AT series
M30 cylindrical
inductive sensors

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
	6	Short body
output state	A	NO output state
	C	NC output state
	B	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/BP-1H
	unshielded			15	AT1/BP-2H
	shielded	long distance			AT1/BP-3H
	unshielded			20	AT1/BP-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	long distance	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		cable	20	AT1/AN-4A	AT1/CN-4A	AT1/AP-4A	AT1/CP-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
			M12		AT1/A0-1H
	unshielded		cable	15	AT1/A0-2A
			M12		AT1/A0-2H
	shielded	long distance	cable		AT1/A0-3A
			M12		AT1/A0-3H
	unshielded		cable	20	AT1/A0-4A
			M12		AT1/A0-4H

available models

short housing

diameter	plug	distance	installation	distance (mm)	NPN/NO	PNP/NO	NPN/ NO+NC	PNP/ NO+NC
M30	cable	standard	shielded	10	AT6/AN-1A	AT6/AP-1A	AT6/BN-1A	AT6/BP-1A
			unshielded	15	AT6/AN-2A	AT6/AP-2A	AT6/BN-2A	AT6/BP-2A
		long distance	shielded		AT6/AN-3A	AT6/AP-3A	AT6/BN-3A	AT6/BP-3A
			unshielded	20	AT6/AN-4A	AT6/AP-4A	AT6/BN-4A	AT6/BP-4A
	M12	standard	shielded	10	AT6/AN-1H	AT6/AP-1H	AT6/BN-1H	AT6/BP-1H
			unshielded	15	AT6/AN-2H	AT6/AP-2H	AT6/BN-2H	AT6/BP-2H
		long distance	shielded		AT6/AN-3H	AT6/AP-3H	AT6/BN-3H	AT6/BP-3H
			unshielded	20	AT6/AN-4H	AT6/AP-4H	AT6/BN-4H	AT6/BP-4H

technical specification

	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
repeatibility	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 M12			
tightening torque	50 Nm			

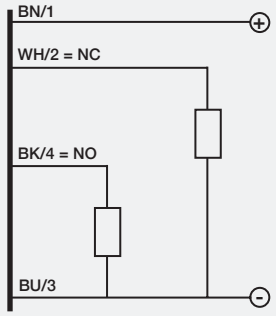
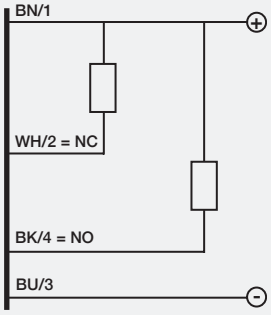
[1] Protection guaranteed only with plug cable well mounted.

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
AT1/**-1*	1	0.35	0.45	0.50	0.75
AT1/**-2*		0.45	0.50	0.55	0.80
AT1/**-3*		0.35	0.45	0.50	0.70
AT1/**-4*		0.45	0.50	0.55	0.75
AT6/**-1*		0.41	0.47	0.52	0.84
AT6/**-2*		0.44	0.49	0.53	0.80
AT6/**-3*		0.41	0.47	0.52	0.80
AT6/**-4*		0.46	0.50	0.54	0.78

electrical diagrams of connections

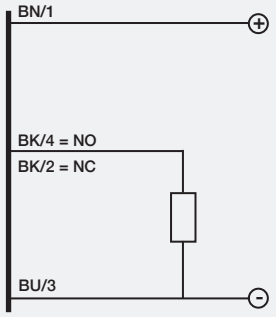
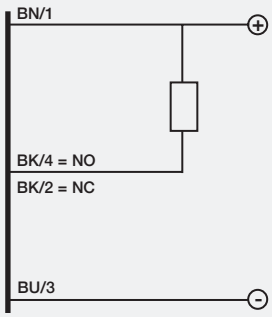
4 wires versions

PNP	NPN
	

BN brown
BU blue
BK black
WH white

electrical diagrams of connections

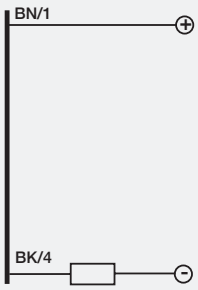
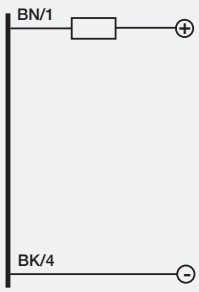
3 wires versions

