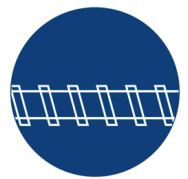# EKE-Electronics

Solutions for Smarter
Trains | Trams | Metros | Tracks

EKE

Train Control and Management System (TCMS)

The EKE-Trainnet® Train Control and Management System (TCMS) provides a single point of control and enables monitoring over all train sub-systems and functions.

The EKE-Trainnet® TCMS provides a reliable and effective train control and management system and allows a simplified Train Communication Network (TCN). The train architecture becomes more efficient, thus saving on development, maintenance costs and energy.

In addition, the centralized TCMS is used to automate train operations and sub-system diagnostics, enabling increased reliability and quicker response times. The EKE-Trainnet® TCMS can interact with other on-board sub-systems and provide additional features such as centralized control and diagnostics.

The advantage of EKE-Trainnet® TCMS is to provide a single platform for the integration and automation of all train-borne intelligent systems.

System Integration	Train Automation	Onboard communication	Improved Safety

EKE

Automated Pantograph Control (APCO)

The EKE-Trainnet® Automated Pantograph Control (APCO) system is used for the automated power change-over. The EKE-Trainnet® APCO is a change-over function which provides location based control for switching power feed from the catenary to battery by controlling the pantograph directly or via the Train Control and Management System (TCMS).

Automatic Selective Door Operation (ASDO)

The EKE-Trainnet® Automatic Selective Door Operation (ASDO) is developed to improve passenger operation at stations where the platforms are shorter than the trains. ASDO enables an automatic check of the train's position and the platform configuration so only the doors that can be safely opened are released. Passenger comfort and safety is enhanced while allowing for shorter stops at stations.

Correct Side Door Enabling (CSDE)

The EKE-Trainnet® Correct Side Door Enabling (CSDE) provides safe passenger access to trains and platforms. The system opens only the doors on the correct side of the train, in appropriate places. CSDE supports three operating modes; manual, semi-automatic and fully automatic door operation. CSDE ensures the correct location and side of the train based on trackside beacons, Global Navigation Satellite System (GNSS) and distance measuring.

Physical Prevention of Over-Speeding (PPOS)

The EKE-Trainnet® Physical Prevention of Over-Speeding (PPOS) system prevents trams from over-speeding. It allows the operator to set speed limits over the whole network by using trackside beacons and/or Global Navigation Satellite System (GNSS) together with distance measuring. The PPOS reads the speed limits from balises positioned on the tram tracks. If a tram is over-speeding, the system automatically applies service brakes, stops the tram and sends an alarm to the Control room.

EKE

EKE-Trainnet® Safety Functionality

Safety Integrity Level (SIL) is an indicator of the relative risk-reduction provided by a safety function. EKE-Electronics helps you develop SIL functions to make your trains | trams | metros safer and more reliable.

The SIL notion results directly from the IEC 61508 standard. For the rail industry, CENELEC has developed the EN 50126, EN 50128 and EN 50129 standards which were derived from the IEC 61508 to meet railway specific requirements. EKE-Electronics Ltd functional safety solutions comply with these standards.

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