

MMS 22-PI2

Programmable magnetic switches

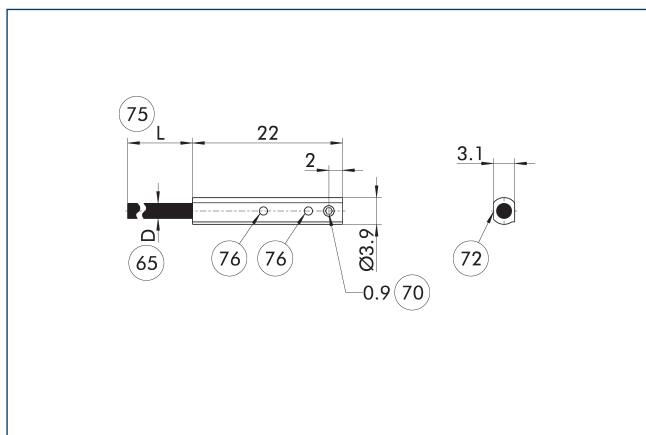


Technical data

Description		MMS 22-PI2-S-M8-PNP	MMS 22-PI2-S-M8-NPN	MMSK 22-PI2-S-PNP	MMSK 22-PI2-S-NPN
ID		0301180	0301181	0301182	0301183
Principle of function					
Measuring principle		magnetic	magnetic	magnetic	magnetic
Switching function		Closer	Closer	Closer	Closer
Type of switching		PNP	NPN	PNP	NPN
Number of switching points		2	2	2	2
Teach function		yes	yes	yes	yes
General data					
typical switching time	[s]	0.001	0.001	0.001	0.001
Max. switching frequency	[Hz]	1000	1000	1000	1000
Min./max. ambient temperature	[°C]	-20/80	-20/80	-20/80	-20/80
LED display in sensor		yes	yes	yes	yes
Electrical operating data					
Type of voltage		DC	DC	DC	DC
Nominal voltage	[V]	24	24	24	24
Min./max. operating voltage	[V]	10/30	10/30	10/30	10/30
Voltage drop	[V]	2	2	2	2
Max. switching current	[mA]	25	25	25	25
Short circuit protection		yes	yes	yes	yes
Protected against polarity reversal		yes	yes	yes	yes
Mechanical operating data					
Housing material		PA	PA	PA	PA
Cable connector/cable end		M8, 4-pin Male Connector	M8, 4-pin Male Connector	open wire strands	open wire strands
Cable length L	[cm]	31	31	200	200
Cable diameter D	[mm]	2.55	2.55	2.55	2.55
Cable design (wire cross section / number of wires)		4x 0,05mm ²	4x 0,05mm ²	4x 0,05mm ²	4x 0,05mm ²
Cable sheath material		PUR	PUR	PUR	PUR
Min. bending radius (dynamic)	[mm]	25.5	25.5	25.5	25.5
Min. bending radius (static)	[mm]	12.75	12.75	12.75	12.75
Weight	[kg]	0.01	0.01	0.04	0.04
Protection class IP (sensor, plugged)		67	67	67	67
Protection class		III	III	III	III
Drilling emulsion resistance *		yes	yes	yes	yes
Options and their characteristics					
Version with lateral cable outlet		MMS 22-PI2-S-M8-PNP-SA	MMS 22-PI2-S-M8-NPN-SA	MMSK 22-PI2-S-PNP-SA	MMSK 22-PI2-S-NPN-SA
ID		0301186	0301187	0301188	0301189
LED display in sensor		yes	yes	yes	yes
Heavy duty version		MMS 22-PI2-S-M8-PNP-HD	MMS 22-PI2-S-M8-NPN-HD	MMSK 22-PI2-S-PNP-HD	MMSK 22-PI2-S-NPN-HD
ID		0301130	0301131	0301132	0301133
Housing material		stainless steel	stainless steel	stainless steel	stainless steel
Drilling emulsion resistance *		yes	yes	yes	yes

