

## Proximity switches for T-slot

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for the  
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## Product range overview

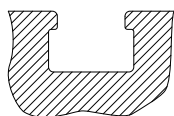
Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page	
For T-slot	Standard							
	Screw-clamped, inserted in the slot from above	Magnetic Hall	SDBT-MSX	10 ... 30 V DC	PNP/NPN, switchable	N/O/ N/C contact, switchable	–	
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	SMT-8M-A	5 ... 30 V DC	PNP	N/O contact	–	
						N/C 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	–	
						N/C contact		
				3 ... 230 V AC/DC		N/O contact	–	
	Insertable in the slot lengthwise	Magneto-resistive	SMT-8G	10 ... 30 V DC	PNP, NPN	N/O contact	–	
		Magneto-resistive	SMT-8-SL	10 ... 30 V DC	PNP	N/O contact	–	
		Magnetic reed	SME-8-SL	10 ... 30 V AC/DC	Contacting, bipolar	N/O contact	–	
	Inserted in the slot from above	Magnetic reed	SME-8-FM	10 ... 30 V AC/DC	Contacting, bipolar	N/O contact	–	
	With accessories	Magneto-resistive	SMT0-8E	10 ... 30 V DC	PNP	N/O contact	7	
					NPN			
		Magnetic reed	SME0-8E	12 ... 30 V DC	Contacting, bipolar	N/O contact	–	
				3 ... 250 V DC				
				3 ... 230 V AC				
	Corrosion-resistant							
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	CRSMT-8M	5 ... 30 V DC	PNP		N/O contact	–
	Welding-field-resistant							
	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	SMTS0-8E	10 ... 30 V DC	PNP	N/O contact	7	
					NPN			
	Heat-resistant up to 120°C							
	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	SME0-8E-...S6	0 ... 30 V DC	Contacting	N/O contact	–	
				0 ... 30 V AC				
	To EU Explosion Protection Directive (ATEX)							
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	<b>Standard</b> Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	SMT-10M	10 ... 30 V DC	PNP	N/O contact	C-slot
					NPN		
					Non-contacting, 2-wire		
	Insertable in the slot lengthwise	Magnetic reed	SME-10M	5 ... 30 V AC/DC	Contacting, bipolar	N/O contact	
					PNP	N/O contact	
					Contacting	N/O contact	
	Insertable in the slot lengthwise	Magneto-resistive	SMT-10G	10 ... 30 V DC	PNP	N/O contact	
		Magnetic reed	SME-10	12 ... 27 V AC/DC	Contacting	N/O contact	

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

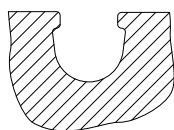
## Exceptions



- DFM-B: SMT0-8E, SMTSO-8E, SME0-8E and SMP0-8E 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



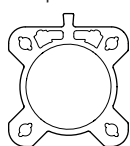
- ADVC  $\varnothing 100$ : SMT-10M and SME-10M cannot be used (ADVC has a T-slot and C-slot)
- DSM/DSM-B-6/8/10: SME-10M cannot be used
- DSM/DSM-B-10/16: SMT-10M cannot be used
- HGPT-B: only SMT-10G can be used for sizes up to and including size 35

## 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.

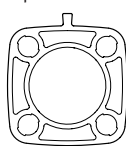
CRSMT-8M and SMT-8M-A can be used for all diameters; SDBT-MS- ... -EX6 cannot be used for diameters 40 and 50.

