



# PMS - PKS / PMW - PKW series

M12 & M18 IP67/68 cylindrical  
for harsh environments - DC



M12 & M18 IP67/68 cylindrical  
for harsh environments - DC



## features

- Innovative housing (double enclosure)
- Cutting oils resistant (for machines tool)
- Immersion proof (sealing IP 67/68)
- High frequency switching
- Complementary output (NO+NC), M12 plug cable exit
- ATEX models, cat. 3, available on request
- LED indicator visible at wide angle
- Complete protection against electrical damages

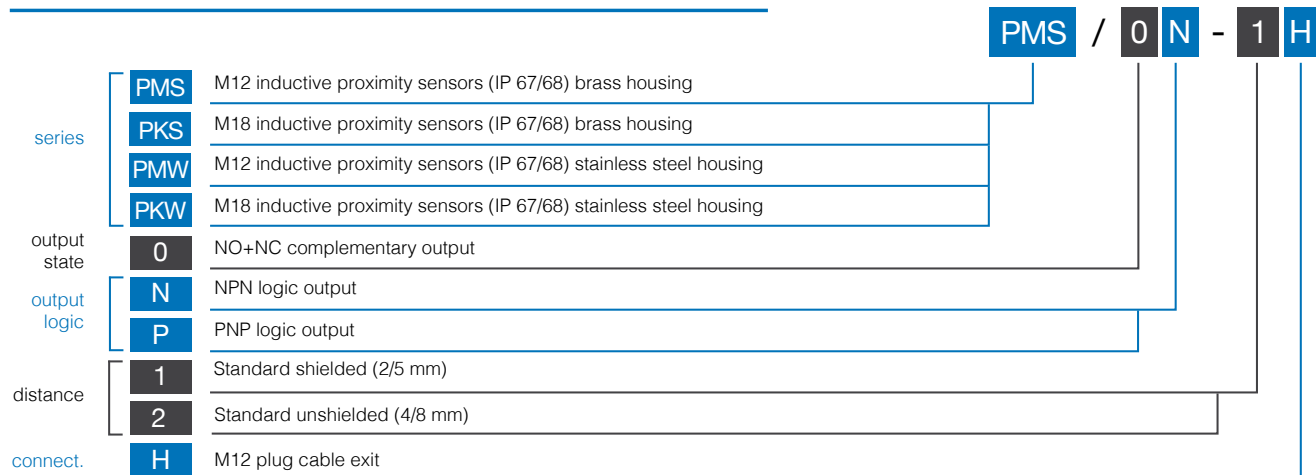
## web contents



- Application notes
- Photos
- Catalogue / Manuals



## code description (\*)



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

## available models



diameter	housing	installation	distance (mm)	plug	NPN/NO+NC	PNP/NO+NC
M12	nickel plated brass	shielded	2	M12	PMS/0N-1H	PMS/0P-1H
		unshielded	4		PMS/0N-2H	PMS/0P-2H
	stainless steel	shielded	2		PMW/0N-1H	PMW/0P-1H
		unshielded	4		PMW/0N-2H	PMW/0P-2H

PMS - PKS  
PMW - PKW

## available models

diameter	housing	installation	distance (mm)	plug	NO+NC	NO+NC
M18	nickel plated brass	shielded	5	M12	PKS/0N-1H	PKS/0P-1H
		unshielded	8		PKS/0N-2H	PKS/0P-2H
	stainless steel	shielded	5		PKW/0N-1H	PKW/0P-1H
		unshielded	8		PKW/0N-2H	PKW/0P-2H



