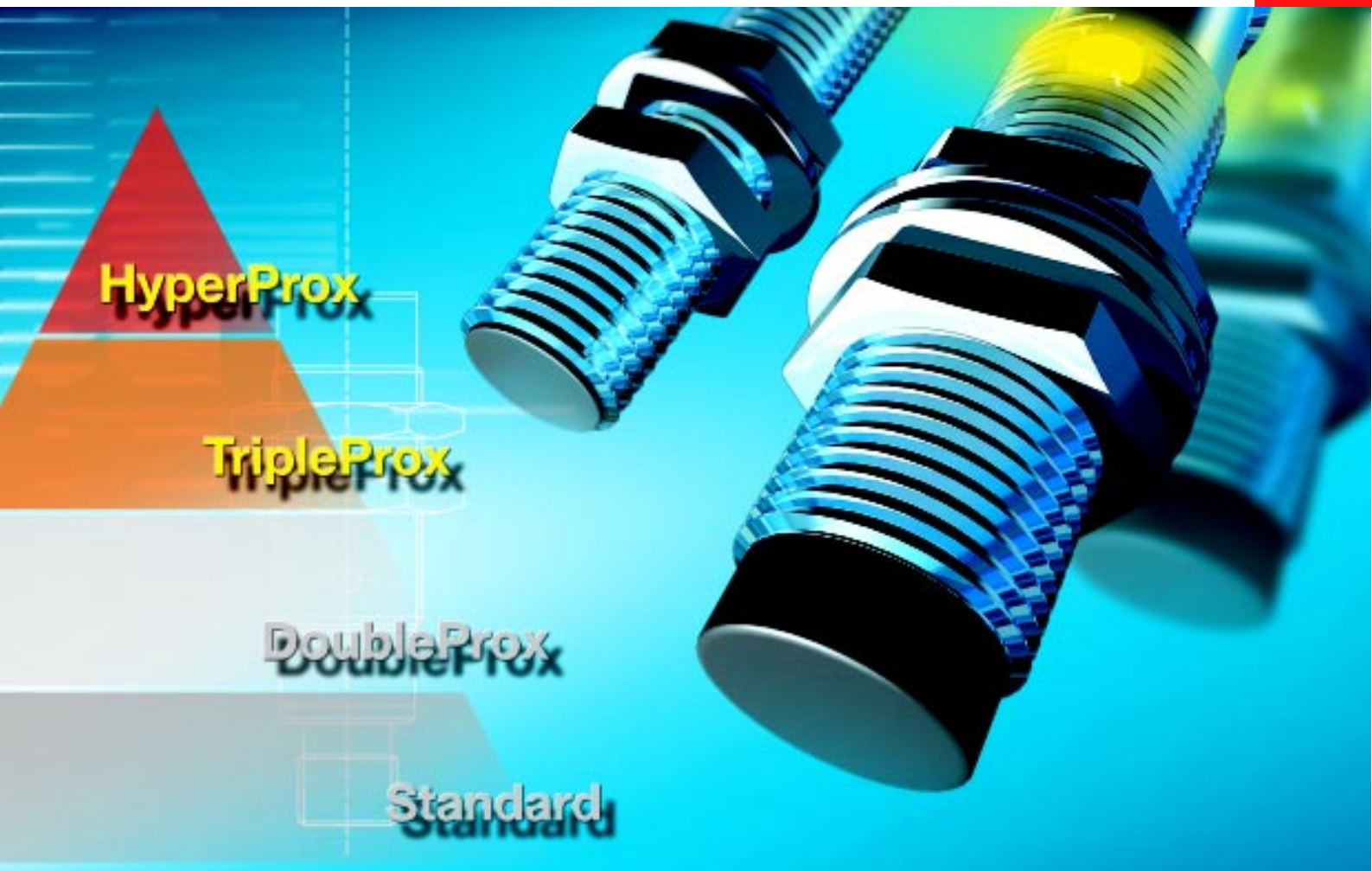


## TripleProx and HyperProx

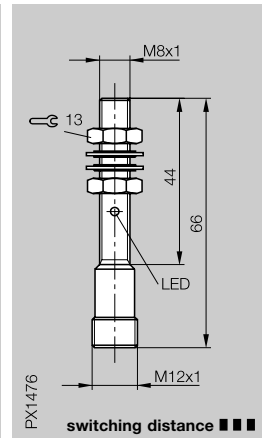
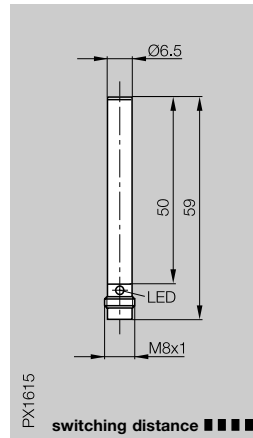
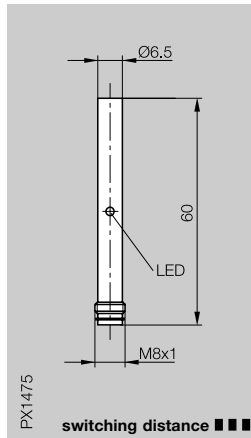
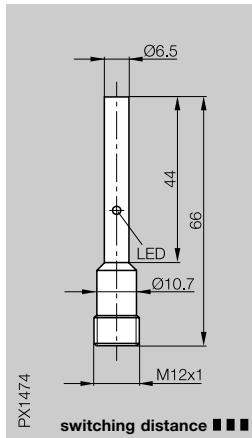
... new Standards in switching distances



# Inductive Sensors

DC 3-Wire  
 Ø 6.5 mm, M8, M12  
 s<sub>n</sub> 3, 4, 6, 8, 10 mm

Housing size	Ø 6,5 mm	Ø 6,5 mm	Ø 6,5 mm	<b>M8x1</b>
