



# Non-contact and wear-free detection with magnetic sensors



## Magnetic sensors



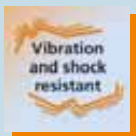
Detection also through non-magnetisable metals

Small designs with very long sensing ranges up to 100 mm

Cylinder and rectangular designs for demanding applications

High mechanical stability in case of shock or vibration

Flush or non-flush installation in non-magnetisable metals



### Magnetic sensors

Magnetic sensors are used in automation to detect positions without contact or wear and tear. Magnetic sensors come into their own where inductive sensors reach their limits. Advantage: Magnetic sensors offer small designs with very long sensing ranges. Depending on the orientation of the magnetic field, the sensor can be damped from the front or from the side.

Since magnetic fields penetrate all non-magnetisable materials, the sensors can detect magnets through walls made of non-ferrous metal, stainless steel, aluminium, plastic or wood.

















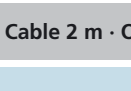
In the food industry, for example, magnetic sensors are often used in connection with pigs (cleaning devices which pass through the inside of pipes). Magnetic sensors are used to determine their exact position from the outside through the wall of the stainless steel pipe.

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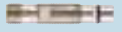
## Position sensors


### Full-metal sensors for high-pressure resistant applications on hydraulic cylinders and valves


Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Draw- ing no.	Order no.
<b>M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	M12 / L = 93	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	1	<b>MFH200</b>
<b>M12 connector · Output function  · DC NPN · Wiring diagram no. 2 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202</b>									
	M12 / L = 93	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	1	<b>MFH201</b>
<b>M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	M12 / L = 60	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	2	<b>MFH202</b>
<b>M12 connector · Output function  · DC NPN · Wiring diagram no. 2 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202</b>									
	M12 / L = 60	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	2	<b>MFH203</b>
<b>M12 connector · Output function  · DC PNP · Wiring diagram no. 3 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202</b>									
	M12 / L = 60	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	2	<b>MFH204</b>
<b>Cable 2 m · Output function  · DC PNP · Wiring diagram no. 4</b>									
	M12 / L = 40	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	3	<b>MFH205</b>
<b>Cable 2 m · Output function  · DC NPN · Wiring diagram no. 5</b>									
	M12 / L = 40	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	3	<b>MFH206</b>
<b>Cable 2 m · Output function  · DC PNP · Wiring diagram no. 6</b>									
	M12 / L = 40	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	3	<b>MFH207</b>
<b>Cable 2 m · Output function normally open / closed · DC PNP · Wiring diagram no. 7</b>									
	M12 / L = 40	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	3	<b>MFH208</b>

Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Draw- ing no.	Order no.
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**M12 connector · Output function normally open / closed · DC PNP · Wiring diagram no. 8**

	M12 / L = 60	1.8 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	100	4	<b>MFH209</b>
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**M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204**


	M14 / L = 53	2 f	High-grade st. steel	10...36	IP 65 / IP 68 / IP 69K	1000	200	5	<b>M9H200</b>
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f = flush / nf = non flush / qf = quasi-flush


**Full metal sensors for industrial applications**


Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Draw- ing no.	Order no.
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
**M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204**


	M12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	6	<b>MFS211</b>
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	M18 / L = 60	70	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	7	<b>MGS204</b>
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**M12 connector · Output function  · DC NPN · Wiring diagram no. 2 · Connector groups 148, 149, 153, 184, 188, 193, 202**


	M12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	6	<b>MFS209</b>
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**M12 connector · Output function  · DC PNP · Wiring diagram no. 3 · Connector groups 148, 149, 153, 184, 188, 193, 202**

	M12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	6	<b>MFS210</b>
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	M18 / L = 60	70	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	7	<b>MGS206</b>
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**M12 connector · Output function  · DC NPN · Wiring diagram no. 2 · Connector groups 148, 149, 153, 184, 188, 193, 202**

	M18 / L = 60	70	High-grade st. steel	10...30	IP 65 / IP 67	5000	200	7	<b>MGS205</b>
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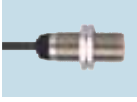


## Position sensors

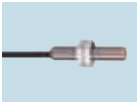

### Sensors for industrial applications

Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Drawing no.	Order no.
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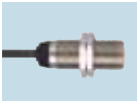
#### Cable 2 m · Output function · DC PNP · Wiring diagram no. 4

	M8 / L = 50	60	stainless steel (316L)	10...30	IP 67	5000	200	8	ME5011
	M12 / L = 50	60	High-grade st. steel	10...30	IP 67	5000	200	9	MFS201
	M18 / L = 50	70	stainless steel	10...30	IP 67	5000	200	10	MGS201

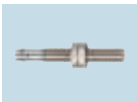
#### Cable 2 m · Output function · DC NPN · Wiring diagram no. 5

	M8 / L = 40	60	stainless steel (316L)	10...30	IP 67	5000	200	11	ME5015
	M12 / L = 50	60	High-grade st. steel	10...30	IP 67	5000	200	9	MFS202


#### Cable 2 m · Output function · DC PNP · Wiring diagram no. 6

	M18 / L = 50	70	stainless steel	10...30	IP 67	5000	200	10	MGS202
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#### M8 connector · Output function · DC PNP · Wiring diagram no. 1 · Connector groups 1, 2, 3, 78, 84, 145, 146

	M8 / L = 60	60	stainless steel (316L)	10...30	IP 67	5000	200	12	ME5010
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#### Cable 2 m · Output function · DC PNP · Wiring diagram no. 4

	28 x 10 x 16	60	PBT	10...30	IP 67	5000	200	13	MS5011
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#### Cable with connector 0.15 m · Output function · DC PNP · Wiring diagram no. 1 · Connector groups 1, 2, 3, 78, 84, 145, 146

	40 x 12 x 26	60	PBT	10...30	IP 67	–	200	14	MN5200
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#### M8 connector · Output function · DC PNP · Wiring diagram no. 9 · Connector groups 1, 2, 3, 78, 84, 145, 146


	28 x 10 x 16	60	PBT	10...30	IP 67	5000	200	15	MS5013
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#### M8 connector · Output function · DC PNP · Wiring diagram no. 1 · Connector groups 1, 2, 3, 78, 84, 145, 146

	28 x 10 x 16	60	PBT	10...30	IP 67	5000	200	15	MS5010
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## Full metal sensors for hygienic and wet areas


Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Drawing no.	Order no.
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M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204


	M12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 68 / IP 69K	5000	100	6	MFT202
	Ø 12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 68 / IP 69K	5000	100	16	MFT204
	M18 / L = 60	70	High-grade st. steel	10...30	IP 65 / IP 68 / IP 69K	5000	100	7	MGT203


## Sensors for hygienic and wet areas

Type	Dimensions [mm]	Sensing range [mm]	Material	U <sub>b</sub> [V]	Protection	f [Hz]	I <sub>load</sub> [mA]	Drawing no.	Order no.
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M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	M12 / L = 60	60	High-grade st. steel	10...30	IP 65 / IP 68 / IP 69K	5000	100	6	MFT202
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M12 connector · Output function  · DC PNP · Wiring diagram no. 1 · Connector groups 148, 150, 153, 154, 184, 188, 190, 193



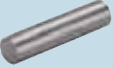






	M18 / L = 60	100	High-grade st. steel	10...30	IP 68 / IP 69K	–	200	7	MGT201
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## Accessories damping magnets

Type	Description	Order no.
	Damping magnet · M 3.2 · Housing materials: Barium ferrite	E12537
	Damping magnet · M 6.1 · Housing materials: Neodymium	E12538
	Damping magnet · M 6.1 · Housing materials: Neodymium	E12539
	Damping magnet · M 7.0 · Housing materials: Neodymium galvanised	E12540