PNP	NPN
	

BN brown
BU blue
BK black
WH white

electrical diagrams of connections

2 wires versions

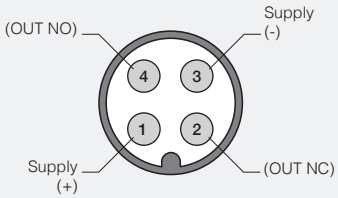
PNP	NPN
	

BN brown
BU blue
BK black
WH white

plug

4 wires versions

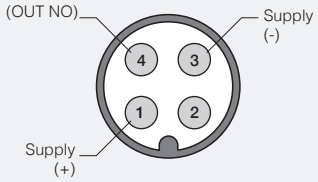
M12 - NO+NC



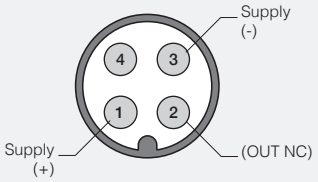
plug

3 wires versions

M12 - NO



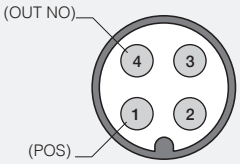
M12 - NC



plug

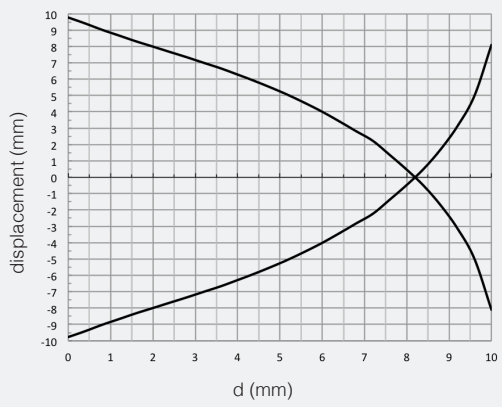
2 wires versions

M12 - NO

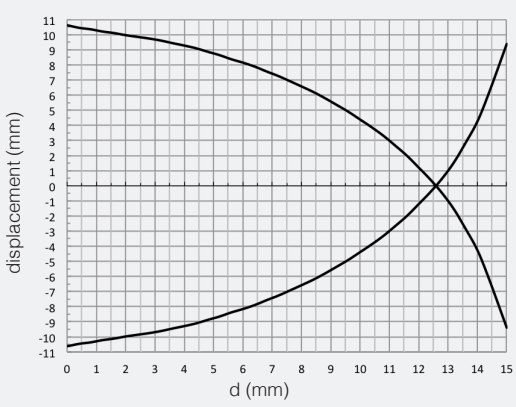


response diagram

AT1*/**-1* parallel displacement

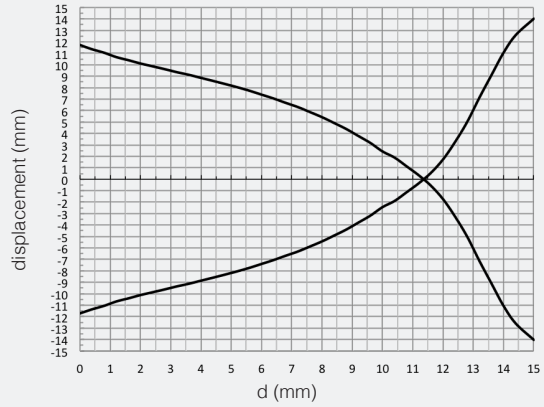


AT1*/**-2* parallel displacement

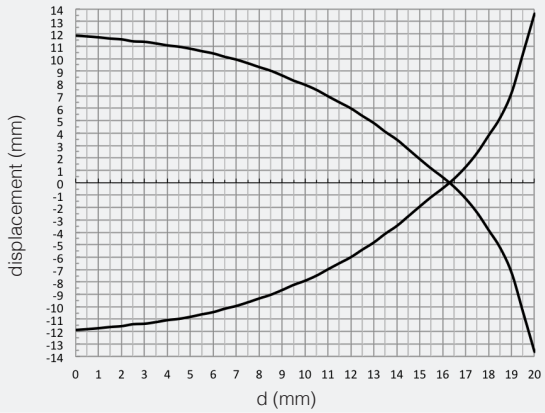


response diagram

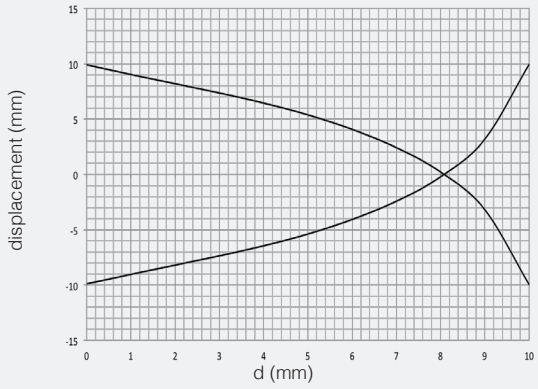
AT1*/**-3* parallel displacement