Example: DSBF



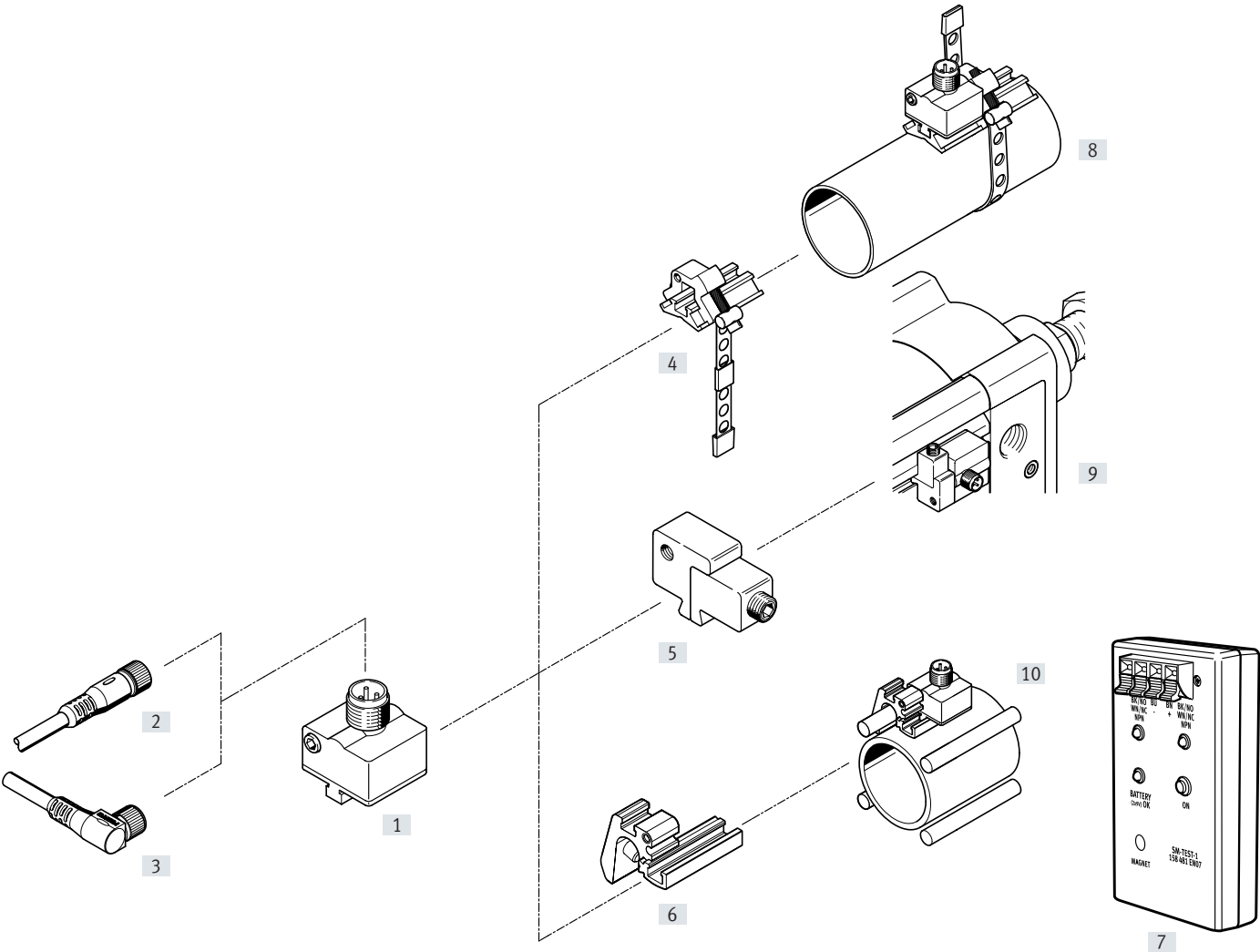
Suitable

Example: CDC



Not suitable

Peripherals overview



## Peripherals overview

Mounting attachments and accessories		→ Page	Mounting attachments and accessories		→ Page
Proximity switches			Mounting kits and accessories		
[1]	SMT0/SMTSO, with plug	6	[4]	Mounting kit SMBR-8-8/100-S6, heat resistant	12
			[5]	Mounting kit SMB-8E	12
			[6]	Mounting SMBZ-8-...	13
			[7]	Sensor tester SM-TEST-1	14
			–	Positioning element SMM-8	13
			–	Clip SMBK-8	14
			–	Inscription label ASLR	14
			–	Safety clip NEAU	14
Connecting cables			Drives		
[2]	NEBU-M...G...	14	[24]	Drives with T-slot	–
[3]	NEBU-M...W...	14	[25]	Round cylinders	–
			[26]	Standards-based cylinder DSBC	–
			[27]	Drives with tie or mounting rod	–
			[28]	Standards-based cylinder DSBF	–
			[29]	Hinge cylinder DFAW	–

