of alterations and extensions. Hardware configuration is fully modular which allows easy extensions to be made when needed.

Mipro LC controls and monitors train signals and road signals, barriers and lights, and warning bells for road traffic. It provides level crossing control for one track or several tracks and for a varying number of signals, barriers and lights according to needs. The road signals to be controlled can be based on traditional bulb technology or modern LED technology.

Mipro LC provides versatile remote diagnostics to facilitate system maintenance and thus ensure high availability. It is capable of utilising several wireless data transmission protocols to transmit critical information and diagnostic data.

OPEN INTERFACES ALLOW THE USE OF EXISTING EQUIPMENT

The Mipro LC system is provided with open interfaces. It is capable of utilising existing level crossing equipment and thus allows effective level crossing modernisations in any environment. Mipro LC is connectable to various types of equipment whether they are determined by national requirements or by the application.

LINE VACANCY DETECTION

Open interfaces also enable the use of various techniques for line vacancy detection. MIPRO LC starts and stops warnings on the basis of alarms that can be initiated by track circuits, audio frequency track circuits, axle counting, local control or via remote control from the train. Moreover, any other technique in use, such as ultra sound or inductive detection, can initiate the alarm.

INTEGRATED OR A STAND-ALONE SOLUTION AS PER CUSTOMER NEEDS

Mipro LC can be implemented as a stand-alone system or it can be integrated into the Mipro interlocking system. When integrated into our interlocking system, all fault indications and level crossing status data are transmitted through the interlocking system.

For the stand-alone solution, Mipro LC provides a communication interface to transfer safety critical information on train routes and barrier positions from and to the interlocking system.
If necessary, fault indications can be directed to other destinations – for instance to maintenance laptops and emergency centres.

Mipro LC software components can be installed in a separate field cabinet located next to the level crossing, for example.
Existing facilities can be used for installations. The components are then furnished in a rack and located in applicable facilities on the trackside or marshalling yard.
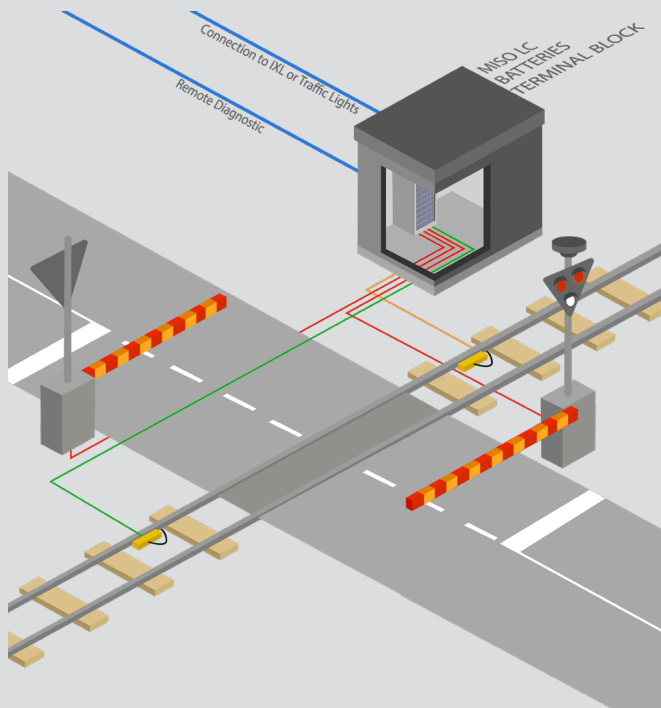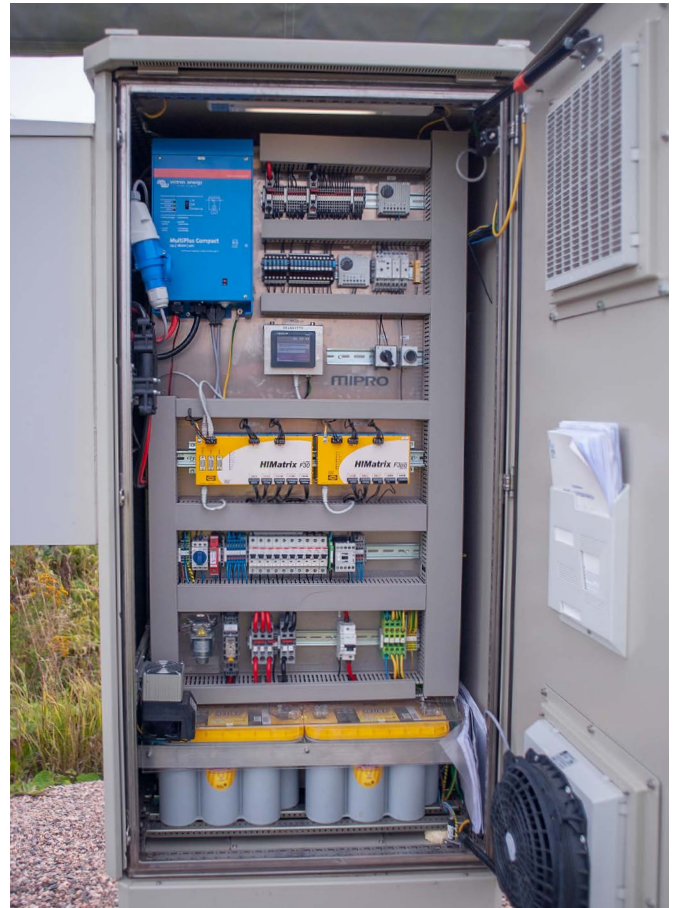
TOTAL SOLUTIONS WITH FLEXIBLE AND COST-EFFECTIVE INSTALLATION OPTIONS

Mipro provides total solutions for the control of level crossings. The Mipro LC solution covers – besides technology and equipment – design, commissioning and subsequent maintenance. When designing and implementing Mipro LC system solutions, we always take international and national standards fully into account.

Mipro LC system technology is based on a SIL4 certified (TÜV Süd) system platform, reliable electronics and field-proven connection principles. It includes all the devices and compo-nents required to control a level crossing, such as back-up power supplies, manual remote and local control switches, barrier machine controllers and LED signal controllers.

The Mipro level crossing is connectable to various types of equipment whether they are determined by national requirements or by the application.

Mipro LC is designed for demanding conditions. Hardware has a robust, solid construction and components have been tested in extreme conditions. It conforms to CENELEC standards EN 50126, EN 50128 and EN 50129 on Safety Integrity Level SIL4.

The reliability of Mipro's LC system has been proven in approximately 100 installations in public railways since 1995.

FEATURES

- Modularity for flexible system structure and functionality
- Open interfaces to allow the use of existing equipment
- Integrated or stand-alone solutions according to customer needs
- Total solutions with flexible and cost-effective installations
- Effective remote and local diagnostics to ensure high availability
- Reliability and quality based on the SIL4 approved platform

READ MORE

For information about our other systems and solutions, please see the brochures:
- Mipro Railway Solutions: Interlocking System
- Mipro Railway Solutions: Traffic Management System
- Mipro Railway Solutions: Mipro REGO Situational Awareness
- Mipro Metro Solutions : Interlocking System
- Mipro Metro Solutions : Automatic Train Supervision

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Mipro is specialised in railway and industrial systems. Our systems are used for safety management in railway and metro services and industry processes as well as for controlling processes in water and energy management.

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Our operations are managed in accordance with an integrated management system certified according to ISO 9001 standard, and an environmental system certified according to ISO 14001.