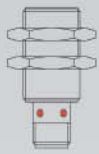
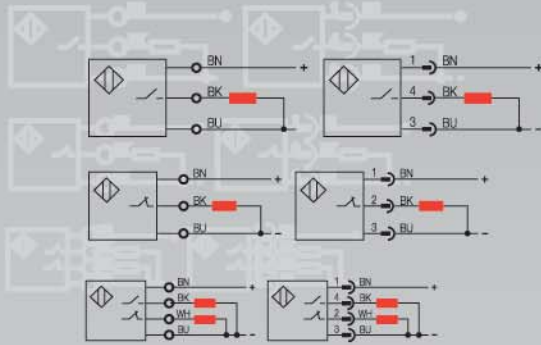
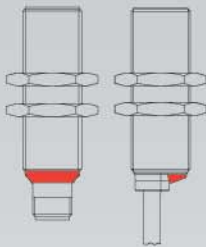


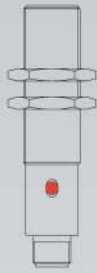
Inductive - DC 3-/4-wire



Short housing



Mid-length with maximum thread length



Long housing

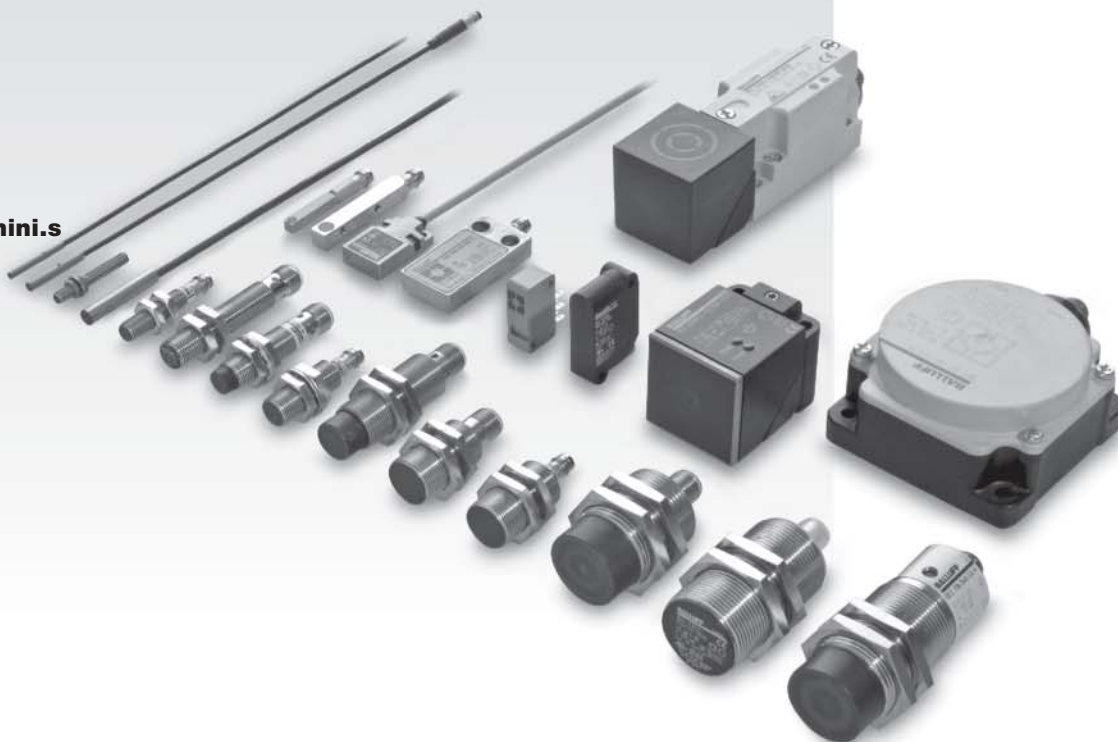
Our standard line in 3- and 4-wire DC versions

In this comprehensive line Balluff offers proximity switches from \varnothing 3 mm to 80x80 mm for virtually any application in the field of automation.

These highest quality sensors are designed and manufactured according to worldwide standards and the latest technology. Our 100 % final inspection of all products is your assurance that only carefully tested sensors leave our plants.

- 1.1.2 \varnothing 3 mm
- 1.1.3 \varnothing 3 mm, \varnothing 4 mm
- 1.1.6 M5
- 1.1.9 \varnothing 6.5 mm
- 1.1.13 \varnothing 8 mm
- 1.1.14 M8
- 1.1.24 M12
- 1.1.33 M18
- 1.1.40 M30
- 1.1.47 Block style housings

mini.s



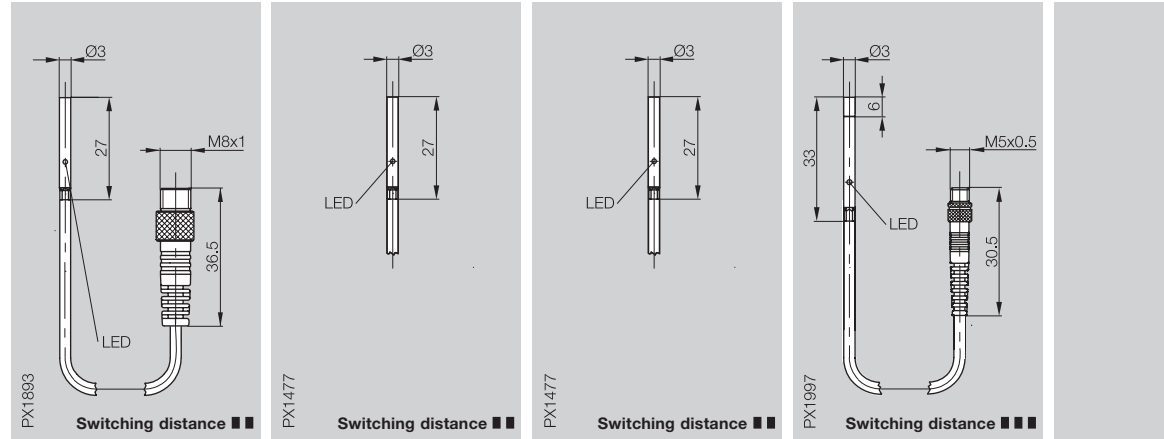
Inductive Sensors

DC 3-wire
 \varnothing 3 mm
 s_n 1 mm, 3 mm

\varnothing 3 mm

Housing size
Mounting (see notes starting p. 1.0.11)
Rated operating distance s_n
Assured operating distance s_a

\varnothing 3 mm flush	\varnothing 3 mm flush	\varnothing 3 mm flush	\varnothing 3 mm non-flush
1 mm	1 mm	1 mm	3 mm
0...0.8 mm	0...0.8 mm	0...0.8 mm	0...2.3 mm



PNP	NO	①	BES 516-3044-G-E4-C-S49-00,3	BES 516-3044-G-E4-C-PU-02		BES 516-3048-G-E4-C-S26-00,3
	NC	②		BES 516-3045-G-E4-C-PU-02		
NPN	NO	④			BES 516-3046-G-E4-L-PU-02	
Supply voltage U_B	10...30 V DC		10...30 V DC	10...30 V DC	10...30 V DC	21.6...26.4 V DC
Voltage drop U_d at I_B	≤ 2.5 V		≤ 2.5 V	≤ 2.5 V	≤ 1.5 V	≤ 2.5 V
Rated insulation voltage U_i	75 V DC		75 V DC	75 V DC	75 V DC	75 V DC
Rated operational current I_B	100 mA		100 mA	100 mA	100 mA	50 mA
No-load supply current I_0 max.	≤ 12 mA		≤ 12 mA	≤ 12 mA	≤ 12 mA	≤ 10 mA
Polarity reversal protected	yes		yes	yes	yes	yes
Short circuit protected	yes		yes	yes	no	yes
Repeat accuracy R	≤ 5 %		≤ 5 %	≤ 5 %	≤ 5 %	≤ 15 %
Ambient temperature range T_a	-25...+70 °C		-25...+70 °C	-25...+70 °C	0...+70 °C	0...+70 °C
Switching frequency f	2000 Hz		2000 Hz	2000 Hz	5000 Hz	3000 Hz
Utilization category	DC 13		DC 13	DC 13	DC 13	DC 13
Function indicator	yes		yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67		IP 67	IP 67	IP 67	IP 67
Housing material	Stainless steel		Stainless steel	Stainless steel	Stainless steel	Stainless steel
Material of sensing face	POM		POM	POM	POM	POM
Connection	0.3 m PUR cable with connector		2 m cable PUR	2 m cable PUR	2 m cable PUR	0.3 m PUR cable with connector
No. of wires \times cross-section			3 \times 0.09 mm ²	3 \times 0.09 mm ²	3 \times 0.09 mm ²	
Approval	cULus		cULus			
Recommended connector	BKS- 48					BKS-B 25

① Wiring diagrams see page 1.0.6
 Switching distance ■■ see page 1.0.10

Other cable lengths on request.