## Type codes

001	Series	
<b>SMT0</b>	Proximity sensor, magnetoresistive	
002	Design type	
<b>8</b>	For T-slot	
003	Sensor version	
<b>E</b>	Mounting with accessories	
004	Switching output	
<b>NS</b>	3-wire NPN N/O contact	
<b>PS</b>	3-wire PNP N/O contact	

005	Electrical connection, cable length	
<b>S</b>	Plug M8x1 with cable, 0.3 m	
<b>M12</b>	Plug M12x1	
006	Display	
<b>L</b>	LED	
007	Nominal operating voltage	
<b>1</b>	24 V DC	

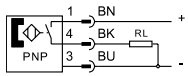
001	Series	
<b>SMTSO</b>	Proximity sensor, magneto-inductive, welding field immune	
002	Design type	
<b>8</b>	For T-slot	
003	Sensor version	
<b>E</b>	Mounting with accessories	
004	Switching output	
<b>NS</b>	3-wire NPN N/O contact	
<b>PS</b>	3-wire PNP N/O contact	

005	Electrical connection	
<b>M12</b>	Plug M12, A-coded	
006	Display	
<b>L</b>	LED	
007	Nominal operating voltage	
<b>1</b>	24 V DC	

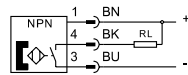
## Data sheet – Magneto-resistive

Function

PNP, N/O contact with plug



NPN, N/O contact with plug



- Magneto-resistive measuring principle
- Welding-field-resistant designs



General technical data		
Type	SMTO-8E	SMTSO-8E, welding-field-resistant
Design	For T-slot	
Certification	RCM compliance mark	
Based on standard	EN 60947-5-2	
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup> To EU RoHS Directive	
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions	
Application information	Support / Actuator-sensor overview "The right sensor for the actuator"	
Note on materials	RoHS-compliant	
Inductive protective circuit	Adapted to MZ, MY, ME coils	–
Special characteristics	–	Resistant to welding spatter

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

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		
Type	SMTO-8E	SMTSO-8E, welding-field-resistant
Measuring principle	Magneto-resistive	Magneto-inductive
Ambient temperature [°C]	–20 ... +60	–25 ... +70

Switching output				
Type	SMTO-8E		SMTSO-8E, welding-field-resistant	
Switching output	PNP	NPN	PNP	NPN
Switching element function	N/O contact			
Repetition accuracy [mm]	0.2			
Reproducibility of switching value [mm]	±0.1			
Switch-on time [ms]	0 ... 1.3		0 ... 38	
Switch-off time [ms]	0 ... 1.4		0 ... 20	
Max. output current [mA]	100		200	
Max. switching capacity DC [W]	2.8		6	
Voltage drop [V]	0 ... 1.8		0 ... 1.8	0 ... 3
Residual current [mA]	0.01	0.15	0.01	

Output, additional data				
Type	SMTO-8E		SMTSO-8E, welding-field-resistant	
Switching output	PNP	NPN	PNP	NPN
Short circuit current rating	Yes		Yes	Pulsed
Overload protection	Present			

Electronics		
Operating voltage range DC [V]	10 ... 30	
Reverse polarity protection	For all electrical connections	


## Data sheet – Magneto-resistive

Electromechanics			
Type	SMT0-8E-...S	SMT0-8E-...-M12	SMTSO-8E-...-M12, welding-field-resistant
Electrical connection	Plug M8x1, 3-pin	Plug M12x1, 3-pin	Plug M12x1, 3-pin
Connection technology	M8x1, A-coded to EN 61076-2-104	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101
Number of pins/wires	3	3	3
Type of mounting	–	–	Screw-type lock
Outlet direction of connection	Lateral		
Max. tightening torque, plug [Nm]	0.3	0.5	0.5

## Pin allocation to EN 60947-5-2


M8x1, 3-pin

N/O contact

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

M12x1, 3-pin

N/O contact

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

Mechanics			
Type	SMT0-8E-...S	SMT0-8E-...-M12	SMTSO-8E-...-M12, welding-field-resistant
Type of mounting	Clamped in T-slot		
	Inserted in the slot from above		
	With accessories		
Tightening torque [Nm]	1	0.5	0.5
Information on materials: Housing	TPE-U(PU)	TPE-U(PU)	TPE-U(PU)
	Nickel-plated brass	High-alloy stainless steel	High-alloy stainless steel
	–	Wrought aluminium alloy	Wrought aluminium alloy
	–	–	PA

