



Каталог

Індуктивні датчики наближення Micro Detectors



AE series

M8 cylindrical inductive sensors



M8 cylindrical

features

- Extremely reduced measure
- Metal housing
- LED status indicator 360° visible
- IP 67 housing protection
- ATEX models, cat. 3, available on request
- Complete protection against electrical damages
- Standard and long distance models
- Standard and short body housing



web contents



- Application notes
- Photos
- Catalogue / Manuals



code description

	AE	1	/	A	P	-	1	A
series	AE	M8 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						
	P	PNP logic output						
distance	1	Shielded standard 1.5 mm						
	2	Unshielded standard 2.5 mm						
	3	Long distance shielded 2 mm						
	4	Unshielded long distance 4 mm						
connect.	A	Axial 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	plug	distance (mm)	NPN/NO	NPN/NC	PNP/NO	PNP/NC
M8	shielded	standard	cable	1.5	AE1/AN-1A	AE1/CN-1A	AE1/AP-1A	AE1/CP-1A
			M8		AE1/AN-1F	AE1/CN-1F	AE1/AP-1F	AE1/CP-1F
			M12		AE1/AN-1H	AE1/CN-1H	AE1/AP-1H	AE1/CP-1H
	unshielded		cable	2.5	AE1/AN-2A	AE1/CN-2A	AE1/AP-2A	AE1/CP-2A
			M8		AE1/AN-2F	AE1/CN-2F	AE1/AP-2F	AE1/CP-2F
			M12		AE1/AN-2H	AE1/CN-2H	AE1/AP-2H	AE1/CP-2H
	shielded	long distance	cable	2	AE1/AN-3A	AE1/CN-3A	AE1/AP-3A	AE1/CP-3A
			M8		AE1/AN-3F	AE1/CN-3F	AE1/AP-3F	AE1/CP-3F
			M12		AE1/AN-3H	AE1/CN-3H	AE1/AP-3H	AE1/CP-3H
	unshielded		cable	4	AE1/AN-4A	AE1/CN-4A	AE1/AP-4A	AE1/CP-4A
			M8		AE1/AN-4F	AE1/CN-4F	AE1/AP-4F	AE1/CP-4F
			M12		AE1/AN-4H	AE1/CN-4H	AE1/AP-4H	AE1/CP-4H

available models

short housing

diameter	installation	distance	plug	distance (mm)	NPN/NO	NPN/NC	PNP/NO	PNP/NC
M8	shielded	standard	cable	1.5	AE6/AN-1A	AE6/CN-1A	AE6/AP-1A	AE6/CP-1A
			M8		AE6/AN-1F	AE6/CN-1F	AE6/AP-1F	AE6/CP-1F
	unshielded		cable	2.5	AE6/AN-2A	AE6/CN-2A	AE6/AP-2A	AE6/CP-2A
			M8		AE6/AN-2F	AE6/CN-2F	AE6/AP-2F	AE6/CP-2F
	shielded	long distance	cable	2	AE6/AN-3A	AE6/CN-3A	AE6/AP-3A	AE6/CP-3A
			M8		AE6/AN-3F	AE6/CN-3F	AE6/AP-3F	AE6/CP-3F
	unshielded		cable	4	AE6/AN-4A	AE6/CN-4A	AE6/AP-4A	AE6/CP-4A
			M8		AE6/AN-4F	AE6/CN-4F	AE6/AP-4F	AE6/CP-4F

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
AE*/**-1*	1	0.29	0.38	0.49	0.78
AE*/**-2*		0.43	0.51	0.59	0.83
AE*/**-3*		0.35	0.43	0.52	0.78
AE*/**-4*		0.47	0.52	0.58	0.79



	AE*/**-1*	AE*/**-2*	AE*/**-3*	AE*/**-4*
				
nominal sensing distance	1.5 mm	2.5 mm	2 mm	4 mm
operating distance	0...1.21 mm	0...2.02 mm	0...1.62 mm	0...3.24 mm
hysteresis	1...20% Sr			
standard target	8x8 mm FE360			12x12 mm FE360
repeatability	5%			
operating voltage	10...30 Vdc			
max ripple content	≤ 10%			
output type	NPN or PNP - NO or NC			
output current	≤ 200 mA			
output voltage drop	≤ 1,8 V @ 200 mA			
no-load supply current	10 mA			
leakage current	≤ 10 µA			
switching frequency	5 kHz			
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 60947-5-2			
weight	20 g connector / 45 g cable			
LEDs	yellow LED output state			
protection degree	IP 67 (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	3 Nm			

electrical diagrams of connections

M12 PNP	M12 NPN
M8 PNP	M8 NPN

BN brown
BU blue
BK black
WH white

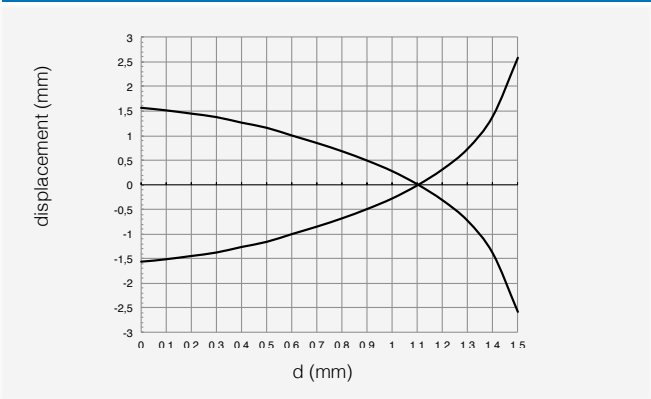
BN brown
BU blue
BK black
WH white

plug

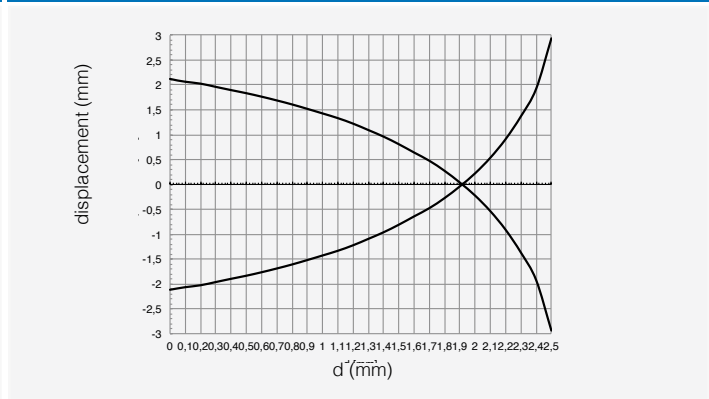
M8	M12 - NO
M12 - NC	



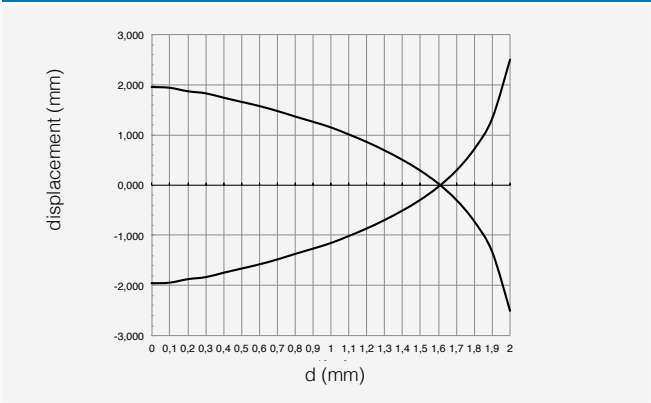
AE*/**-1* parallel displacement



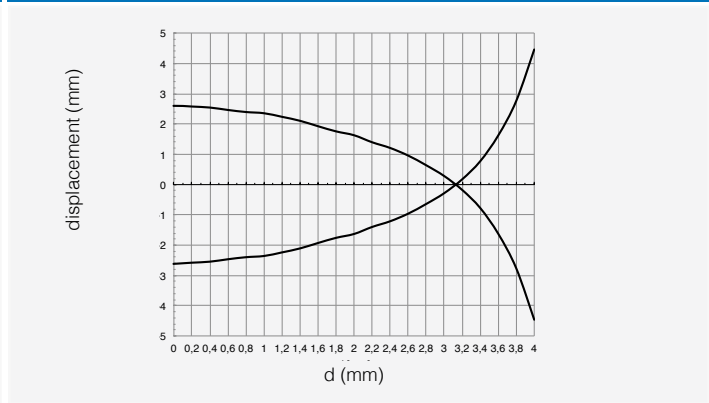
AE*/**-2* parallel displacement



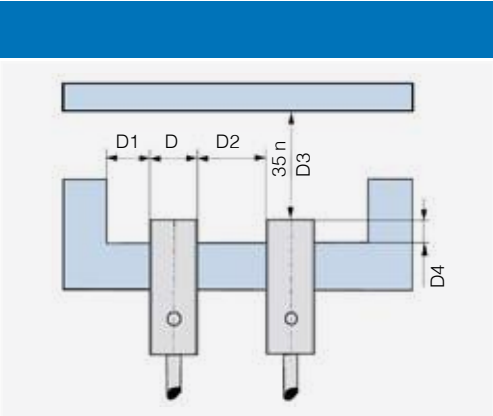
AE*/**-3* parallel displacement



AE*/**-4* parallel displacement



installation



code	D4	D1	D2	D3
AE*/**-1*	≥ 0 mm	≥ 3.25 mm	≥ 6.5 mm	≥ 4.5 mm
AE*/**-2*	≥ 4 mm ⁽¹⁾	≥ 6.5 mm	> 17 mm	≥ 7.5 mm
AE*/**-3*	≥ 0 mm	≥ 3.25 mm	≥ 6.5 mm	≥ 6 mm
AE*/**-4*	≥ 4 mm	≥ 6.5 mm	> 17 mm	≥ 12 mm

