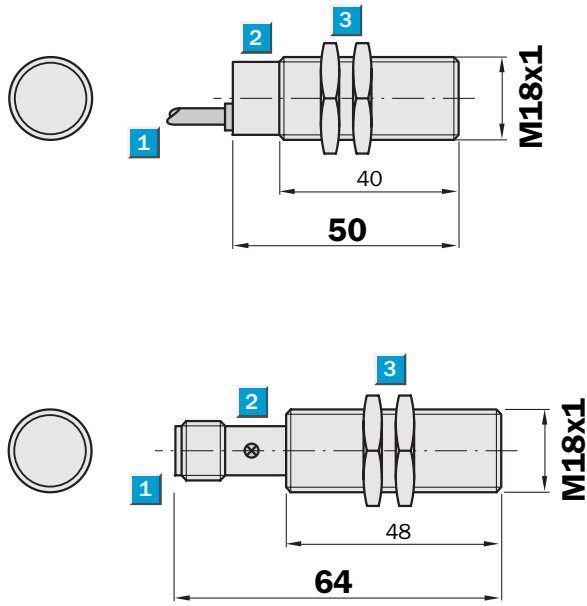


Sensing range
5 mm

Inductive sensor

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread
M18 x 1 mm
- Enclosure rating IP 67
- High switching frequency

Dimensional drawing

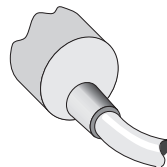


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

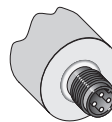
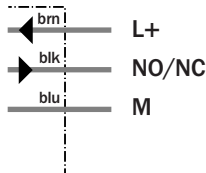


Connection type

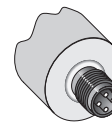
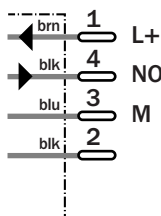
IM18-05BNS-ZW1	IM18-05BNS-ZC1	IM18-05BPO-ZC1
IM18-05BPO-ZW1	IM18-05BPS-ZC1	
IM18-05BPS-ZW1		



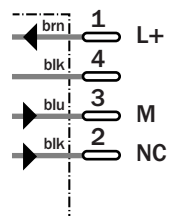
3 x 0.34 mm²



M12, 4-pin



M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	05BNS -ZW1	05BPO -ZW1	05BPS -ZW1	05BNS -ZC1	05BPO -ZC1	05BPS -ZC1				
Sensing range S_n	5 mm											
Electrical configuration	DC 3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop V_d	$\leq 1 V^{1)}$											
Current consumption	$\leq 20 mA^{2)}$											
Continuous current I_a	$\leq 400 mA$											
Time delay before availability t_v	$\leq 100 ms$											
Hysteresis H (of s_r)	2 ... 10 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60 947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
Installation	Flush											
Connection types	Plug, M12, 4-pin											
	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	600 Hz											
Dimensions	M18 x 1 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening material	30 Nm											

¹⁾ at I_a max
²⁾ without load

³⁾ of s_r
⁴⁾ according to EN 60 529

⁵⁾ thread diameter x pitch (mm)
⁶⁾ (pulsed)

Order information

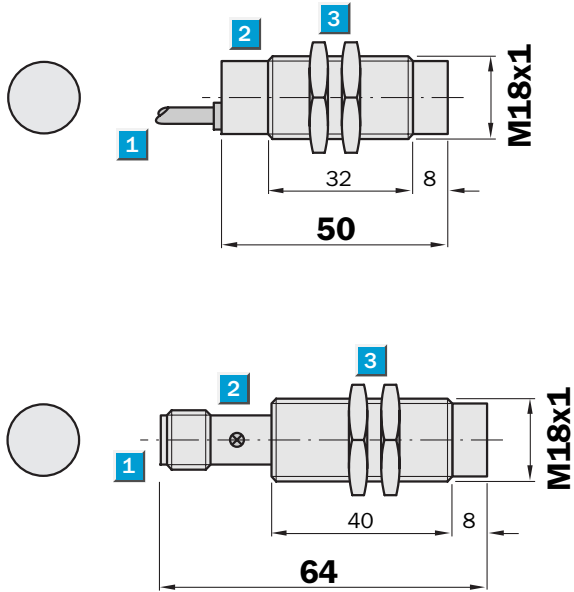
Type	Order no.
IM18-05BNS-ZW1	6 011 988
IM18-05BPO-ZW1	6 011 989
IM18-05BPS-ZW1	6 011 987
IM18-05BNS-ZC1	6 011 992
IM18-05BPO-ZC1	6 011 993
IM18-05BPS-ZC1	6 011 991

Sensing range
8 mm

Inductive sensor

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread
M18 x 1 mm
- Enclosure rating IP 67
- High switching frequency

Dimensional drawing

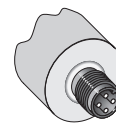
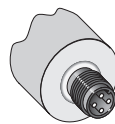
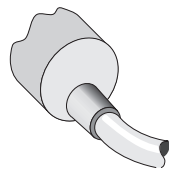


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

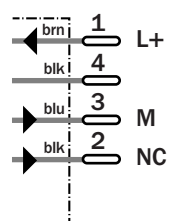
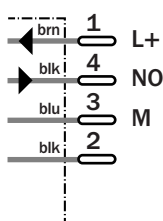
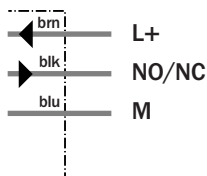
IM18-08NNO-ZW1	IM18-08NNS-ZC1	IM18-08NPO-ZC1
IM18-08NNS-ZW1	IM18-08NPS-ZC1	
IM18-08NPS-ZW1		



