

M12 Inductive DC Proximity Switches

AM1/AM6



Compact inductive proximity switches for DC operation

- Wide range of models: standard, short body, long distance
- Shielded and unshielded models
- Output: cable, M12 and M8 plug cable exit
- Models with 2, 3 wires
- IP67 nickel-plated brass housing
- Short-circuit protection
- LED status indicator 360° visible
- 2 wire DC (AM1)
- Additional cable exit options available
- Nominal sensing range: Shielded 2mm
- Unshielded 4mm
- Long distance: Shielded 4mm
- Unshielded 8mm
- UL and CUL approved



Options and Ordering Codes

Note: The feasibility of a code number does not mean the effective availability of a product

		AM	1	/	A	P	-	1	A		
Series											
M12 inductive proximity switch		AM									
Housing											
Standard body		1									
Short body		6									
Output State											
NO output state						A					
NC output state						C					
		</									

Available Models

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
			M12		AM1/AN-1H	AM1/AP-1H	AM1/CN-1H	AM1/CP-1H
	Unshielded		Cable	4	AM1/AN-2A	AM1/AP-2A	AM1/CN-2A	AM1/CP-2A
			M12		AM1/AN-2H	AM1/AP-2H	AM1/CN-2H	AM1/CP-2H
	Shielded	Cable	Long Distance		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	Cable		8	AM1/AN-4A	AM1/AP-4A	AM1/CN-4A	AM1/CP-4A
		M12			AM1/AN-4H	AM1/AP-4H	AM1/CN-4H	AM1/CP-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
			M12		AM6/AN-1H	AM6/AP-1H	AM6/CN-1H	AM6/CP-1H
	Unshielded		Cable	4	AM6/AN-2A	AM6/AP-2A	AM6/CN-2A	AM6/CP-2A
			M12		AM6/AN-2H	AM6/AP-2H	AM6/CN-2H	AM6/CP-2H
	Shielded	Cable	Long Distance		AM6/AN-3A	AM6/AP-3A	AM6/CN-3A	AM6/CP-3A
		M12			AM6/AN-3H	AM6/AP-3H	AM6/CN-4A	AM6/CP-4A
	Unshielded	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/PNP
M12	Shielded	Standard	Cable	2	AM1/AO-1A
			M12		AM1/AO-1H
	Unshielded		Cable	4	AM1/AO-2A
			M12		AM1/AO-2H
	Shielded	Cable	Long Distance		AM1/AO-3A
		M12			AM1/AO-3H
	Unshielded	Cable		8	AM1/AO-4A
		M12			AM1/AO-4H

Technical Specification

	AM*/**-1*	AM*/**-2*	AM*/**-3*	AM*/**-4*
				
Nominal sensing distance S _n	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 T _a = 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)			
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	10μA (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 S _r	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			

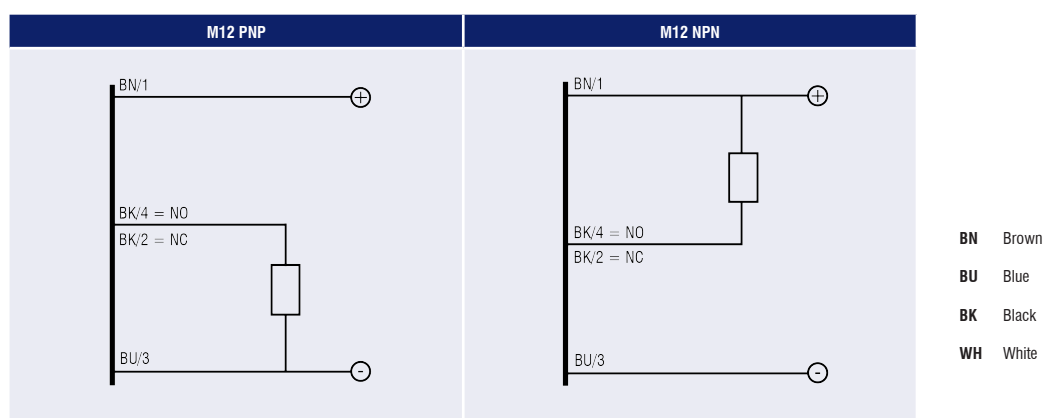
⁽¹⁾ Protection guaranteed only with plug cable well mounted

Correction Factors

Code	Steel FE 360	Copper	Aluminium	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

