

DC 3-/4-wire Inductive Sensors

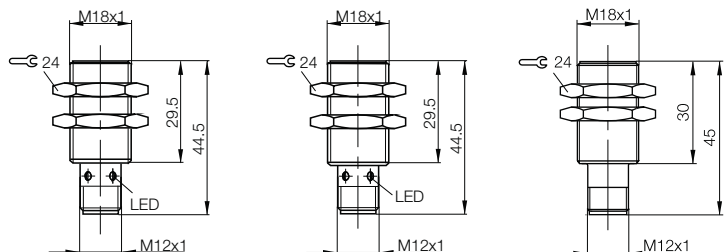
Cylinder designs, M18x1



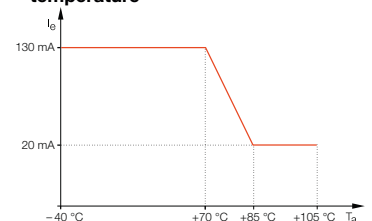
Model		M18x1	M18x1	M18x1
Installation type (observe instructions in the Basic Information chapter)		Flush	Flush	Flush
Rated switching distance s_n		5 mm	5 mm	5 mm
Assured switching distance s_a		0...4 mm	0...4 mm	0...4 mm
Switching distance marking		■	■	■
PNP, NO	Ordering code	BES00R6		BES02ET
	Part number	BES 516-326-E5-C-S4		BES 515-326-E5-T-S4
PNP, NC	Ordering code		BES00YC	
	Part number		BES 516-367-E5-Y-S4	
PNP, complementary	Ordering code			
	Part number			
NPN, NO	Ordering code		BES00UC	
	Part number		BES 516-355-E5-Y-S4	
NPN, NC	Ordering code			
	Part number			
NPN, complementary	Ordering code			
	Part number			
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e max.		2 V	3.5 V	3.5 V
Rated insulation voltage U_i (protection class)		75 V DC	75 V DC	75 V DC
Rated operating current I_e		200 mA	130 mA	130 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		-25...+70 °C	-25...+70 °C	-40...+105 °C*
Switching frequency f max.		1 kHz	500 Hz	500 Hz
Output function indicator		Yellow LED	Yellow LED	No
Degree of protection as per IEC 60529		IP 67	IP 67	IP 69K, IP 68 as per BWN Pr. 27
Approvals		CE, cULus	CE, cULus	CE, cULus
Special properties				Resistant to high-pressure cleaners
Material	Housing	Brass-coated	Brass-coated	Stainless steel
	Sensing surface	PBT	PA 12	PA 12
Connection		M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin

Wiring diagrams, see page 958.
The meaning of switching distance markings can be found on page 962.