3 x 0.34 mm²

M12, 4-pin

M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	08NN O-ZW1	08NNS -ZW1	08NPS -ZW1	08NNS -ZC1	08NPO -ZC1	08NPS -ZC1				
Sensing range S_n	8 mm											
Electrical configuration	DC 3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop V_d	$\leq 1 V^{1)}$											
Current consumption	$\leq 20 mA^{2)}$											
Continuous current I_a	$\leq 400 mA$											
Time delay before availability t_v	$\leq 100 ms$											
Hysteresis H (of s_r)	2 ... 10 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60 947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
Installation	Non-flush											
Connection types	Plug, M12, 4-pin											
	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	600 Hz											
Dimensions	M18 x 1 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening material	30 Nm											

¹⁾ at I_a max
²⁾ without load

³⁾ of s_r
⁴⁾ according to EN 60 529

⁵⁾ thread diameter x pitch (mm)
⁶⁾ (pulsed)

Order information

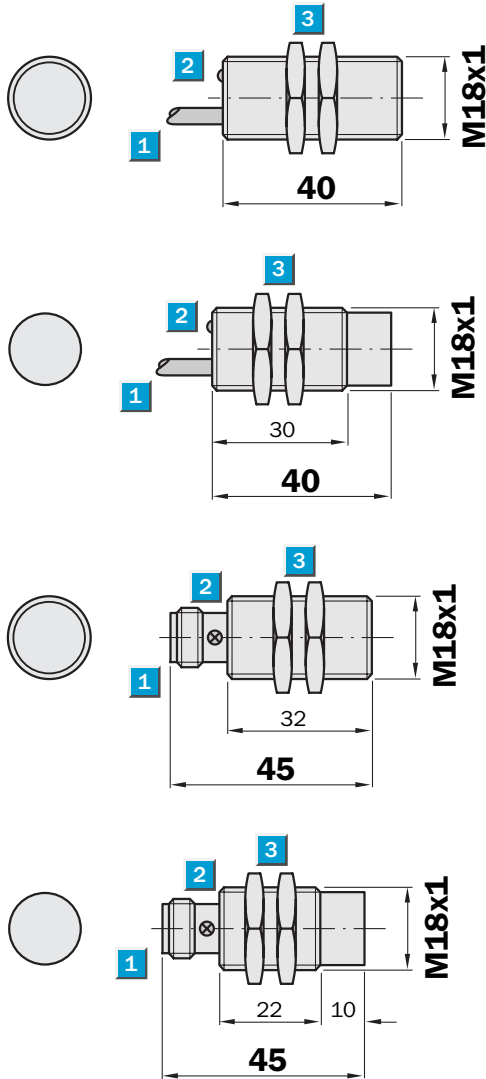
Type	Order no.
IM18-08NNO-ZW1	6 011 998
IM18-08NNS-ZW1	6 011 996
IM18-08NPS-ZW1	6 011 995
IM18-08NNS-ZC1	6 012 000
IM18-08NPO-ZC1	6 012 001
IM18-08NPS-ZC1	6 011 999

Sensing range
5 / 8 mm

Inductive sensor

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread
M18 x 1 mm
- Enclosure rating IP 67
- High switching frequency

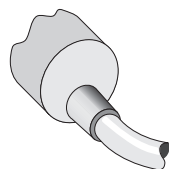
Dimensional drawing



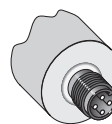
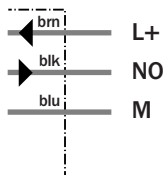
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

Connection type

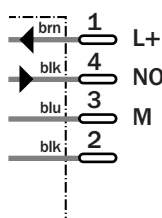
IM18-05BNS-ZUK	IM18-05BNS-ZCK
IM18-05BPS-ZUK	IM18-05BPS-ZCK
IM18-08NNS-ZUK	IM18-08NNS-ZCK
IM18-08NPS-ZUK	IM18-08NPS-ZCK



3 x 0.25 mm²



M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	05BNS -ZUK	05BPS -ZUK	05BNS -ZCK	05BPS -ZCK	08NNS -ZUK	08NPS -ZUK	08NNS -ZCK	08NPS -ZCK		
Sensing range S_n	8 mm											
	5 mm											
Electrical configuration	DC 3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple V_{pp}	$\leq 10\%$											
Voltage drop V_d	$\leq 1.5\text{ V}^{1)}$											
Current consumption	$\leq 10\text{ mA}^{2)}$											
Continuous current I_a	$\leq 300\text{ mA}$											
Time delay before availability t_v	$\leq 10\text{ ms}$											
Hysteresis H (of s_r)	1 ... 10 %											
Repeatability R	$\leq 2\%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10\%$											
EMC	According to EN 60 947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
Installation	Non-flush											
	Flush											
Connection types	Plug, M12, 4-pin											
	Cable, PUR-PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	1,000 Hz											
Dimensions	M18 x 1 ⁵⁾											
Wire-break protection	✓											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic											
Tightening material	25 Nm											

¹⁾ at I_a max
²⁾ without load

³⁾ of s_r
⁴⁾ according to EN 60 529

⁵⁾ thread diameter x pitch (mm)
⁶⁾ (pulsed)

Order information

Type	Order no.
IM18-05BNS-ZUK	1 017 442
IM18-05BPS-ZUK	1 017 430
IM18-05BNS-ZCK	1 017 444
IM18-05BPS-ZCK	1 017 432
IM18-08NNS-ZUK	1 017 443
IM18-08NPS-ZUK	1 017 431
IM18-08NNS-ZCK	1 017 445
IM18-08NPS-ZCK	1 017 433

