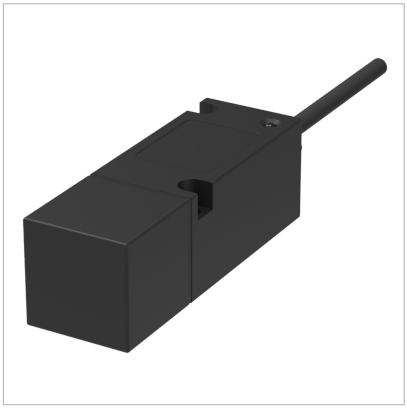
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Safety sensor 117... plastic housing

The safety sensor with built-in relay 117K monitors guard doors and protective covers on machines and systems to protect personnel.

The combination of safety sensor and safety control electronics in one housing, saves a great deal of space since no additional safety control device is necessary in the switch cabinet. This is a space-saving and cost effective solution, particularly for small machines and systems.

Technical specifications

- Variants for applications with operating voltage 24 V AC/DC and 230 V AC
- Flexible installation possibilities owing to various actuation options
- Variable connection owing to cable outlet and M12 housing connector
- LED display and control contact for simple diagnosis

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Technical drawing

IMAGE 1/3

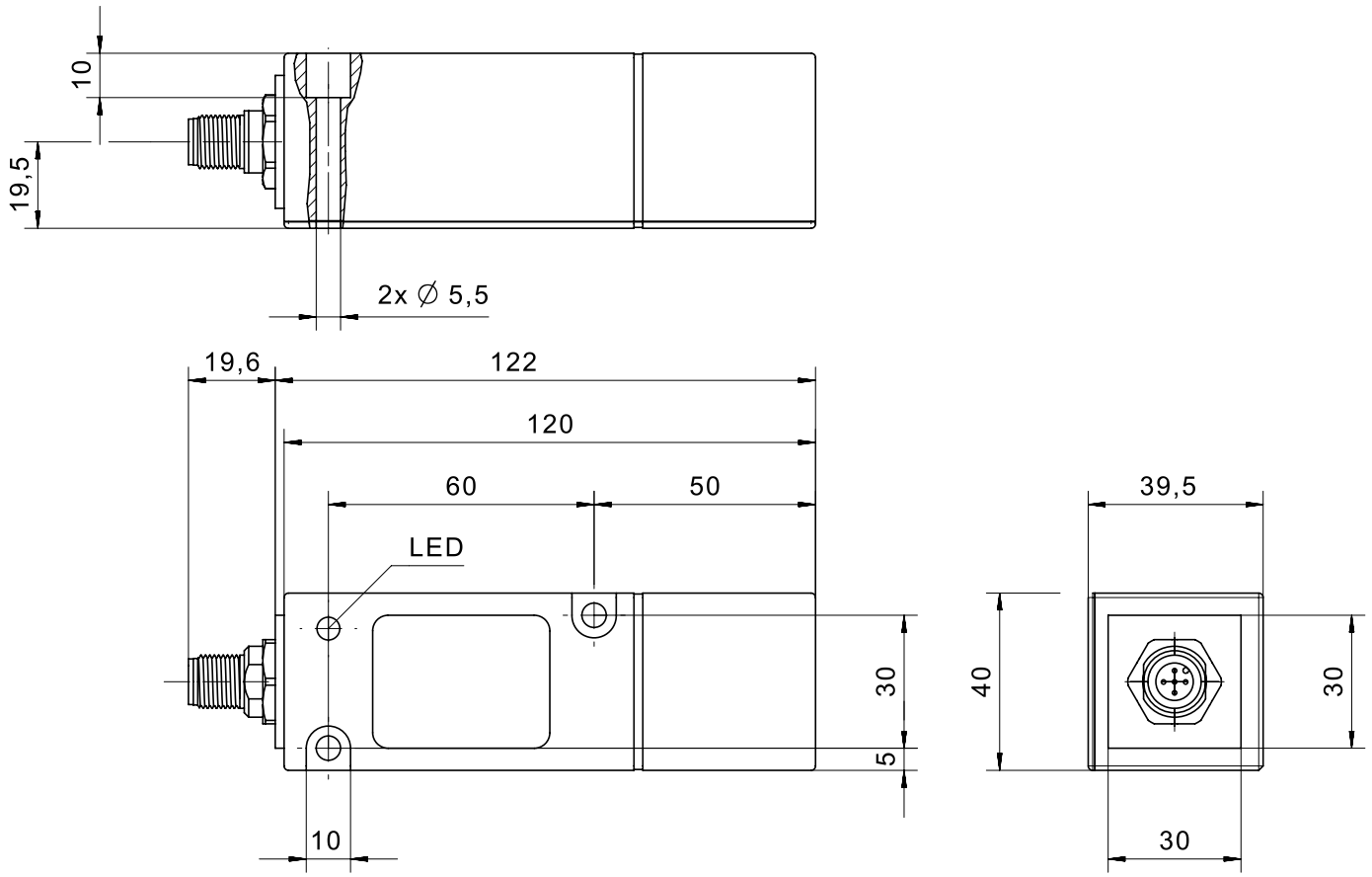
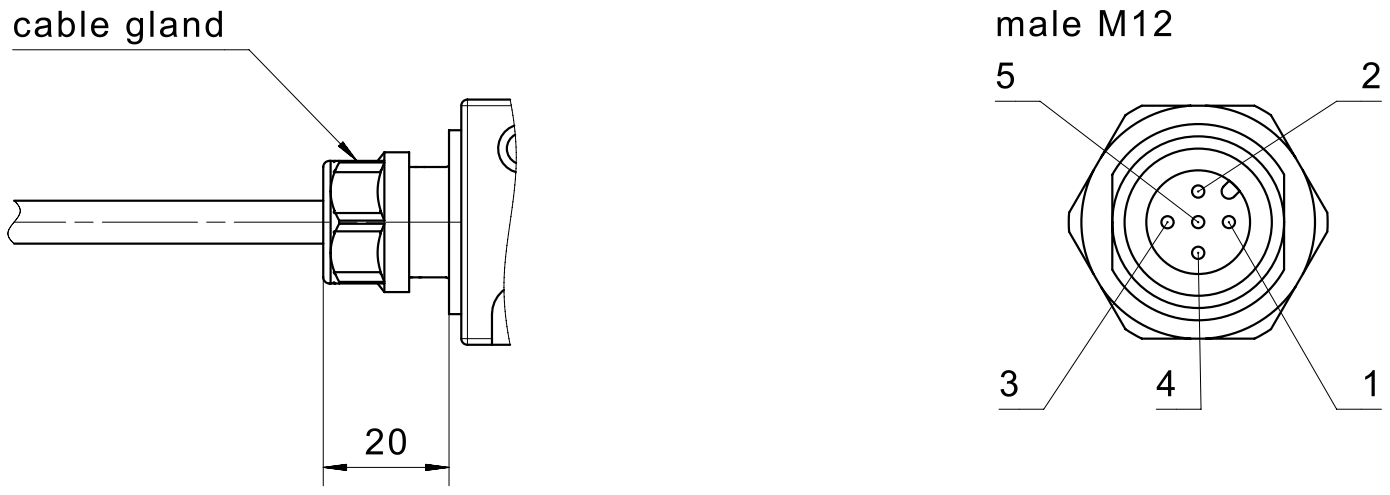


