



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		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	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	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	
			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		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		cable			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/A0-1A	
			M12		AM1/A0-1H	
	unshielded		cable	4	AM1/A0-2A	
			M12		AM1/A0-2H	
	shielded	long distance	cable		4	AM1/A0-3A
			M12			AM1/A0-3H
	unshielded		cable	8	AM1/A0-4A	
			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		cable	4	AM6/BN-2A	AM6/BP-2A	AM1/BN-2A	AM1/BP-2A
			M12		AM6/BN-2H	AM6/BP-2H	AM1/BN-2H	AM1/BP-2H
	shielded	long distance	cable	4	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		cable	8	AM6/BN-4A	AM6/BP-4A	AM1/BN-4A	AM1/BP-4A
			M12		AM6/BN-4H	AM6/BP-4H	AM1/BN-4H	AM1/BP-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

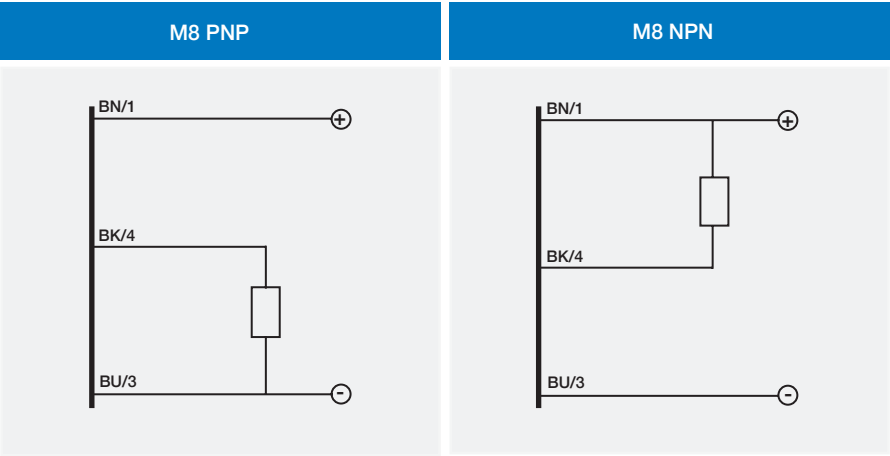


correction factors

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

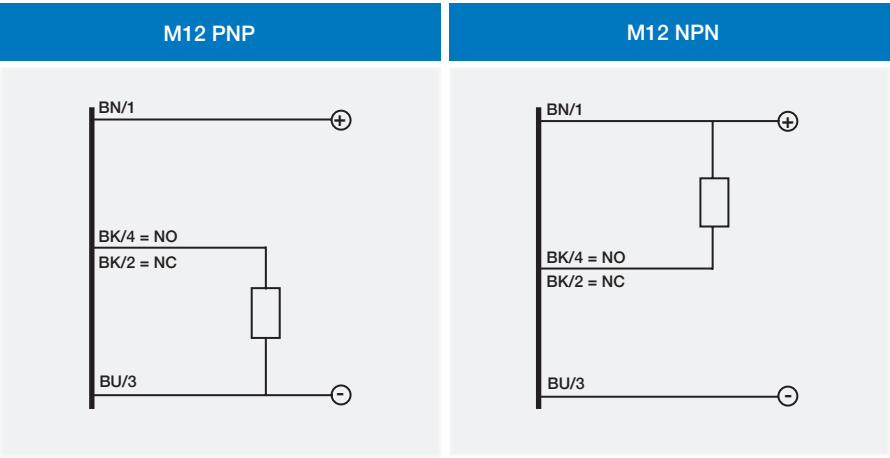
electrical diagrams of connections

3 wires versions



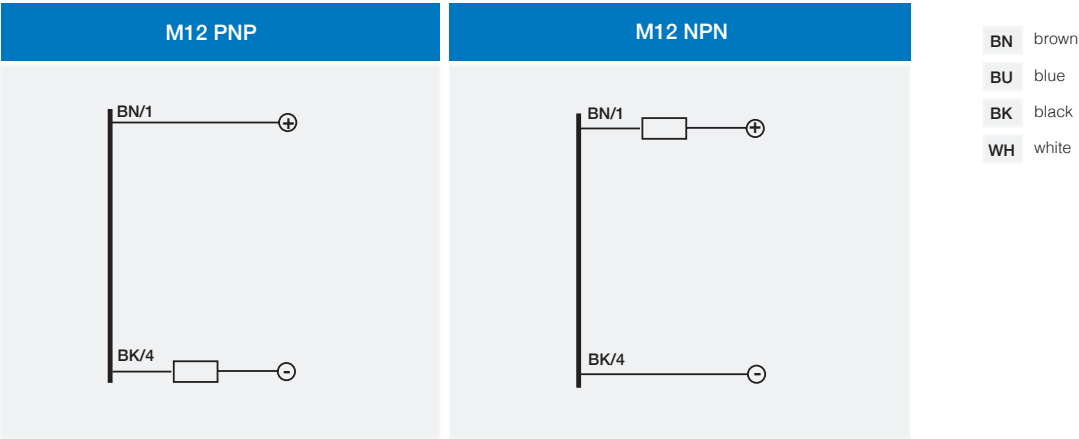
electrical diagrams of connections

3 wires versions