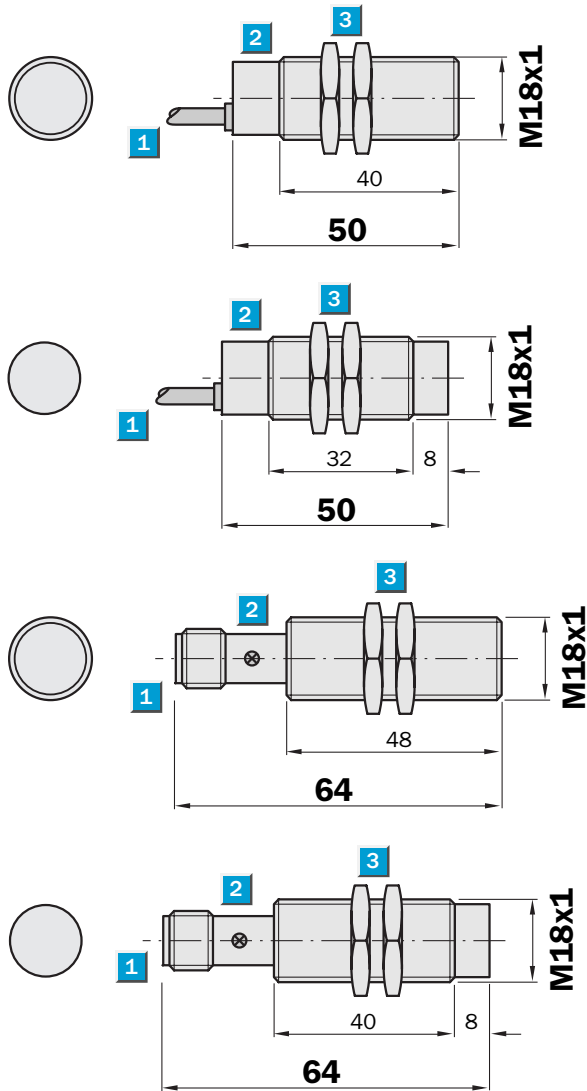
Sensing range
8 / 12 mm

Inductive sensor

- Enhanced sensing range
- High switching frequency
- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread
- M18 x 1 mm
- Enclosure rating IP 67



Dimensional drawing

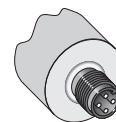
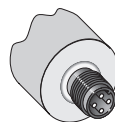
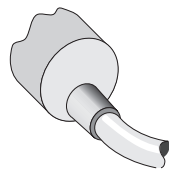


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

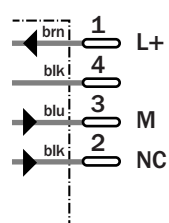
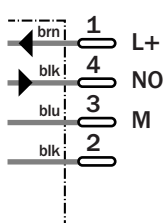
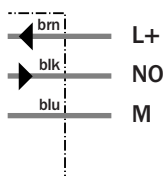
IM18-08BNS-ZW1	IM18-08BNS-ZC1	IM18-08BPO-ZC1
IM18-08BPS-ZW1	IM18-08BPS-ZC1	IM18-12NPO-ZC1
IM18-12NNS-ZW1	IM18-12NNS-ZC1	
IM18-12NPS-ZW1	IM18-12NPS-ZC1	



3 x 0.34 mm²

M12, 4-pin

M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	08BNS-ZW1	08BPS-ZW1	08BNS-ZC1	08BPO-ZC1	08BPS-ZC1	12NNS-ZW1	12NPS-ZW1	12NNS-ZC1	12NPO-ZC1	12NPS-ZC1
Sensing range S_n	12 mm											
	8 mm											
Electrical configuration	DC 3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple V_{pp}	$\leq 10\%$											
Voltage drop V_d	$\leq 1\text{ V}^{1)}$											
Current consumption	$\leq 10\text{ mA}^{2)}$											
Continuous current I_a	$\leq 400\text{ mA}$											
Time delay before availability t_v	$\leq 100\text{ ms}$											
Hysteresis H (of s_r)	2 ... 15 %											
Repeatability R	$\leq 5\%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10\%$											
EMC	According to EN 60 947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
Installation	Non-flush											
	Flush ⁴⁾											
Connection types	Plug, M12, 4-pin											
	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁵⁾											
Max. switching frequency	300 Hz											
Dimensions	M18 x 1 ⁶⁾											
Short-circuit protection	✓ ⁷⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening material	30 Nm											

¹⁾ at I_a max
²⁾ without load

³⁾ of s_r
⁴⁾ see installation notes

⁵⁾ according to EN 60 529
⁶⁾ thread diameter x pitch (mm)

⁷⁾ (pulsed)

Order information	
Type	Order no.
IM18-08BNS-ZW1	7 900 082
IM18-08BPS-ZW1	7 900 081
IM18-08BNS-ZC1	7 900 086
IM18-08BPO-ZC1	7 900 087
IM18-08BPS-ZC1	7 900 085
IM18-12NNS-ZW1	7 900 094
IM18-12NPS-ZW1	7 900 093
IM18-12NNS-ZC1	7 900 098
IM18-12NPO-ZC1	7 900 099
IM18-12NPS-ZC1	7 900 097

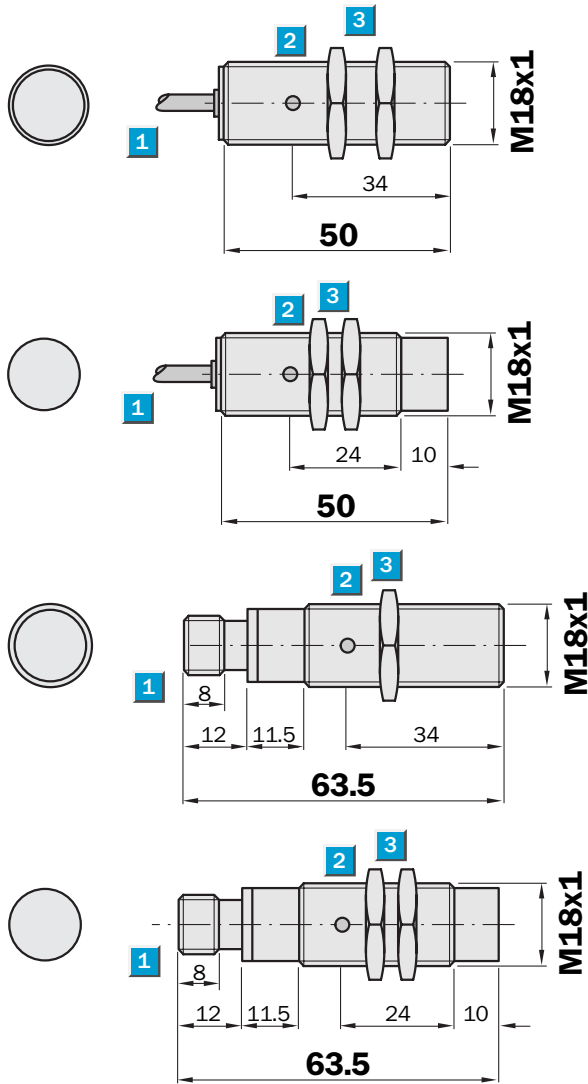
Sensing range
12 / 20 mm

Inductive sensor

- Triple sensing range
- Installation quasi flush or non-flush in metal
- Short-circuit protection (pulsed)
- Robust brass housing, chrome-plated with fine thread
- M18 x 1 mm
- Enclosure rating IP 67