Additional cable lengths and PUR cable jacket material available on request



***max. load current over temperature**



DC 3-/4-wire Inductive Sensors Cylinder designs, M18x1



Inductive Sensors

Global DC 3-wire

DC 3-/4-wire

Cylinder Designs

Block Designs

DC 2-wire

AC/DC 2-wire

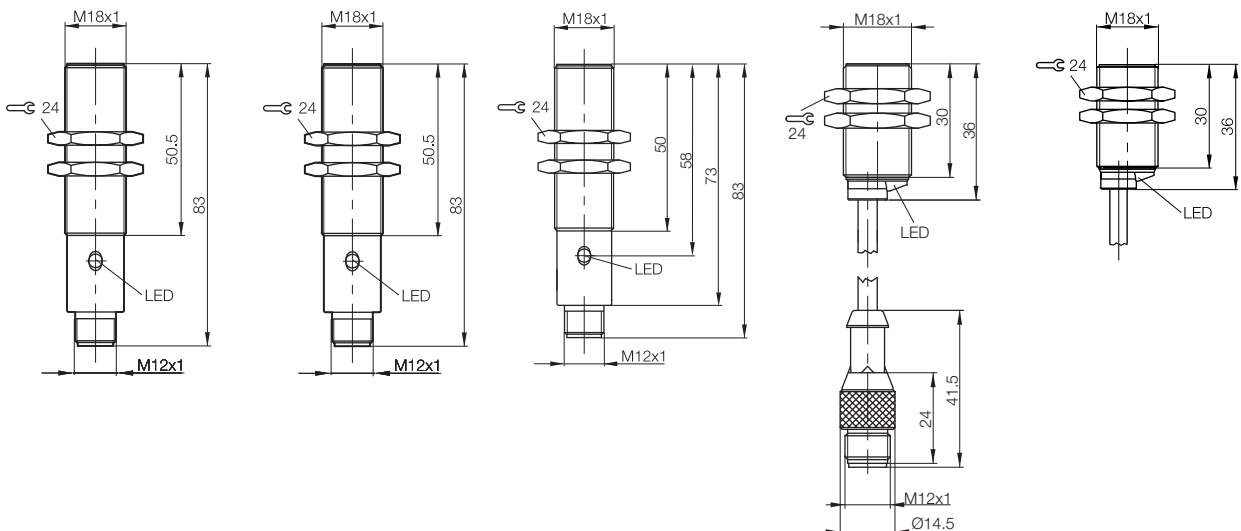
AC 2-wire

Special Properties

Analog Distance Measurement

Accessories

M18x1	M18x1	M18x1	M18x1	M18x1
Flush	Flush	Flush	Flush	Flush
5 mm	5 mm	5 mm	5 mm	5 mm
0...4 mm	0...4 mm	0...4 mm	0...4 mm	0...4 mm
■	■	■	■	■
BES01CW	BES01CZ	BES02EU	BES00R5	BES00R0
BES 516-326-S4-C	BES 516-326-S4-H	BES 515-326-S4-C	BES 516-326-E4-C-S4-00,2	BES 516-326-E4-C-02
BES01JW				
BES 516-367-S4-C				
BES015N				
BES 516-105-S4-C				
BES01H0				
BES 516-355-S4-C				
BES01JU				
BES 516-366-S4-C				
BES015U				
BES 516-111-S4-C				
10...30 V DC	10...55 V DC	10...30 V DC	10...30 V DC	10...30 V DC
2.5 V	1.5 V	1.5 V	2 V	2 V
250 V AC (□)	250 V AC (□)	250 V AC (□)	75 V DC	75 V DC
200 mA	200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
-25...+70 °C	-25...+70 °C	-40...+85 °C	-25...+70 °C	-25...+70 °C
900 Hz	900 Hz	900 Hz	1 kHz	1 kHz
Yellow LED	Yellow LED	Yellow LED	Yellow LED	Yellow LED
IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 67	IP 67
CE, cULus	CE	CE, cULus	CE, cULus	CE, cULus
Brass-coated	Brass-coated	Stainless steel	Brass-coated	Brass-coated
PA 12	PA 12	PA 12	PA 12	PBT
M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	0.2 m PUR cable with M12 connector, 4-pin	2 m PVC cable, 3x0.34 mm ²



DC 3-/4-wire Inductive Sensors

Cylinder designs, M18x1

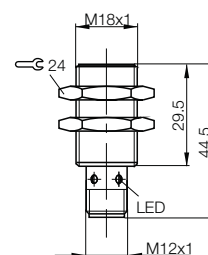
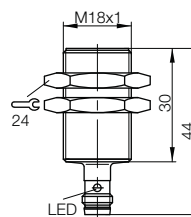
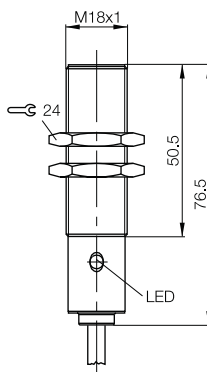