## technical specification

	PM*/0*-1H	PM*/0*-2H
		
nominal sensing distance	2 mm	4 mm
operating distance	0...1.62 mm	0...3.24 mm
hysteresis	1...20%	
repeatability	5%	
operating voltage	10...30 Vdc	
max ripple content	≤ 10%	
no-load supply current	15 mA	
load current	≤ 100 mA	
leakage current	10 µA	
voltage drop	≤ 2 V@100 mA	
output type	NPN or PNP - NO + NC	
switching frequency	2 kHz	
power on delay	50 ms	
power supply protections	polarity reversal, transient	
output protection	short circuit (autoreset)	
temperature range	-25°...+70°C	
temperature drift	10% Sr	
EMC	in conformity with the EMC Directive according to IEC 60947-5-2	
shocks and vibrations	IEC 60947-5-2	
protection degree	IEC IP 67/68 <sup>(1)</sup>	
LEDs	yellow LED (NO output energized)	
housing material	nickel-plated brass (PMS) stainless steel AISI303 (PMW)	
active head material	PPS	
tightening torque	8 Nm	
weight (approximate)	35 g	

<sup>(1)</sup> Only in fully locked position with its splug.

Notes: good chemicals and oils resistance, but test should be made in advance when using in harsh environment.



	PK*/0*-1H	PK*/0*-2H
		
nominal sensing distance	5 mm	8 mm
operating distance	0...4.05 mm	0...6.48 mm
hysteresis	1...20%	
repeatability	5%	
operating voltage	10...30 Vdc	
max ripple content	≤ 10%	
no-load supply current	15 mA	
load current	≤ 400 mA	
leakage current	10 µA	
voltage drop	2 V@200 mA	
output type	NPN or PNP - NO + NC	
switching frequency	1.5 kHz	
power on delay	50 ms	
power supply protections	polarity reversal, transient	
output protection	short circuit (autoreset)	
temperature range	-25°...+70°C	
temperature drift	10% Sr	
EMC	in conformity with the EMC Directive according to IEC 60947-5-2	
shocks and vibrations	IEC 60947-5-2	
protection degree (DIN 40 050)	IEC IP 67/68 <sup>(1)</sup>	
LEDs	yellow (NO output energized)	
housing materials	nickel-plated brass (PKS) stainless steel AISI303 (PKW)	
active head materials	PPS	
tightening torque	50 Nm	
weight (approximate)	50 g PKS - 55 g PKW	

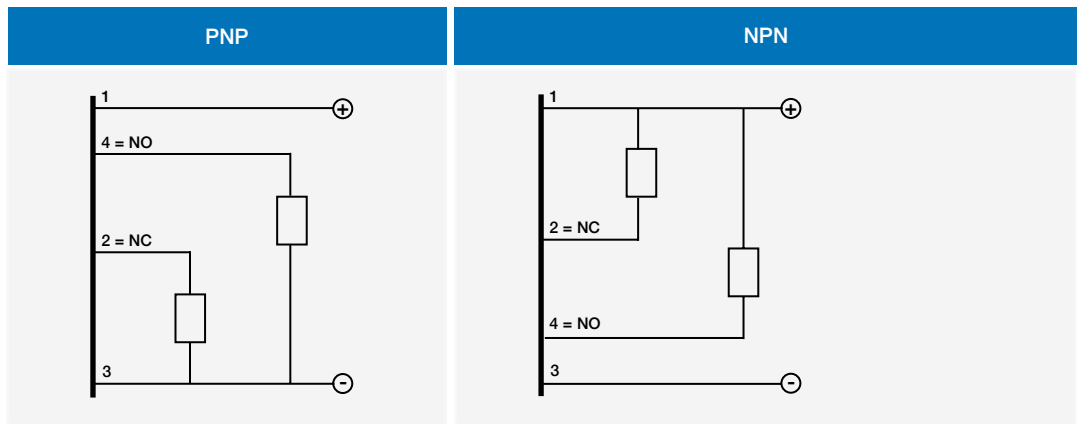
<sup>(1)</sup> Only in fully locked position with slugs.