Dimensional drawing

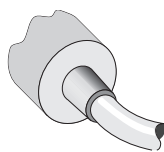


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

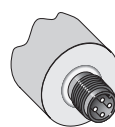
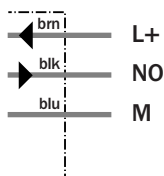


Connection type

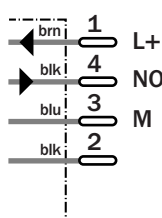
IM18-12BNS-ZW1	IM18-12BPS-ZC1
IM18-12BPS-ZW1	IM18-20NPS-ZC1
IM18-20NPS-ZW1	



3 x 0.34 mm²



M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	12BNS-ZW1	12BPS-ZW1	12BPS-ZC1	20NPS-ZW1	20NPS-ZC1						
Sensing range S_n	20 mm												
	12 mm												
Electrical configuration	DC 3-wire												
Supply voltage V_s	DC 10 ... 30 V												
Ripple V_{pp}	$\leq 20\%$ ¹⁾												
Voltage drop V_d	$\leq 2\text{ V}$ ²⁾												
Current consumption	$\leq 10\text{ mA}$ ³⁾												
Continuous current I_a	$\leq 200\text{ mA}$												
Time delay before availability t_v	$\leq 100\text{ ms}$												
Hysteresis H (of s_r)	1 ... 15 %												
Repeatability R	$\leq 5\%$ (U_b and T_a constant) ⁴⁾												
Temperature drift, of s_r	$\pm 10\%$												
EMC	According to EN 60 947-5-2												
Switching output	PNP												
	NPN												
Output function	Normally open ⁵⁾												
Installation	Non-flush												
	Quasi-flush ⁶⁾												
Connection types	Plug, M12, 4-pin												
	Cable, PVC, 2 m												
Enclosure rating	IP 67 ⁷⁾												
Max. switching frequency	200 Hz												
	500 Hz												
Dimensions	M18 x 1 ⁸⁾												
Short-circuit protection	✓ ⁹⁾												
Reverse polarity protection	✓												
Power-up pulse suppression	✓												
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm												
Ambient temperature T_a	-25 °C ... +75 °C												
Housing material	Brass, chrome-plated, plastic												
Tightening material	30 Nm												

¹⁾ of U_b
²⁾ at I_a max
³⁾ without load

⁴⁾ of s_r
⁵⁾ other output functions available on request

⁶⁾ when mounting in conductible materials the sensors have to be installed with a distance A to the surface. A Steel, metal =

4 mm / A Stainless steel = 1.5 mm
⁷⁾ according to EN 60 529
⁸⁾ thread diameter x pitch (mm)
⁹⁾ (pulsed)

Order information

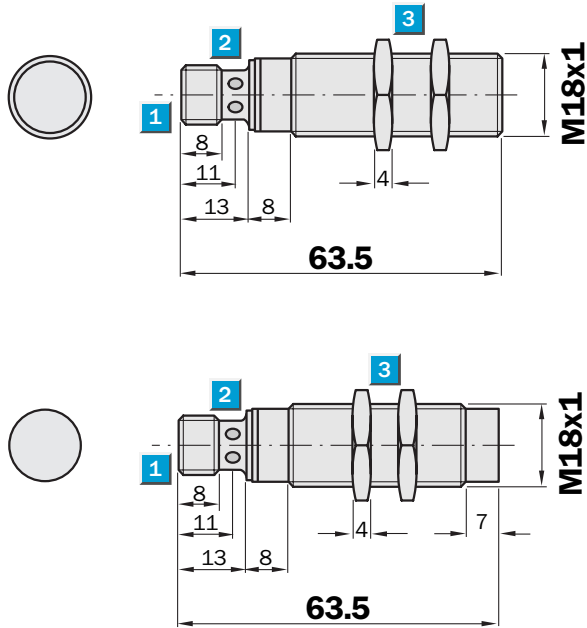
Type	Order no.
IM18-12BNS-ZW1	6 027 516
IM18-12BPS-ZW1	6 027 515
IM18-12BPS-ZC1	6 027 517
IM18-20NPS-ZW1	6 027 518
IM18-20NPS-ZC1	6 027 519

Sensing range
10 / 20 mm

Inductive sensor

- Triple sensing range
- Installation flush or non-flush in metal
- Robust stainless steel V4A, 316L one piece housing, with fine thread M18 x 1 mm
- Enclosure rating IP 69K
- Especially suitable for use in the food and beverage sector

Dimensional drawing



Connection type

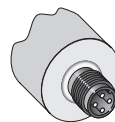
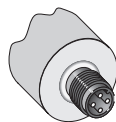
IM18-10BPO-NC1

