

Inductive proximity sensors

IM 30 series, sensing range 10 / 15 mm

DC 3-wire, metal housing

Dimensions in mm



Standard series

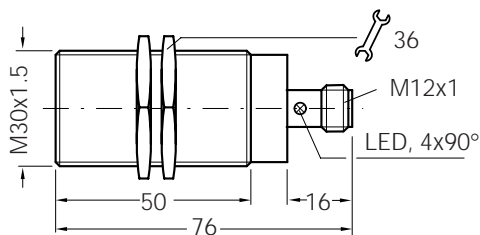
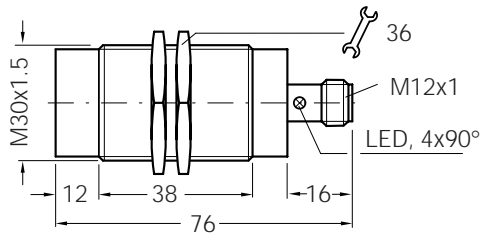
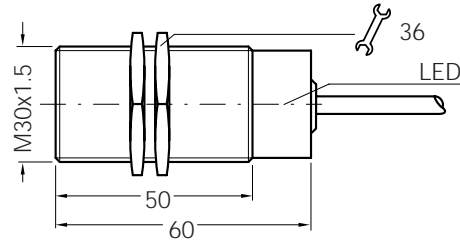
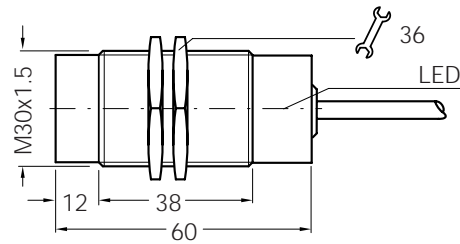
Features



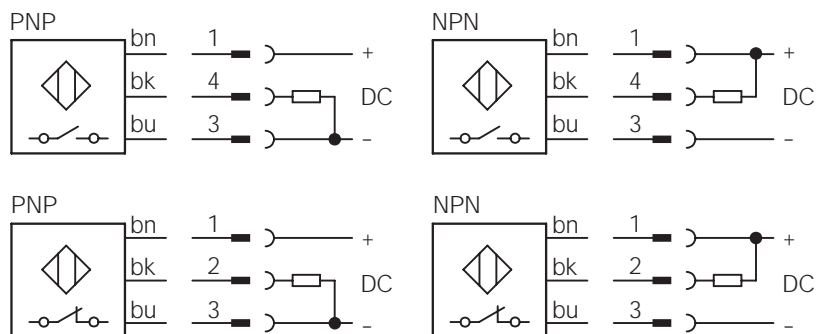
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open/ normally closed function
- ▶ High switching frequency
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plating with fine thread M30 x 1.5 mm
- ▶ Cable or connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

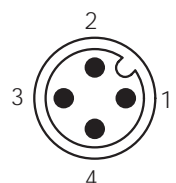
Round connectors
Mounting bracket



Connection diagram























Wire colour	Contact	Assignment
bn	brown	1 + V DC
bk	black	2/4 NC/NO
bu	blue	3 - V DC



Electrical and mechanical data

Operating voltage U_b	10 ... 30 V DC	Short-circuit protection (pulsed)	yes
Ripple U_{pp}	$\leq 10\%$	Reverse polarity protection	yes
Voltage drop U_d (at I_a max.)	≤ 1 V	Power-up pulse suppression	yes
Power consumption (without load)	≤ 20 mA	Enclosure rating to EN 60529	IP 67
Continuous current I_a	≤ 400 mA	Shock and vibration stress	30 g, 11 ms 10 to 55 Hz, 1 mm
Time delay before availability t_v	≤ 100 ms	Ambient temperature T_a	- 25 ... + 70 °C
Hysteresis H	2% - 10% of s_r	Housing material	Brass, nickel-plated, plastic
Repeatability R (U_b and T_a constant)	$\leq 2\%$ of s_r	Tightening torque	60 Nm
Temperature drift	$\pm 10\%$ of s_r	Connection cable	PVC, 3 x 0.5 mm ²
EMC	to EN 60 947-5-2		

Selection table

Sensing range s_n mm	Installation in metal	Switching output	Output function	Switching frequency f in Hz	Connection	Type	Order number
10		PNP		200	Cable 2 m	IM30-10BPS-ZW1	6020274
10		NPN		200	Cable 2 m	IM30-10BNS-ZW1	6020275
10		PNP		200	Connector M12 x 1 mm	IM30-10BPS-ZC1	6020278
10		NPN		200	Connector M12 x 1 mm	IM30-10BNS-ZC1	6020279
10		PNP		200	Connector M12 x 1 mm	IM30-10BPO-ZC1	6020280
15		PNP		200	Cable 2 m	IM30-15NPS-ZW1	6020282
15		NPN		200	Cable 2 m	IM30-15NNS-ZW1	6020283
15		PNP		200	Cable 2 m	IM30-15NPO-ZW1	6020284
15		PNP		200	Connector M12 x 1 mm	IM30-15NPS-ZC1	6020286
15		NPN		200	Connector M12 x 1 mm	IM30-15NNS-ZC1	6020287

