

## Proximity switches for T-slot

**FESTO**



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for the  
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## Product range overview

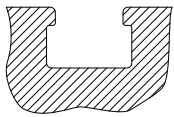
Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page	
<b>For T-slot</b>	<b>Standard</b>							
	Screw-clamped, inserted in the slot from above	Magnetic Hall	SDBT-MSX	10 ... 30 V DC	PNP/NPN, switchable	N/O/ N/C contact, switchable	–	
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	SMT-8M-A	5 ... 30 V DC	PNP	N/O contact	–	
					NPN	N/O contact		
					Non-contacting, 2-wire	N/O contact		
	Inserted in the slot from above, flush with the cylinder profile	Magnetic reed	SME-8M	5 ... 30 V AC/DC	Contacting, bipolar	N/O contact N/C contact	–	
	Inserted in the slot lengthwise, flush with the cylinder profile	Magnetic reed	SME-8	12 ... 30 V AC/DC	Contacting, bipolar	N/O contact	–	
				3 ... 230 V AC/DC		N/O contact	–	
	Inserted in the slot lengthwise	Magneto-resistive	SMT-8G	10 ... 30 V DC	PNP, NPN	N/O contact	11	
		Magneto-resistive	SMT-8-SL	10 ... 30 V DC	PNP	N/O contact	7	
		Magnetic reed	SME-8-SL	10 ... 30 V AC/DC	Contacting, bipolar	N/O contact	–	
	With accessories	Magneto-resistive	SMT-8E	10 ... 30 V DC	PNP	N/O contact	–	
					NPN			
		Magnetic reed	SME-8E	12 ... 30 V DC 3 ... 250 V DC 3 ... 230 V AC	Contacting, bipolar	N/O contact	–	
	<b>Corrosion-resistant</b>							
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	CRSMT-8M	5 ... 30 V DC	PNP		N/O contact	–
	<b>Welding-field-resistant</b>							
	Inserted in the slot from above, screw-clamped	Magneto-resistive	SDBT-BSW	10 ... 30 V DC	PNP	N/O contact	–	
					NPN			
					Non-contacting, 2-wire			
	With accessories	Magneto-inductive	SMT-8E	10 ... 30 V DC	PNP NPN	N/O contact	–	
	<b>Heat-resistant up to 120°C</b>							
	Inserted in the slot lengthwise, flush with the cylinder profile	Magnetic reed	SME-8-...S6	0 ... 30 V AC/DC	Contacting, bipolar	N/O contact	–	
	With accessories	Magnetic reed	SME-8E-...S6	0 ... 30 V DC	Contacting	N/O contact	–	
				0 ... 30 V AC				
	<b>To EU Explosion Protection Directive (ATEX)</b>							
Inserted in the slot from above, screw-clamped	Magneto-resistive	SDBT-MS-...-EX6	8.2 V DC	NAMUR		NAMUR	–	

## Product range overview

Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page
For C-slot	Standard	Magneto-resistive	SMT-10M	10 ... 30 V DC	PNP	N/O contact	C-slot
					NPN		
					Non-contacting, 2-wire		
	Inserted in the slot from above, flush with the cylinder profile	Magnetic reed	SME-10M	5 ... 30 V AC/DC	Contacting, bipolar	N/O contact	
		Magneto-resistive	SMT-10G	10 ... 30 V DC	PNP	N/O contact	
			Magnetic reed	SME-10	12 ... 27 V AC/DC	Contacting	

## T-slot switches can be used for drives with T-slot

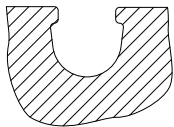
## Exceptions



- DFM-B: SMT0-8E, SMTSO-8E, SME0-8E and SMPO-8E cannot be used
- DHDS: SME-8M can only be used on  $\varnothing 50$
- DHPS: SME-8M can only be used on  $\varnothing 20 \dots 35$
- HGDD-63-A: SMT-8M-A cannot be used
- HGPT-B: only SMT-8G can be used from size 40 and upwards
- SDBT-BSW- ... -PU/NU can only be used on a limited number of drive series. Page → 53

