



AM series

M12 cylindrical inductive sensors



M12 cylindrical

features

- Wide range of models: standard, short body, long distance
- Output: cable, M12 and M8 plug cable exit
- Models with 2, 3 wires
- ATEX models, cat. 3, available on request



web contents



- Application notes
- Photos
- Catalogue / Manuals



code description (*)

AM 1 / A P - 1 A

series	AM	M12 inductive proximity switch
housing	1	Standard body
	6	Short body
output state	A	NO output state
	C	NC output state
output logic	N	NPN logic output
	0	2 wires version
	B	NO + NC complementary version
	P	PNP logic output
distance	1	Shielded standard 2 mm
	2	Unshielded standard 4 mm
	3	Long distance shielded 4 mm
	4	Unshielded long distance 8 mm
connect.	A	Axial cable exit
	C	Right angle cable exit
	F	M8 plug cable exit
	H	M12 plug cable exit

(*) ATEX models available, contact our Sales Dept. for further information.

available models

standard housing

diameter	installation	distance	connection	distance (mm)	NPN/NO	PNP/NO	NPN/NC	PNP/NC		
M12	shielded	standard	cable	2	AM1/AN-1A	AM1/AP-1A	AM1/CN-1A	AM1/CP-1A		
			cable 90°		AM1/AN-1C	AM1/AP-1C	AM1/CN-1C	AM1/CP-1C		
			M8		AM1/AN-1F	AM1/AP-1F	AM1/CN-1F	AM1/CP-1F		
			M12	AM1/AN-1H	AM1/AP-1H	AM1/CN-1H	AM1/CP-1H			
			unshielded	standard	cable	4	AM1/AN-2A	AM1/AP-2A	AM1/CN-2A	AM1/CP-2A
					cable 90°		AM1/AN-2C	AM1/AP-2C	AM1/CN-2C	AM1/CP-2C
	M8	AM1/AN-2F			AM1/AP-2F		AM1/CN-2F	AM1/CP-2F		
	M12	AM1/AN-2H	AM1/AP-2H	AM1/CN-2H	AM1/CP-2H					
	shielded	long distance	cable	8	AM1/AN-3A	AM1/AP-3A	AM1/CN-3A	AM1/CP-3A		
					M12	AM1/AN-3H	AM1/AP-3H	AM1/CN-3H	AM1/CP-3H	
			unshielded	long distance	cable	8	AM1/AN-4A	AM1/AP-4A	AM1/CN-4A	AM1/CP-4A
							M12	AM1/AN-4H	AM1/AP-4H	AM1/CN-4H

available models

short housing

diameter	installation	distance	connection	distance (mm)	NPN/NO	PNP/NO	NPN/NC	PNP/NC			
M12	shielded	standard	cable	2	AM6/AN-1A	AM6/AP-1A	AM6/CN-1A	AM6/CP-1A			
			cable 90°		AM6/AN-1C	AM6/AP-1C	AM6/CN-1C	AM6/CP-1C			
			M12		AM6/AN-1H	AM6/AP-1H	AM6/CN-1H	AM6/CP-1H			
			unshielded	standard	cable	4	AM6/AN-2A	AM6/AP-2A	AM6/CN-2A	AM6/CP-2A	
							cable 90°	AM6/AN-2C	AM6/AP-2C	AM6/CN-2C	AM6/CP-2C
							M12	AM6/AN-2H	AM6/AP-2H	AM6/CN-2H	AM6/CP-2H
	shielded	long distance	cable	8	AM6/AN-3A	AM6/AP-3A	AM6/CN-3A	AM6/CP-3A			
					M12	AM6/AN-3H	AM6/AP-3H	AM6/CN-3H	AM6/CP-3H		
			unshielded	long distance	cable	8	AM6/AN-4A	AM6/AP-4A	AM6/CN-4A	AM6/CP-4A	
							M12	AM6/AN-4H	AM6/AP-4H	AM6/CN-4H	AM6/CP-4H

available models

DC 2 wires models

diameter	installation	distance	connection	distance (mm)	NO - NPN/NO	NO - PNP/NO		
M12	shielded	standard	cable	2	AM1/A0-1A	AM1/A0-1H		
			M12		AM1/A0-1H	AM1/A0-1H		
			unshielded	standard	cable	4	AM1/A0-2A	AM1/A0-2H
					M12		AM1/A0-2H	AM1/A0-2H
	shielded	long distance	cable	8	AM1/A0-3A	AM1/A0-3H		
					M12	AM1/A0-3H	AM1/A0-3H	
			unshielded	long distance	cable	8	AM1/A0-4A	AM1/A0-4H
							M12	AM1/A0-4H