Inductive proximity sensors

IM 30 series, sensing range 10 / 15 mm

DC 3-wire, metal housing

Dimensions in mm



Short version

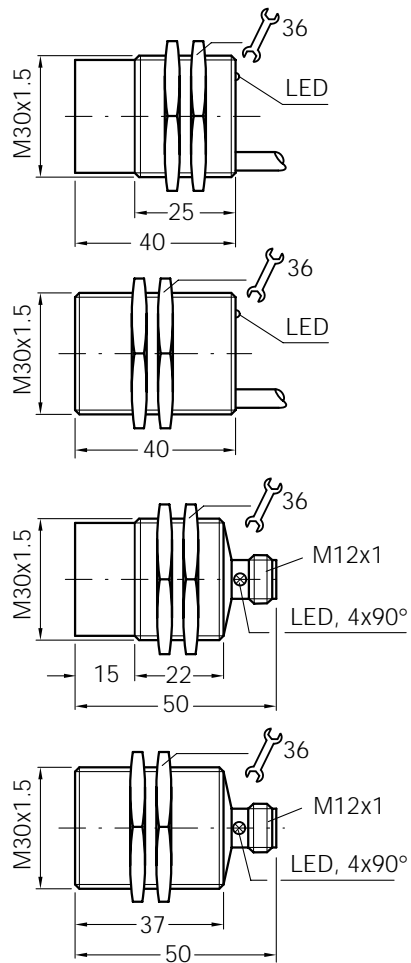
Features



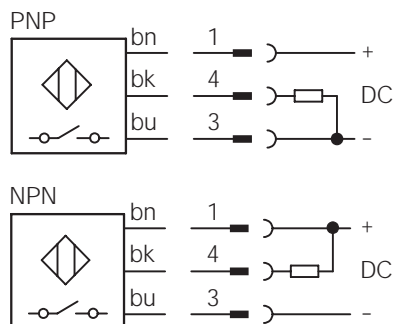
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open function
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plating with fine thread M30 x 1.5 mm
- ▶ Cable or connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

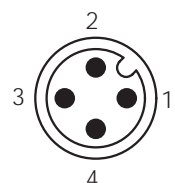
Round connectors
Mounting bracket



Connection diagram



















Wire colour	Wire colour	Contact	Assignment
bn	brown	1	+ V DC
bk	black	4	NO
bu	blue	3	- V DC



Electrical and mechanical data

Operating voltage U_b	10 ... 30 V DC	Wire-break protection	yes
Ripple U_{pp}	$\leq 10\%$ of U_b	Short-circuit protection (pulsed)	yes
Voltage drop U_d (at I_a max.)	≤ 1.5 V	Reverse polarity protection	yes
Power consumption (without load)	≤ 10 mA	Power-up pulse suppression	yes
Continuous current I_a	≤ 300 mA	Enclosure rating to EN 60529	IP 67
Time delay before availability t_v	≤ 15 ms	Shock and vibration stress	30 g, 11 ms 10 to 55 Hz, 1 mm
Hysteresis H	1% - 10% of s_r	Ambient temperature T_a	- 25 ... + 75 °C
Repeatability R (U_b and T_a constant)	$\leq 3\%$ of s_r	Housing material	Brass, nickel-plated, plastic
Temperature drift	$\pm 10\%$ of s_r	Tightening torque	50 Nm
EMC	to EN 60 947-5-2	Connection cable	PUR-PVC, 3 x 0.5 mm ²

Selection table

Sensing range s_n mm	Installation in metal	Switching output	Output function	Switching frequency f in Hz	Connection	Type	Order number
10		PNP		500	Cable 2 m	IM30-10BPS-ZUK	1017434
10		NPN		500	Cable 2 m	IM30-10BNS-ZUK	1017446
10		PNP		500	Connector M12 x 1 mm	IM30-10BPS-ZCK	1017436
10		NPN		500	Connector M12 x 1 mm	IM30-10BNS-ZCK	1017448
15		PNP		500	Cable 2 m	IM30-15NPS-ZUK	1017435
15		NPN		500	Cable 2 m	IM30-15NNS-ZUK	1017447
15		PNP		500	Connector M12 x 1 mm	IM30-15NPS-ZCK	1017437
15		NPN		500	Connector M12 x 1 mm	IM30-15NNS-ZCK	1017449