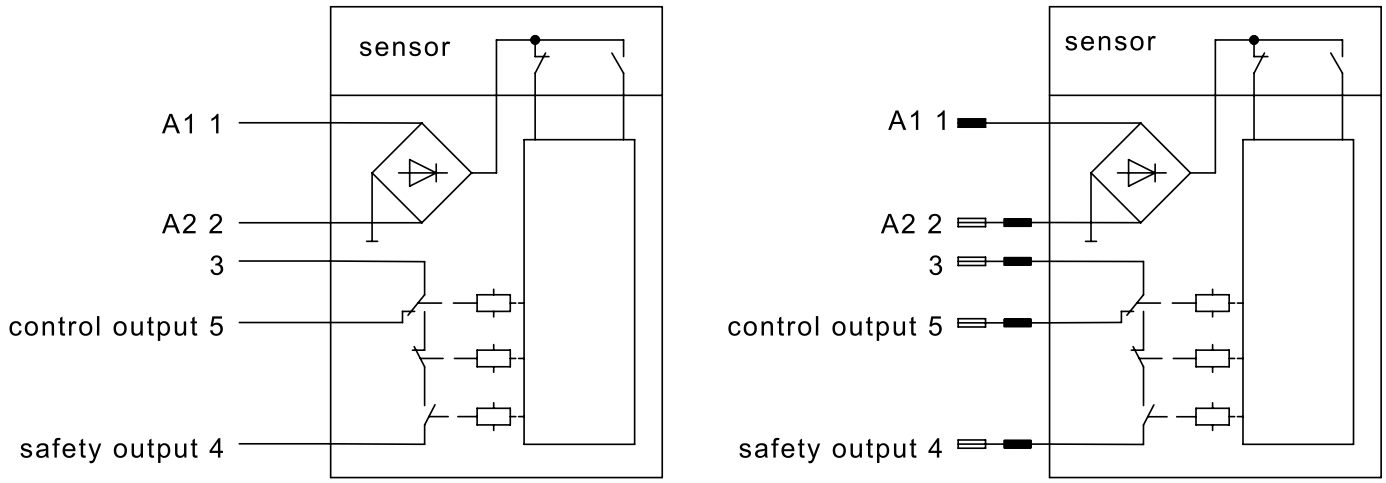
IMAGE 2/3



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IMAGE 3/3

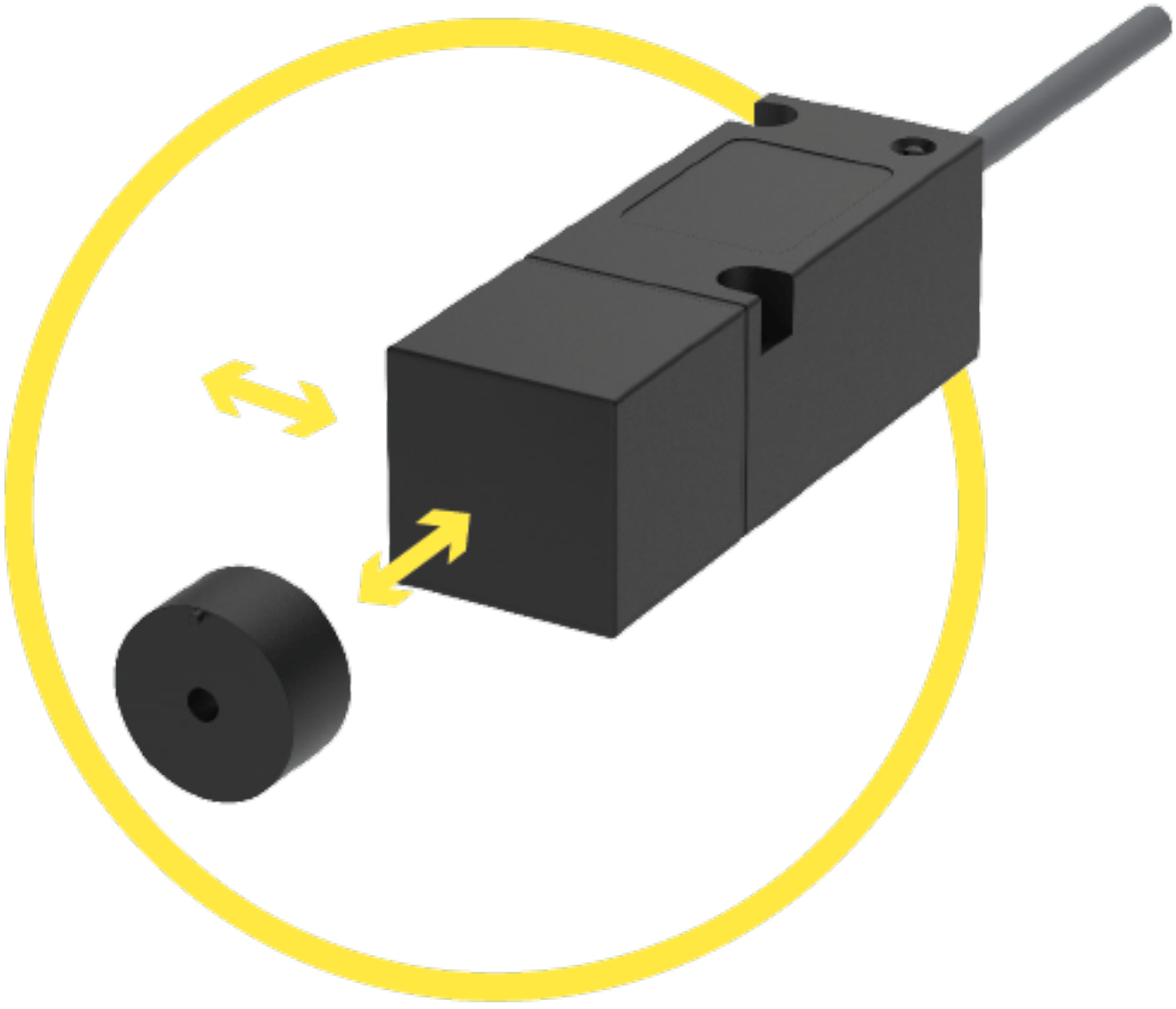


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Product options

IMAGE 1/3



Variants for front and side actuation. Operating distance (Sao) from 7 to 10 mm Assured switch-off distance (Sar) from 18 to 21 mm.

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IMAGE 2/3

ORDERING KEY

	117411E1	117411H1	117414E1	117511E1	117511H1	117514E1
Cubic plastic housing	x	x	x	x	x	x
M12x1 connector, 5-pin, plastic	-	-	-	-	-	-
Connection cable 1m*	x	x	x	x	x	x
SO safety output, single-channel	x	x	x	x	x	x
N.C. control output (changeover contact with SO)	x	x	x	x	x	x
Operating voltage 230 V AC	-	-	x	-	-	x
Operating voltage 24 V AC/DC	x	x	-	x	x	-
Actuation direction lateral right	x	x	x	-	-	-
Actuation direction lateral left	-	-	-	x	x	x
Actuation direction front	-	-	-	-	-	-
Actuation direction top	-	-	-	-	-	-
PLd (EN ISO 13849-1)	x	-	x	x	-	x
PLe (EN ISO 13849-1)	-	x	-	-	x	-

	117611H1	117614E1	117711E1	117711H1	117714E1
Cubic plastic housing	x	x	x	x	x
M12x1 connector, 5-pin, plastic	-	-	-	-	-
Connection cable 1m*	x	x	x	x	x
SO safety output, single-channel	x	x	x	x	x
N.C. control output (changeover contact with SO)	x	x	x	x	x
Operating voltage 230 V AC	-	x	-	-	x
Operating voltage 24 V AC/DC	x	-	x	x	-
Actuation direction lateral right	-	-	-	-	-
Actuation direction lateral left	-	-	-	-	-
Actuation direction front	x	x	-	-	-
Actuation direction top	-	-	x	x	x
PLd (EN ISO 13849-1)	-	x	x	-	x
PLe (EN ISO 13849-1)	x	-	-	x	-

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IMAGE 3/3

