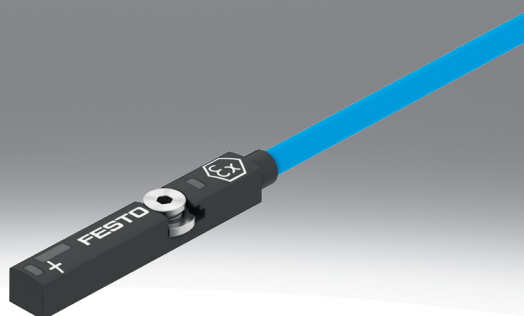


## Proximity switch SDBT-MS

**FESTO**



## Type code

001	Series	
<b>SDBT</b>	Sensor, position, binary, T series	

002	Sensor version	
<b>M</b>	Can be inserted in the slot	

003	Sensor principle	
<b>S</b>	Contactless (solid state)	

004	Additional features	
	None	

005	Nominal operating voltage	
<b>20N</b>	8.2 V DC (Namur)	

006	Display	
<b>L</b>	LED	

007	Digital switching output	
<b>ZN</b>	2-wire, Namur	

008	Cable characteristic	
<b>E</b>	Suitable for energy chains/robot applications	

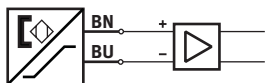
009	Cable length [m]	
<b>2.5</b>	2.5 m	
<b>5</b>	5 m	
<b>10</b>	10 m	
<b>20</b>	20 m	

010	Cable identification	
	With label holder	

011	Electrical connection	
<b>LE</b>	Open end	

# Datasheet

## General technical data



Design	For T-slot
Based on standard	EN 60947-5-6
Approval	RCM trademark
Special characteristics	Oil resistant
Instructions on use	Support / actuator-sensor overview*The right sensor for the actuator*
Max. input voltage $U_i$	28 V
Max. input current $I_i$	0.25 A
Max. input power $P_i$	T4: 350 mW, T6: 72 mW
Effective internal inductivity $L_i$	30 $\mu$ H
Effective internal capacitance $C_i$	79 nF
CE marking (see declaration of conformity)	To UK instructions for EMC, To UK EX instructions, To UK RoHS instructions
Explosion protection certification outside the EU	EPL Da (BR), EPL Da (CN), EPL Da (GB), EPL Da (IECEX), EPL Da (KR), EPL Ga (BR), EPL Ga (CN), EPL Ga (GB), EPL Ga (IEC-EX), EPL Ga (KR)
Certificate issuing authority	21-AV4BO-0130X, 21-AV4BO-0131X, CSAE 22UKEX1322X, DNV 17.0027 X, GYJ20.1106X, IECEx PTZ 18.0008X, PTZ 16 ATEX 0010 X
CE mark (see declaration of conformity)	To EU EMC Directive, To EU Explosion Protection Directive (ATEX), In accordance with EU RoHS Directive

## Input signal/measuring element

Measured variable	Position
Measuring principle	Magneto-resistive
Ambient temperature	-40 ... 85°C
Ambient temperature with moving cable	-20 ... 85°C

## ATEX

ATEX category gas	II 1G
Explosion ignition protection type for gas	Ex ia IIC T4...T6 Ga
ATEX category dust	II 1D
Explosion ignition protection type for dust	Ex ia IIIC T135°C Da
Explosion ambient temperature	T4, with fixed cable installation: -40°C $\leq$ Ta $\leq$ +85°C, T4: -20°C $\leq$ Ta $\leq$ +85°C, T6, with fixed cable installation: -40°C $\leq$ Ta $\leq$ +45°C, T6: -20°C $\leq$ Ta $\leq$ +45°C
Explosion protection certification outside the EU	EPL Da (BR), EPL Da (CN), EPL Da (GB), EPL Da (IECEX), EPL Da (KR), EPL Ga (BR), EPL Ga (CN), EPL Ga (GB), EPL Ga (IEC-EX), EPL Ga (KR)

## Materials

Material housing	PA-reinforced, High-alloy stainless steel
Material cable sheath	TPE-U(PUR)
Material insulating sheath	PP
Note on materials	RoHS-compliant, Free of halogen
LABS (PWIS) conformity	VDMA24364-B2-L