## C-slot switches can be used for drives with C-slot

## Exceptions



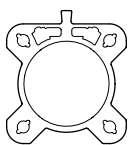
- ADVC  $\varnothing 100$ : SMT-10M and SME-10M cannot be used (ADVC has a T-slot and C-slot)
- DSM/DSM-B-6/8/10: SME-10M cannot be used
- DSM/DSM-B-10/16: SMT-10M cannot be used
- HGPT-B: only SMT-10G can be used for sizes up to and including size 35

## For drives with sensor rail: these are available with 2 cylinder barrel contours

Only T-slot switches CRSMT-8M, SMT-8M-A and SDBT-MS- ... -EX6 can be used, and only with the identified profile.

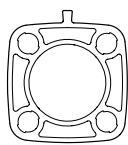
CRSMT-8M and SMT-8M-A can be used for all diameters; SDBT-MS- ... -EX6 cannot be used for diameters 40 and 50.

Example: DSBF



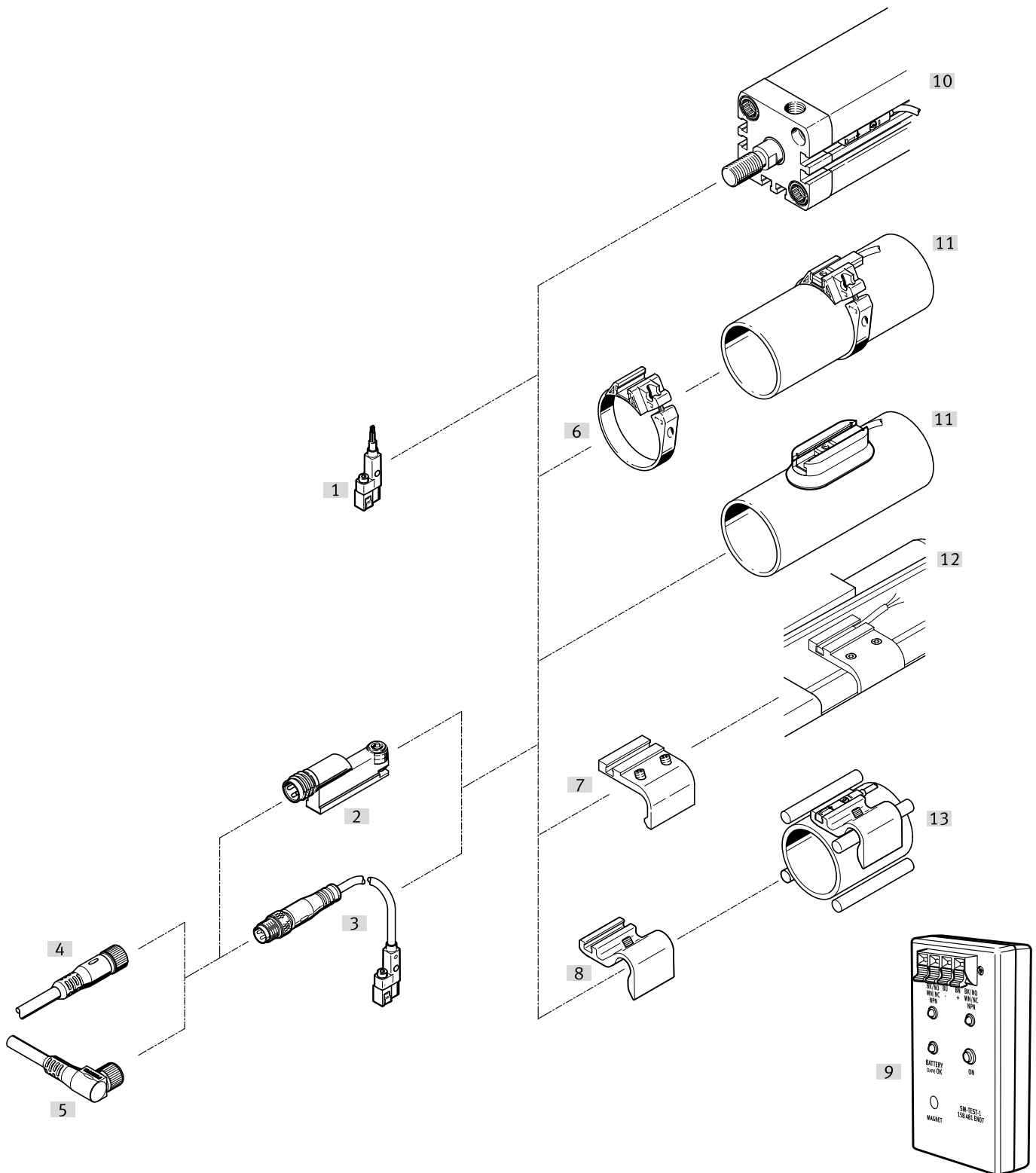
Suitable

Example: CDC



Not suitable

Peripherals overview



## Peripherals overview

Mounting components and accessories		→ Page	Mounting components and accessories		→ Page
<b>Proximity switches</b>			<b>Mounting kits and accessories</b>		
[1]	SMT-8G-...-OE, with cable	11	[6]	Mounting kit SMBR	14
[2]	SMT-8-SL-..., with plug	7	[7]	Mounting kit SMB-8-FENG	14
[3]	SMT-8G-...-M..., with cable and plug	11	[8]	Sensor bracket DASP-M4-...	15
			[9]	Sensor tester SM-TEST-1	16
			-	Positioning element SMM-8	15
			-	Clip SMBK-8	16
			-	Inscription label ASLR	16
			-	Safety clip NEAU	16
<b>Connecting cables</b>			<b>Drives</b>		
[4]	NEBU-M...G...	16	[10]	Drives with T-slot	-
[5]	NEBU-M...W...	16	[11]	Round cylinder	-
			[12]	Standards-based cylinder DSBC	-
			[13]	Drives with tie or mounting rod	-

## Type codes

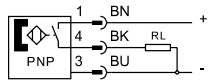
<b>001</b>		<b>Series</b>
<b>SMT</b>	Proximity sensor	