mini.s

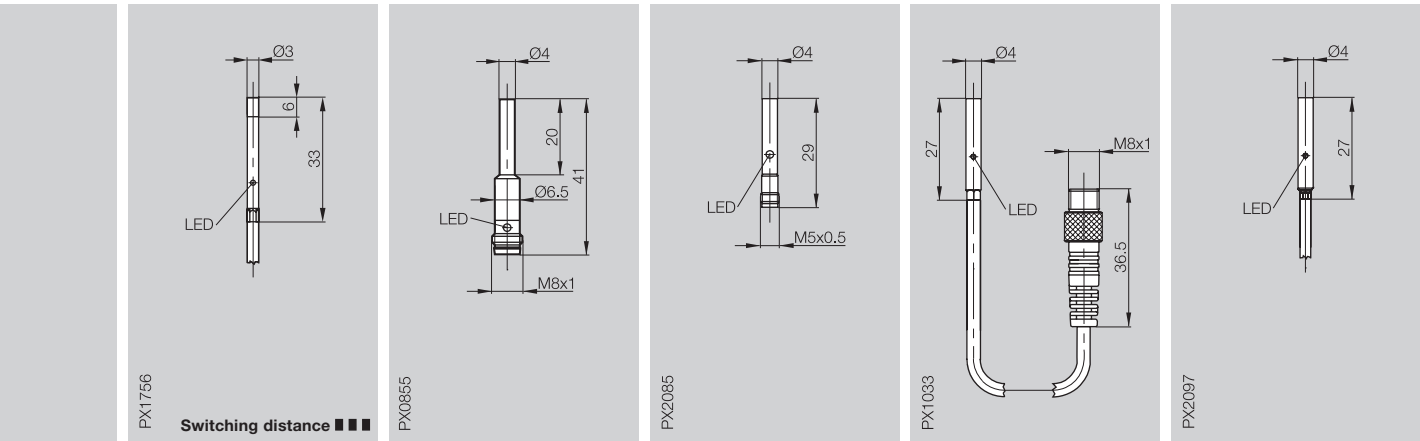
The new sensor dimension

Ø 3 mm, Ø 4 mm

Inductive Sensors

DC 3-wire
 Ø 3 mm, Ø 4 mm
 s_n 0.8 mm, 3 mm

Ø 3 mm non-flush 3 mm 0...2.3 mm	Ø 4 mm flush 0.8 mm 0...0.6 mm	Ø 4 mm flush 0.8 mm 0...0.6 mm	Ø 4 mm flush 0.8 mm 0...0.6 mm	Ø 4 mm flush 0.8 mm 0...0.6 mm
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1.1

BES 516-3048-G-E4-C-PU-02	BES 516-3007-E5-C-S49 BES 516-3017-E5-C-S49	BES G04EC-PSC08B-S26G BES G04EC-POC08B-S26G	BES 516-3007-E4-C-S49-00,3 BES 516-3017-E4-C-S49-00,3	BES 516-3007-E4-C-PU-02
	BES 516-3008-E5-C-S49	BES G04EC-NSC08B-S26G	BES 516-3008-E4-C-S49-00,2	
21.6...26.4 V DC ≤ 2.5 V 75 V DC 50 mA ≤ 10 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes
≤ 15 % 0...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes
IP 67	IP 67	IP 67	IP 67	IP 67
Stainless steel POM 2 m cable PUR	Stainless steel POM Connector	Stainless steel POM Connector	Stainless steel POM 0.2 m/0.3 m PUR cable with connector	Stainless steel POM 2 m cable PUR
3×0.09 mm ²	cULus BKS-_ 48/BKS-_ 49	cULus BKS-B 25/BKS-B 26	cULus BKS-_ 48	3×0.14 mm ² cULus



5
 Connectors,
 Holders ...
 Page 5.2 ...

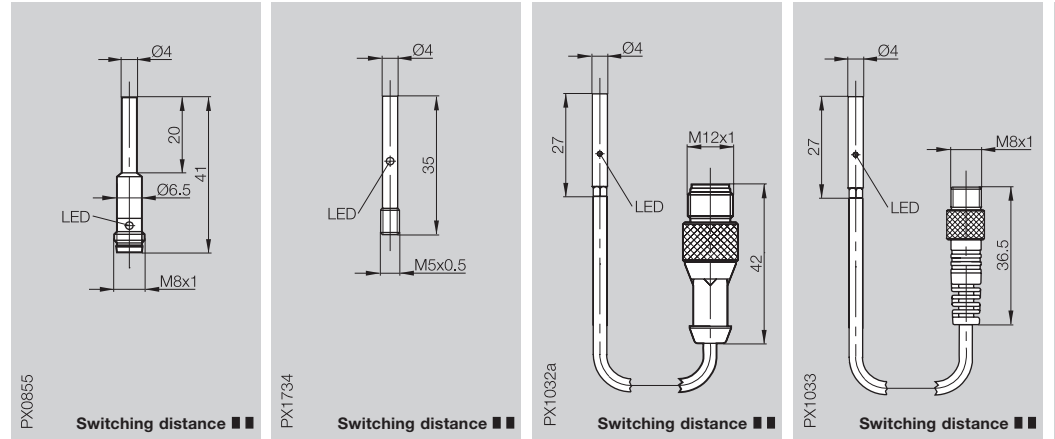
Inductive Sensors

DC 3-wire
 \varnothing 4 mm
 s_n 1.5 mm

\varnothing 4 mm

Housing size
 Mounting (see notes starting p. 1.0.11)
 Rated operating distance s_n
 Assured operating distance s_a

\varnothing 4 mm	\varnothing 4 mm	\varnothing 4 mm	\varnothing 4 mm
flush	flush	flush	flush
1.5 mm	1.5 mm	1.5 mm	1.5 mm
0...1.2 mm	0...1.2 mm	0...1.2 mm	0...1.2 mm



PNP	NO	①	BES 516-3007-G-E5-C-S49	BES G04ED-PSC15B-S26G	BES 516-3007-G-E4-C-S4-00,2	BES 516-3007-G-E4-C-S49-00,3
	NC	②	BES 516-3017-G-E5-C-S49		BES 516-3017-G-E4-C-S4-00,2	BES 516-3017-G-E4-C-S49-00,3
NPN	NO	④	BES 516-3008-G-E5-C-S49			BES 516-3008-G-E4-C-S49-00,2
	NC	⑤	BES 516-3018-G-E5-C-S49			

Supply voltage U_B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e	≤ 3 V	≤ 3 V	≤ 3 V	≤ 3 V
Rated insulation voltage U_i	75 V DC	75 V DC	75 V DC	75 V DC
Rated operational current I_e	100 mA	100 mA	100 mA	100 mA
No-load supply current I_0 max.	≤ 12 mA	≤ 10 mA	≤ 12 mA	≤ 12 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T_a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	3000 Hz	3000 Hz	3000 Hz	3000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Material of sensing face	POM	POM	POM	POM
Connection	Connector	Connector	0.2 m PUR cable with connector	0.2 m/0.3 m PUR cable with connector
No. of wires \times cross-section				
Approval	cULus	cULus	cULus	cULus
Recommended connector	BKS-_ 48/BKS-_ 49	BKS-B 25/BKS-B 26	BKS-_ 19	BKS-_ 48

① Wiring diagrams see page 1.0.6
 Switching distance ■■ see page 1.0.10

Other cable lengths on request.

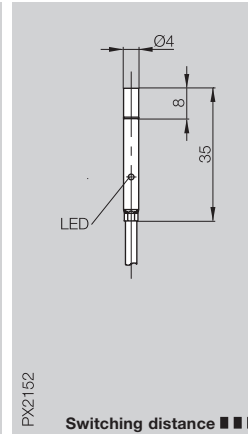
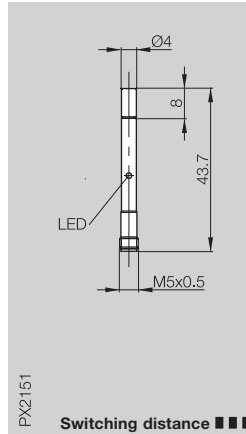
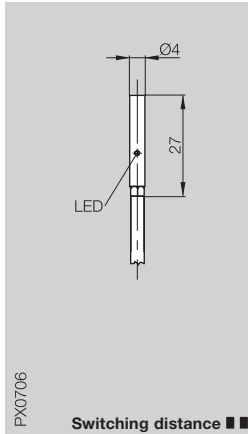
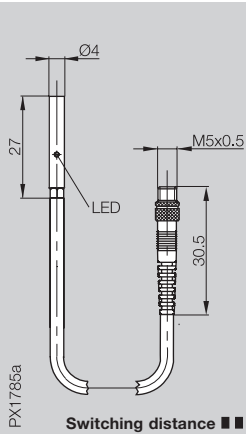


Ø 4 mm

Inductive Sensors

DC 3-wire
 Ø 4 mm
 S_n 1.5 mm, 5 mm

Ø 4 mm flush 1.5 mm 0...1.2 mm	Ø 4 mm flush 1.5 mm 0...1.2 mm	Ø 4 mm non-flush 5 mm 0...4.1 mm	Ø 4 mm non-flush 5 mm 0...4.1 mm
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BES 516-3007-G-E4-C-S26-00,2

BES 516-3007-G-E4-C-PU-02
 BES 516-3017-G-E4-C-PU-02

BES G04ED-PSC50F-S26G

BES G04ED-PSC50F-EP02

BES 516-3008-G-E4-C-PU-02
 BES 516-3018-G-E4-C-PU-02

10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 100 mA ≤ 10 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 100 mA ≤ 10 mA yes yes
≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 10 % -25...+70 °C 3000 Hz DC 13 yes	≤ 10 % -25...+70 °C 3000 Hz DC 13 yes
IP 67	IP 67	IP 67	IP 67
Stainless steel POM 0.2 m PUR cable with connector	Stainless steel POM 2 m cable PUR	Stainless steel POM Connector	Stainless steel POM 2 m cable PUR
cULus BKS-B 25	3x0.14 mm ² cULus	cULus BKS-B 25/BKS-B 26	3x0.14 mm ² cULus



1.1

5

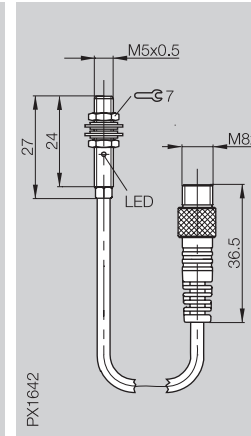
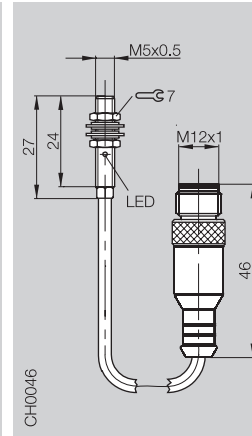
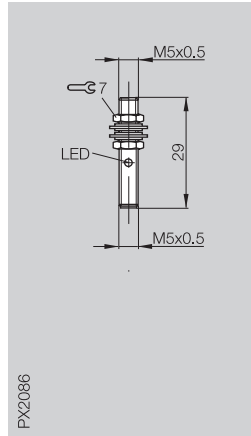
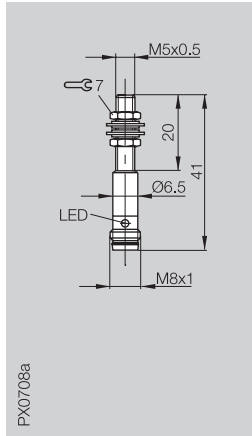
Connectors,
 Holders ...
 Page 5.2 ...