## Switching output

Switching element function	NAMUR
Repetition accuracy	0.2 mm
Switch-on time	<1 ms
Switch-off time	<1 ms
Max. switching frequency	330 Hz
Off-state current	0.4 ... 1 mA

## Datasheet

**Electronics**

Rated operational voltage DC	8.2 V
Operational voltage range DC	7.5 ... 18 V
Residual ripple	10%
Reverse polarity protection	For all electrical connections

**Electromechanics**

Electrical connection 1, connection type	Cable
Electrical connection 1, connector system	Open end
Electrical connection 1, number of connections/cores	2
Connection outlet orientation	In-line
Cable characteristic	Suitable for energy chains, Suitable for robot applications
Test conditions cable	Bending strength: to Festo standard, Test conditions on request

**Mechanics**

Type of mounting	Screw-clamped, Insertable in the slot from above
Mounting position	optional
Tightening torque	0.1 ... 0.6 Nm
Max. tightening torque	0.6 Nm
Wire ends	Wire end sleeve

**Display/operation**

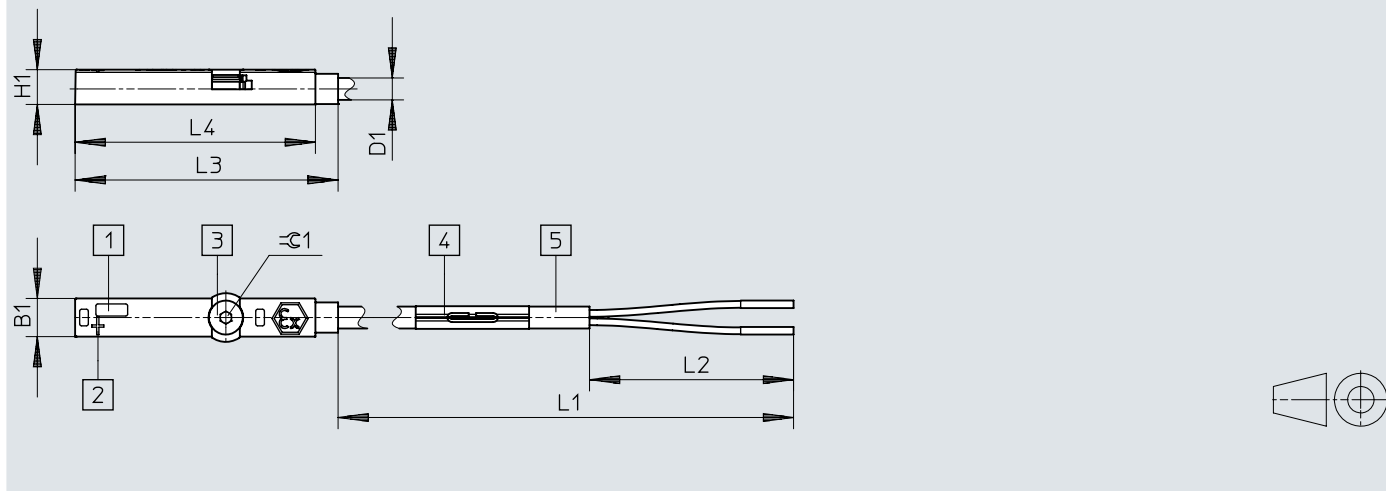
Switching status indication	Yellow LED
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**Immission/emission**

Degree of protection	IP65, IP68
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## Dimensions

