ELECTRONIC AUTOMATIC BLOCK SYSTEM ABE-1

- **Failsafe and reliable system meeting SIL4 requirements according to CENELEC Standards**
- **Identification and record of failures and accidents**
- **Fully electronic and centralised system**
- **Distance between block signals up to 7,6 km**
- **Transmission of up to five internal signal aspects and compatibility with ERTMS/ETCS**

General Description

System of Electronic Automatic Block ABE-1 (further only as "ABE-1") has been designed for train operation control at any traction system line. It performs line consent functions, relations to station interlocking equipment and control of automatic block signals including commands for transmission of automatic train protection (ATP) code and all the low-frequency codes. ABE-1 cooperates with track circuits (maximum 14 track circuits on individual line track) and/or axle counters. It can control up to 14 block signals in both directions of each line track. ABE-1 also provides dependence of block signal "continue" (and ATP code) on status of respective level crossing.

Basic Technical Description

ABE-1 is the electronic line signalling equipment centralised into adjacent interlocking rooms.

Through voltage interfaces the ABE-1 system is able to cooperate with any interlocking.

Safety conception is realized in redundant configuration with application of diversified programming.

The ABE-1 system technology is usually installed in adjacent stations. Both parts of the system are connected by a transmission system. Communication is backed up.

The core of the system is the CENJ-1 Central Unit.

The EDOS-1 Unit provides supervision and control of up to three block section signals.

The EDOK-1 Unit provides supervision and control of Continuous train Protection System coding of up to four open line track circuits.

The EDON-1 Unit provides failsafe supervision of up to eight inputs and failsafe control of up to eight output DC voltages.

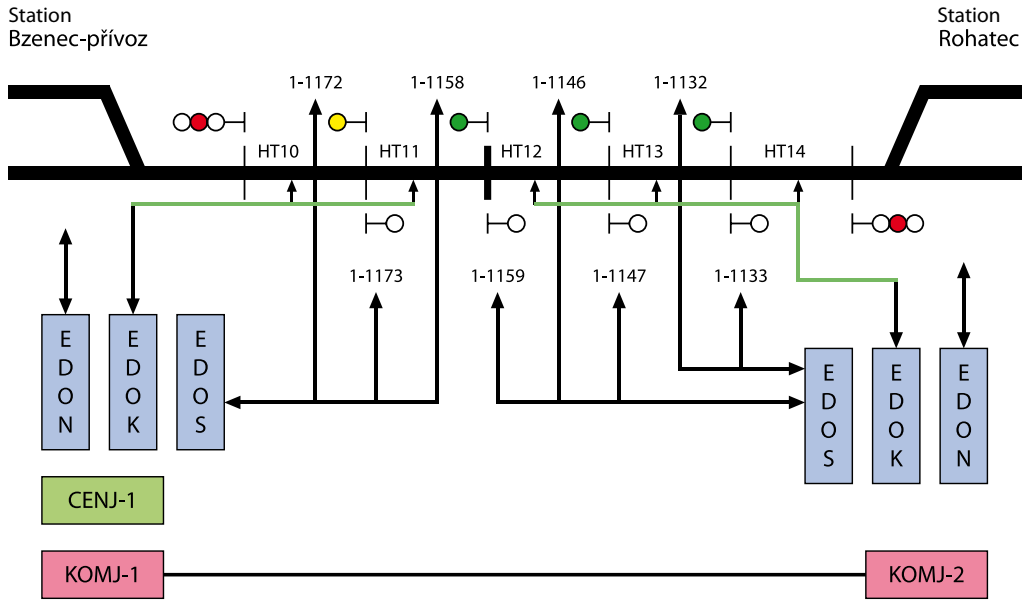
The KOMJ-1 and KOMJ-2 Units provide data transmission between stations.

The EDOR-1 provides data transmission of ABE-1 data to ESA® 11/ ESA®33 electronic interlocking.

The internal diagnostics evaluates information of last 14 days and can be interconnected to LDS centre. System can be supplemented by SMS failure messages alert.

Basic Technical Parameters

Power supply		3 x 400 V, 50 Hz
		230 V, 50 Hz
		DC 24 v
Temperature range	inside the cabinet	+5 to + 50 °C
	outside the cabinet	+5 to +35 °C
Relative humidity		up to 80 %
Meets EMC requirements		yes
Guaranteed service life		25 years



Example of individual element distribution in the system

PRAHA