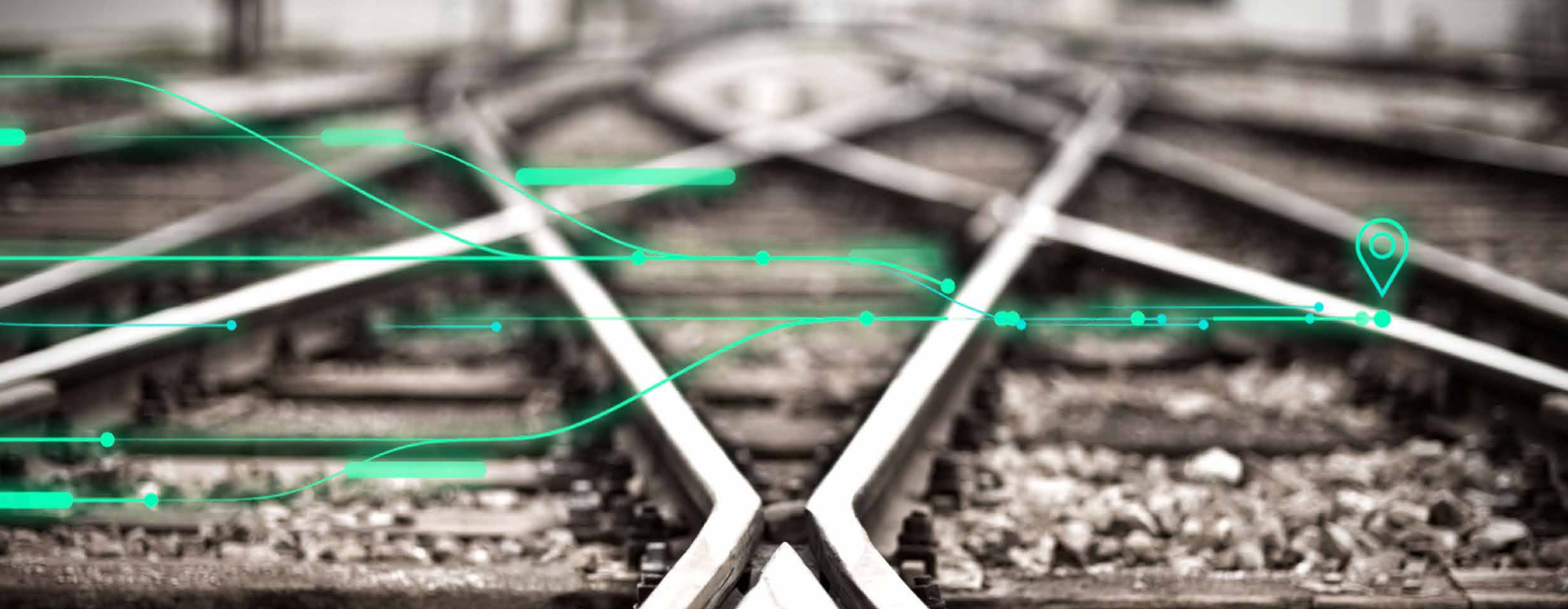




INTEROPERABILITY FOR ALL RAILWAYS WORLDWIDE

Trainguard® Lineside Electronic Unit 150 (LEU 150)

The Trainguard® Lineside Electronic Unit 150 (LEU 150) forms a link between existing fixed signals and the ETCS (European Train Control System) components in the track, in other words the Eurobalises and Euroloops. The LEU 150 fulfills the necessary requirements for digitalization and prepares your railway system for Industry 4.0.

Pending signal aspects are extracted by the Trainguard® LEU either based on the lamp currents of the signal or by means of potential-free contacts in relay interlockings. The Trainguard® LEU then sends corresponding telegrams to the ETCS trackside equipment. The Eurobalises or Euroloop are activated by a passing train fitted with ETCS equipment and the telegram ordered by the Trainguard® LEU is transmitted to the train and evaluated by the European Vital Computer EVC (ETCS onboard equipment).

In terms of the mechanical structure, we use our robust Simatic S7-400 control system housing, which is proven worldwide in various industries. The Trainguard® LEU parameterization is contained on an integrated SD card. This means that if a component needs to be replaced, it can be done quickly as there is no need for expensive field testing of all signal aspects. The connectors on the front can be accessed quickly and conveniently, thus simplifying handling considerably.

The power supply is provided cost efficiently by means of a 24V COTS module. Standardized interfaces enable simple and efficient migration from previous models to the Trainguard® LEU 150.

The Trainguard® LEU 150 consists of up to 16 inputs with quad virtualization, which means that up to four independent signals can be operated at the same time. This offers enormous cost savings in the case of simple signals with a small number of signal aspects. The modular design of the Trainguard® LEU 150 allows individual configuration. The minimum configuration consists of eight inputs and two outputs in the narrow variant.

The wider variant can be extended individually to up to 16 inputs and up to eight outputs. The analog-digital converter technology used in the Trainguard® LEU 150 with its high sampling rate processes all lamp currents used worldwide, AC and DC, from 0 to 4VA, static and flashing.

The individual configuration allows different signal currents to be used on the same Trainguard® LEU 150. Regardless of the device used, the Trainguard® LEU offers an integrated web browser with all diagnostic and configuration functions. In addition, the Trainguard® LEU 150 can be integrated in a higher-level management diagnostic system via Ethernet. On the one hand, this allows the possibility of remote maintenance and, on the other hand, remote configuration, for example in the event of a temporary speed restriction.

The Trainguard® LEU 150 naturally fulfills the latest IT security requirements concerning hardware for Security Level 2 systems according to IEC 62443-2.

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Your advantages at a glance

- Efficient replacement of components thanks to integrated SD card
- Simple migration of legacy systems due to space and functional compatibility
- Compatible with all signaling systems used worldwide
- Cost efficient owing to the possibility of fourfold signal control
- Remote diagnostics and configuration
- Cost-efficient power supply based on 24V COTS module
- Fulfills the hardware requirements for Security Level 2 according to the IT security standard IEC 62443-2
- Fulfills all relevant European standards
- Can be used in concrete cabinets, control cabinets or relay rooms
- Highly reliable data transfer to Eurobalise and Euroloop
- Fully maintenance-free
- High availability
- Low-cost purchase and low life cycle costs owing to low power consumption and modular design
- Detection of line interruptions and line short circuits on the balise interface



Top: LEU 150 in its maximum configuration
Below: LEU 150 in its minimum configuration

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