## Dimensions – Proximity switch open end

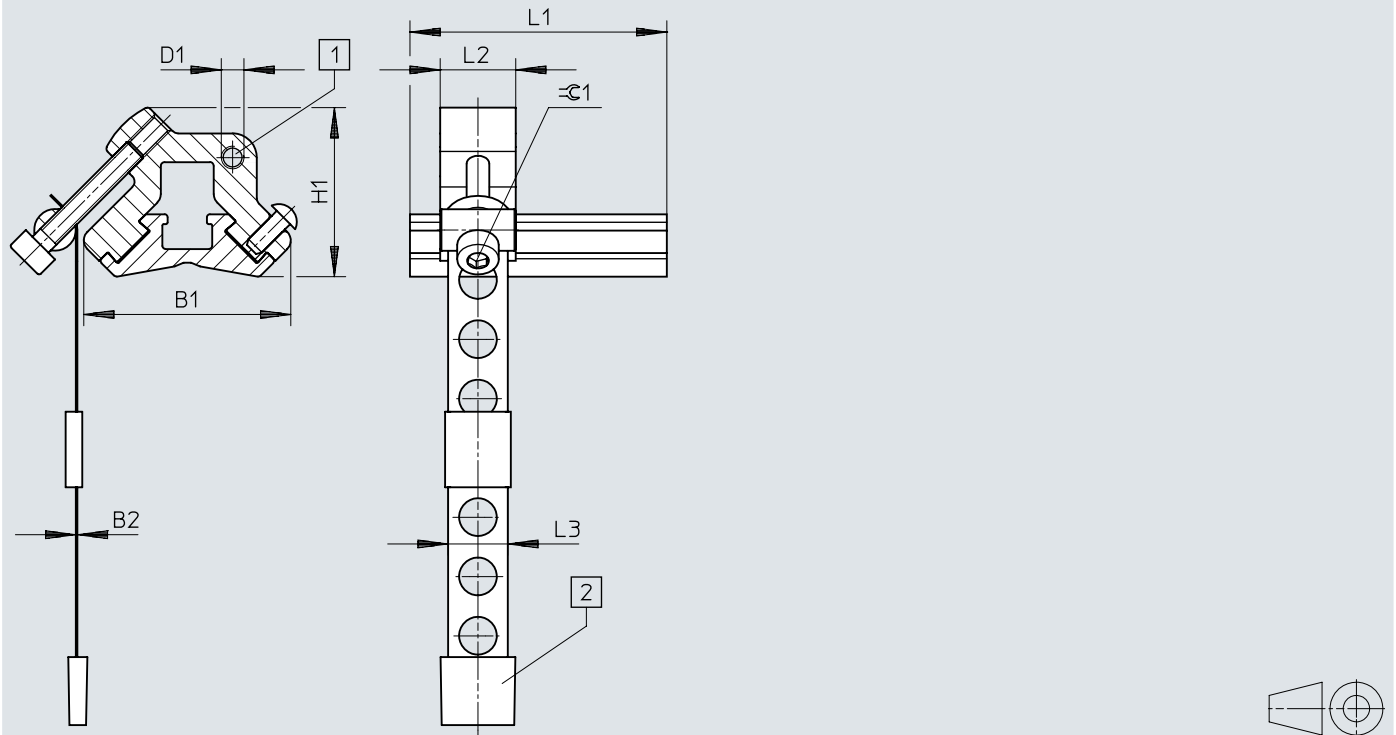
Download CAD data [www.festo.com](http://www.festo.com)

	B1	D1 ∅	H1	L1	L2 ±5	L3	L4	$\approx 1$
SDBT-MS-20NL-ZN-E-5-LE-EX6	5,1	2,9	4,6	5000	50	34,8	31,8	1,5
SDBT-MS-20NL-ZN-E-10-LE-EX6				10000				

## Dimensions

### Dimensions – Mounting kit SMBR-8-8/100-S6

Download CAD data [www.festo.com](http://www.festo.com)



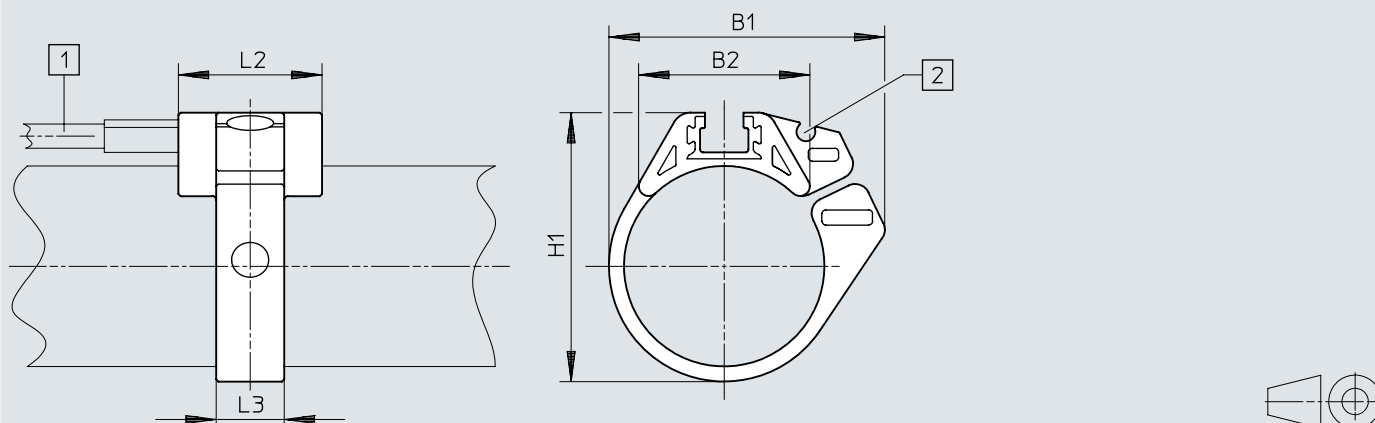
[1] Mounting thread for proximity switch SM ... O-8E