IM18-10BNS-NC1

IM18-10BPS-NC1

IM18-20NNS-NC1

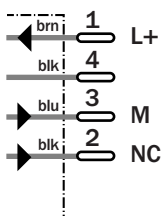
IM18-20NPS-NC1



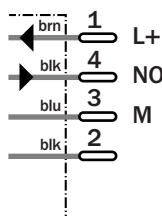
See chapter Accessories

Connector, M12, 4-pin

M12, 4-pin



M12, 4-pin



Technical data		IM18-	10BNS-NC1	10BPO-NC1	10BPS-NC1	20NNS-NC1	20NPS-NC1						
Sensing range S_n	20 mm												
	10 mm												
Electrical configuration	DC 3-wire												
Supply voltage V_s	DC 10 ... 30 V												
Ripple V_{pp}	$\leq 20\%$ ¹⁾												
Voltage drop V_d	$\leq 2\text{ V}$ ²⁾												
Current consumption	$\leq 15\text{ mA}$ ³⁾												
Continuous current I_a	$\leq 200\text{ mA}$												
Time delay before availability t_v	$\leq 80\text{ ms}$												
Hysteresis H (of s_r)	1 ... 15 %												
Repeatability R	$\leq 5\%$ (U_b and T_a constant) ⁴⁾												
Temperature drift, of s_r	$\pm 10\%$												
EMC	According to EN 60 947-5-2												
Switching output	PNP												
	NPN												
Output function	Normally open ⁵⁾												
	Normally closed ⁵⁾												
Installation	Non-flush ⁶⁾												
	Flush												
Connection types	Plug, M12, 4-pin												
Enclosure rating	IP 69K												
Max. switching frequency	200 Hz												
Dimensions	M18 x 1 ⁷⁾												
Short-circuit protection	✓ ⁸⁾												
Reverse polarity protection	✓												
Power-up pulse suppression	✓												
Shock / vibration stress	30 g, 11 ms / 10 ... 55 Hz, 1 mm												
Ambient temperature T_a	-25 °C ... +75 °C												
Housing material	Stainless steel V4A, 316L												
Tightening material	50 Nm												

¹⁾ of U_b
²⁾ at I_a max

³⁾ without load
⁴⁾ of s_r

⁵⁾ other output functions available on request

⁶⁾ see installation notes
⁷⁾ thread diameter x pitch (mm)
⁸⁾ (pulsed)

Correction factors:

	Flush installation:	Non-flush installation:
Steel (ST37)	1.0	1.0
Copper	0.85	0.85
Aluminium	1.0	1.0
Brass	1.3	1.3
Stainless steel	0.4 / 0.8	0.4 / 0.8

1 mm / 2 mm thick

Order information

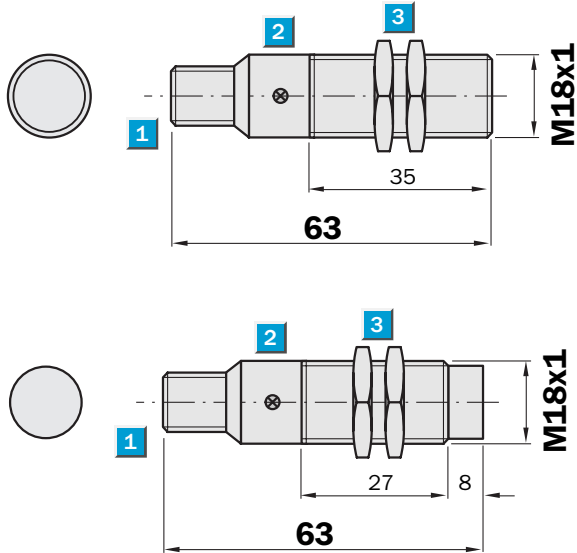
Type	Order no.
IM18-10BNS-NC1	6 027 578
IM18-10BPO-NC1	6 027 579
IM18-10BPS-NC1	6 027 577
IM18-20NNS-NC1	6 027 581
IM18-20NPS-NC1	6 027 580

Sensing range
5 / 8 mm

Inductive sensor

- For harsh environment, resistant to most cutting oils
- Enclosure rating IP 68
- Complementary output function
- Robust brass housing, nickel-plated with fine thread
- M18 x 1 mm
- LED status indicator (NO function)

Dimensional drawing

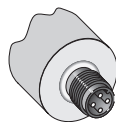


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

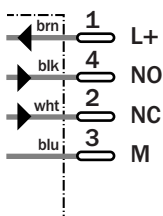


Connection type

- IM18-05BNP-ZC1
- IM18-05BPP-ZC1
- IM18-08NPP-ZC1
- IM18-08NPP-ZC1



M12, 4-pin



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	05BNP-ZC1	05BPP-ZC1	08NNP-ZC1	08NPP-ZC1						
Sensing range S_n	8 mm											
	5 mm											
Electrical configuration	DC 4-wire											
Supply voltage V_s	DC 10 ... 30 V											
Residual ripple V_{pp}	$\leq 10 \%$											
Voltage drop V_d	$\leq 0.8 \text{ V}^{1)}$											
Power consumption	$\leq 20 \text{ mA}^{2)}$											
Continuous current I_a	$\leq 400 \text{ mA}$											
Time delay before availability t_v	$\leq 100 \text{ ms}$											
Hysteresis H, of s_r	2 ... 10 %											
Repeatability R	$\leq 5 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Complementary											
Installation	Non-flush											
	Flush											
Connection type	Connector, M12, 4-pin											
Enclosure rating	IP 68											
Max. switching frequency	1,000 Hz											
Dimensions	M18 x 1 ⁴⁾											
Short circuit protection	✓ ⁵⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient operating temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening torque	40 Nm											

1) at I_a max

2) without load

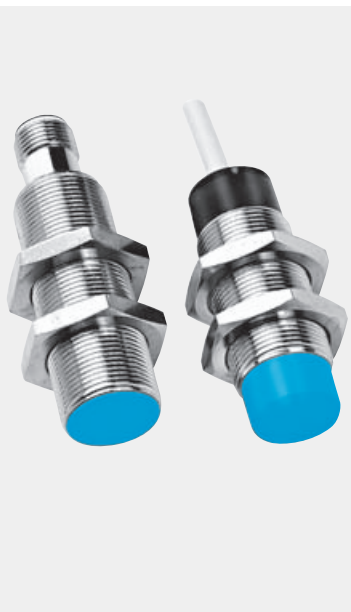
3) of s_r 4) thread diameter x pitch (mm)
5) (pulsed)**Order information**

