

Proximity switches for T-slot

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Product range overview

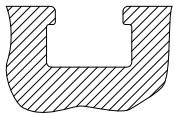
Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page	
For T-slot	Standard							
	Screw-clamped, inserted in the slot from above	Magnetic Hall	SDBT-MSX	10 ... 30 V DC	PNP/NPN, switchable	N/O/ N/C contact, switchable	–	
	Inserted in 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	–	
	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	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	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	–		
							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

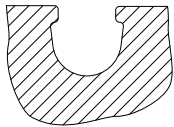
Exceptions



- DFM-B: 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

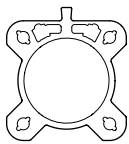
For drives with sensor rail: these are available with 2 cylinder barrel contours

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

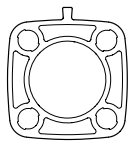
CRSMT-8M and SMT-8M-A can be used for all diameters; SDBT-MS- ... -EX6 cannot be used for diameters 40 and 50.

Example: DSBF

Example: CDC

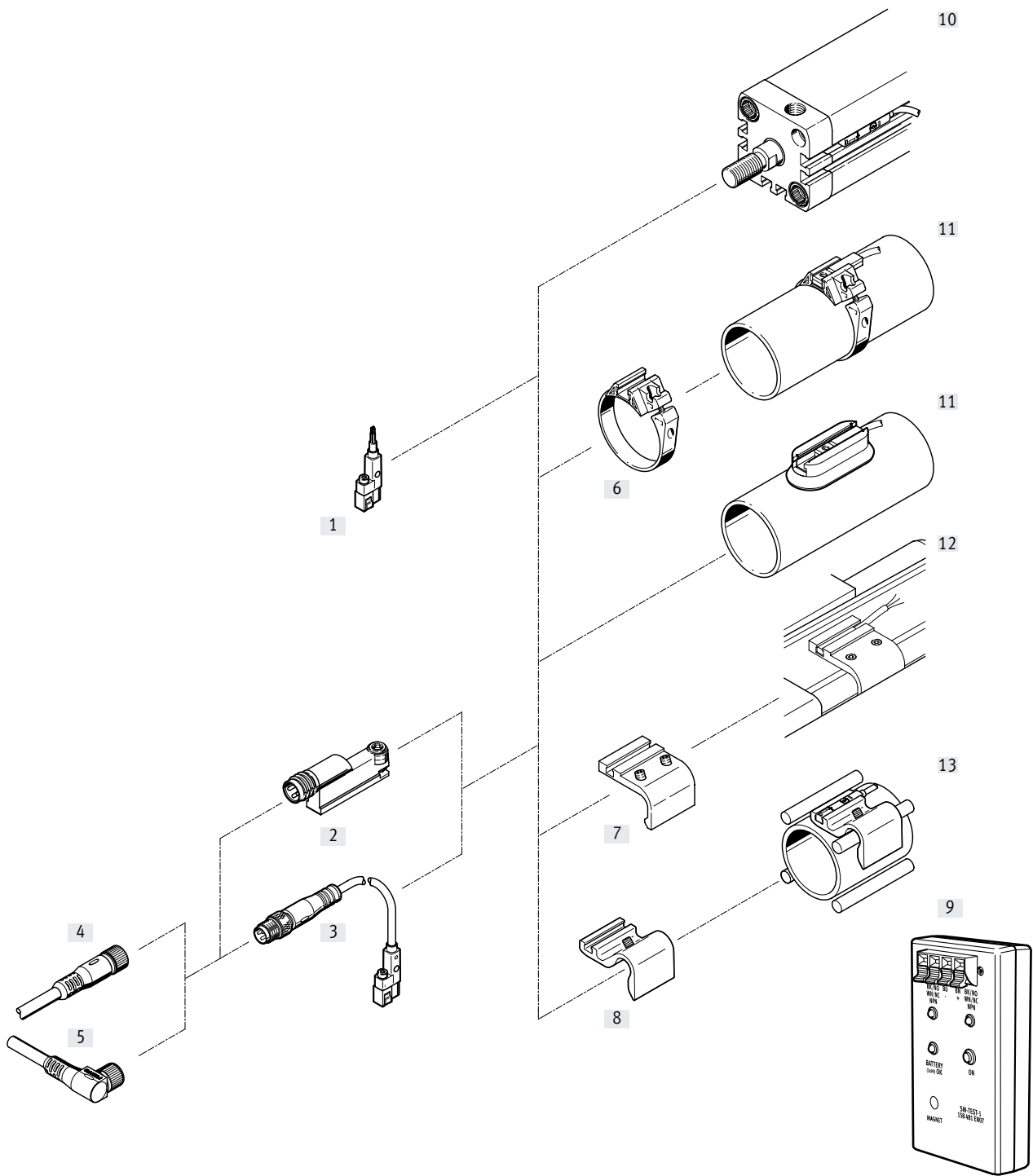


Suitable



Not suitable

Peripherals overview



Peripherals overview

Mounting components and accessories		→ Page	Mounting components and accessories		→ Page
Proximity switches			Mounting kits and accessories		
[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
Connecting cables			Drives		
[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

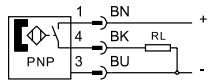
001		Series
SMT	Proximity sensor	
002		Design type
8	For T-slot	
003		Sensor version
G	Inserted in the slot lengthwise, optimised for gripper sensing	
SL	Inserted in the slot lengthwise, sturdy due to long guides	