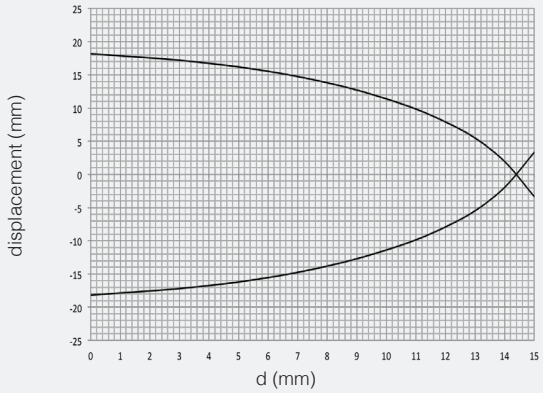
AT1*/**-4* parallel displacement



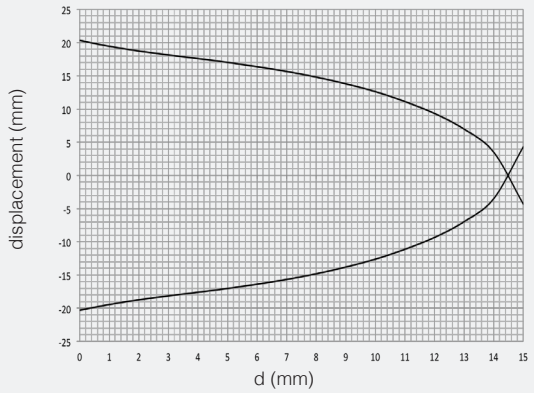
AT6*/**-1* parallel displacement



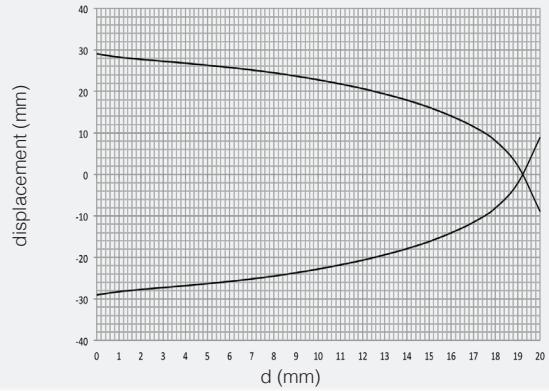
AT6*/**-2* parallel displacement



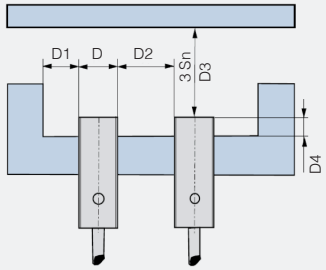
AT6*/**-3* parallel displacement



AT6*/**-4* parallel displacement



installation

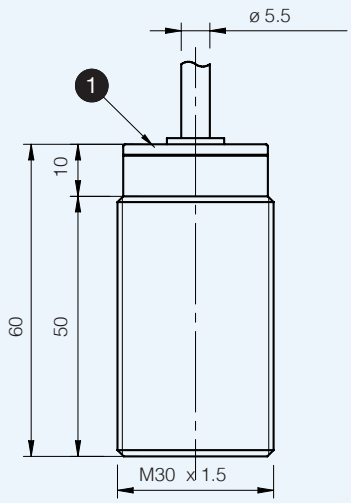


code	D4	D1	D2	D3
AT1/**-1*	≥ 0 mm	≥ 10 mm	≥ 30 mm	≥ 30 mm
AT1/**-2*	≥ 18 mm (1)	≥ 15 mm	≥ 45 mm	≥ 45 mm
AT1/**-3	≥ 3 mm	≥ 15 mm	≥ 40 mm	≥ 45 mm
AT1/**-4*	≥ 20 mm (1)	≥ 20 mm	≥ 60 mm	≥ 60 mm
AT6/**-1*	≥ 0 mm	≥ 0 mm	≥ 5 mm	≥ 30 mm
AT6/**-2*	≥ 14 mm (2)	≥ 15 mm	≥ 10 mm	≥ 45 mm
AT6/**-3*	≥ 3 mm (3)	≥ 3 mm	≥ 15 mm	≥ 45 mm
AT6/**-4*	≥ 17 mm (2)	≥ 15 mm	≥ 15 mm	≥ 60 mm