MATCHING ACTUATORS

Actuators	117...		
	SO_{min}	S_{ao}	S_{ar}
304 200 00	0.5	2.5	18.5
304 200 00 V	0.5	2.5	18.5
304 200 00 H	0.5	2.5	18.5
304 200 00 S	0.5	6	23.5
304 200 00 VS	0.5	6	23.5
304 200 00 SH	0.5	6	23.5
304 271 02	0.5	3	21
304 271 80	0.5	5	21.5
304 271 82	0.5	9	30

SO_{min} = minimum switching distance (mm), S_{ao} = operating distance (mm), S_{ar} = assured switch-off distance (mm)

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Article characteristics

Attribute	117511E1	117511H1	117514E1	117611H1	117614E1	117711E1
Max. switching voltage at safety output	30 V DC					
Max. switching voltage at control output	30 V DC					
Max. switching voltage at safety output	250 V AC					
Max. switching voltage at control output	250 V AC					
Max. switching current at safety output	3 A					
Max. switching current at control output	3 A					
Max. switching power at safety output	90 W					
Max. switching power at control output	90 W					
Max. switching power at safety output	750 VA					
Max. switching power at control output	750 VA					
Assured switching distance (Sao)	3 mm					
Assured switch-off distance (Sar)	21 mm					
Minimum switching distance (S0 min)	0.5 mm					
Number of relay safety outputs	1					
Number of relay control outputs	1					
Stop category 0 (STO) nach IEC 61800-5-2	yes					
Stop category 1 (SS1) nach IEC 61800-5-2	no					
EDM/start input	no					
Utilization category	AC-15 / DC-13					
Operating voltage min.	21.6 V DC		–	21.6 V DC	–	21.6 V DC
Operating voltage max.	26.4 V DC		–	26.4 V DC	–	26.4 V DC
Operating voltage min.	21.6 V AC		207 V AC	21.6 V AC	207 V AC	21.6 V AC