## Position sensors

Type	Description	Order no.
	Damping magnet · M 7.1 · Housing materials: Neodymium / plastics	E12541
	Damping magnet · M 1.0 · Housing materials: Samarium cobalt	E10749
	Damping magnet · M 2.0 · Housing materials: AlNiCo	E10750
	Damping magnet · M 3.0 · Housing materials: Barium ferrite	E10751
	Damping magnet · M 3.1 · Housing materials: Barium ferrite / stainless steel	E12291
	Damping magnet · M 4.0 · Housing materials: Barium ferrite	E10752
	Damping magnet · M 4.1 · Housing materials: Barium ferrite / stainless steel	E11803
	Damping magnet · M 5.0 · Housing materials: Barium ferrite	E10753
	Damping magnet · M 5.1 · Housing materials: Barium ferrite with plastic coating / steel	E10754

## Accessories mounting components

Type	Description	Order no.
	Angle bracket · for type M8 · Housing materials: stainless steel	E10734
	Angle bracket · for type M12 · Housing materials: stainless steel	E10735
	Angle bracket · for type M18 · Housing materials: stainless steel	E10736
	Mounting clamp · Ø 8 mm · Housing materials: aluminium black anodised	E10221

Type	Description	Order no.
	Mounting clamp · Ø 12 mm · with end stop · for type M12 · Housing materials: PC	E11047
	Mounting clamp · Ø 18 mm · with end stop · for type M18 · Housing materials: PC	E11048

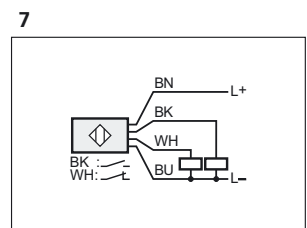
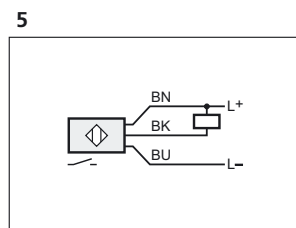
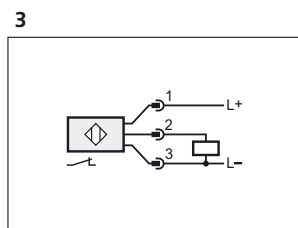
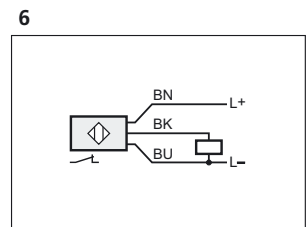
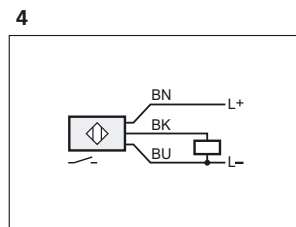
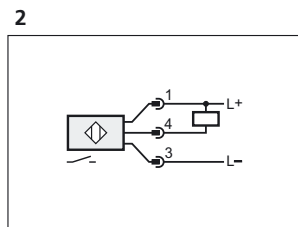
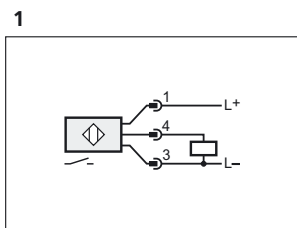
### Accessories mounting sets

Type	Description	Order no.
	Mounting set · Ø 18.5 mm · Clamp mounting · Free-standing M10 · for type OG, IG, KG · Housing materials: clamp: diecast zinc / fixture: steel	E20718
	Mounting set · Ø 18.5 mm · Clamp mounting · Free-standing M10 · for type OG, IG, KG · Housing materials: clamp: diecast zinc / fixture: steel	E20719
	Mounting set · Ø 18.5 mm · Clamp mounting · Free-standing M10 · for type OG, IG, KG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E20869
	Mounting set · Ø 18.5 mm · Clamp mounting · Free-standing M10 · for type OG, IG, KG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: stainless steel	E20870
	Mounting set · Ø 18.5 mm · Clamp mounting · aluminium profile · for type OG, IG, KG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: diecast zinc / Cube: diecast zinc	E20866
	Mounting set · Ø 18.5 mm · Clamp mounting · aluminium profile · for type OG, IG, KG · Housing materials: fixture: stainless steel 316Ti / 1.4571 / clamp: diecast zinc / Cube: diecast zinc	E20867

### Wiring diagrams

#### Core colours

- BK black
- BN brown
- BU blue
- WH white



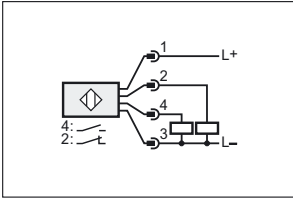




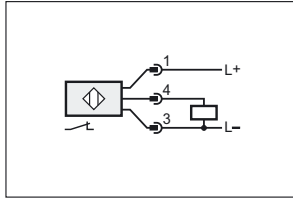
## Position sensors

### Wiring diagrams

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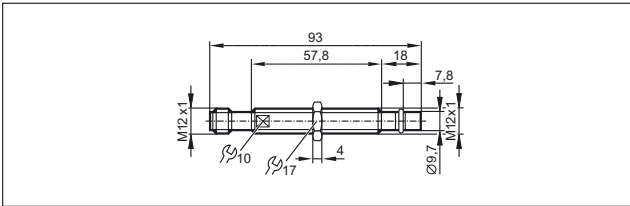


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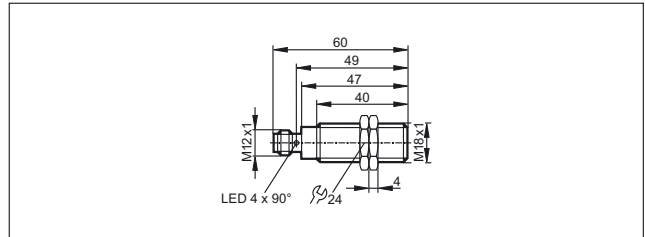