available models

4 wires models

diameter	installation	distance	connection	distance (mm)	short housing		standard housing			
					NPN/NO+NC	PNP/NO+NC	NPN/NO+NC	PNP/NO+NC		
M12	shielded	standard	cable	2	AM6/BN-1A	AM6/BP-1A	AM1/BN-1A	AM1/BP-1A		
					M12	AM6/BN-1H	AM6/BP-1H	AM1/BN-1H	AM1/BP-1H	
			unshielded	standard	cable	4	AM6/BN-2A	AM6/BP-2A	AM1/BN-2A	AM1/BP-2A
							M12	AM6/BN-2H	AM6/BP-2H	AM1/BN-2H
	shielded	long distance	cable	8	AM6/BN-3A	AM6/BP-3A	AM1/BN-3A	AM1/BP-3A		
					M12	AM6/BN-3H	AM6/BP-3H	AM1/BN-3H	AM1/BP-3H	
			unshielded	long distance	cable	8	AM6/BN-4A	AM6/BP-4A	AM1/BN-4A	AM1/BP-4A
							M12	AM6/BN-4H	AM6/BP-4H	AM1/BN-4H



	AM*/**/-1*	AM*/**/-2*	AM*/**/-3*	AM*/**/-4*
nominal sensing distance Sn	2 mm	4 mm	4 mm	8 mm
operating distance	0...1.6 mm	0...3.2 mm	0...3.2 mm	0...6.4 mm
hysteresis	1...20%			
standard target	12x12 mm FE 360			24x24 mm FE 360
repeatability	5% UB 20-30 V Ta = 23°C ± 5°C			
operating voltage	10...30 Vdc			
max ripple content	≤ 10%			
output type	NPN or PNP - NO or NC (3 wires models), NPN/PNP - NO (2 wires models), NPN or PNP - NO+ NC (4 wires models)			
output current	≤ 200 mA (3...100 mA for 2 wires versions)			
output voltage drop	≤ 1.8 V @ 200 mA (2,8 V @ 100 mA for 2 wires versions)			
no-load supply current	10 mA			
leakage current	10 µA (0.8 mA for 2 wires versions)			
switching frequency	2 kHz (1.5 kHz for 2 wires)		2 kHz (750 Hz for 2 wires)	
power on delay	50 ms			
ambient temperature range	-25...+70 °C			
temperature drift of Sr	10%			
short-circuit protection	●			
voltage reversal protection	●			
induction protection	●			
shocks and vibrations	IEC/EN60947-5-2			
weight	30 g connector (20 g short body) 70 g cable (60 g short body)			
LEDs	yellow LED output state			
protection degree	IP67 ⁽¹⁾ (EN60529)			
EMC	in conformity with the EMC Directive, according to IEC 60947-5-2			
housing material	nickel-plated brass			
active head material	PBT			
connection	cable 2 m PVC - plug M8 or M12			
tightening torque	10 Nm			

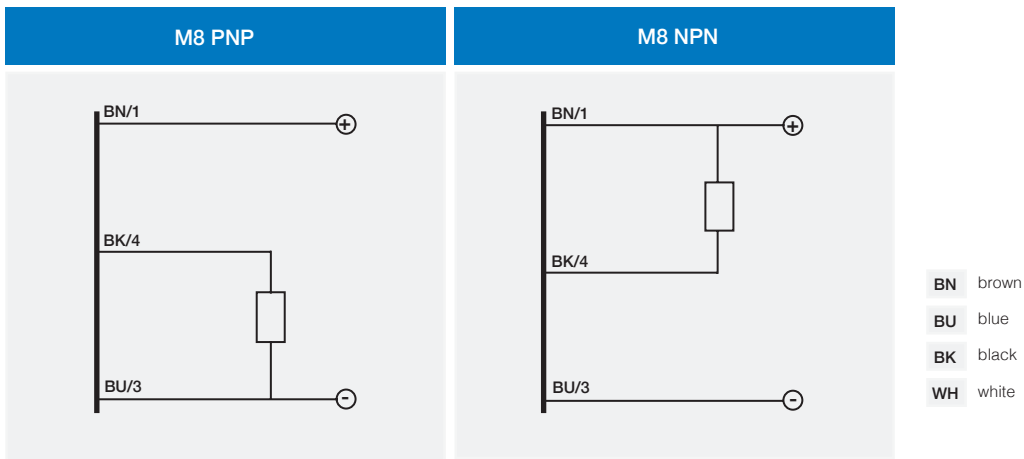
⁽¹⁾Protection guaranteed only with plug cable wall mounted