## Display/operation

Switching status indication	Yellow LED
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## Immission/emission

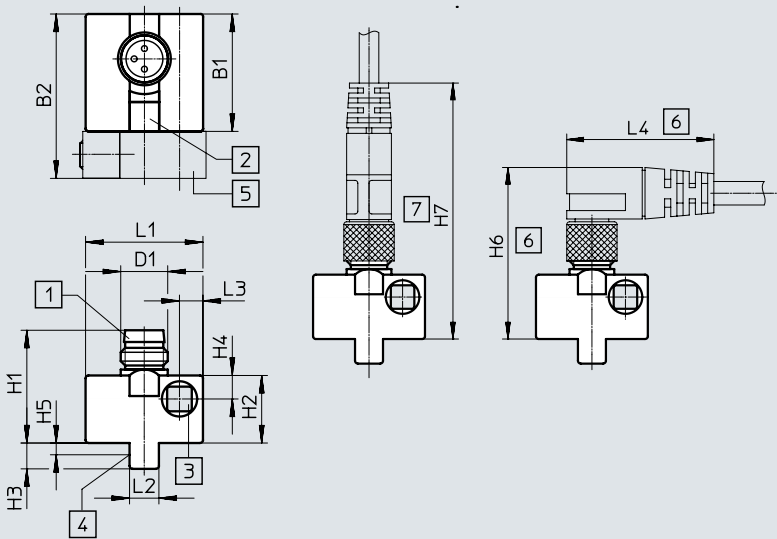
Type	SMT0-8E-...S	SMT0-8E-...-M12	SMTSO-8E-...-M12, welding-field-resistant
Degree of protection	IP65		
	IP67		
Resistance to interference from magnetic fields	–	–	Alternating magnetic field 45 ... 65 Hz



# Data sheet – Magneto-resistive

## Dimensions

SMT0-8E-...-S-LED-24 – Plug M8x1

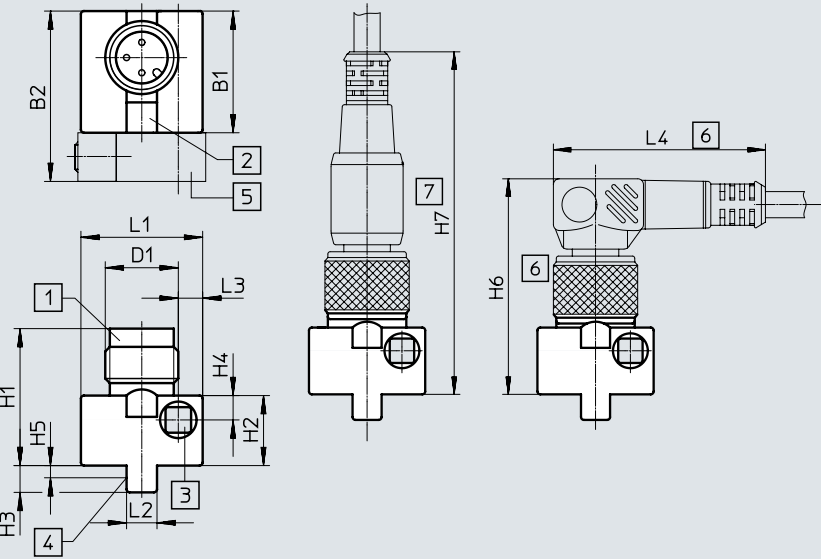


- [1] Suitable for plug socket type SIM-M8
- [2] Yellow light emitting diode
- [3] Socket head screw M3x25 DIN 912, max. tightening torque 1 Nm
- [4] Theoretical switching point
- [5] Mounting kit SMB-8E (not included in scope of delivery)
- [6] Installation space for angled plug socket 90°
- [7] Installation space for straight plug socket

	B1 ±0.3	B2	D1	H1	H2 ±0.27	H3	H4	H5	H6	H7	L1 ±0.3	L2	L3	L4
SMT0-8E- ... -S-LED-24	20	28	M8x1	19.2	11.5	4.4	4	2.2	~32	~46	20	5	4	~26