electrical diagrams of connections

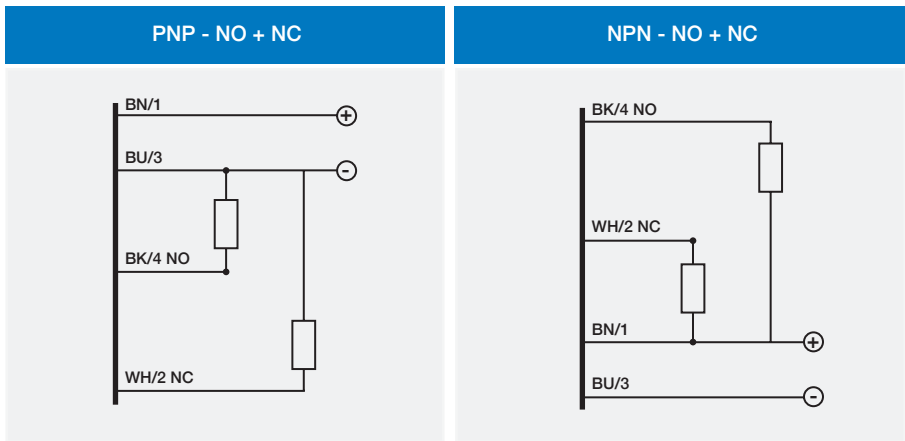
2 wires versions



M12 cylindrical

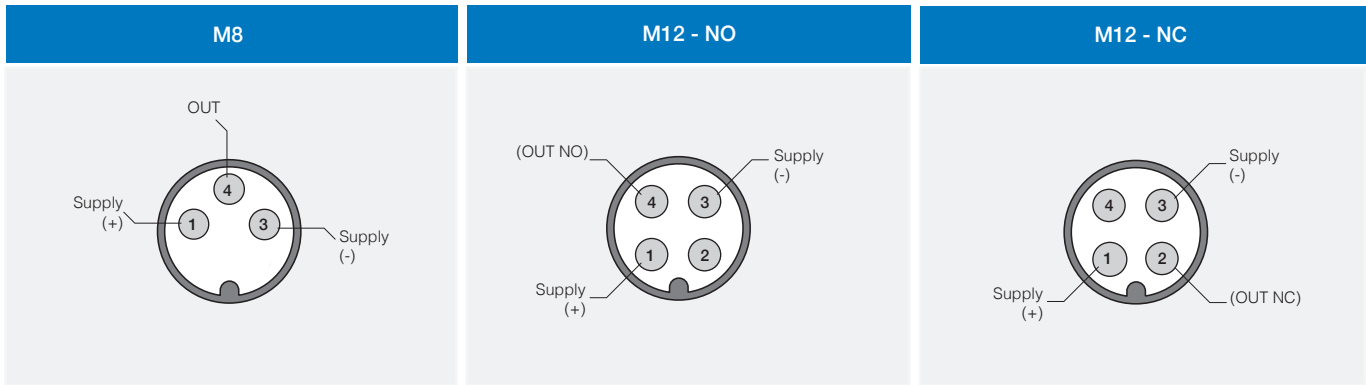
electrical diagrams of connections

4 wires versions



plug

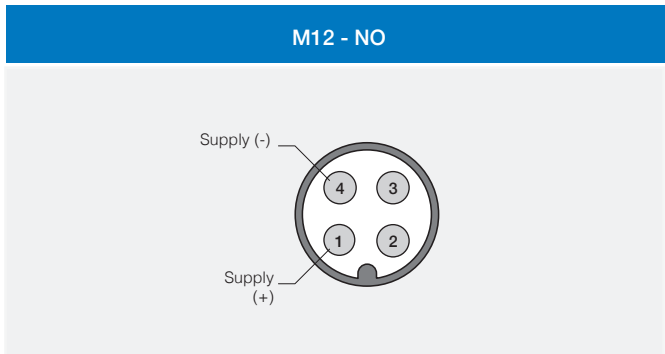
3 wires versions



Connectors CD series

plug

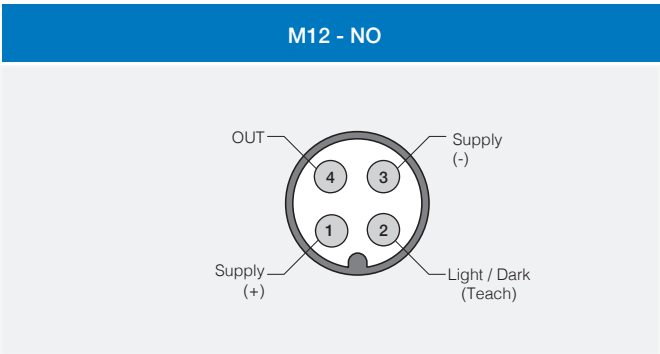
2 wires versions



Connectors CD series

plug

4 wires versions

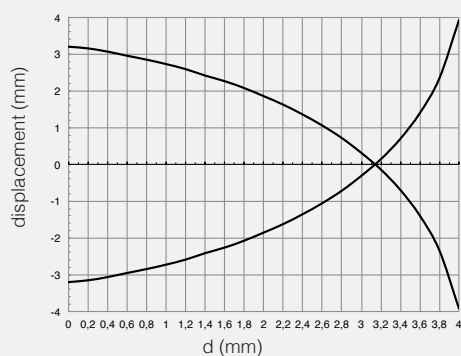


AM

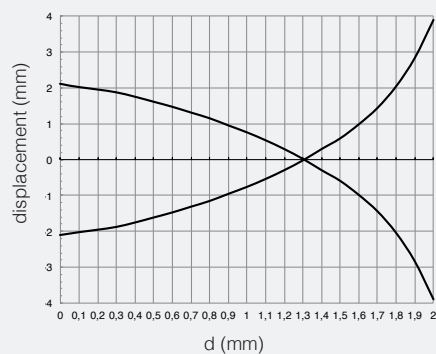


response diagram

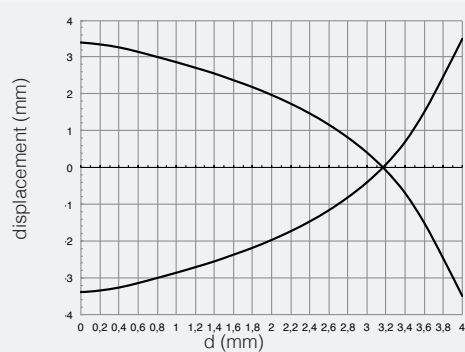
AM*/**-2* parallel displacement



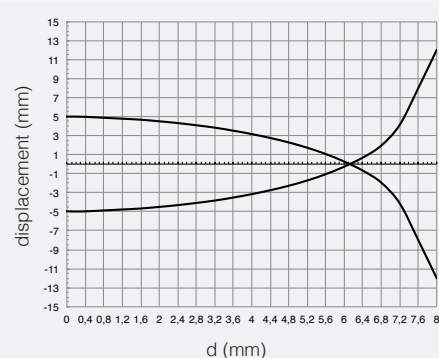
AM6/**-1* parallel displacement