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Attribute	117511E1	117511H1	117514E1	117611H1	117614E1	117711E1
Operating voltage max.	26.4 V AC		253 V AC	26.4 V AC	253 V AC	26.4 V AC
Current consumption	60 mA	100 mA				60 mA
Power consumption	1.5 W	2.4 W	–	2.4 W	–	1.5 W
Power consumption	1.5 VA	2.4 VA	23 VA	2.4 VA	23 VA	1.5 VA
LED display	single-coloured					
Switching principle	magnetic					
Technology	Reed					
Min. switching voltage at safety output	5 V DC	10 V DC	5 V DC	10 V DC	5 V DC	
Min. switching voltage at control output	12 V DC	10 V DC	12 V DC	10 V DC	12 V DC	
Min. switching voltage at safety output	–	10 V AC	–	10 V AC	–	
Min. switching voltage at control output	12 V AC	10 V AC	12 V AC	10 V AC	12 V AC	
Min. switching current at safety output	0.1 A	0.01 A	0.1 A	0.01 A	0.1 A	
Min. switching current at control output	0.01 A					
Min. switching power at safety output	0.5 W	3 W	0.5 W	3 W	0.5 W	
Min. switching power at control output	0.12 W	3 W	0.12 W	3 W	0.12 W	
Min. switching power at safety output	–	3 VA	–	3 VA	–	
Min. switching power at control output	0.12 VA	3 VA	0.12 VA	3 VA	0.12 VA	
Readiness delay (tv)	350 ms					
Max no operating cycles at 0.5A switching current (ohmic load)	1000000	700000	1000000	700000	1000000	
Max no operating cycles at 2.5A switching current (ohmic load)	230000	25000	230000	25000	230000	
Overvoltage category	III					
Pollution degree	2					
Protection class	III					
Fuse operating voltage	0,5A fast					
Fuse safety output	3A fast					

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Attribute	117511E1	117511H1	117514E1	117611H1	117614E1	117711E1
Fuse control output	3A fast					
Actuation	left side			front		top
PL acc. to EN ISO 13849-1	d	e	d	e	d	
Category acc. to EN ISO 13849-1	3	4	3	4	3	
Coding acc. to EN ISO 14119	Low					
Type acc. to EN ISO 14119	4					
Mission time in years	20 a					
Housing design	rectangular					
Dimensions	120 x 40 x 40 mm					
Operating speed max.	0.1 m/min					
Actuation frequency	18000 1/h					
Free zone	25 mm					
Minimum installation distance (between two sensors)	50 mm					
cannot be mounted flush	yes					
Housing material	PBT					
Cable material	TPE					
Housing colour	schwarz					
Protection class	IP67 DIN EN 60529					
Protection class, connector	-					
Operating temperature min.	-25 °C					
Max. operating temperature	55 °C					
Min. cable temperature range, moving	-25 °C					
Max. cable temperature range, moving	55 °C					
Min. cable temperature range, fixed installation	-25 °C					
Max. cable temperature range, fixed installation	55 °C					
Min. storage temperature	-25 °C					
Max. storage temperature	55 °C					
Shock resistance (Norm)	30 g / 11 ms					

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Attribute	117511E1	117511H1	117514E1	117611H1	117614E1	117711E1
Continuous shock resistance (Norm)	10 g / 16 ms					
Vibration resistance (Norm)	10 ... 55 Hz					
Relative humidity	5 - 85 %					
Air pressure	860 - 1060 hPa					
Delta tmax	0.5 °C/min					
Mounting type	screwed					
Weight	500 g					
Possible actuators	30427102					
Cable length	1 m					
Number of strands	5					
Wire cross section	0.75 mm²					
Connector type	–					
Cable colour	silbergrau					
Certified in accordance with	EN ISO 13849-1 UL 508 / CSA 22.2					
CE label	yes					