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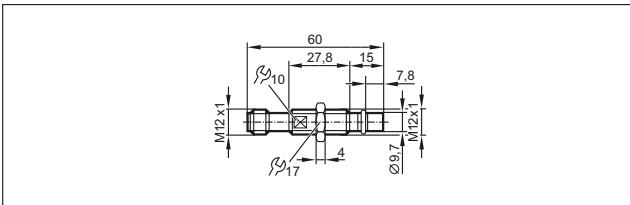
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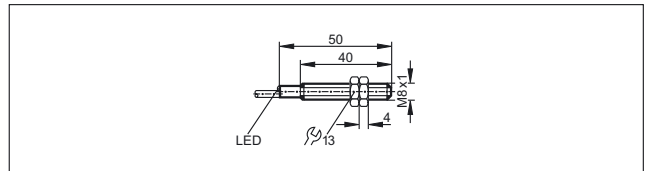
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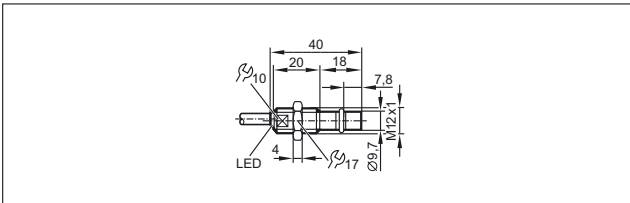
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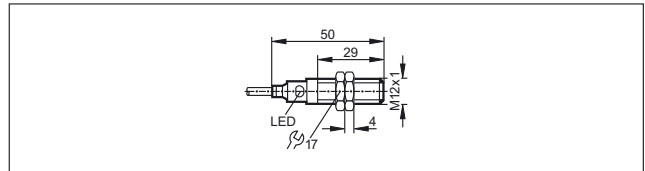
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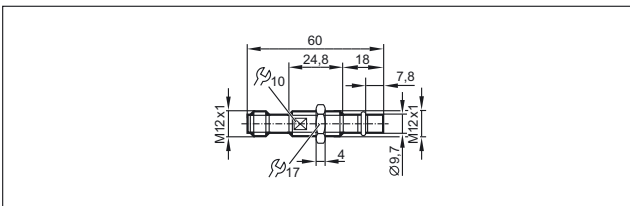
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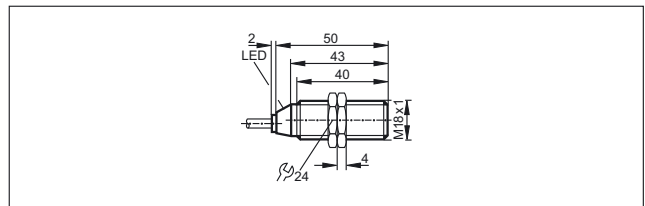
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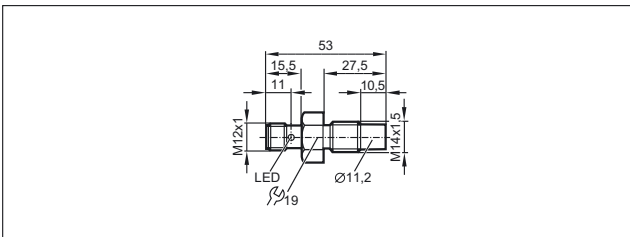
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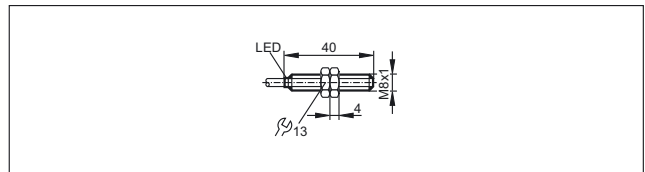
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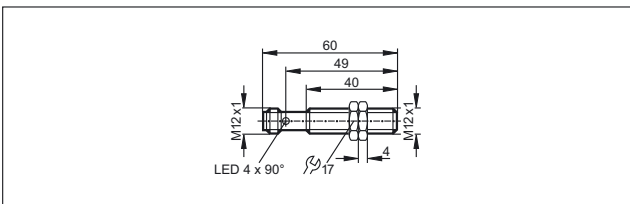
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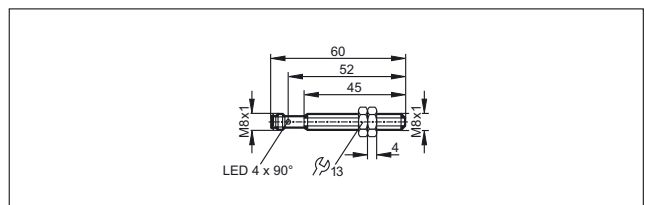
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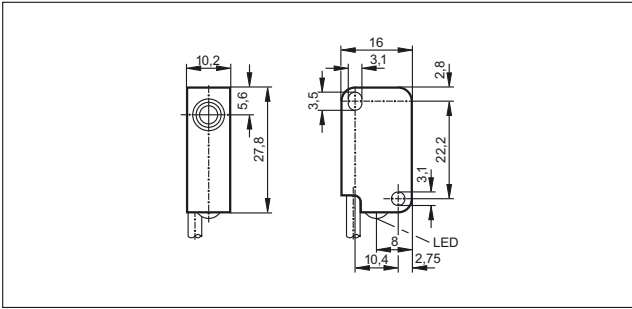
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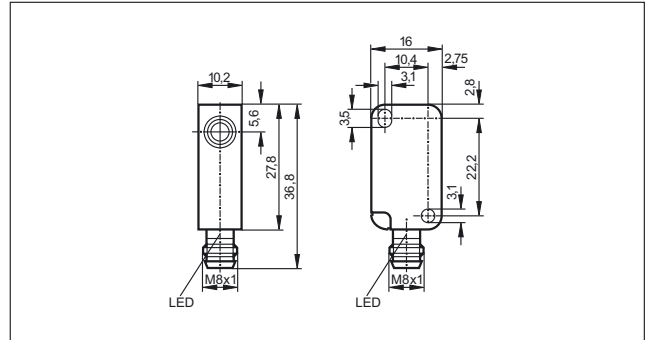
Product selectors and further information can be found at: [www.ifm.com](http://www.ifm.com)

Scale drawings / drawing no. – CAD download: [www.ifm.com](http://www.ifm.com)

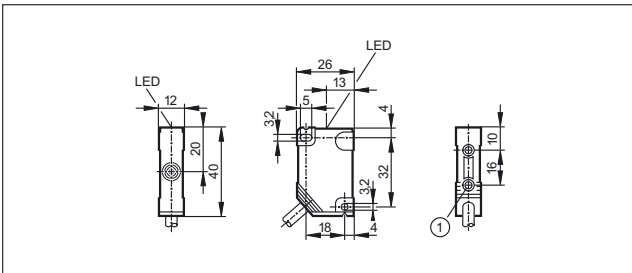
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15

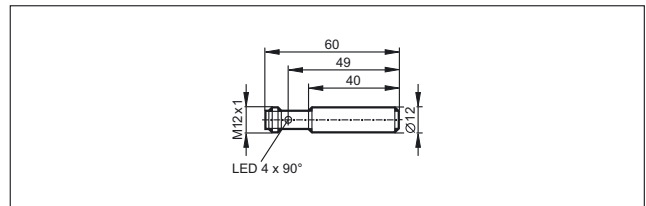


14



1: threaded insert M3, depth 5.8 mm, max. tightening torque 1.2 Nm (screw fixing class 8.8) when brass insert in contact with counterpart.

16





# Accurate detection of the piston position in pneumatic cylinders



## Cylinder sensors



**Self-clamping fixture for easy adjustment and quick mounting**

**Convenient:** Can be easily inserted from above into the slot

**Suitable for almost all C- and T-slots**

**Unit versions available with connection cable and M8 or M12 cable plug**

**Wide selection of adapter accessories**



### Cylinder sensors



















Cylinder sensors are used for position detection of pistons in pneumatic cylinders. They are directly mounted onto the cylinder. The ring magnet attached to the piston is detected through the housing wall of non-magnetisable material (e.g. aluminium, brass or stainless steel). ifm offers a standard solution for different cylinder types and manufacturers. Moreover, a wide range of adapters and fixing accessories ensures fast and reliable installation.

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## Position sensors


### T-slot sensors for industrial applications


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	1	<b>MK5100</b>
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	200	-25...85	1	<b>MK5115</b>
<b>Cable 2 m · Output function  · 3-wire · DC NPN · Wiring diagram no. 2</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	1	<b>MK5114</b>
<b>Cable 2 m · Output function  · 2-wire · DC PNP/NPN · Wiring diagram no. 3</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	4000	IP 65 / IP 67	100	-25...85	1	<b>MK5103</b>
<b>Cable 6 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	200	-25...85	1	<b>MK5117</b>
<b>Cable 10 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	1	<b>MK5124</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	2	<b>MK5101</b>
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	200	-25...85	2	<b>MK5106</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 1, 3, 78, 84, 145</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	2	<b>MK5112</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 2-wire · DC PNP/NPN · Wiring diagram no. 6 · Connector groups 1, 3, 145</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	4000	IP 65 / IP 67	100	-25...85	2	<b>MK5104</b>


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146


	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	3	MK5102
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Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	4	MK5107
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	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	200	-25...85	4	MK5108
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Cable 0.3 m · with M8 connector · Output function  · 2-wire · DC PNP/NPN · Wiring diagram no. 6 · Connector groups 1, 3, 145

	25 x 5 x 6.5	PA (polyamide)	10...30	4000	IP 65 / IP 67	100	-25...85	3	MK5105
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Cable 0.3 m · with M12 connector · Output function  · 2-wire · DC PNP/NPN · Wiring diagram no. 6 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202


	25 x 5 x 6.5	PA (polyamide)	10...30	4000	IP 65 / IP 67	100	-25...85	4	MK5109
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Cable 1 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146

	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	3	MK5122
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M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146


	27.5 x 18 x 15.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	5	MK5900
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M8 connector · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 1, 3, 78, 84, 145

	27.5 x 18 x 15.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	5	MK5902
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## T-slot reed sensors for industrial applications, 2-wire











Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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M8 connector · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 7

	27.5 x 18 x 15.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	100	-25...70	5	MR0901*
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

## Position sensors






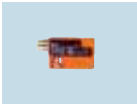
Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 8</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...120	1000	IP 65 / IP 67	100	-25...70	6	<b>MR0100*</b>
<b>Cable 6 m · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 8</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...120	1000	IP 65 / IP 67	100	-25...70	6	<b>MR0117*</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 7 · Connector groups 1, 3, 145</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...60	1000	IP 65 / IP 67	100	-25...70	7	<b>MR0101*</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 7 · Connector groups 1, 3, 145</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...60	1000	IP 65 / IP 67	100	-25...70	8	<b>MR0102*</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 2-wire · AC/DC PNP/NPN · Wiring diagram no. 7 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...60	1000	IP 65 / IP 67	100	-25...70	9	<b>MR0107*</b>

### \* Note on use of miniature fuses for electrical connection

Miniature fuse to IEC60127-2 sheet 1, ≤ 0,175 A (fast acting) Recommendation: check the unit for reliable function after a short circuit.

