

# Level crossing system type UP-1

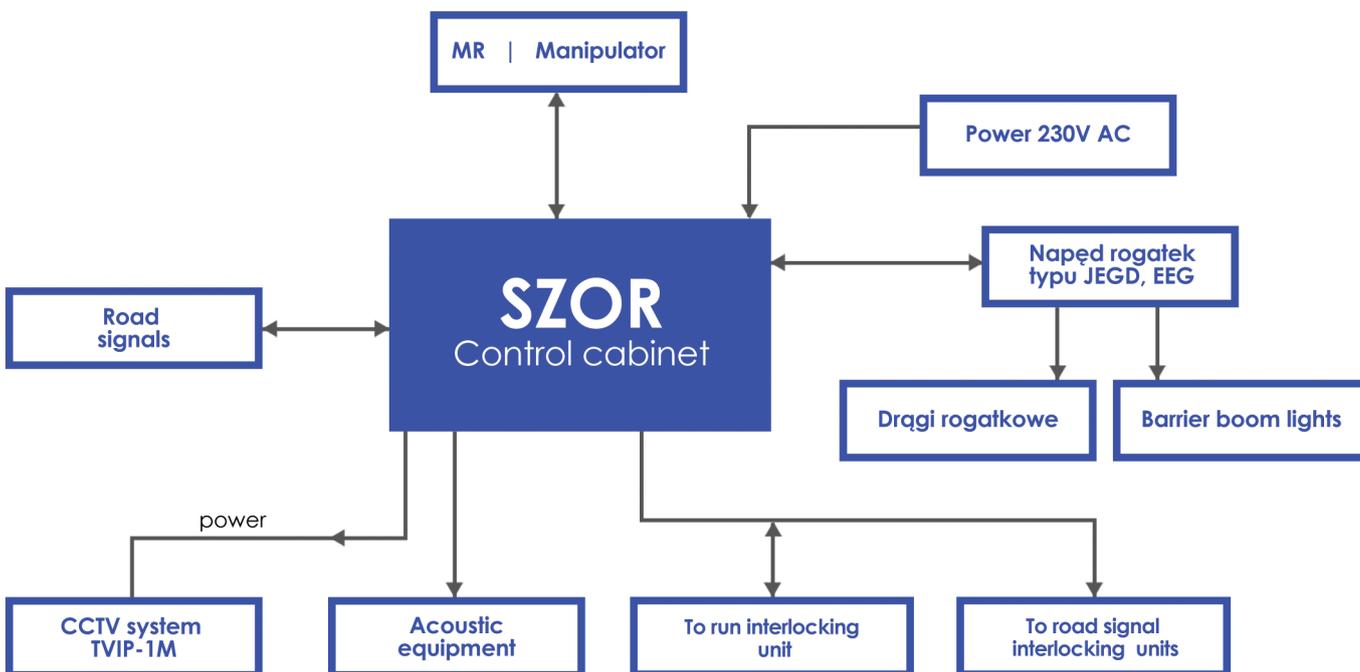
Level crossing system type UP-1 is used to ensure safety at crossings of public roads and railway lines by notifying road users on rail vehicle(s) approaching the crossing and simultaneously blocking the traffic with boom barriers.

The system may be installed and operated at level crossings of roads with railway lines, in particular at railway stations, branching posts, block posts, trunk lines and level crossings of roads with railway sidings.

## RANGE OF APPLICATION

Depending on operating conditions, the system equipment may be controlled locally or remotely. Due to diverse local conditions and design solutions for specific level crossing, the system may comprise components indicated in drawings in the quantity not exceeding four gate machines and four road signals. With remote control capability, permitted distance between the manipulator and the cabinet is up to 2000 m, provided that suitable cross-section of cable wires is selected.

## SYSTEM DESIGN DRAWING





Supply voltage of gate machines JEGD, EEG	24 V DC or 230 V AC	
Switched-mode power supply assembly of road signals	Dual circuit switched-mode power supply of road signals type ZZI-11/S; 2 x 50 W; fimp~1 Hz	
Switched-mode power supply assembly of boom barrier lights	Dual circuit switched-mode power supply of boom barrier lights type ZZI-01/L; 2 x 50 W; fimp~1 Hz	
Floor mount	Concrete footing	Concrete footing comprises 6 elements
<b>MANIPULATOR</b>		
Manipulator type MR	The component controlling and monitoring the state of boom barriers road signals, power supply 230 VAC and sabotage	May be installed outdoors (in dedicated housing)
<b>GATE MACHINES</b>		
type JEGD-50	Supply voltage: 24 VDC or 230 VAC	
type JEGD-6		
type EEG-1		
All gate machines are fitted out with boom barriers type		
ZDA – single, aluminium type	Length up to 6 m; protection module	All boom barriers are suitable for installation of lights* and they are fitted with dedicated electric supply for such lights by MONAT and the boom barrier integrity control system.
ZDP – single, plastic type	Length up to 6 m; protection module	
ZAA – Aluminium, A profile	Length between 6 and 12 m	
ZMD – metallic-wooden type; A profile	Length between 6 and 12 m	
ZAP – plastic, A profile	Length between 6 and 8 m	
<b>WARNING DEVICES</b>		
Road signal type SD-1M with two signal lights		Signal light may be fitted out with a light bulb or TLT diode illuminator
single filament light bulb	12 V; 24 W	
TLT diode illuminator	12 V; 13 W	
light visibility	min. 100 m	
flashing frequency	f= 60/min (1 Hz)	
Boom barrier light		Suitable for installation on all types of boom barriers
Bulb light	24 V 10 W	
Diode light	24 V 2.7 W	
Visibility	min. 300 m	
Acoustic signal generator		Power supply 24 VDC Audibility min. 30 m (from the boom barrier)
Typhon	type KBB-6/	F.U.S.T. Sygnały S.A. Rybnik
Typhon, modulated (electronic)	EHL-S10	AUER Signalgerate
<b>CLOSED CIRCUIT TELEVISION</b>		
Equipment and configuration as per the order	Dedicated camera and video channel amplifier power supply - from SZOR cabinet, by Monat	
<b>SECURITY</b>		
hardware	Application in control circuits of class I relays – IRF-2103, IRF- 21105	
procedural	Consists in prohibition of boom barrier lifting in the event of failure	

\* - for boom types ZAA, ZAP and ZMD boom integrity control system is installed on Customer request and charged additionally.

Immunity of the equipment and SZOR cabinet to interferences and EMC complies with PN-EN 61000-4-4 (Immunity to electrical fast transient/burst); PN-EN 61000-4-5 (immunity to surges) and PN-EN 61000-4-11 and PN-EN 50082-2 (immunity to dynamic changes in supply voltage). Level of interferences generated by the device does not exceed values permitted in the standard PN-EN 50081-2.

Above immunity levels and interferences generated were defined by CNTK – Rail Traffic Control Institute under Task no. 8493/23 of February 2000.

SZOR cabinet meets all immunity requirements concerning vibrations and shocks imposed on rail traffic control equipment.