PFK series

M18 cylindrical inductive sensors
for food and beverage applications

features

- **AISI 316L (DIN 1.4404) stainless steel housing**
- **LED status indicator**
- **IP67 – IP68 – IP69K protection degree**
- **ATEX models, cat. 3, available on request**
- **Complete protection against electrical damages**
- **Standard and long distance models**



web contents

- **Application notes**
- **Photos**
- **Catalogue / Manuals**

code description (*)

PFK 1 / A P - 1 H V5

series	PFK	M18 inductive sensor for food+beverage applications
housing	1	Standard housing
output state	A	NO output
	B	NO+NC complementary output
output logic	P	PNP output
	N	NPN output
distance	1	5 mm standard shielded
	2	8 mm standard unshielded
	3	8 mm long distance shielded
	4	12 mm long distance unshielded
connect.	H	M12 plug exit
special models	V5	Smooth housing
	26	Extended temperature range models

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

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available models

standard models

model	installation	sensing	plug	distance (mm)	NPN/NO	PNP/NO
M18	shielded	standard	M12	5	PFK1/AN-1H	PFK1/AP-1H
	unshielded			8	PFK1/AN-2H	PFK1/AP-2H
	shielded	long distance			PFK1/AN-3H	PFK1/AP-3H
	unshielded			12	PFK1/AN-4H	PFK1/AP-4H

available models

models with complementary output

model	installation	sensing	plug	distance (mm)	NPN/NO+NC	PNP/NO+NC
M8	shielded	standard	M12	5	PFK1/BN-1H	PFK1/BP-1H
	unshielded			8	PFK1/BN-2H	PFK1/BP-2H
	shielded	long distance			PFK1/BN-3H	PFK1/BP-3H
	unshielded			12	PFK1/BN-4H	PFK1/BP-4H

available models

models with extended temperature range

model	installation	sensing	plug	distance (mm)	NPN/NO+NC	PNP/NO+NC
M18	shielded	standard	M18	5	PFK1/BN-1H26	PFK1/BP-1H26
	unshielded			8	PFK1/BN-2H26	PFK1/BP-2H26

correction factors

code	steel FE 360	copper	alluminium	brass	stainless steel
PFK1/**-1*	1	0.25	0.35	0.4	0.7
PFK1/**-2*		0.27		0.42	
PFK1/**-3*		0.2	0.3	0.4	0.65
PFK1/**-4*		0.3	0.38	0.42	

Tolerance ±10%

technical specification

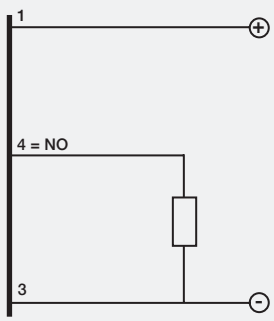
according to IEC EN 60947-5-2 / DIN 44030

	PFK1/**-1H	PFK1/**-2H	PFK1/**-3H	PFK1/**-4H
				
nominal sensing distance	5 mm	8 mm		12 mm
working distance	0...4 mm	0...6.5 mm		0...9.72 mm
hysteresis	1...20%			
standard target	18x18 mm FE360	24X24 mm FE360		36x36 mm FE360
repeatibility	5%			
operating voltage	10...30 Vcc			
max ripple content	≤ 10%			
output type	NPN or PNP - NO + NC or NO			
output current	≤ 200 mA			
output voltage drop	≤ 2 V			
no-load supply current	≤15 mA			
leakage current	≤10 µA			
switching frequency	15 kHz			
power on delay	50 ms			
ambient temperature range	-40...+80 °C short exposure (15') to 100°C (during cleaning processes) / -25°C...+110°C (PFK-26 models)			
temperature drift of Sr	10%			
short-circuit protection	●			
voltage reversal protection	●			
induction protection	●			
shocks and vibration	IEC 60947-5-2 / 7.4			
weight	55 g (40 g smooth housing)			
LEDs	NO output state / (no led PFK-26 models)			
protection degree	IP67, IP68 (1m, 7 days); IP69K (according to DIN 40050 part 9)			
EMC	in conformity with the EMC Directive according to IEC 60947-5-2			
housing material	Stainless Steel AISI316L (DIN 1.4404)			
active head material	PPS (FDA certified)			
connection	M12 plug with gold-plated pins			
tightening torque	50 Nm			