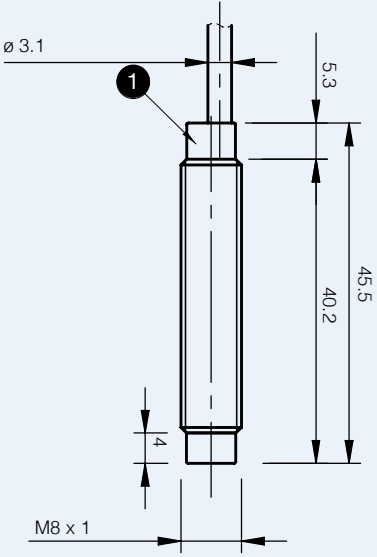
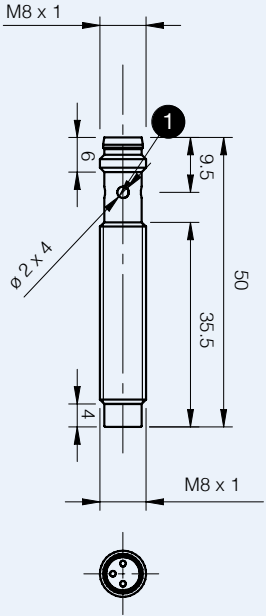
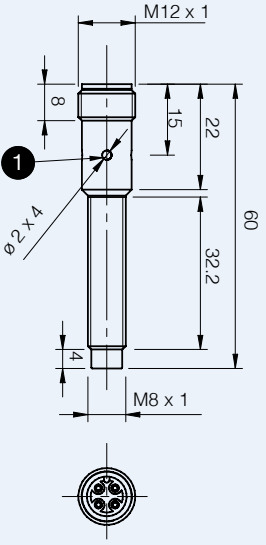
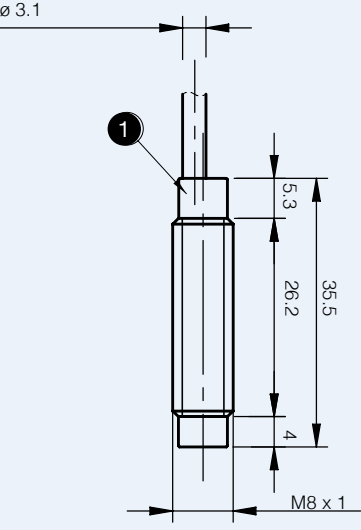
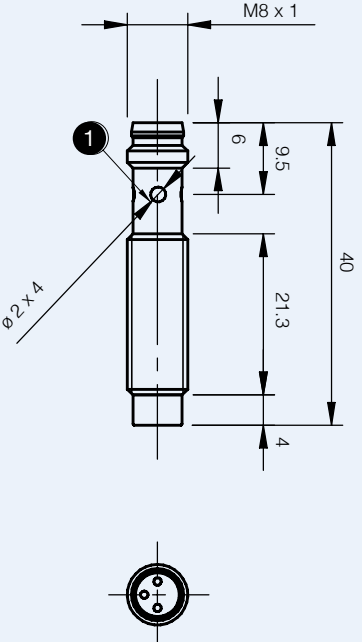
(1) ≥ 0 mm for non magnetic materials

dimensions (mm)

AE1/**-1A AE1/**-3A	AE1/**-1F AE1/**-3F	AE1/**-1H AE1/**-3H
AE6/**-1A AE6/**-3A	AE6/**-1F AE6/**-3F	

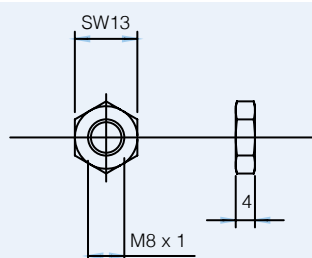
1 LED



AE1/**-2A AE1/**-4A	AE1/**-2F AE1/**-4F	AE1/**-2H AE1/**-4H
		
AE6/**-2A AE6/**-4A	AE6/**-2F AE6/**-4F	
		

dimensions (mm)

accessories included



metallic
nut (2 x)



AM series

M12 cylindrical inductive sensors



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



M12 cylindrical

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						
	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

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

	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)			
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			

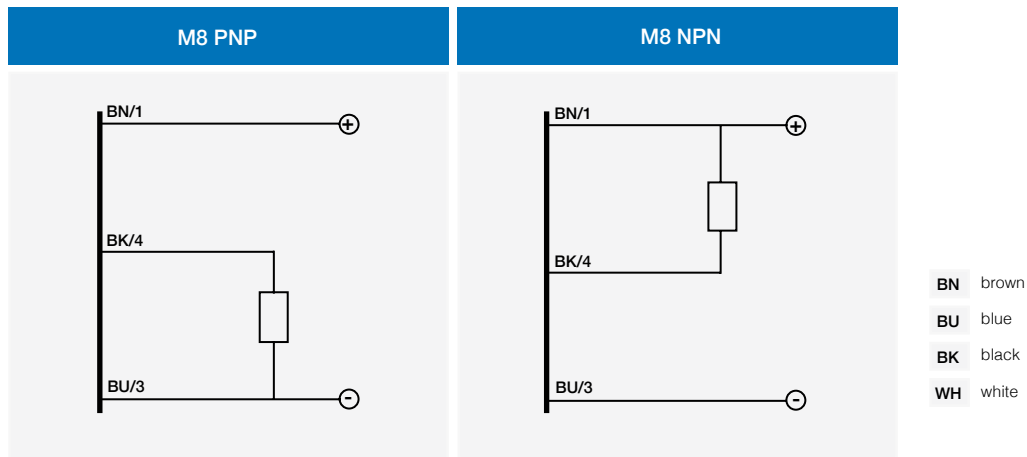
⁽¹⁾Protection guaranteed only with plug cable wall mounted

