LockTrac 6151 Intersig L905 E
Electronic Interlocking System

Main References
- VR Finland
- ADIF Spain
- EUSKOTREN Spain
- SCT Mexico
- IIRR Iran
- TCDD Turkey

LockTrac 6151 Intersig L905 E is a modular electronic interlocking system which combines high reliability and cost efficiency.

Connected over standardised interfaces, the system can be configured for obtaining the optimum system configuration to satisfy all customer needs. Various types of indoor and outdoor equipment components can be connected.

The integrated Human-Machine Interface (HMI) can be connected locally or remotely. Full-automatic operation is possible.

The LockTrac 6151 Intersig L905 E electronic interlocking offers a modern, economical and compact system for small and medium stations without restrictions of the system functionality.

Due to its integrated new diagnosis and station design tools, the system is easy to maintain.

Main Functions

LockTrac 6151 Intersig L905 E includes interlocking functions such as monitoring, protection and release of routes, including block lines.

A highly generic system software leads to standard interlocking libraries and clearly defined software interfaces within the application software. The software interfaces facilitate system adaptation to special customer needs.
The hardware of the interlocking module consists of standard industry computer boards based on state-of-the-art Intel processors.

Great importance is attached to the support of modern communication facilities. For communication between the interlocking module and the field element controllers, as well as for the communication between the interlocking and other systems such as Centralised Traffic Control (CTC) Centres, axle counters or train facilities, all current standards are supported. The system is also prepared for radio based transmission systems.

Technical Features and Configuration

In order to ensure maximum availability, the product is configured as a 2-out-of-3 computer system. It is based on Thales’ TAS platform operating system and works together with the safe communication protocol Open Communication Server (OCS), developed by Thales for safety related components. TAS platform as well as OCS are developed according to CENELEC SIL 4.

The safety of the operating system is based on a special procedure with time-equivalent operation within all computer channels. Thereby an exchange of messages and a comparison of the results of these computers is performed. At least two of three computers must have the same result to guarantee the correct function of the product. In the case of any irregular result in one of the computers a safety reaction is performed which stops this computer.

During start and normal operation, periodic hardware tests are performed to detect any malfunction. In the case of failures, a safety reaction – depending on the kind of failure – is performed.

For operating and control of LockTrac 6151 Intersig L905 E the HMI NetTrac 6617 CTC 1000 product can be used. For connection to other HMIs from Thales or other companies a safe adaption module is available.

Field elements like signals, points, and track circuits are controlled by the field element controller LockTrac 6191 FEC. Depending on the amount of elements, several of these components can be configured.

In addition, a connection to axle counter FieldTrac 6315 Az LM is available as well as a connection to speed supervision systems.

Adaptations to neighbour interlockings, either relay-based or electronic, are also available.

Key Benefits

- Scalable and maintenance-free hardware
- Long product lifecycle through future-oriented technology
- Easy to adapt to customer functionality by generic software kernel
- Operates with or without transmission system
- High availability
- Designed for centralised and local operation
- Easy to adapt to different HMI systems
- Compatible with existing trackside equipment
- Developed according to CENELEC standards SIL 4
- Electronic Block functionality included in the system
- Local and remote diagnosis