Inductive Sensors

DC 3-wire
M5
s_n 0.8 mm

M5

Housing size	M5x0.5	M5x0.5	M5x0.5	M5x0.5
Mounting (see notes starting p. 1.0.11)	flush	flush	flush	flush
Rated operating distance s _n	0.8 mm	0.8 mm	0.8 mm	0.8 mm
Assured operating distance s _a	0...0.6 mm	0...0.6 mm	0...0.6 mm	0...0.6 mm



PNP	NO	①	BES 516-3005-E5-C-S49	BES M05EC-PSC08B-S26G	BES 516-3005-E4-C-S4-00,3	BES 516-3005-E4-C-S49-00,3
	NC	②	BES 516-3022-E5-C-S49	BES M05EC-POC08B-S26G		
NPN	NO	④	BES 516-3006-E5-C-S49	BES M05EC-NSC08B-S26G		
	NC	⑤				

Supply voltage U _B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U _d at I _e	≤ 3 V	≤ 3 V	≤ 3 V	≤ 3 V
Rated insulation voltage U _i	75 V DC	75 V DC	75 V DC	75 V DC
Rated operational current I _e	100 mA	100 mA	100 mA	100 mA
No-load supply current I ₀ max.	≤ 12 mA	≤ 12 mA	≤ 10 mA	≤ 12 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T _a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	3000 Hz	3000 Hz	3000 Hz	3000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Material of sensing face	POM	POM	POM	POM
Connection	Connector	Connector	0.3 m PUR cable with connector	0.3 m PUR cable with connector
No. of wires × cross-section				
Approval	cULus	cULus	cULus	cULus
Recommended connector	BKS- 48/BKS- 49	BKS-B 25/BKS-B 26	BKS- 19	BKS- 48

① Wiring diagrams see page 1.0.6
Switching distance ■■ see page 1.0.10

Other cable lengths on request.

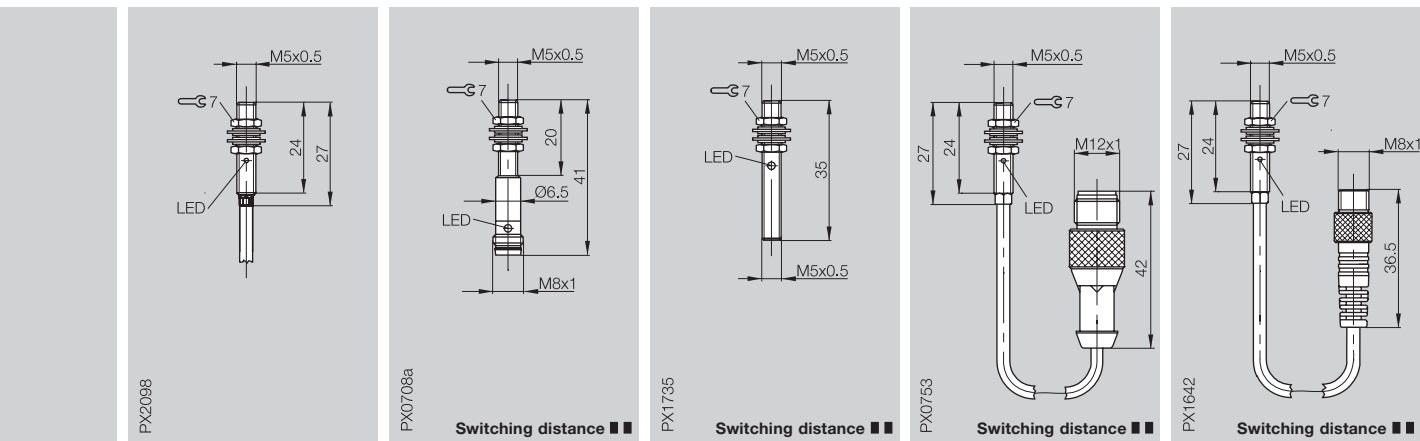


M5 Inductive Sensors

DC 3-wire
M5
s_n 0.8 mm, 1.5 mm

1.1

M5x0.5 flush 0.8 mm 0...0.6 mm	M5x0.5 flush 1.5 mm 0...1.2 mm	M5x0.5 flush 1.5 mm 0...1.2 mm	M5x0.5 flush 1.5 mm 0...1.2 mm	M5x0.5 flush 1.5 mm 0...1.2 mm
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BES 516-3005-E4-C-PU-02	BES 516-3005-G-E5-C-S49 BES 516-3022-G-E5-C-S49	BES M05ED-PSC15B-S26G	BES 516-3005-G-E4-C-S4-00,2	BES 516-3005-G-E4-C-S49-00,3 BES 516-3022-G-E4-C-S49-00,3
	BES 516-3006-G-E5-C-S49 BES 516-3023-G-E5-C-S49			
10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 10 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes	10...30 V DC ≤ 3 V 75 V DC 100 mA ≤ 12 mA yes yes
≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes
IP 67	IP 67	IP 67	IP 67	IP 67
Stainless steel POM 2 m cable PUR	Stainless steel POM Connector	Stainless steel POM Connector	Stainless steel POM 0.2 m PUR cable with connector	Stainless steel POM 0.3 m PUR cable with connector
3x0.14 mm ² cULus	cULus BKS-_ 48/BKS-_ 49	cULus BKS-B 25/BKS-B 26	cULus BKS-_ 19	cULus BKS-_ 48



5

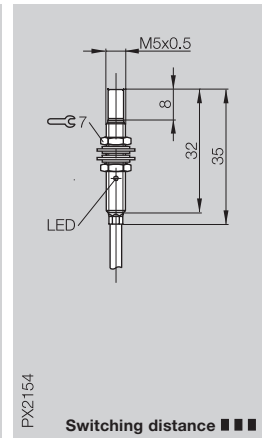
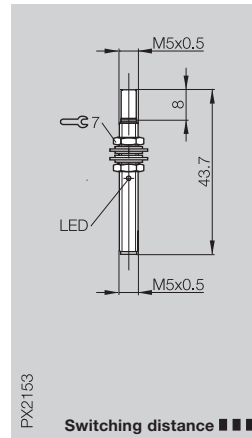
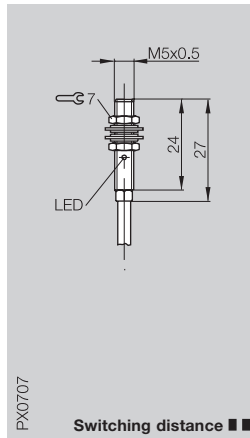
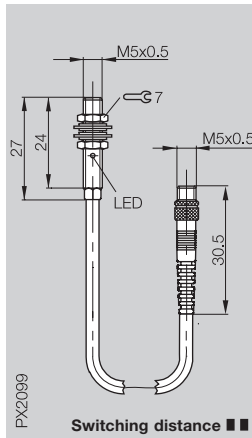
Connectors,
Holders ...
Page 5.2 ...

Inductive Sensors

DC 3-wire
M5
s_n 1.5 mm, 5 mm

M5

Housing size	M5x0.5	M5x0.5	M5x0.5	M5x0.5
Mounting (see notes starting p. 1.0.11)	flush	flush	non-flush	non-flush
Rated operating distance s _n	1.5 mm	1.5 mm	5 mm	5 mm
Assured operating distance s _a	0...1.2 mm	0...1.2 mm	0...4.1 mm	0...4.1 mm

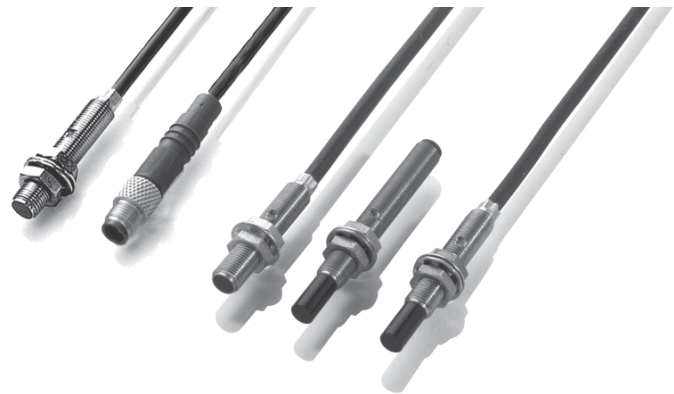


PNP	NO	①	BES 516-3005-G-E4-C-S26-00,3	BES 516-3005-G-E4-C-PU-02	BES M05ED-PSC50F-S26G	BES M05ED-PSC50F-EP02
	NC	②		BES 516-3022-G-E4-C-PU-02		
NPN	NO	④		BES 516-3006-G-E4-C-PU-02		
	NC	⑤		BES 516-3023-G-E4-C-PU-02		

Supply voltage U _B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U _d at I _e	≤ 3 V	≤ 3 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U _i	75 V DC	75 V DC	75 V DC	75 V DC
Rated operational current I _e	100 mA	100 mA	100 mA	100 mA
No-load supply current I ₀ max.	≤ 12 mA	≤ 12 mA	≤ 10 mA	≤ 10 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 10 %	≤ 10 %
Ambient temperature range T _a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	3000 Hz	3000 Hz	3000 Hz	3000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 67
Insulation class				
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Material of sensing face	POM	POM	POM	POM
Connection	0.3 m PUR cable with connector	2 m cable PUR	Connector	2 m cable PUR
No. of wires × cross-section		3×0.14 mm ²		3×0.14 mm ²
Approval	cULus	cULus	cULus	cULus
Recommended connector	BKS-B 25		BKS-B 25/BKS-B 26	

① Wiring diagrams see page 1.0.6
Switching distance ■■ see page 1.0.10

Other cable lengths on request.

