

Inductive proximity sensors

IM 18 series, sensing range 5 / 8 mm

DC 3-wire, metal housing

Dimensions in mm



Standard series

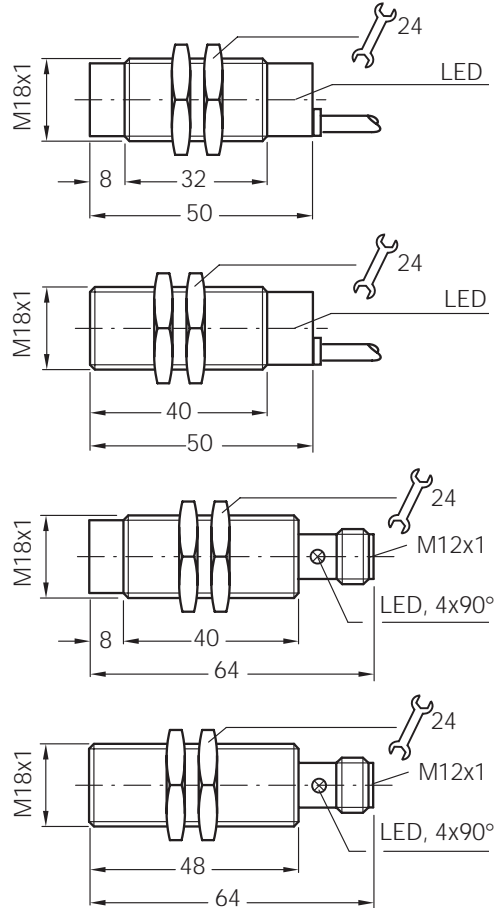
Features



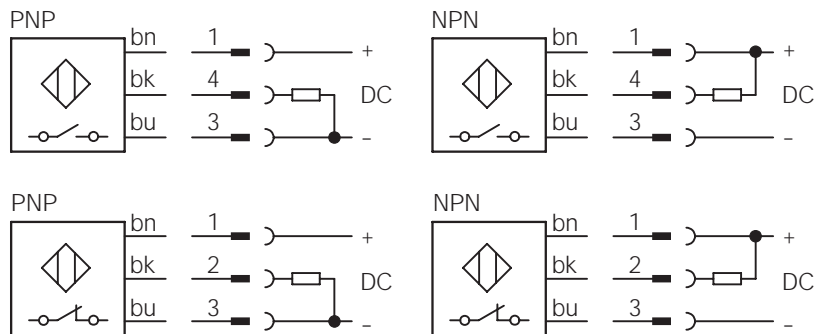
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open/ normally closed function
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- ▶ Cable or connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

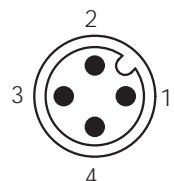
Round connectors
Mounting bracket



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 40050	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	30 Nm
Temperature drift	$\pm 10\%$ of s_r	Connection cable	PVC, 3 x 0.34 mm ²
EMC	to EN 60 947-5-2		

Selection table

Sensing range s_n mm	Installation in metal	Switching output	Switching function	Switching frequency f in Hz	Connection	Type	Order number
5		PNP		600	Cable 2 m	IM18-05BPS-ZW1	6011987
5		NPN		600	Cable 2 m	IM18-05BNS-ZW1	6011988
5		PNP		600	Cable 2 m	IM18-05BPO-ZW1	6011989
5		PNP		600	Connector M12 x 1 mm	IM18-05BPS-ZC1	6011991
5		NPN		600	Connector M12 x 1 mm	IM18-05BNS-ZC1	6011992
5		PNP		600	Connector M12 x 1 mm	IM18-05BPO-ZC1	6011993
8		PNP		600	Cable 2 m	IM18-08NPS-ZW1	6011995
8		NPN		600	Cable 2 m	IM18-08NNS-ZW1	6011996
8		NPN		600	Cable 2 m	IM18-08NNO-ZW1	6011998
8		PNP		600	Connector M12 x 1 mm	IM18-08NPS-ZC1	6011999
8		NPN		600	Connector M12 x 1 mm	IM18-08NNS-ZC1	6012000
8		PNP		600	Connector M12 x 1 mm	IM18-08NPO-ZC1	6012001