Type	Order no.
IM18-05BNP-ZC1	7 902 932
IM18-05BPP-ZC1	7 902 931
IM18-08NNP-ZC1	7 902 934
IM18-08NPP-ZC1	7 902 933

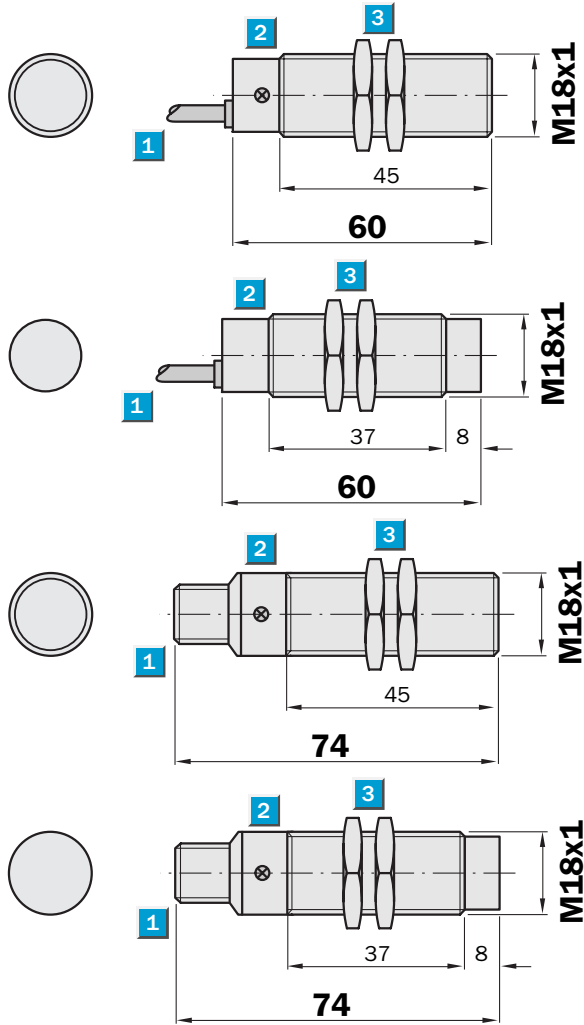
Sensing range
5 / 8 mm

Inductive sensor

- Free configurable output functions in one sensor PNP/NO, PNP/NC NPN/NO, NPN/NC
- Short-circuit protection
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- LED status indicator (NO function)



Dimensional drawing

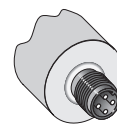
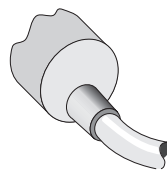


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

Connection type

IM18-05BCP-ZW1
IM18-08NCP-ZW1

IM18-05BCP-ZC1
IM18-08NCP-ZC1

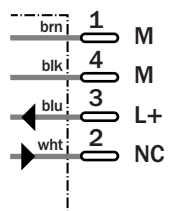
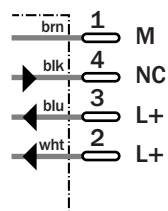
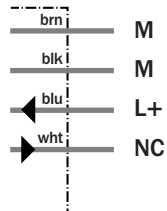
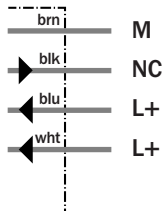
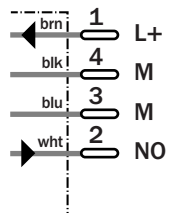
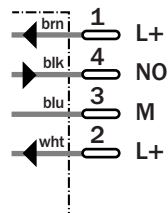
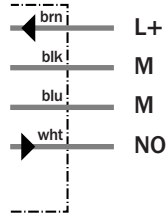
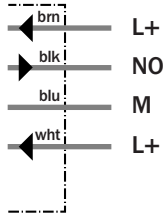


4 x 0.34 mm²
PNP variant

NPN variant

M12, 4-pin
PNP variant

NPN variant



See chapter Accessories
Connector, M12, 4-pin
Mounting systems

Technical data		IM18-	05BCP-ZW1	05BCP-ZC1	08NCP-ZW1	08NCP-ZC1						
Sensing range S_n	8 mm											
	5 mm											
Electrical configuration	DC 4-wire											
Supply voltage V_s	DC 10 ... 30 V											
Residual ripple V_{pp}	$\leq 10\%$											
Voltage drop V_d	$\leq 1.2\text{ V}^{1)}$											
Power consumption	$\leq 30\text{ mA}^{2)}$											
Continuous current I_a	$\leq 100\text{ mA}$											
Time delay before availability t_v	$\leq 200\text{ ms}$											
Hysteresis H, of s_r	2 ... 10 %											
Repeatability R	$\leq 5\%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10\%$											
EMC	According to EN 60947-5-2											
Switching output	PNP/NPN config.											
Output function	Configurable											
Installation	Non-flush											
	Flush											
Connection type	Connector, M12, 4-pin											
	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	300 Hz											
Dimensions	M18 x 1 ⁵⁾											
Short circuit protection	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient operating temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening torque	40 Nm											

¹⁾ at I_a max ²⁾ without load ³⁾ of s_r ⁴⁾ according to EN 60529
⁵⁾ thread diameter x pitch (mm)

