



TrackSWing ABE-1

Electronic automatic block

- Failsafe and reliable system meeting SIL4 requirements according to CENELEC
- Centralized, fully electronic system compatible with ERTMS/ETCS
- Modifiability for any railway system
- Modular system
- High reliability and availability



GENERAL DESCRIPTION

Electronic automatic block ABE-1 (further ABE-1) is designed for train operation control on the lines with any catenary system. ABE-1 provides line consent function, interface to station interlocking systems, control of block signals including commands for transmission of codes of Class B automatic train protection (ATP) and direct interface to Class A automatic train protection (ATP) - ERTMS/ETCS (Level 1, Level 2).

ABE-1 cooperates with track circuits (max. 127 track circuits on individual line track) or axle counters. ABE-1 can control up to 31 block signals in both directions of each line track.

ABE-1 also provides dependence of block signal "proceed" on the status of respective level crossing. ABE-1 can also command level crossing system directly.

ABE-1 uses backed up data transmission for communication between stations (objects).

Additional function of ABE-1 is fail-safe transmission of information.

ABE-1 can control train movements in short sections without block signals.

BASIC TECHNICAL DESCRIPTION

ABE-1 is the electronic line signalling system centralised into adjacent interlocking rooms. In case the distance between stations is longer than 15,2 km, ABE-1 technology can be deployed in up to 6 intermediate objects.

ABE-1 can cooperate with any interlocking using voltage interface.

Safety concept is based on redundant and inherent safety principle.

ABE-1 consists of various types of plug-in units.

The core of the system is CENJ central unit.

EDOS unit provides supervision and control of block signals.

EDON unit (input/output) provides information on occupancy of individual track sections including transmission of automatic train protection (ATP) code.

EDOR unit provides data transmission between ABE-1 and adjacent systems (e.g. StationSWing ESA or TrainSWing REA-10).

KOMJ unit provides data transmission between stations and objects.

ABE-1 has its own diagnostics and can be also connected to central diagnostic system DiagSWing LDS-3.





BASIC TECHNICAL PARAMETERS

		3 × 400 V, 50 Hz
Supply voltage		230 V, 50 Hz
		DC 24 V
Temperature range	inside the cabinet	+5 °C to +50 °C
	outside the cabinet	+5 °C to +35 °C
Humidity		to 80 % / 20 °C
Meeting EMC requirements		
Service life		20 years