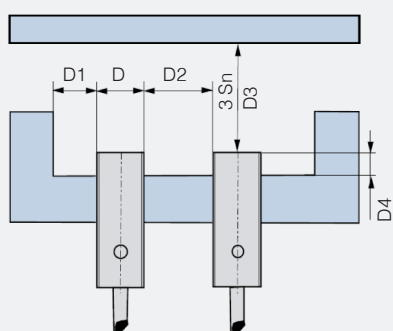
AM*/**-3* parallel displacement



AM*/**-4* parallel displacement



installation



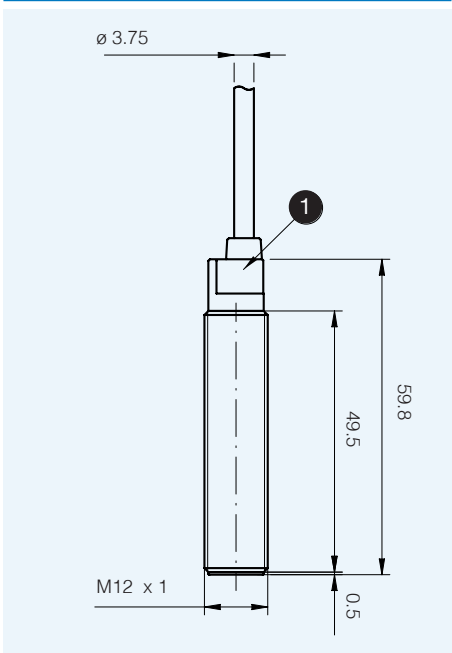
code	D4	D1	D2	D3
AM1/**-1*	≥ 0 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM1/**-2*	≥ 6 mm ⁽¹⁾	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM1/**-3*	≥ 2 mm ⁽²⁾	> 6 mm	≥ 12 mm	≥ 12 mm
AM1/**-4*	≥ 8 mm	≥ 12 mm	> 24 mm	≥ 24 mm
AM1/*0-1*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
AM1/*0-2*	≥ 8 mm	≥ 12 mm	≥ 24 mm	≥ 12 mm
AM1/*0-3*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 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