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
AM*/**-1*	1	0.22	0.31	0.41	0.77
AM*/**-2*		0.41	0.47	0.56	1.15
AM*/**-3*		0.33	0.4	0.5	1.05
AM*/**-4*		0.41	0.46	0.52	0.71
AM*/0-1*		0.3	0.35	0.5	0.8
AM*/0-2*		0.52	0.57	0.62	0.87
AM*/A0-3*		0.42	0.47	0.55	0.8

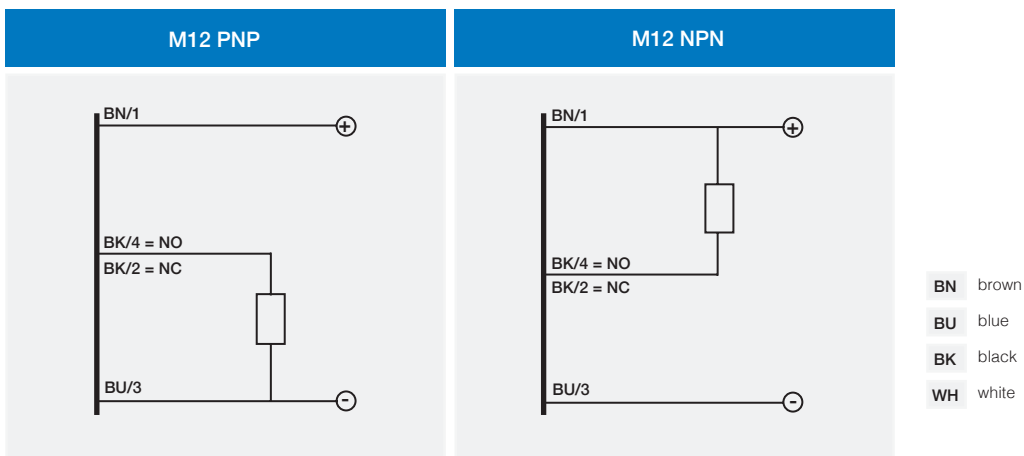
electrical diagrams of connections

3 wires versions



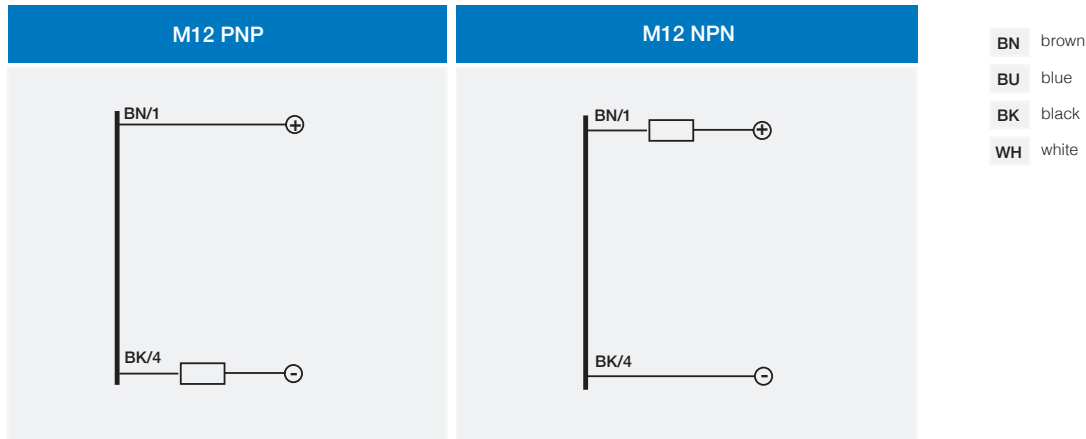
electrical diagrams of connections

3 wires versions



electrical diagrams of connections

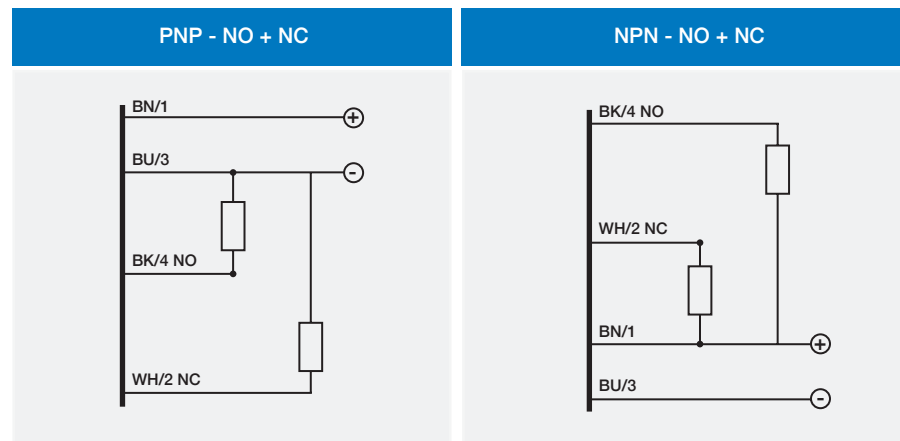
2 wires versions



M12 cylindrical

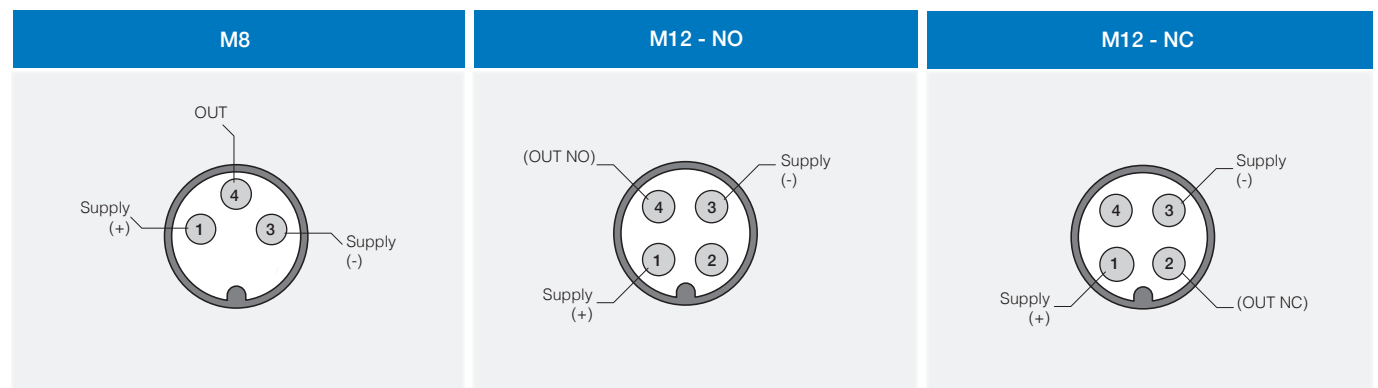
electrical diagrams of connections

4 wires versions



plug

