

The basic unit of the integrated on-board system MIREL RM2

Type **RM2ZJ**

Illustrative pictures

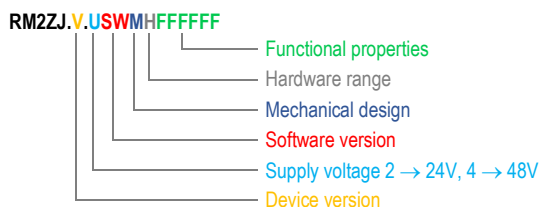
The basic unit ensures most of the operational conditions of the intergraded on-board system MIREL RM2: the measuring of the immediate speed through the impulse revolution sensor, the measuring of the distance travelled, the control of the train operator's vigilance, the displaying of the safe digital outputs depending on the immediate speed rate, the registration of the instantaneous velocity and the additional operating and technical data in relation to the time and track's independent scale, the scanning of the registered inputs and displaying the outputs of the integrated on-board system, the communication with indication and identification units at the cab. The default basic unit contains two²⁾ registration data media, the operational and the backup one. The operational data medium is intended for the validation by the HDV operator and it is placed under the cover on the front panel. For the purpose of reading and evaluating the content, it is necessary to remove the operating storage medium from the basic unit and read and evaluate the registered data using the MAN module of the MIREL MAP application on a personal computer. The backup data medium is placed inside the basic unit and it is accessible only to the service staff of the manufacturer.



¹⁾ modifications of the basic unit with functional property S additionally contain a third storage medium meeting the requirements of the standard STN EN 62625-1

²⁾ modifications of the base unit in the SIL0 safety integrity version contain only the operating storage medium

Nomenclature



Modifications

Designation	Device version	Supply voltage [VDC]	Mechanical design	Hardware range	Functional properties	Notes
RM2ZJ.1.201AAMRL	1	24	A	A	M,R,L	1), 2)
RM2ZJ.1.201AHMRL	1	24	A	H	M,R,L	2)
RM2ZJ.1.201AJMRLS	1	24	A	J	M,R,L,S	1), 2)
RM2ZJ.1.201ARMRL	1	24	A	R	M,R,L	2)
RM2ZJ.1.201BHMRL	1	24	B	H	M,R,L	3)
RM2ZJ.1.201BKMRLS	1	24	B	K	M,R,L,S	2)
RM2ZJ.1.201LCMRBGL	1	24	L	C	M,R,B,G,L	2)
RM2ZJ.1.201LCMRBL	1	24	L	C	M,R,B,L	2)
RM2ZJ.1.201PGMB	1	24	P	G	M,B	2)
RM2ZJ.1.401BFMRL	1	48	B	F	M,R,L	1), 4)
RM2ZJ.1.401BHMRL	1	48	B	H	M,R,L	1), 2), 4)
RM2ZJ.1.401LC1MRBL	1	48	L	C1	M,R,B,L	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]	Mechanical design	Hardware range	Functional properties	Notes
RM2ZJ.1.201BBMRL	1	24	B	B	M,R,L	WF545
RM2ZJ.1.201EB1MRBGL	1	24	E	B1	M,R,B,G,L	WF953

Mechanical design

Designation	Construction system	Modification of construction system	Assembly	Coverage	Max. weight for full fitting [kg]	Number of slots
A	BOXU	3UA	not embedded	IP20 ¹⁾	9,8	15
B	BOXU	3UB	embedded	IP20 ¹⁾	9,9	15
E	BOXU	3UHA	not embedded	IP20 ¹⁾	3,8	7
F	BOXU	3UHB	embedded	IP20 ¹⁾	3,9	7
L	BOXTUG	17A	left	IP40	1,8	4
P	BOXTUG	17A	right	IP40	1,8	4
M	BOXTUG	09A	left	IP40	1,3	2
R	BOXTUG	09A	right	IP40	1,3	2
U	BOXKOG	17	–	IP40	2,0	4
V	BOXKOG	09	–	IP40	1,4	2

¹⁾ possibility of increasing IP rating to IP30 according to document 1975M

Hardware range

Designation	Safety integrity level	Number of safety binary inputs	Number of other binary inputs	Number of analogue inputs	Max. number of safety binary outputs	Number of other binary outputs	Number of external lines CAN	Number of external lines SPI	Number of external lines RS485	Max. capacity [GB]
A	SIL4	8	64	10	3	0	3	1	1	2x14 ¹⁾
B	SIL4	8	28	10	3	6	3	1	1	2x14 ¹⁾
B1	SIL4 / SIL2 ⁴⁾	8	28	10	3	6	3	1	1	2x14 ¹⁾
C	SIL4	8	12	0	3	6	3	0	1	2x14 ¹⁾
C1	SIL4 / SIL2 ⁴⁾	8	12	0	3	6	3	0	1	2x14 ¹⁾
D	SIL0	0	8	0	0	3	3	0	1	1x14 ²⁾
E	SIL4	8	140	20	3	6	4	1	2	2x14 ¹⁾
F	SIL4	8	12	0	3	6	3	1	1	2x14 ¹⁾
G	SIL4	8	0	0	3	0	3	0	1	2x14 ¹⁾
H	SIL4	8	28	0	3	6	3	1	1	2x14 ¹⁾
J	SIL4	8	64	10	3	0	3	1	1	2x14 ¹⁾ +4 ³⁾
K	SIL4	8	0	0	3	0	3	1	1	2x14 ¹⁾ +4 ³⁾
L	SIL4	8	52	0	3	6	3	1	1	2x14 ¹⁾ +4 ³⁾
M	SIL4	8	28	0	3	6	3	1	1	2x14 ¹⁾
N	SIL4	8	24	0	3	0	3	0	1	2x14 ¹⁾
P	SIL4	8	16	0	3	0	3	0	1	2x14 ¹⁾
R	SIL4	8	0	0	3	0	3	1	1	2x14 ¹⁾
S	SIL4	8	52	0	3	6	3	1	1	2x14 ¹⁾ +4 ³⁾

- ¹⁾ modification with operational and backup storage media
²⁾ modification with operational storage media

³⁾ modification with a durable storage medium meeting the requirements of the STN EN 62625-1 standard

⁴⁾ data generating for speed indication is with SIL2 safety integrity

Functional properties

Designation	Functional property of the device
M	speed measurement and indication
R	data registration
B	vigilance control
B1	vigilance check in accordance with TSI LOC&PAS
G	GSM gateway
L	location (space, time)
S	registration in accordance with EN 62625-1

Specifications

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

Number	Version	Name
1976RM2	210924	Technical conditions
1992RM2	200813	Installation manual
1068M	170516	BOXTUG Installation conditions
1975M	161208	BOXU.2 Installation conditions
2468M	191016	BOXKOG Installation conditions
1986RM2	190709	Operating manual
1987RM2	210604	Maintenance manual, diagnostics

Usage

MIREL RM2 – integrated on-board system

Modifications not recommended for new applications

No record.