Inductive proximity sensors

IM 18 series, sensing range 5 / 8 mm

DC 3-wire, metal housing

Dimensions in mm



Short version

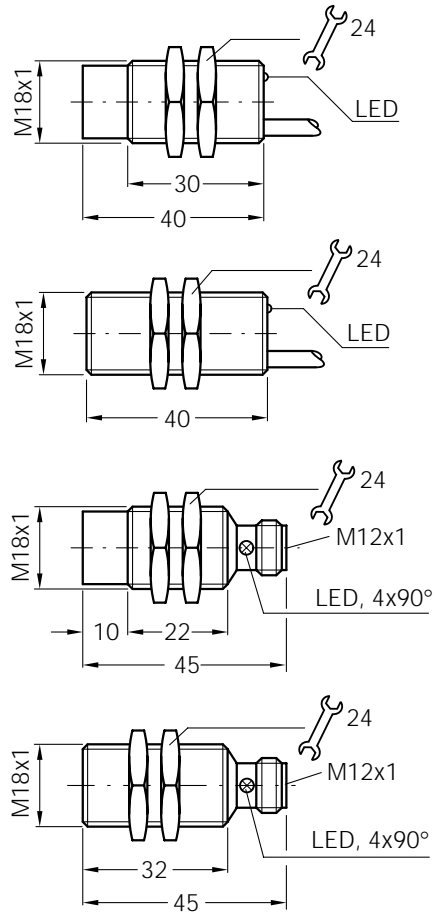
Features



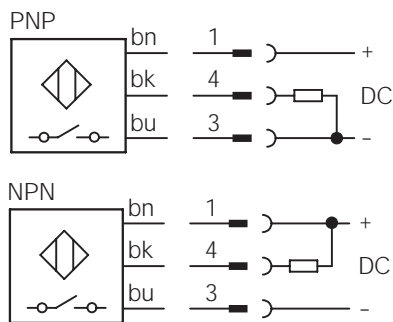
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open function
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- ▶ Cable and connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

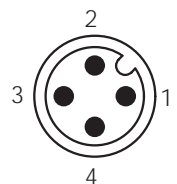
Round connectors
Mounting bracket



Connection diagram



















Wire colour	Colour	Contact	Assignment
bn	brown	1	+ V DC
bk	black	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	≤ 10 ms	Shock and vibration stress	30 g, 11 ms 10 to 55 Hz, 1 mm
Hysteresis H	2% - 10% of s_r	Ambient temperature T_a	- 25 ... + 75 °C
Repeatability R (U_b and T_a constant)	$\leq 2\%$ of s_r	Housing material	Brass, nickel-plated, plastic
Temperature drift	$\pm 10\%$ of s_r	Tightening torque	25 Nm
EMC	to EN 60 947-5-2	Connection cable	PUR-PVC, 3 x 0.25 mm ²

Selection table

Sensing range s_n mm	Installation in metal	Switching output	Switching function	Switching frequency f in Hz	Connection	Type	Order number
5		PNP		1000	Cable 2 m	IM18-05BPS-ZUK	1017430
5		NPN		1000	Cable 2 m	IM18-05BNS-ZUK	1017442
5		PNP		1000	Connector M12 x 1 mm	IM18-05BPS-ZCK	1017432
5		NPN		1000	Connector M12 x 1 mm	IM18-05BNS-ZCK	1017444
8		PNP		1000	Cable 2 m	IM18-08NPS-ZUK	1017431
8		NPN		1000	Cable 2 m	IM18-08NNS-ZUK	1017443
8		PNP		1000	Connector M12 x 1 mm	IM18-08NPS-ZCK	1017433
8		NPN		1000	Connector M12 x 1 mm	IM18-08NNS-ZCK	1017445