<b>002</b>		<b>Design type</b>
<b>8</b>	For T-slot	
<b>003</b>		<b>Sensor version</b>
<b>G</b>	Inserted in the slot lengthwise, optimised for gripper sensing	
<b>SL</b>	Inserted in the slot lengthwise, sturdy due to long guides	
<b>004</b>		<b>Switching output</b>
<b>NS</b>	3-wire NPN N/O contact	
<b>PS</b>	3-wire PNP N/O contact	
<b>005</b>		<b>Display</b>
	None	
<b>L</b>	LED	
<b>006</b>		<b>Rated operating voltage</b>
<b>24</b>	24 V DC	
<b>24V</b>	24 V	

<b>007</b>		<b>Cable characteristic</b>
	None	
<b>E</b>	Suitable for energy chains/robot applications	
<b>008</b>		<b>Cable length [m]</b>
<b>0.3</b>	0.3	
<b>2.5</b>	2.5	
<b>009</b>		<b>Cable outlet</b>
<b>Q</b>	Transverse	
<b>010</b>		<b>Electrical connection</b>
<b>OE</b>	Open end	
<b>M8D</b>	Cable with M8x1 plug, 3-pin, rotatable thread	
<b>011</b>		<b>Generation</b>
	None	
<b>B</b>	Series B	

## Data sheet – Magneto-resistive

## Function

PNP, N/O contact, with plug



- Magneto-resistive measuring principle
- Inserted in the slot lengthwise

**SMT-8-SL**

- Sturdy thanks to long guides
- Plug directly on the sensor



General technical data	
Type	SMT-8-SL
Switching output	PNP
Design	For T-slot
Conforms to standard	–
Based on standard	EN 60947-5-2
Certification	RCM compliance mark c UL us listed (OL)
CE marking (see declaration of conformity)	To EU EMC Directive To EU RoHS Directive
UKCA marking (see declaration of conformity) <sup>1)</sup>	To UK instructions for EMC To UK RoHS instructions
Certificate-issuing authority	UL E232949
Application information	Support / Actuator-sensor overview “The right sensor for the actuator”
Note on materials	RoHS-compliant
PWIS conformity	VDMA24364-B2-L