Model		M18x1	M18x1	M18x1
Installation type (observe instructions in the Basic Information chapter)		Flush	Flush	Flush
Rated switching distance s_n		5 mm	8 mm	8 mm
Assured switching distance s_a		0...4 mm	0...6.4 mm	0...6.4 mm
Switching distance marking		■	■■	■■■
PNP, NO	Ordering code	BES01CE	BES030R	BES00RC
	Part number	BES 516-326-BO-C-02	BES 516-326-G-E5-Y-S49	BES 516-326-G-E5-C-S4
PNP, NC	Ordering code		BES00YK	BES00YJ
	Part number		BES 516-367-G-E5-Y-S49	BES 516-367-G-E5-Y-S4
PNP, complementary	Ordering code			
	Part number			
NPN, NO	Ordering code	BES01JP	BES00UK	BES00UJ
	Part number	BES 516-366-BO-C-02	BES 516-355-G-E5-Y-S49	BES 516-355-G-E5-Y-S4
NPN, NC	Ordering code			
	Part number			
Supply voltage U_s		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_o max.		2.5 V	3.5 V	3.5 V
Rated insulation voltage U_i (protection class)		250 V AC (II)	75 V DC	75 V DC
Rated operating current I_o		200 mA	130 mA	130 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f max.		500 Hz	200 Hz	200 Hz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 68 per BWN Pr. 20	IP 67	IP 67
Approvals		CE, cULus	CE, cULus	CE, cULus
Material	Housing	Brass-coated	Brass-coated	Brass-coated
	Sensing surface	PA 12	PBT	PBT
Connection		2 m PVC cable, 3x0.34 mm ²	M8 connector, 3-pin	M12 connector, 4-pin

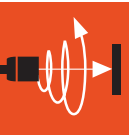
Wiring diagrams, see page 958.

The meaning of switching distance markings can be found on page 962.

Additional cable lengths and PUR cable jacket material available on request



DC 3-/4-wire Inductive Sensors Cylinder designs, M18x1



Inductive Sensors

Global DC 3-wire

DC 3-/4-wire

Cylinder Designs

Block Designs

DC 2-wire

AC/DC 2-wire

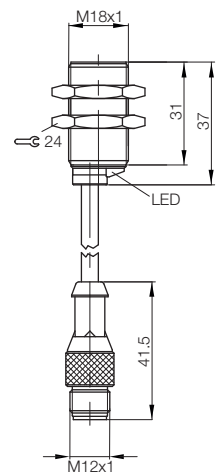
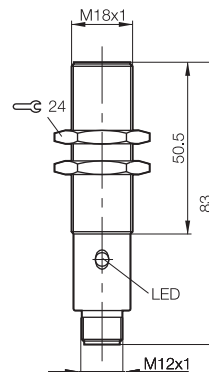
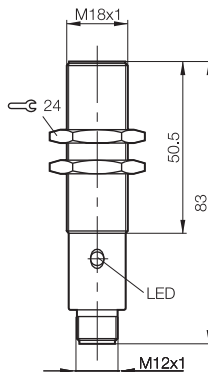
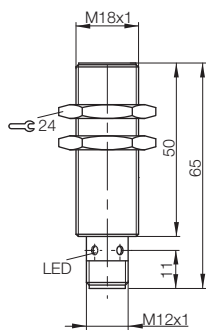
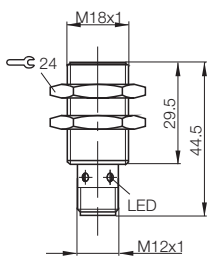
AC 2-wire

Special Properties

Analog Distance Measurement

Accessories

M18x1	M18x1	M18x1	M18x1	M18x1
Flush	Flush	Flush	Flush	Flush
8 mm	8 mm	8 mm	8 mm	8 mm
0...6.3 mm	0...6.4 mm	0...6.4 mm	0...6.4 mm	0...6.4 mm
■ ■	■ ■	■ ■	■ ■	■ ■
BES02P3	BES02H0	BES01CT	BES01CU	BES00RA
BES 516-326-SA96-G-E5-Y-S4	BES M18EI-PSC80B-S04G	BES 516-326-G-S4-C	BES 516-326-G-S4-H	BES 516-326-G-E4-C-S4-00,3
	BES02FZ			
	BES M18EI-POC80B-S04G			
			BES015M	
			BES 516-105-G-S4-H	
BES02P4	BES02FY			
BES 516-355-SA96-G-E5-Y-S4	BES M18EI-NSC80B-S04G			
	BES02FW			
	BES M18EI-NOC80B-S04G			
10...30 V DC	10...30 V DC	10...30 V DC	10...55 V DC	10...30 V DC
3.5 V	2.5 V	2.5 V	2.5 V	2.5 V
75 V DC	250 V AC (□)	75 V DC (□)	75 V DC	75 V DC
130 mA	200 mA	200 mA	200 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
-25...+70 °C	-40...+85 °C	0...70 °C	0...+70 °C	-25...+70 °C
200 Hz	700 Hz	80 Hz	80 Hz	500 Hz
Yellow LED	Yellow LED	Yes	Yellow LED	Yellow LED
IP 67	IP 68 per BWN Pr. 20	IP 67	IP 67	IP 67
CE, cULus	CE, cULus	CE, cULus	CE	CE, cULus
Brass-coated	Stainless steel	Brass-coated	Brass-coated	Brass-coated
With ceramic coating	PBT	PBT	PBT	PBT
M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	0.3 m PUR cable with M12 connector, 4-pin



