



TrainSWing IRI

ETCS gateway

- 2oo3 architecture
- Failsafe and reliable system meeting SIL4 according to CENELEC
- High reliability and stability
- High availability



GENERAL DESCRIPTION

TrainSWing IRI (further IRI) is a fail-safe electronic system designed for transmission of data communication between two incompatible failsafe electronic systems.



IRI provides data interface between station interlocking system (IXL) from AZD production (StationSWing ESA) and respective RBC radioblock centre from other producers. IRI provides necessary data exchange between StationSWing ESA and RBC while the independence of both systems is guaranteed in fail-safe way. The advantage of using IRI is that the integration of StationSWing ESA with RBCs from different producers requires mini-

um changes of both devices. One IRI can communicate with up to 12 StationSWing ESA interlocking systems.

BASIC TECHNICAL DESCRIPTION

The states of conventional signalling systems (IXL, line signalling, level crossing systems) or other systems necessary for the correct function of particular RBC ETCS are collected in electronic interlocking StationSWing ESA and transmitted to RBC via IRI. IRI processes the provided information or, according to its own algorithms, supplements the specific information required by RBC, and passes it on to the RBC via agreed protocols (e.g. Euroradio +, Sahara). Transmission of information between IRI

and RBC or StationSWing ESA and RBC via IRI can be bidirectional.

The main IRI functions are assigned:

- for transformation of different StationSWing ESA and RBC communication protocols
- for adaptation of different safety concepts and architecture of StationSWing ESA and RBC
- for fail-safe processing other algorithmic calculations (e.g. automatic line block for ETCS)

All key functions of IRI meet safety integrity level SIL4 according to EN 50129.

IRI is designed as a set of plug-in units installed in standard 19" subrack of 3U height.





To reach high availability, the communication of IRI is provided via double communication units. IRI power supply is backed up. IRI is equipped with diagnostics storing the recorded data.

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BASIC TECHNICAL PARAMETERS

Supply voltage	DC 24V +20 %, -10 %
Temperature range	climatic category T1 according to EN 50 125-3
Humidity	5% to 95%
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