Notes: good chemicals and oils resistance, but test should be made in advance when using in harsh environment

## correction factors

code	steelFE 360	copper	alluminium	brass	stainless steel
PMS/**-1*	1	0.22	0.31	0.41	0.77
PMS/**-2*		0.41	0.47	0.56	1.15
PMW/**-1*		0.02	0,08	0.2	0.68
PMW/**-2*		0.34	0,41	0.51	0.88
PKS/**-1*		0.3	0.35	0.65	0.76
PKS/**-2*		0.38	0.48	0.5	0.7
PKW/**-1*		0.12	0.2	0.26	0.62
PKW/**-2*		0.3	0.37	0.46	0.78

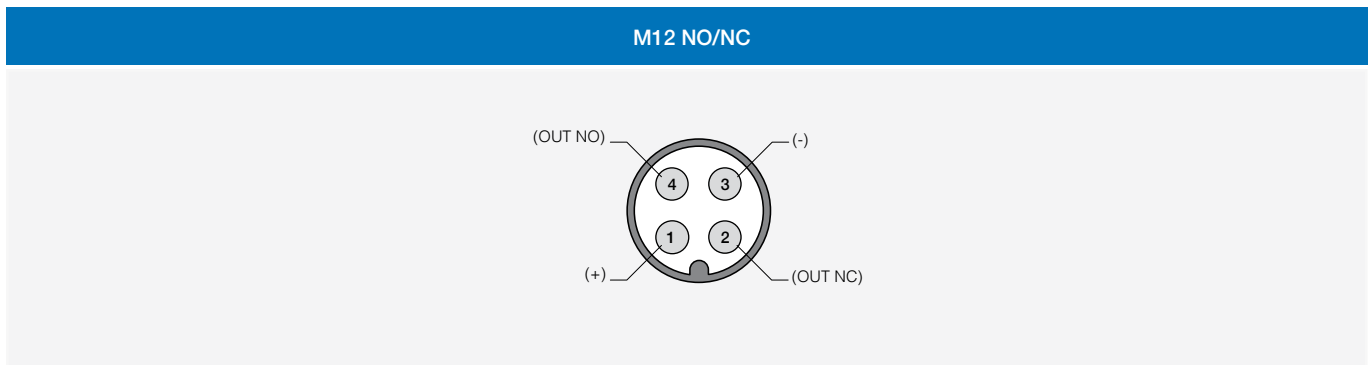
## electrical diagrams of connections



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

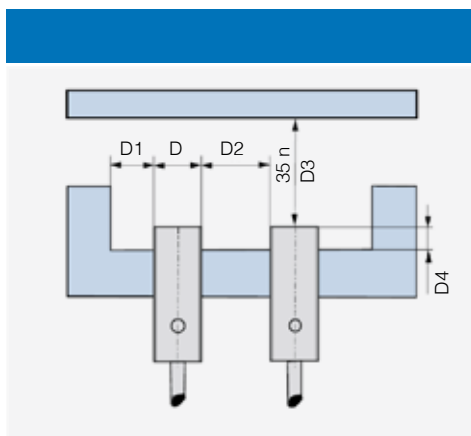
The max. admissible capacity C = 1µF for max. output voltage and current.

## plug



Connectors CD series

## installation



code	D4	D1	D2	D3
PMS/**-1*	≥ 0 mm	≥ 6 mm	≥ 12 mm	≥ 6 mm
PMS/**-2*	≥ 1.2 mm	≥ 12 mm	≥ 24 mm	≥ 12 mm
PMW/**-1*	≥ 0 mm <sup>(1)</sup>	≥ 6 mm	≥ 12 mm	≥ 6 mm
PMW/**-2*	≥ 6 mm <sup>(2)</sup>	≥ 12 mm	≥ 24 mm	≥ 12 mm
PKS/**-1*	≥ 3 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
PKS/**-2*	≥ 12 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm
PKW/**-1*	≥ 3.6 mm	≥ 9 mm	≥ 18 mm	≥ 15 mm
PKW/**-2*	≥ 12 mm	≥ 18 mm	≥ 36 mm	≥ 24 mm