DC 3-/4-wire Inductive Sensors

Cylinder designs, M18x1



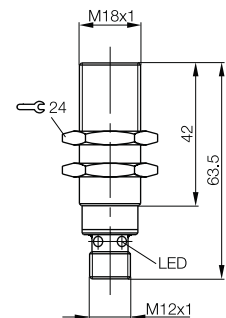
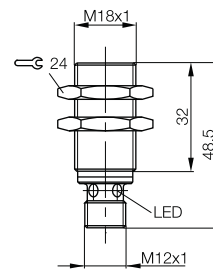
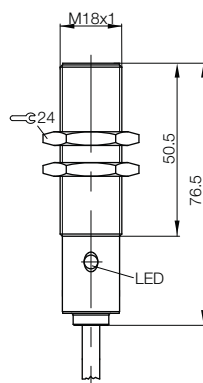
TRIPLEPROX

TRIPLEPROX

Model		M18x1	M18x1	M18x1
Installation type (observe instructions in the Basic Information chapter)		Flush	Quasi-flush	Quasi-flush
Rated switching distance s_n		8 mm	12 mm	12 mm
Assured switching distance s_a		0...6.4 mm	0...9.6 mm	0...9.6 mm
Switching distance marking		■ ■	■ ■ ■	■ ■ ■
PNP, NO	Ordering code	BES01CN	BES02Y5	BES02Y9
	Part number	BES 516-326-G-BO-C-PU-02	BES M18MD1-PSC12B-S04G	BES M18MG1-PSC12B-S04G
PNP, normally closed	Ordering code			
	Part number			
NPN, NO	Ordering code		BES02Y4	BES02Y8
	Part number		BES M18MD1-NSC12B-S04G	BES M18MG1-NSC12B-S04G
Supply voltage U_s		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e max.		2.5 V	2 V	2 V
Rated insulation voltage U_i (protection class)		250 V AC (II)	75 V DC	75 V DC
Rated operating current I_e		200 mA	200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		0...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f max.		80 Hz	500 Hz	500 Hz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Approvals		CE, cULus	CE	CE
Special properties			Large switching distance	Large switching distance
Material	Housing	Brass-coated	Brass-coated	Brass-coated
	Sensing surface	PA 12	PBT	PBT
Connection		2 m PUR cable, 3x0.34 mm ²	M12 connector, 4-pin	M12 connector, 4-pin

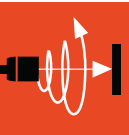
Wiring diagrams, see page 958.
The meaning of switching distance markings can be found on page 962.

