StationSWing ESA 66

Electronic interlocking

- Efficient failsafe system with high availability and reliability meeting SIL4 requirements according to CENELEC

- Fully digital interlocking designed for control of railway stations and line sections

- EULYNX compatible

- Designed for high speed and conventional lines

- Full compatibility with ERTMS/ETCS L1/L2 (Plug & Play for AZD ERTMS/ETCS solution)

- Effective integration with any CTC (Plug & Play for AZD TrafficSWing DOZ-1 solution)

- Large screen display possibility

- Full integration with Graphical and Technological Layer (TrafficSWing GTN)

- Automatic Route Setting supported

- Open architecture allowing expansion by new types of controlled wayside signalling systems

- Integrated functions of line signalling and level crossing system

- Modular system, can be modified for any railway network world-wide

- Compact installation - space saving, low power input

- Low maintenance costs

GENERAL DESCRIPTION

Electronic station interlocking StationSWing ESA 66 (further ESA 66) is designed to safeguard and control the traffic in stations and on railway lines.

ESA 66 is fully digital interlocking with contactless interfaces to wayside elements. ESA 66 includes line signalling, level crossing, pedestrian crossing system and ETCS functionalities.

All control, checking and logical functions of ESA 66 are executed by vital core of the system pursuant to requirements of traffic operators and state of the technological system. Vital core of the system includes EULYNX interface to object controllers of wayside elements and EULYNX interface to commanding and superior systems.

Object controller (EIP) includes EULYNX interface for control of signal aspects (LED/ bulb), indicators, point machines, train detection systems (track circuits, axle counters) and other elements via I/O interface. Object controller (EIP) can be designed as independent element for individual components or it can work as concentrator of EULYNX interfaces.

Safety concept is based on a 2×2oo2 redundant architecture using diversified and defensive programming. To increase availability, the vital and executive levels use a hot standby solution.

BASIC TECHNICAL DESCRIPTION

ESA 66 is composed of:

- **Commanding level** consisting of local or dispatcher's commanding computers

(allowing connection of up to 24 commanding computers). Commanding level includes diagnostic information (Events and Alarm list) providing a permanent overview of the status of the ESA 66 and the controlled elements to the operating personnel.

▪ **Vital core of the system** providing fail-safe generating of traffic algorithms.

▪ **Executive level** consisting of object controllers (EIP) executing commands received from vital core of the system for specific wayside elements.

ESA 66 complies with CENELEC standards for functional and technical safety (primarily EN 50 126, EN 50 128, EN 50 129, EN 50 159) and supports meeting requirements of TSI CCS.
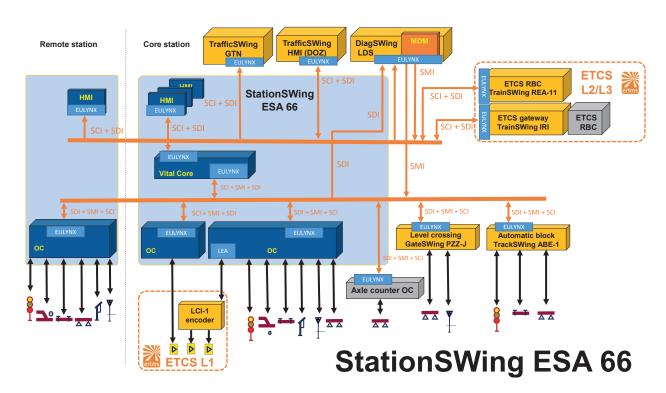
Enhanced functions of ESA 66:

• ESA 66 has implemented optional functions of line signalling (TrackSWing ITZZ), level crossing (GateSWing), pedestrian crossing (GateSWing) and enables interconnection with external line signalling (e.g. TrackSWing ABE-1) and level crossing elements (e.g. GateSWing PZZ-J).

• ESA 66 has implemented train describer functions.

• ESA 66 enables integration with line part of ERTMS/ETCS of all levels (LS/L1/L2), including two-way functional communication with RBC AŽD (TrainSWing REA).

• ESA 66 includes direct fail-safe interface to LEU unit (TrainSWing LEA) or gateway to

RBC of other producers (TrainSWing IRI).

• ESA 66 enables connection to the remote control system of AZD (TrafficSWing DOZ-1) or other manufacturers.

• ESA 66 can be supplemented by Graphical and Technological Layer (TrafficSWing GTN) containing automatic route setting functions.

• All ESA 66 levels provide functional behaviour data to DiagSWing LDS-3 and DiagSWing GDS diagnostic systems for their archiving, display, analysis and support of predictive maintenance.

• ESA 66 can be customized and modified by other functions and for adverse climatic conditions.

BASIC TECHNICAL PARAMETERS

Input power supply	AC 3×400 V ± 10 %, 50 Hz, DC 24 V ± 20 %
Temperature range	climatic category T1 according to EN 50 125-3 (commanding and control level), – 25 °C to + 70 °C (executive level)
Humidity	up to 80 % (commanding and control level), up to 100 % (executive level)
EMC compliance	EN 50121-4, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-4
Service life	minimum 25 years

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