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

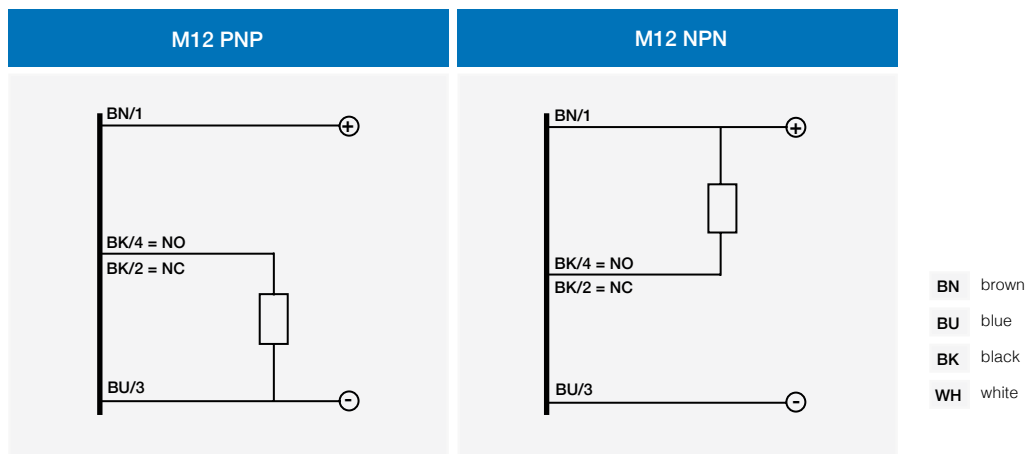
electrical diagrams of connections

3 wires versions



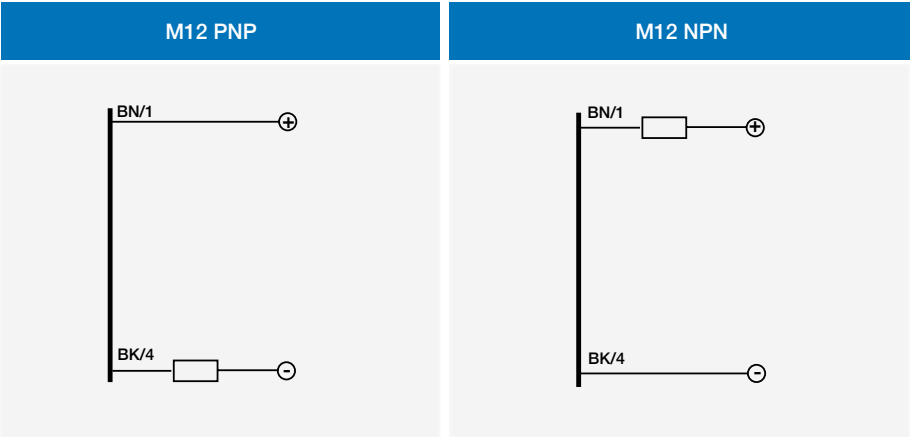
electrical diagrams of connections

3 wires versions



electrical diagrams of connections

2 wires versions

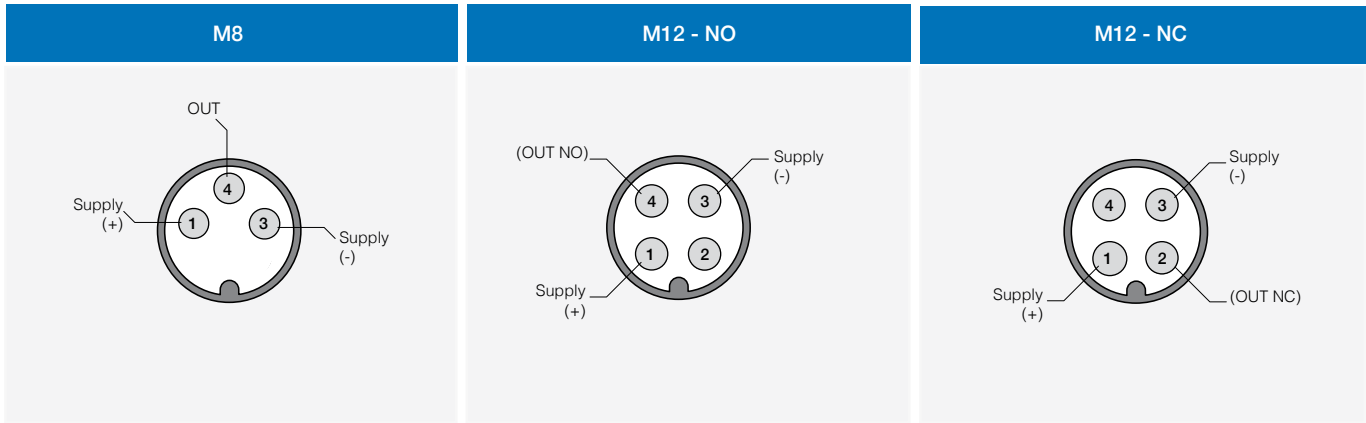


- BN brown
- BU blue
- BK black
- WH white

M12 cylindrical

plug

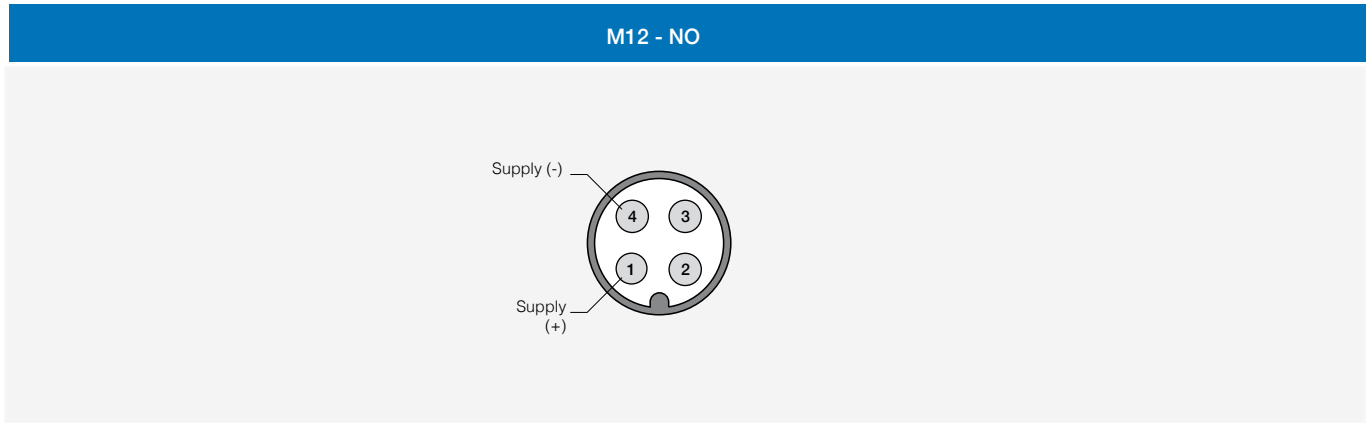
3 wires versions



Connectors CD series

plug

2 wires versions

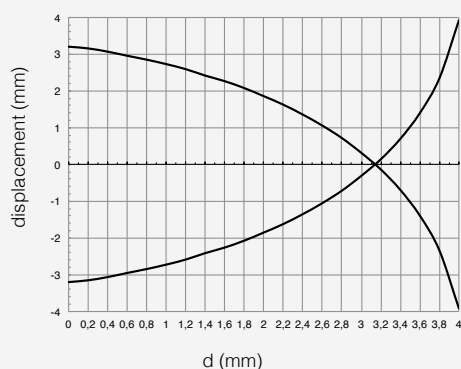


Connectors CD series

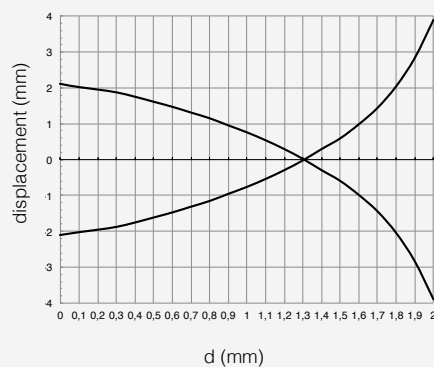


response diagram

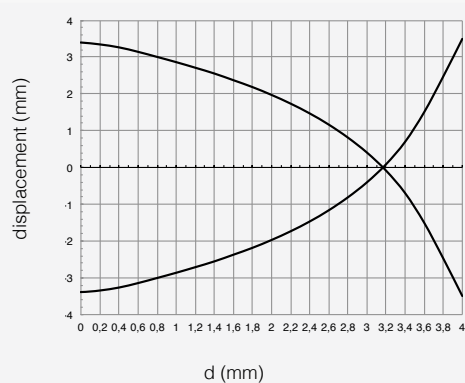
AM*/**-2* parallel displacement



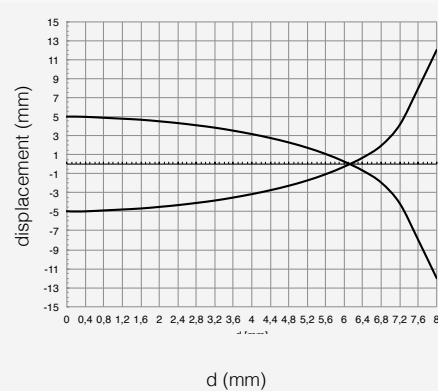
AM6/**-1* parallel displacement



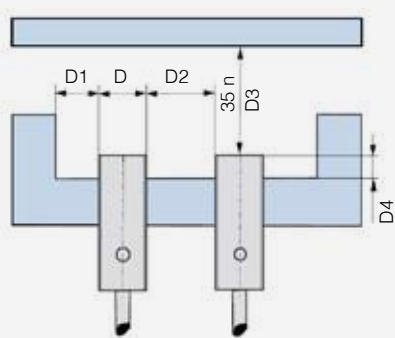
AM*/**-3* parallel displacement



AM*/**-4* parallel displacement



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	≥ 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*/*0-3*	≥ 2.4 mm	≥ 6 mm	≥ 12 mm	≥ 12 mm
AM*/*0-4*	≥ 16 mm	≥ 12 mm	≥ 24 mm	≥ 24 mm

⁽¹⁾ ≥ 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

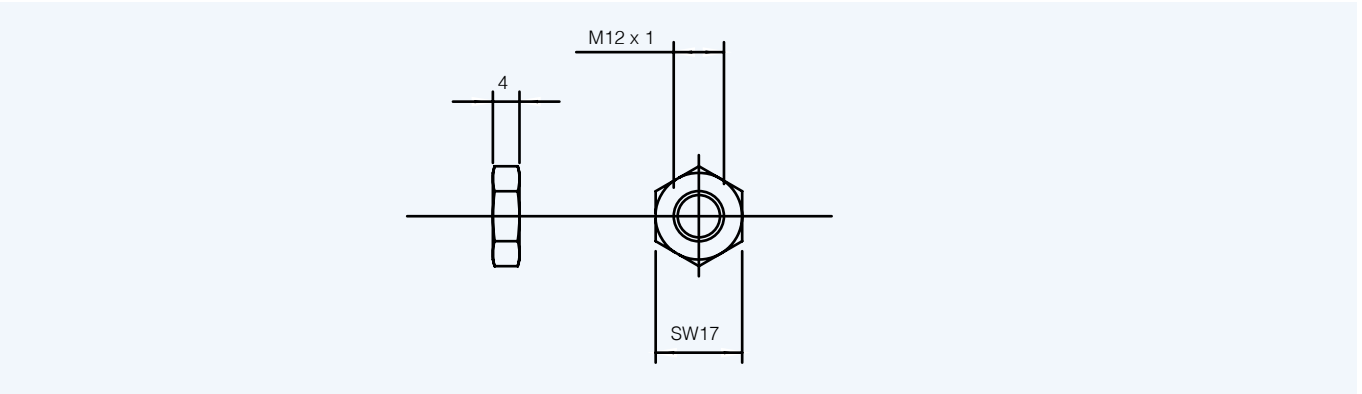
dimensions (mm)

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

1 LED

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

1 LED





AK series

M18 cylindrical inductive sensors



M18 cylindrical

features

- Wide range of models: standard, long distance
- Output: cable, M12 and plug cable exit
- Models with 2, 3, and 4 wires
- ATEX models, cat. 3, available on request
- Models with complementary output (NO+NC)



web contents

- Application notes
- Photos
- Catalogue / Manuals



code description^(*)

	AK	1	/	A	P	-	1	A
series	AK	M18 inductive proximity switch						
housing	1	Standard body						
	6	Short body						
output state	A	NO output state						
	C	NC output state						
	B	NO and NC complementary outputs						
output logic	N	NPN logic output						
	0	2 wires version						
	P	PNP logic output						
distance	1	Shielded standard 5 mm						
	2	Unshielded standard 8 mm						
	3	Long distance shielded 8 mm						
	4	Unshielded long distance 12 mm						
connect.	A	Axial cable exit						
	C	Right angle cable exit						
	H	M12 plug cable exit						

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

available models

standard housing

diameter	installation	distance	exit	distance (mm)	NPN/NO	PNP/NO	NPN/NC	PNP/NC
M18	shielded	standard	cable	5	AK1/AN-1A	AK1/AP-1A	AK1/CN-1A	AK1/CP-1A
			cable 90°		AK1/AN-1C	AK1/AP-1C	AK1/CN-1C	AK1/CP-1C
			M12		AK1/AN-1H	AK1/AP-1H	AK1/CN-1H	AK1/CP-1H
	unshielded		cable	8	AK1/AN-2A	AK1/AP-2A	AK1/CN-2A	AK1/CP-2A
			cable 90°		AK1/AN-2C	AK1/AP-2C	AK1/CN-2C	AK1/CP-2C
			M12		AK1/AN-2H	AK1/AP-2H	AK1/CN-2H	AK1/CP-2H
	shielded	long distance	cable		AK1/AN-3A	AK1/AP-3A	AK1/CN-3A	AK1/CP-3A
			M12		AK1/AN-3H	AK1/AP-3H	AK1/CN-3H	AK1/CP-3H
	unshielded		cable	12	AK1/AN-4A	AK1/AP-4A	AK1/CN-4A	AK1/CP-4A
			M12		AK1/AN-4H	AK1/AP-4H	AK1/CN-4H	AK1/CP-4H

available models

short housing

diameter	installation	distance	exit	distance (mm)	NPN/NO	PNP/NO	NPN/NO + NC	PNP/NO + NC
M18	shielded	standard	cable	5	AK6/AN-1A	AK6/AP-1A	AK6/BN-1A	AK6/BP-1A
	unshielded			8	AK6/AN-2A	AK6/AP-2A	AK6/BN-2A	AK6/BP-2A
	shielded	long distance			AK6/AN-3A	AK6/AP-3A	AK6/BN-3A	AK6/BP-3A
	unshielded			12	AK6/AN-4A	AK6/AP-4A	AK6/BN-4A	AK6/BP-4A
	shielded	standard	M12	5	AK6/AN-1H	AK6/AP-1H	AK6/BN-1H	AK6/BP-1H
	unshielded			8	AK6/AN-2H	AK6/AP-2H	AK6/BN-2H	AK6/BP-2H
	shielded	long distance			AK6/AN-3H	AK6/AP-3H	AK6/BN-3H	AK6/BP-3H
	unshielded			12	AK6/AN-4H	AK6/AP-4H	AK6/BN-4H	AK6/BP-4H

available models

DC 2 wires models

diameter	installation	distance	exit	distance (mm)	NO - PNP/NPN
M18	shielded	standard	cable	5	AK1/A0-1A
			M12		AK1/A0-1H
	unshielded		cable	8	AK1/A0-2A
			M12		AK1/A0-2H
	shielded	long distance	cable		AK1/A0-3A
			M12		
	unshielded		cable	12	AK1/A0-4A
			M12		AK1/A0-4H

