

Proximity switches for T-slot

FESTO



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for the
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Product range overview

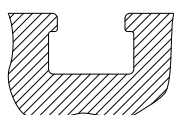
Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page	
For T-slot	Standard							
	Screw-clamped, inserted in the slot from above	Magnetic Hall	SDBT-MSX	10 ... 30 V DC	PNP/NPN, switchable	N/O/ N/C contact, switchable	–	
	Inserted in 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	–	
				3 ... 230 V AC/DC		N/C contact	–	
	Inserted 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	SMT-8E	10 ... 30 V DC	PNP	N/O contact	–	
					NPN			
		Magnetic reed	SME-8E	12 ... 30 V DC	Contacting, bipolar	N/O contact	7	
				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	SMT-8E	10 ... 30 V DC	PNP	N/O contact	–	
					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	SME-8E-...S6	0 ... 30 V DC	Contacting	N/O contact	7	
				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	Standard						
	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		
	Inserted in the slot lengthwise	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	N/O contact	

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

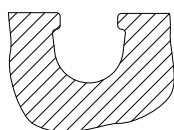
Exceptions



- DFM-B: SMT-8E, SMTSO-8E, SME-8E and SMP-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

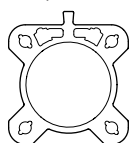
For drives with sensor rail: these are available with 2 cylinder barrel contours

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

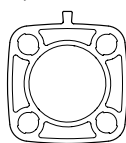
CRSMT-8M and SMT-8M-A can be used for all diameters; SDBT-MS- ... -EX6 cannot be used for diameters 40 and 50.