## Dimensions

SMT0-8E--M12-LED-24 – Plug M12x1



- [1] Suitable for plug socket type SIM-M12
- [2] Yellow light emitting diode
- [3] Socket head screw M3x25 DIN 912, max. tightening torque 1 Nm
- [4] Theoretical switching point
- [5] Mounting kit SMB-8E (not included in scope of delivery)
- [6] Installation space for angled plug socket 90°
- [7] Installation space for straight plug socket

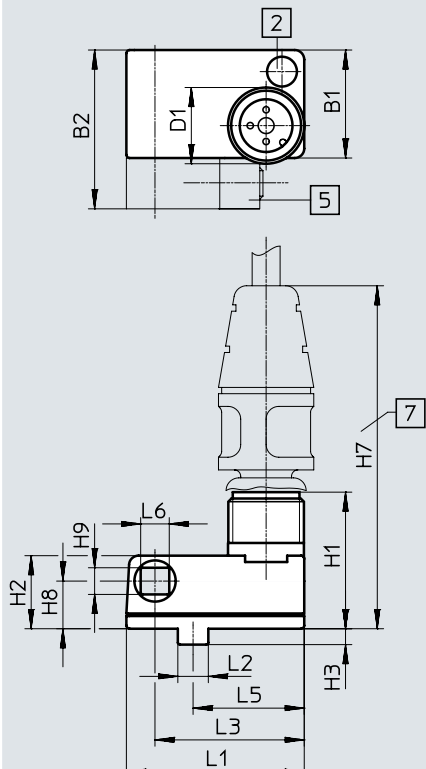
	B1 ±0.3	B2	D1	H1 ±0.34	H2 ±0.27	H3	H4	H5	H6	H7	L1 ±0.3	L2	L3	L4
SMT0-8E- ... -M12-LED-24	20	28	M12x1	22.5	11.5	4.4	4	2.2	~36	~59	20	5	4	~36.5

Data sheet – Magneto-resistive

Dimensions


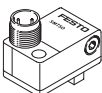
Download CAD data → [www.festo.com](http://www.festo.com)

SMTSO-8E-...-M12-LED-24 – Plug M12x1





- [2] Yellow light emitting diode
- [5] Mounting kit SMB-8E (included in the scope of delivery)
- [7] Installation space for connecting cable NEBU-M12G5

	B1	B2	D1	H1 +0.5	H2	H3 ±0.2	H7	H8	H9	L1	L2	L3	L5	L6
SMT0-8E- ... -M12-LED-24	17	24.8	M12x1	21.5	11.5	2.5	~56	7.5	4.2	28	4.8	23.5	17.5	4.5

Ordering data						
	Switching output	Electrical connection		Weight	Part no.	Type
		Plug M8x1	Plug M12x1	[g]		
N/O contact, basic version						
	PNP	3-pin	–	12	171178	SMT0-8E-PS-S-LED-24
		–	3-pin		171179	SMT0-8E-PS-M12-LED-24
	NPN	3-pin	–		171166	SMT0-8E-NS-S-LED-24
		–	3-pin		171176	SMT0-8E-NS-M12-LED-24
N/O contact, welding-field-resistant						
	PNP	–	3-pin	19	191986	SMTSO-8E-PS-M12-LED-24
	NPN	–	3-pin	10	175825	SMTSO-8E-NS-M12-LED-24