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
AK1/**-1*	1	0.4	0.48	0.72	0.86
AK1/**-2*		0.45	0.53	0.56	0.77
AK1/**-3*		0.4	0.45	0.5	0.75
AK1/**-4*		0.45	0.53	0.56	0.77
AK6/**-1*		0.12	0.2	0.26	0.62
AK6/**-2*		0.3	0.37	0.46	0.78
AK6/**-3*		0.13	0.2	0.24	0.61
AK6/**-4*		0.32	0.39	0.42	0.69

technical specification

	AK1/**-1*	AK1/**-2*	AK1/**-3*	AK1/**-4*
				
nominal sensing distance	5 mm	8 mm	8 mm	12 mm
operating distance	0...4 mm	0...6.5 mm	0...6.5 mm	0...9.7 mm
hysteresis	1...20%			
standard target	18 x18 mm FE 360	24 x 24 mm FE 360		36 x 36 mm FE 360
repeatability	5%			
operating voltage	10...30 Vdc			
output type	NPN or PNP - NO or NC (3 wires models), NPN/PNP- NO (2 wires models)			
max ripple content	≤ 10%			
output current	≤ 400 mA (3...100 mA or 2 wires versions)			
output voltage drop	≤ 1V @ 400 mA (2.8 V @ 100 mA or 2 wires versions)			
no-load supply current	20 mA			
leakage current	10 µA (0.8 mA or 2 wires versions)			
switching frequency	600 Hz (300 Hz for 2 wires)		300 Hz (150 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 60947-5-2			
weight	55 g connector 130 g cable			
LEDs	yellow LED output state			
protection degree	IP 67 ⁽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 M12			
tightening torque	25 Nm			

⁽¹⁾ Protection guaranteed only with plug cable well mounted



technical specification

	AK6/**-1*	AK6/**-2*	AK6/**-3*	AK6/**-4*
				
nominal sensing distance	5 mm	8 mm	8 mm	12 mm
operating distance	0...4 mm	0...6.5 mm	0...6.5 mm	0...9.7 mm
hysteresys	0...20%			
standard target	18x18 mm FE 360	24x24 mm FE 360		36x36 mm FE 360
repeatability	5% Ub 20-30V Ta=23°C±5°C			
operating voltage	10...30 Vdc			
ripple	≤ 10 %			
output current	≤ 400 mA			
output voltage drop	≤ 1.5 V @ 400 mA			
no-load current	≤ 10 mA			
logic output	PNP or NPN			
output state	NO or NO+NC			
leakage current	10 µA			
switching frequency	2,5 KHz	2 KHz	2,5 KHz	2 KHz
power on delay	≤ 50 ms			
temperature range	-25°C...+70°C			
temperature drift	≤ 10%			
short circuit protection	● (autoreset)			
induction protection	●			
voltage reversal protection	●			
EMC	in conformity with the EMC Directive, according to IEC 60947-5-2			
shocks and vibrations	IEC 60947-5-2			
protection degree	IP67			
housing material	nickelplated brass			
active head material	PBT			
LEDs	output on (yellow LED)			
connections	M12 connector, 2 m PVC cable			
tightening torque	25 Nm			

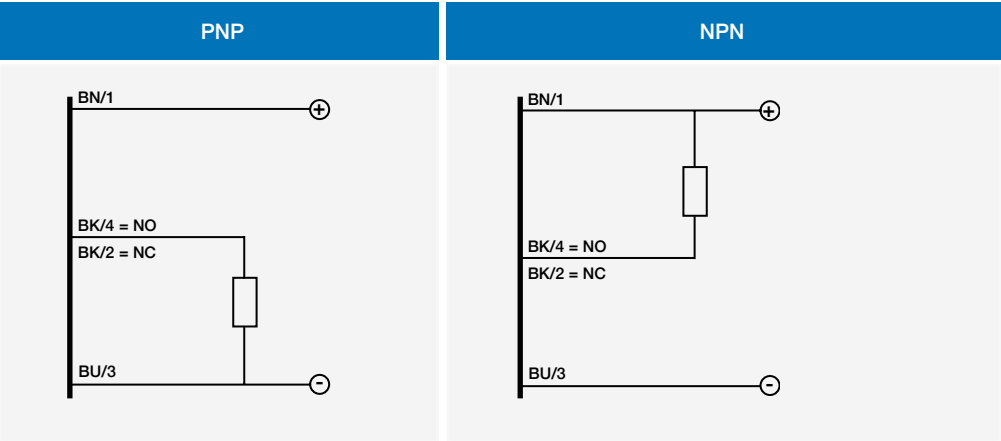
⁽¹⁾ Protection guaranteed only with plug cable well mounted

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
AK6/00-1*	1	0.36	0.43	0.49	0.80
AK6/00-2*	1	0.43	0.38	0.75	0.31
AK6/00-3*	1	0.39	0.45	0.51	0.77
AK6/00-4*	1	0.47	0.42	0.74	0.36

electrical diagrams of connections

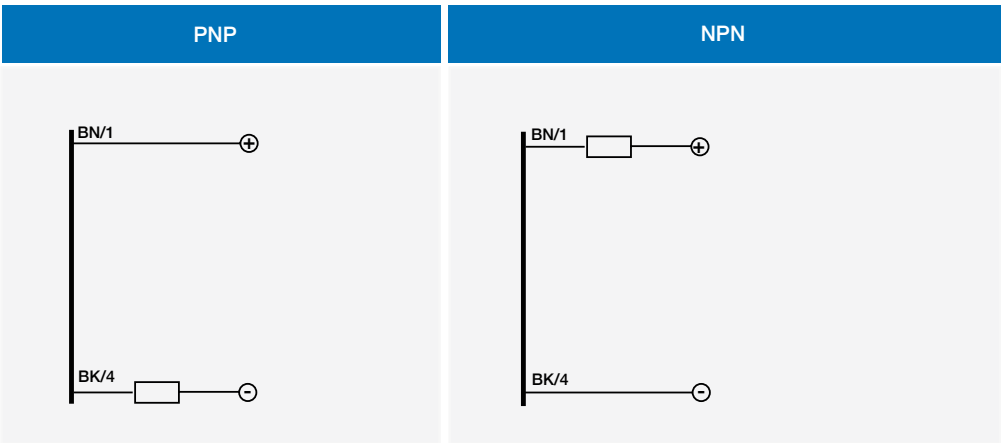
3 wires versions



- BN brown
- BU blue
- BK black
- WH white

electrical diagrams of connections

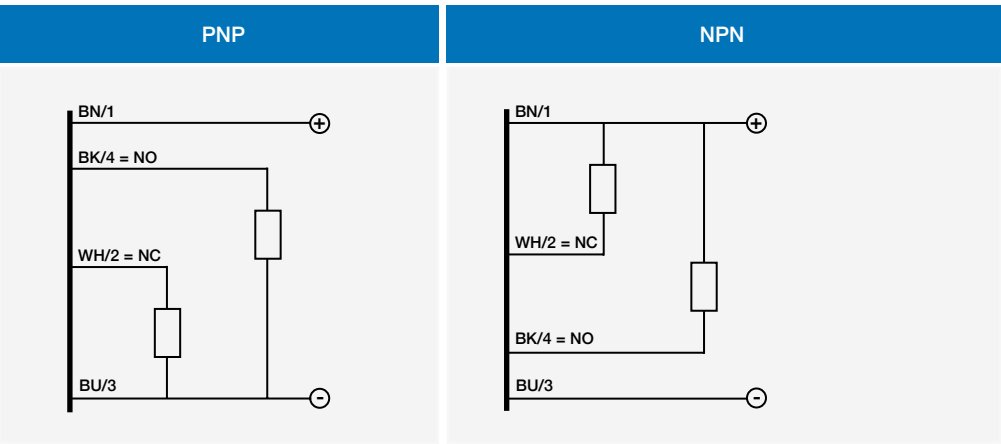
2 wires versions



- BN brown
- BU blue
- BK black
- WH white

electrical diagrams of connections

PKS-PKW complementary outputs versions



- BN brown
- BU blue
- BK black
- WH white

plug

3 wires versions



plug

2 wires versions



plug

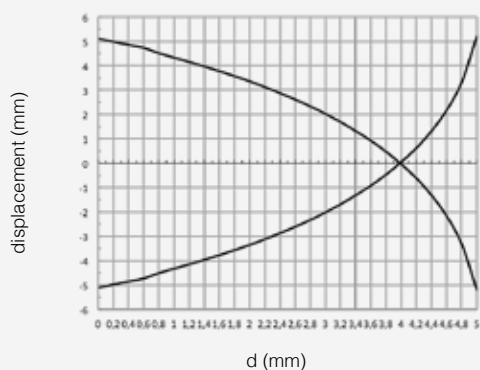
versioni complementary outputs versions

installation

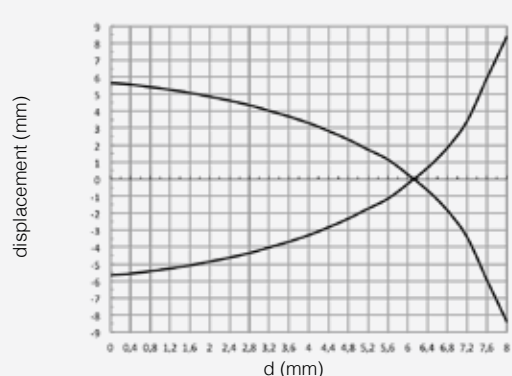
	code	D4	D1	D2	D3
	AK/**-1*	≥ 3.6 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
	AK/**-2* -	≥ 16 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm
	AK1/**-3*	≥ 3.6 mm	≥ 9 mm	≥ 18 mm	≥ 24 mm
	AK1/**-4*	≥ 16 mm	≥ 18 mm	≥ 36 mm	≥ 36 mm
	AK6/**-1*	≥ 3.6 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
	AK6/**-2*	≥ 12 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm
	AK6/**-3*	≥ 1.8 mm ⁽¹⁾	≥ 9 mm	≥ 18 mm	≥ 24 mm
	AK6/**-4*	≥ 16 mm	≥ 18 mm	≥ 36 mm	≥ 36 mm