## T-slot reed sensors for industrial applications, 3-wire




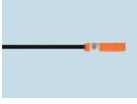




Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 9 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	7	<b>MR0119*</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 9 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	8	<b>MR0120*</b>
<b>Cable 2 m · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 10</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	6	<b>MR0122*</b>

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 6 m · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 10</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	6	<b>MR0123*</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 9 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	30.5 x 5 x 6.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	9	<b>MR0121*</b>
<b>M8 connector · Output function  · 3-wire · AC/DC PNP · Wiring diagram no. 9</b>									
	27.5 x 18 x 15.5	PA (polyamide)	5...50	1000	IP 65 / IP 67	350 / 500	-25...70	5	<b>MR0902*</b>

**\* Note on use of miniature fuses for electrical connection**

Miniature fuse to IEC60127-2 sheet 1, ≤ 0,175 A (fast acting) Recommendation: check the unit for reliable function after a short circuit.

## T-slot sensors for hygienic and wet areas








Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67 / IP 69K	100	-25...85	1	<b>MK5110</b>
<b>Cable 6 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67 / IP 69K	100	-25...85	1	<b>MK5128</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67 / IP 69K	100	-25...85	10	<b>MK5111</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 8, 10, 19, 21, 23, 25, 148, 149, 153, 184, 188, 193, 202</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67 / IP 69K	100	-25...85	11	<b>MK5186</b>






## Position sensors


### T-slot sensors for short-stroke cylinders


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	12	<b>MK5140</b>
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 11</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	12	<b>MK5156</b>
<b>Cable 10 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	12	<b>MK5161</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 1, 3, 78, 84, 145</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	13	<b>MK5137</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	13	<b>MK5138</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 12 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	13	<b>MK5155</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	14	<b>MK5159</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	15	<b>MK5139</b>


## T-slot sensors for short-stroke cylinders for hygienic and wet areas

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1


	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67 / IP 69K	100	-25...85	12	MK5158
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Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67 / IP 69K	100	-25...85	11	MK5157
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## T-slot sensors with ATEX approval 1G/1D


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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Cable 6 m · Output function  · 2-wire · Connection to certified intrinsically safe circuits with the max. values U = 15 V / I = 50 mA / P = 120 mW · Wiring diagram no. 3

	25 x 5 x 6.5	PA (polyamide)	–	2000	IP 65 / IP 67	–	-25...70	12	MK502A
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## T-slot sensors with ATEX approval 3D/3G


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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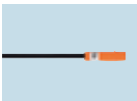
Cable 6 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1


	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-20...60	12	MK503A
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## T-slot sensors with ATEX approval 3D

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1

	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...60	1	MK500A
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Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 196, 198


	25 x 5 x 6.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...60	10	MK501A
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## Position sensors

### T-slot reed sensors with ATEX approval 1G/1D

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Draw- ing no.	Order no.
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Cable 6 m · Output function  · 2-wire · Connection to certified intrinsically safe circuits with the max. values U = 15 V / I = 50 mA / P = 120 mW · Wiring diagram no. 3

	30.5 x 5 x 6.5	PA (polyamide)	-	-	IP 65 / IP 67	-	-25...70	6	MR500A
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### T-slot reed sensors with ATEX approval 3D/3G

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Draw- ing no.	Order no.
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Cable 6 m · Output function  · 2-wire · DC PNP/NPN · Wiring diagram no. 13

	30.5 x 5 x 6.5	PA (polyamide)	5...30	-	IP 65 / IP 67	100	-20...60	6	MR501A*
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#### \* Note on use of miniature fuses for electrical connection


Miniature fuse to IEC60127-2 sheet 1, ≤ 0,175 A (fast acting) Recommendation: check the unit for reliable function after a short circuit.


### T-slot sensors for welding applications, weld-field immune

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Draw- ing no.	Order no.
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Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 137, 138, 139, 140, 141


	25 x 5 x 6.5	PA (polyamide)	10...30	9	IP 65 / IP 67	100	-25...85	4	MK5214
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Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4

	25 x 5 x 6.5	PA (polyamide)	10...30	9	IP 65 / IP 67	100	-25...85	3	MK5215
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### Two T-slot sensors on one connector

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Draw- ing no.	Order no.
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Cable 0.3 m · with M8 connector · Output function  · 4-wire · DC PNP · Wiring diagram no. 14 · Connector groups 4, 5, 80, 86, 147

	25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	16	MK5208
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Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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
Cable 0.3 m · with M12 connector · Output function  · 4-wire · DC PNP · Wiring diagram no. 14 · Connector groups 8, 9, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 151, 153, 154, 184, 188, 190, 193, 202, 203, 204

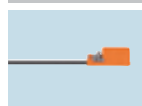


25 x 5 x 6.5	PA (polyamide)	10...30	6000	IP 65 / IP 67	100	-25...85	17	MK5209
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
## Non flush C-slot sensors for industrial applications

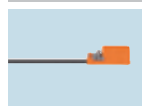
Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
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Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1



17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	18	MK5300
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Cable 2 m · Output function  · 3-wire · DC NPN · Wiring diagram no. 2




17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	18	MK5306
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Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146




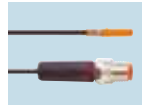
17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	19	MK5301
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Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 1, 3, 78, 84, 145




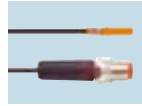
17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	19	MK5307
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Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146




17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	20	MK5302
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Cable 0.5 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146



17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	20	MK5305
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Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204

















17.5 x 2.8 x 7.7	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	21	MK5304
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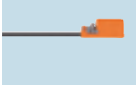




## Position sensors

### Flush C-slot sensors for industrial applications


Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	22	<b>MK5312</b>
<b>Cable 2 m · Output function  · 3-wire · DC NPN · Wiring diagram no. 2</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	22	<b>MK5309</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	23	<b>MK5310</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	24	<b>MK5311</b>
<b>Cable 0.3 m · with M12 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 8, 10, 11, 18, 19, 21, 23, 25, 148, 149, 150, 153, 154, 184, 188, 190, 193, 202, 203, 204</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	25	<b>MK5314</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC NPN · Wiring diagram no. 5 · Connector groups 1, 3, 78, 84, 145</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	23	<b>MK5308</b>
<b>Cable 0.5 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	10000	IP 65 / IP 67	100	-25...85	26	<b>MK5315</b>

### C-slot sensors for short-stroke cylinders

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	22	<b>MK5325</b>

Type	Dimensions [mm]	Material	U <sub>b</sub> [V]	f [Hz]	Protection	I <sub>load</sub> [mA]	T <sub>a</sub> [°C]	Drawing no.	Order no.
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	26.1 x 2.8 x 5.5	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	23	<b>MK5326</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	25.8 x 2.8 x 5	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	27	<b>MK5328</b>
<b>Cable 2 m · Output function  · 3-wire · DC PNP · Wiring diagram no. 1</b>									
	17.5 x 2.8 x 7.7	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	28	<b>MK5329</b>
<b>Cable 0.3 m · with M8 connector (snap-fit) · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	17.5 x 2.8 x 7.7	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	29	<b>MK5330</b>
<b>Cable 0.3 m · with M8 connector · Output function  · 3-wire · DC PNP · Wiring diagram no. 4 · Connector groups 1, 2, 3, 78, 84, 145, 146</b>									
	17.5 x 2.8 x 7.7	PA (polyamide)	10...30	5000	IP 65 / IP 67	100	-25...85	30	<b>MK5331</b>