1) For information about the area of use, see the declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Input signal/measuring element	
	SMT-8-SL
Measuring principle	Magneto-resistive
Ambient temperature	[°C] –20 ... +70

Switching output	
Type	SMT-8-SL
Switching output	PNP
Switching output	PNP
Switching element function	N/O contact
Reproducibility of switching value	[mm] –
Switch-on time	[ms] ≤ 1
Switch-off time	[ms] 3 ... 5
Max. switching frequency	[Hz] 140
Max. output current	[mA] 100
Max. switching capacity DC	[W] 3
Voltage drop	[V] ≤ 2
Off-state current	[µmA] ≤ 1.5

Output, additional data	
Type	SMT-8-SL
Switching output	PNP
Short circuit current rating	Yes
Overload protection	Provided

## Data sheet – Magneto-resistive


Electronics		
Type		SMT-8-SL
Switching output		PNP
Rated operating voltage	[V DC]	24
Operating voltage range	[V DC]	10 ... 30
Reverse polarity protection		For all electrical connections

Electromechanics		
Type		SMT-8-SL
Switching output		PNP
Electrical connection		
Connection type		Plug
Connection technology		M8x1, A-coded to EN 61076-2-104
Number of pins/wires		3
Outlet direction of connection		In-line
Cable length	[m]	–
Information on materials: Cable sheath		–

Mechanics		
Type		SMT-8-SL
Switching output		PNP
Electrical connection		Plug M8x1, 3-pin
Type of mounting		
		Screw-clamped
		Inserted in the slot lengthwise
Information on materials: Housing		PA
		–

Display/operation		
Switching status indication		Yellow LED

Immission/emission		
Type		SMT-8-SL
Ambient temperature with flexible cable installation	[°C]	–
Degree of protection		
		IP65
		IP68
		–
Insulation voltage	[V]	–
Pollution degree		–

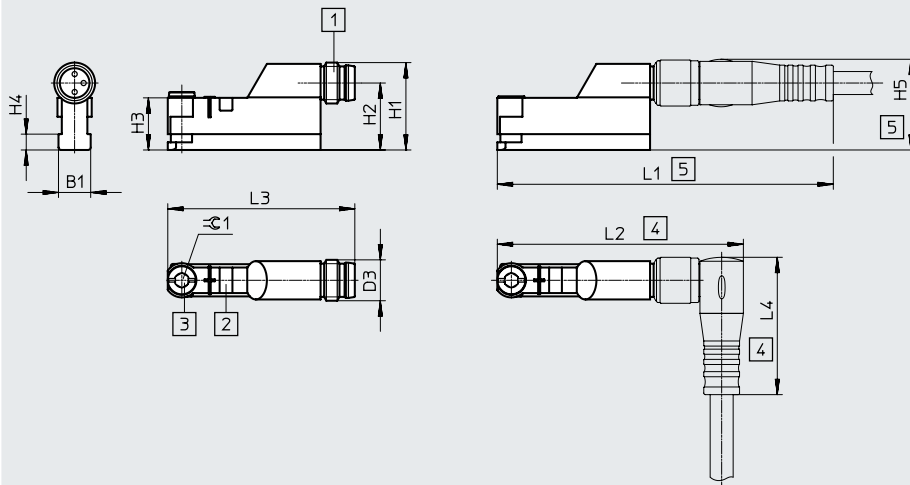
Pin allocation to EN 60947-5-2			
PS/NS			
Plug, 3-pin			
M8x1	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	–
	4	Black	Output



## Data sheet – Magneto-resistive

## Dimensions


SMT-8-SL

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

- [1] Plug to fit connecting cable NEBU-M8
- [2] Yellow light emitting diode
- [3] Clamping element
- [4] Installation space for connecting cable NEBU-M8W3
- [5] Installation space for connecting cable NEBU-M8G3