Additional cable lengths and PUR cable jacket material available on request

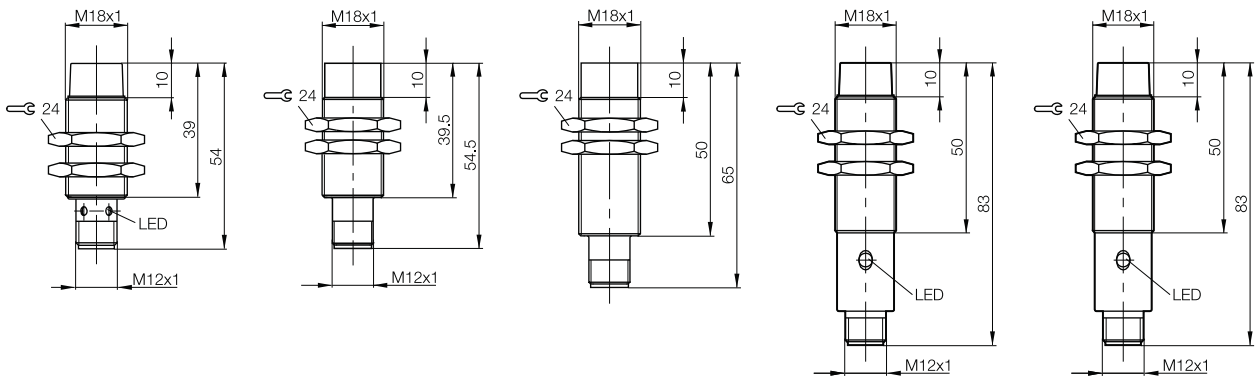




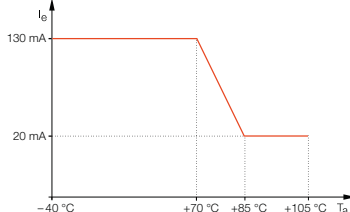
M18x1	M18x1	M18x1	M18x1	M18x1
Not flush	Not flush	Not flush	Not flush	Not flush
8 mm	8 mm	8 mm	8 mm	8 mm
0...6.5 mm	0...6.5 mm	0...6.5 mm	0...6.5 mm	0...6.5 mm
■	■	■	■	■
BES00WM	BES02FK	BES02FM	BES03AW	BES01HY
BES 516-360-E5-Y-S4	BES 515-360-E5-T-S4	BES 515-360-SA12-S4-T	BES 516-360-S4-L	BES 516-360-S4-C
BES00LL				BES0193
BES 516-3026-E5-Y-S4				BES 516-3026-S4-C
BES00WT				
BES 516-361-E5-Y-S4				
10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
3.5 V	3.5 V	3.5 V	2.5 V	1.5 V
75 V DC	75 DC	75 V DC	250 V AC (□)	250 V AC (□)
130 mA	130 mA	130 mA	400 mA	200 mA
Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes	Yes/No/No	Yes/Yes/Yes
-25...+70 °C	-40...+105 °C*	-40...+85 °C (momentarily 105 °C)	-40...+85 °C	-25...+70 °C
200 Hz	200 Hz	200 Hz	200 Hz	600 Hz
Yellow LED	No	No	Yellow LED	Yellow LED
IP 67	IP 69K, IP 68 as per BWN Pr. 27	IP 69K, IP 68 as per BWN Pr. 27	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
CE, cULus	CE, cULus	CE, cULus	CE, cULus	CE, cULus
	Resistant to high-pressure cleaners	Resistant to high-pressure cleaners		
Brass-coated	Stainless steel	Stainless steel	Brass-coated	Brass-coated
PA 12	PA 12	PA 12	PA 12	PA 12
M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin



Inductive Sensors
Global DC 3-wire
DC 3-/4-wire
Cylinder Designs
Block Designs
DC 2-wire
AC/DC 2-wire
AC 2-wire
Special Properties
Analog Distance Measurement
Accessories



*max. load current over temperature



Recommended short-circuit protection device: Miniature fuse in accordance with IEC 60127-2 Sheet 1, ≤ 2 A (fast-acting). The fuse has to be in the load current line; the fuse may not be placed in the output line.