[2] Protective cap

	B1	B2	D1	H1	L1	L2	L3	±0.1
SMBR-8-8/100-S6	27,4	0,2	M3	22,4	34	10	7,9	2,5

## Dimensions

## Dimensions – Mounting kit SMBR

Download CAD data [www.festo.com](http://www.festo.com)

[1] Proximity switches SME-8- ..., SMT-8- ...

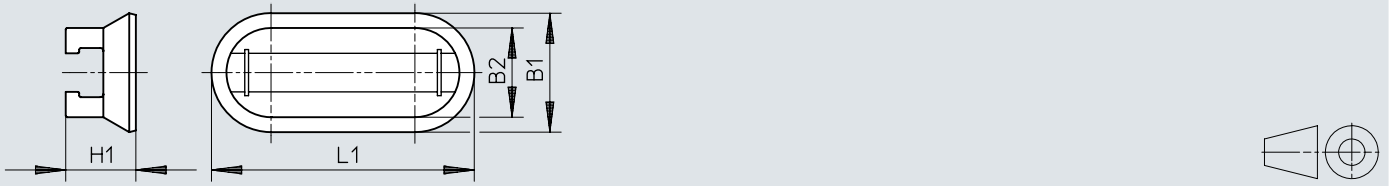
[2] Guide slot for switch cable

	B1	B2	H1	L2	L3
SMBR-8-8	18,9	12,3	17,5	19	7
SMBR-8-10	20,4	13,7	19,9	19	7
SMBR-8-12	22,7	14,3	21,9	19	7
SMBR-8-16	28,2	16,9	25,7	19	8
SMBR-8-20	34,5	20,8	30,4	19	9
SMBR-8-25	36,7	22,7	35,6	19	9
SMBR-8-32	41,7	24,6	42,7	19	9
SMBR-8-40	47,1	26,5	50,7	19	9
SMBR-8-50	56,4	28,6	61,5	19	9
SMBR-8-63	69,4	32	74,5	19	9

## Dimensions

### Dimensions – Mounting kit CRSMB

Download CAD data [www.festo.com](http://www.festo.com)

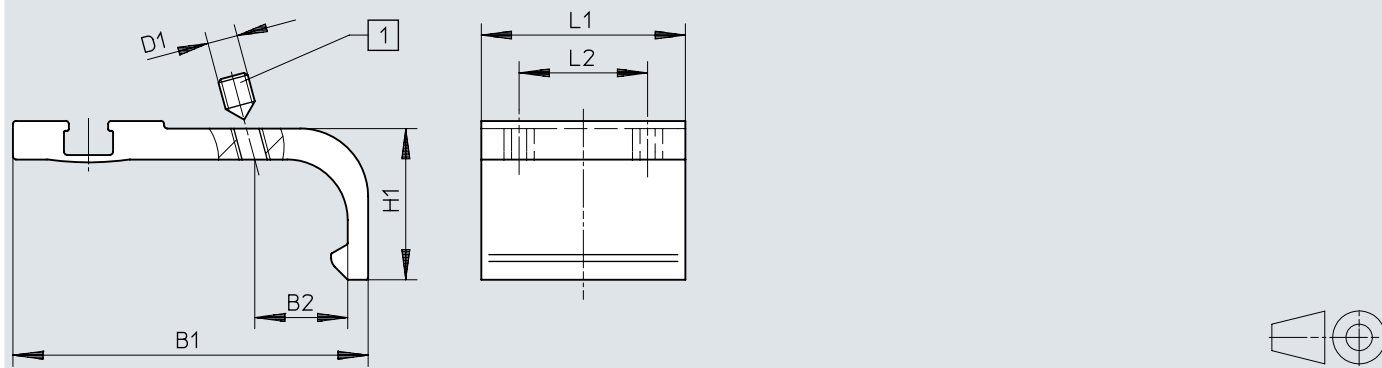


	B1	B2	H1	L1
CRSMB-8-32/100	15,8	11,8	9,3	35



## Dimensions

## Dimensions – Mounting kit SMB-8-FENG

Download CAD data [www.festo.com](http://www.festo.com)

