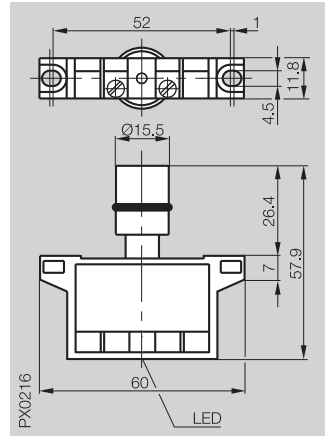
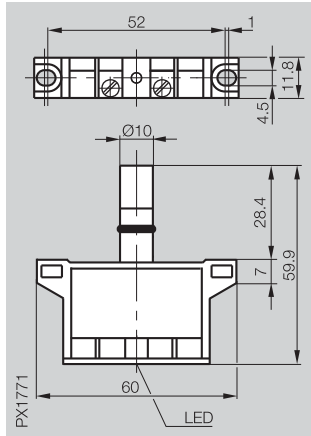
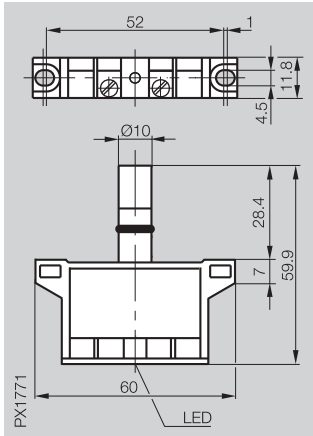


NA 2 mm 0...1.6 mm 602, 610...613, 605	THA 5 mm 0...4 mm 602, 611, 613, 605	DH 2, 2 mm 0...1.8 mm 100, 62, 72, 61
	<p>BES 517-142-Y</p>	<p>BES 516-110-D</p>
<p>BES 517-108</p>		
<p>24 V DC 10...60 V DC ≤ 1.5 V 75 V DC 200 mA ≤ 15 mA/≤ 12 mA ≤ 50 μA yes yes ≤ 0.5 μF ≤ 5 % -25...+70 °C 1500 Hz DC 13 yes</p>	<p>24 V DC 10...30 V DC ≤ 3.5 V 75 V DC 130 mA ≤ 30 mA/≤ 30 mA ≤ 80 μA yes yes ≤ 1 μF ≤ 5 % -25...+70 °C 500 Hz DC 13 yes</p>	<p>24 V DC 10...30 V DC ≤ 1.2 V 75 V DC 400 mA ≤ 30 mA/≤ 30 mA ≤ 100 μA yes no ≤ 1 μF ≤ 5 % -25...+70 °C 1000 Hz DC 13 yes</p>
<p>IP 67 PA 12 PA 12 Screw terminals up to 1.5 mm²</p>	<p>IP 67 PA 12 PBT Screw terminals up to 2.5 mm²</p>	<p>IP 67 PA 12 PA 12 Screw terminals up to 2.5 mm²</p>

Inductive switch elements

AC, DC 2-wire

Code for inductive switch elements	WS 2 mm	WO 2 mm	EJA 5 mm
Rated operating distance s_n	0...1.6 mm	0...1.6 mm	0...4 mm
Assured operating distance s_a for multiple position switches series	602, 610...613, 605	602, 610...613, 605	602, 611, 613, 605