### Fixing straps for clean line cylinders


Type	Description	Order no.
	Fixing strap for clean-line cylinders · Piston diameter 8...12 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11816</b>
	Fixing strap for clean-line cylinders · Piston diameter 16...20 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11817</b>
	Fixing strap for clean-line cylinders · Piston diameter 25...32 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11818</b>
	Fixing strap for clean-line cylinders · Piston diameter 40 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11819</b>
	Fixing strap for clean-line cylinders · Piston diameter 50 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11820</b>
	Fixing strap for clean-line cylinders · Piston diameter 63 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	<b>E11821</b>




## Position sensors

Type	Description	Order no.
	Fixing strap for clean-line cylinders · Piston diameter 80 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	E11822
	Fixing strap for clean-line cylinders · Piston diameter 100 mm · for type MKT · Housing materials: adapter: PA / Fixing strap: stainless steel	E11823
	Fixing strap for clean-line cylinders · Piston diameter 10...16 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11975
	Fixing strap for clean-line cylinders · Piston diameter 20...25 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11976
	Fixing strap for clean-line cylinders · Piston diameter 32 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11977
	Fixing strap for clean-line cylinders · Piston diameter 40 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11978
	Fixing strap for clean-line cylinders · Piston diameter 50 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11979
	Fixing strap for clean-line cylinders · Piston diameter 63 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11980
	Fixing strap for clean-line cylinders · Piston diameter 80 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11981
	Fixing strap for clean-line cylinders · Piston diameter 100 mm · for type MKT · Housing materials: adapter: stainless steel / Fixing strap: stainless steel	E11982
	Adapter for clean-line cylinders · for types MKT (T-slot cylinder sensors) · Housing materials: PA	E11846
	Adapter for clean-line cylinders · for types MKT (T-slot cylinder sensors) · Housing materials: stainless steel	E11877

## Clips

Type	Description	Order no.
	Clip · for types MKT (T-slot cylinder sensors) · Piston diameter 12 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E11961
	Clip · for types MKT (T-slot cylinder sensors) · Piston diameter 16 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E11958

Type	Description	Order no.
	Clip · for types MKT (T-slot cylinder sensors) · Piston diameter 20 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E11959
	Clip · for types MKT and MKI (T-slot cylinder sensors) · Piston diameter 25 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E11960
	Clip · for types MKT (T-slot cylinder sensors) · Clamping range 44-45 mm · Piston diameter 40 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E12015
	Clip · for types MKT (T-slot cylinder sensors) · Clamping range 35-36 mm · Piston diameter 32 mm · Housing materials: POM / fixture: aluminium / screw: stainless steel	E12017

### Adapters for tie rod and integrated profile





Type	Description	Order no.
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 5...11 mm · Housing materials: aluminium / screw: stainless steel	E11797
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 9...15 mm · Housing materials: aluminium / screw: stainless steel	E11799
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 14...20 mm · Housing materials: aluminium / screw: stainless steel	E11801
	Adapter for tie rod cylinders (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · Clamping range 3...7 mm · Housing materials: aluminium / screw: stainless steel	E11913
	Adapter for tie rod cylinders (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · Clamping range 5...7 mm · Housing materials: aluminium / screw: stainless steel	E11912
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 5...11 mm · Housing materials: aluminium / screw: stainless steel	E12231
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 9...13.5 mm · Housing materials: aluminium / screw: stainless steel	E12232
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 9...17 mm · Housing materials: aluminium / screw: stainless steel	E12233
	Adapter for tie rod / integrated profile cylinders · for types MKT (T-slot cylinder sensors) · Clamping range 13...15 mm · Housing materials: aluminium / screw: stainless steel	E12234














## Position sensors





### Adapters for trapezoidal slot cylinders

Type	Description	Order no.
	Adapter for trapezoidal slot cylinders · for types MKT (T-slot cylinder sensors) · Housing materials: aluminium alloy / set screw: stainless steel	E11796
	Adapter for trapezoidal slot cylinders · for types MKT (T-slot cylinder sensors) · Housing materials: aluminium alloy / set screw: stainless steel	E11957
	Adapter for trapezoidal slot cylinders · for types MKT (T-slot cylinder sensors) · Housing materials: aluminium alloy / set screw: stainless steel	E11988
	Adapter for Pneumax cylinders 1500 series (or cylinders of the same dimensions) · for types MKT / MRT (T-slot cylinder sensors) · Housing materials: aluminium	E12375

### Various adapters and memorisation blocks

Type	Description	Order no.
	Adapter for Bosch Rexroth cylinders ICL series and Festo cylinders type CDN · for types MKT (T-slot cylinder sensors) · Housing materials: adapter: aluminium anodised / screw: stainless steel	E12164
	Adapter for Bosch-Rexroth cylinders PRA / PRB series (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · Housing materials: aluminium / screw: stainless steel	E11892
	Adapter for Bosch-Rexroth cylinders 523 series (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · L-slot · Housing materials: aluminium / screw: stainless steel	E11894
	Adapter for SMC cylinders ECDQ2 series (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · T-slot rail, flat · Housing materials: aluminium / screw: stainless steel	E11890
	Adapter for SMC cylinders CDQ2 series (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · T-slot rail, high · Housing materials: aluminium / screw: stainless steel	E11891
	Adapter for SMC cylinder CP95 · for types MKT (T-slot cylinder sensors) · Housing materials: stainless steel	E11872
	Adapter for Festo cylinders type DZH (or cylinders of the same dimensions) · for types MKT (T-slot cylinder sensors) · Housing materials: aluminium / screw: stainless steel	E11895
	Adapter for Norgren cylinders of the M series · for types MKT (T-slot cylinder sensors) · Housing materials: stainless steel	E12218
	Protective adapter for T-slot cylinder sensors · for types MKT (T-slot cylinder sensors) · Housing materials: diecast zinc coated / screws: stainless steel	E12259

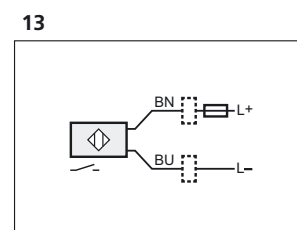
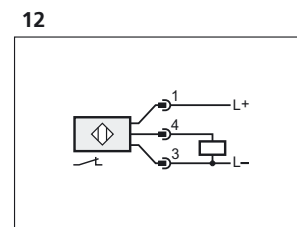
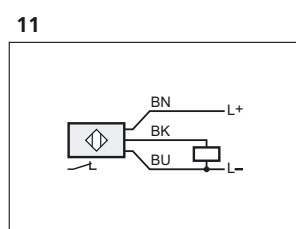
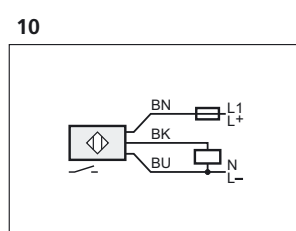
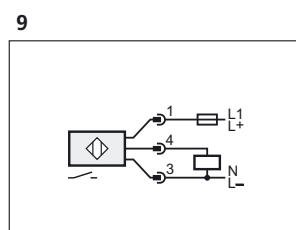
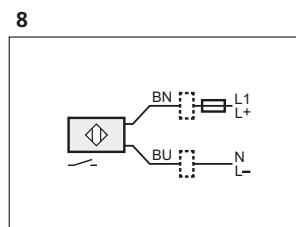
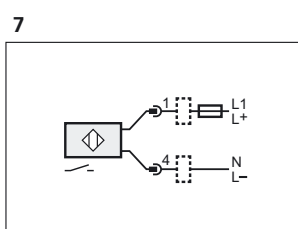
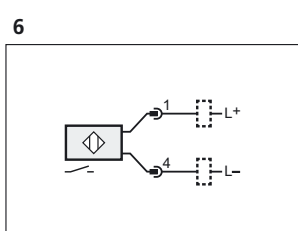
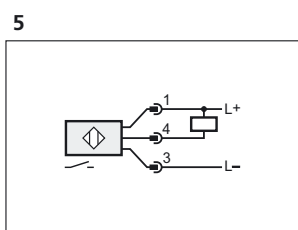
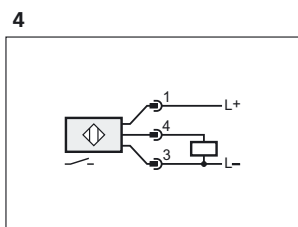
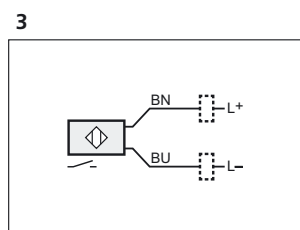
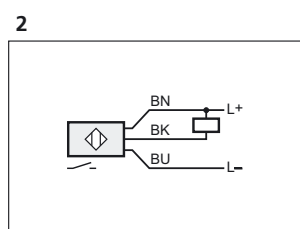
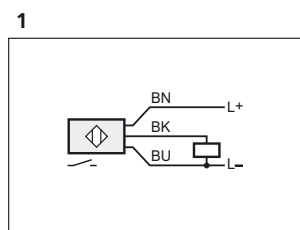
Product selectors and further information can be found at: [www.ifm.com](http://www.ifm.com)