Mounting	quasi-flush	quasi-flush	quasi-flush	quasi-flush
Rated operating distance s <sub>n</sub>	<b>3 mm</b>	<b>3 mm</b>	<b>4 mm</b>	<b>3 mm</b>
Assured operating distance s <sub>a</sub>	0...2.4 mm	0...2.4 mm	0...2.9 mm	0...2.4 mm



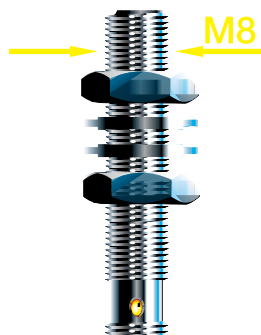
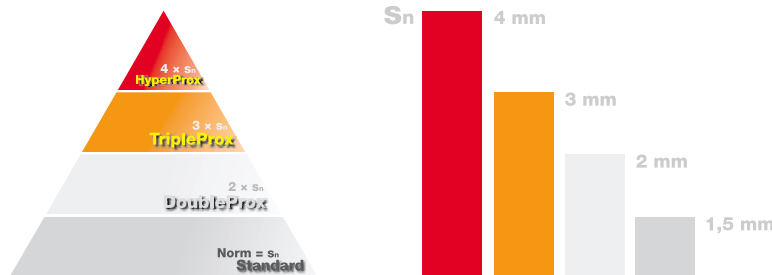
PNP	Normally-open	BES G06MH1-PSC30B-S04G	BES G06MI-PSC30B-S49G	BES G06MI-PSC40B-S49G	BES M08MH1-PSC30B-S04G
	Normally-closed		BES G06MI-POC30B-S49G		