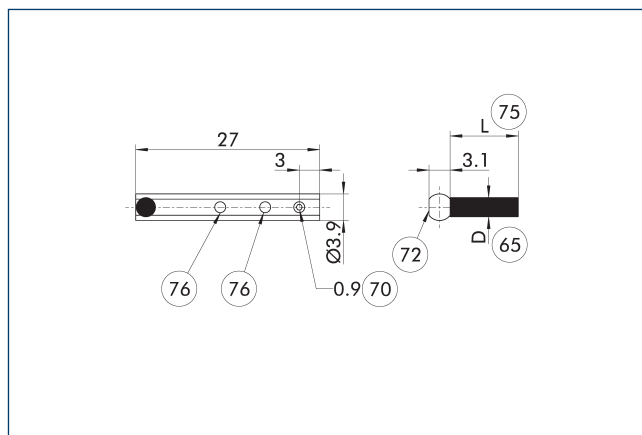
* Tested cutting emulsions: r.rhenus TU 43P, Motorex Swisscool Magnum UX 550 and Oemeta 760 (1008339).

MMS(K) 22-PI2 main view



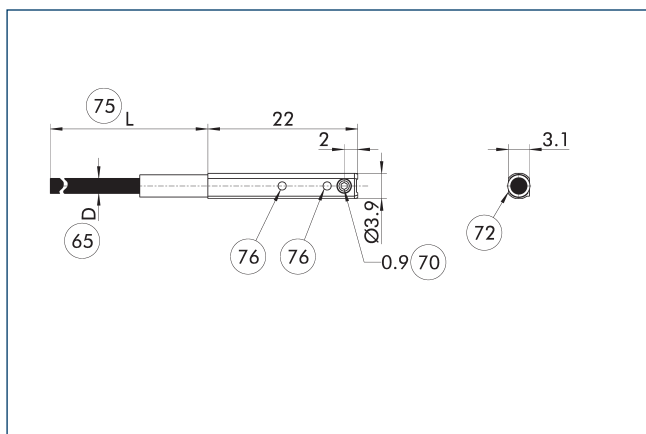
- 65 Cable diameter
- 70 Wrench size
- 72 Active sensor surface
- 75 Cable length
- 76 LED
- 77 Wrench size

MMS(K) 22-PI2-SA main view



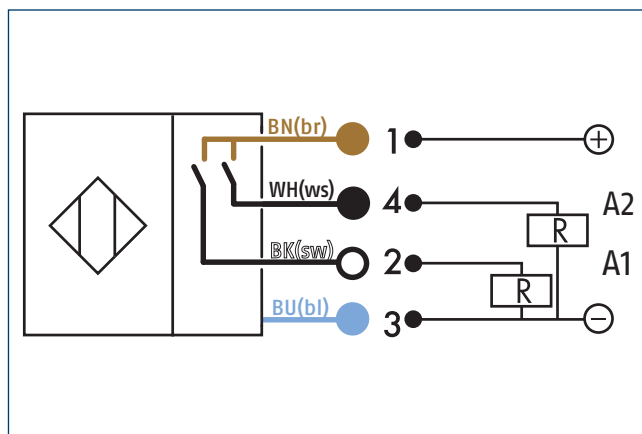
- 65 Cable diameter
- 70 Wrench size
- 72 Active sensor surface
- 75 Cable length
- 76 LED
- 77 Wrench size