Inductive proximity sensors

IM 18 series, sensing range 8 / 12 mm

DC 3-wire, metal housing

Dimensions in mm

Advanced series

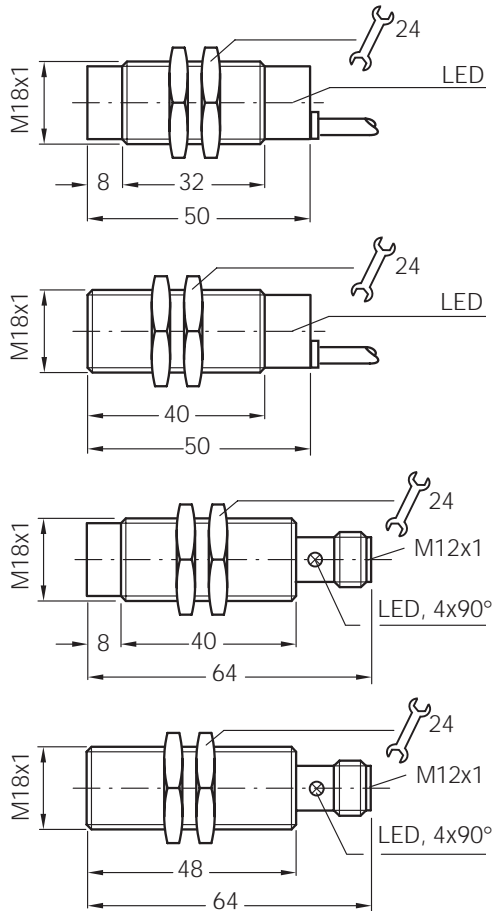
Features



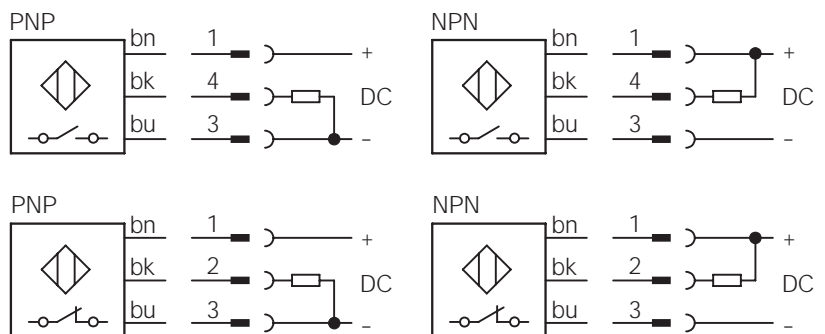
- ▶ Enhanced sensing range
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Normally open/ normally closed function
- ▶ High switching frequency
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- ▶ Cable and connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator

Accessories

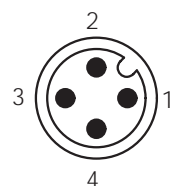
Round connectors
Mounting bracket



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}	$\leq 10\%$ 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	30 Nm
Temperature drift	$\pm 10\%$ of s_r	Connection cable	PVC, 3 x 0.34 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
8		PNP		300	Cable 2 m	IM18-08BPS-ZW1	7900081
8		NPN		300	Cable 2 m	IM18-08BNS-ZW1	7900082
8		PNP		300	Connector M12 x 1 mm	IM18-08BPS-ZC1	7900085
8		NPN		300	Connector M12 x 1 mm	IM18-08BNS-ZC1	7900086
8		PNP		300	Connector M12 x 1 mm	IM18-08BPO-ZC1	7900087
12		PNP		300	Cable 2 m	IM18-12NPS-ZW1	7900093
12		NPN		300	Cable 2 m	IM18-12NNS-ZW1	7900094
12		PNP		300	Connector M12 x 1 mm	IM18-12NPS-ZC1	7900097
12		NPN		300	Connector M12 x 1 mm	IM18-12NNS-ZC1	7900098
12		PNP		300	Connector M12 x 1 mm	IM18-12NPO-ZC1	7900099