Example: DSBF

Example: CDC

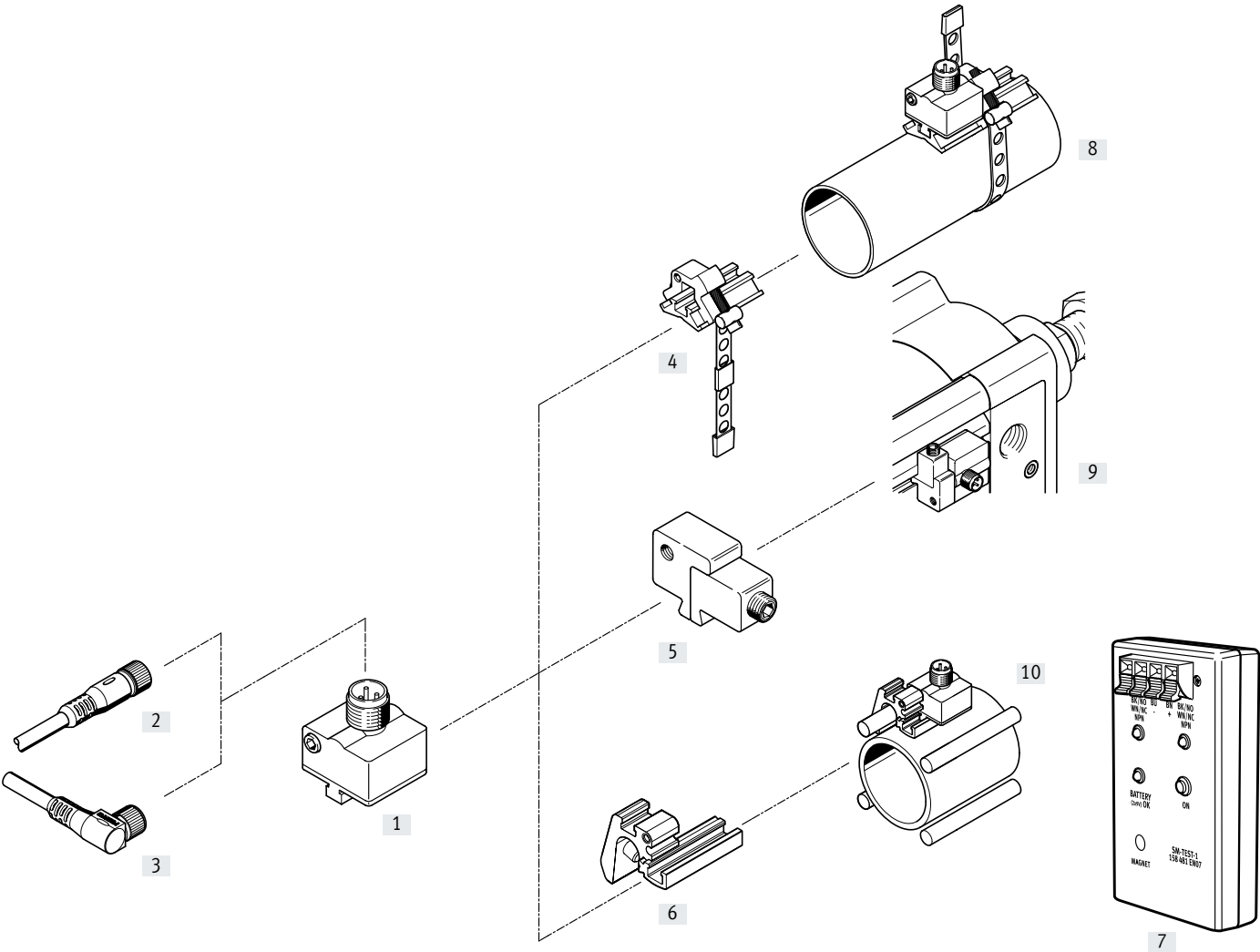


Suitable



Not suitable

Peripherals overview



Peripherals overview

Mounting components and accessories			→ Page
Proximity switches			
[1]	SMEO-8E, with cable or plug	7	
Connecting cables			
[2]	NEBU-M...G...	13	
[3]	NEBU-M...W...	13	

Mounting components and accessories			→ Page
Mounting kits and accessories			
[4]	Mounting kit SMBR-8-8/100-S6, heat resistant	11	
[5]	Mounting kit SMB-8E	11	
[6]	Mounting SMBZ-8-...	12	
[7]	Sensor tester SM-TEST-1	13	
–	Positioning element SMM-8	12	
–	Clip SMBK-8	13	
–	Inscription label ASLR	13	
–	Safety clip NEAU	13	
Drives			
[8]	Round cylinder	–	
[9]	Standards-based cylinder DSBC	–	
[10]	Drives with tie or mounting rod	–	

Type codes

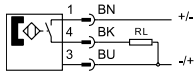
001	Series	
SMEO	Proximity sensor, magnetic, reed	
002	Design type	
8	For T-slot	
003	Sensor version	
E	Mounting with accessories	
004	Electrical connection, cable length	
K	Cable, 2.5 m or 7.5 m	
S	Plug M8x1 with cable, 0.3 m	
M12		

005	Switching status indication	
	None	
LED	Yellow LED	
006	Rated operating voltage	
24	24 V DC	
230	230 V AC	
007	Variant	
S6	Heat-resistant	

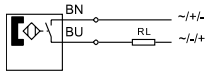
Data sheet – Magnetic reed

Function

N/O contact, 3-wire, with plug



N/O contact, 2-wire, with cable



- Magnetic reed measuring principle
- Heat resistant variant



General technical data	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Design	For T-slot	For T-slot	For T-slot
Conforms to standard	EN 60947-5-2	–	EN 60947-5-2
Certification	–	–	RCM compliance mark
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾	–	To EU EMC Directive ¹⁾
	–	–	To EU Low Voltage Directive
Note on materials	Free of copper and PTFE	Free of copper and PTFE	Free of copper and PTFE
	RoHS-compliant	–	–

1) For information about the area of use, see the EC declaration of conformity at: 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	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Measuring principle	Magnetic reed	Magnetic reed	Magnetic reed
Ambient temperature [°C]	–40 ... +60	–40 ... +120	–20 ... +60

Switching output	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Switching output	Contacting, bipolar	Contacting	Contacting, bipolar
	–	–	Without LED function
Switching element function	N/O contact	N/O contact	N/O contact
Reproducibility of switching value [mm]	±0.1	±0.1	±0.1
Switch-on time [ms]	0 ... 0.5	0 ... 0.5	0 ... 2
Switch-off time [ms]	0.03	0.03	0.03
Max. switching frequency [Hz]	800	500	500
Max. output current [mA]	500	500	120
Max. switching capacity DC [W]	10	10	10
Max. switching capacity AC [VA]	10	10	10
Voltage drop [V]	–	0.5	3.9

Output, additional data	
Short circuit current rating	No
Overload protection	Not provided

Electronics	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Operating voltage range DC [V]	12 ... 30	0 ... 30	3 ... 250
Operating voltage range AC [V]	12 ... 30	0 ... 30	3 ... 230
Reverse polarity protection	No	For all electrical connections	No