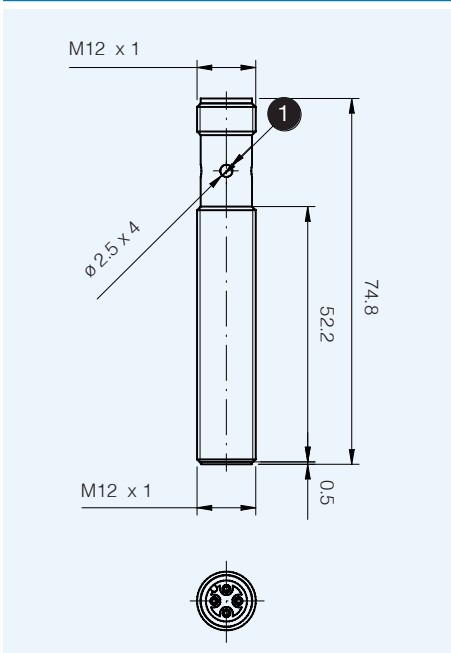


M12 cylindrical

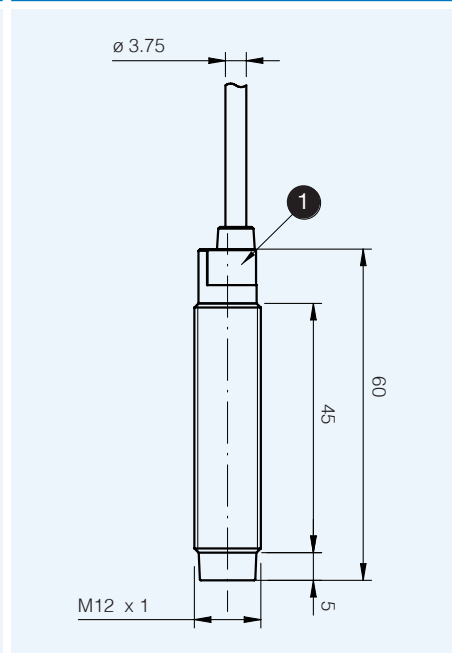
AM1/*0-1A



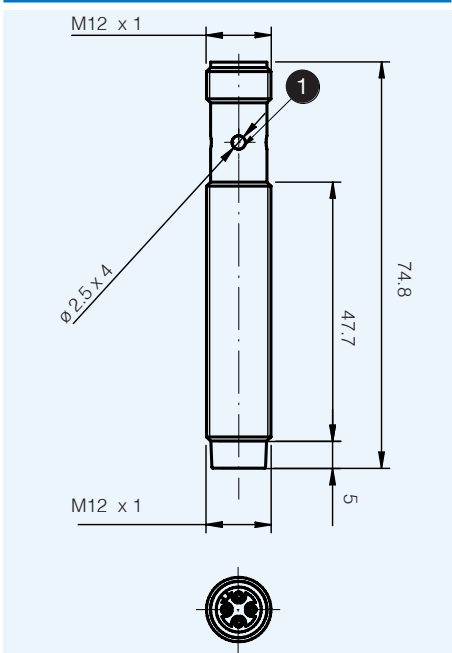
AM1/*0-1H



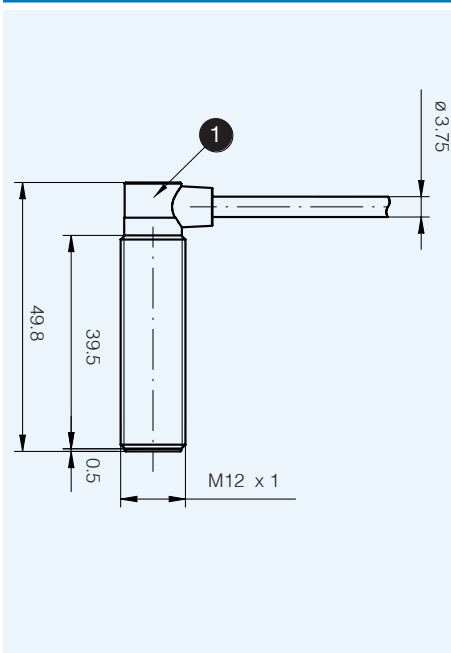
AM1/*0-2A



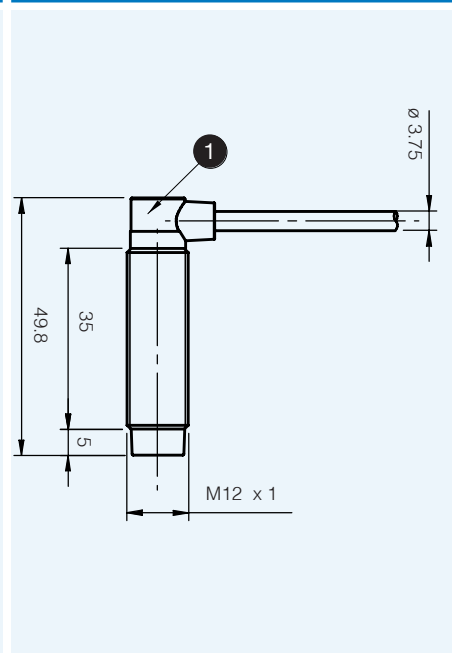
AM1/*0-2H



AM1/*0-1C



AM1/*0-2C



1 LED

dimensions (mm)

