



IRI – INTERFACE BETWEEN IXL AND RBC

- Indoor architecture 2oo3
- Safety integrity level SIL 4
- High reliability and stability
- High permeability



General Description

IRI equipment is a failsafe electronic system designed for transmission of data communication between two mutually incompatible failsafe electronic systems.

The IRI purpose is to interface the interlocking system IXL manufactured by the AŽD Praha and respective RBC radio-block centre in data way for control of subordinate ETCS L2 section in order to keep minimum modifications of both the interlocking infrastructure and RBC.

Basic Technical Description

The current infrastructure (IXL interlocking, automatic block AB, level crossings PZZ) provides information

required for ETCS L2. This information is gathered in the interlocking and then transmitted to IRI. IRI supplements information which is missing in the existing infrastructure and then it processes all information into the format lucid to RBC. In principle the transmission of significant information can be bidirectional.

The main IRI functions are assigned:

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

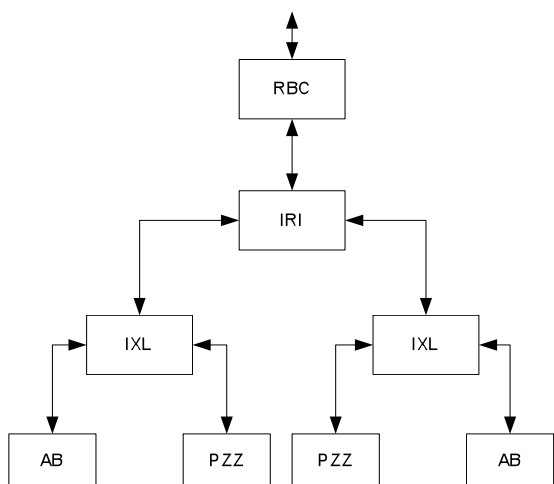
All key functions meet the criteria of SIL4 safety integrity level according to EN ISO 50129.

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

The core of the IRI system includes three processor μ K units of 2oo3 architecture to attain the required safety and availability.

The communication interface is formed by Network Adaptor which is doubled to attain a high availability of coupled communication.

Both types of units use powerful 32 bit processors. IRI power supply is backed up. The system is equipped by diagnostics with storing the recorded data.



Application block diagram



Basic Technical Parameters

Temperature range		-5 °C až +55 °C
Relative humidity		5% – 95 %
Power supply:	Basic rated voltage	24 V DC
	Supply voltage tolerance	+20 %, -10 %
	Power input	60 W
Cover rating		IP20
Insulation resistance	In standard environment	min. 20 MΩ
	After the constant mugginess test	min. 7 MΩ
Electric strength		500 V / 50 Hz / 1 min
Reliability and reparability:	MTBF	135000 hours
	MTTR	0,5 hour