Data sheet – Magnetic reed

Electromechanics				
Type	SMEO-8E-S-LED-24	SMEO-8E-M12-LED-24	SMEO-8E-K-24-S6, heat-resistant	SMEO-8E-M12-LED-230
Electrical connection	Plug M8x1, 3-pin	Plug M12x1, 3-pin	Cable, 2-wire	Plug M12x1, 3-pin
Outlet direction of connection	Lateral	Lateral	Lateral	In-line
Information on materials: Pin contacts	Nickel-plated brass	Brass	–	–
Cable length [m]	–	–	2.5	–
Information on materials: Cable sheath	–	–	TPE-S	–


Mechanics				
Type	SMEO-8E-S-LED-24	SMEO-8E-M12-LED-24	SMEO-8E-K-24-S6, heat-resistant	SMEO-8E-M12-LED-230
Type of mounting	With accessories		With accessories	With accessories
Tightening torque [Nm]	0.5	0.5	0.5	0.5
Information on materials: Housing	TPE-U(PU)	TPE-U(PU)	TPE-U(PU)	TPE-U(PU)
	High-alloy stainless steel	High-alloy stainless steel	–	High-alloy stainless steel
	Wrought aluminium alloy	Wrought aluminium alloy		Wrought aluminium alloy
	Nickel-plated brass	–		–

Display/operation			
	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Switching status indication	Yellow LED	–	Yellow LED


Immission/emission			
	SMEO-8E-...-24	SMEO-8E-...-24-S6, heat-resistant	SMEO-8E-...-230
Ambient temperature with flexible cable installation [°C]	–	–40 ... +120	–
Degree of protection	IP65	IP65	IP65
	IP67	IP67	IP67
Insulation voltage [V]	–	50	–
Surge resistance [kV]	0.8	–	4
Pollution degree	3	3	3