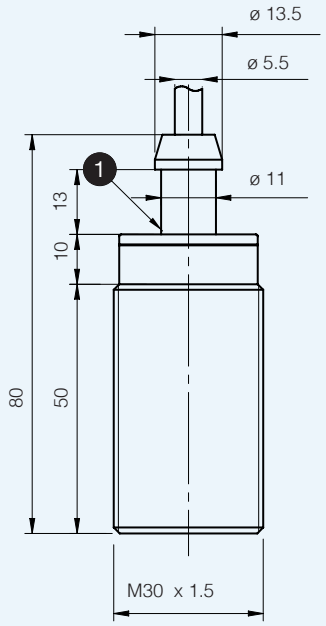
(1) ≥ 9 mm for non magnetic materials
(2) ≥ 12 mm for non magnetic materials
(3) ≥ 0 mm for non magnetic materials

dimensions (mm)

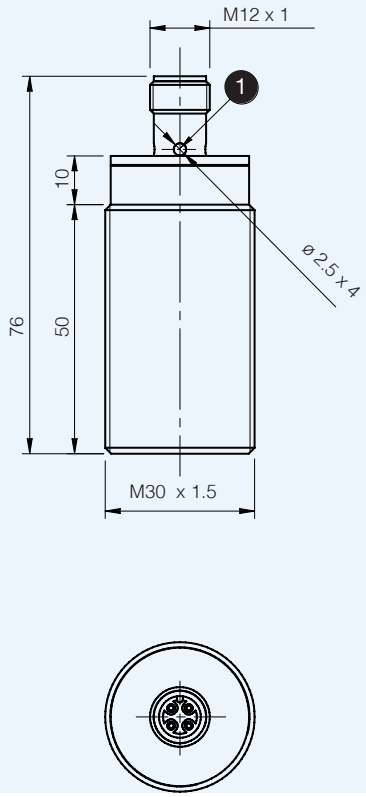
AT1/**-1A
AT1/**-3A



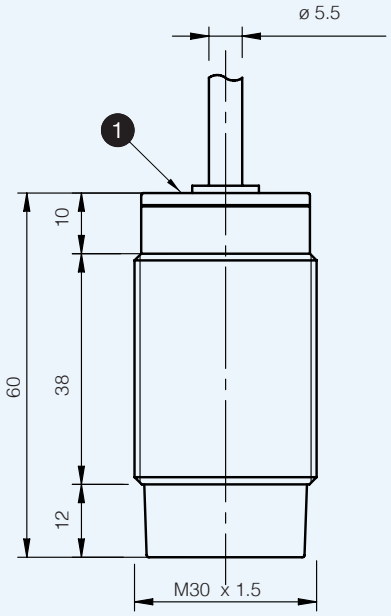
AT1/**-1B
AT1/**-3B



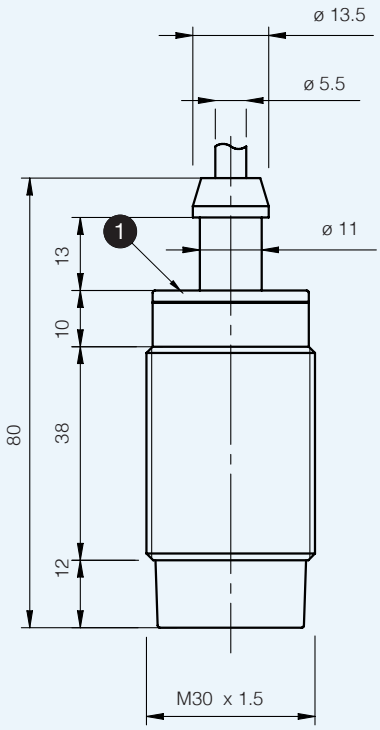
AT1/**-1H
AT1/**-3H



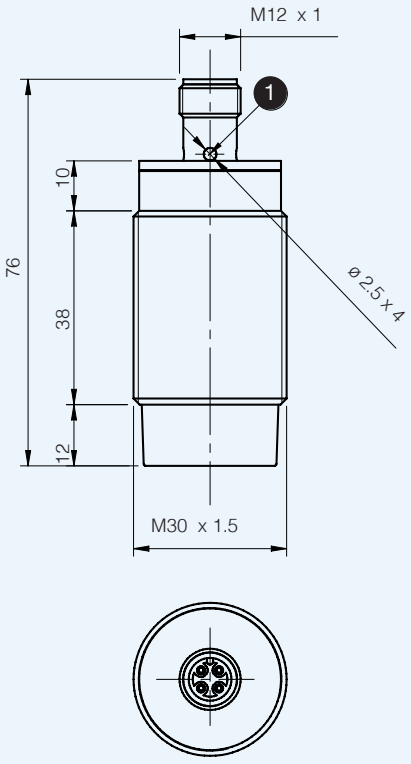
AT1/**-2A