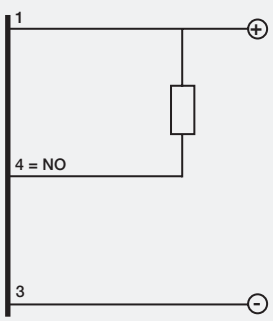
electrical diagrams of connections

3 wires versions

PNP – NO

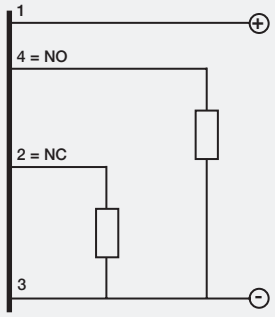
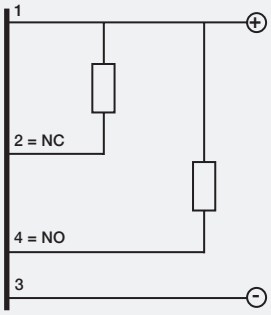


NPN – NO



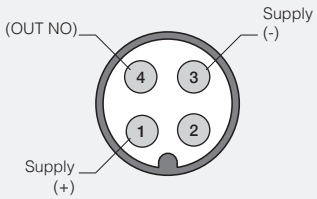
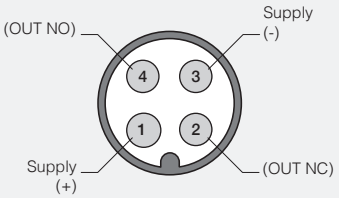
BN	brown
BU	blue
BK	black
WH	white

electrical diagrams of connections

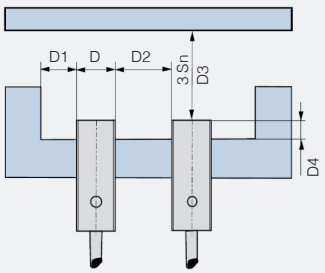
PNP – NO + NC	NPN – NO + NC
	

BN	brown
BU	blue
BK	black
WH	white

plug

M12	M12
	

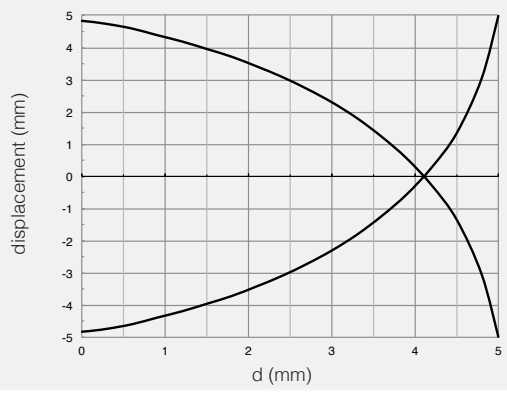
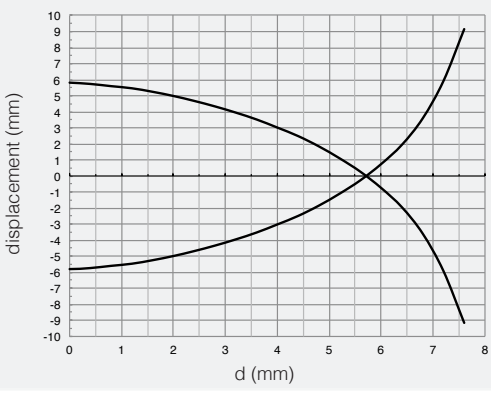
installation