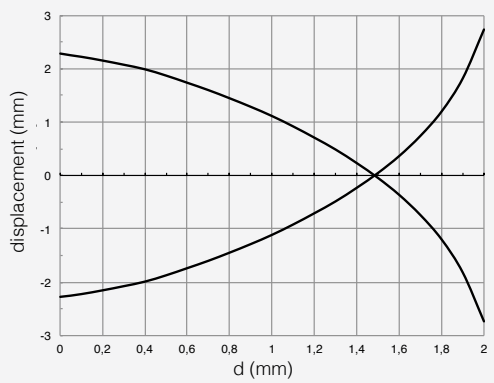
<sup>(1)</sup> ≥ 2.4 for non magnetic material  
<sup>(2)</sup> ≥ 0 mm for non magnetic material

# response diagram

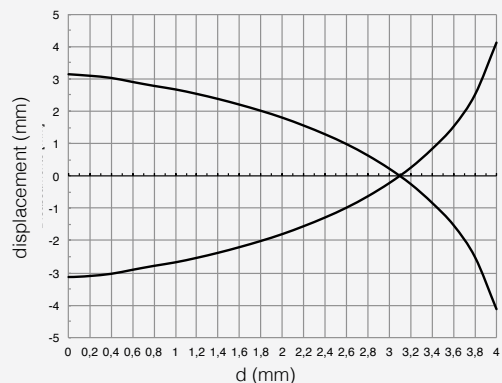


M12 & M18 IP67/68 cylindrical for harsh environments - DC

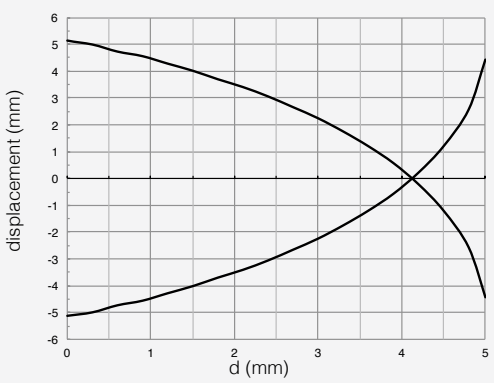
PMS\*/\*\*-1\* parallel displacement



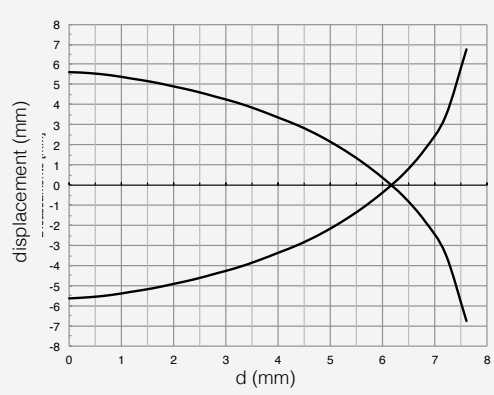
PMS\*/\*\*-2\* parallel displacement



PK\*/\*\*-1\* parallel displacement

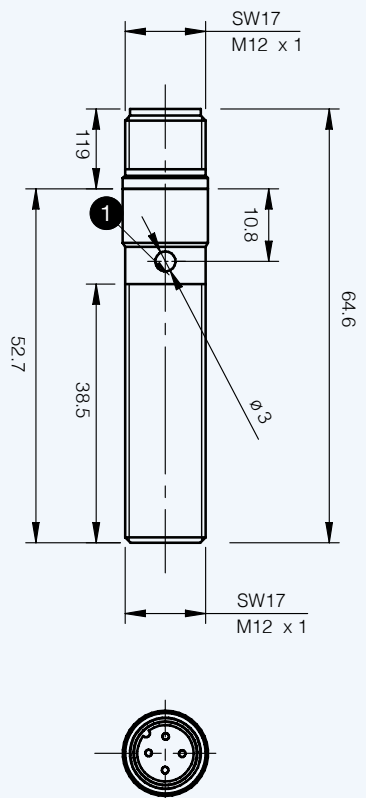


PK\*/\*\*-2\* parallel displacement

