

### CBL 2010

Digital Block Signalling System



SIG-MONT

# CBL 2010: Modern block signalling system

CBL 2010 is a trade name of the Computer-Based – Digital Block System. The system has been developed on the basis of computer-based station interfaces (KIS type) and computer-based wayside controllers (KSL type). CBL 2010 allows to guarantee safety when controlling train traffic, is easy to use and provides expanded diagnostics.

CBL 2010 system is based on Rail-Mil's components, designed to work with Frauscher's axle counters or other track occupancy detectors. It can work with all types of interlockings for railway stations and level crossing protection equipment.

E CBL 2010 APPLICATIONS

- All types of railways with any
  - number of tracks;
- Public railways (e.g. PKP PLK), non-public railways (industrial, factory) and others;
- Electrified and non-electrified lines, suburban and mainline, passenger and freight transport, without limiting the train speed.



### CBL 2010: Flexible configuration



#### CBL 2010 AVAILABLE CONFIGURATIONS

- Semi-automatic block system, single-section;
- Automatic block system, single-section;
- Automatic block system, multiple-section (two-aspect, three-aspect or four-aspect);
- Block system with an automatic block post.



#### AUTOMATIC BLOCK POST PROVIDES

- Division of the route into block sections when multiple-section block system is not required.
- Automatic control of signals at block posts.
- Automatic control of distant and repeater signals.
- Possibility to create interfaces to level crossing signalling systems, eliminating the need for individual level crossing signals.



## CBL 2010: System design

#### CBL 2010 CONSISTS OF:

- CBL 2010 STC station control cabinets;
- CBL 2010 LIN wayside control cabinets (multiple-aspect block systems and automatic block posts);
- CBL 2010 MZG power distribution cabinets (multiple-aspect block systems and automatic block posts);
- KPS computer control panels.

The components of the system can be connected using fibre-optics, copper cables, radio or other point-to-point transmission means, depending on specification.

CBL 2010 is equipped with an auxiliary power supply (batteries) which allows uninterrupted operation according to regulations.





### CBL 2010: Operating principle

CBL 2010 is designed based on general principles for block systems. Stations adjacent to the route have the ability to set, release and change the block system direction while maintaining full control of its state. The entire process is displayed on monitors. In addition, the block system direction can be conditionally changed and individual block section occupancy detection reset if the situation requires.

Before granting Movement Authority to a train, it is necessary to set the block system direction. With the multi-section block system, subsequent trains may depart after the first block section is released by the preceding train.

Setting, releasing and changing the block system direction is possible when the track is unoccupied and the train route is not locked. In the event of the block system failure, especially due to a failure of any of the block system occupancy detection circuits, the block system direction can be conditionally changed with a special command.



## CBL 2010: Functionality

- Block section protected by a block signal;
- Setting, changing, locking, and releasing the movement direction;
- Emergency change of the movement direction (depending on the block system configuration);
- Release of the set direction;
- Reset of the individual sections (if axle counters are used);
- Signal locking and cancellation of signal locking within the automatic block post area;
- Presentation of the block system, block signals and sections states;
- Information on the locked outbound route and entry signal aspects at the adjacent station;
- Cooperation with level crossing systems within the automatic block post area;
- Conveying additional information on the number of axles within the block section, direction of travel above a wheel sensor and notifying about dangerous events (e.g. colliding routes).



## CBL 2010: Diagnostics features

- Continuous system diagnostics;
- Events and commands recording;
- System state recording;
- Events reconstruction: graphical (film), text or binary form.





If you have any questions, please contact us:

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