NPN	Normally-open	BES G06MH1-NSC30B-S04G	BES G06MI-NSC30B-S49G	BES G06MI-NSC40B-S49G	BES M08MH1-NSC30B-S04G

Rated operational voltage U <sub>e</sub>	24 V DC	24 V DC	24 V DC	24 V DC
Supply voltage U <sub>B</sub>	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U <sub>d</sub> at I <sub>e</sub>	≤ 2 V	≤ 2 V	≤ 2.8 V	≤ 2 V
Rated insulation voltage U <sub>i</sub>	75 V DC	75 V DC	75 V DC	75 V DC
Rated operational current I <sub>e</sub>	200 mA	200 mA	200 mA	200 mA
No-load supply current I <sub>0</sub> max.	≤ 12 mA	≤ 12 mA	≤ 10 mA	≤ 12 mA
Off-state current I <sub>r</sub>	≤ 100 µA	≤ 100 µA	≤ 10 µA	≤ 100 µA
Protected against polarity reversal	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Load capacity	≤ 1 µF	≤ 1 µF	≤ 1 µF	≤ 1 µF
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T <sub>a</sub>	-25...+70 °C	-25...+70 °C	0...+60 °C	-25...+70 °C
Frequency of operating cycles f	1000 Hz	1000 Hz	800 Hz	1000 Hz
Utilization categories	DC 13	DC 13	DC 13	DC 13
Function indication	yes	yes	yes	yes

Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Insulation class				
Housing material	CuZn chrome plated	CuZn chrome plated	CuZn nickel plated	CuZn chrome plated
Material of sensing face	PBT	PBT	PBT	PBT
Connection	connector	connector	connector	connector

Recommended connector	BKS-_ 19/BKS-_ 20	BKS-_ 48/BKS-_ 49	BKS-_ 48/BKS-_ 49	BKS-_ 19/BKS-_ 20
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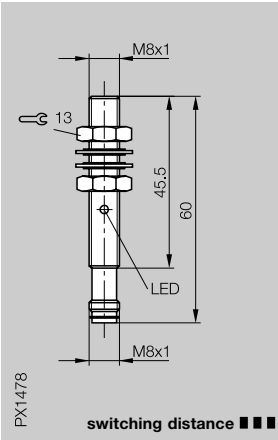
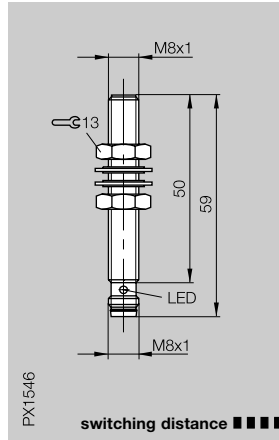
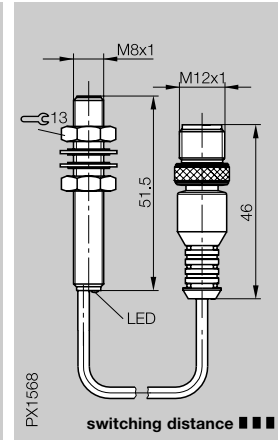
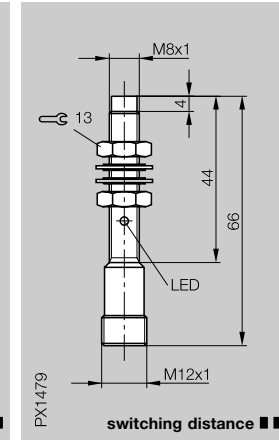
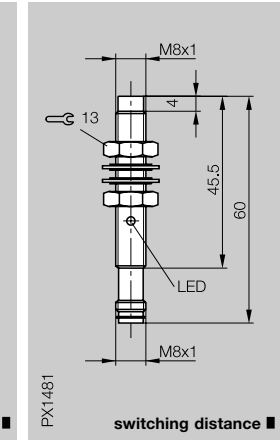


## TripleProx and HyperProx Advantages

are our problem solvers to your need for greater mechanical installation tolerances and increased distance to targets.

- Extended switching distances
- Metal housings
- LED for status display
- Extremely resistant to aggressive media

The main HyperProx sensors with 4 × the switching distance are right here.