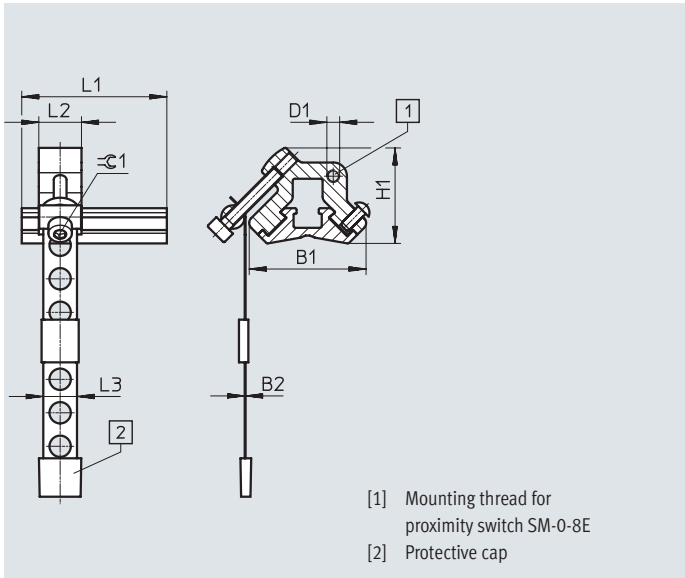
## Data sheet – Magneto-resistive

Accessories – Connecting cables					
	Switching output	Cable length [m]	Weight [g]	Part no.	Type
Resistant to welding spatter					
	3-wire, M12x1 socket, straight	3	–	<b>30450</b>	<b>SIM-M12-RS-3GD-3</b>
	3-wire, M12x1 socket, angled	3	–	<b>30451</b>	<b>SIM-M12-RS-3WD-3</b>

Accessories

Mounting kit  
SMBR-8-8/100-S6

Material:  
Rail: Anodised wrought aluminium alloy  
Clamping strap, screws: High-alloy stainless steel  
Free of copper and PTFE  
RoHS-compliant



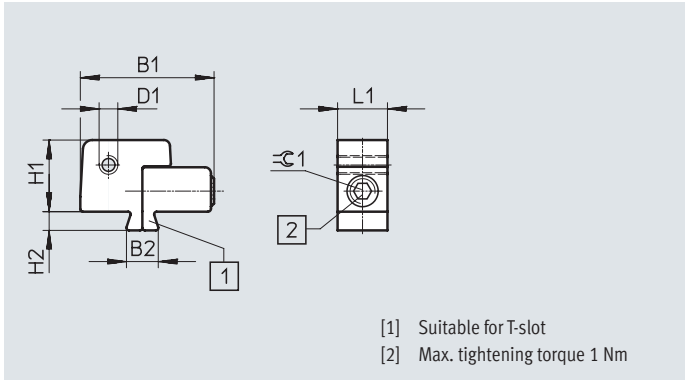
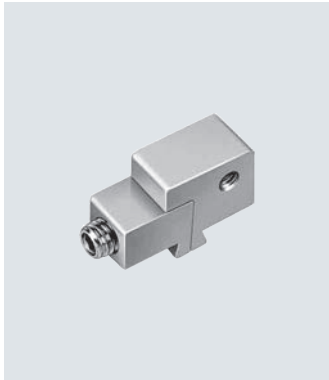
[1] Mounting thread for proximity switch SM-0-8E  
[2] Protective cap

Dimensions and ordering data											
For piston Ø	B1	B2	D1	H1	L1	L2	L3	≈C 1	CRC <sup>1)</sup>	Part no.	Type
8 ... 100	27.4	0.2	M3	22.4	34	10	7.9	2.5	4	★ 538937	SMBR-8-8/100-S6

1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

Mounting kit SMB-8E

Material:  
Anodised aluminium, stainless steel  
  
Note on materials: RoHS-compliant



[1] Suitable for T-slot  
[2] Max. tightening torque 1 Nm

Ordering data									
For piston ø	B1	B2	D1	H1	H2	L1	≈G1	Part no.	Type
10 ... 125	21.5	5.1	M3	11.5	3	8	2.5	178230	SMB-8E

## Accessories

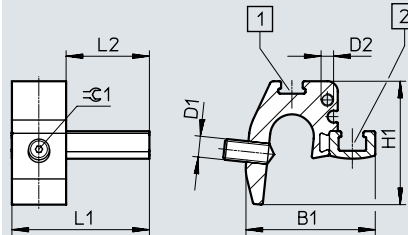
### Mounting SMBZ-8-...