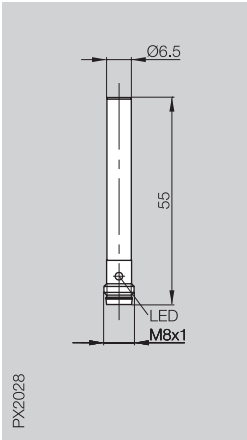
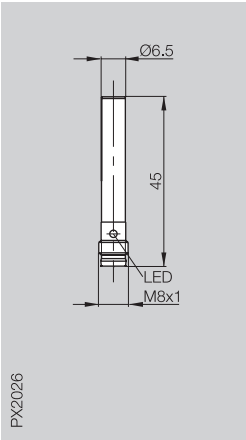
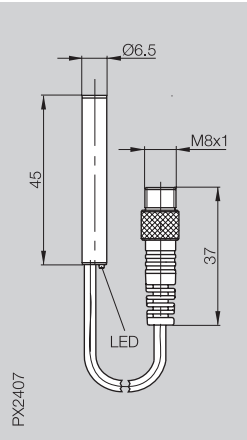
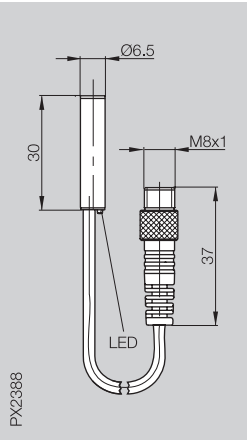
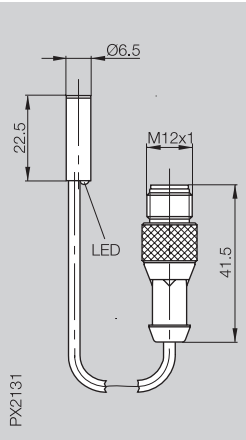


Ø 6.5 mm

Inductive Sensors

DC 3-wire
 Ø 6.5 mm
 S_n 1.5 mm

1.1

Ø 6.5 mm flush 1.5 mm 0...1.2 mm	Ø 6.5 mm flush 1.5 mm 0...1.2 mm	Ø 6.5 mm flush 1.5 mm 0...1.2 mm	Ø 6.5 mm flush 1.5 mm 0...1.2 mm	Ø 6.5 mm flush 1.5 mm 0...1.2 mm
				
BES 516-371-S49-C	BES 516-371-E5-C-S49	BES 516-371-E0-C-S49-00,5	BES 516-371-E4-C-S49-00,3	BES 516-371-SA10-S4-00,3
10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 10 mA yes yes
≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 4000 Hz DC 13 yes
IP 67	IP 67	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 67
Stainless steel PA 12 Connector	Stainless steel PA 12 Connector	Stainless steel PA 12 0.5 m PUR cable with connector	Stainless steel PA 12 0.3 m PUR cable with connector	Stainless steel PBT 0.3 m PUR cable with connector
cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48	cULus BKS-_ 48	BKS-_ 19



5

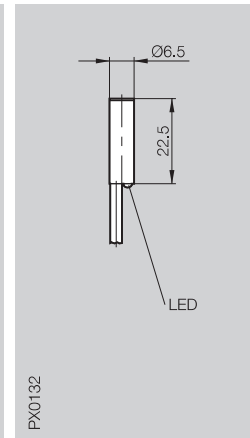
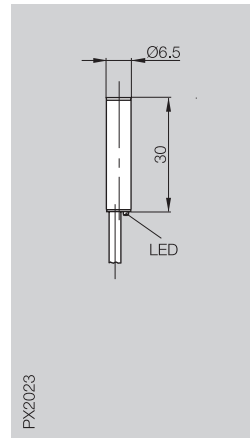
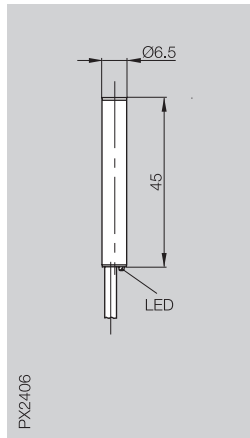
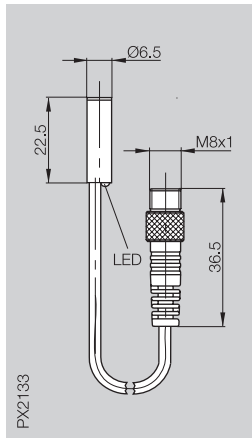
Connectors,
 Holders ...
 Page 5.2 ...

Inductive Sensors

DC 3-wire
 \varnothing 6.5 mm
 s_n 1.5 mm

\varnothing 6.5 mm

Housing size	\varnothing 6.5 mm	\varnothing 6.5 mm	\varnothing 6.5 mm	\varnothing 6.5 mm
Mounting (see notes starting p. 1.0.11)	flush	flush	flush	flush
Rated operating distance s_n	1.5 mm	1.5 mm	1.5 mm	1.5 mm
Assured operating distance s_a	0...1.2 mm	0...1.2 mm	0...1.2 mm	0...1.2 mm



PNP	NO	①	BES 516-371-SA10-S49-00,3	BES 516-371-E0-C-02	BES 516-371-E4-C-02	BES 516-371-SA10-02
	NC	②				
NPN	NO	④			BES 516-372-E4-C-02	BES 516-372-SA1-02
	NC	⑤				
Supply voltage U_B	10...30 V DC		10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e	≤ 2.5 V		≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U_i	75 V DC		250 V AC	250 V AC	250 V AC	75 V DC
Rated operational current I_e	200 mA		200 mA	200 mA	200 mA	200 mA
No-load supply current I_0 max.	≤ 10 mA		≤ 9 mA	≤ 9 mA	≤ 9 mA	≤ 25 mA
Polarity reversal protected	yes		yes	yes	yes	yes
Short circuit protected	yes		yes	yes	yes	yes
Repeat accuracy R	≤ 5 %		≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T_a	-25...+70 °C		-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	4000 Hz		3000 Hz	3000 Hz	3000 Hz	1500 Hz
Utilization category	DC 13		DC 13	DC 13	DC 13	DC 13
Function indicator	yes		yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67		IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 67
Insulation class			□	□	□	
Housing material	CuZn coated		Stainless steel	Stainless steel	Stainless steel	CuZn coated
Material of sensing face	PBT		PA 12	PA 12	PA 12	PBT
Connection	0.3 m PUR cable with connector		2 m PVC cable	2 m PVC cable	2 m PVC cable	2 m PVC cable
No. of wires \times cross-section			3 \times 0.14 mm ²	3 \times 0.14 mm ²	3 \times 0.14 mm ²	3 \times 0.14 mm ²
Approval			cULus	cULus	cULus	
Recommended connector	BKS-_ 48					

① Wiring diagrams see page 1.0.6
 Switching distance ■■ see page 1.0.10

For sensors with cable, other lengths and PUR quality are available on request.

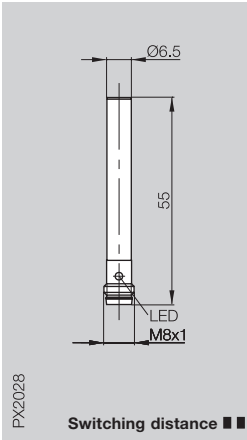
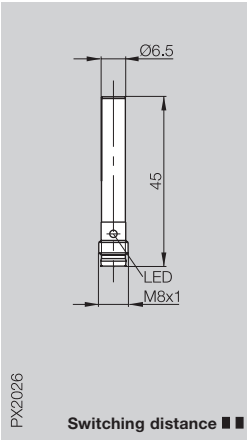
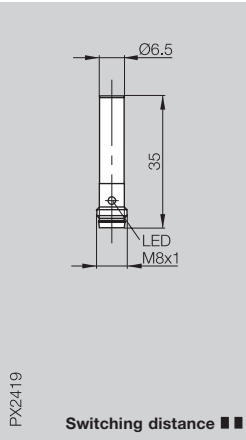
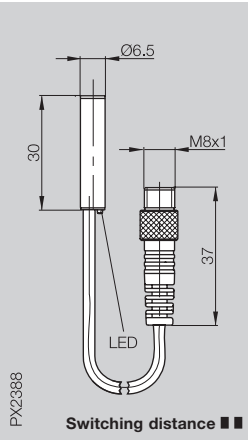
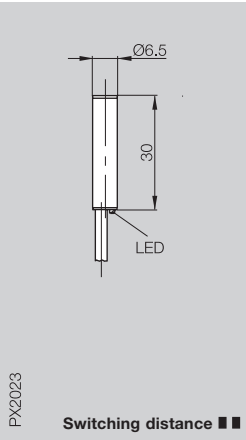
For sensors with cable and connector, other lengths are available on request.