MMS(K) 22-PI2-HD main view

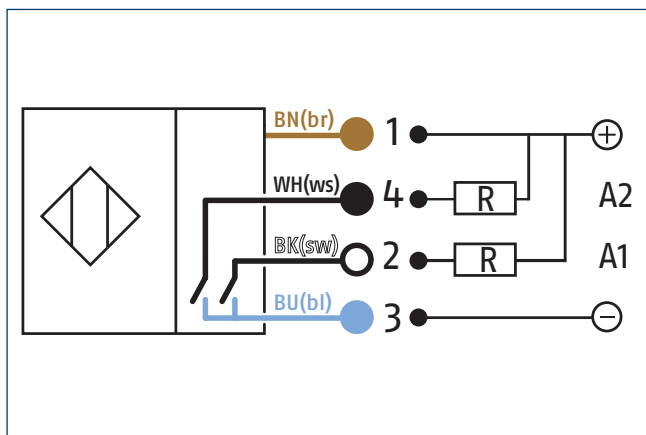


- 65 Cable diameter
- 70 Wrench size
- 72 Active sensor surface
- 75 Cable length
- 76 LED
- 77 Wrench size

Wiring diagram closer PNP



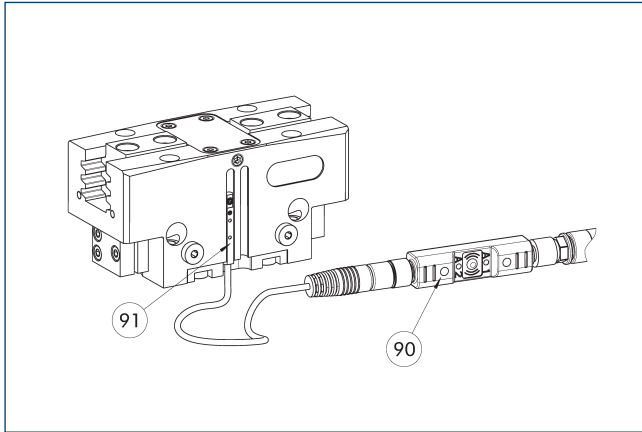
Circuit diagram of NPN closer



MMS 22-PI2

Programmable magnetic switches

Pug-in teaching tool ST



90 Pug-in teaching tool ST

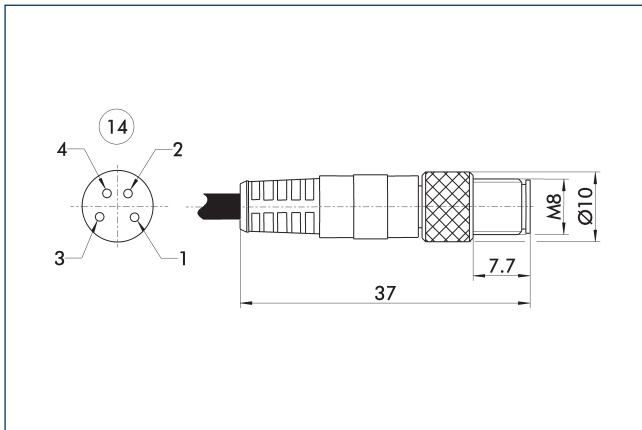
91 Sensor MMS 22-PI...

In addition to the magnetic teach-in tool included in the scope of delivery, the MMS 22-PI sensors can be taught via the plug teach-in tool. The plug teach in tool is inserted into the wiring from sensor to PLC. This makes teaching in possible even in confined spaces on the sensor. The plug teach in tool differs according to the version of the sensor with regard to switching points (1/2) and switching type (PNP / NPN).

Description	ID
Sensor Teaching Tool	
MT-MMS 22-PI	0301030
Plug teaching tool	
ST-MMS 22-PI2-PNP	0301026

① The plug-in teaching tool is only required for teaching in and can be removed from the cabling again after. The sensor maintains its programming.

