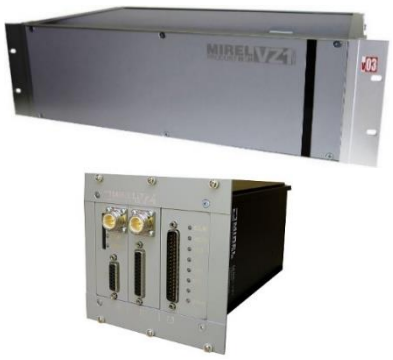
Basic unit of the train protection MIREL VZ1

Type **VZ1ZJ**

Illustrative picture

Basic unit represents the core of the automatic train protection system MIREL VZ1. It is designed as a double-channel safety device that realizes most of all operative functions of the train protection. Basic unit runs the calculation of the safety algorithm, filtration and decoding of transmitted information from the track infrastructure, measurement of speed, passed track and moving direction, pressure scan in the main brake pipe, scanning and filtration of input binary signals, displaying the output signals of the train protection, self-diagnostics and diagnostic test.



Nomenclature

VZ1ZJ.V.UXSWAAA

- AAA – Range of possible use
- SW – Software version
- X – Hardware range
- U – Supply voltage 2 → 24V, 4 → 48V
- V – Device version

Modifications

Designations	Device version	Supply voltage [VDC]	Software version	Range of possible use	Hardware range	Notes
VZ1ZJ.0.204CS	0	24	04	C,S	–	1), 2)
VZ1ZJ.0.204H	0	24	04	H	–	3)
VZ1ZJ.0.204H6	0	24	04	H6	–	3)
VZ1ZJ.0.204CHS	0	24	04	C,H,S	–	1), 2), 3)
VZ1ZJ.0.204CH6S	0	24	04	C,H6,S	–	1), 2), 3)
VZ1ZJ.0.204CPS	0	24	04	C,P,S	–	1), 2)
VZ1ZJ.0.204CES	0	24	04	C,E,S	–	1), 2)
VZ1ZJ.0.204EH6	0	24	04	E,H6	–	3)
VZ1ZJ.0.204CHPS	0	24	04	C,H,P,S	–	1), 2), 3)
VZ1ZJ.0.204CEHS	0	24	04	C,E,H,S	–	1), 2), 3)
VZ1ZJ.0.204CEH6S	0	24	04	C,E,H6,S	–	1), 2), 3)
VZ1ZJ.0.204CEPS	0	24	04	C,E,P,S	–	1), 2)
VZ1ZJ.0.2S04CS	0	24	04	C,S	S	1)
VZ1ZJ.0.404CS	0	48	04	C,S	–	1), 2)
VZ1ZJ.0.404CHS	0	48	04	C,H,S	–	1), 2), 3)
VZ1ZJ.0.404CPS	0	48	04	C,P,S	–	1), 2)
VZ1ZJ.0.404CHPS	0	48	04	C,H,P,S	–	1), 2), 3)
VZ1ZJ.0.404CEHS	0	48	04	C,E,H,S	–	1), 2), 3)
VZ1ZJ.0.4S04CS	0	48	04	C,S	S	1)

[1] homologated in Slovakia
[2] homologated in Czech Republic
[3] homologated in Hungary
[4] homologated in Poland

Modifications prepared for new applications

Designation	Device version	Supply voltage [VDC]	Software version	Range of possible use	Hardware range	Notes
VZ1ZJ.0.204CEH6PS	0	24	04	C,E,H6,P,S	–	WF745
VZ1ZJ.1U.2R04CEH6S	1U	24	04	C,E,H6,S	R	WF892
VZ1ZJ.1U.2R04CEH6PS	1U	24	04	C,E,H6,P,S	R	WF892

Device version

Designation	Dimensions W x D x H [mm]	Construction system	Modification of construction system	Assembly	Coverage	Weight [kg]
0	483 x 262 x 133	BOX3U	–	–	IP20 [1)]	5,3
1U	132 x 227 x 129	BOXKOG	17	–	IP40	1,9
1L	130 x 231 x 105	BOXTUG	17A	left	IP40	1,6
1P	130 x 231 x 105	BOXTUG	17A	right	IP40	1,6

[1)] possibility to increase protection to IP30 according to document 1975M

Range of possible use

Designation	Description
–	basic design with infrastructure transmission without recording module
D	design with transmission from the infrastructure and a recording module with a removable storage medium
J	design with transmission from the infrastructure and a recording module within the scope of the legislative record
R	version with transmission from infrastructure and recording module without removable storage medium
S	without transmission from the infrastructure

Range of possible use

Designation	Description
C	national regime LS, Czech Republic
E	STM module of ETCS system
H	national regime EVM, Hungary
H6	national regime EVM 160km/h, Hungary
P	national regime SHP+ČUVAK, Poland
P1	national regime SHP, Poland
S	national regime LS, Slovakia

Specifications

The Catalogue sheet was prepared on the basis of the following specifications:

Number	Version	Name
257VZ1	200401	Technical conditions
1122VZ1	200827	Installation manual
481M	161208	Installation conditions
1068M	170516	BOXTUG Installation conditions
2468M	191016	BOXKOG Installation conditions
153VZ1	190111	Operating manual
154VZ1	190111	Maintenance manual, diagnostics

Usage

MIREL VZ1 – train protection

Modifications not recommend for new applications

Designation	Supply voltage [VDC]	Software version	Range of possible use	Hardware range	Notes	Replacement
VZ1ZJ.0.202CS	24	02	C,S	–	1), 2)	VZ1ZJ.0.204CS [5]
VZ1ZJ.0.2S02CS	24	02	C,S	S	1)	VZ1ZJ.0.2S04CS [5]
VZ1ZJ.0.402CS	48	02	C,S	–	1)	VZ1ZJ.0.404CS [5]
VZ1ZJ.0.4S02CS	48	02	C,S	S	1)	VZ1ZJ.0.2S04CS [5]
VZ1ZJ.0.203CS	24	03	C,S	–	1), 2)	VZ1ZJ.0.204CS [5]
VZ1ZJ.0.203CPS	24	03	C,P,S	–	1), 2), 4)	VZ1ZJ.0.204CPS [5]
VZ1ZJ.0.203H	24	03	H	–	3)	VZ1ZJ.0.204H [5]
VZ1ZJ.0.203CHS	24	03	C,H,S	–	1), 2), 3)	VZ1ZJ.0.204CHS [5]
VZ1ZJ.0.203CH6S	24	03	C,H6,S	–	1), 2), 3)	VZ1ZJ.0.204CH6S [5]
VZ1ZJ.0.203CHPS	24	03	C,H,P,S	–	1), 2), 3), 4)	VZ1ZJ.0.204CHPS [5]
VZ1ZJ.0.2S03CS	24	03	C,S	S	1)	VZ1ZJ.0.2S04CS [5]
VZ1ZJ.0.403CS	48	03	C,S	–	1), 2)	VZ1ZJ.0.404CS [5]
VZ1ZJ.0.403CPS	48	03	C,P,S	–	1), 2), 4)	VZ1ZJ.0.404CPS [5]
VZ1ZJ.0.403CHS	48	03	C,H,S	–	1), 2), 3)	VZ1ZJ.0.404CHS [5]
VZ1ZJ.0.4S03CS	48	03	C,S	S	1)	VZ1ZJ.0.4S04CS [5]

[1] homologated in Slovakia
[2] homologated in Czech Republic
[3] homologated in Hungary
[4] homologated in Poland
[5] replacement with limitation