⁽¹⁾ ≥ 5.4 mm for not magnetic materials

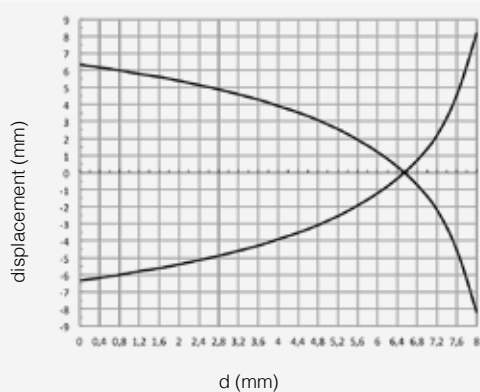
AK1/**-1* parallel displacement



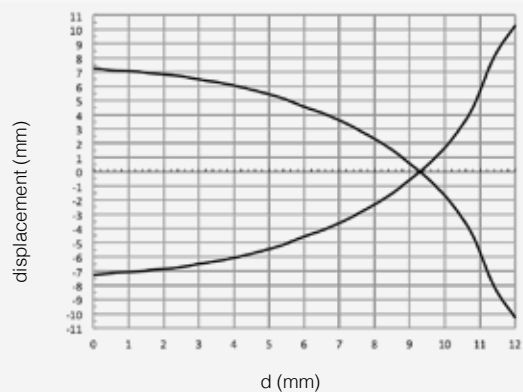
AK1/**-2* parallel displacement



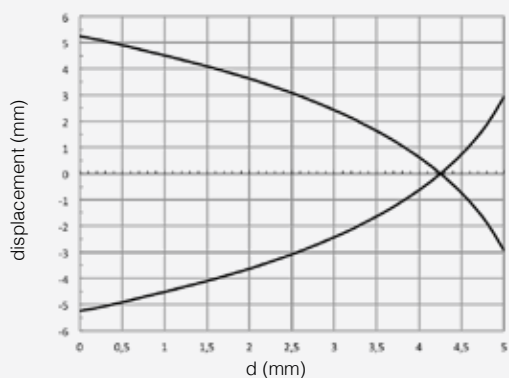
AK1/**-3* parallel displacement



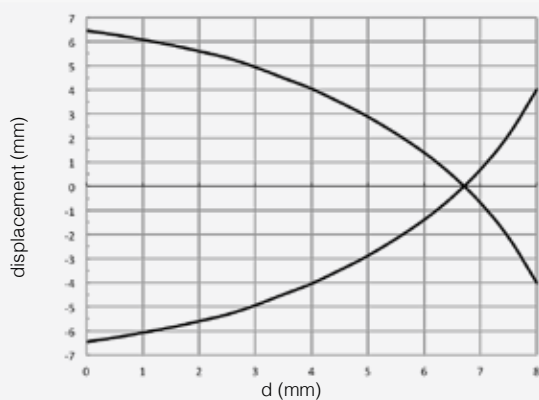
AK1/**-4* parallel displacement



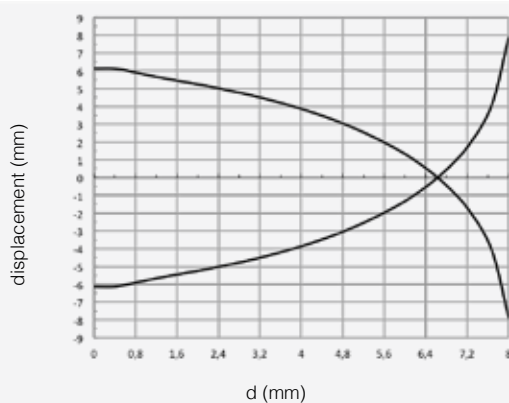
AK6/**-1* parallel displacement



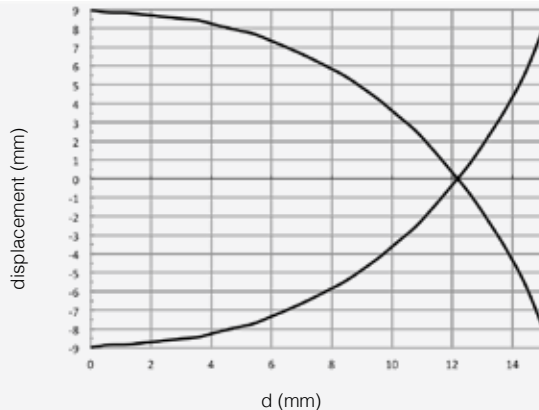
AK6/**-2* parallel displacement



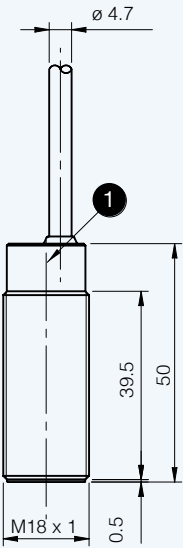
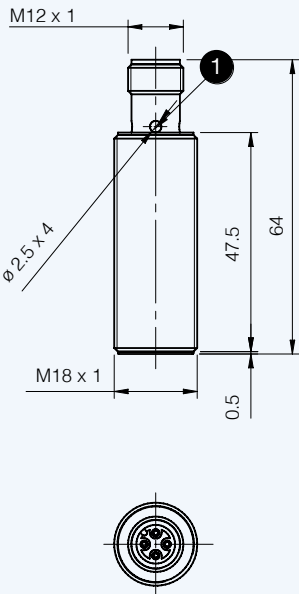
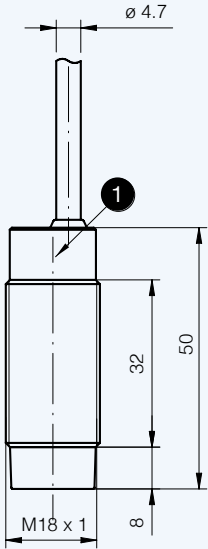
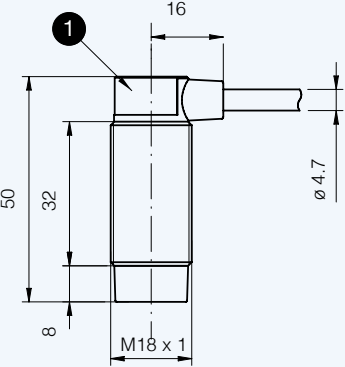
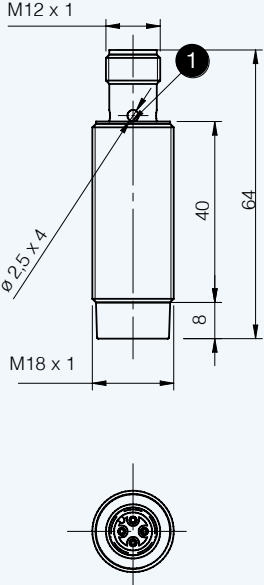
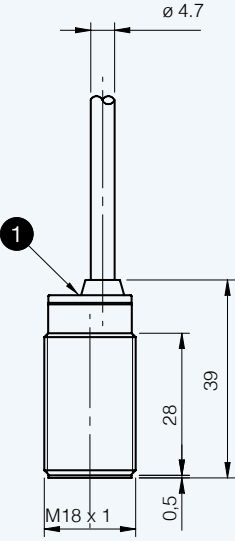
AK6/**-3* parallel displacement



