

Commercial English Version

MAGUS EOV

Intelligent Electric Point Heating System

Next-generation control, safety and energy efficiency for winter railway operations.

Objectives of the Next Generation EOVS



Reduced Energy Consumption

Designed to use electrical energy efficiently, minimizing operating costs while maintaining reliable switch operation.



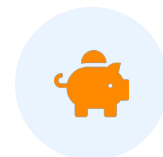
Enhanced Safety

Advanced MAGUS control algorithms support safe and dependable railway switch performance in adverse weather conditions.



Low Maintenance Cost

Continuous monitoring and intelligent control help maintain trouble-free operation with minimal field intervention.



Reduced Service Cost

A robust, low-maintenance architecture reduces lifecycle service requirements and supports predictable operation.



MAGUS EOV Power Supply Options

Option 1

25 kV AC / 50 Hz

REOV control cabinet supplied directly from the railway traction network.

Option 2

400 V AC

REOV control cabinet supplied from the local distribution network.

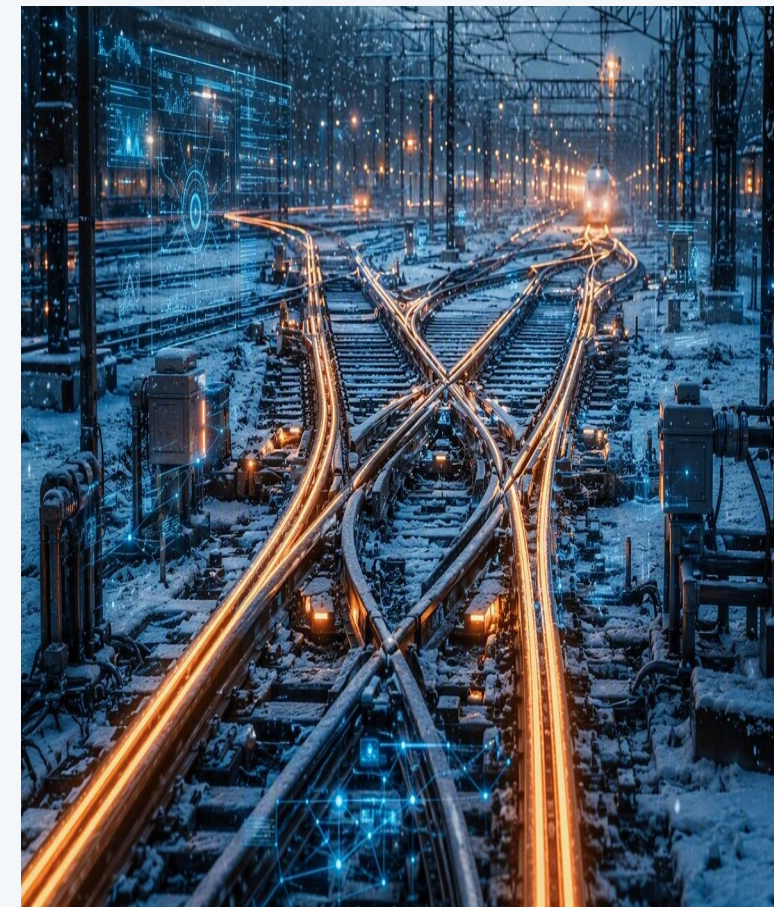
The system supports both traction-network and local-distribution integration scenarios.



EOV System Components

Integrated Field Architecture

- Metal terminal boxes near the point machine and heating rod connections
- Connection boxes for routing power cables to individual heating rods
- Air temperature, precipitation and dew point reference sensors
- Cold rail and heated rail temperature sensors
- Dedicated reference sensor for each turnout for higher measurement accuracy
- PLC controller inside the REOV cabinet
- Integration of local weather forecast data
- HMI touch control panel for operation and diagnostics



MAGUS EOVS Operating Modes

1

Manual Mode

Heating can be activated manually via software or hardware. Both methods include a 60-minute safety timer.

2

Automatic Mode

Heating intensity is selected according to evaluated input conditions to avoid overheating and unnecessary cooling cycles.

3

Test Mode

Heating rods can be tested and diagnosed remotely from a central location.

Balanced energy consumption is achieved by distributing heating demand across the EOVS system.



MAGUS EOVS Control Automation

Automation Capabilities

- Sequential switching of heating circuits
- Continuous control to maintain target rail temperature
- Adjustable algorithm parameters
- Automatically generated operating and maintenance logs
- Sensor fault detection without unnecessary heating shutdown

Designed to support reliable winter operation with intelligent, data-based heating control.



Fault Handling and Notifications



Non-reference sensor failure

The failed sensor is replaced by a calculated average value, allowing the system to continue operating without unnecessary interruption.



Reference sensor failure

The control system switches to the safest possible operating scenario to preserve railway switch reliability.



System notifications

Warning on the local operator panel and alarm transmission to the railway control and supervision system.

Fault detection is designed to support continued heating operation whenever technically safe.



Photos of EOv in use



Turnout with MAGUS EOv heating in winter conditions



Turnout with MAGUS EOv – view along the track



REOV control cabinet and sensor mast beside the track



REOV control cabinets – side view with sensor mast



EOV

electric point
heating