DC 3-/4-wire Inductive Sensors

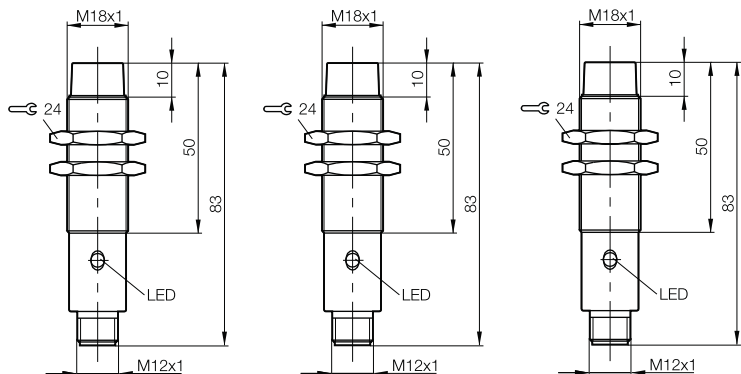
Cylinder designs, M18x1



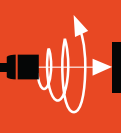
Model		M18x1	M18x1	M18x1
Installation type (observe instructions in the Basic Information chapter)		Not flush	Not flush	Not flush
Rated switching distance s_n		8 mm	8 mm	8 mm
Assured switching distance s_a		0...6.5 mm	0...6.5 mm	0...6.5 mm
Switching distance marking		■	■	■
PNP, NO	Ordering code			BES02FL
	Part number			BES 515-360-S4-C
PNP, normally closed	Ordering code			
	Part number			
PNP, complementary	Ordering code	BES016Y		
	Part number	BES 516-123-S4-C		
NPN, NO	Ordering code		BES01J5	
	Part number		BES 516-361-S4-C	
NPN, NC	Ordering code		BES019H	
	Part number		BES 516-3031-S4-C	
NPN, complementary	Ordering code		BES0171	
	Part number		BES 516-124-S4-C	
Supply voltage U_S		10...30 V DC	10...30 V DC	10...30 V DC
Voltage drop U_d at I_e max.		2.5 V	2.5 V	1.5 V
Rated insulation voltage U_i (protection class)		250 V AC (□)	250 V AC (□)	250 V AC (□)
Rated operating current I_e		200 mA	200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		-40...+85 °C	-25...+70 °C	-40...+85 °C
Switching frequency f max.		200 Hz	200 Hz	600 Hz
Output function indicator		Yellow LED	Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20	IP 68 per BWN Pr. 20
Approvals		CE, cULus	CE, cULus	CE, cULus
Material	Housing	Brass-coated	Brass-coated	Stainless steel
	Sensing surface	PA 12	PA 12	PA 12
Connection		M12 connector, 4-pin	M12 connector, 4-pin	M12 connector, 4-pin

Wiring diagrams, see page 958.
The meaning of switching distance markings can be found on page 962.