AK6/**-4* parallel displacement



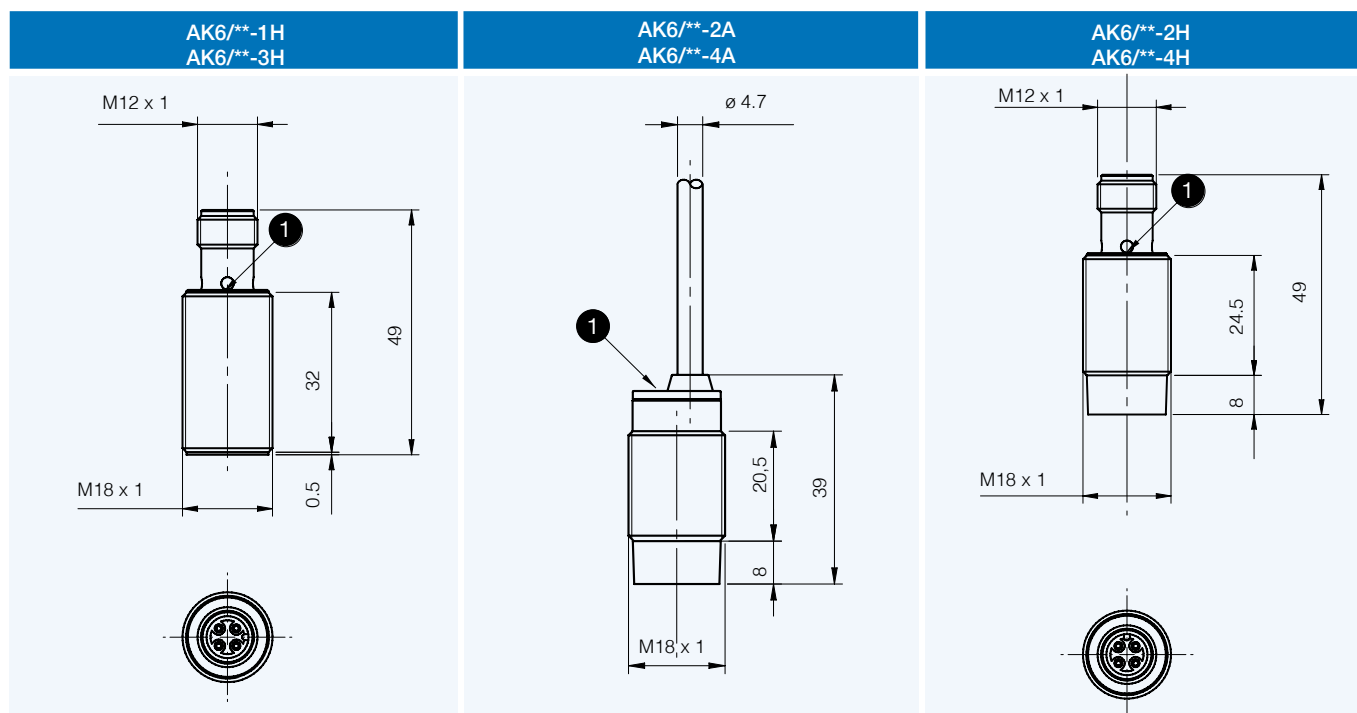
dimensions (mm)

AK1/**-1A AK1/**-3A	AK1/**-1H AK1/**-3H	AK1/**-2A AK1/**-4A
		
AK1/**-2C AK1/**-4C	AK1/**-2H AK1/**-4H	AK6/**-1A AK6/**-3A
		

1 LED



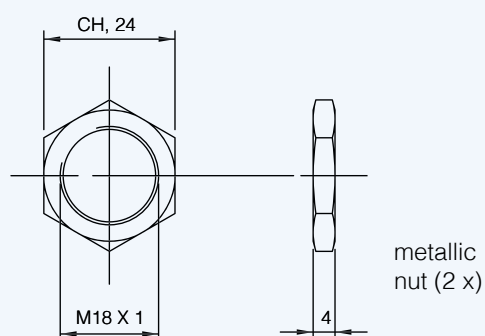
M18 cylindrical



1 LED

dimensions (mm)

accessories included





AT series

M30 cylindrical
inductive sensors



M30 cylindrical

features

- Wide range of models: standard, long distance
- Output: cable, M12 and plug cable exit
- Models with 2, 3, and 4 wires
- ATEX models, cat. 3, available on request
- Models with complementary output (NO + NC)
- Complete protection against electrical damages



web contents



- Application notes
- Photos
- Catalogue / Manuals



code description (*)

	AT	1	/	A	P	-	1	A
series	AT	M30 inductive proximity switch						
housing	1	Standard body						
output state	A	NO output state						
	C	NC output state						
	0	NO+NC complementary output						
output logic	N	NPN logic output						
	0	2 wires version						
	P	PNP logic output						
distance	1	Shielded standard 10 mm						
	2	Unshielded standard 15 mm						
	3	Long distance shielded 15 mm						
	4	Long distance unshielded 20 mm						
connect.	A	Axial cable exit						
	B	Axial cable exit with tang						
	H	M12 plug cable exit						

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

available models

4 wires standard housing

diameter	installation	distance	plug	distance (mm)	PNP/NO+NC
M30	shielded	standard	M12	10	AT1/0P-1H
	unshielded			15	AT1/0P-2H
	shielded	long distance			
	unshielded			20	AT1/0P-4H

available models

3 wires standard housing

diameter	installation	distance	plug	distance (mm)	NPN/NO	NPN/NC	PNP/NO	PNP/NC
M30	shielded	standard	cable	10	AT1/AN-1A	AT1/CN-1A	AT1/AP-1A	AT1/CP-1A
			cable with tang		AT1/AN-1B	AT1/CN-1B	AT1/AP-1B	AT1/CP-1B
			M12		AT1/AN-1H	AT1/CN-1H	AT1/AP-1H	AT1/CP-1H
	unshielded		cable	15	AT1/AN-2A	AT1/CN-2A	AT1/AP-2A	AT1/CP-2A
			cable with tang		AT1/AN-2B	AT1/CN-2B	AT1/AP-2B	AT1/CP-2B
			M12		AT1/AN-2H	AT1/CN-2H	AT1/AP-2H	AT1/CP-2H
	shielded	cable	AT1/AN-3A		AT1/CN-3A	AT1/AP-3A	AT1/CP-3A	
		M12	AT1/AN-3H		AT1/CN-3H	AT1/AP-3H	AT1/CP-3H	
	unshielded	long distance	cable		20	AT1/AN-4A	AT1/CN-4A	AT1/AP-4A
			M12	AT1/AN-4H		AT1/CN-4H	AT1/AP-4H	AT1/CP-4H

available models

DC 2 wires models

diameter	installation	distance	plug	distance (mm)	NO
M30	shielded	standard	cable	10	AT1/A0-1A
					AT1/A0-1H
	unshielded		M12	15	AT1/A0-2A
					AT1/A0-2H
	shielded	long distance	cable	15	AT1/A0-3A
					AT1/A0-3H
	unshielded		M12	20	AT1/A0-4A
					AT1/A0-4H



	AT*/**-1*	AT*/**-2*	AT*/**-3*	AT*/**-4*
				
nominal sending distance	10 mm	15 mm	15 mm	20 mm
operating distance	0...8.1 mm	0...12.1 mm	0...12.1 mm	0...16.2 mm
hysteresis	1...20%			
standard target	30 x 30 mm FE 360	45 x 45 mm FE 360	45 x 45 mm FE 360	60 x 60 mm FE 360
repeatability	5% U _B 20-30 V Ta = 23°C ± 5°C			
operating voltage	10...30 Vdc			
output type	NPN or PNP - NO or NC (3 wires models), PNP - NO + NC (4 wires models), NPN/PNP - NO (2 wires models)			
max ripple content	≤ 10%			
output current	≤ 400 mA (3...100 mA for 2 wires versions)			
output voltage drop	≤ 1V @ 400 mA (2.8 V @ 100 mA for 2 wires versions)			
no-load supply current	20 mA			
leakage current	10 µA / 0,8 mA for 2 wires versions			
switching frequency	200 Hz / 100 Hz for 2 wires versions		200 Hz / 100 Hz for 2 wires versions	
power on delay	100 ms (50 ms for 2 wires versions)			
ambient temperature range	-25...+70 °C			
temperature drift of Sr	10%			
short-circuit protection	●			
voltage reversal protection	●			
induction protection	●			
shocks and vibrations	IEC 60947-5-2 / 7.4			
weight	150 g connector, 230 g cable			
LEDs	yellow LED output state			
protection degree	IP 67 ⁽¹⁾ (EN60529)			
EMC	in conformity with the EMC Directive according to IEC 60947-5-2			
shocks and vibrations	IEC 60947-5-2			
housing material	nickel-plated brass			
active head material	PBT			
connection	cable 2 m PVC - plug M8 or M12			
tightening torque	50 Nm			

⁽¹⁾ Protection guaranteed only with plug cable well mounted.

correction factors

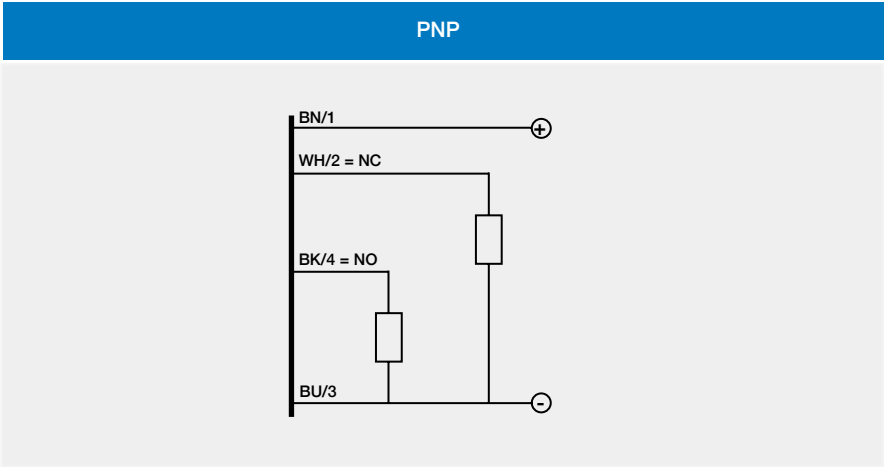
code	steel FE 360	copper	alluminium	brass	stainless steel
AT*/**-1*	1	0.35	0.45	0.50	0.75
AT*/**-2*		0.45	0.50	0.55	0.80
AT*/**-3*		0.35	0.45	0.50	0.70
AT*/**-4*		0.45	0.50	0.55	0.75