Ø 6.5 mm

Inductive Sensors

DC 3-wire
Ø 6.5 mm
S_n 2 mm

Ø 6.5 mm flush 2 mm 0...1.6 mm	Ø 6.5 mm flush 2 mm 0...1.6 mm	Ø 6.5 mm flush 2 mm 0...1.6 mm	Ø 6.5 mm flush 2 mm 0...1.6 mm	Ø 6.5 mm flush 2 mm 0...1.6 mm
				
BES 516-371-G-S49-C	BES 516-371-G-E5-C-S49 BES 516-3021-G-E5-C-S49	BES 516-371-SA15-C-S49	BES 516-371-G-E4-C-S49-00,3	BES 516-371-G-E4-C-02 BES 516-3021-G-E4-C-02
	BES 516-372-G-E5-C-S49 BES 516-3025-G-E5-C-S49			BES 516-372-G-E4-C-02
10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 18 mA yes yes
≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes
IP 67	IP 67	IP 67	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐
Stainless steel PA 12 Connector	Stainless steel PA 12 Connector	Stainless steel PA 12 Connector	Stainless steel PA 12 0.3 m PUR cable with connector	Stainless steel PA 12 2 m PVC cable
cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48	3x0.14 mm ² cULus

1.1



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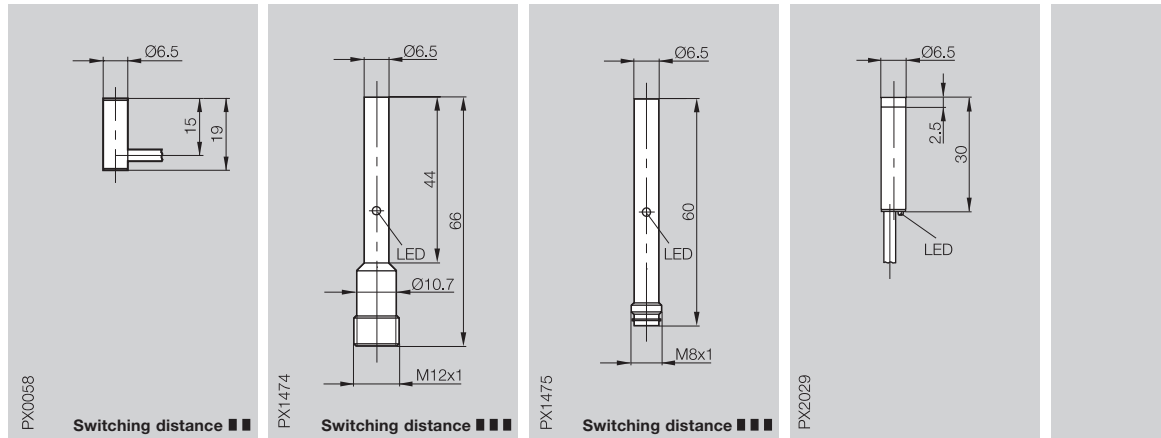
Connectors,
Holders ...
Page 5.2 ...

Inductive Sensors

DC 3-wire
 \varnothing 6.5 mm
 s_n 2 mm, 2.5 mm, 3 mm

\varnothing 6.5 mm

Housing size	\varnothing 6.5 mm	\varnothing 6.5 mm	\varnothing 6.5 mm	\varnothing 6.5 mm
Mounting (see notes starting p. 1.0.11)	flush	quasi flush	quasi flush	non-flush
Rated operating distance s_n	2 mm	3 mm	3 mm	2.5 mm
Assured operating distance s_a	0...1.6 mm	0...2.4 mm	0...2.4 mm	0...2 mm



PNP	NO	①	BES 516-371-SA13-PU-02	BES G06MH1-PSC30B-S04G	BES G06MI-PSC30B-S49G	BES 516-349-E4-C-02
	NC	②			BES G06MI-POC30B-S49G	
NPN	NO	④		BES G06MH1-NSC30B-S04G	BES G06MI-NSC30B-S49G	BES 516-350-E4-C-02
	NC	⑤			BES G06MI-NOC30B-S49G	

Supply voltage U_B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U_i	75 V DC	75 V DC	75 V DC	250 V AC
Rated operational current I_e	200 mA	200 mA	200 mA	200 mA
No-load supply current I_0 max.	≤ 10 mA	≤ 12 mA	≤ 12 mA	≤ 18 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T_a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	2000 Hz	1000 Hz	1000 Hz	2000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	no	yes	yes	yes
Degree of protection per IEC 60529	IP 65	IP 67	IP 67	IP 68 per BWN Pr. 20
Insulation class				□
Housing material	Stainless steel	CuZn coated	CuZn coated	Stainless steel
Material of sensing face	PBT	PBT	PBT	PA 12
Connection	2 m cable PUR	Connector	Connector	2 m PVC cable
No. of wires x cross-section	3x0.14 mm ²			3x0.14 mm ²
Approval				cULus
Recommended connector		BKS- 19/BKS- 20	BKS- 48/BKS- 49	

① Wiring diagrams see page 1.0.6
 Switching distance ■■ see page 1.0.10

Other cable lengths on request.

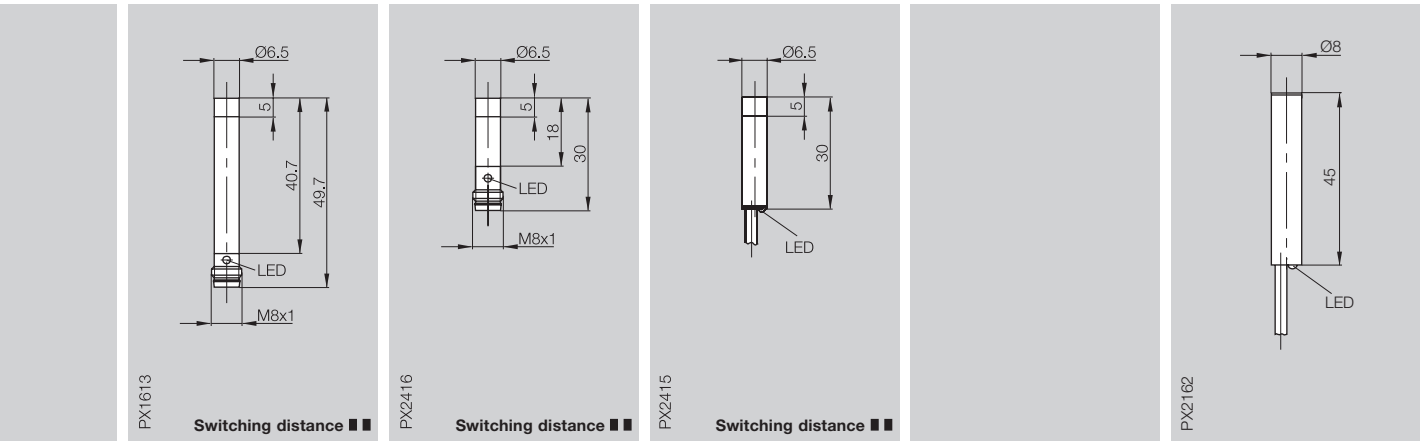


Ø 6.5 mm, Ø 8 mm

Inductive Sensors

DC 3-wire
 Ø 6.5 mm, Ø 8 mm
 S_n 1.5 mm, 4 mm

Ø 6.5 mm non-flush 4 mm 0...3.2 mm	Ø 6.5 mm non-flush 4 mm 0...3.2 mm	Ø 6.5 mm non-flush 4 mm 0...3.2 mm		Ø 8 mm flush 1.5 mm 0...1.2 mm
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BES G06EF-PSC40F-S49G	BES G06EB-PSC40F-S49G BES G06EB-POC40F-S49G	BES G06ED-PSC40F-BV02 BES G06ED-POC40F-BV02		BES G08EG-PSC15B-BV02
	BES G06EB-NSC40F-S49G BES G06EB-NOC40F-S49G	BES G06ED-NSC40F-BV02 BES G06ED-NOC40F-BV02		
10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 12 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 18 mA yes yes		10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes
≤ 5 % -25...+70 °C 5000 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes		≤ 5 % -25...+70 °C 3000 Hz DC 13 yes
IP 67	IP 67	IP 68 per BWN Pr. 20 ☐		IP 68 per BWN Pr. 20 ☐
Stainless steel PBT Connector	Stainless steel PA 12 Connector	Stainless steel PA 12 2 m PVC cable 3x0.14 mm ² cULus		Stainless steel PBT 2 m PVC cable 3x0.14 mm ² cULus
cULus BKS- 48/BKS- 49	cULus BKS- 48/BKS- 49			

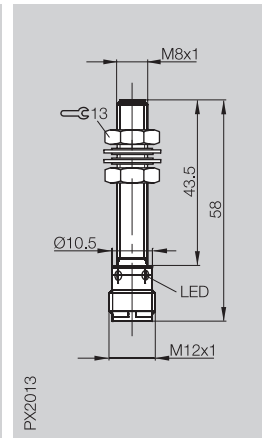
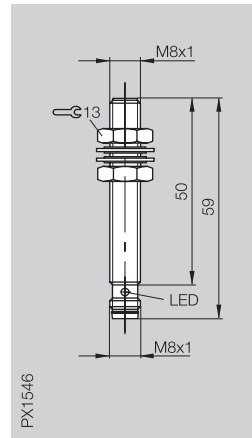
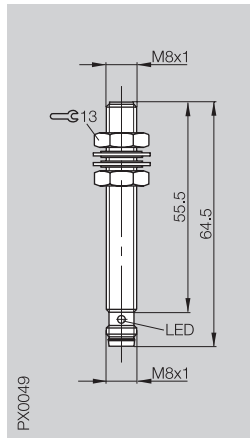
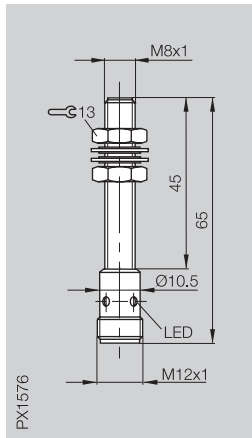


1.1

5

Connectors,
 Holders ...
 Page 5.2 ...