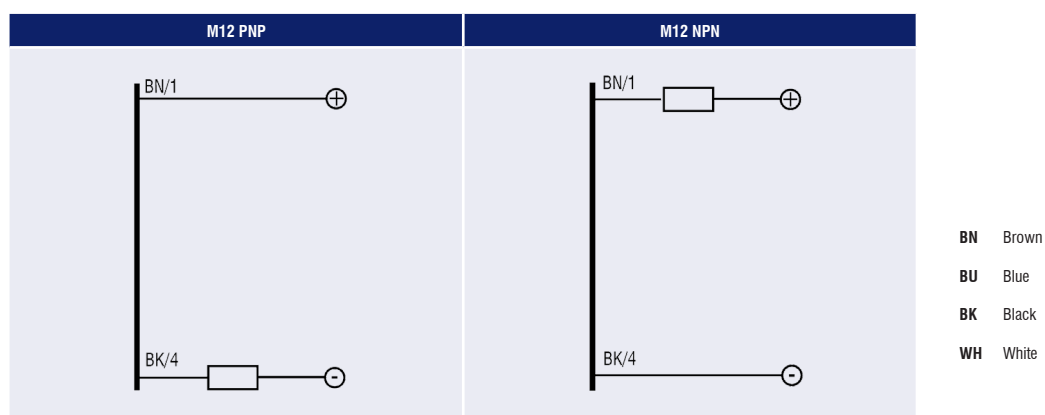
Electrical Diagrams Of Connections

3 Wires Versions



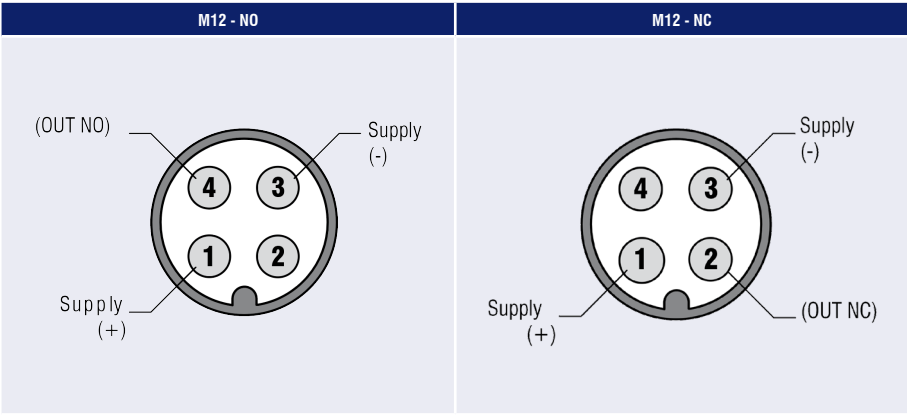
Electrical Diagrams Of Connections

2 Wires Versions



Plug

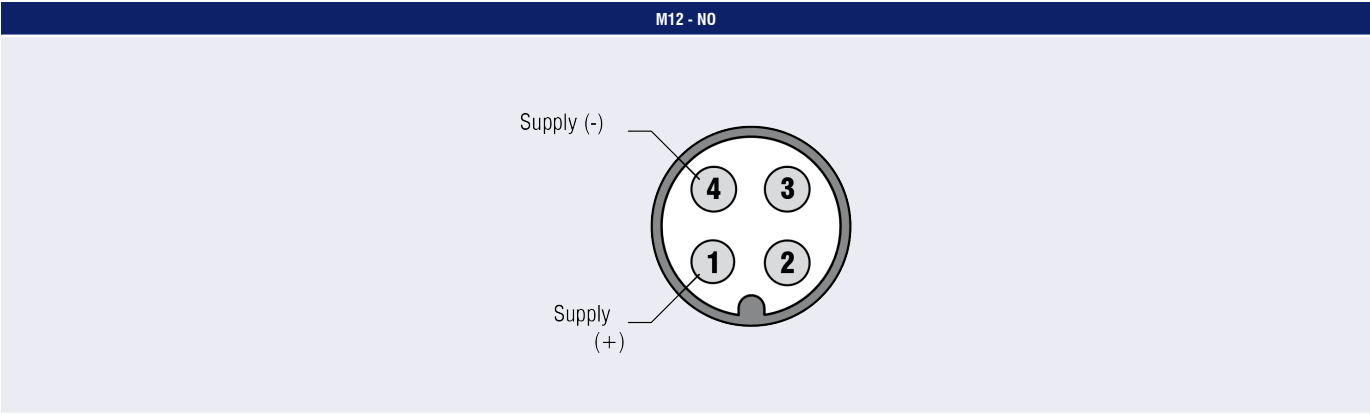
3 Wires Versions



Connectors M12F Series

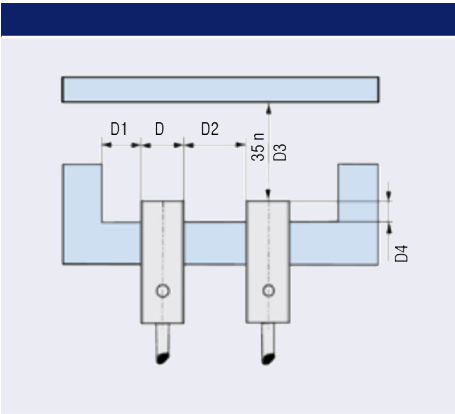
Plug

2 Wires Versions



Connectors M12F Series

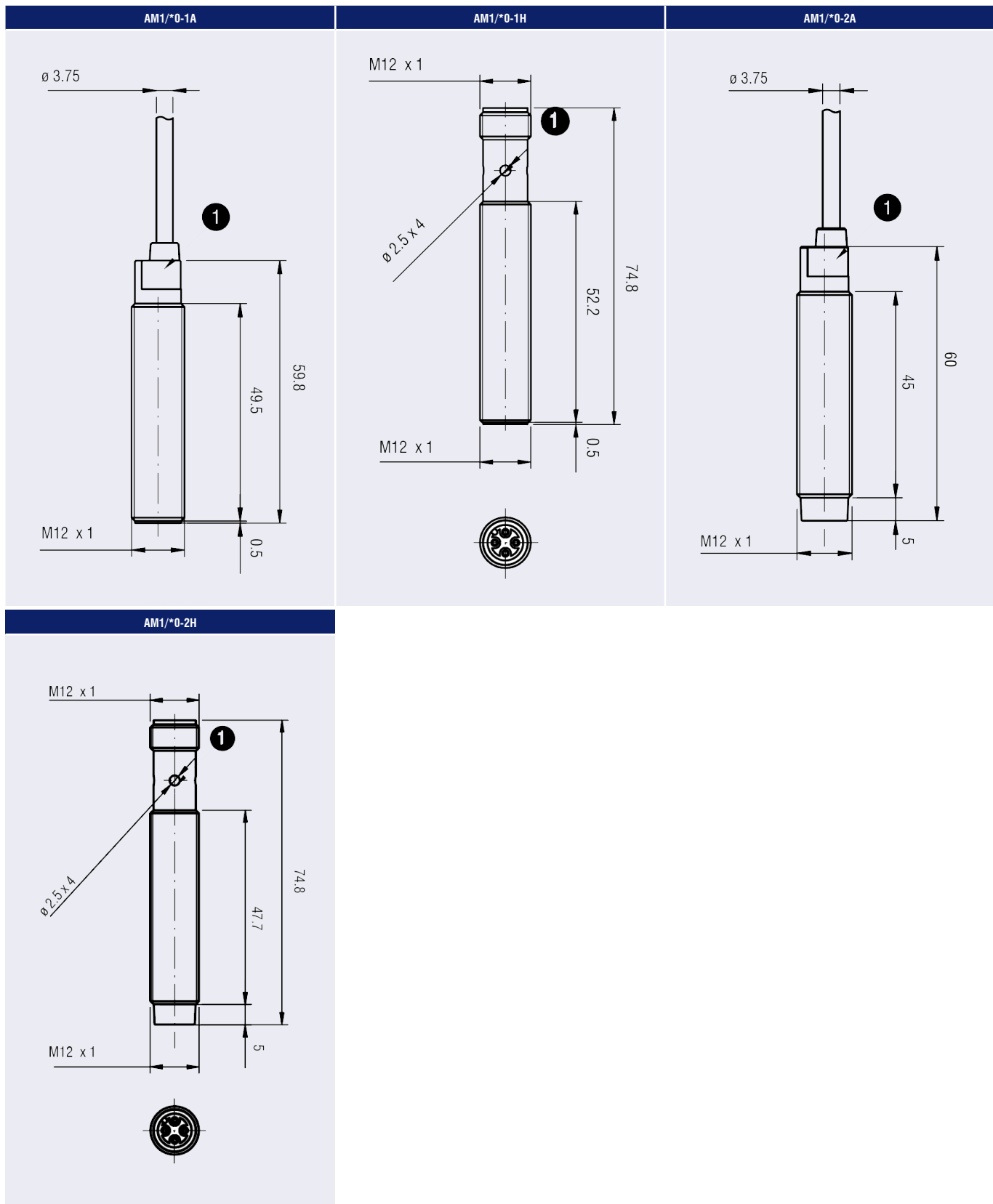
Installation



Code	D4	D1	D2	D3
AM*/**-1*	≥ 0 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM*/**-2*	≥ 1.2 mm	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM*/**-3*	≥ 12 mm ⁽¹⁾	> 7 mm	≥ 12 mm	
AM*/**-4*	≥ 8 mm	≥ 12 mm	> 27 mm	≥ 24 mm
AM*/*0-1*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM*/*0-2*	≥ 8 mm	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM*/A0-3*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	
AM*/A0-4*	≥ 16 mm	≥ 12 mm	≥ 24 mm	≥ 24 mm