M30 cylindrical

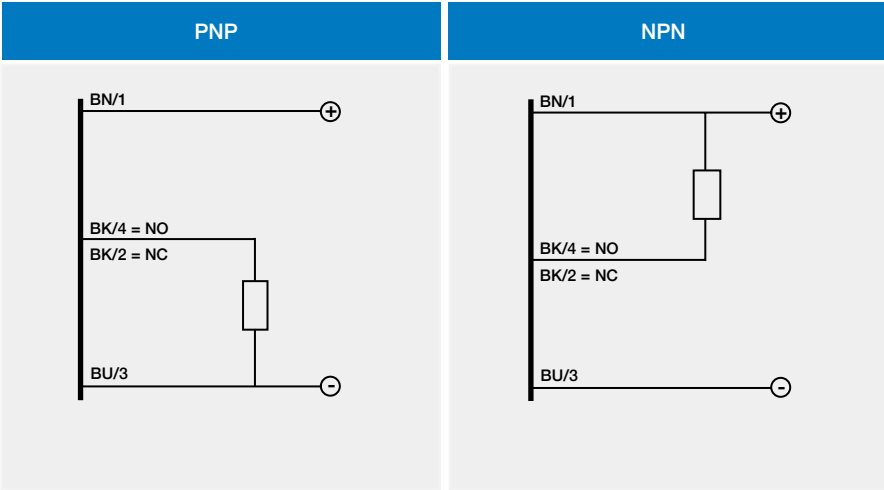
electrical diagrams of connections

4 wires versions



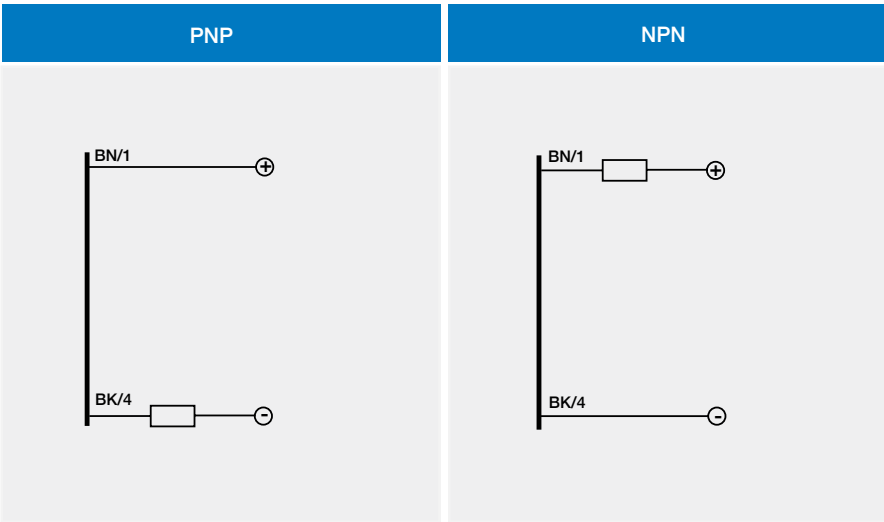
electrical diagrams of connections

3 wires versions



electrical diagrams of connections

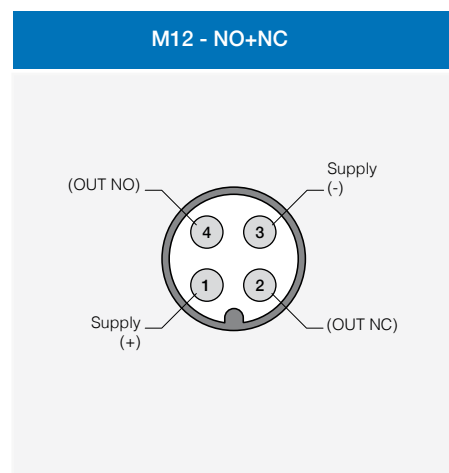
2 wires versions



AT

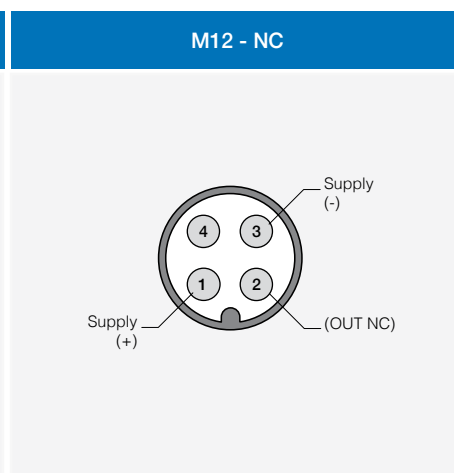
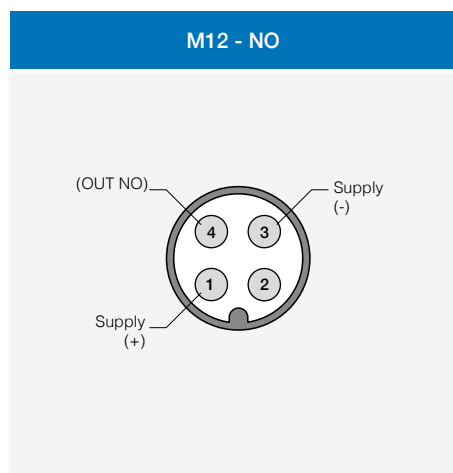
plug