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, 24 V
N/O contact

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

Pin allocation to EN 60947-5-2

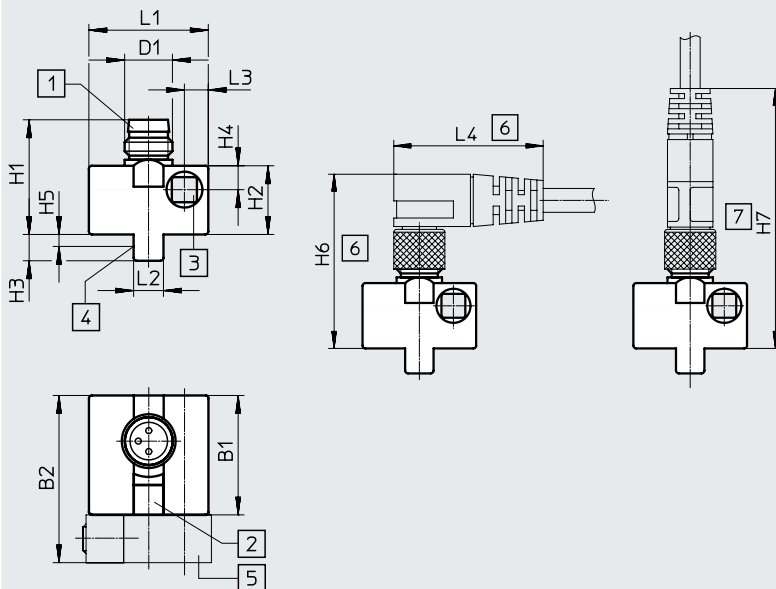
M12x1, 3-pin, 230 V
N/O contact

	Pin	Wire colour	Allocation
	4	Black	~ / +
	3	Blue	~ / –

Data sheet – Magnetic reed

Dimensions

SMEO-8E-S-LED-24 – Plug M8x1

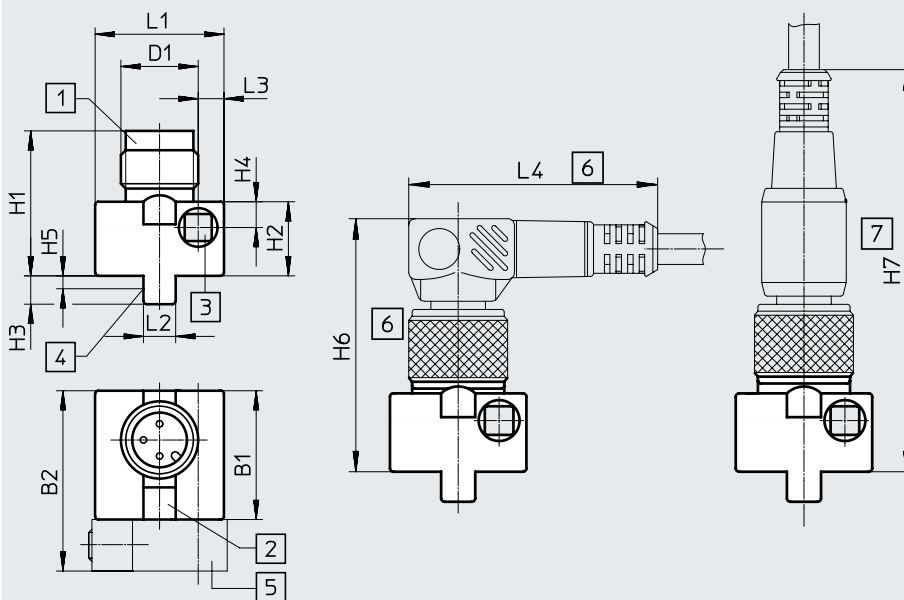
Download CAD data → www.festo.com

- [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
SMEO-8E- ... -S-LED-24	20	28	M8x1	19.2	11.5	4.4	4	2.2	~32	~46	20	5	4	~26

Dimensions

SMEO-8E-M12-LED-24 – Plug M12x1

Download CAD data → www.festo.com

- [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

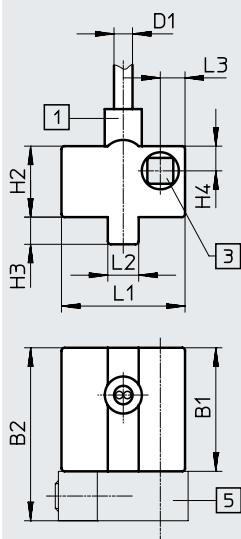
	B1 ±0.3	B2	D1	H1 ±0.34	H2 ±0.27	H3	H4	H5	H6	H7	L1 ±0.3	L2	L3	L4
SMEO-8E- ... -M12-LED-24	20	28	M12x1	22.5	11.5	4.4	4	2.2	~36	~59	20	5	4	~36.5

Data sheet – Magnetic reed

Dimensions

Download CAD data → www.festo.com


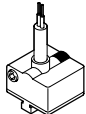

SMEO-8E-K24-S6 – Cable, heat-resistant up to 120°C



- [1] Cable, 2.5 m long, 2 x 0.14 mm²
- [3] Socket head screw M3x25
DIN 912, max. tightening torque
1 Nm
- [5] Mounting kit
SMB-8E (not included in scope of
delivery)

	B1 ±0.3	B2	D1	H2 ±0.27	H3	H4	L1 ±0.3	L2	L3
SMEO-8E-K24-S6	20	28	2.9	11.5	4.4	4	20	5	4

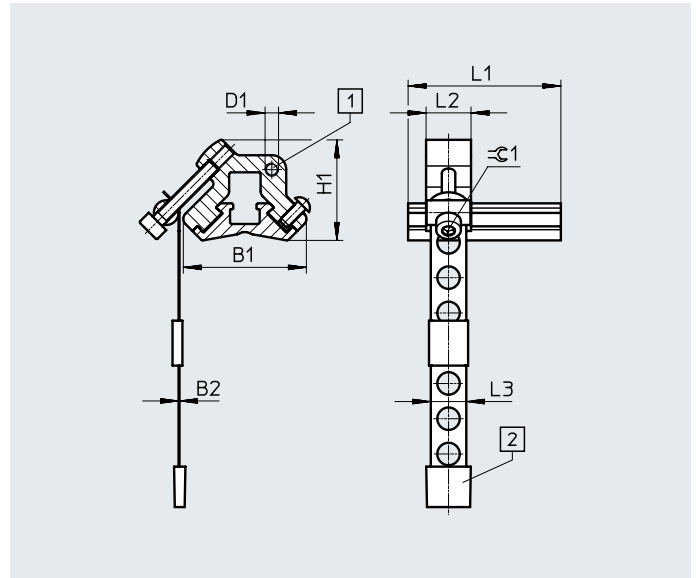
Ordering data

	Switching output	Electrical connection		Cable length [m]	Product weight [g]	Part no.	Type
		Plug M8x1	Plug M12x1				
N/O contact, basic version							
	Contacting, bipolar	3-pin	–		10	171163	SMEO-8E-S-LED-24
		–	3-pin		9	171164	SMEO-8E-M12-LED-24
N/O contact, heat-resistant							
	Contacting, bipolar	2-wire	–	2.5	40	171158	SMEO-8E-K-24-S6
N/O contact, operating voltage range 3 ... 250 V AC/DC							
	Contacting, bipolar	–	3-pin	–	9	171160	SMEO-8E-M12-LED-230