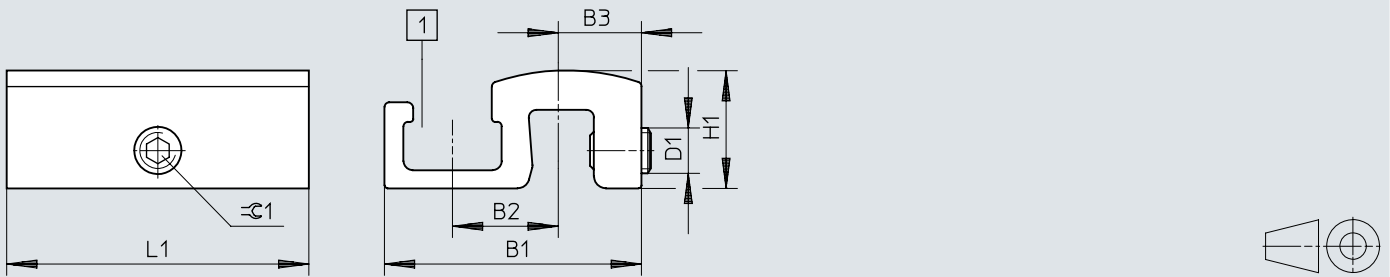
[1] Threaded pin

	B1	B2	D1	H1	L1	L2
SMB-8-FENG-32/40	35,1	8,7	M3	15,5	27	17
SMB-8-FENG-50/63	47	12,3	M4	20	27	17
SMB-8-FENG-80/100	64,3	15,7	M5	24,3	27	17

## Dimensions

### Dimensions – Mounting kit SMB-8-C

Download CAD data [www.festo.com](http://www.festo.com)

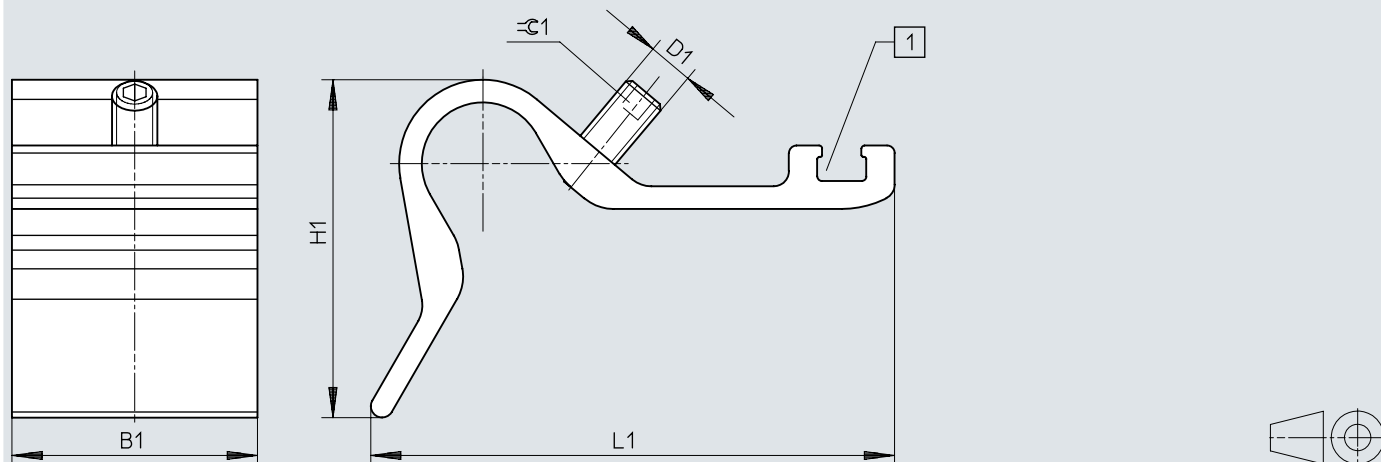


[1] Slot for proximity switch

	B1	B2	B3	D1	H1	L1	$\varnothing 1$
SMB-8-C	17	7	5,5	M3	7,8	20	1,5

## Dimensions

## Dimensions – Sensor bracket DASP-M4-...-A

Download CAD data [www.festo.com](http://www.festo.com)

