

## Basic unit of the train protection MIREL VZ1

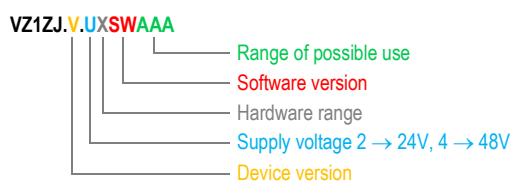
### Type **VZ1ZJ**

Illustrative picture

Basic unit represents the core of the automatic train protection system MIREL VZ1. It is designed as a dual-channel safety device that realizes most of all operational 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



#### 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), 4)
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), 4)
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), 4)
VZ1ZJ.0.204CEH6PS	0	24	04	C,E,H6,P,S	–	1), 2), 3), 4)
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), 4)
VZ1ZJ.0.404CHPS	0	48	04	C,H,P,S	–	1), 2), 3), 4)
VZ1ZJ.0.404CEHS	0	48	04	C,E,H,S	–	1), 2), 3)
VZ1ZJ.0.4S04CS	0	48	04	C,S	S	1)

<sup>1)</sup> homologated in Slovakia

<sup>2)</sup> homologated in Czech Republic

<sup>3)</sup> homologated in Hungary

<sup>4)</sup> homologated in Poland

## Modifications prepared for new applications

Designation	Device version	Supply voltage [VDC]	Software version	Range of possible use	Hardware range	Notes
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
VZ1ZJ.1U.2R04CES	1U	24	04	C,E,S	R	WF1018
VZ1ZJ.1U.2R04CHS	1U	24	04	C,H,S	R	WF1066
VZ1ZJ.1U.2R04CS	1U	24	04	C,S	R	WF1066
VZ1ZJ.1U.2R04EP1	1U	24	04	E,P1	R	WF1083
VZ1ZJ.1U.4R04CS	1U	48	04	C,S	R	WF1000
VZ1ZJ.1U.4R04CHS	1U	48	04	C,H,S	R	WF1001
VZ1ZJ.1U.4R04CES	1U	48	04	C,E,S	R	WF959

## 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 <sup>1)</sup>	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

<sup>1)</sup> possibility to increase protection to IP30 according to document 1975M

## Hardware range

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+CA, Poland
P1	national regime SHP, Poland
S	national regime LS, Slovakia

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## Specifications

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

Number	Version	Name
257VZ1	230721	Technical conditions
1122VZ1	230926	Installation manual
481M	230322	Installation conditions
1068M	170516	BOXTUG Installation conditions
2468M	230904	BOXKOG Installation conditions
153VZ1	230726	Operating manual
154VZ1	230726	Maintenance manual, diagnostics

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## 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 <sup>5)</sup>
VZ1ZJ.0.2S02CS	24	02	C,S	S	1)	VZ1ZJ.0.2S04CS <sup>5)</sup>
VZ1ZJ.0.402CS	48	02	C,S	–	1)	VZ1ZJ.0.404CS <sup>5)</sup>
VZ1ZJ.0.4S02CS	48	02	C,S	S	1)	VZ1ZJ.0.2S04CS <sup>5)</sup>
VZ1ZJ.0.203CS	24	03	C,S	–	1), 2)	VZ1ZJ.0.204CS <sup>5)</sup>
VZ1ZJ.0.203CPS	24	03	C,P,S	–	1), 2), 4)	VZ1ZJ.0.204CPS <sup>5)</sup>
VZ1ZJ.0.203H	24	03	H	–	3)	VZ1ZJ.0.204H <sup>5)</sup>
VZ1ZJ.0.203CHS	24	03	C,H,S	–	1), 2), 3)	VZ1ZJ.0.204CHS <sup>5)</sup>
VZ1ZJ.0.203CH6S	24	03	C,H6,S	–	1), 2), 3)	VZ1ZJ.0.204CH6S <sup>5)</sup>
VZ1ZJ.0.203CHPS	24	03	C,H,P,S	–	1), 2), 3), 4)	VZ1ZJ.0.204CHPS <sup>5)</sup>
VZ1ZJ.0.2S03CS	24	03	C,S	S	1)	VZ1ZJ.0.2S04CS <sup>5)</sup>
VZ1ZJ.0.403CS	48	03	C,S	–	1), 2)	VZ1ZJ.0.404CS <sup>5)</sup>
VZ1ZJ.0.403CPS	48	03	C,P,S	–	1), 2), 4)	VZ1ZJ.0.404CPS <sup>5)</sup>
VZ1ZJ.0.403CHS	48	03	C,H,S	–	1), 2), 3)	VZ1ZJ.0.404CHS <sup>5)</sup>
VZ1ZJ.0.4S03CS	48	03	C,S	S	1)	VZ1ZJ.0.4S04CS <sup>5)</sup>

<sup>1)</sup> homologated in Slovakia

<sup>2)</sup> homologated in Czech Republic

<sup>3)</sup> homologated in Hungary

<sup>4)</sup> homologated in Poland

<sup>5)</sup> replacement with limitation