Type	B1	B2	D1	D3	H1	H2	H3	H4	H5	L1	L2	L3	L4
SMT-8-SL	6.7	–	–	M8x1	17.1	13.1	10.2	3.1	17.6	66	48.4	36.6	25

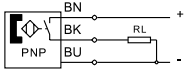
Data sheet – Magneto-resistive

Ordering data							
	Switching output	Electrical connection			Cable length [m]	Part no.	Type
		Cable	Cable with plug M8x1	Plug M8x1			
<b>N/O contact, basic version</b>							
	PNP	–	–	3-pin	–	<b>562019</b>	<b>SMT-8-SL-PS-LED-24-B</b>

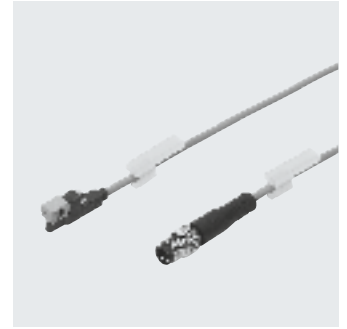
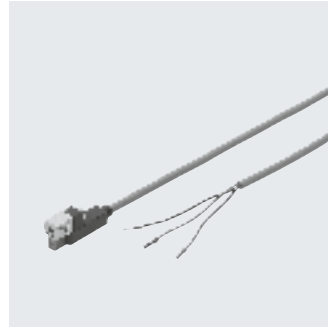
## Data sheet – Magneto-resistive

## Function

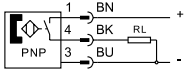
PNP, N/O contact, with cable, 3-wire



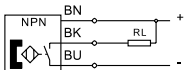
- Magneto-resistive measuring principle
- Inserted in the slot lengthwise
- Design ideal for gripper sensing



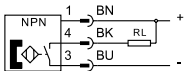
PNP, N/O contact, with plug



NPN, N/O contact, with cable, 3-wire



NPN, N/O contact, with plug



General technical data	SMT-8G-...-OE	SMT-8G-...-M8D
Design	For T-slot	
Mounting position	Any	
Based on standard	EN 60947-5-2	
Certification	RCM compliance mark c UL us listed (OL)	
CE marking (see declaration of conformity)	To EU EMC Directive To EU RoHS Directive	
UKCA marking (see declaration of conformity) <sup>1)</sup>	To UK instructions for EMC To UK RoHS instructions	
Certificate-issuing authority	UL E232949	
Application information	Support / Actuator-sensor overview "The right sensor for the actuator"	
Suitable for the production of lithium-ion batteries	Metals with more than 1% by mass of copper, zinc or nickel are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils	–
Cleanroom class	Class 4 to ISO 14644-1	–
Note on materials	RoHS-compliant	
PWIS conformity	VDMA24364-B2-L	

1) For information about the area of use, see the declaration of conformity at: [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Input signal/measuring element		
Measured variable		Position
Measuring principle		Magneto-resistive
Ambient temperature	[°C]	–20 ... +70

## Data sheet – Magneto-resistive

Switching output		PNP	NPN
Switching element function		N/O contact	
Voltage drop	[V]	≤ 2	
Inductive protective circuit		Adapted to MZ, MY, ME coils	
Max. output current	[mA]	100	
Residual current	[mA]	≤ 0.01	
Switch-on time	[ms]	≤ 1	
Switch-off time	[ms]	≤ 1	
Repetition accuracy	[mm]	0.2	
Max. switching frequency	[Hz]	150	
Max. switching capacity DC	[W]	2.8	

Output, additional data	
Short circuit current rating	Yes
Overload protection	Provided

Electronics		
Operating voltage range	[V DC]	10 ... 30
Rated operating voltage	[V DC]	24
Residual ripple	[%]	10
Reverse polarity protection	For all electrical connections	