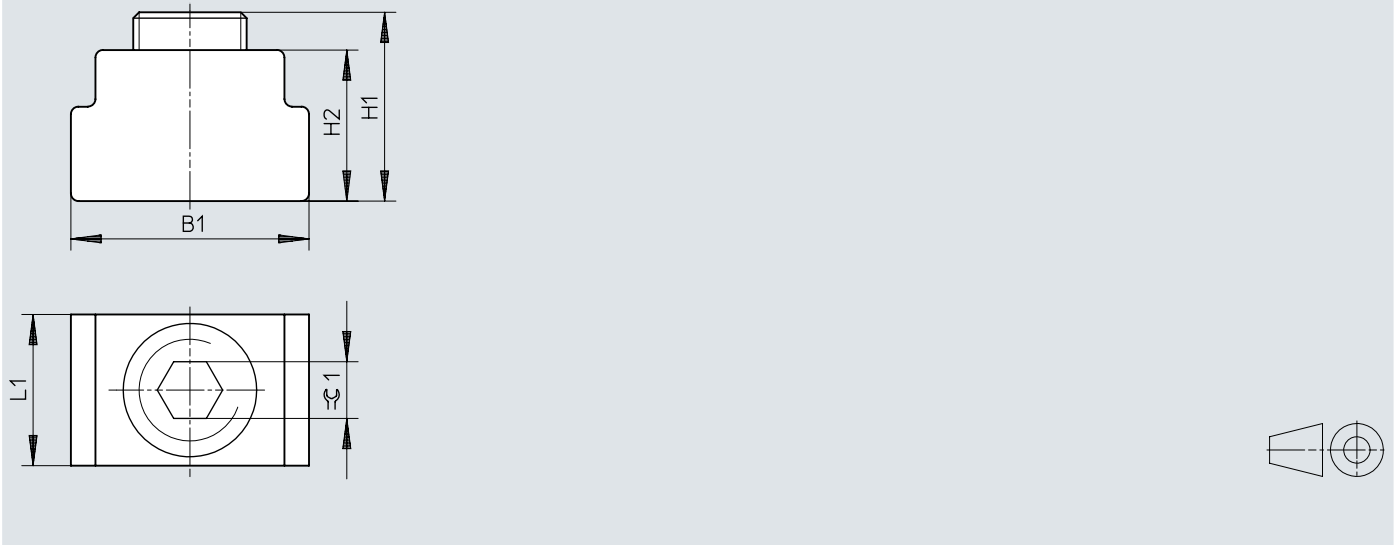
[1] Slot for proximity switch

	B1	D1	H1	L1	$\varnothing 1$
DASP-M4-125-A	32,5	M5	28	45,4	2,5
DASP-M4-160-A	32,5	M6	44,7	69,4	3
DASP-M4-250-A	32,5	M6	56,3	88	3
DASP-M4-320-A	32,5	M6	56,3	88	3

## Dimensions

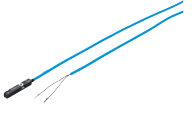
### Dimensions – Positioning element SMM

Download CAD data [www.festo.com](http://www.festo.com)