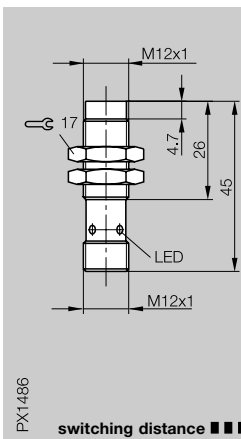
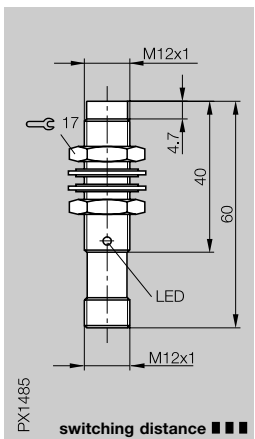
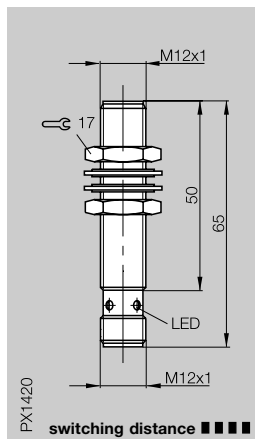
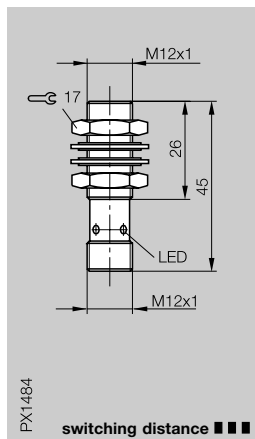
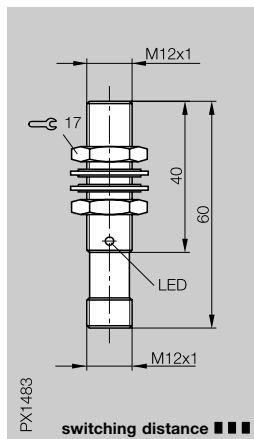
	<b>M8x1</b> quasi-flush <b>3 mm</b> 0...2.4 mm	<b>M8x1</b> quasi-flush <b>4 mm</b> 0...2.9 mm	<b>M8x1</b> quasi-flush <b>4 mm</b> 0...2.9 mm	<b>M8x1</b> non-flush <b>6 mm</b> 0...4.9 mm	<b>M8x1</b> non-flush <b>6 mm</b> 0...4.9 mm
					
	BES M08MH1-PSC30B-S49G	BES M08MI-PSC40B-S49G	BES M08MI-PSC40B-BP00,2-GS04	BES M08MG1-PSC60F-S04G	BES M08MG1-PSC60F-S49G
	BES M08MH1-NSC30B-S49G	BES M08MI-NSC40B-S49G	BES M08MI-NSC40B-BP00,2-GS04	BES M08MG1-NSC60F-S04G	BES M08MG1-NSC60F-S49G BES M08MG1-NOC60F-S49G
	24 V DC 10...30 V DC ≤ 2 V 75 V DC 200 mA ≤ 12 mA ≤ 100 µA yes yes ≤ 1 µF	24 V DC 10...30 V DC ≤ 2.8 V 75 V DC 200 mA ≤ 10 mA ≤ 10 µA yes yes ≤ 1 µF	24 V DC 10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 10 mA ≤ 10 µA yes yes ≤ 1 µF	24 V DC 10...30 V DC ≤ 2 V 75 V DC 200 mA ≤ 12 mA ≤ 100 µA yes yes ≤ 1 µF	24 V DC 10...30 V DC ≤ 2 V 75 V DC 200 mA ≤ 12 mA ≤ 100 µA yes yes ≤ 1 µF
	≤ 5 % -25...+70 °C 1000 Hz DC 13 yes	≤ 5 % 0...+60 °C 800 Hz DC 13 yes	≤ 5 % 0...+60 °C 600 Hz DC 13 yes	≤ 5 % -25...+70 °C 500 Hz DC 13 yes	≤ 5 % -25...+70 °C 500 Hz DC 13 yes
	IP 67	IP 67	IP 67	IP 67	IP 67
	CuZn chrome plated PBT connector	CuZn nickel plated PBT connector	CuZn nickel plated PBT cable with connector	CuZn chrome plated PBT connector	CuZn chrome plated PBT connector
	BKS-_ 48/BKS-_ 49	BKS-_ 48/BKS-_ 49	BKS-_ 19	BKS-_ 19/BKS-_ 20	BKS-_ 48/BKS-_ 49