AM1/**-1A AM1/**-3A	AM1/**-1H AM1/**-3H
AM1/**-2A AM1/**-4A	AM1/**-2H AM1/**-4H

1 LED

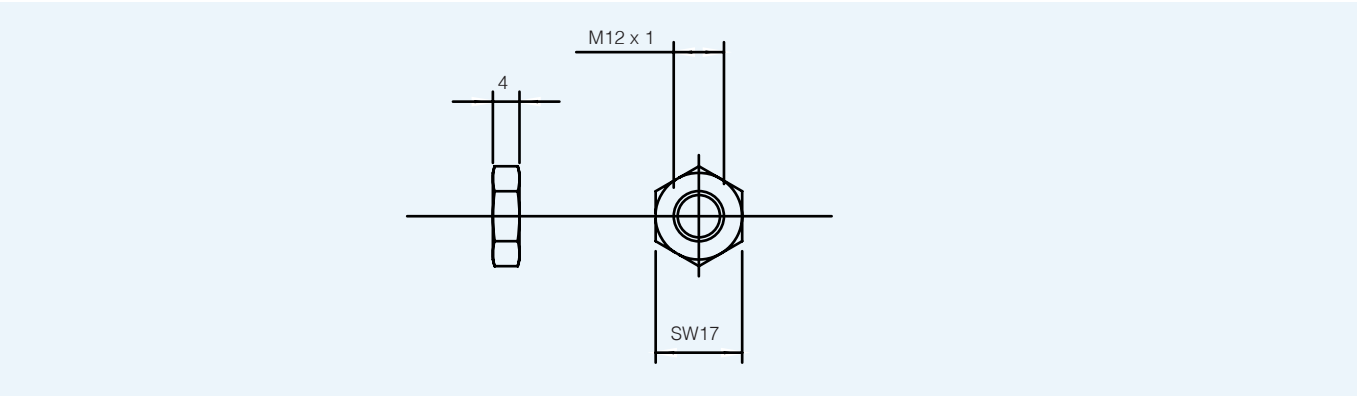
dimensioni (mm)

M12 cylindrical

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

dimensions (mm)

accessories included



EU Declaration of Conformity

UE DICHIARAZIONE DI CONFORMITA', UE DECLARACIÓN DE CONFORMIDAD, UE DÉCLARATION DE CONFORMITÉ, EU KONFORMITÄTSEKTLÄRUNG, EU CONFORMITEITSVERKLARING, EU FÖRSÄKRAN OM ÖVERENSSTÄMMELSE

Manufacturer / Produttore / Fabricante / Fabricant / Hersteller / Fabrikant / Tillverkaren

Datasensing S.r.l.

Strada S. Caterina 235, 41122 Modena - Italy

Apparatus / Apparato / Aparato / Appareil / Gerätetyp / Apparaatmodel / Apparatmodell

AM_AN

Proximity Sensor

This declaration of conformity is issued under the sole responsibility of the manufacturer / La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante / La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante / La présente déclaration de conformité est établie sous la seule responsabilité du fabricant / Die alleinige Verantwortung für die Ausstellung dieser onformitätserklärung trägt der Hersteller / Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant / Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar.

The object of the declaration described above is in conformity with the relevant Union harmonization legislation: / L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione: / El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión: / L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable: / Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union: / Het hierboven beschreven voorwerp is in overeenstemming de desbetreffende harmonisatiewetgeving van de Unie: / Föremålet för försäkran ovan överensstämmer med den relevanta harmoniserade unionslagstiftningen:

2014/30/EU (EMC)

2011/65/EU (RoHS 3)

2014/34/EU (ATEX)

References to the relevant harmonised standards: / Riferimento alle pertinenti norme armonizzate: / Referencias a las normas armonizadas: / Références des normes harmonisées: / Angabe der einschlägigen harmonisierten Normen: / Vermelding van de toegepaste relevante geharmoniseerde normen: / Hänvisningar till de relevanta harmoniserade standarder:

EN60079-0:2018, EN IEC 60079-7:2015/A1:2018, EN60079-31:2014, EN IEC 60947-5-2:2020, EN60947-5-7:2003, EN IEC 63000:2018

to the protection mode/al
modo di protezione



**II 3G Ex ec nC IIC T6 Gc
II 3D Ex tc IIIB T85°C Dc (connector)
II 3G Ex nC IIC T6 Gc
II 3D Ex tc IIIB T85°C Dc (cable)**

Certificate nr.
Nr. Certificato

0802005X

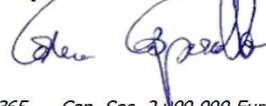
The sign "X" placed after the certificate number indicates that the device or protective system is subject to special conditions for safe use specified in the technical documentation.

Il segno "X" posto dopo il numero di certificato indica che il dispositivo è soggetto a condizioni speciali per l'uso in sicurezza specificate nella documentazione tecnica.

EU 37

**Modena
8/01/2024**

**Cosimo Capuzzello
(Chief Executive Officer)**



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Società soggetta ad attività di direzione e coordinamento da parte di Datalogic S.r.l. ai sensi dell'art. 2497 – bis Codice Civile