RailSWing EVKO

Electronic valve track circuit

- **Failsafe identification of track section occupancy**
- **Check of track section integrity**
- **Static and dynamic shunting sensitivity**
- **Electronic interface to level crossing system**
- **Relay-based interface through N class relays according to UIC**
- **Connection of diagnostic and measuring systems**
- **Automatic parameters setting**
- **Low maintenance costs**
- **Operating diagnostics**

GENERAL DESCRIPTION

The electronic valve track circuit RailSWing EVKO (further EVKO) is designed for identification of occupancy of two track sections A and B. EVKO is standard two-processor system with architecture 2oo2.

EVKO consists of voltage and current sensors connected to the rail through transformer with protection elements.

BASIC TECHNICAL DESCRIPTION

The frequency generator controlled by amplitude regulator of generated signal and amplifier of the generated signal are connected into the sensor input branch.

The current and voltage sensor coupled to inputs of analogue-digital converter is connected into the output branch.

The electronic valve DCL-SV is installed on both ends of track circuit and modifies received signal from generator which is then send back to rails.

The Control computer evaluates the track circuit state, controls internal regulator by its commands, checks the state of its peripheries and communicates with adjacent equipment via input-output interface.

EVKO generates voltage with determined frequency and measures the actual impedance of track circuit. Impedance is controlled by dynamic current limiter (DCL-SV) connected between the rails on the opposite end of track circuit. This way the occupancy of track circuit can be determined safely by analogue method.

EVKO is designed for data interface to electronic level crossing systems (e.g. GateSWing PZZ-EA and GateSWing PZZ-J) and voltage interface to other signalling systems.

BASIC TECHNICAL PARAMETERS

Range of supply voltage	9,2 V to 36 V DC
Frequency	75 Hz, 125 Hz, 275 Hz
Input	50 W
Length of direct/branched track circuit	max. 800 m
Minimum length of track circuit	24 m
Reaction time	2–5 s
Electric strength	4 kV
Temperature range	–25 °C to +70 °C