# TripleProx + HyperProx

## Inductive Sensors

DC 3-Wire  
 Ø 6.5 mm, M8, M12  
 s<sub>n</sub> 3, 4, 6, 8, 10 mm

M12x1	M12x1	M12x1	M12x1	M12x1
quasi-flush	quasi-flush	quasi-flush	non-flush	non-flush
<b>6 mm</b>	<b>6 mm</b>	<b>8 mm</b>	<b>10 mm</b>	<b>10 mm</b>
0...4.9 mm	0...4.9 mm	0...5.8 mm	0...8.1 mm	0...8.1 mm



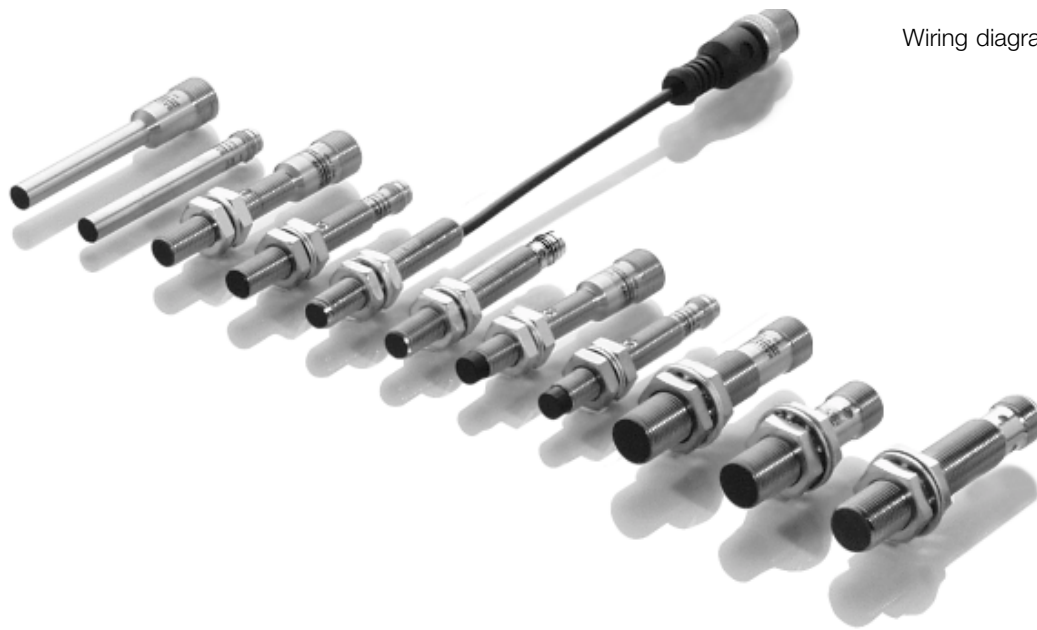
**1.2**

BES M12MG1-PSC60B-S04G	BES M12MD1-PSC60B-S04G	BES M12MI-PSH80B-S04G	BES M12MF1-PSC10F-S04G	BES M12MC1-PSC10F-S04G
BES M12MG1-POC60B-S04G				

BES M12MG1-NSC60B-S04G	BES M12MD1-NSC60B-S04G	BES M12MI-NSH80B-S04G	BES M12MF1-NSC10F-S04G	BES M12MC1-NSC10F-S04G
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24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
10...30 V DC	10...30 V DC	10...55 V DC	10...30 V DC	10...30 V DC
≤ 2 V	≤ 2 V	≤ 2.5 V	≤ 2 V	≤ 2 V
75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
200 mA	200 mA	200 mA	200 mA	200 mA
≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA
≤ 100 µA	≤ 100 µA	≤ 10 µA	≤ 100 µA	≤ 100 µA
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
≤ 1 µF	≤ 1 µF	≤ 1 µF	≤ 1 µF	≤ 1 µF
≤ 5 %	≤ 5 %	≤ 10 %	≤ 5 %	≤ 5 %
-25...+70 °C	-25...+70 °C	0...+60 °C	-25...+70 °C	-25...+70 °C
800 Hz	800 Hz	300 Hz	400 Hz	400 Hz
DC 13	DC 13	DC 13	DC 13	DC 13
yes	yes	yes	yes	yes
IP 67	IP 67	IP 67	IP 67	IP 67
CuZn chrome plated PBT connector	CuZn chrome plated PBT connector	CuZn nickel plated LCP connector	CuZn chrome plated PBT connector	CuZn chrome plated PBT connector
BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20