* see installation notes

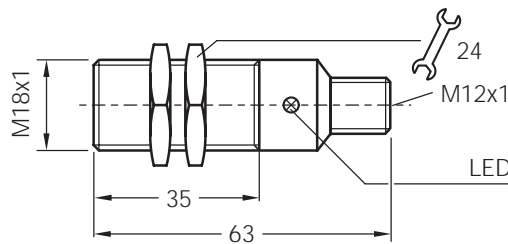
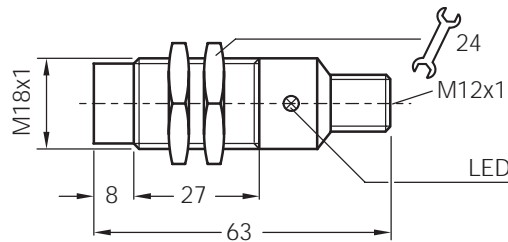


Inductive proximity sensors

IM 18 series, sensing range 5 / 8 mm

DC 4-wire, metal housing

Dimensions in mm



For harsh environment

Features

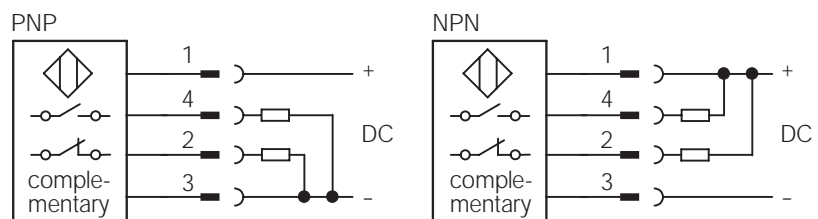


- ▶ For harsh environment, resistant to most cutting oils
- ▶ Enclosure rating IP 68
- ▶ Can be installed flush or non-flush in metal
- ▶ PNP or NPN output
- ▶ Complementary output function
- ▶ Short-circuit protection (pulsed)
- ▶ Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- ▶ Internal enclosure housing in technopolymer
- ▶ Connector
- ▶ LED status indicator (NO function)

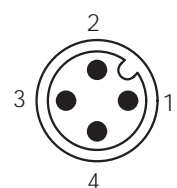
Accessories

- Round connectors
- Mounting bracket

Connection diagram











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



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.)	≤ 0.8 V	Power-up pulse suppression	yes
Power consumption (without load)	≤ 20 mA	Enclosure rating	IP 68
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)	$\leq 5\%$ of s_r	Tightening torque	40 Nm
Temperature drift EMC	$\pm 10\%$ of s_r 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
5		PNP	 complementary	1000	Connector M12 x 1 mm	IM18-05BPP-ZC1	7902931
5		NPN	 complementary	1000	Connector M12 x 1 mm	IM18-05BNP-ZC1	7902932
8		PNP	 complementary	1000	Connector M12 x 1 mm	IM18-08NPP-ZC1	7902933
8		NPN	 complementary	1000	Connector M12 x 1 mm	IM18-08NNP-ZC1	7902934