Order information

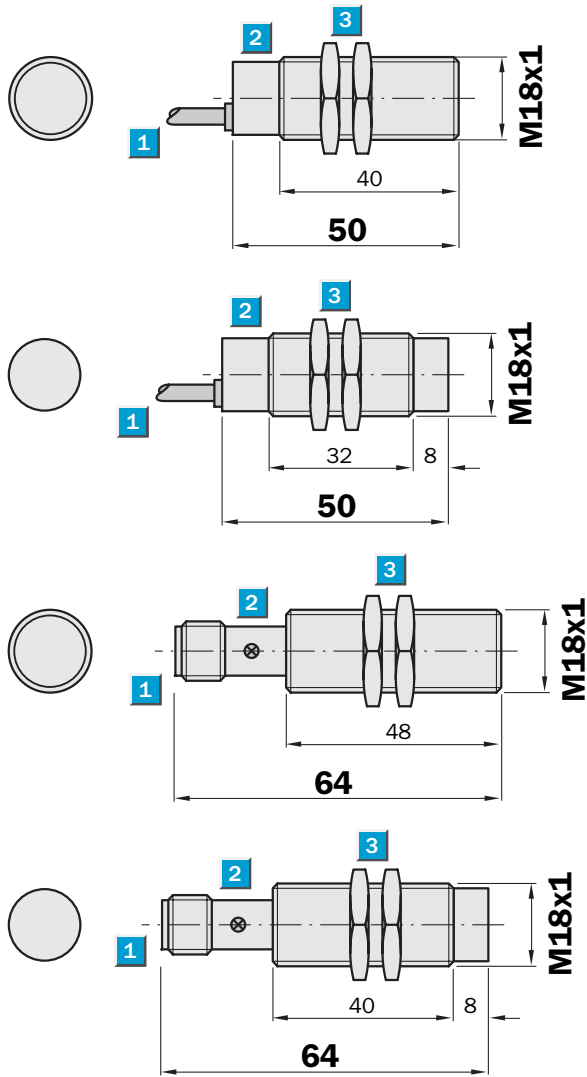
Type	Order no.
IM18-05BCP-ZW1	7 902 935
IM18-05BCP-ZC1	7 902 936
IM18-08NCP-ZW1	7 902 937
IM18-08NCP-ZC1	7 902 938

Sensing range
5 / 8 mm

Inductive sensor

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread
M18 x 1 mm
- Enclosure rating IP 67

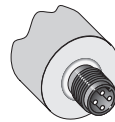
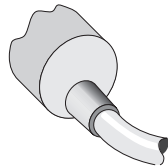
Dimensional drawing



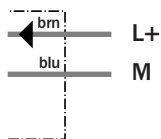
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal

Connection type

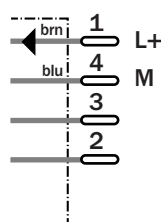
IM18-05BDS-ZW1	IM18-05BDS-ZC1
IM18-08NDS-ZW1	IM18-08NDS-ZC1



2 x 0.34 mm²



M12, 4-pin



See chapter Accessories

Connector, M12, 4-pin

Mounting systems

Technical data		IM18-	05BDS -ZW1	05BDS -ZC1	08NDS -ZW1	08NDS -ZC1						
Sensing range S_n	8 mm											
	5 mm											
Electrical configuration	DC 2-wire											
Supply voltage V_s	DC 10 ... 30 V											
Residual ripple V_{pp}	$\leq 10\%$											
Voltage drop V_d	$\leq 2.8\text{ V}^{1)}$											
Continuous current I_a	$\leq 100\text{ mA}$											
Min. load current	$\geq 3\text{ mA}$											
Residual current	$\leq 0.8\text{ mA}$											
Time delay before availability t_v	$\leq 50\text{ ms}$											
Hysteresis H, of s_r	2 ... 10 %											
Repeatability R	$\leq 2\%$ (U_b and T_a constant) ²⁾											
Temperature drift, of s_r	$\pm 10\%$											
EMC	According to EN 60947-5-2											
Output function	Normally open ³⁾											
Installation	Non-flush											
	Flush											
Connection type	Connector, M12, 4-pin											
	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	300 Hz											
Dimensions	M18 x 1 ⁵⁾											
Short circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient operating temperature T_a	-25 °C ... +70 °C											
Housing material	Brass nickel-plated, plastic											
Tightening torque	30 Nm											

¹⁾ at I_a max
²⁾ of s_r

³⁾ normally closed function available on request

⁴⁾ according to EN 60529
⁵⁾ thread diameter x pitch (mm)

⁶⁾ (pulsed)

Order information

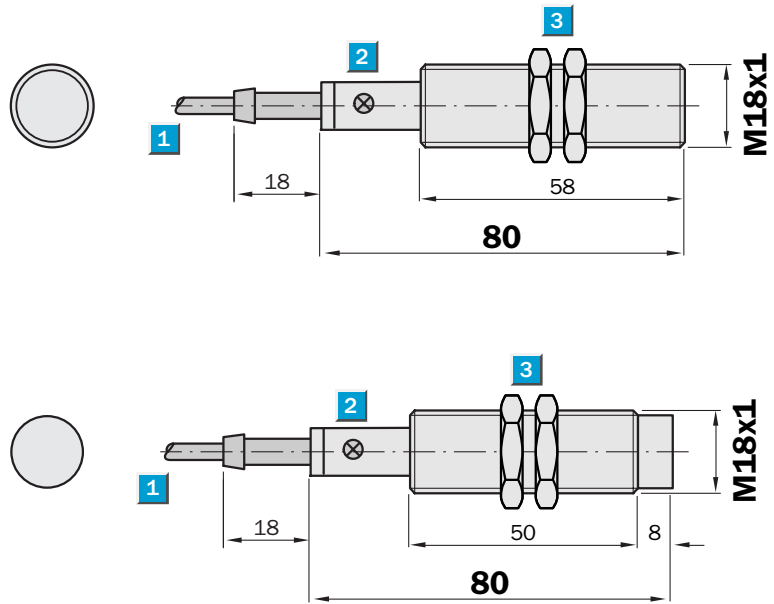
Type	Order no.
IM18-05BDS-ZW1	6 020 318
IM18-05BDS-ZC1	6 020 320
IM18-08NDS-ZW1	6 020 322
IM18-08NDS-ZC1	6 020 324

Sensing range
5 / 8 mm

Inductive sensor

- Broad supply voltage range in AC and DC
- Robust brass housing, nickel-plated, with fine thread M18 x 1 mm
- Enclosure rating IP 67

Dimensional drawing



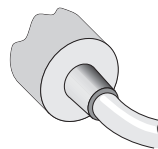
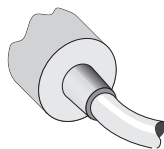
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