Design: For tie rods  
 Mounting position: Any  
 Type of mounting: Clamped  
 Tightening torque:  $\leq 0.5 \text{ Nm}$   
 Ambient temperature:  
 $-40 \dots +120^\circ\text{C}$   
 PWIS conformity:  
 VDMA24364-B2-L

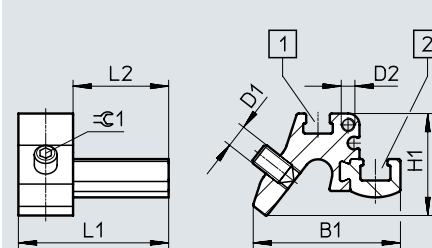
Material:  
 Housing: Anodised wrought aluminium alloy  
 Screws: High-alloy stainless steel  
 Free of copper and PTFE  
 RoHS-compliant



SMBZ-8-32/100



SMBZ-8-125/320



- [1] Slot for inscription label  
 [2] Slot for proximity switch

Dimensions and ordering data												
For piston $\varnothing$	B1	D1	D2	H1	L1	L2	$\varnothing 1$	Weight [g]	CRC <sup>1)</sup>	Part no.	Type	
32 ... 100	31	M5	M3	30	33	20	1.5	14	2	537806	SMBZ-8-32/100	
125 ... 320	32.3			22			2.5			537808	SMBZ-8-125/320	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

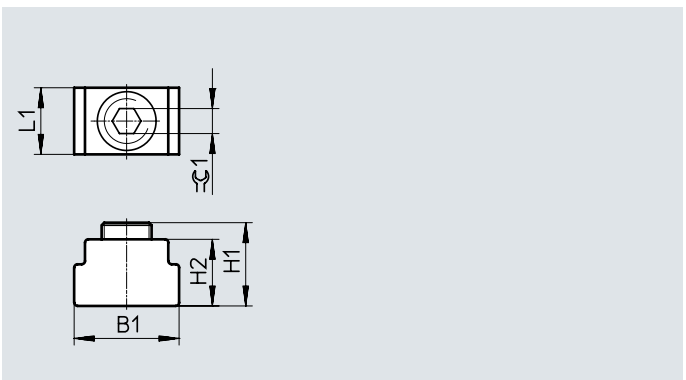
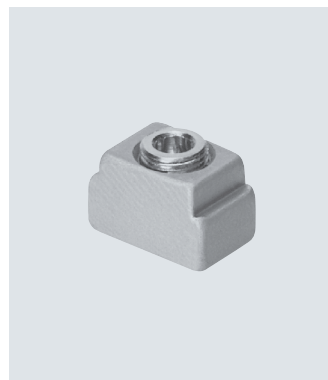
Moderate corrosion stress. Indoor application where condensation is allowed to occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

### Positioning element SMM

Insertable 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	$\varnothing 1$	CRC <sup>1)</sup>	Part no.	Type	PU <sup>2)</sup>	
6.3	5.0	4.0	4.0	1.5	3	547941	SMM-8	10	


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			Data sheets → Internet: nebu/sim		
		Number of wires	Cable length [m]	Part no.	Type
Socket M8x1, 3-pin					
	For SMT/SME-8... and SMT0/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 SMT0/SMTSO/SME0-8E	3	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
			5	★ 541341	NEBU-M8W3-K-5-LE3
Socket M12x1, 5-pin					
	For SMT/SME-8M and SMT0/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 SMT0/SMTSO/SME0-8E	3	2.5	541367	NEBU-M12W5-K-2.5-LE3
			5	541370	NEBU-M12W5-K-5-LE3
Socket M12x1, resistant to welding spatter					
	For SDBT and SMTSO	3	3	30450	SIM-M12-RS-3GD-3
	For SDBT and SMTSO	3	3	30451	SIM-M12-RS-3WD-3

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

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**1 Festo Inc.**  
5300 Explorer Drive  
Mississauga, ON L4W 5G4  
Canada

**Festo Customer Interaction Center**  
Tel: 1 877 463 3786  
Fax: 1 877 393 3786  
Email: customer.service.ca@festo.com



**2 Festo Pneumatic**  
Av. Ceylán 3,  
Col. Tequesquináhuac  
54020 Tlalnepantla,  
Estado de México

**Multinational Contact Center**  
01 800 337 8669  
ventas.mexico@festo.com



**3 Festo Corporation**  
1377 Motor Parkway  
Suite 310  
Islandia, NY 11749

**Festo Customer Interaction Center**  
1 800 993 3786  
1 800 963 3786  
customer.service.us@festo.com



**4 Regional Service Center**  
7777 Columbia Road  
Mason, OH 45040

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