Housing size	M8x1	M8x1	M8x1	M8x1
Mounting (see notes starting p. 1.0.11)	flush	flush	flush	flush
Rated operating distance s _n	1.5 mm	1.5 mm	1.5 mm	1.5 mm
Assured operating distance s _a	0...1.2 mm	0...1.2 mm	0...1.2 mm	0...1.2 mm



PNP	NO	①	BES M08MH1-PSC15B-S04G	BES 516-324-SA33	BES M08MI-PSC15B-S49G	BES M08EH-PSC15B-S04G
	NC	②	BES M08MH1-POC15B-S04G			BES M08EH-POC15B-S04G
NPN	NO	④	BES M08MH1-NSC15B-S04G		BES M08MI-NSC15B-S49G	BES M08EH-NSC15B-S04G
	NC	⑤	BES M08MH1-NOC15B-S04G			BES M08EH-NOC15B-S04G

Supply voltage U _B	12...30 V DC	10...30 V DC	12...30 V DC	10...30 V DC
Voltage drop U _d at I _e	≤ 3 V	≤ 2.5 V	≤ 3 V	≤ 2.5 V
Rated insulation voltage U _i	75 V DC	75 V DC	75 V DC	250 V AC
Rated operational current I _e	100 mA	200 mA	100 mA	200 mA
No-load supply current I ₀ max.	PNP ≤ 12 mA, NPN ≤ 18 mA	≤ 25 mA	PNP ≤ 12 mA, NPN ≤ 18 mA	PNP ≤ 9 mA, NPN ≤ 18 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T _a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	1000 Hz	1000 Hz	1000 Hz	3000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67	IP 68 per BWN Pr. 20
Insulation class				□
Housing material	CuZn coated	Stainless steel	CuZn coated	Stainless steel
Material of sensing face	PA 12	PBT	PA 12	PBT
Connection	Connector	Connector	Connector	Connector
Approval	cULus		cULus	cULus
Recommended connector	BKS-_ 19/BKS-_ 20	BKS-_ 48/BKS-_ 49	BKS-_ 48/BKS-_ 49	BKS-_ 19/BKS-_ 20

① Wiring diagrams see page 1.0.6

Other cable lengths on request.



M8 Inductive Sensors

DC 3-wire
M8
S_n 1.5 mm

1.1

M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm
PX2012	PX2007	PX2047	PX2003	PX2404
BES 516-324-S49-C BES 516-377-S49-C	BES M08EE-PSC15B-S04G BES M08EE-POC15B-S04G	BES M08EC-PSC15B-S04G	BES M08EC-PSC15B-S49G BES M08EC-POC15B-S49G	BES 516-324-E0-C-S49-00,2 BES 516-377-E0-C-S49-00,2
BES 516-343-S49-C BES 516-378-S49-C	BES M08EE-NSC15B-S04G		BES M08EC-NSC15B-S49G	
10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes
≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes
IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐
Stainless steel PA 12 Connector	Stainless steel PBT Connector	Stainless steel PBT Connector	Stainless steel PBT Connector	Stainless steel PA 12 0.2 m PUR cable with connector
cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 19/BKS-_ 20	cULus BKS-_ 19/BKS-_ 20	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48

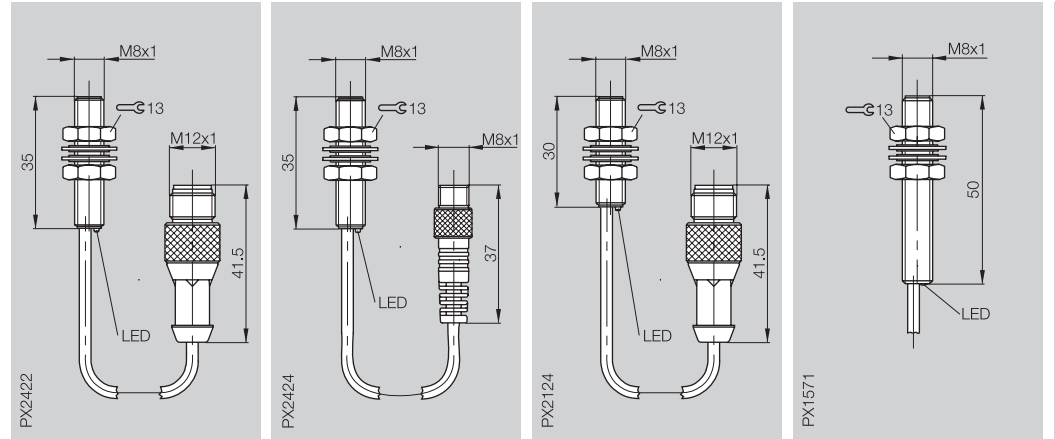


5

Connectors,
Holders ...
Page 5.2 ...

Housing size
Mounting (see notes starting p. 1.0.11)
Rated operating distance s _n
Assured operating distance s _a

M8x1 flush	M8x1 flush	M8x1 flush	M8x1 flush
1.5 mm	1.5 mm	1.5 mm	1.5 mm
0...1.2 mm	0...1.2 mm	0...1.2 mm	0...1.2 mm



PNP	NO	①	BES 516-324-E3-C-S4-00,3	BES 516-324-E3-C-S49-00,3	BES 516-324-E4-C-S4-00,3	BES M08MI-PSC15B-BV02
	NC	②	BES 516-377-E3-C-S4-PU-00,3			BES M08MI-POC15B-BV02
NPN	NO	④				BES M08MI-NSC15B-BV02
	NC	⑤				

Supply voltage U _B	10...30 V DC	10...30 V DC	10...30 V DC	12...30 V DC
Voltage drop U _d at I _e	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U _i	250 V AC	250 V AC	250 V AC	75 V DC
Rated operational current I _e	200 mA	200 mA	200 mA	100 mA
No-load supply current I ₀ max.	≤ 9 mA	≤ 9 mA	≤ 9 mA	PNP ≤ 10 mA, NPN ≤ 18 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T _a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	3000 Hz	3000 Hz	3000 Hz	1000 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 67
Insulation class	□	□	□	
Housing material	Stainless steel	Stainless steel	Stainless steel	CuZn coated
Material of sensing face	PA 12	PA 12	PA 12	PA 12
Connection	0.3 m PUR cable with connector	0.3 m PUR cable with connector	0.3 m PUR cable with connector	2 m PVC cable
No. of wires × cross-section				3×0.14 mm ²
Approval	cULus	cULus	cULus	cULus
Recommended connector	BKS-_ 19	BKS-_ 48	BKS-_ 19	

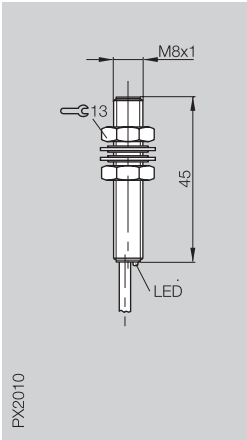
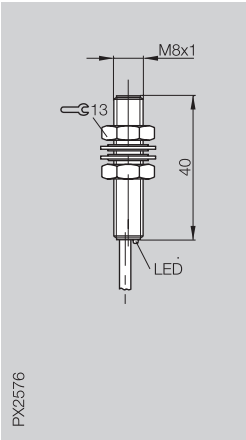
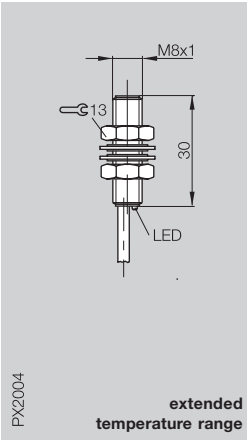
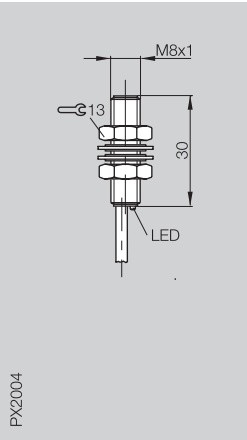
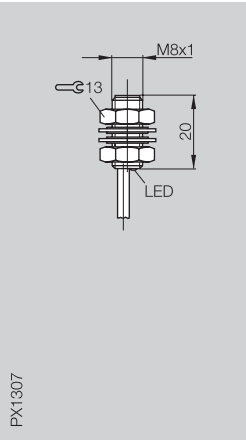
① Wiring diagrams see page 1.0.6

Other cable lengths on request.