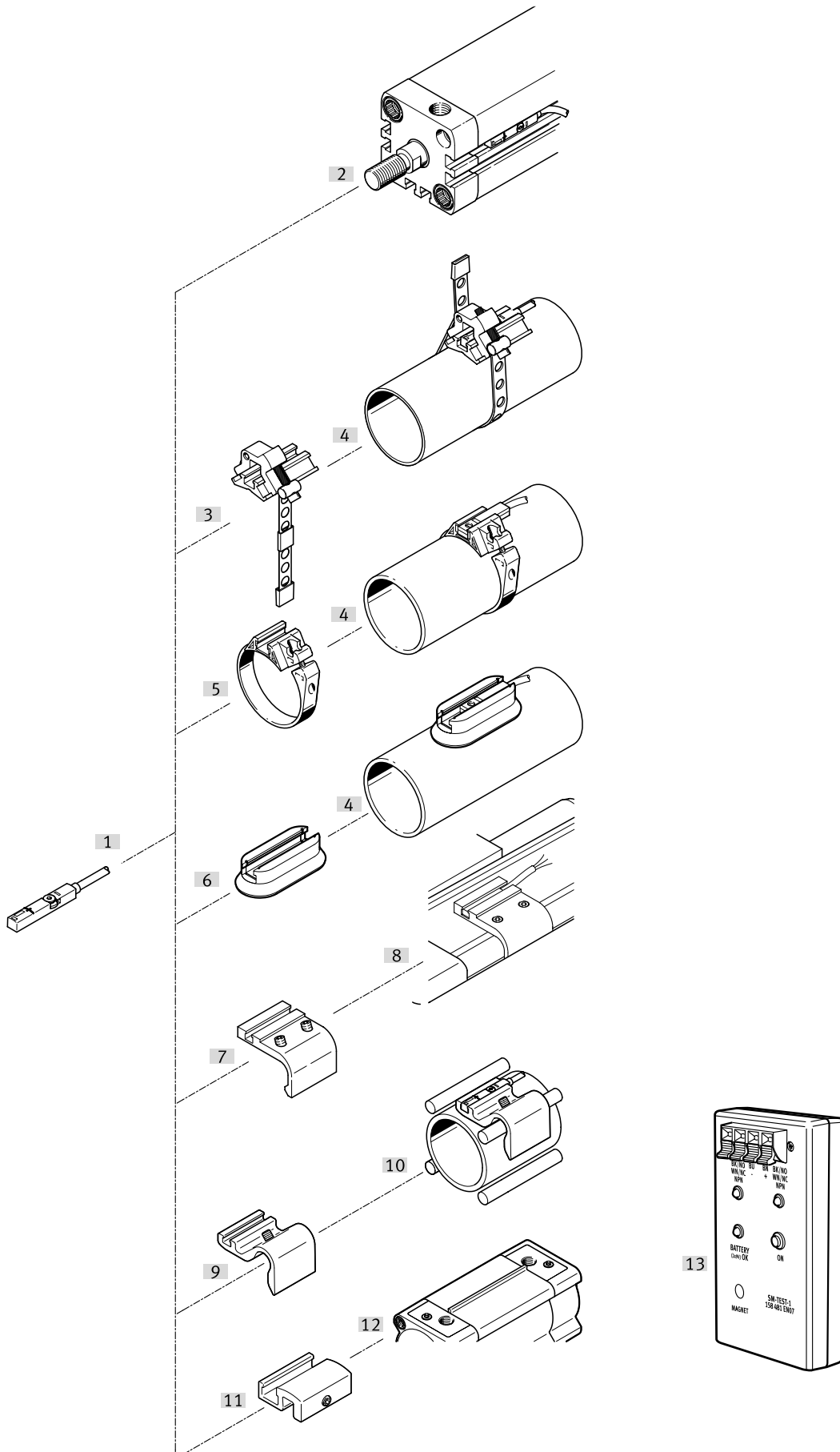
	B1	H1	H2	L1	⊲1
SMM-8	6,3	5,0	4,0	4,0	1,5

## Ordering data

Proximity switch					
	Switching output	Cable length	Product weight	Part no.	Type
	NAMUR	2.5 m	28 g	<b>8185110</b>	<b>SDBT-MS-20NL-ZN-E-2.5-LE-EX6</b>
		5 m	53 g	<b>579071</b>	<b>SDBT-MS-20NL-ZN-E-5-LE-EX6</b>
		10 m	104 g	<b>579072</b>	<b>SDBT-MS-20NL-ZN-E-10-LE-EX6</b>
		20 m	206 g	<b>8185111</b>	<b>SDBT-MS-20NL-ZN-E-20-LE-EX6</b>