Inductive proximity sensors

IM 18 series, sensing range 5 / 8 mm

DC 4-wire, metal housing

Dimensions in mm



Multitalents

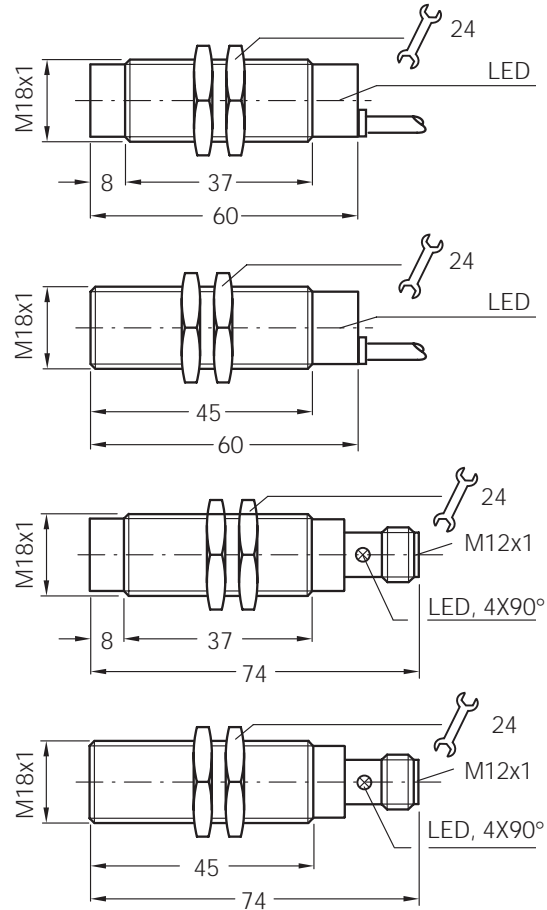
Features



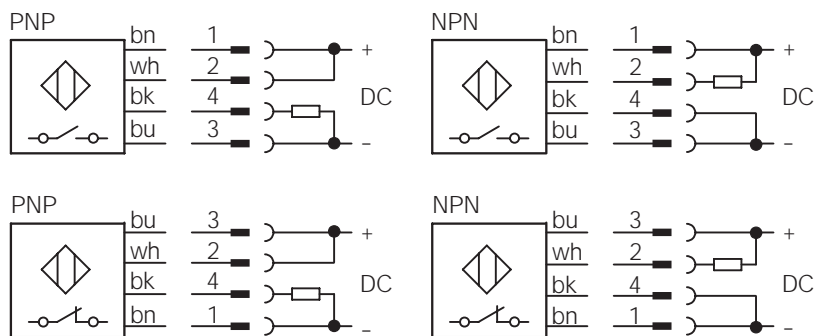
- ▶ Free configurable output functions in one sensor
PNP / NO, PNP / NC
NPN / NO, NPN / NC
- ▶ Can be installed flush or non-flush in metal
- ▶ Short-circuit protection
- ▶ Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- ▶ Cable or connector
- ▶ Enclosure rating IP 67
- ▶ LED status indicator (NO function)

Accessories

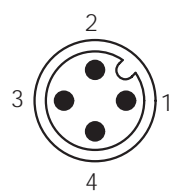
Round connectors
Mounting bracket



Connection diagram











Wire colour		Contact	configurable output function			
			PNP		NPN	
			+V DC	-V DC	+V DC	-V DC
bn	brown	1	+V DC	-V DC	+V DC	-V DC
wh	white	2	+V DC	+V DC	NO	NC
bu	blue	3	-V DC	+V DC	-V DC	+V DC
bk	black	4	NO	NC	-V DC	-V DC



Electrical and mechanical data

Operating voltage U_b	10 ... 30 V DC	Short-circuit protection	yes
Ripple U_{pp}	$\leq 10\%$	Reverse polarity protection	yes
Voltage drop U_d (at I_a max.)	≤ 1.2 V	Power-up pulse suppression	yes
Power consumption (without load)	≤ 30 mA	Enclosure rating to EN 60529	IP 67
Continuous current I_a	≤ 100 mA	Shock and vibration stress	30 g, 11 ms 10 to 55 Hz, 1 mm
Time delay before availability t_v	≤ 200 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)	$\leq 5\%$ of s_r	Tightening torque	40 Nm
Temperature drift	$\pm 10\%$ of s_r	Connection cable	PVC, 4 x 0.34 mm ²
EMC	to prEN 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
5		PNP/NPN config.		300	Cable 2 m	IM18-05BCP-ZW1	7902935
5		PNP/NPN config.		300	Connector M12 x 1 mm	IM18-05BCP-ZC1	7902936
8		PNP/NPN config.		300	Cable 2 m	IM18-08NCP-ZW1	7902937
8		PNP/NPN config.		300	Connector M12 x 1 mm	IM18-08NCP-ZC1	7902938

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[25.332.0653.1](#) [25.352.0653.0](#) [25.352.0753.0](#) [25.523.3253.0](#) [922FS1.5C-A4P-Z774](#) [SC606ABV0S30](#) [SM552A100](#) [SM952A126100LE](#)
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