



# PFK series

M18 cylindrical inductive sensors for food and beverage applications



M18 cylindrical 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.

## 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		8	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		8	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	aluminium	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

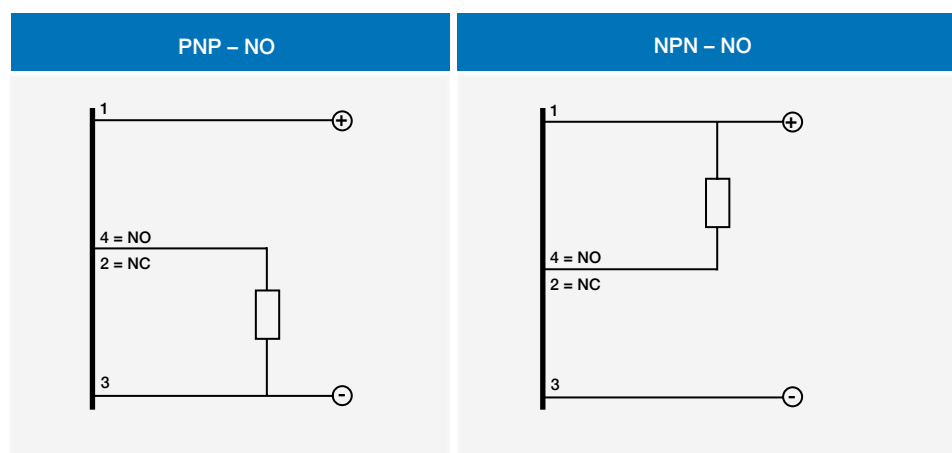
according to IEC EN 60947-5-2 / DIN 44030



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	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			36x36 mm FE360
repeatability		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		