Wiring diagrams see page 1.2.5



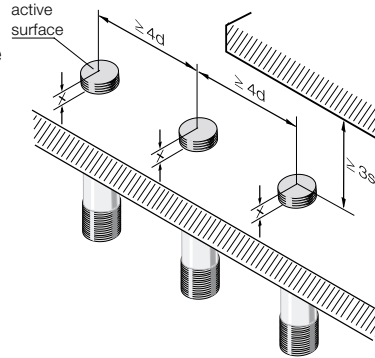
# Inductive Sensors

DC 3-Wire  
M18, M30, Quadraform Housings  
 $s_n$  3, 12, 20, 22, 40 mm



## Quasi-flush mountable proximity switches

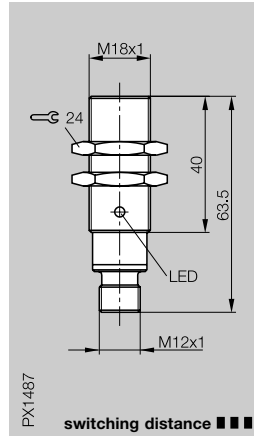
... require a space behind the active surface that is free of conducting materials. When this is done, the indicated switching distance is available with no restrictions. Dimension "x" (see illustration) represents the shortest distance between the active surface and the conducting material located behind it.



Housing size	Switching distance ■■■ installation in		Switching distance ■■■■ installation in	
	ferromagnetic materials	other metals	ferromagnetic materials	other metals
Ø 6.5, M8	2.0 mm	1.0 mm	3.0 mm	2.0 mm
M12	2.5 mm	2.0 mm	4.0 mm	3.0 mm
M18	4.0 mm	2.5 mm		
M30	8.0 mm	4.0 mm		
8x8	1.0 mm	1.0 mm		

Switching distance ■■■ = 3 × switching distance or  
Switching distance ■■■■ = 4 × switching distance  
compared with standard switching distance per IEC 60947-5-2.

Housing size	<b>M18x1</b>
Mounting	quasi-flush
Rated operating distance $s_n$	<b>12 mm</b>
Assured operating distance $s_a$	0...9.7 mm



<b>PNP</b>	Normally-open	BES M18MG1-PSC12B-S04G
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<b>NPN</b>	Normally-open	BES M18MG1-NSC12B-S04G
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Rated operational voltage $U_o$	24 V DC
Supply voltage $U_B$	10...30 V DC
Voltage drop $U_d$ at $I_o$	≤ 2 V
Rated insulation voltage $U_i$	75 V DC
Rated operational current $I_o$	200 mA
No-load supply current $I_o$ max.	≤ 10 mA
Off-state current $I_r$	≤ 100 µA
Protected against polarity reversal	yes
Short circuit protected	yes
Load capacity	≤ 1 µF

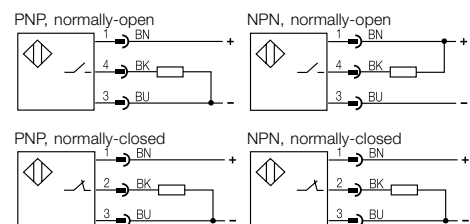
Repeat accuracy R	≤ 5 %
Ambient temperature range $T_a$	-25...+70 °C
Frequency of operating cycles f	500 Hz
Utilization categories	DC 13
Function indication	yes

Degree of protection per IEC 60529	IP 67
Insulation class	
Housing material	CuZn chrome plated
Material of sensing face	PBT
Connection	connector