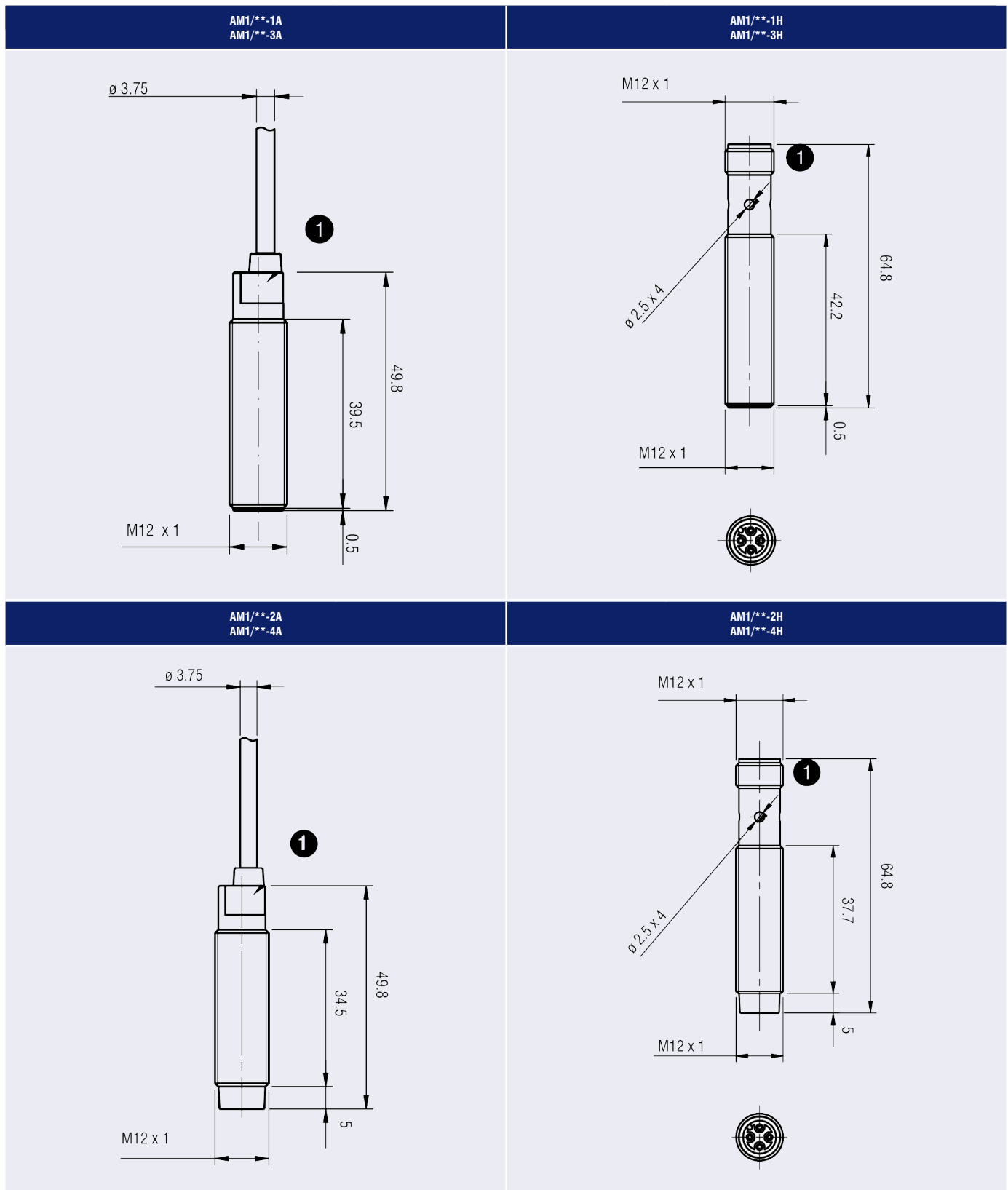
⁽¹⁾ ≥ 2 mm for non magnetic material

Dimensions (mm)



1 LED

Dimensions (mm)



1 LED

Dimensions (mm)

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

1 LED

M12 - NO