

Rail-Mil
CBL 2010 System

Digital line block system.



Railway solutions
rm-SYSTEMS
CBL 2010 System

Certificate no. U/2013/0237
Approved by the Office of Rail Transport (UTK).

System prepared for:



Technology customized
to client's needs.



SYSTEM OPERATION:

CBL 2010 was designed based on general principles for block systems. Train-annunciating points (stations, junction signal boxes) adjacent to the route have the ability to activate, release and change the block system direction with full control of its state (visualization on the monitors). The possibility of emergency change of the block system direction as well as the reset of individual axle counters circuits detecting the block section vacancy were also designed.

Before displaying a signal allowing for departure (for the first train), it is necessary to activate the block system direction for departure; with the multi-section block system, subsequent trains may depart after the first block section is cleared by the preceding train.

Activation, release and change of the block system direction is possible when the route is clear (unoccupied) and the train outgoing route is not determined. In the event of the block system failure, especially damage to any of the block system vacancy detection circuits, the emergency change of the block system direction is possible – as a special command.

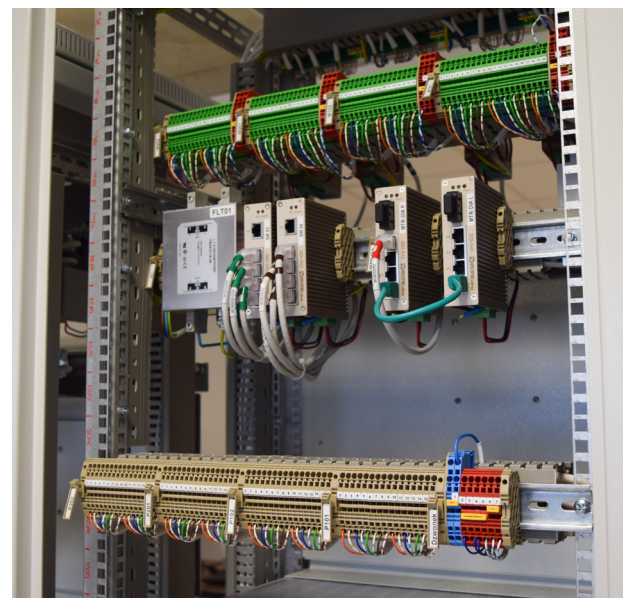
As a standard, block section vacancy detection is performed by Frauscher axle counters. Axle counters' circuits can be reset with special commands.

MOVEMENT FUNCTIONS:

- block section protection by a block section signal
- setting the movement direction
- cancellation of setting the movement direction
- release of the set direction
- change of the movement direction
- cancellation of the change of the movement direction
- emergency change of the movement direction
- stopping the set movement direction
- cancellation of stopping the movement direction
- reset of individual route sections, signal sections and other sections (in cooperation with axle counters)
- signal stopping within the automatic block post
- cancellation of signal stopping within the automatic block post
- presentation of the block system state
- presentation of the station signals state
- presentation of the state of route sections, signal sections and additional sections
- presentation of the determined train outgoing route
- cooperation with level crossings within an automatic block post.

DIAGNOSTICS FUNCTIONS:

- continuous system diagnostics
- event and command recording
- state recording
- devices state reconstruction in the form of a film.



CBL 2010 – Digital line block system.

CBL 2010 is the commercial name of the Automatic Computer - Digital Line Block System. The system was developed on the basis of station computer interfaces-KIS type - and computer line controllers KSL.

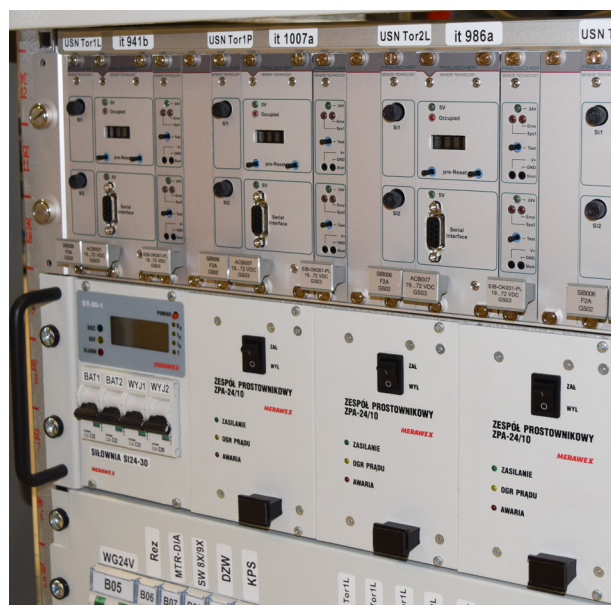
The **CBL 2010 SYSTEM** is based on the Rail-Mil components, designed to work with Frauscher axle counters or any other track clear reporting devices. It can work with all types of station traffic control devices and level crossing protection devices.

CBL 2010 SYSTEM can be used on:

- all types of railways with any number of route tracks
- public use railways (e.g. PKP PLK), non-public use railways (industrial, factory) and others
- electrified and non-electrified railways, suburban and long-distance railways, passenger and freight traffic without train speed limits.