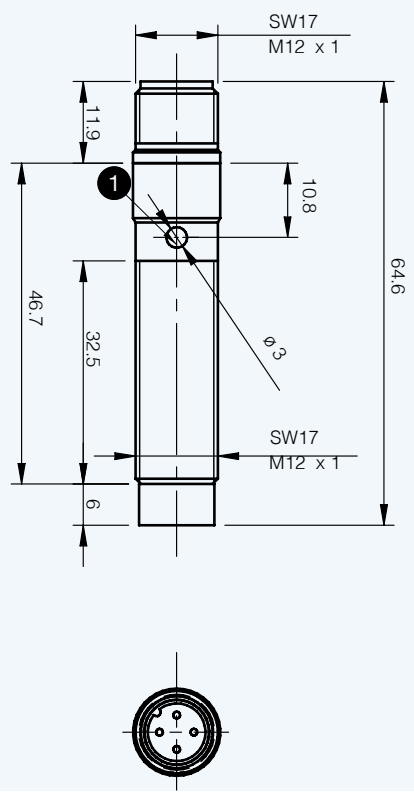


# dimensions (mm)

PM\*/\*\*-1H



PM\*/\*\*-2H



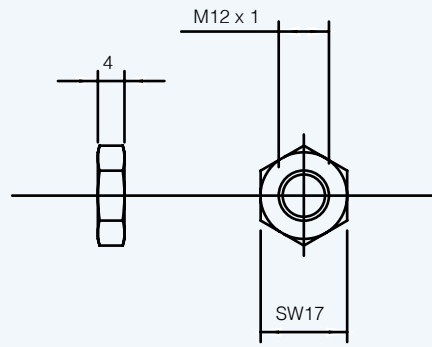
1 LED

PMS - PKS  
PMW - PKW



## dimensions (mm)

accessories included

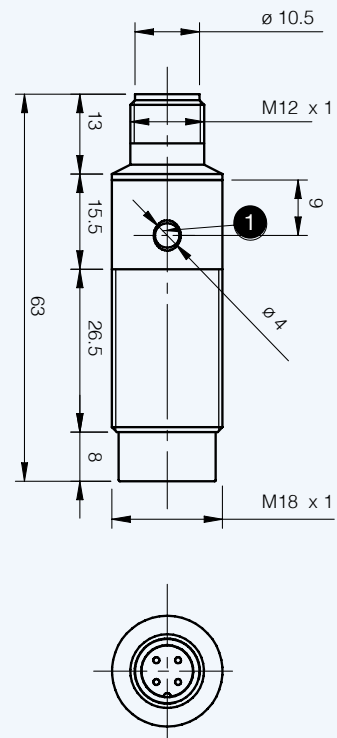
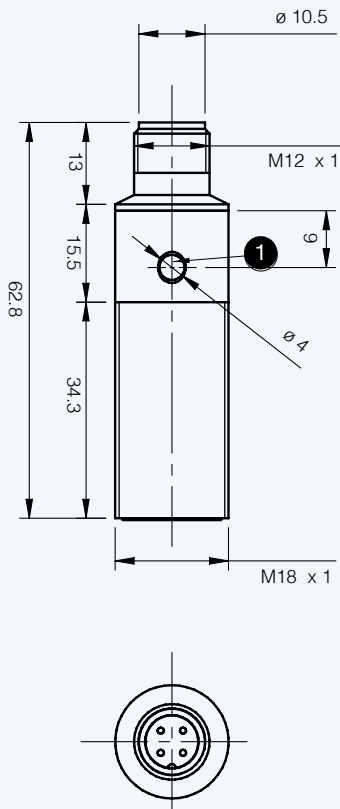


metallic  
nut (2 x)

## dimensions (mm)

PK\*/\*\*-1H

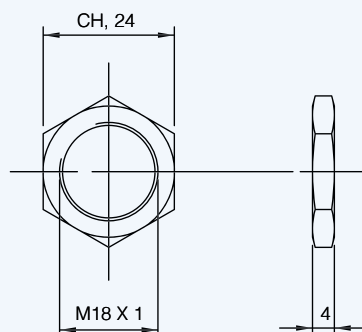
PK\*/\*\*-2H



1 LED

## dimensions (mm)

accessories included in all M18 models



metallic  
nut (2 x)

M12 & M18 IP67/68 cylindrical  
for harsh environments - DC