Additional cable lengths and PUR cable jacket material available on request



DC 3-/4-wire Inductive Sensors Cylinder designs, M18x1



Inductive Sensors

Global DC 3-wire

DC 3-/4-wire

Cylinder Designs

Block Designs

DC 2-wire

AC/DC 2-wire

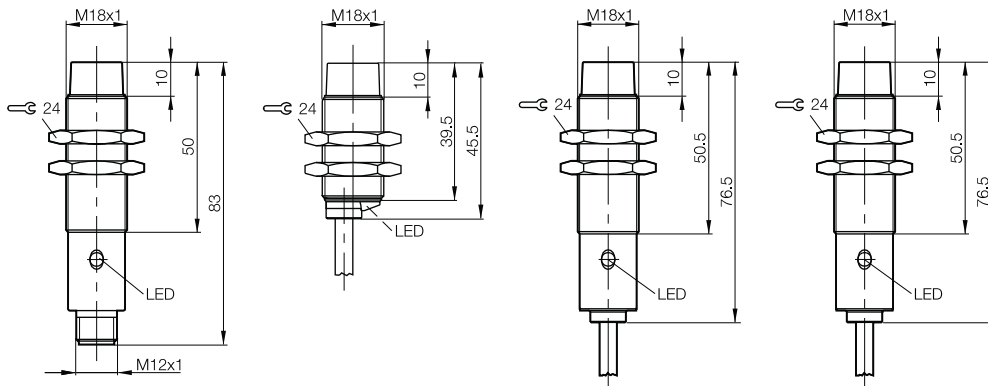
AC 2-wire

Special Properties

Analog Distance Measurement

Accessories

M18x1 Not flush 8 mm 0...6.5 mm ■	M18x1 Not flush 8 mm 0...6.5 mm ■	M18x1 Not flush 8 mm 0...6.5 mm ■	M18x1 Not flush 8 mm 0...6.5 mm ■	
	BES00WH BES 516-360-E4-Y-02			
	BES00LH BES 516-3026-E4-Y-02		BES018Z BES 516-3026-BO-C-02	
BES02E1 BES 515-123-S4-C				
	BES00WN BES 516-361-E4-Y-02	BES01HZ BES 516-361-BO-C-02		
		BES019F BES 516-3031-BO-C-02		
10...30 V DC 2.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -40...+85 °C 200 Hz Yellow LED IP 68 per BWN Pr. 20 CE, cULus Stainless steel PA 12 M12 connector, 4-pin	10...30 V DC 3.5 V 250 V AC (□) 130 mA Yes/Yes/Yes -25...+70 °C 200 Hz Yellow LED IP 68 per BWN Pr. 20 CE, cULus Brass-coated PA 12 2 m PVC cable, 3x0.34 mm ²	10...30 V DC 2.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -25...+70 °C 200 Hz Yellow LED IP 67 CE, cULus Brass-coated PA 12 2 m PVC cable, 3x0.34 mm ²	10...30 V DC 1.5 V 250 V AC (□) 200 mA Yes/Yes/Yes -25...+70 °C 600 Hz Yellow LED IP 68 per BWN Pr. 20 CE, cULus Brass-coated PA 12 2 m PVC cable, 3x0.34 mm ²	



DC 3-/4-wire Inductive Sensors

Cylinder designs, M18x1

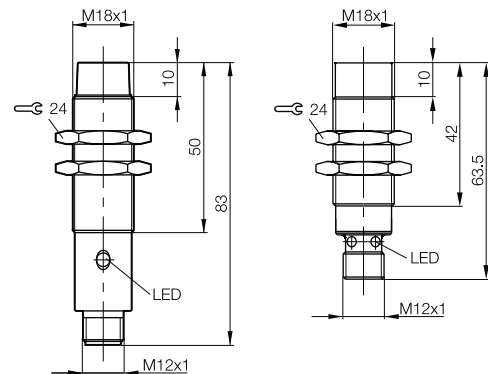


TRIPLEPROX

Model		M18x1	M18x1
Installation type (observe instructions in the Basic Information chapter)		Not flush	Not flush
Rated switching distance s_n		16 mm	20 mm
Assured switching distance s_a		0...13 mm	0...16 mm
Switching distance marking		■ ■	■ ■ ■
PNP, NO	Ordering code	BES01HW	BES02Y7
	Part number	BES 516-360-G-S4-H	BES M18ME1-PSC20F-S04G
PNP, NC	Ordering code		
	Part number		
PNP, complementary	Ordering code	BES016W	
	Part number	BES 516-123-G-S4-H	
NPN, NO	Ordering code		BES02Y6
	Part number		BES M18ME1-NSC20F-S04G
NPN, complementary	Ordering code		
	Part number		
Supply voltage U_s		10...55 V DC	10...30 V DC
Voltage drop U_d at I_e max.		2.5 V	2 V
Rated insulation voltage U_i (protection class)		250 V AC (□)	75 V DC
Rated operating current I_e		200 mA	200 mA
Polarity reversal protected/transposition protected/short-circuit protected		Yes/Yes/Yes	Yes/Yes/Yes
Ambient temperature T_a		-25...+70 °C	-25...+70 °C
Switching frequency f max.		80 Hz	200 Hz
Output function indicator		Yellow LED	Yellow LED
Degree of protection as per IEC 60529		IP 68 per BWN Pr. 20	IP 67
Approvals		CE	CE
Special properties			Large switching distance
Material	Housing	Brass-coated	Brass-coated
	Sensing surface	PA 12	PBT
Connection		M12 connector, 4-pin	M12 connector, 4-pin

Wiring diagrams, see page 958.
The meaning of switching distance markings can be found on page 962.

Additional cable lengths and PUR cable jacket material available on request



Reliably monitor speed

Two inductive sensors are sufficient to protect your system from overspeed. Attached to a perforated disk, they determine rotary speed and direction.

- Extremely reliable (HALT, EMC, shocks)
- For extreme conditions (temperature fluctuations)
- Long service life
- Insensitive to contamination