4 wires versions



plug

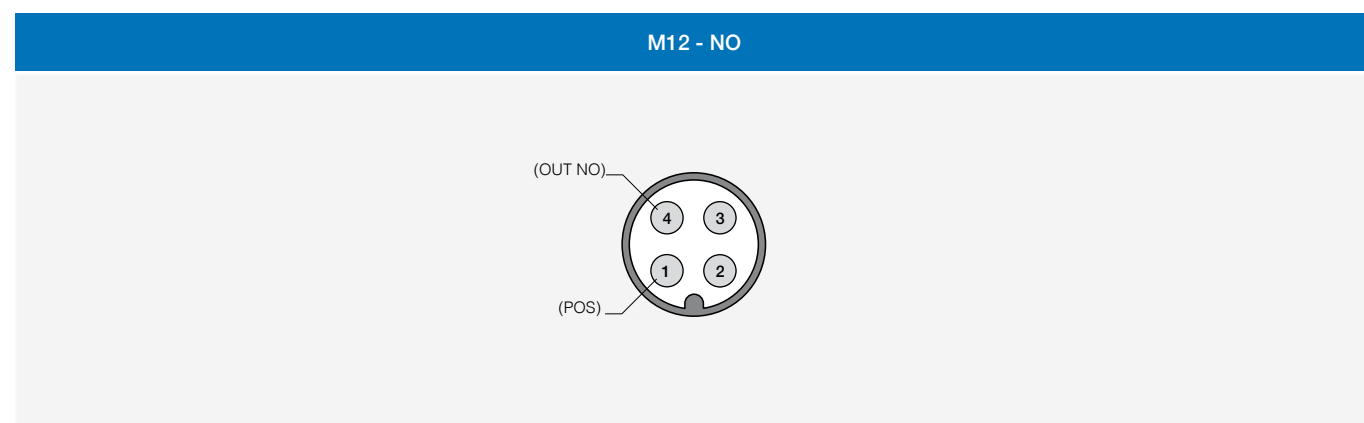
3 wires versions



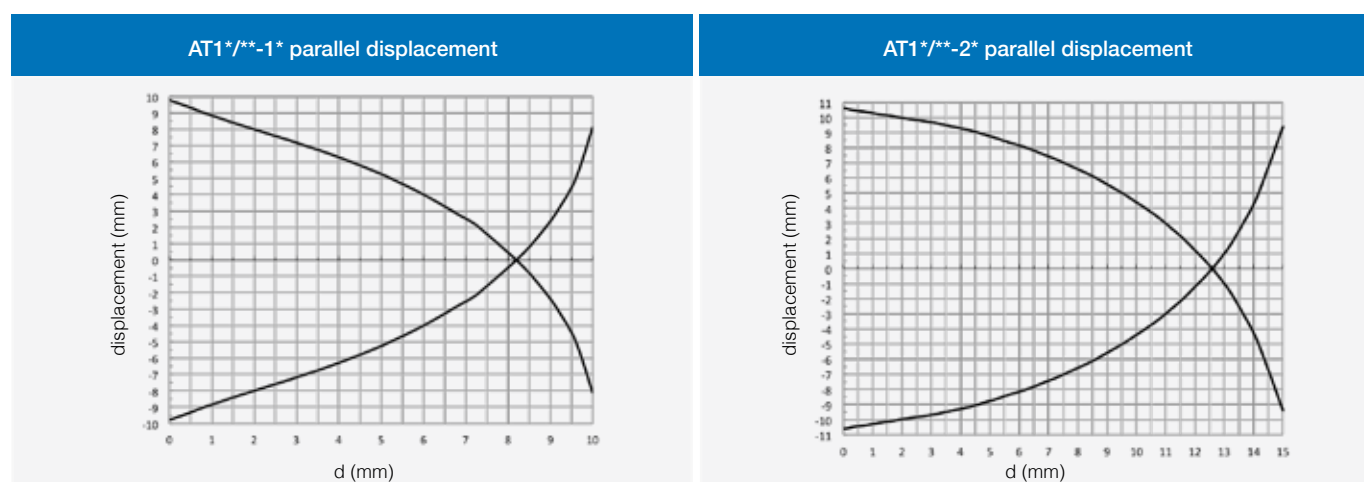
M30 cylindrical

plug

2 wires versions

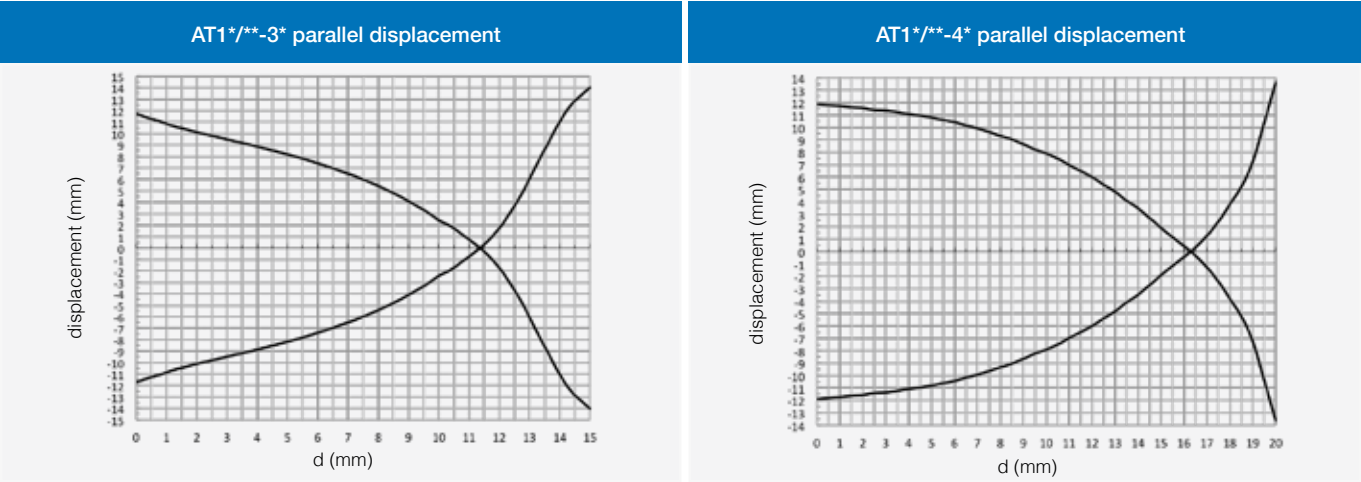


response diagram



AT

response diagram

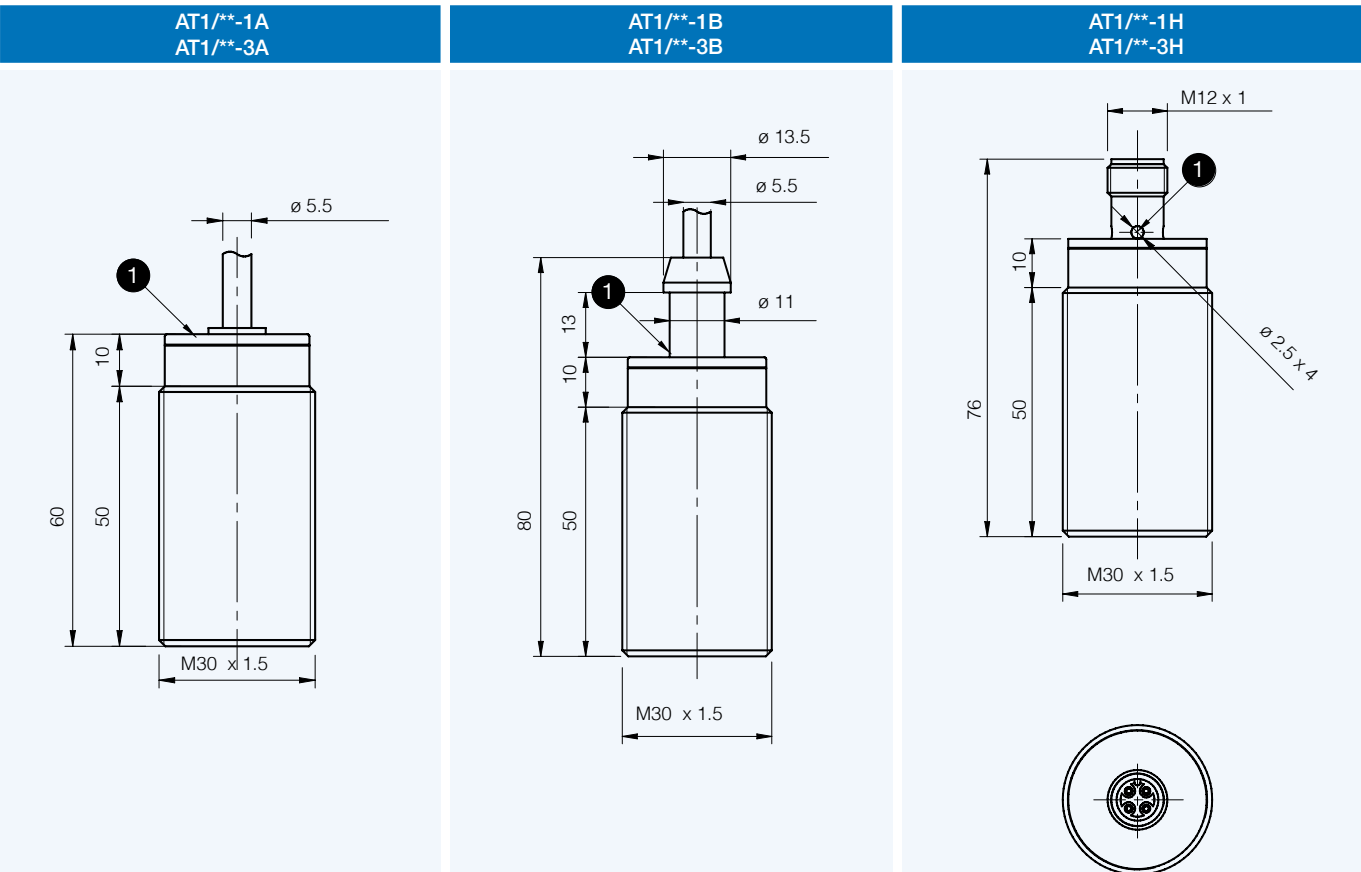


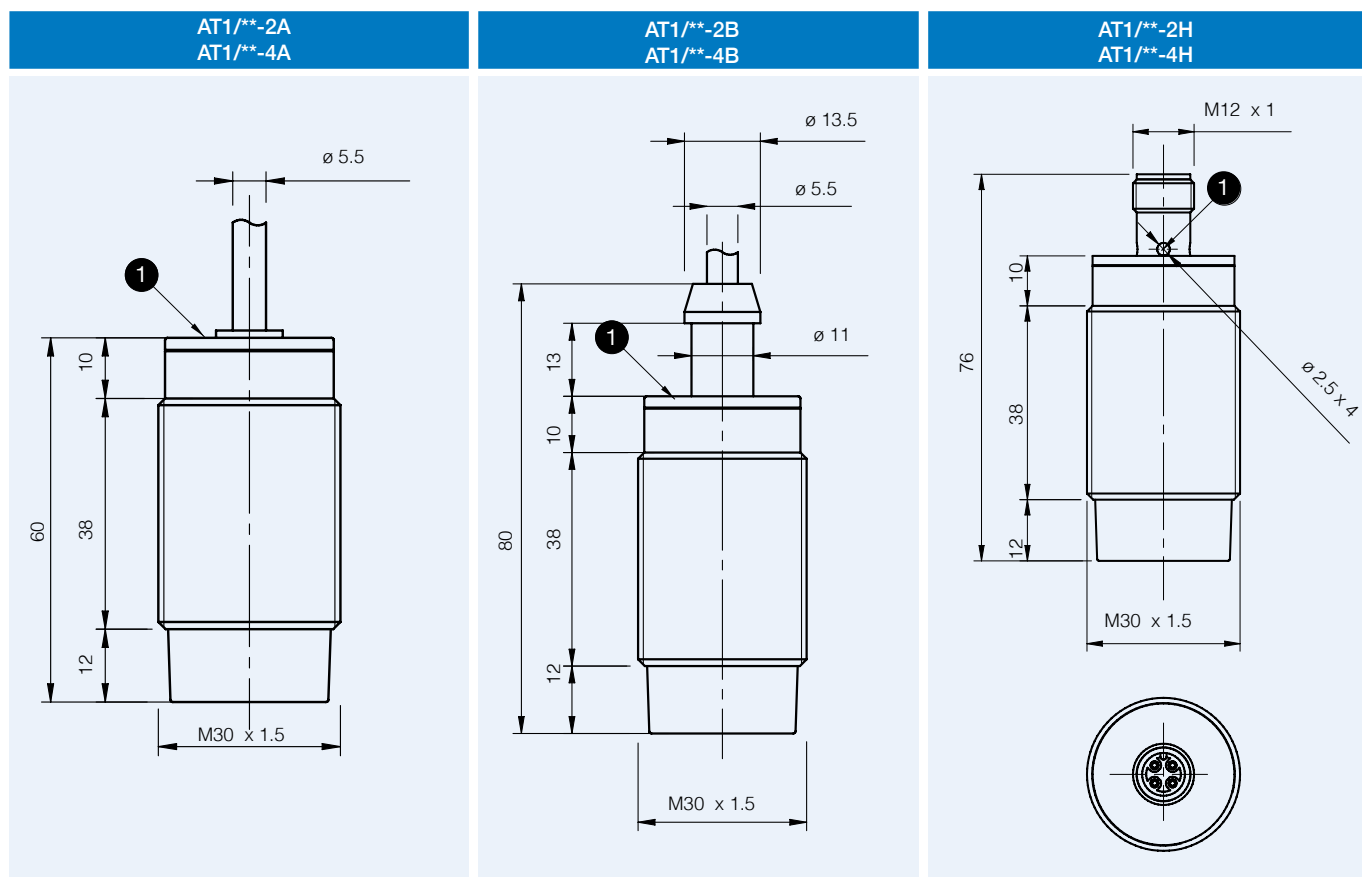
installation

code	D4	D1	D2	D3
AT1/**-1*	≥ 0 mm	≥ 10 mm	≥ 30 mm	≥ 30 mm
AT1/**-2*	≥ 18 mm ⁽¹⁾	≥ 15 mm	≥ 45 mm	≥ 45 mm
AT1/**-3	≥ 3 mm	≥ 15 mm	≥ 40 mm	≥ 45 mm
AT1/**-4*	≥ 20 mm ⁽¹⁾	≥ 20 mm	≥ 60 mm	≥ 60 mm

⁽¹⁾ ≥ for non magnetic materials

dimensions (mm)

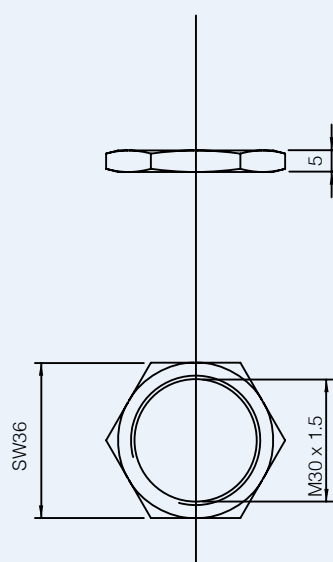




1 LED

dimensions (mm)

accessories included in all models



metallic
nut (2 x)