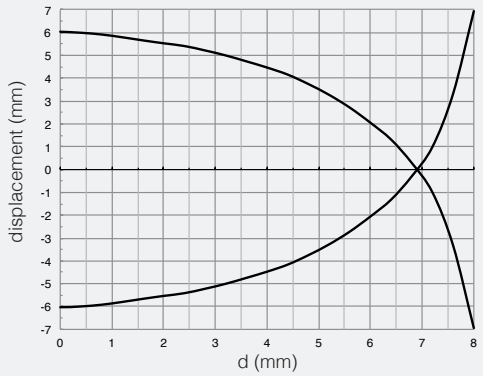
code	D4	D1	D2	D3
PFK1/**-1*	≥ 0.4 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
PFK1/**-2*	≥ 12 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm
PFK1/**-3*	≥ 1.8 mm (1)	≥ 9 mm	> 19 mm	
PFK1/**-4*	≥ 16 mm	≥ 18 mm	> 37 mm	≥ 36 mm

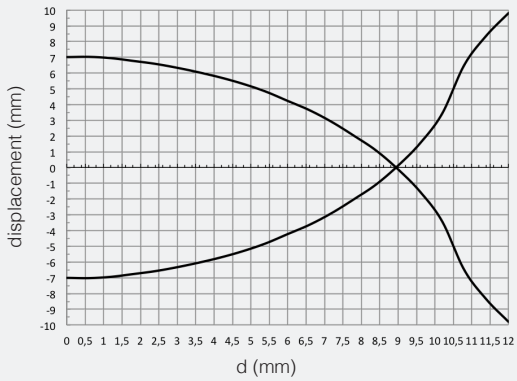
(1) ≥ 3.6 mm for non magnetic material

response diagram

PFK*/**-1* parallel displacement	PFK*/**-2* parallel displacement
	

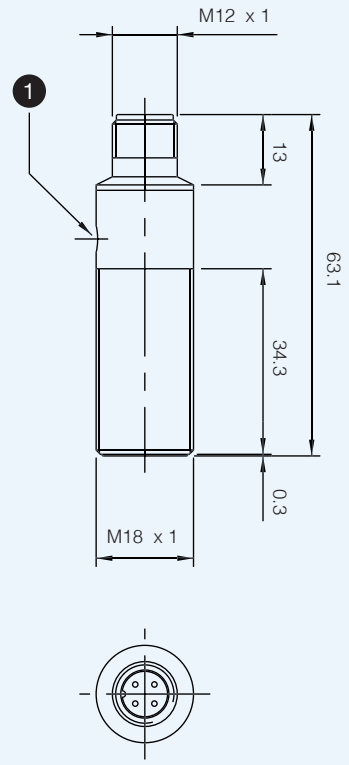
PFK*/**-3* parallel displacement	PFK*/**-4* parallel displacement

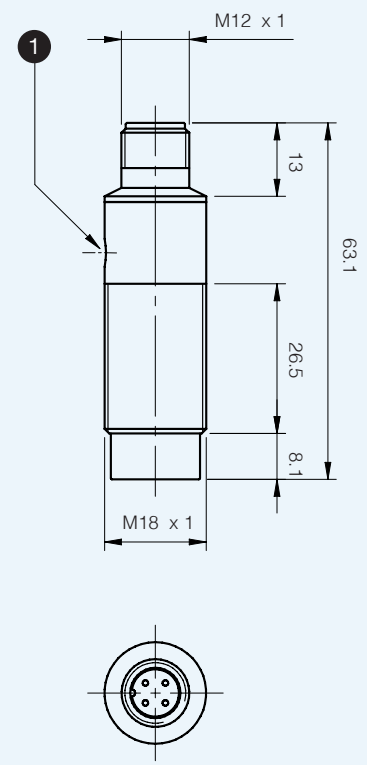




dimensions (mm)

