

## Axle speed sensor MIREL IRC

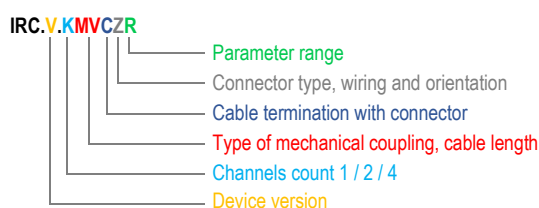
### Type **IRC**

illustrative pictures

Axle speed sensor MIREL IRC provides for transfer of driving rail vehicle's mechanical axle rotation to sequence of electrical pulses, from which rolling stock speed and acceleration, as well as travel direction and covered distance are determined by means of subsequent processing. Dependent on sensor modification, it features one, two or four speed channels, where each channel consists of two electrical, phase-shifted signals. Power supply of IRC sensor is provided by device to which the sensor is wired. On rolling stock, the sensor is located on cover of axle bearing housing. Modifications, which haven't been fitted with a wiring connector, are terminated with a grommet.



#### Nomenclature



#### Modifications

Designation	Channels count	Pulse quantity per turn	Modification of fork / axle	Cable length [m] <sup>4) 5)</sup>	Connector	Notes
IRC.1.1	1	100	IRCV.1.318MP	0,9	–	1), 3)
IRC.1.16	1	100	IRCV.1.1118MP	0,9	–	1), 3)
IRC.1.16K	1	100	IRCV.1.1118MP	0,9	HAN10-A	1)
IRC.1.116	1	100	IRCV.1.318MP	3,4	–	1), 3)
IRC.1.117	1	100	IRCV.1.641MP	3,4	–	1), 3)
IRC.1.23K	2	100	IRCV.1.641MP	1,1	HAN6-A	1)
IRC.1.25K	2	100	IRCV.1.318MP	3,4	HAN10-A	1)
IRC.1.26	2	100	IRCV.1.1118MP	0,9	–	1), 3)
IRC.1.27	2	100	IRCV.1.641MP	1,5	–	1), 3)
IRC.1.28	2	100	IRCV.1.717MP	2,2	–	1), 3)
IRC.1.29	2	100	IRCV.1.453MP	1,7	–	1), 3)
IRC.1.213K	2	100	IRCA.1.FA	0,9	HAN10-B	1)
IRC.1.215K	2	100	IRCA.1.FC	1,5	HAN10-A	1)
IRC.1.218K	2	100	IRCV.1.641MP	1,7	HAN10-A	1)
IRC.1.220K	2	100	IRCV.1.717MP	1,5	HAN10-A	1)
IRC.1.221	2	100	IRCV.1.453MPS	3,4	–	1), 3)
IRC.2.2	2	100	IRCV.1.318MP	0,9	–	2), 3)
IRC.2.2K	2	100	IRCV.1.318MP	0,9	HAN10-A	2)
IRC.2.21	2	100	IRCV.1.453MP	0,9	–	2), 3)
IRC.2.22	2	100	IRCV.1.318MP	1,5	–	2), 3)
IRC.2.22K	2	100	IRCV.1.318MP	1,5	HAN10-A	2)
IRC.2.24K	2	100	IRCV.1.717MP	2,0	HAN6-A	2)
IRC.2.25	2	100	IRCV.1.318MP	3,4	–	2), 3)
IRC.2.26K	2	100	IRCV.1.1118MP	0,9	HAN10-A	2)

Designation	Channels count	Pulse quantity per turn	Modification of fork / axle	Cable length [m] <sup>4) 5)</sup>	Connector	Notes
<b>IRC.2.214</b>	2	100	IRCA.1.FB	1,5	-	2), 3)
<b>IRC.2.214K</b>	2	100	IRCA.1.FB	1,5	HAN10-A	2)
<b>IRC.2.219K</b>	2	100	IRCV.1.2582MP	1,5	HAN10-A	2)
<b>IRC.2.4K</b>	4	100	IRCV.1.318MP	0,9	HAN10-C	2)
<b>IRC.2.414K</b>	4	100	IRCA.1.FB	1,5	HAN10-C	2)

<sup>1)</sup> homologated in Slovakia, Czech Republic, Hungary, Poland

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

<sup>3)</sup> connection cable is without connector and is equipped with threaded grommet PG16

<sup>4)</sup> supplied lengths for IRC.1: 0,9 / 1,1 / 1,5 / 1,7 / 2,2 / 3,4 m

<sup>5)</sup> supplied lengths for IRC.2: 0,9 / 1,2 / 1,5 / 2,0 / 3,4 m

### Modifications prepared for new applications

Designation	Channels count	Pulse quantity per turn	Modification of fork / axle	Cable length [m]	Connector	Notes
<b>IRC.1.222K</b>	2	100	IRCV.1.453MPS	1,1	HAN10-A	WF953
<b>IRC.1.225</b>	2	100	IRCA.1.FA	3,4	-	WF1083
<b>IRC.2.224</b>	2	100	IRCA.1.FA	2	-	WF1033
<b>IRC.2.217</b>	2	100	IRCV.1.641MP	3,4	-	WF1012
<b>IRC.2A.22</b>	2	100	IRCV.1.318MP	1,5	-	WF990
<b>IRC.2A.22K</b>	2	100	IRCV.1.318MP	1,5	HAN10-A	WF1003
<b>IRC.2A.223K</b>	2	100	IRCV.1.318MP	1,2	HAN10-A	WF1041
<b>IRC.2A.4</b>	4	100	IRCV.1.318MP	0,9	-	WF971
<b>IRC.2A.46</b>	4	100	IRCV.1.1118MP	0,9	-	WF971
<b>IRC.2A.46K</b>	4	100	IRCV.1.1118MP	0,9	HAN10-C	WF971

