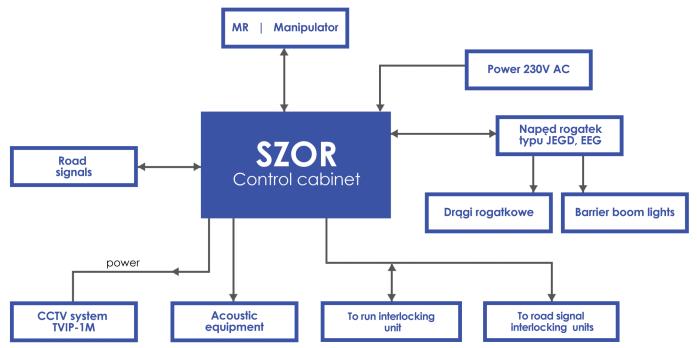
Level crossing system type UP-1 is used to ensure safety at crossings of public roads and railway lines by notifying road users on rail vehicle(s) approaching the crossing and simultaneously blocking the traffic with boom barriers. The system may be installed and operated at level crossings of roads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

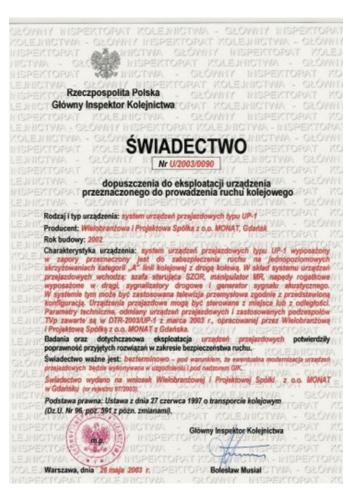
Depending on operating conditions, the system equipment may be controlled locally or remotely. Due to diverse local conditions and design solutions for specific level crossing, the system may comprise components indicated in drawings in the quantity not exceeding four gate machines and four road signals. 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



CERTIFICATE

Level crossing system UP-1 has "Certificate of admission to operation in rail traffic of PKP" no. U/2003/0090"



SPECIFICATION

Name and parameters of the device	Parameter value and other characteristics	Notes	
SZOR control cabinet			
Supply voltage	230 V (+10% - 15%) 50 Hz		
Max. input power from the grid	800 VA		
Level crossing UPS	24 DC,- battery bank 65Ah/12 VDC		
Thermocouple regulated power supply type M1C FTS-W	26÷31 V DC (variable, in function with temperature)	Power supply units are fitted with battery discharge protection	
Device operation time upon failure in power supply 230V/50Hz	24h/100 pairs of trains		
Electrical strength of insulation	2 KV AC		
Ambient temperature range	- 40°C ÷ +70°C		
Cabinet dimensions [W/H/D]	710 mm / 1380 mm / 660 mm		
Cabinet weight	up to 100 kg	Without battery bank and PSUs	
Early warning time	0 ÷ 30 s (adjustable)	As a standard 8 s early warning time is preset	
Relative humidity	0 ÷ 85%		
Grid overvoltage protection	Overvoltage switch		
Protection against overvoltage form the cable connecting the manipulator MR with the cabinet SZOR	Overvoltage protection assembly: ZZP-02		
Supply voltage of control and monitoring equipment	24 V DC		

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		
	Dual circuit switched-mode power supply of boom barrier		
Switched-mode power supply assembly	lights type ZZI-01/L; 2 x 50 W; fimp~1 Hz		
of boom barrier lights			
Floor mount	Concrete footing	Concrete footing comprises 6 elements	
MANIPULATOR			
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)	
	GATE MACHINES		
type JEGD–50			
type JEGD-6	Supply voltage: 24 VDC or 230 VAC		
type EEG-1			
All gate machines are fitted out with boom barriers type			
ZDA – single, aluminium type	Length up to 6 m; protection module		
ZDP – single, plastic 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.	
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		
	WARNING DEVICES		
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 bo	arrier 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	Power supply 24 VDC Audibility min, 30 m (from the boom	
Acoustic signal generator		barrier)	
Typhon			
	type KBB-6/	F.U.S.T. Sygnały S.A. Rybnik	
Typhon, modulated (electronic)	type KBB-6/ EHL-S10	F.U.S.T. Sygnały S.A. Rybnik AUER Signalgerate	
Typhon, modulated (electronic)			
Typhon, modulated (electronic) Equipment and configuration as per the order	EHL-S10		
	EHL-S10 CLOSED CIRCUIT TELEVISION Dedicated camera and video channel amplifier power		
	EHL-S10 CLOSED CIRCUIT TELEVISION Dedicated camera and video channel amplifier power supply - from SZOR cabinet, by Monat		

* - 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.