ELECTRONIC LEVEL CROSSING SYSTEM PZZ-EPA

- **Computer controlled architecture 2oo2**
- **Electronic control and supervision of warning board lights (EOS2)**
- **Transmission of remote control and supervision by metallic cable**
- **Complies with EN 50126, 128, 129, 159**
- **Safety integrity level SIL4**
- **Local and remote diagnostics**

General Description
PZZ-EPA is an electronic level crossing system designed for safeguarding the level crossing of a road and the railway line with possibility of indication transmission to barrage signal/ protection signal or to the nearest railway station.

PZZ-EPA level crossing system can be used on single or double tracks:

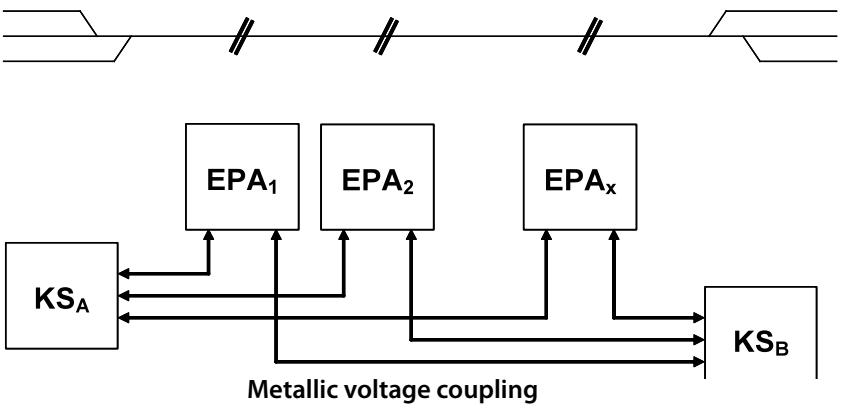
- with switching-on continuous elements with the annulation set
- with axle counter with directional output

The PZZ-EPA level crossing system can be used in the railway station with the control from station interlocking or supplemented with own switching-on/off elements.

Basic Technical Description
Logic functions are processed by the couple of control computers in failsafe architecture 2oo2 based on redundant safety and with failsafe comparison at failure occurrence.

Electronic control and supervision of warning board lights (EOS2):
- Control and supervision of lights and chimes of AŽD 97 warning boards
- Transmission of data to the superior system
- Automatic regulation of bulb current

Lighting supervision of individual warning board bulbs derived from:
- Current values flowing through bulbs,
- Voltage values on individual bulb filaments,
- Optical accessory supervision of warning board red lights
- Frequency check of intermittent warning board lights
- Check of filament integrity of warning board red light bulbs in any time
- Check of bulb filament switch-over function
- Automatic switching to a secondary filament when bulb main filament is burned
- EOS2 Diagnostics
- Supervision of warning board electronic chimes

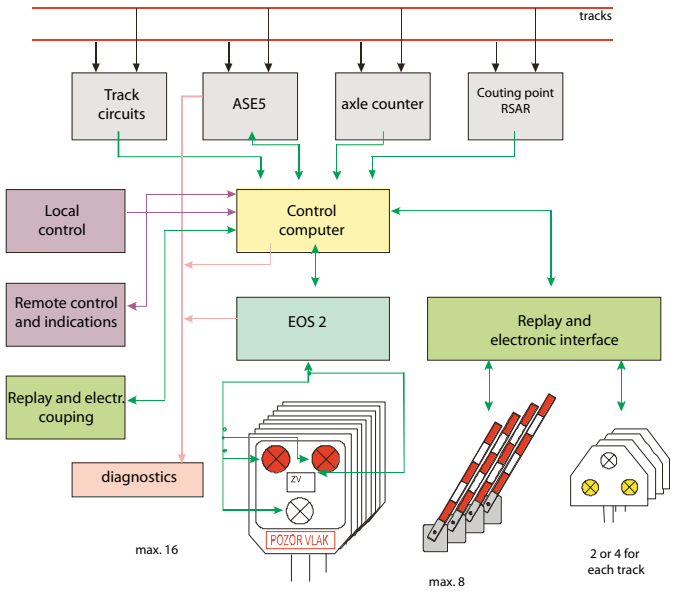


PZZ EPA wiring

PRAHA

Basic Technical Parameters

PZZ-EPA power supply voltage		230 V +10 %, –15 % / 50 Hz
Max. power input (at charging of drained battery)		According to the charger
PZZ-EPA operation input without external elements and charger		150 W
PZZ-EPA insulation resistance	normal environment	> 50 MΩ
	after mugginess test	> 7 MΩ
Tech. parameters of control computer and auxiliary elements	nominal power supply voltage	24 V DC
	range of power supply voltage	18 V to 36 V
	power input for full configuration	approx. 50 W
	number of vital inputs (6 EVK units by 16 inputs)	max 96 for each channel
	number of output relays type N (UIC) (3 EKP units, each for two relays)	max 6
	number of outputs with 4 kV galvanic separation) (8 EVR units, two C relay couples at each)	max 16
	number of auxiliary inputs/outputs (2 EUR units)	max 8/8 for each channel
EOS2 technical parameters	nominal power supply voltage	24 V DC
	range of power supply voltage	14 V to 36 V
	power input of control part	20 W
	bulb power input of one warning board (at maximum resistance of line power supply loop)	30 W
	maximum number of warning board red lights	8
PZZ-EPA parameters	number of connected warning boards (with positive signalling and acoustic signal supervision)	2 to 16
	number of AŽD barrier drives	2 to 8
	maximum number of tracks with automatic control through control computer	2
	reaction to long distance commands	2 sec.
Electrical strength of input and output against frame		4 kV
Mean time between failures		10,9 × 10^3 hours
Mean technical life		20 years
Working temperature range		–25 °C to +70 °C



EPA Block diagram

AŽD PRAHA