Type	Description	Order no.
	T-slot adapter for C-slot sensor · for types MKC (C-slot cylinder sensor) for installation in T-slot cylinders · (height 5 mm) · Housing materials: diecast zinc / fixing element: stainless steel	E11928
	T-slot adapter for C-slot sensor · for types MKC (C-slot cylinder sensor) for installation in T-slot cylinders · (height 7.7 mm) · Housing materials: diecast zinc / fixing element: stainless steel	E11914
	T-slot cylinder memorisation block · for types MKT (T-slot cylinder sensors) · Housing materials: PA / stainless steel	E11798
	C-slot cylinder memorisation block · for types MKC (C-slot cylinder sensors) · Housing materials: PA / stainless steel	E12004

### Wiring diagrams

#### Core colours

- BK black
- BN brown
- BU blue



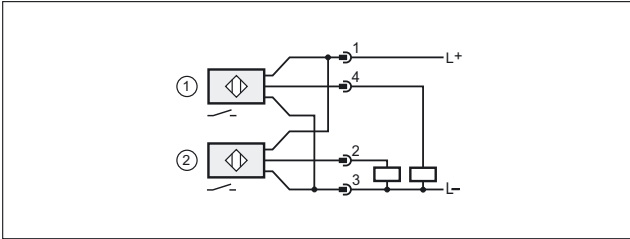
Note: miniature fuse to IEC60127-2 sheet 1,  $\leq 0,175$  A (fast acting)



## Position sensors

### Wiring diagrams

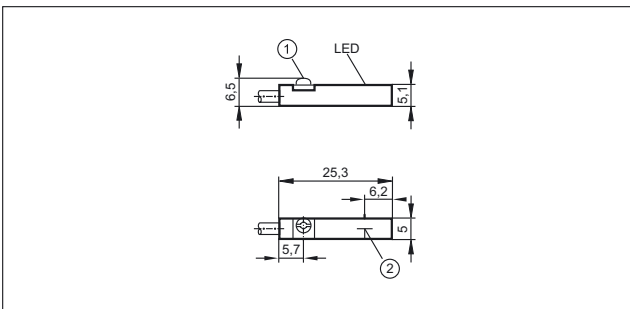
14



1: sensor 1, 2: sensor 2

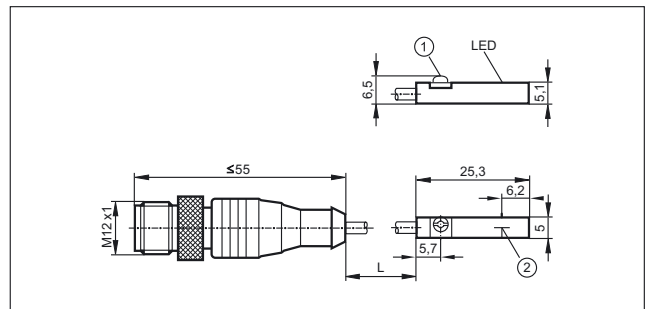
Scale drawings / drawing no. – CAD download: [www.ifm.com](http://www.ifm.com)

1



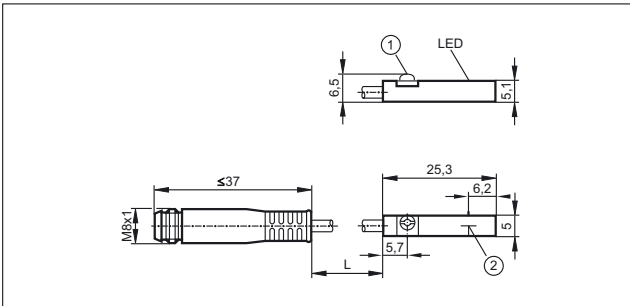
1: Fastening clamp, 2: sensing face

4



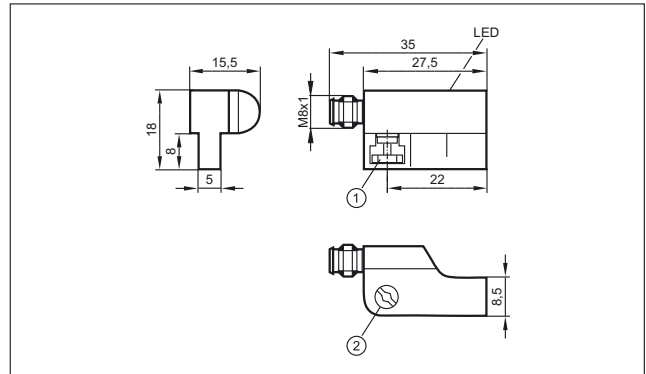
1: Fastening clamp, 2: sensing face

2



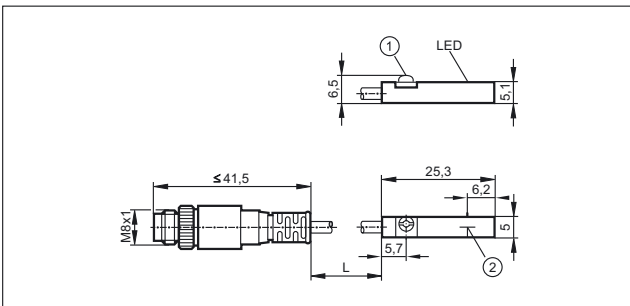
1: Fastening clamp, 2: sensing face

5



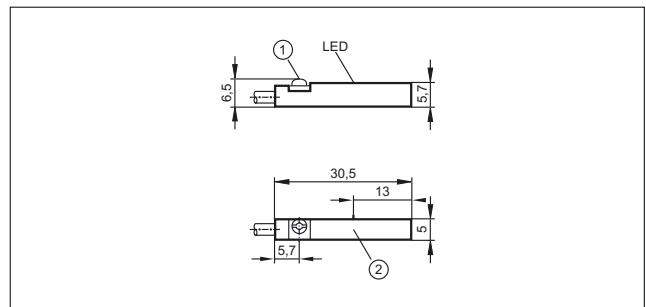
1: fixing element, 2: combined head screw for fixing element

3



1: Fastening clamp, 2: sensing face

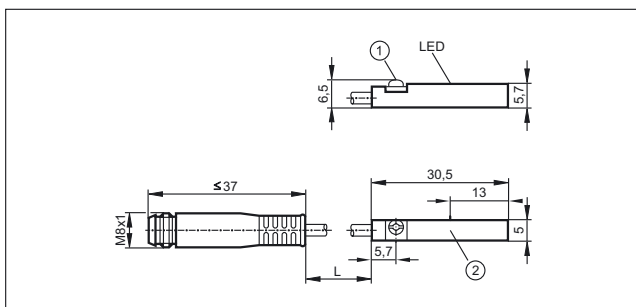
6



1: Clamping screw with combined slot/hexagon socket head AF 1.5, 2: sensing face

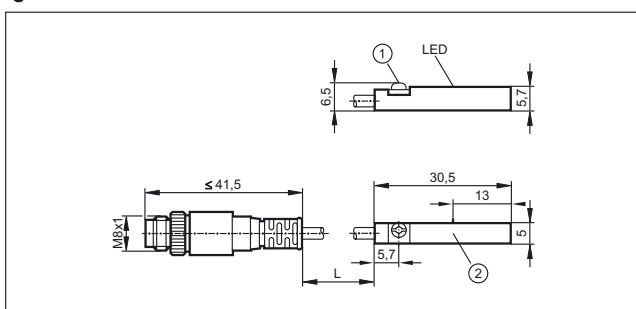
Scale drawings / drawing no. – CAD download: [www.ifm.com](http://www.ifm.com)