Electromechanics			
Type	SMT-8G-...-OE	SMT-8G-...-M8D	
Electrical connection			
Connection type	Cable	Cable with plug	
Connection technology	Open end	M8x1, A-coded to EN 61076-2-104	
Number of pins/wires	3	3	
Type of mounting	–	Screw-type lock	
Outlet direction of connection	Lateral		
Cable test conditions	Cable chain: 5 million cycles, bending radius 28 mm		
	Torsional resistance: > 300,000 cycles, ±270°/0.1 m		
	Resistance to bending: to Festo standard; test conditions on request		
Cable length	[m]	2.5	0.3
Cable characteristic	Suitable for energy chains and robot applications		
Material of cable sheath	TPE-U(PU)		
Cable sheath colour	Grey		
Material of pin contacts	–	Gold-plated brass	
Wire ends	Wire end sleeve	–	

Mechanics			
Type of mounting	SMT-8G-...-OE	SMT-8G-...-M8D	
Type of mounting	Clamped in C-slot		
	Insertable in the slot lengthwise		
Max. tightening torque	[Nm]	0.8	
Housing material	Aluminium, high-alloy stainless steel, reinforced PA		
Housing colour	Black		
Union nut material	–	Nickel-plated brass	
Product weight	[g]	30	10

Display/operation	
Switching status indication	Yellow LED

Immission/emission		
Ambient temperature with flexible cable installation	[°C]	–5 ... +70
Degree of protection	IP65	
	IP68	

## Data sheet – Magneto-resistive

### Pin allocation to EN 60947-5-2

PS

Plug, 3-pin

M8x1

	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

### Dimensions

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

[1] 2x LED  
[2] SMT-8G  
[3] Inscription label holder in a separate bag  
[4] Connecting cable  
[5] Plug M8x1  
L1 Cable length

	B1	B2	B3	B4	D1 ∅	D2 ∅	D3	H1	H2	L1	L2 ±0.4	L3 ±0.3	L4	L5	L6 +5	L7	≙ 1
SMT-8G-PS-...-OE	5.4	5	6.3	5	2.9	-	-	10	5	2500 + 70	-	25	10.8	23	50	2.5	1.5
SMT-8G-PS-...-M8D						9.6	M8x1			300 + 30	41.1				-		
SMT-8G-NS-...-OE						-	-			2500 + 70	-				50		
SMT-8G-NS-...-M8D						9.6	M8x1			300 + 30	41.1				-		

### Ordering data

Switching output	Electrical connection	Cable length	Part no.	Type
	Cable			
	Cable with plug, rotatable thread M8x1	[m]		

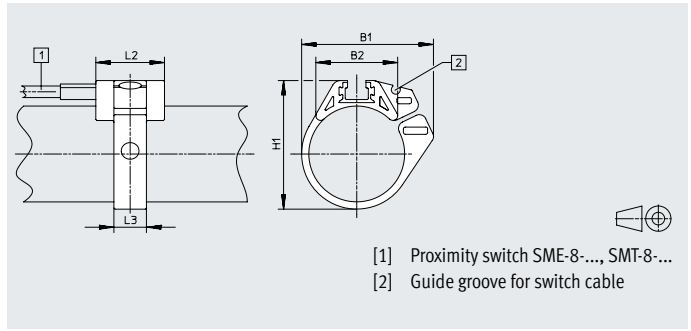
### N/O contact

	PNP	3-wire	-	2.5	547859	SMT-8G-PS-24V-E-2.5Q-OE
		-	3-pin	0.3	547860	SMT-8G-PS-24V-E-0.3Q-M8D
	NPN	3-wire	-	2.5	8065028	SMT-8G-NS-24V-E-2.5Q-OE
		-	3-pin	0.3	8065027	SMT-8G-NS-24V-E-0.3Q-M8D

## Accessories

### Mounting kit SMBR

Material:  
Polyacetal  
RoHS-compliant

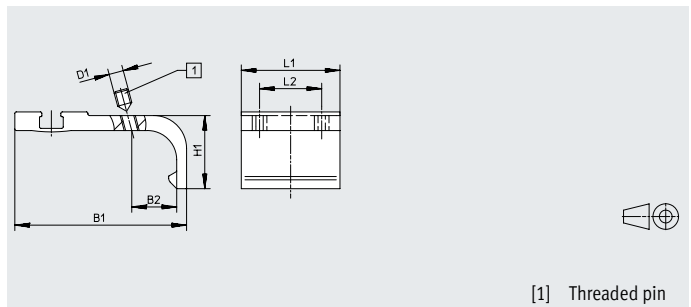
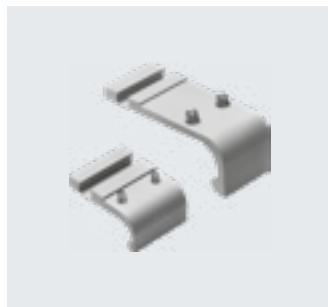