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



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

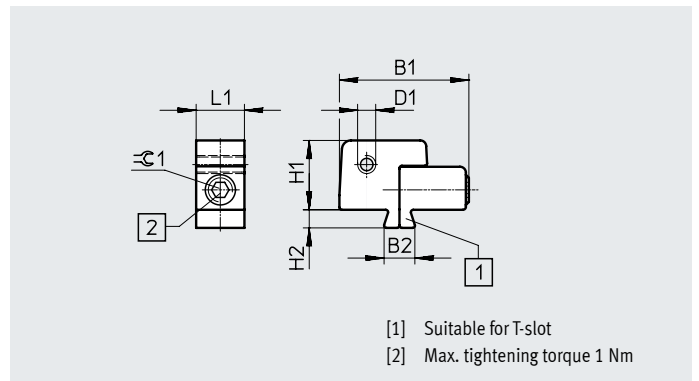
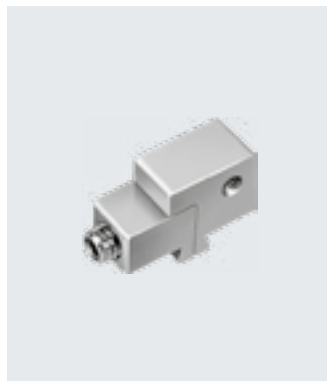
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

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



Ordering data											Part no.	Type
For piston Ø	B1	B2	D1	H1	H2	L1	⌀1					
10 ... 125	21.5	5.1	M3	11.5	3	8	2.5				178230	SMB-8E



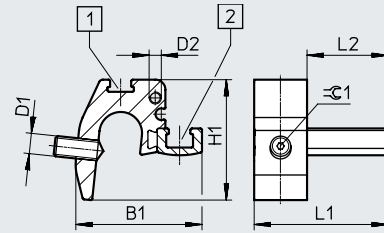
Accessories

Mounting SMBZ-8-...

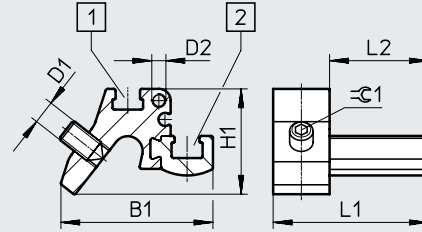
Material:
 Rail: Anodised wrought aluminium alloy
 Screws: High-alloy stainless steel
 Free of copper and PTFE
 RoHS-compliant



SMBZ-8-32/100



SMBZ-8-125/320



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

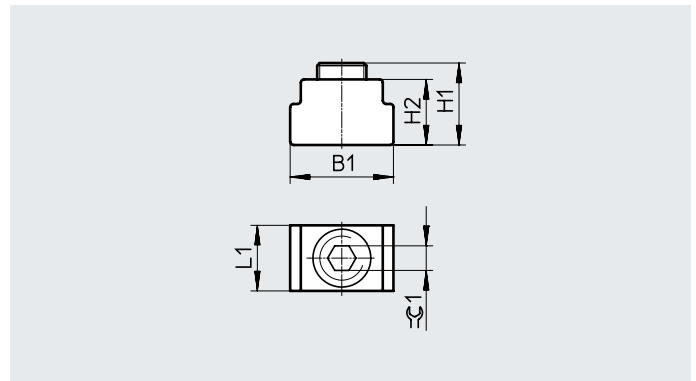
Dimensions and ordering data									
For piston ø	B1	D1	D2	H1	L1	L2	Ø1	Part no.	Type
32 ... 100	31	M5	M3	30	33	20	1.5	537806	SMBZ-8-32/100
125 ... 320	32.3			22			2.5	537808	SMBZ-8-125/320

Positioning element SMM

Inserted in the slot lengthwise

Ambient temperature: -40 ... +120°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	Ø1	CRC ¹⁾	Part no.	Type	PU ²⁾
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 ¹⁾
	M8	<ul style="list-style-type: none">Protects "equipment that is not intrinsically safe" in zones 2 and 22 against simple disconnectionATEX category: gas: II 3G / dust: II 3D	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">Testing the functionality of proximity switches using the integrated voltage supplyAdjusting proximity switches on the cylinder	158481	SM-TEST-1

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

1) Packaging unit