Recommended connector	BKS-_ 19/BKS-_ 20
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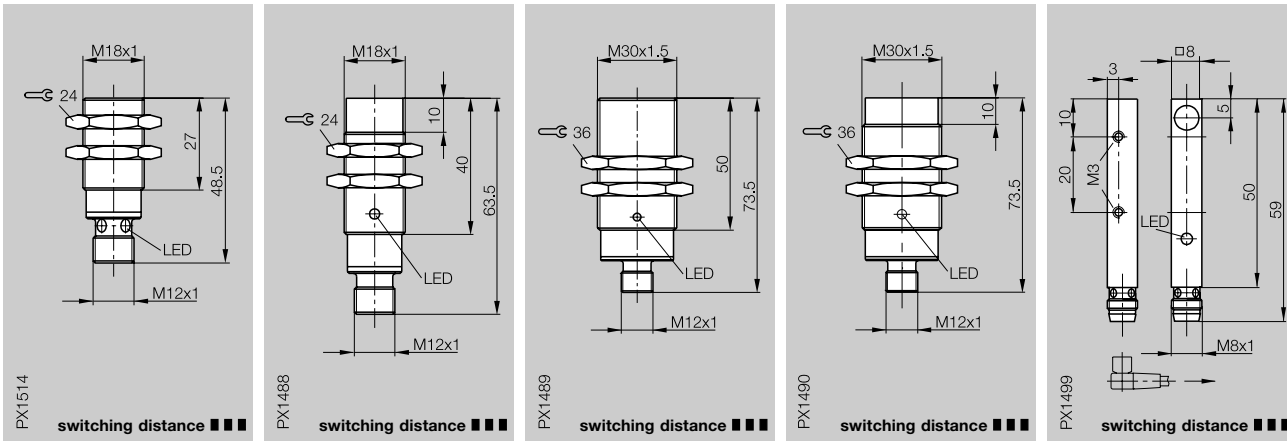
## Wiring diagrams



# TripleProx Inductive Sensors

DC 3-Wire M18, M30,  
Quadraform Housings  
s<sub>n</sub> 3, 12, 20, 22, 40 mm

M18x1	M18x1	M30x1,5	M30x1,5	8x8x54
quasi-flush	non-flush	quasi-flush	non-flush	flush
<b>12 mm</b>	<b>20 mm</b>	<b>22 mm</b>	<b>40 mm</b>	<b>3 mm</b>
0...9.7 mm	0...16.2 mm	0...17.8 mm	0...32.4 mm	0...2.4 mm



BES M18MD1-PSC12B-S04G BES M18ME1-PSC20F-S04G BES M30MI1-PSC22B-S04G BES M30MG1-PSC40F-S04G BES Q08MG-PSC30B-S49G

BES M18MD1-NSC12B-S04G BES M18ME1-NSC20F-S04G BES M30MI1-NSC22B-S04G BES M30MG1-NSC40F-S04G BES Q08MG-NSC30B-S49G

24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
≤ 2 V	≤ 2 V	≤ 2 V	≤ 2 V	≤ 2 V
75 V DC	75 V DC	75 V DC	75 V DC	75 V DC
200 mA	200 mA	200 mA	200 mA	200 mA
≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA	≤ 10 mA
≤ 100 µA	≤ 100 µA	≤ 100 µA	≤ 100 µA	≤ 100 µA
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
≤ 1 µF	≤ 1 µF	≤ 1 µF	≤ 1 µF	≤ 1 µF
≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
500 Hz	200 Hz	200 Hz	100 Hz	1000 Hz
DC 13	DC 13	DC 13	DC 13	DC 13
yes	yes	yes	yes	yes
IP 67	IP 67	IP 67	IP 67	IP 67
CuZn chrome plated	CuZn chrome plated	CuZn chrome plated	CuZn chrome plated	CuZn chrome plated
PBT	PBT	PBT	PBT	PBT
connector	connector	connector	connector	connector
BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 19/BKS-_ 20	BKS-_ 48/BKS-_ 49

When installing in metallic clamps the switching distance will be reduced.  
We recommend using clamp model  
BES ...-KH-3L made of PBT to prevent this.

**BKS connector** please order separately  
(see main sensor catalog, section 6).



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