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Attribute	117711H1	117714E1	117611E1	117631H1
Max. switching voltage at safety output	30 V DC			
Max. switching voltage at control output	30 V DC			
Max. switching voltage at safety output	250 V AC			30 V AC
Max. switching voltage at control output	250 V AC			30 V AC
Max. switching current at safety output	3 A			
Max. switching current at control output	3 A			
Max. switching power at safety output	90 W			
Max. switching power at control output	90 W			
Max. switching power at safety output	750 VA			90 VA
Max. switching power at control output	750 VA			90 VA
Assured switching distance (Sao)	3 mm			
Assured switch-off distance (Sar)	21 mm			
Minimum switching distance (S0 min)	0.5 mm			
Number of relay safety outputs	1			
Number of relay control outputs	1			
Stop category 0 (STO) nach IEC 61800-5-2	yes			
Stop category 1 (SS1) nach IEC 61800-5-2	no			
EDM/start input	no			
Utilization category	AC-15 / DC-13			
Operating voltage min.	21.6 V DC	–	21.6 V DC	
Operating voltage max.	26.4 V DC	–	26.4 V DC	
Operating voltage min.	21.6 V AC	207 V AC	21.6 V AC	
Operating voltage max.	26.4 V AC	253 V AC	26.4 V AC	
Current consumption	100 mA		60 mA	100 mA
Power consumption	2.4 W	–	1.5 W	2.4 W

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Attribute	117711H1	117714E1	117611E1	117631H1
Power consumption	2.4 VA	23 VA	1.5 VA	2.4 VA
LED display	single-coloured			
Switching principle	magnetic			
Technology	Reed			
Min. switching voltage at safety output	10 V DC	5 V DC		10 V DC
Min. switching voltage at control output	10 V DC	12 V DC		10 V DC
Min. switching voltage at safety output	10 V AC	–		10 V AC
Min. switching voltage at control output	10 V AC	12 V AC		10 V AC
Min. switching current at safety output	0.01 A	0.1 A		0.01 A
Min. switching current at control output	0.01 A			
Min. switching power at safety output	3 W	0.5 W		3 W
Min. switching power at control output	3 W	0.12 W		3 W
Min. switching power at safety output	3 VA	–		3 VA
Min. switching power at control output	3 VA	0.12 VA		3 VA
Readiness delay (tv)	350 ms			
Max no operating cycles at 0.5A switching current (ohmic load)	700000	1000000		700000
Max no operating cycles at 2.5A switching current (ohmic load)	25000	230000		25000
Overvoltage category	III			
Pollution degree	2			
Protection class	III			
Fuse operating voltage	0,5A fast			
Fuse safety output	3A fast			
Fuse control output	3A fast			
Actuation	top		front	
PL acc. to EN ISO 13849-1	e	d		e
Category acc. to EN ISO 13849-1	4	3		4

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Attribute	117711H1	117714E1	117611E1	117631H1
Coding acc. to EN ISO 14119	Low			
Type acc. to EN ISO 14119	4			
Mission time in years	20 a			
Housing design	rectangular			
Dimensions	120 x 40 x 40 mm			
Operating speed max.	0.1 m/min			
Actuation frequency	18000 1/h			
Free zone	25 mm			
Minimum installation distance (between two sensors)	50 mm			
cannot be mounted flush	yes			
Housing material	PBT			
Cable material	TPE			-
Housing colour	schwarz			
Protection class	IP67 DIN EN 60529			
Protection class, connector	-			IP67 DIN EN 60529
Operating temperature min.	-25 °C			
Max. operating temperature	55 °C			
Min. cable temperature range, moving	-25 °C			-
Max. cable temperature range, moving	55 °C			-
Min. cable temperature range, fixed installation	-25 °C			-
Max. cable temperature range, fixed installation	55 °C			-
Min. storage temperature	-25 °C			
Max. storage temperature	55 °C			
Shock resistance (Norm)	30 g / 11 ms			
Continuous shock resistance (Norm)	10 g / 16 ms			
Vibration resistance (Norm)	10 ... 55 Hz			
Relative humidity	5 - 85 %			
Air pressure	860 - 1060 hPa			
Delta tmax	0.5 °C/min			
Mounting type	screwed			

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Attribute	117711H1	117714E1	117611E1	117631H1
Weight	500 g			
Possible actuators	30427102			
Cable length	1 m			–
Number of strands	5			–
Wire cross section	0.75 mm²			–
Connector type	–			M12x1 - 5 polig
Cable colour	silbergrau			–
Certified in accordance with	EN ISO 13849-1 UL 508 / CSA 22.2			
CE label	yes			