Inductive proximity sensors

IM 30 series, sensing range 15 / 20 mm

DC 3-wire, metal housing

Dimensions in mm



Advanced series

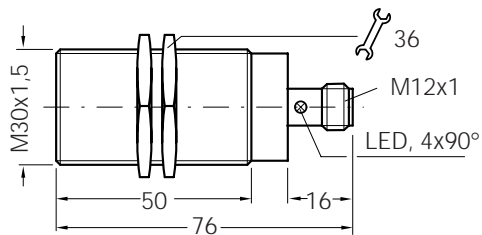
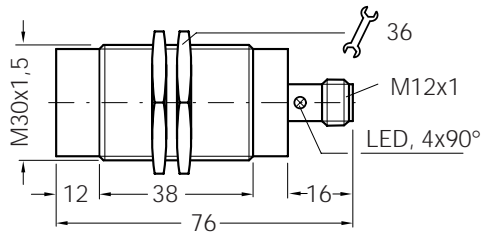
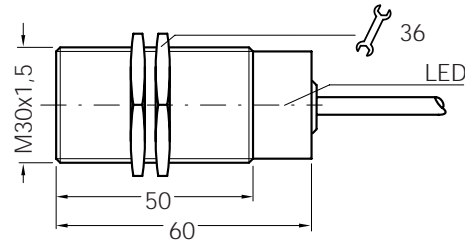
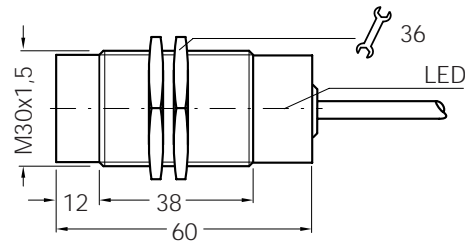
Features



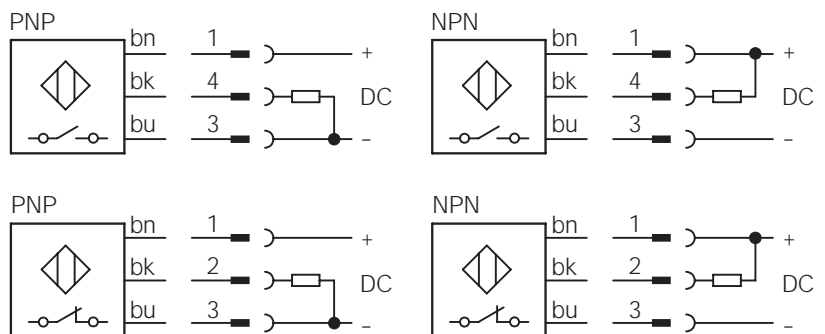
- ▶ Enhanced sensing range
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open/ normally closed function
- ▶ High switching frequency
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- ▶ Cable or connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

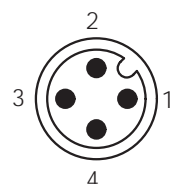
Round connectors
Mounting bracket



Connection diagram



Wire colour	Colour	Contact	Assignment
bn	brown	1	+ V DC
bk	black	2/4	NC/NO
bu	blue	3	- V DC



Electrical and mechanical data

Operating voltage U_b	10 ... 30 V DC	Short-circuit protection (pulsed)	yes
Ripple U_{pp}	$\leq 10\%$ of U_b	Reverse polarity protection	yes
Voltage drop U_d (at I_a max.)	≤ 1 V	Power-up pulse suppression	yes
Power consumption (without load)	≤ 10 mA	Enclosure rating to EN 60529	IP 67
Continuous current I_a	≤ 400 mA	Shock and vibration stress	30 g, 11 ms 10 to 55 Hz, 1 mm
Time delay before availability t_v	≤ 100 ms	Ambient temperature T_a	- 25 ... + 70 °C
Hysteresis H	2% - 15% of s_r	Housing material	Brass, nickel-plated, plastic
Repeatability R (U_b and T_a constant)	$\leq 5\%$ of s_r	Tightening torque	60 Nm
Temperature drift	$\pm 10\%$ of s_r	Connection cable	PVC, 3 x 0.5 mm ²
EMC	to EN 60 947-5-2		

Selection table

Sensing range s_n mm	Installation in metal	Switching output	Output function	Switching frequency f in Hz	Connection type	Type	Order number
15		PNP		150	Cable 2 m	IM30-15BPS-ZW1	7900141
15		NPN		150	Cable 2 m	IM30-15BNS-ZW1	7900142
15		PNP		150	Cable 2 m	IM30-15BPO-ZW1	7900143
15		PNP		150	Connector M12 x 1 mm	IM30-15BPS-ZC1	7900145
15		NPN		150	Connector M12 x 1 mm	IM30-15BNS-ZC1	7900146
15		PNP		150	Connector M12 x 1 mm	IM30-15BPO-ZC1	7900147
20		PNP		150	Cable 2 m	IM30-20NPS-ZW1	7900153
20		PNP		150	Cable 2 m	IM30-20NPO-ZW1	7900155
20		PNP		150	Connector M12 x 1 mm	IM30-20NPS-ZC1	7900157
20		NPN		150	Connector M12 x 1 mm	IM30-20NNS-ZC1	7900158

* see installation notes