CBL 2010 can be supplied in the following configurations:

- one-section block system
- multi-section block system: two-aspect, three-



aspect or four-aspect

- block system with an automatic block post.

THE BLOCK SYSTEM TYPE depends on:

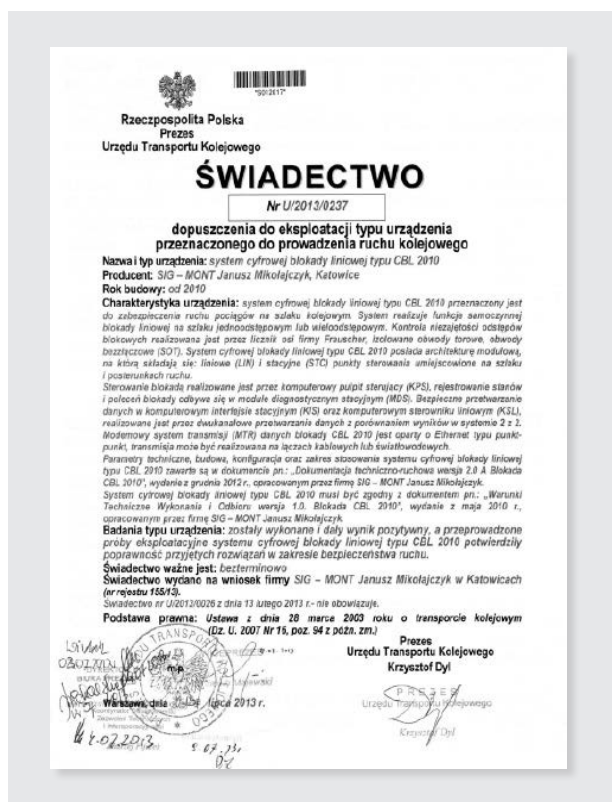
- devices configuration
- additional warning shields' circuits, if necessary.

AUTOMATIC BLOCK POST:

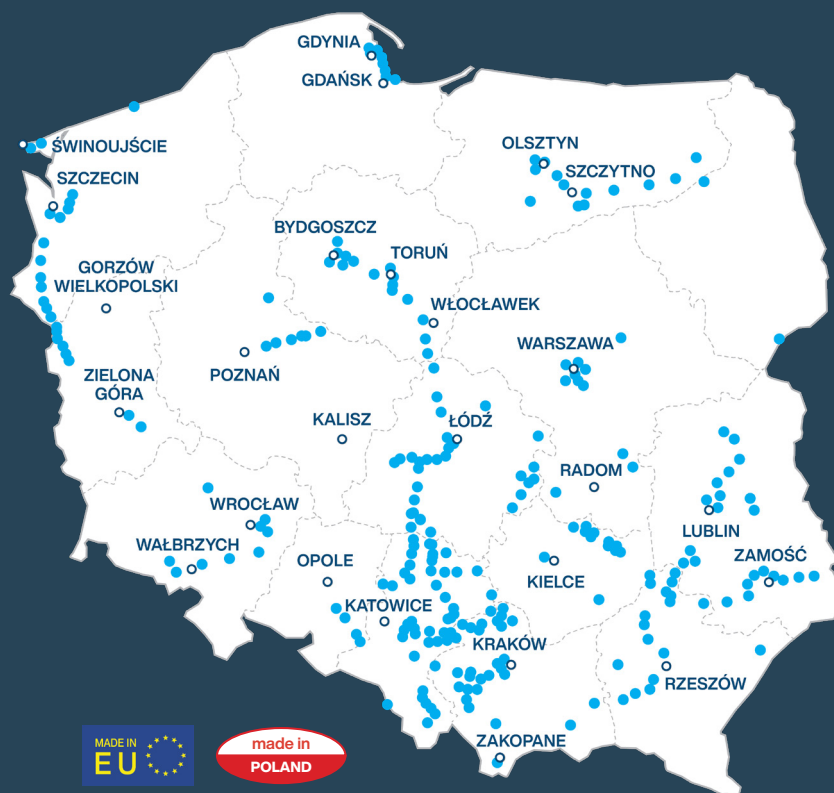
- unrestricted division of the route into block sections
- warning shields support
- signal repeaters support*
- emergency signals support*
- cooperation with level crossing protection if necessary.

INTEGRATION with FRAUSCHER ACS2000 SYSTEM provides:

- signaling of a dangerous situation:
 - simultaneous arrival from opposite sides to one block section
- presentation of additional information:
 - number of axles at a block section
 - information about one axle remaining at a block section
 - direction of driving over a wheel sensor.



Installed systems utilizing components produced by Rail-Mil:



Selected case studies of systems utilizing Rail-Mil components:



KSP-7M

Level Crossing
Protection System



rmSDO

System for Object
Detection in the
Danger Zone



rm110

Integrated Control System for the Rail
Devices and Fire Protection System



CBL 2010

Digital Line Block
System



rmDSIP

Dynamic Passenger
Information System



*rm110-CS

Power Supply and Control Unit for the
use of Fire Protection Devices



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