M8 Inductive Sensors

DC 3-wire
M8
S_n 1.5 mm

M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm	M8x1 flush 1.5 mm 0...1.2 mm
				
BES 516-324-E0-C-02 BES 516-377-E0-C-02	BES M08EF-PSC15B-BP02 BES M08EF-POC15B-BP02	BES 516-324-SA45-E4-C-PU-03	BES 516-324-E4-C-02 BES 516-377-E4-C-02	BES 516-324-SA44-C-02
BES 516-343-E0-C-02 BES 516-378-E0-C-02			BES 516-343-E4-C-02 BES 516-378-E4-C-02	
10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 11 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 11 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 25 mA yes yes
≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -40...+85 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 3000 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes
IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 67
Stainless steel PA 12 2 m PVC cable	Stainless steel PBT 2 m cable PUR	Stainless steel PA 12 3 m cable PUR	Stainless steel PA 12 2 m PVC cable	Stainless steel PBT 3 m PVC cable
3x0.14 mm ² cULus	3x0.14 mm ² cULus	3x0.14 mm ² cULus	3x0.14 mm ² cULus	3x0.14 mm ²

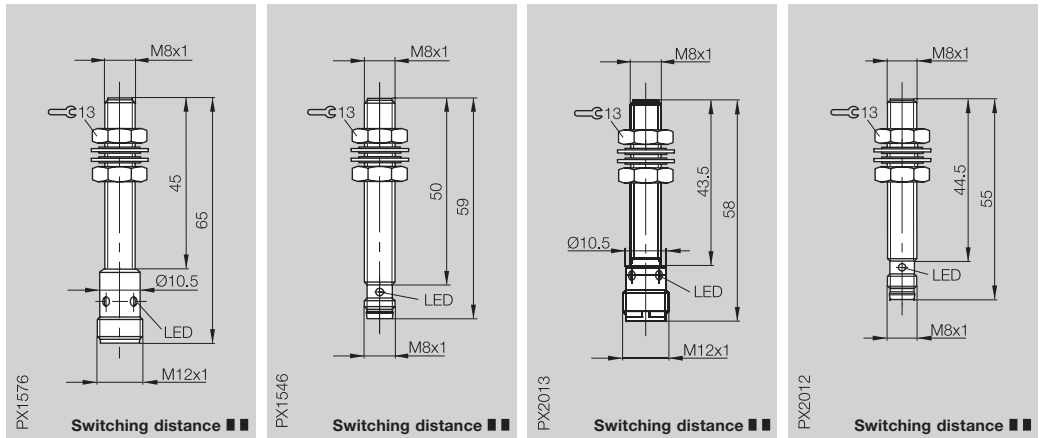


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Connectors,
Holders ...
Page 5.2 ...

Housing size	M8x1	M8x1	M8x1	M8x1
Mounting (see notes starting p. 1.0.11)	flush	flush	flush	flush
Rated operating distance s _n	2 mm	2 mm	2 mm	2 mm
Assured operating distance s _a	0...1.6 mm	0...1.6 mm	0...1.6 mm	0...1.6 mm



PNP	NO	①	BES M08MH1-PSC20B-S04G	BES M08MI-PSC20B-S49G	BES M08EH-PSC20B-S04G	BES 516-324-G-S49-C
	NC	②		BES M08MI-POC20B-S49G		BES 516-377-G-S49-C
NPN	NO	④	BES M08MH1-NSC20B-S04G	BES M08MI-NSC20B-S49G		
	NC	⑤				
Supply voltage U _B	12...30 V DC		12...30 V DC	12...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U _d at I _e	≤ 2.5 V		≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U _i	75 V DC		75 V DC	75 V DC	250 V AC	250 V AC
Rated operational current I _e	200 mA		200 mA	200 mA	200 mA	200 mA
No-load supply current I ₀ max.	PNP ≤ 10 mA, NPN ≤ 18 mA		PNP ≤ 10 mA, NPN ≤ 18 mA	PNP ≤ 10 mA, NPN ≤ 18 mA	≤ 9 mA	≤ 9 mA
Polarity reversal protected	yes		yes	yes	yes	yes
Short circuit protected	yes		yes	yes	yes	yes
Repeat accuracy R	≤ 5 %		≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T _a	-25...+70 °C		-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	700 Hz		700 Hz	700 Hz	1500 Hz	1500 Hz
Utilization category	DC 13		DC 13	DC 13	DC 13	DC 13
Function indicator	yes		yes	yes	yes	yes
Degree of protection per IEC 60529	IP 67		IP 67	IP 67	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
Insulation class					□	□
Housing material	CuZn coated		CuZn coated	CuZn coated	Stainless steel	Stainless steel
Material of sensing face	PA 12		PA 12	PA 12	PBT	PBT
Connection	Connector		Connector	Connector	Connector	Connector
No. of wires × cross-section						
Approval	cULus		cULus	cULus	cULus	cULus
Recommended connector	BKS-_ 19/BKS-_ 20		BKS-_ 48/BKS-_ 49	BKS-_ 48/BKS-_ 49	BKS-_ 19/BKS-_ 20	BKS-_ 48/BKS-_ 49

① Wiring diagrams see page 1.0.6
Switching distance ■■■ see page 1.0.10

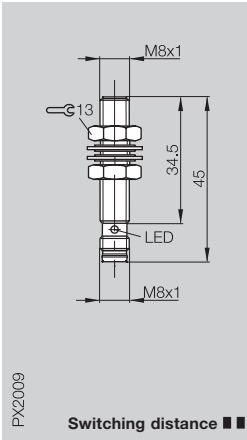
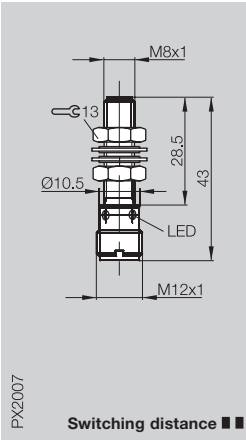
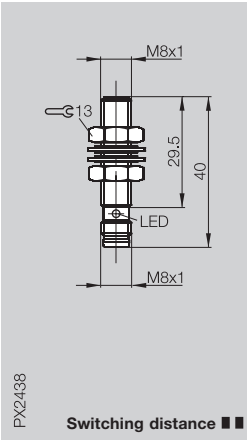
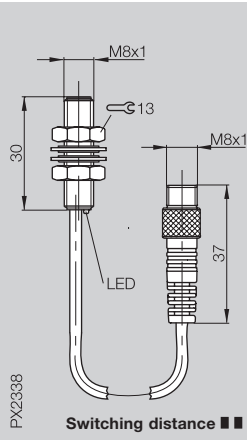
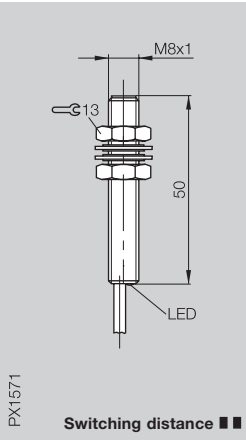
For sensors with cable, other lengths and PUR quality are available on request.

For sensors with cable and connector, other lengths are available on request.



M8 Inductive Sensors

DC 3-wire
M8
S_n 2 mm

M8x1 flush 2 mm 0...1.6 mm	M8x1 flush 2 mm 0...1.6 mm	M8x1 flush 2 mm 0...1.6 mm	M8x1 flush 2 mm 0...1.6 mm	M8x1 flush 2 mm 0...1.6 mm
				
PX2009 Switching distance ■ ■ ■	PX2007 Switching distance ■ ■ ■	PX2438 Switching distance ■ ■ ■	PX2338 Switching distance ■ ■ ■	PX1571 Switching distance ■ ■ ■
BES 516-324-G-E5-C-S49 BES 516-377-G-E5-C-S49	BES M08EE-PSC20B-S04G	BES M08EE-PSC20B-S49G BES M08EE-POC20B-S49G	BES 516-324-G-E4-C-S49-00,2 BES 516-377-G-E4-C-S49-00,3	BES M08MI-PSC20B-BV02
BES 516-343-G-E5-C-S49 BES 516-378-G-E5-C-S49		BES M08EE-NSC20B-S49G BES M08EE-NOC20B-S49G		BES M08MI-NSC20B-BV02
10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 11 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 9 mA, NPN ≤ 11 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 9 mA yes yes	12...30 V DC ≤ 2.5 V 250 V AC 200 mA PNP ≤ 10 mA, NPN ≤ 18 mA yes yes
≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 700 Hz DC 13 yes
IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 67
Stainless steel PA 12 Connector	Stainless steel PBT Connector	Stainless steel PBT Connector	Stainless steel PA 12 0.2 m/0.3 m PUR cable with connector	CuZn coated PBT 2 m PVC cable
cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 19/BKS-_ 20	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 48	3x0.14 mm ² cULus



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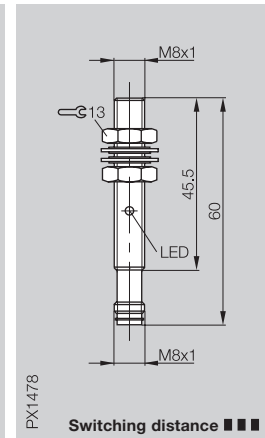
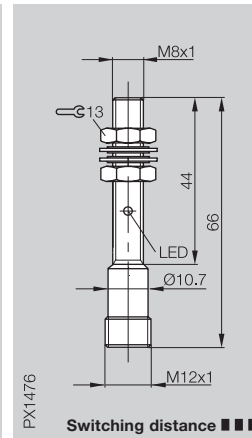
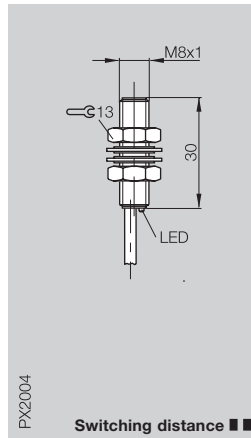
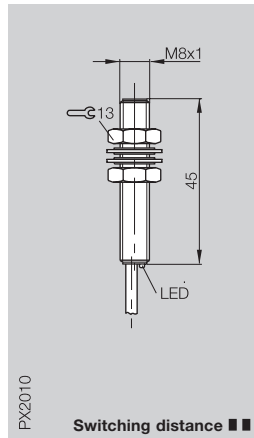
Connectors,
Holders ...
Page 5.2 ...