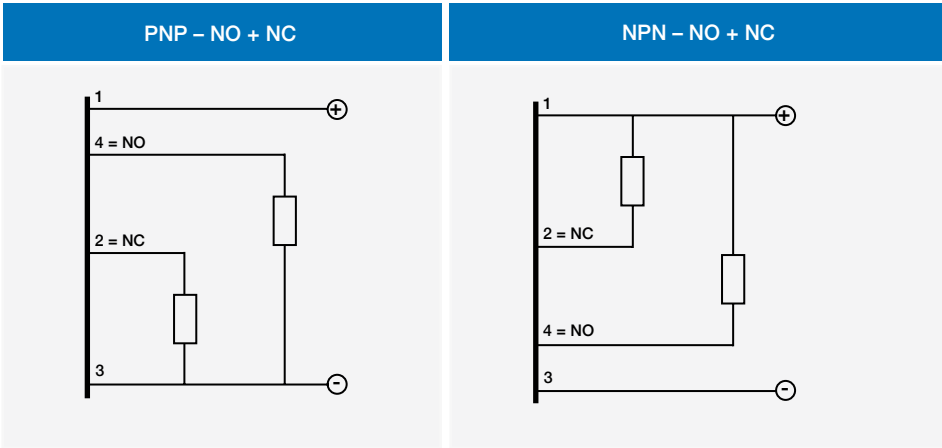
## electrical diagrams of connections



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

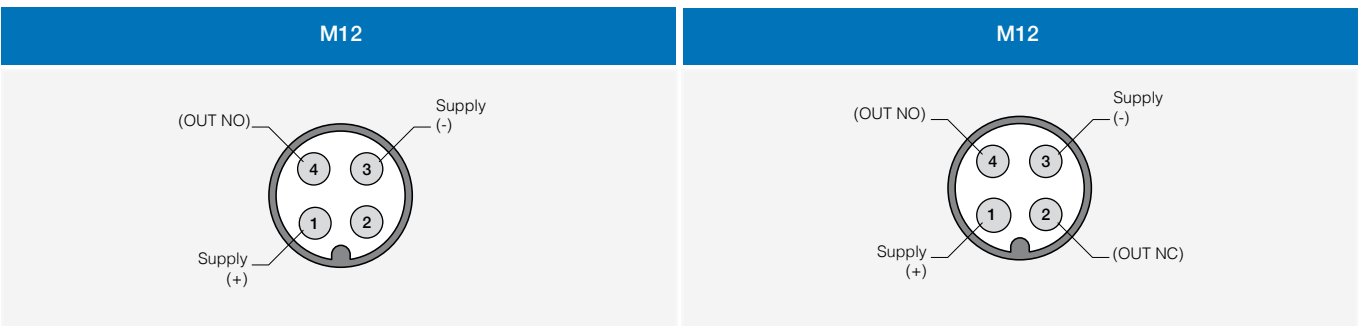
# electrical diagrams of connections

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

## plug

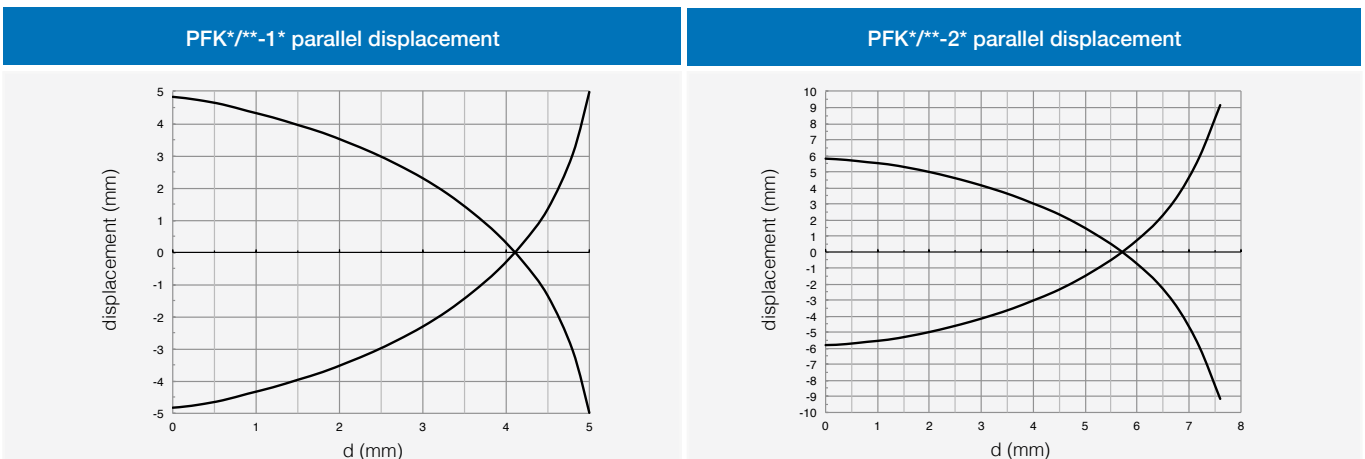


## installation

	code	D4	D1	D2	D3
	PFK1/**-1*	≥ 3.6 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
	PFK1/**-2*	≥ 12 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm
	PFK1/**-3*	≥ 1.8 mm <sup>(1)</sup>	≥ 9 mm	> 19 mm	≥ 24 mm
	PFK1/**-4*	≥ 16 mm	≥ 18 mm	> 37 mm	≥ 36 mm