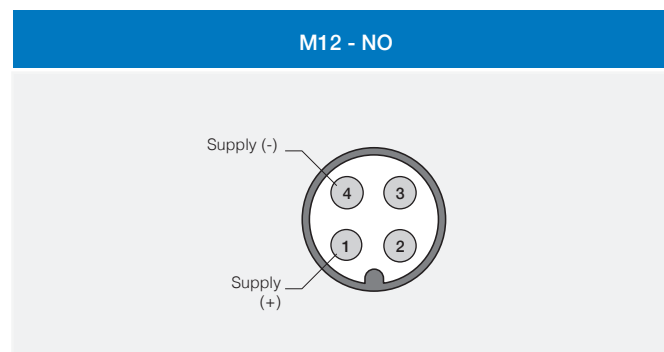
3 wires versions



Connectors CD series

plug

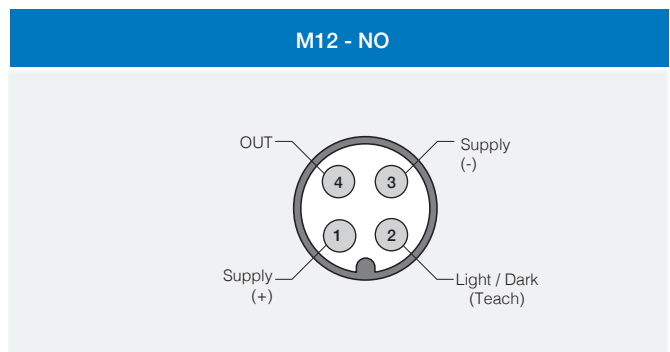
2 wires versions



Connectors CD series

plug

4 wires versions



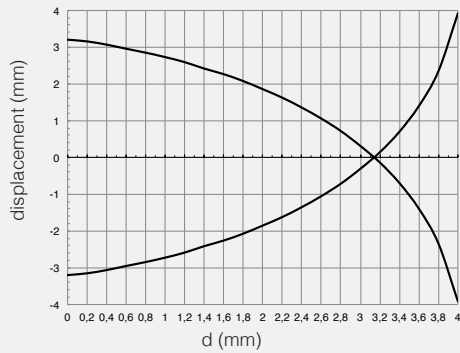
AM



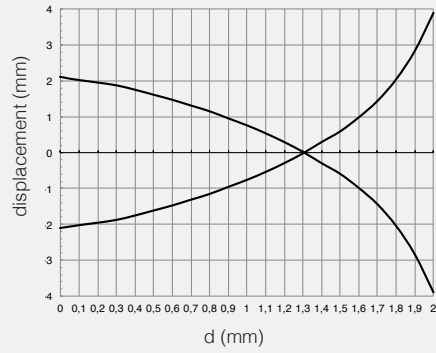
response diagram

M12 cylindrical

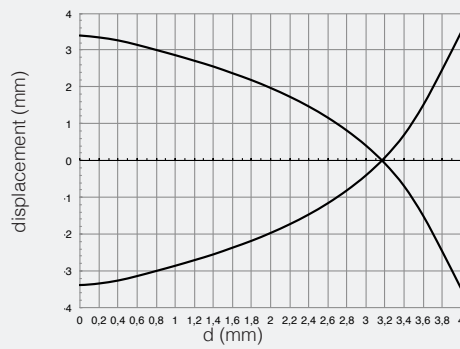
AM^{*}/^{**}-2* parallel displacement



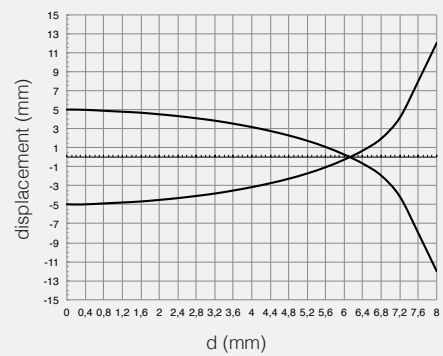
AM6^{**}-1* parallel displacement



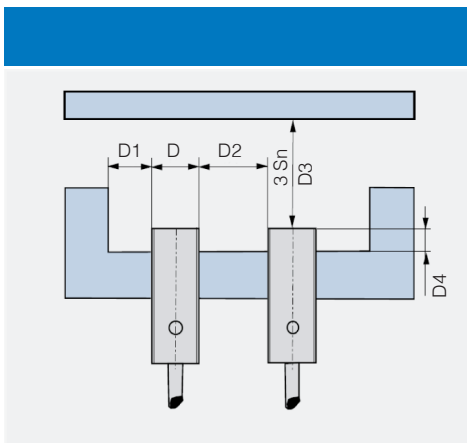
AM^{*}/^{**}-3* parallel displacement



AM^{*}/^{**}-4* parallel displacement



installation



code	D4	D1	D2	D3
AM1 ^{**} -1*	≥ 0 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM1 ^{**} -2*	≥ 6 mm ⁽¹⁾	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM1 ^{**} -3*	≥ 2 mm ⁽²⁾	> 6 mm	≥ 12 mm	≥ 12 mm
AM1 ^{**} -4*	≥ 8 mm	≥ 12 mm	> 24 mm	≥ 24 mm
AM1 [*] 0-1*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM1 [*] 0-2*	≥ 8 mm	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM1 [*] 0-3*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 12 mm
AM1 [*] 0-4*	≥ 16 mm	≥ 12 mm	≥ 24 mm	≥ 24 mm
AM6 ^{**} -1*	≥ 0 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM6 ^{**} -2*	≥ 6 mm ⁽³⁾	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM6 ^{**} -3*	≥ 1.2 mm	> 6 mm	≥ 12 mm	≥ 12 mm
AM6 ^{**} -4*	≥ 8 mm	≥ 12 mm	> 24 mm	≥ 24 mm