7



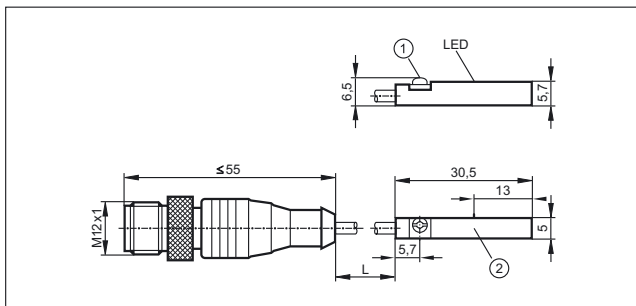
1: Clamping screw with combined slot/hexagon socket head AF 1.5, 2: sensing face

8



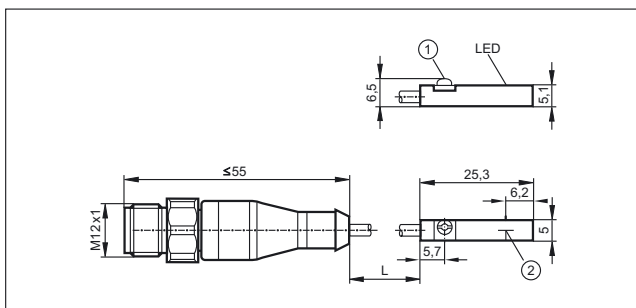
1: Clamping screw with combined slot/hexagon socket head AF 1.5, 2: sensing face

9



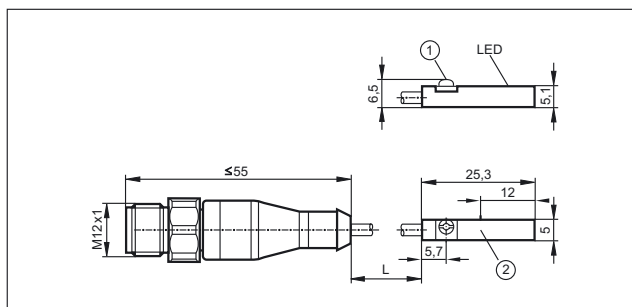
1: Clamping screw with combined slot/hexagon socket head AF 1.5, 2: sensing face

10



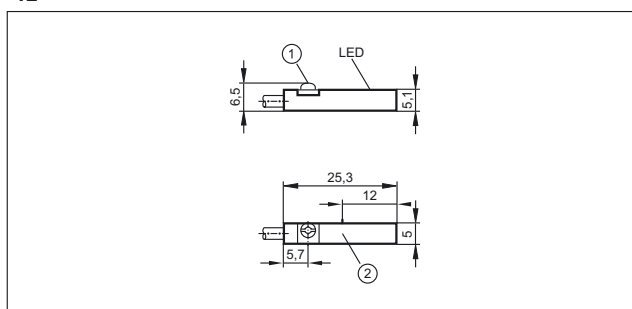
1: Fastening clamp, 2: sensing face

11



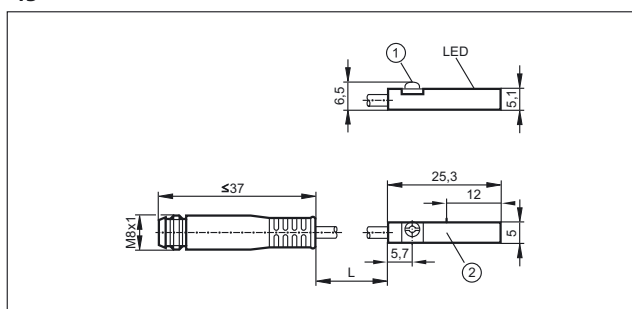
1: Fastening clamp, 2: sensing face

12



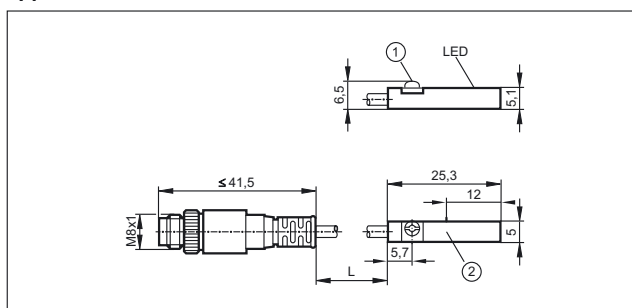
1: Fastening clamp, 2: sensing face

13



1: Fastening clamp, 2: sensing face

14



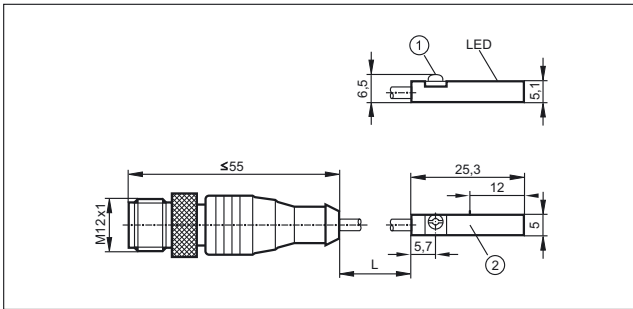
1: Fastening clamp, 2: sensing face



**Position sensors**

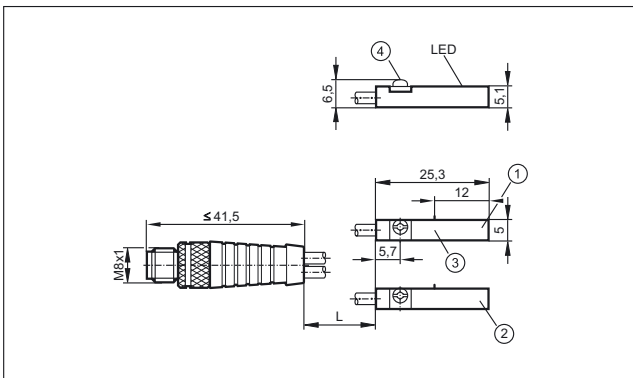
Scale drawings / drawing no. – CAD download: [www.ifm.com](http://www.ifm.com)

**15**



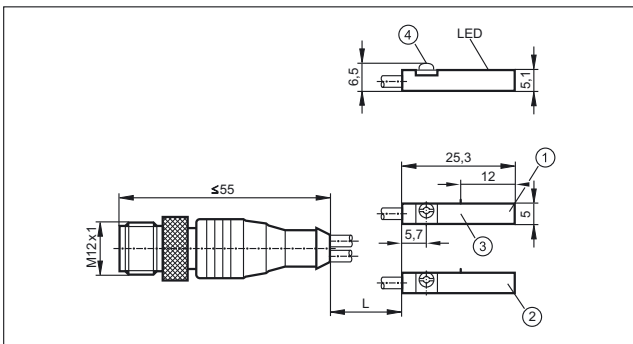
1: Fastening clamp, 2: sensing face

**16**



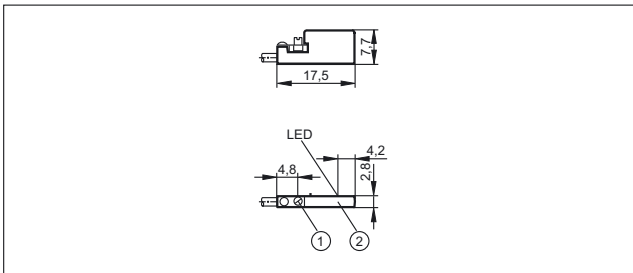
1: sensor 1, 2: sensor 2, 3: sensing face, 4: Fastening clamp

