



# LEVEL CROSSING SYSTEM FOR SECONDARY LINES PZZ-JLC

- No barrier category
- 2oo2 architecture
- Reliable radar switching elements
- Failsafe switching element – couple of wheel sensors supplemented by the radar
- Non secured radio communication between PZZ-J control unit and switching elements
- Failsafe radio communication between PZZ-J control unit and LED-P barrage signals
- Power supply from alternative source of power



### General Description

PZZ-JLC is a fully electronic level crossing system (no barrier category) designed to secure the level crossing of the single track line with the line speed up to 80 km/hour, without regular rides of consecutive trains.

### Basic Technical Description

Logic functions of automatic control, i.e. determination of the level crossing system state based on information from wheel sensors, are proces-

sed by PZZ-J Control unit designed in 2oo2 architecture.

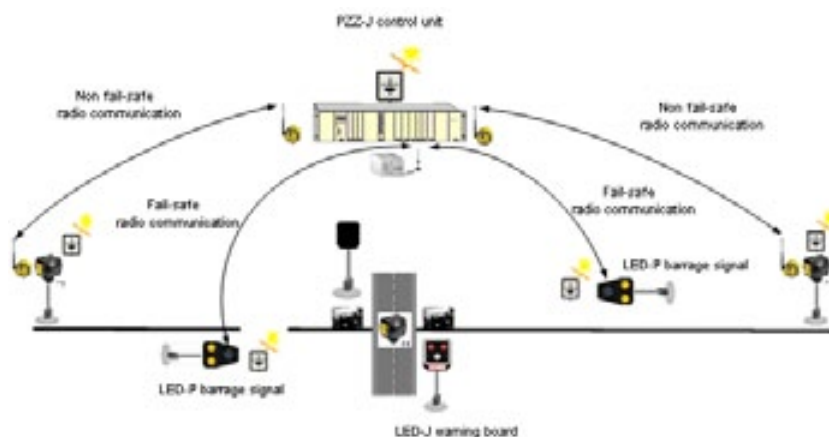
PZZ-JLC wayside elements consist of intelligent periphery PZZ-J, LED-J warning boards and LED-P barrage signals, i.e. equipment providing logic functions (check of light sources and evaluation of their state, measuring of warning threshold time etc.). Safety concept of wayside elements is based on 2oo2 architecture.

LED-J warning boards provide data communication with the PZZ-J control unit through the industrial Ethernet.

Switching-on elements are formed by radar sensors used for reliable vehicle detection.

Radio-communication between switching-on sensors and the PZZ-J control unit is non fail-safe.

The switching-off element is formed by couple of wheel sensors supplemented by a radar sensor compensating their intermittent character. Equipment of the switching-off element is connected with the PZZ-J control unit through fixed line.





LED-P barrage signals provide communication with PZZ-J control unit in fail-safe way through RBNET communication protocol. Communication meets demands for open transmission signalling systems according to EN 50159-2.

The power supply of PZZ-JLC is provided either by photovoltaic power

supply system or by photovoltaic panels and wind micro-power station. The power supply can be concentrated into two locations:

The source in the location A supplies the PZZ-J control unit (including technical communication means), the switching-off element and LED-J warning boards.

The sources in location B supply LED-P barrage signal and also the switching-on sensors with control based on station according to the line speed which is decisive in determination of a distance between the switching-on element and barrage signal.

### Basic Technical Parameters

|  |                |
|--|----------------|
| PZZ-JLC maximum power input with two warning boards in the basic state (complete configuration)  | 43 W           |
| PZZ-JLC maximum power input with two warning boards in warning operation with Closed level crossing signal aspect on one of the barrage signals (the complete configuration) | 57 W           |
| Nominal power supply voltage   | 24 V DC        |
| Power supply range   | 18 V to 36 V   |
| Temperature range  | -25°C to +70°C |
| Service life   | 20 years       |

