



ASAR – ANNULATION FILE WITH SELF-REGULATION

- Used as an ASE substitution system
- Evaluates train passage through short track section
- Does not include any setting elements
- Relay interface by relay type N contacts
- Low maintenance cost
- Operating diagnostics
- Track section integrity check
- Connecting cable check
- High resistance against atmospheric overvoltage



General Description

ASAR system is used for fail-safe identification of short track section occupancy.

Besides the control processor the ASAR system is equipped by 50 KHz voltage generator, power amplifiers, phase and regulation circuits and finally by A/D converters for scanning of track circuit current.

Basic Technical Description

The generator provides 50 KHz frequency voltage. This voltage is brought to the amplitude regulator and the power amplifier. The output of the power amplifier is brought to high frequency transformer primary coil where the measuring amplifier for scanning current going to the track circuit is connected. The voltage of the secondary coil is further brought into the railyard where it supplies the track circuit through the separating high frequency transformer and the serial capacitor.

Arrival of a train or its part causes gradual track section shunting and this will result in a gradual increase of electric current monitored by measuring amplifier. Also other channels implemented in ASAR are connected the same way.

The control processor always compares current in two channels connected to the single track section.

If train arrival was detected in the connecting channel and at the same time the current change was detected on the adjacent channel the relay armature is attracted.

If train arrival was detected in both channels the armature of the second relay is attracted.

If there is at least one axle wheels within the section delimited by two connecting points and no failure state occurs the relay armatures are not released.

The relay armatures are released gradually only after the train leaves the monitored section.

The ASAR system includes dynamic check of connecting cables. It re-phases the connecting cables through phasing members and generates current responds in both channels which are processed by the control computer.

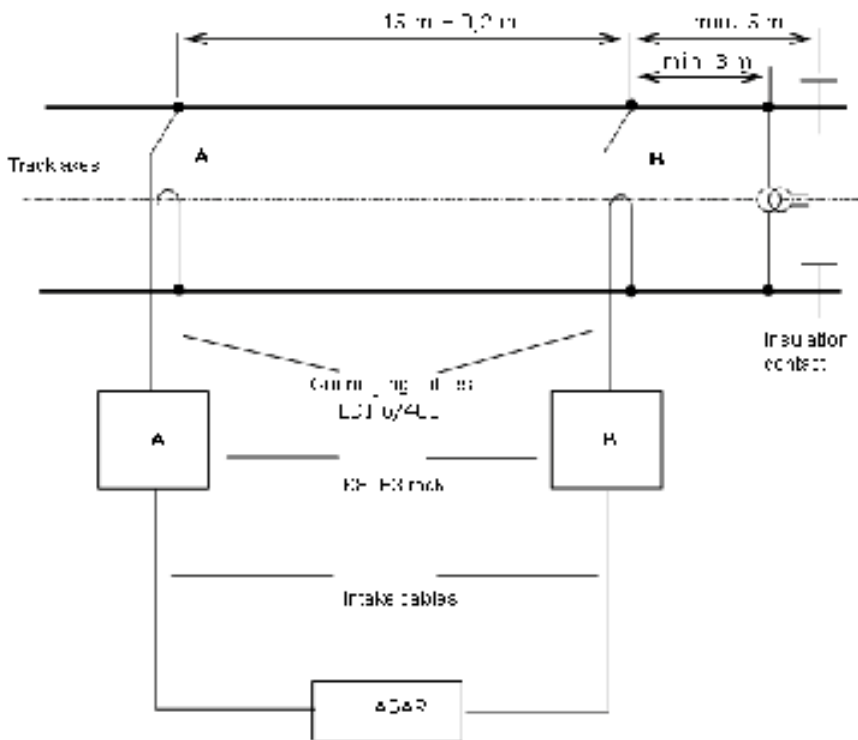
With break of a rail in the monitored section or loss of cable integrity ASAR detects a failure.

The biggest advantage of the whole system is the ASAR self-automatic setting of all parameters of both activation and dynamic changes in the parameters of track circuit during operation.



Basic Technical Parameters

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|---|---|
| Plug-in units | 160 × 100 mm (so called small euro-card plug-in units) |
| Modular unit | Almez |
| Temperature range | -25 °C and +70 °C |
| Nominal DC power supply | 24 V |
| The range of DC power supply voltage | 19,2 V ÷ 36 V |
| Operating frequency | 51,2 kHz ± 4 kHz |
| Equipment maximum input | max. 25 W |
| The length of connected cable the TCEKEZE 3P type between the ASAR file and KSLP 3 rack | from 10 m to 200 m |
| Earth leakage admittance of the ballast | maximum 2 S.km ⁻¹ |
| Shunt sensitivity | 0,12 Ω |
| The length of monitored section | 15 m ± 0,2 m |



ASAR wiring diagram to rails