⁽¹⁾ ≥ 0.6 mm for non magnetic material

⁽²⁾ ≥ 0.8 mm for non magnetic material

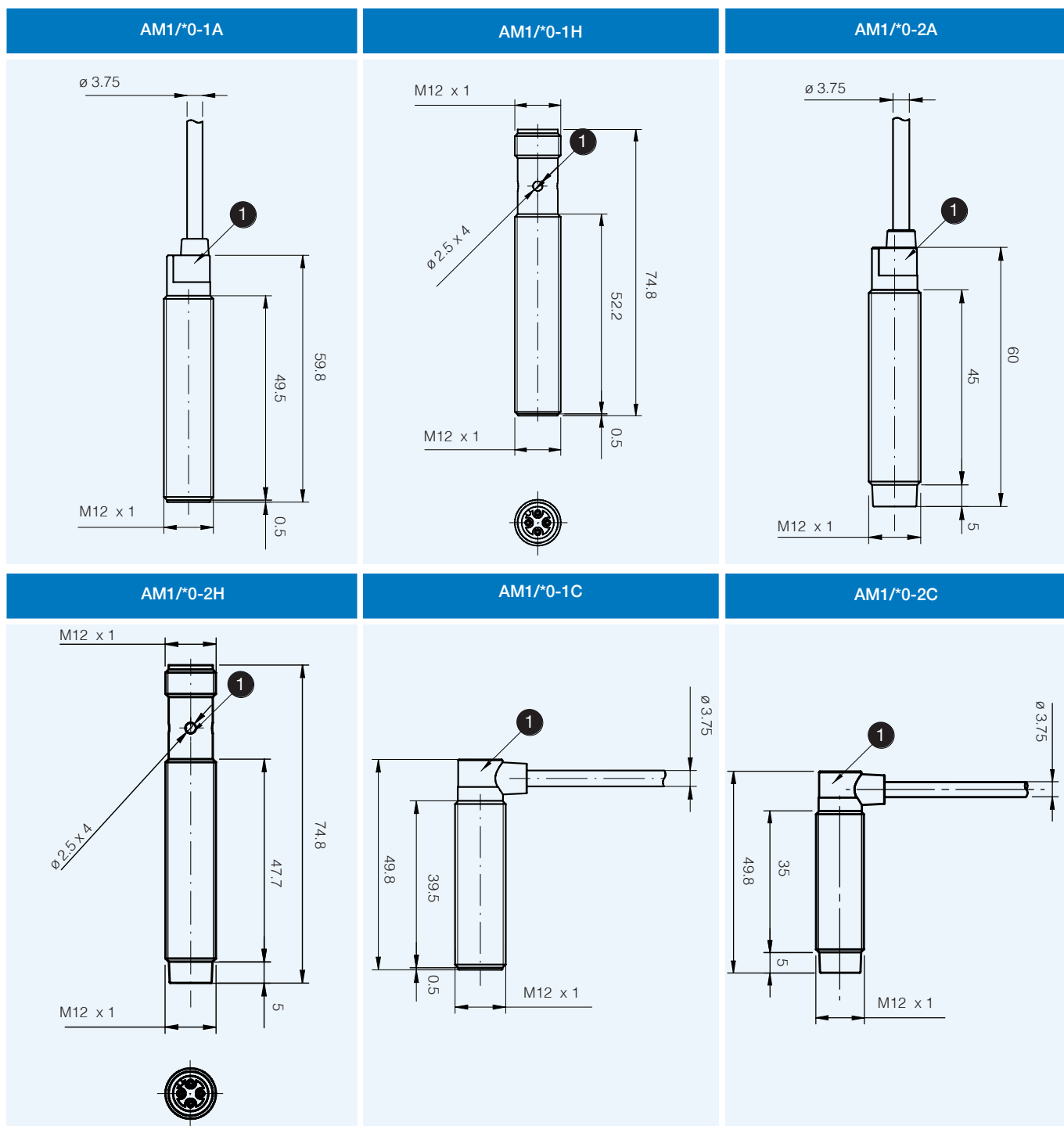
⁽³⁾ ≥ 2 mm for non magnetic material

AM

dimensions (mm)