AT1/**-4A



AT1/**-2B
AT1/**-4B



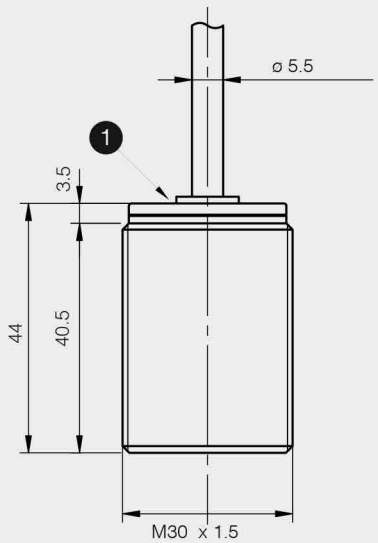
AT1/**-2H
AT1/**-4H



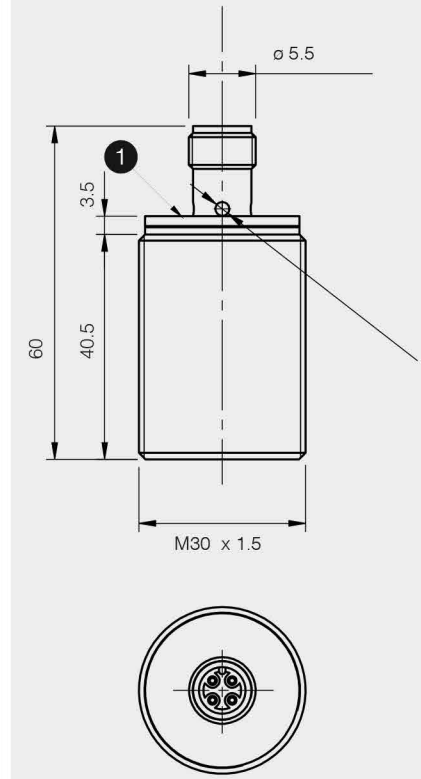
1 LED

dimensions (mm)

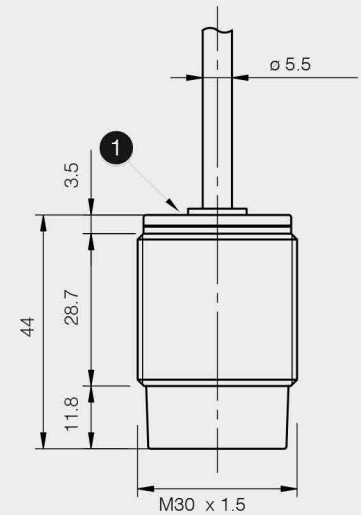
AT6/-1A**
AT6/-3A**



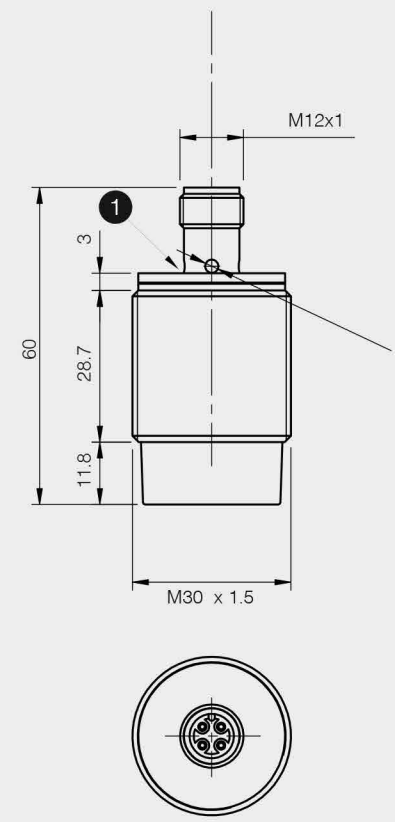
AT6/-1H**
AT6/-3H**



AT6/-2A**
AT6/-4A**



AT6/-2H**
AT6/-4H**



1 LED

dimensions (mm)

accessories included in all models

metallic
nut (2 x)