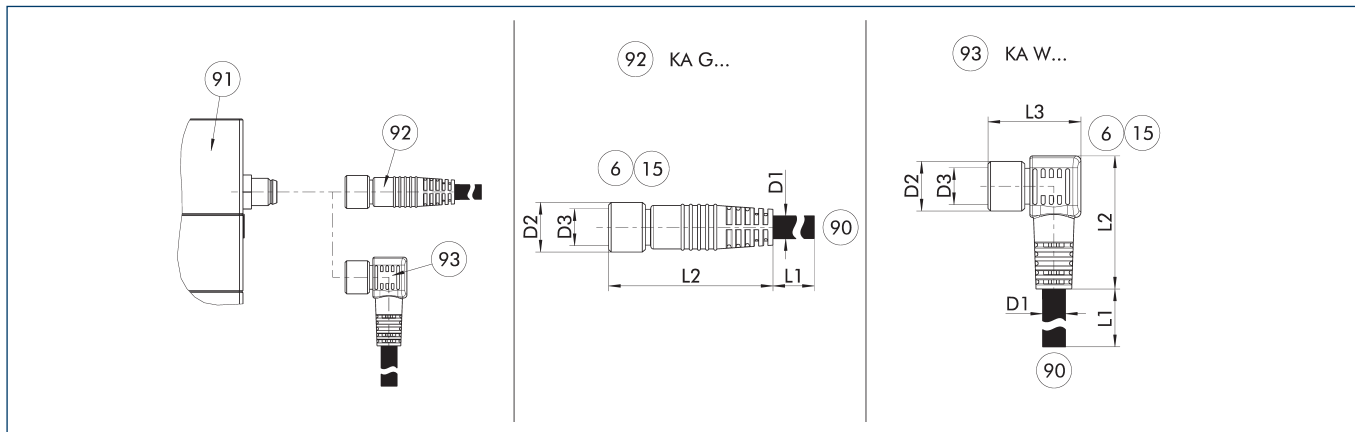
View M8 connector (4 pins)



14 Connector

This view shows the plug connector on the cable end of the sensor.

Voltage supply connection cable



KA G... Connection cable with straight socket
 KA W... Connection cable with angular socket

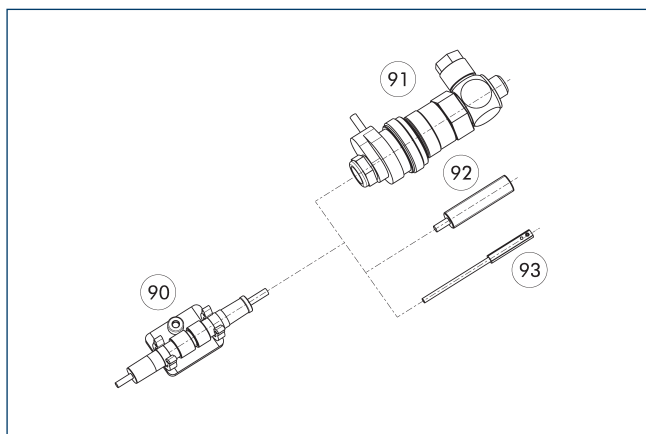
- ⑥ Connection module side
- ⑬ Socket
- ⑨⑩ SAC connection cable with open wire strands
- ⑨① Connection plug component
- ⑨② Cable with straight female connector
- ⑨③ Cable with angled female connector

The connection cable is ideal for connecting the corresponding components to the controller or the power supply unit. The connection cable has a 4-pin M8 socket on one side and an open wire strand on the other side for individual connections. The connection cables are suitable for use both in the cable track as well as in torsion applications.

Description	ID	L1 [m]	D1 [mm]	L2 [mm]	D2 [mm]	L3 [mm]	D3	Often combined
Connection cables								
KA GLN0804-LK-00500-A	0307767	5	5.3	35	10		M8	●
KA GLN0804-LK-01000-A	0307768	10	5.3	35	10		M8	
KA WLN0804-LK-00500-A	0307765	5	5.3	29	10	20	M8	
KA WLN0804-LK-01000-A	0307766	10	5.3	29	10	20	M8	

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

clip for plug/socket



- ⑨⑩ CLI plug bracket
- ⑨① MV micro valve
- ⑨② IN proximity switch
- ⑨③ Magnetic switch MMS

The CLI clip is used for fastening and strain relief for the plug connectors. For example for the sensor and cable extension connection.

Description	ID
clip for plug/socket	
CLI-M8	0301463