**17**



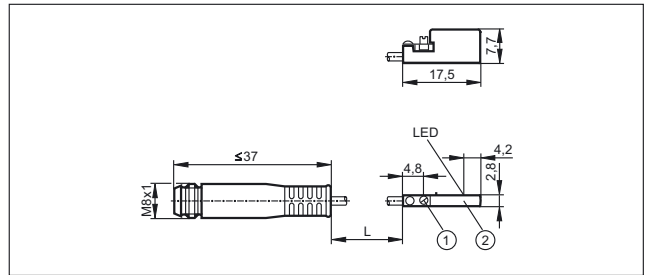
1: sensor 1, 2: sensor 2, 3: sensing face, 4: Fastening clamp

**18**



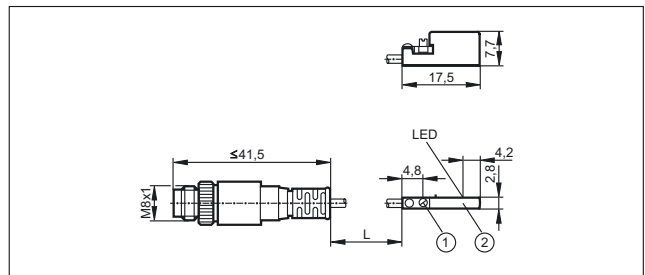
1: Fastening clamp, 2: sensing face

**19**



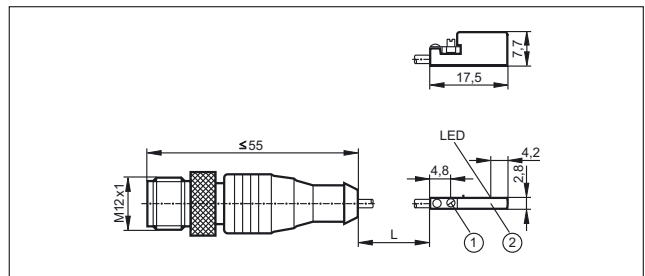
1: Fastening clamp, 2: sensing face

**20**



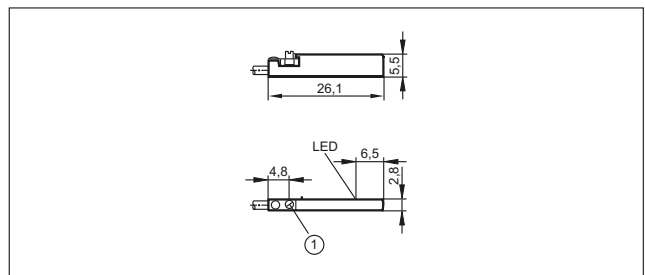
1: Fastening clamp, 2: sensing face

**21**



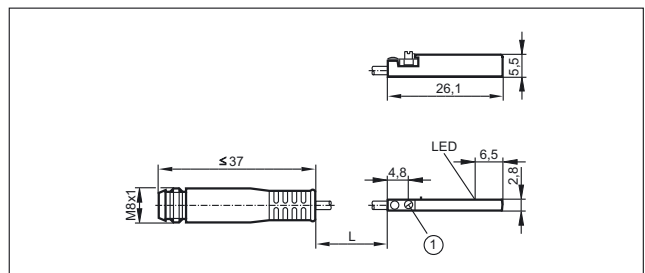
1: Fastening clamp, 2: sensing face

**22**



1: Fastening clamp

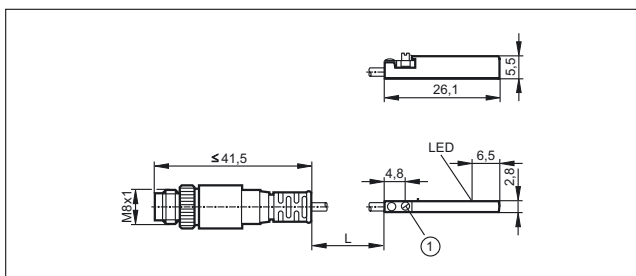
**23**



1: Fastening clamp

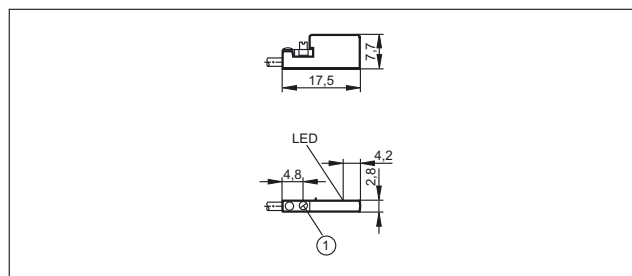
Scale drawings / drawing no. – CAD download: [www.ifm.com](http://www.ifm.com)

24



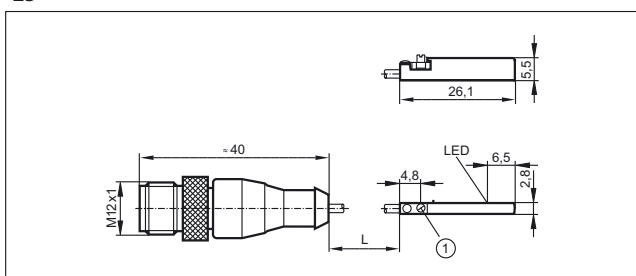
1: Fastening clamp

28



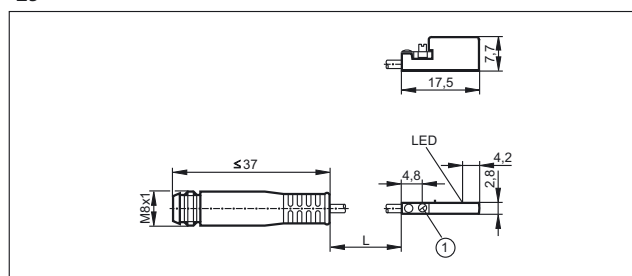
1: Fastening clamp

25



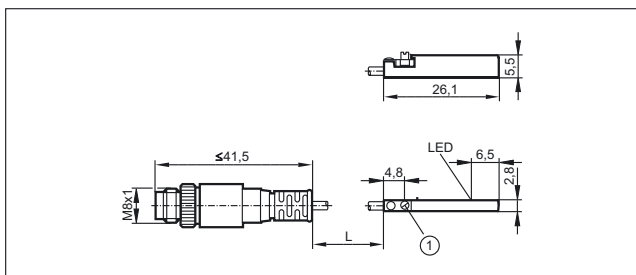
1: Fastening clamp

29



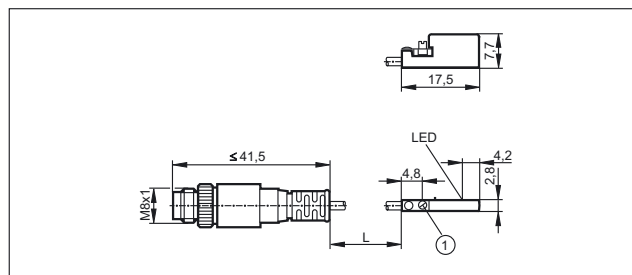
1: Fastening clamp

26



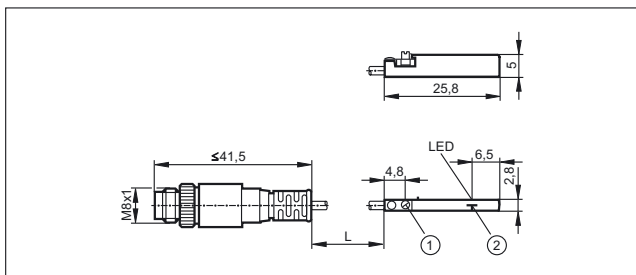
1: Fastening clamp

30



1: Fastening clamp

27



1: Fastening clamp, 2: sensing face