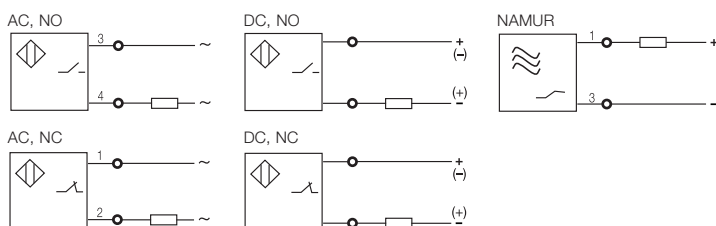


Order code for replacement switch elements

AC	NO	BES 517-410	BES 517-421	BES 517-463
	NC			
DC	NO			
	NC			
	NAMUR			

Rated operational voltage U_e	110 V AC	110 V AC	220 V AC
Supply voltage U_B	35...250 V AC	35...250 V AC	90...250 V AC
Voltage drop U_d at I_e static	≤ 8.5 V	≤ 8.5 V	≤ 8.5 V
Rated insulation voltage U_i	250 V AC	250 V AC	250 V AC
Rated operational current I_e	100 mA	100 mA	100 mA
No-load current I_0 damped/undamped			
Off-state current I	≤ 1700 μ A	≤ 1700 μ A	≤ 3000 μ A
Polarity reversal protected	yes	yes	yes
Short circuit protected	no	no	no
Permissible load capacitance			
Repeat accuracy R	≤ 5 %	≤ 5 %	≤ 5 %
Ambient temperature range T_a	-25...+70 °C	-25...+70 °C	-25...+70 °C
Switching frequency f	10 Hz	10 Hz	15 Hz
Utilization category	AC 140	AC 140	AC 140
Function indicator	yes	yes	yes
Degree of protection per IEC 60529	IP 67	IP 67	IP 67
Housing material	PA	PA	PA
Material of sensing face	PA 12	PA 12	PA 12
Connection type	Screw terminals	Screw terminals	Screw terminals
max. conductor cross-section	up to 2.5 mm ²	up to 2.5 mm ²	up to 2.5 mm ²
Approval	cULus	cULus	cULus
Output signal:			
Fully undamped			
Fully damped			
Permissible series resistance R_v			

Wiring diagrams



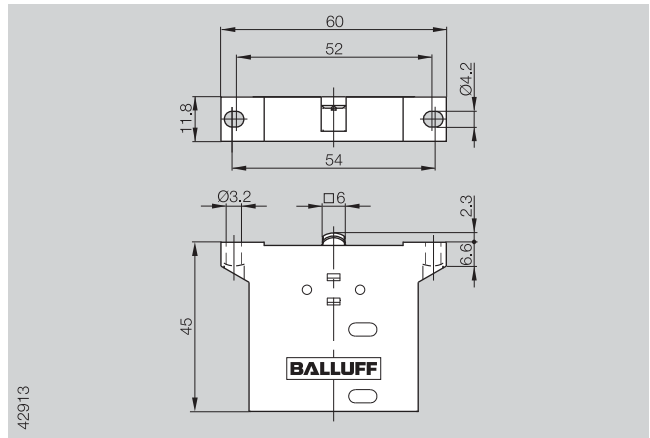
Inductive switch elements

AC, DC 2-wire
DC, 2-wire

AAA 5 mm 0...4 mm 602, 611, 613, 605	KHG 2 mm 0...1.6 mm 602, 610...613, 605	KHH 2 mm 0...1.6 mm 602, 610...613, 605	NG 2 mm 0...1.6 mm 602, 610...613, 605
BES 517-464	BES 517-560-H	BES 517-561-H	BES 516-314-N
220 V AC 90...250 V AC ≤ 8.5 V 250 V AC 100 mA	24 V DC 10...55 V DC ≤ 7 V DC 75 V DC 100 mA	24 V DC 10...55 V DC ≤ 7 V DC 75 V DC 100 mA	8.2 V DC 7.7...9 V DC 75 V DC
≤ 3000 µA yes no	≤ 1350 µA yes yes ≤ 0.5 µF	≤ 1350 µA yes yes ≤ 0.5 µF	yes no
≤ 5 % -25...+70 °C 15 Hz AC 140 yes	≤ 5 % -25...+70 °C 1000 Hz DC 13 yes	≤ 5 % -25...+70 °C 1000 Hz DC 13 yes	≤ 5 % -25...+70 °C 1000 Hz no
IP 67 PA PA 12 Screw terminals up to 2.5 mm ² cULus	IP 67 PA 12 PA 12 Screw terminals up to 2.5 mm ²	IP 67 PA 12 PA 12 Screw terminals up to 2.5 mm ²	IP 67 PBT PBT Screw terminals up to 2.5 mm ²
			Current change (no trigger response) ≥ 4 mA ≤ 1 mA 550...1100 Ohm

5.1

Type	Snap switch element BWT T1-185-01
for wireless position switches series	F 60



Ordering code for replacement element	BWT T1-185-01
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Construction

Switching principle	Snap switch
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Mechanical data

Switching actuation force on telescoping plunger	min. 20 N
Switching frequency	max. 60 operations/min
Housing material	Duroplast
Ambient temperature range T _a	-5...+70 °C

Electrical data

Supply voltage	Electrodynamic power generator
Transmitting frequency	868 MHz
Transmission power	max. 10 mW
Protocol	14 bytes
ID number	32 bits
Duty cycle	1 %

Service life

Mechanical data	> 0.25 mil. switching operations
Electrical	Depending on load, switching frequency and traverse speed