PFK1/**-1H PFK1/**-3H	PFK1/**-2H PFK1/**-4H

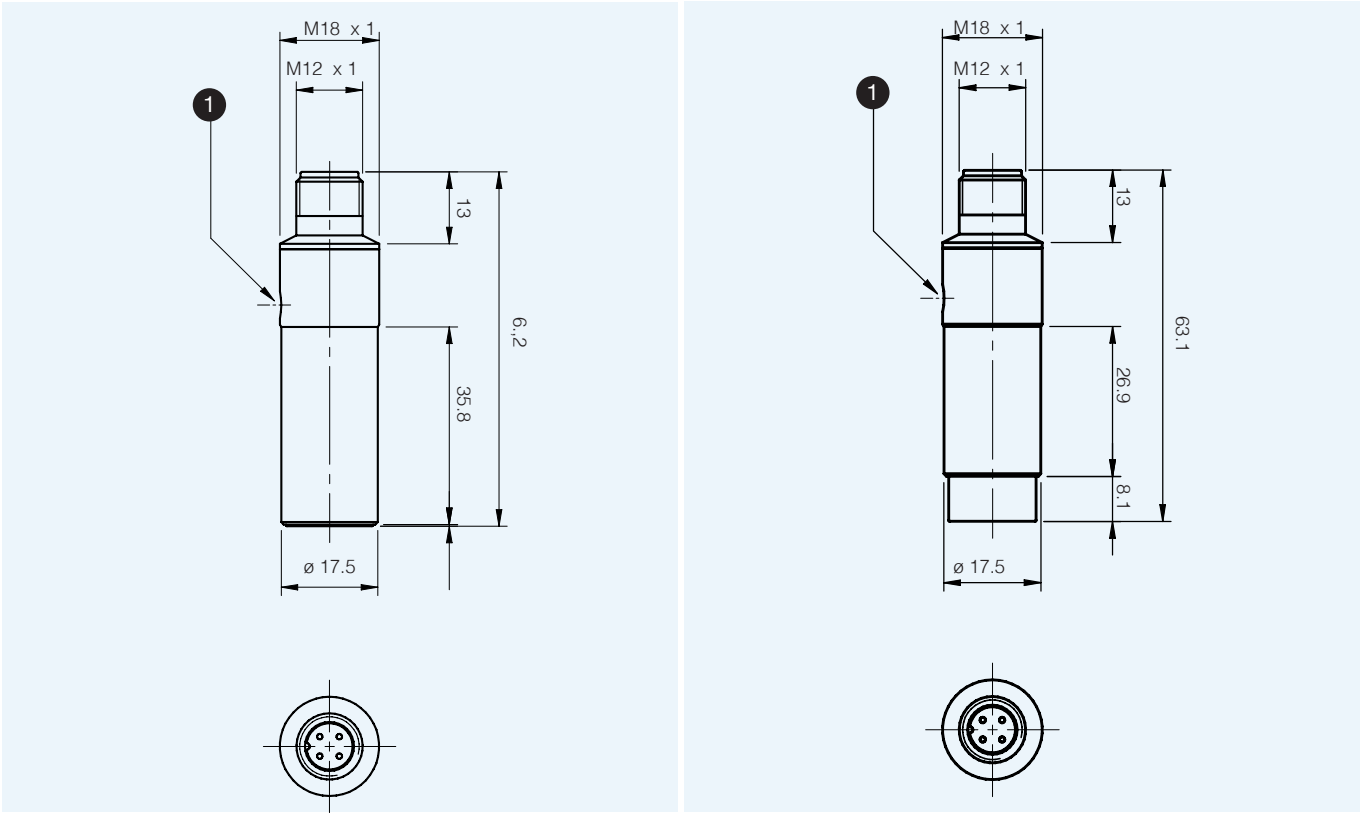




1 LED (no LED in PFK-26 models)

dimensions (mm)

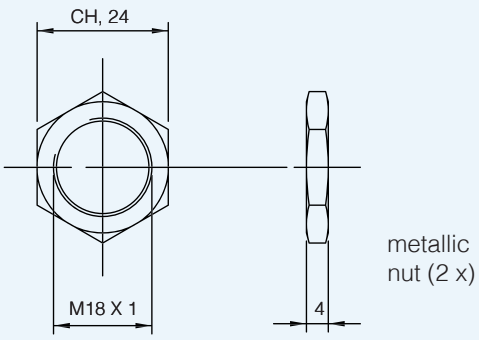
PFK1/**-3HV5	PFK1/**-4HV5



1 LED (no LED in PFK-26 models)

dimensions (mm)

accessories included in all M18 models



metallic
nut (2 x)