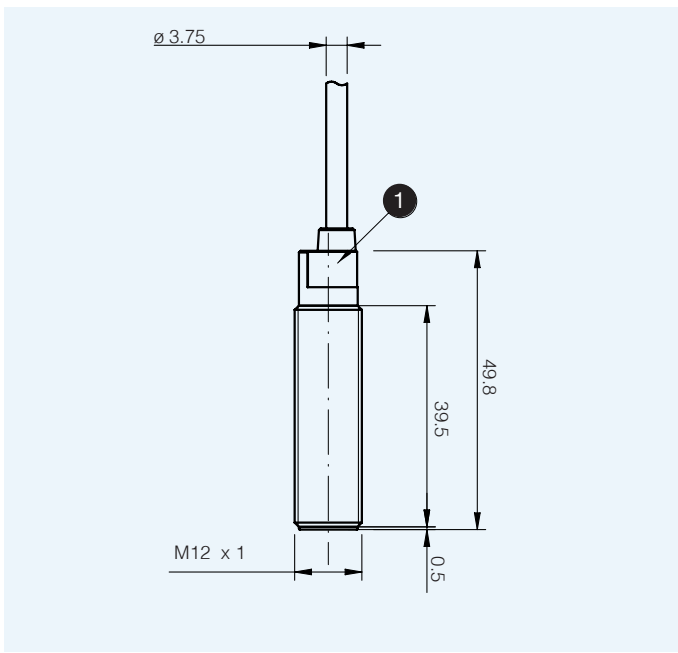


M12 cylindrical

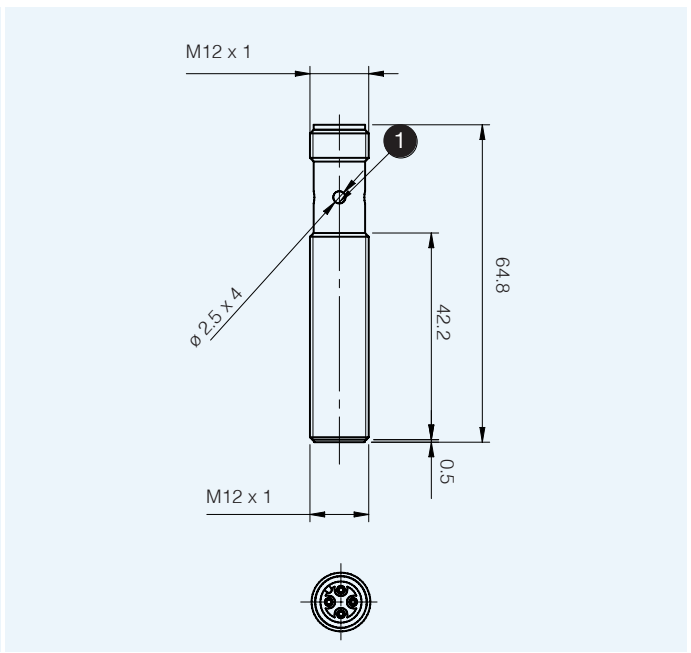


1 LED

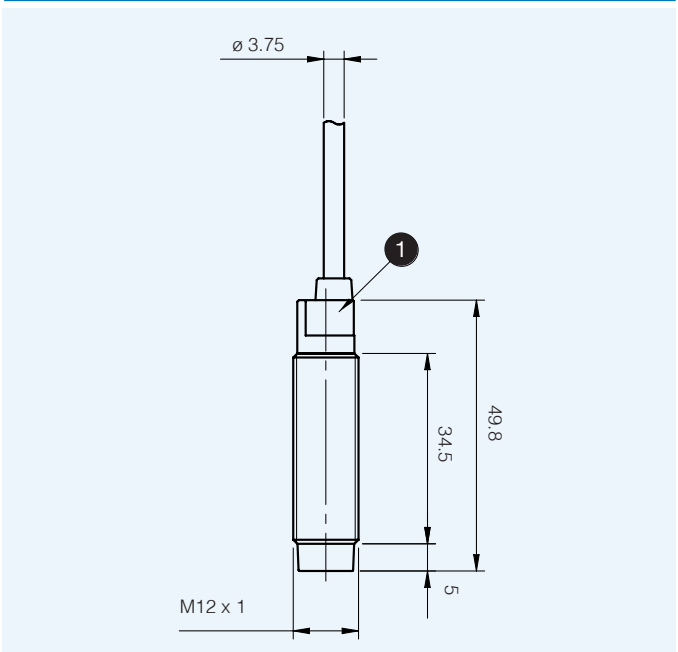
AM1/**-1A
AM1/**-3A



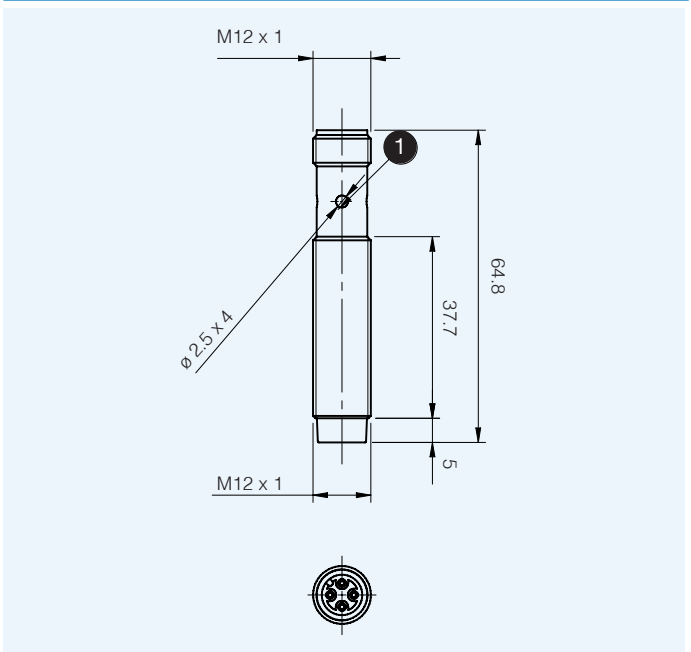
AM1/**-1H
AM1/**-3H



AM1/**-2A