#### Dimensions and ordering data

For piston $\varnothing$	B1	B2	H1	L2	L3	Part no.	Type
8	18.9	12.3	17.5	19	7	175091	SMBR-8-8
10	20.4	13.7	19.9	19	7	175092	SMBR-8-10
12	22.7	14.3	21.9	19	7	★ 175093	SMBR-8-12
16	28.2	16.9	25.7	19	8	★ 175094	SMBR-8-16
20	34.5	20.8	30.4	19	9	★ 175095	SMBR-8-20
25	36.7	22.7	35.6	19	9	★ 175096	SMBR-8-25
32	41.7	24.6	42.7	19	9	175097	SMBR-8-32
40	47.1	26.5	50.7	19	9	175098	SMBR-8-40
50	56.4	28.6	61.5	19	9	175099	SMBR-8-50
63	69.4	32	74.5	19	9	175100	SMBR-8-63

### Mounting kit SMB-8-FENG

Material:  
Wrought aluminium alloy  
Free of copper and PTFE



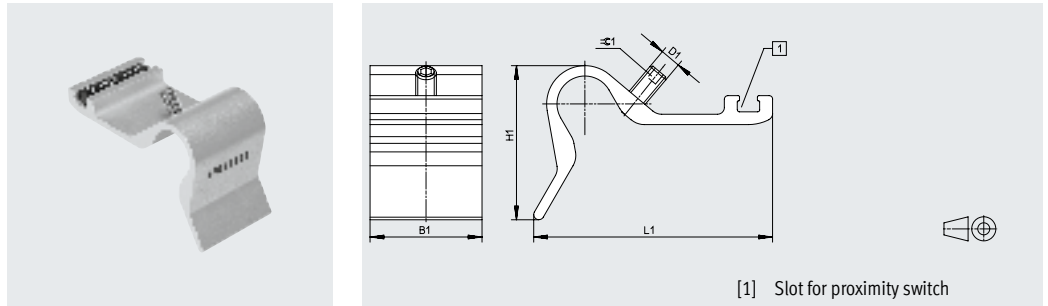
#### Dimensions and ordering data

For piston $\varnothing$	B1	B2	D1	H1	L1	L2	Tightening torque [Nm]	Part no.	Type
32/40	35.1	8.7	M3	15.5	27	17	0.2	175705	SMB-8-FENG-32/40
50/63	47	12.3	M4	20	27	17	0.5	175706	SMB-8-FENG-50/63
80/100	64.3	15.7	M5	24.3	27	17	0.7	175707	SMB-8-FENG-80/100

## Accessories

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

Material:  
Anodised wrought aluminium alloy  
Screws: High-alloy stainless steel  
RoHS-compliant



[1] Slot for proximity switch

#### Dimensions and ordering data

Type	B1	D1	H1	L1	$\approx \text{C} 1$	Tightening torque [Nm]	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
DASP-M4-125-A	32.5	M5	28	45.4	2.5	1	3	26.5	<b>1451483</b>	<b>DASP-M4-125-A</b>
DASP-M4-160-A	32.5	M6	44.7	69.4	3	1	3	41.5	<b>1553813</b>	<b>DASP-M4-160-A</b>
DASP-M4-250-A	32.5	M6	56.3	88	3	1	3	60	<b>1456781</b>	<b>DASP-M4-250-A</b>
DASP-M4-320-A	32.5	M6	56.3	88	3	1	3	60	<b>3015256</b>	<b>DASP-M4-320-A</b>