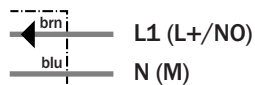
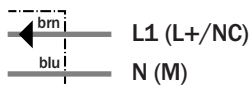
IM18-05BU0-ZU0
IM18-08NU0-ZU0

IM18-05BUS-ZU0
IM18-08NUS-ZU0



2 x 0.5 mm²

2 x 0.5 mm²



See chapter Accessories
Mounting systems

Technical data		IM18-	05BUO -ZUO	05BUS -ZUO	08NUO -ZUO	08NUS -ZUO						
Sensing range S_n	8 mm											
	5 mm											
Electrical configuration	AC/DC 2-wire											
Supply voltage V_s	AC/DC 20 ... 250 V											
Voltage drop V_d AC/DC	≤ 6.5 V / ≤ 6 V											
Continuous current I_a	≤ 350 mA AC (... + 50 °C)											
	≤ 250 mA AC (... + 80 °C)											
	≤ 100 mA DC											
Short duration current I_k	2.2 A (20 ms/0.5 Hz)											
Min. load current	5 mA											
Residual current	≤ 2.5 mA (250 V AC)											
	≤ 1.3 mA (110 V AC)											
	≤ 0.8 mA (24 V DC)											
Time delay before availability t_v	≤ 8 ms											
Hysteresis H, of s_r	1 ... 15 %											
Repeatability R	≤ 10 % (U_b and T_a constant) ¹⁾											
Temperature drift, of s_r	± 10 %											
EMC	According to EN 60947-5-2											
Output function	Normally open											
	Normally closed											
Installation	Non-flush											
	Flush											
Connection type	Cable, PVC/PUR, 2 m											
Enclosure rating	IP 67 ²⁾											
VDE protection class	<input type="checkbox"/>											
Max. switching frequency AC/DC	25 Hz / 100 Hz											
Dimensions	M18 x 1 ³⁾											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient operating temperature T_a	-25 °C ... +80 °C											
Housing material	Brass nickel-plated, plastic											
Tightening torque	35 Nm											

¹⁾ of s_r

²⁾ according to EN 60529

³⁾ thread diameter x pitch (mm)

Order information

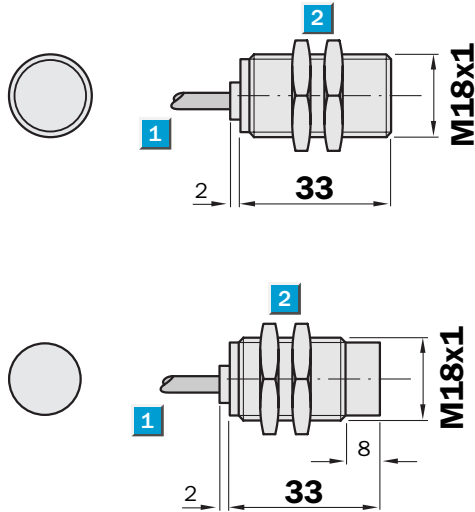
Type	Order no.
IM18-05BUO-ZUO	7 902 123
IM18-05BUS-ZUO	7 902 122
IM18-08NUO-ZUO	7 902 125
IM18-08NUS-ZUO	7 902 124

Sensing range
5 / 8 mm

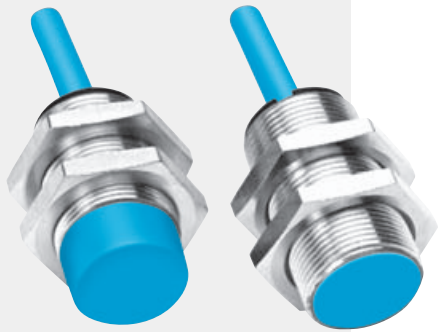
Inductive sensor

- NAMUR to EN 60 947-5-6
- High switching frequency
- Robust brass housing, nickel-plated, with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Classification PTB 03 ATEX 2037
- $\text{Ex II 2 G EEx ia IIC T6}$

Dimensional drawing

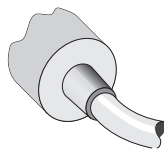


- 1 Connection
- 2 Fastening nuts (2 x); width across 24, metal

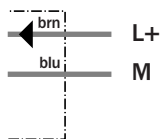


Connection type

- IM18-05B-N-ZWO
- IM18-08N-N-ZWO



2 x 0.34 mm²



See chapter Accessories

Mounting systems

Switching units

Technical data		IM18-	05B-N-ZWO	08N-N-ZWO									
Sensing range S_n	8 mm												
	5 mm												
Electrical configuration	NAMUR												
Supply voltage V_s	DC 5 ... 25 V												
Nominal voltage V_n	DC 8.2 V												
Power consumption, attenuated	≤ 1 mA												
Power consumption, unattenuated	≥ 2.2 mA												
Internal capacitance	≤ 240 nF												
	≤ 230 nF												
Internal inductance	≤ 60 μ H												
Cable resistance	≤ 50 Ohm												
Temperature drift, of s_r	± 10 %												
EMC	Accroding to EN 60 947-5-6												
Switching output	Control current dependent on switching ¹⁾												
Output function	NAMUR												
Installation	Non-flush												
	Flush												
Connection type	Cable, PVC, 2 m												
Enclosure rating	IP 67 ²⁾												
Max. switching frequency	300 Hz												
	720 Hz												
Dimensions	M18 x 1 ³⁾												
✓Short-circuit protected													
✓Reverse polarity protected													
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm												
Ambient operating temperature T_a	-25 °C ... +70 °C												
Housing material	Brass nickel-plated, plastic												
Tightening torque	35 Nm												

¹⁾ according to NAMUR EN 60947-5-6

²⁾ according to EN 60529

³⁾ thread diameter x pitch (mm)

Max. data for connecting Isolating unit EN 2 EX

or other approved isolating amplifier:

Short circuit current I_{Kmax}	50 mA
No load voltage U_0	16 V
Power loss P_{max}	75 mW

Order information

Type	Order no.
IM18-05B-N-ZWO	6 021 126
IM18-08N-N-ZWO	6 021 127