AM1/**-4A



AM1/**-2H
AM1/**-4H



1 LED

dimensioni (mm)



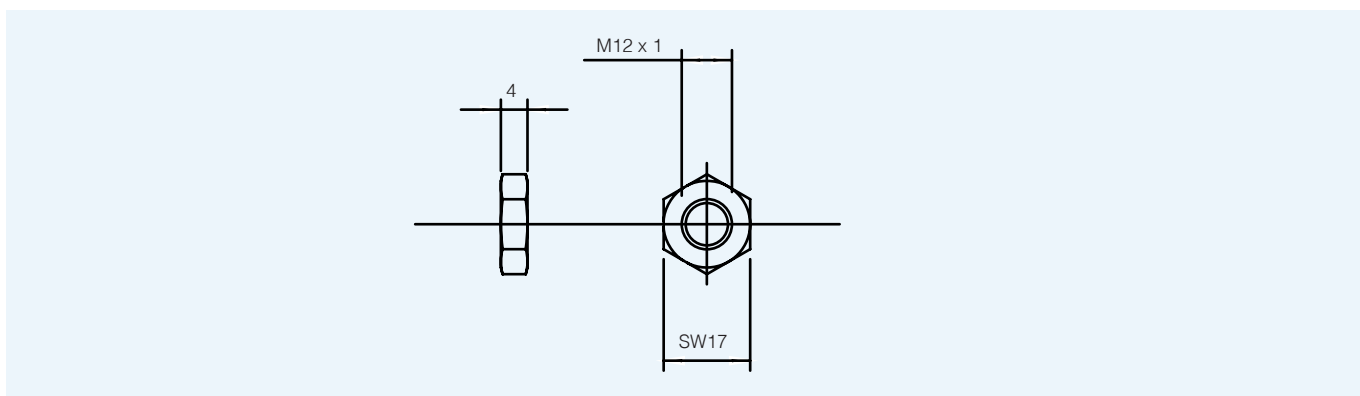
M12 cylindrical

AM6/**-1A AM6/**-3A	AM6/**-1H AM6/**-3H
AM6/**-2A AM6/**-4A	AM6/**-2H AM6/**-4H

dimensions (mm)

1

accessories included



AM