# Peripherals

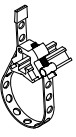
## Peripherals overview





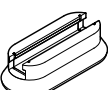
## Peripherals

Accessories			→ Link
Type/order code	Description		
[1] Proximity switch SDBT-M-...EX6	With EX protection		<a href="#">16</a>
[2] Drives with T-slot	–		<a href="#">↗ –</a>
[3] Mounting kit SMBR-8-8/100-S6	Heat-resistant design		<a href="#">16</a>
[4] Round cylinders	Ex.: DSNU		<a href="#">↗ –</a>
[5] Mounting kit SMBR	For round cylinders		<a href="#">16</a>
[6] Mounting kit CRSMB	For round cylinders, corrosion resistant		<a href="#">16</a>
[7] Mounting kit SMB-8-FENG	–		<a href="#">16</a>
[8] Standards-based cylinder DSBC	–		<a href="#">↗ dsbc</a>
[9] Sensor bracket DASP-M4-...	–		<a href="#">16</a>
[10] Drives with tie rod or mounting rod	For example: DSBG		<a href="#">↗ –</a>
[11] Mounting kit SMB-8-C	–		<a href="#">16</a>
[12] Standards-based cylinder DSBF	–		<a href="#">↗ dsbf</a>
[13] Sensor tester SM-TEST-1	Checking that the proximity switches are functioning using the built-in voltage source. Adjusting proximity switches on the cylinder.		<a href="#">17</a>

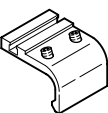
## Accessories

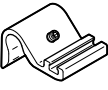
Mounting kit SMBR-8-8/100-S6					
	For piston diameter	Material housing	Corrosion resistance class CRC	Part no.	Type
	Ø8 - Ø100	Wrought aluminium alloy, Anodised, High-alloy stainless steel	4 - Very high corrosion stress	538937	SMBR-8-8/100-S6

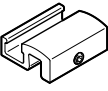
Mounting kit SMBR						
	Material retaining bracket	Material profile	Ambient temperature	Corrosion resistance class CRC	Part no.	Type
	POM	Wrought aluminium alloy	-20 ... 70 °C	2 - Moderate corrosion stress	★ 175096	SMBR-8-25
					175092	SMBR-8-10
					175099	SMBR-8-50
					175091	SMBR-8-8
					175098	SMBR-8-40
					★ 175094	SMBR-8-16
					★ 175095	SMBR-8-20
					175100	SMBR-8-63
					★ 175093	SMBR-8-12
					175097	SMBR-8-32

Mounting kit CRSMB					
	For piston diameter	Ambient temperature	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	Ø32 - Ø100	-40 ... 90 °C	4 - Very high corrosion stress	525565	CRSMB-8-32/100

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

Mounting kit SMB-8-FENG					
	Size	Note on materials	LABS (PWIS) conformity	Part no.	Type
	8	RoHS-compliant	VDMA24364-B2-L	175706	SMB-8-FENG-50/63
				175707	SMB-8-FENG-80/100
				175705	SMB-8-FENG-32/40


Sensor bracket DASP-M4-...-A					
	Tightening torque	Material housing	Corrosion resistance class CRC	Part no.	Type
	0.6 ... 1 Nm	Wrought aluminium alloy, Anodised	3 - high corrosion stress	1451483	DASP-M4-125-A
				3015256	DASP-M4-320-A
				1553813	DASP-M4-160-A
				1456781	DASP-M4-250-A


Mounting kit SMB-8-C					
	Material retaining bracket	Tightening torque	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	Wrought aluminium alloy, Anodised	0.2 ... 0.6 Nm	3 - High corrosion stress	1806790	SMB-8-C


1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)



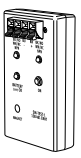
## Accessories

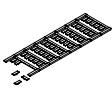
Positioning element SMM						
	Material housing	Type of mounting	Ambient temperature	Corrosion resistance class CRC	Part no.	Type
	Wrought aluminium alloy, Anodised	Clamped in T-slot, Insertable in the slot lengthwise	-40 ... 120 °C	3 - high corrosion stress	<b>547941</b>	<b>SMM-8</b>

Mounting components			
	Type of mounting	Part no.	Type
	Clamped in T-slot	<b>534254</b>	<b>SMBK-8</b>

Safety clip for ATEX zone					
	Material safety clip	Ambient temperature	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	PA	-20 ... 60 °C	3 - high corrosion stress	<b>548068</b>	<b>NEAU-M12-GD</b>
				<b>548067</b>	<b>NEAU-M8-GD</b>

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

Sensor tester				
	Operational voltage range DC	Degree of protection	Part no.	Type
	12 ... 20 V	IP20	<b>158481</b>	<b>SM-TEST-1</b>

Inscription labels			
	Material label	Part no.	Type
	PC	<b>541598</b>	<b>ASLR-L-423</b>