<sup>(1)</sup> ≥ 5.4 mm for non magnetic material

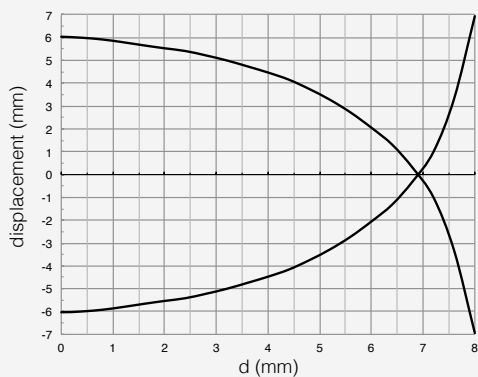
## response diagram



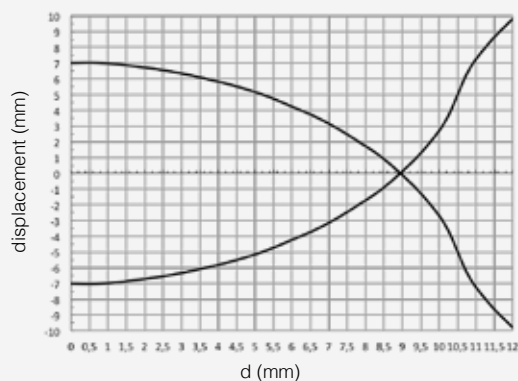
PFK



PFK<sup>\*</sup>/<sup>\*\*</sup>-3<sup>\*</sup> parallel displacement

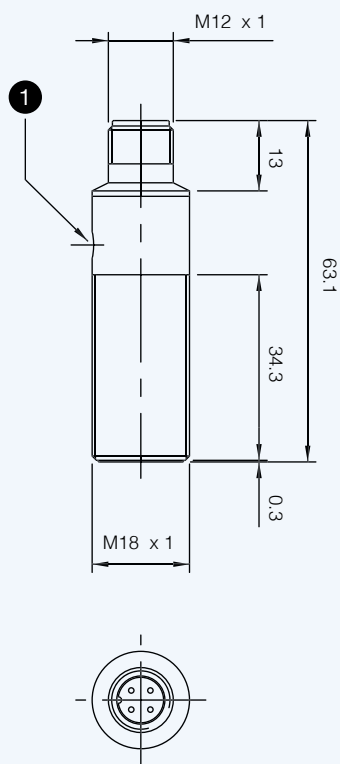


PFK<sup>\*</sup>/<sup>\*\*</sup>-4<sup>\*</sup> parallel displacement

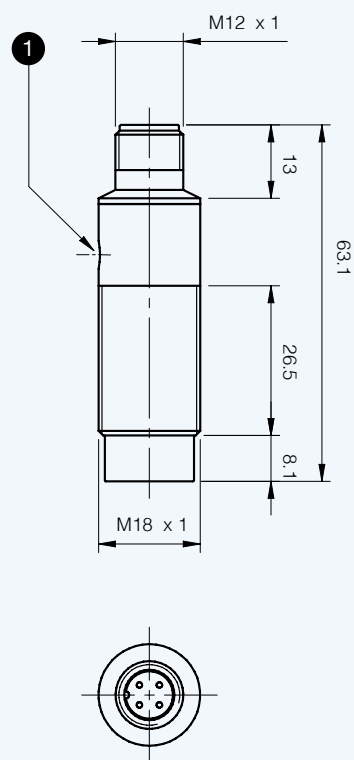


### dimensions (mm)

PFK1/<sup>\*\*</sup>-1H  
PFK1/<sup>\*\*</sup>-3H



PFK1/<sup>\*\*</sup>-2H  
PFK1/<sup>\*\*</sup>-4H



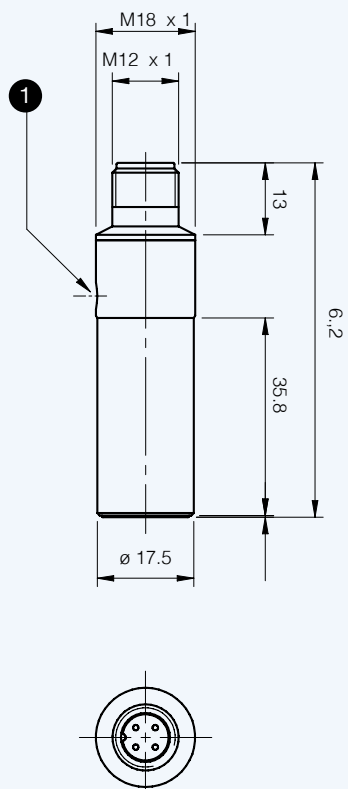
1 LED (no LED in PFK-26 models)



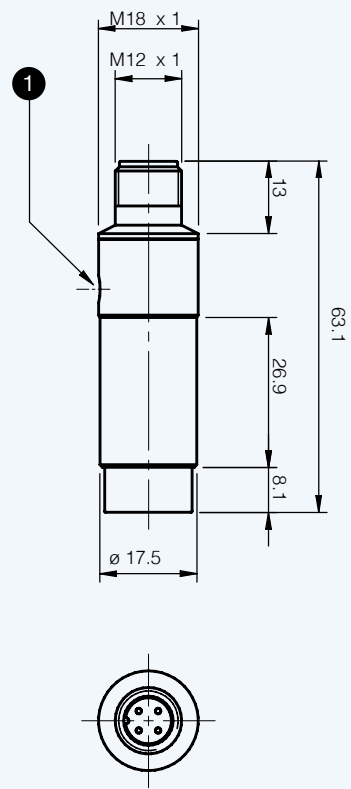
## dimensions (mm)

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PFK1/\*\*-3HV5



PFK1/\*\*-4HV5



1 LED (no LED in PFK-26 models)

## dimensions (mm)

accessories included in all M18 models