### Device version

Designation	Parameter range	Dimensions	Max. weight [kg]	Cable protector	Max. output frequency [kHz]	Temperature range [°C]	Tolerance of supply [%]
<b>0</b>	-	1)	3,4	-	2,0	-25 to +45	-30 / +25
<b>1</b>	-	1)	3,4	-	2,0	-25 to +45	-30 / +25
	E	1)	3,4	-	6,0	-50 to +50	-46 / +25
<b>2</b>	-	1)	3,4	✓	4,0	-25 to +45	±40
<b>2A</b>	-	1)	3,6	✓	4,0	-25 to + 45	±40

<sup>1)</sup> specified in 319M Installation conditions

### Specifications

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

Number	Version	Name
1758M	230727	IRC Conditions of use
319M	231219	IRC Installation conditions

### Usage

MIREL VZ1 – train protection  
MIREL RM1 – registration speedometer  
MIREL RM2 – integrated on-board system  
MIREL RS812 – control system  
MIREL RS813 – control system  
MIREL RS361 – control system  
MIREL RS363 – control system

### Modifications not recommended for new applications

Designation	Channels count	Pulse quantity per turn	Modification of fork / axle	Cable length [m]	Connector	Notes	Substitute
<b>IRC.1.2</b>	2	100	IRCV.1.318MP	0,9	–	1), 2)	IRC.2.2
<b>IRC.1.2K</b>	2	100	IRCV.1.318MP	0,9	HAN10-A	1)	IRC.2.2K
<b>IRC.1.21</b>	2	100	IRCV.1.453MP	0,9	–	1), 2)	IRC.2.21
<b>IRC.1.22</b>	2	100	IRCV.1.318MP	1,5	–	1), 2)	IRC.2.22
<b>IRC.1.22K</b>	2	100	IRCV.1.318MP	1,5	HAN10-A	1)	IRC.2.22K IRC.2A.22K
<b>IRC.1.24K</b>	2	100	IRCV.1.717MP	2,0	HAN6-A	1)	IRC.2.24K
<b>IRC.1.25</b>	2	100	IRCV.1.318MP	3,4	–	1), 2)	IRC.2.25
<b>IRC.1.26K</b>	2	100	IRCV.1.1118MP	0,9	HAN10-A	1)	IRC.2.26K
<b>IRC.1.214</b>	2	100	IRCA.1.FB	1,5	–	1), 2)	IRC.2.214
<b>IRC.1.214K</b>	2	100	IRCA.1.FB	1,5	HAN10-A	1)	IRC.2.214K
<b>IRC.1.219K</b>	2	100	IRCV.1.2582MP	1,5	HAN10-A	1)	IRC.2.219K

<sup>1)</sup> homologated in Slovakia, Czech Republic, Hungary and Poland

<sup>2)</sup> connection cable is without connector and is equipped with threaded grommet PG16

### Modifications with discontinued production

Designation	Channels count	Pulse quantity per turn	Modification of fork / axle	Cable length [m]	Connector	Notes	Substitute
<b>IRC.0.1</b>	1	100	IRCV.1.318M	0,9	–	1), 2)	IRC.1.1
<b>IRC.0.16</b>	1	100	IRCV.1.1118M	0,9	–	1), 2)	IRC.1.16
<b>IRC.0.16K</b>	1	100	IRCV.1.1118M	0,9	HAN10-A	1)	IRC.1.16K
<b>IRC.0.2</b>	2	100	IRCV.1.318M	0,9	–	1), 2)	IRC.1.2
<b>IRC.0.2K</b>	2	100	IRCV.1.318M	0,9	HAN10-A	1)	IRC.1.2K
<b>IRC.0.21</b>	2	100	IRCV.1.453M	0,9	–	1), 2)	IRC.1.21
<b>IRC.0.22</b>	2	100	IRCV.1.318M	1,5	–	1), 2)	IRC.1.22
<b>IRC.0.22K</b>	2	100	IRCV.1.318M	1,5	HAN10-A	1)	IRC.1.22K
<b>IRC.0.23</b>	2	100	IRCV.1.641M	1,1	HAN6-A	1)	IRC.1.23
<b>IRC.0.24</b>	2	100	IRCV.1.717M	2,0	HAN6-A	1)	IRC.1.24
<b>IRC.0.25</b>	2	100	IRCV.1.318M	3,4	–	1), 2)	IRC.1.25
<b>IRC.0.26</b>	2	100	IRCV.1.1118M	0,9	–	1), 2)	IRC.1.26
<b>IRC.0.26K</b>	2	100	IRCV.1.1118M	0,9	HAN10-A	1)	IRC.1.26K
<b>IRC.0.28</b>	2	100	IRCV.1.717M	2,2	–	1), 2)	IRC.1.28
<b>IRC.0.29</b>	2	100	IRCV.1.453M	1,7	–	1), 2)	IRC.1.29

<sup>1)</sup> homologated in Slovakia, Czech Republic, Hungary and Poland

<sup>2)</sup> connection cable is without connector and is equipped with threaded grommet PG16