1) Corrosion resistance class CRC 3 to Festo standard FN 940070

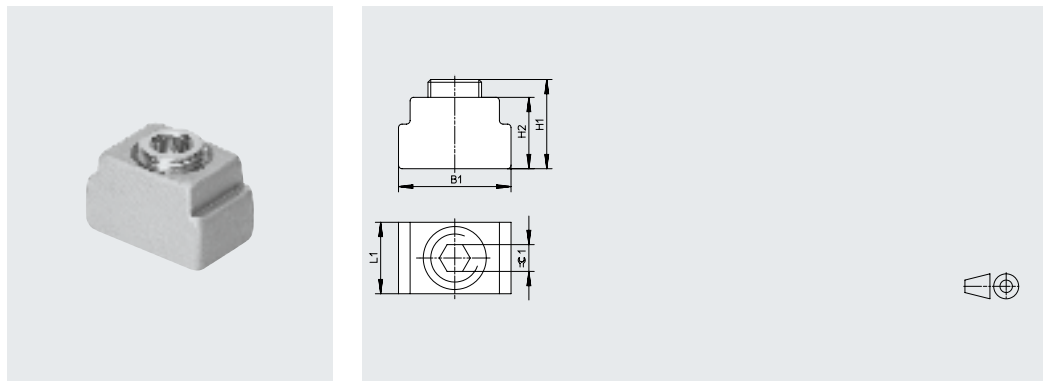
High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

### Positioning element SMM

Inserted in the slot lengthwise

Ambient temperature:  $-40 \dots +120^\circ\text{C}$

Materials:  
Housing: Anodised wrought aluminium alloy  
Screws: High-alloy stainless steel  
Note on materials: RoHS-compliant



#### Dimensions and ordering data





B1	H1	H2	L1	$\approx \text{C} 1$	CRC <sup>1)</sup>	Part no.	Type	PU <sup>2)</sup>
6.3	5.0	4.0	4.0	1.5	3	<b>547941</b>	<b>SMM-8</b>	<b>10</b>


1) Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.


2) Packaging unit


## Accessories


Ordering data – Connecting cables		Number of wires	Cable length [m]	Part no.	Type	Data sheets → Internet: nebu
<b>Socket M8x1, 3-pin</b>						
	For SMT/SME-8... and SMTO/SMTSO/SME0-8E	3	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3	
			5	★ 541334	NEBU-M8G3-K-5-LE3	
	For SMT/SME-8... and SMTO/SMTSO/SME0-8E	3	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3	
			5	★ 541341	NEBU-M8W3-K-5-LE3	
<b>Socket M12x1, 5-pin</b>						
	For SMT/SME-8M and SMTO/SMTSO/SME0-8E	3	2.5	★ 541363	NEBU-M12G5-K-2.5-LE3	
			5	★ 541364	NEBU-M12G5-K-5-LE3	
	For SMT/SME-8M and SMTO/SMTSO/SME0-8E	3	2.5	541367	NEBU-M12W5-K-2.5-LE3	
			5	541370	NEBU-M12W5-K-5-LE3	

Ordering data – Safety clip for ATEX zone					
	Size	Description	Part no.	Type	PU <sup>1)</sup>
	M8	<ul style="list-style-type: none"> <li>Protects "equipment that is not intrinsically safe" in zones 2 and 22 against simple disconnection</li> <li>ATEX category: gas: II 3G / dust: II 3D</li> </ul>	548067	NEAU-M8-GD	1
	M12		548068	NEAU-M12-GD	1

1) Packaging unit

Ordering data – Mounting components			
	Description	Part no.	Type
	For fixing connecting cables in place	534254	SMBK-8

Ordering data – Sensor tester			
	Description	Part no.	Type
	<ul style="list-style-type: none"> <li>Testing the functionality of proximity switches using the integrated voltage supply</li> <li>Adjusting proximity switches on the cylinder</li> </ul>	158481	SM-TEST-1

Ordering data – Inscription labels				
	Size	Part no.	Type	PU <sup>1)</sup>
	23x4 mm	541598	ASLR-L-423	34

1) Packaging unit