Inductive Sensors

DC 3-wire
M8
s_n 2 mm, 3 mm

M8

Housing size	M8x1	M8x1	M8x1	M8x1
Mounting (see notes starting p. 1.0.11)	flush	flush	quasi flush	quasi flush
Rated operating distance s _n	2 mm	2 mm	3 mm	3 mm
Assured operating distance s _a	0...1.6 mm	0...1.6 mm	0...2.4 mm	0...2.4 mm



PNP	NO	①	BES 516-324-G-E0-C-02	BES 516-324-G-E4-C-02	BES M08MH1-PSC30B-S04G	BES M08MH1-PSC30B-S49G
	NC	②		BES 516-377-G-E4-C-02		
NPN	NO	④		BES 516-343-G-E4-C-02	BES M08MH1-NSC30B-S04G	BES M08MH1-NSC30B-S49G
	NC	⑤		BES 516-378-G-E4-C-02		
Supply voltage U _B	10...30 V DC					
Voltage drop U _d at I _e	≤ 2.5 V					
Rated insulation voltage U _i	250 V AC		250 V AC		75 V DC	
Rated operational current I _e	200 mA		200 mA		200 mA	
No-load supply current I ₀ max.	≤ 9 mA		PNP ≤ 9 mA, NPN ≤ 11 mA		≤ 12 mA	
Polarity reversal protected	yes					
Short circuit protected	yes					
Repeat accuracy R	≤ 5 %					
Ambient temperature range T _a	-25...+70 °C					
Switching frequency f	1500 Hz		1500 Hz		1000 Hz	
Utilization category	DC 13					
Function indicator	yes					
Degree of protection per IEC 60529	IP 68 per BWN Pr. 20		IP 68 per BWN Pr. 20		IP 67	
Insulation class	□					
Housing material	Stainless steel		Stainless steel		CuZn coated	
Material of sensing face	PA 12		PA 12		PBT	
Connection	2 m PVC cable		2 m PVC cable		Connector	
No. of wires × cross-section	3×0.14 mm ²					
Approval	cULus					
Recommended connector					BKS-_ 19/BKS-_ 20	
					BKS-_ 48/BKS-_ 49	

① Wiring diagrams see page 1.0.6
Switching distance ■■ see page 1.0.10

For sensors with cable, other lengths and PUR quality are available on request.

For sensors with cable and connector, other lengths are available on request.



M8 Inductive Sensors

DC 3-wire
M8
S_n 2.5 mm, 4 mm

M8x1 quasi flush 4 mm 0...2.9 mm	M8x1 quasi flush 4 mm 0...2.9 mm	M8x1 non-flush 2.5 mm 0...2 mm	M8x1 non-flush 2.5 mm 0...2 mm	M8x1 non-flush 2.5 mm 0...2 mm
BES M08MI-PSC40B-S49G	BES M08MI-PSC40B-BP00,2-GS04	BES M08EG-PSC25F-S04G BES M08EG-POC25F-S04G	BES 516-383-S49-C	BES M08ED-PSC25F-S04G
BES M08MI-NSC40B-S49G	BES M08MI-NSC40B-BP00,2-GS04	BES M08EG-NSC25F-S04G		BES M08ED-NSC25F-S04G
10...30 V DC ≤ 2.8 V	10...30 V DC ≤ 2.8 V	10...30 V DC ≤ 2.5 V	10...30 V DC ≤ 2.5 V	10...30 V DC ≤ 2.5 V
75 V DC	75 V DC	250 V AC	250 V AC	250 V AC
200 mA	200 mA	200 mA	200 mA	200 mA
≤ 10 mA	≤ 10 mA	PNP ≤ 9 mA, NPN ≤ 18 mA	≤ 9 mA	≤ 11 mA
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
0...+60 °C	0...+60 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
800 Hz	800 Hz	2000 Hz	2000 Hz	2000 Hz
DC 13	DC 13	DC 13	DC 13	DC 13
yes	yes	yes	yes	yes
IP 67	IP 67	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐
CuZn coated PBT Connector	CuZn coated PBT 0.2 m PUR cable with connector	Stainless steel PBT Connector	Stainless steel PA 12 Connector	Stainless steel PBT Connector
cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 19	cULus BKS-_ 19/BKS-_ 20	cULus BKS-_ 48/BKS-_ 49	cULus BKS-_ 19/BKS-_ 20



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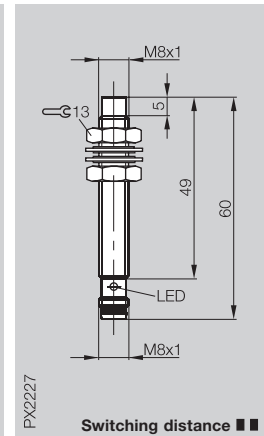
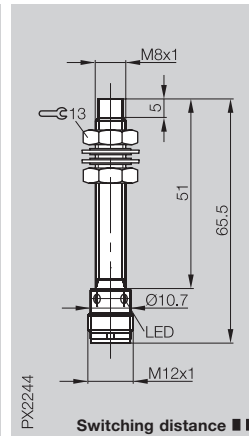
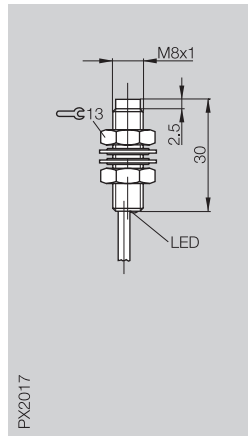
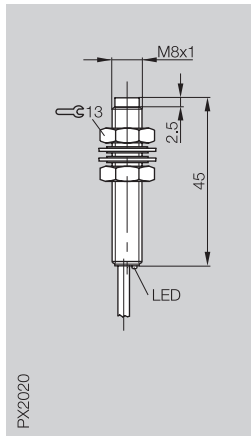
Connectors,
Holders ...
Page 5.2 ...

Inductive Sensors

DC 3-wire
M8
s_n 2.5 mm, 4 mm

M8

Housing size	M8x1	M8x1	M8x1	M8x1
Mounting (see notes starting p. 1.0.11)	non-flush	non-flush	non-flush	non-flush
Rated operating distance s _n	2.5 mm	2.5 mm	4 mm	4 mm
Assured operating distance s _a	0...2 mm	0...2 mm	0...3.2 mm	0...3.2 mm



PNP	NO	①	BES 516-383-E0-C-02	BES 516-383-E4-C-02	BES M08EH-PSC40F-S04G	BES M08EH-PSC40F-S49G
	NC	②			BES M08EH-POC40F-S04G	BES M08EH-POC40F-S49G
NPN	NO	④	BES 516-384-E0-C-02	BES 516-384-E4-C-02	BES M08EH-NSC40F-S04G	BES M08EH-NSC40F-S49G
	NC	⑤			BES M08EH-NOC40F-S04G	BES M08EH-NOC40F-S49G

Supply voltage U _B	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U _d at I _e	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V	≤ 2.5 V
Rated insulation voltage U _i	250 V AC	250 V AC	250 V AC	250 V AC
Rated operational current I _e	200 mA	200 mA	200 mA	200 mA
No-load supply current I ₀ max.	PNP ≤ 9 mA, NPN ≤ 18 mA	PNP ≤ 9 mA, NPN ≤ 18 mA	≤ 14 mA	≤ 14 mA
Polarity reversal protected	yes	yes	yes	yes
Short circuit protected	yes	yes	yes	yes
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T _a	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	2000 Hz	2000 Hz	1500 Hz	1500 Hz
Utilization category	DC 13	DC 13	DC 13	DC 13
Function indicator	yes	yes	yes	yes
Degree of protection per IEC 60529	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 67	IP 68 per BWN Pr. 20
Insulation class	□	□	□	□
Housing material	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Material of sensing face	PA 12	PA 12	PBT	PBT
Connection	2 m PVC cable	2 m PVC cable	Connector	Connector
No. of wires × cross-section	3×0.14 mm ²	3×0.14 mm ²		
Approval	cULus	cULus	cULus	cULus
Recommended connector			BKS- 19/BKS- 20	BKS- 48/BKS- 49

① Wiring diagrams see page 1.0.6
Switching distance ■■ see page 1.0.10

For sensors with cable, other lengths and PUR quality are available on request.



M8 Inductive Sensors

DC 3-wire
M8
s_n 4 mm, 6 mm

1.1

M8x1 non-flush 4 mm 0...3.2 mm	M8x1 non-flush 4 mm 0...3.2 mm	M8x1 non-flush 4 mm 0...3.2 mm	M8x1 non-flush 6 mm 0...4.9 mm	M8x1 non-flush 6 mm 0...4.9 mm
BES M08EB-PSC40F-S49G BES M08EB-POC40F-S49G	BES M08EG-PSC40F-BV02 BES M08EG-POC40F-BV02	BES M08ED-PSC40F-BV02 BES M08ED-POC40F-BV02	BES M08MG1-PSC60F-S04G	BES M08MG1-PSC60F-S49G BES M08MG1-POC60F-S49G
BES M08EB-NSC40F-S49G BES M08EB-NOC40F-S49G	BES M08EG-NSC40F-BV02 BES M08EG-NOC40F-BV02	BES M08ED-NSC40F-BV02 BES M08ED-NOC40F-BV02	BES M08MG1-NSC60F-S04G	BES M08MG1-NSC60F-S49G BES M08MG1-NOC60F-S49G
10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 14 mA yes yes	10...30 V DC ≤ 2.5 V 250 V AC 200 mA ≤ 18 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 12 mA yes yes	10...30 V DC ≤ 2.5 V 75 V DC 200 mA ≤ 12 mA yes yes
≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 1500 Hz DC 13 yes	≤ 5 % -25...+70 °C 500 Hz DC 13 yes	≤ 5 % -25...+70 °C 500 Hz DC 13 yes
IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 68 per BWN Pr. 20 ☐	IP 67	IP 67
Stainless steel PBT Connector	Stainless steel PBT 2 m PVC cable 3x0.14 mm ²	Stainless steel PA 12 2 m PVC cable 3x0.14 mm ²	CuZn coated PBT Connector	CuZn coated PBT Connector
cULus BKS- 48/BKS- 49	cULus	cULus	BKS- 19/BKS- 20	BKS- 48/BKS- 49



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Connectors,
Holders ...
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