004		Switching output
NS	3-wire NPN N/O contact	
PS	3-wire PNP N/O contact	
005		Display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

007		Cable characteristic
	None	
E	Suitable for energy chains/robot applications	
008		Cable length [m]
0.3	0.3	
2.5	2.5	
009		Cable outlet
Q	Transverse	
010		Electrical connection
OE	Open end	
M8D	Cable with M8x1 plug, 3-pin, rotatable thread	
011		Generation
	None	
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
Note on materials	Free of copper and PTFE RoHS-compliant

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

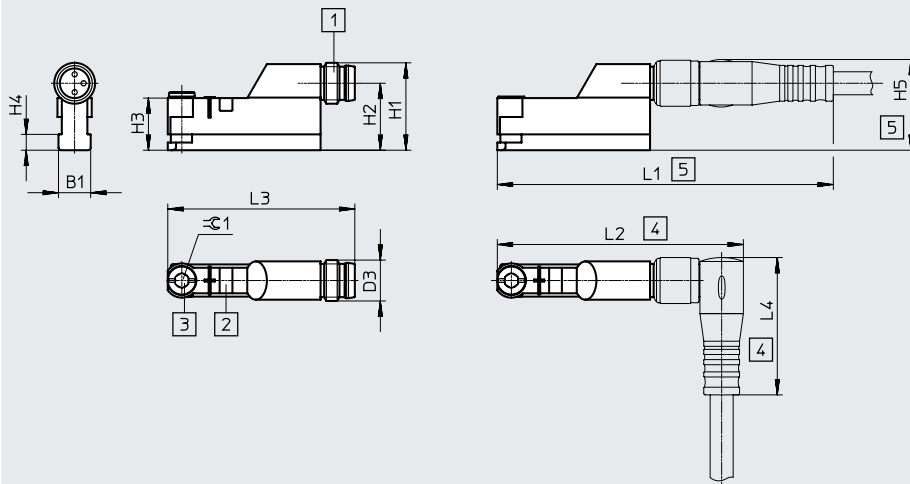
Immission/emission		
Type		SMT-8-SL
Ambient temperature with flexible cable installation	[°C]	–
Degree of protection		
		IP65
		IP68
		–
Insulation voltage	[V]	–
Pollution degree		–

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

- [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

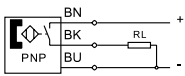
Data sheet – Magneto-resistive

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

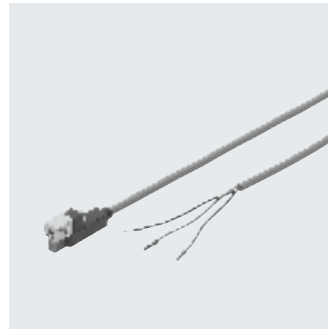
Data sheet – Magneto-resistive

Function

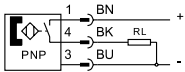
PNP, N/O contact, with cable, 3-wire



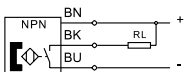
- Magneto-resistive measuring principle
- Inserted in the slot lengthwise
- Design ideal for gripper sensing



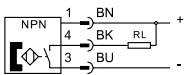
PNP, N/O contact, with plug



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



NPN, N/O contact, with plug



General technical data

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
KC marking	KC EMC
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions
Note on materials	Free of copper and PTFE RoHS-compliant
PWIS conformity	VDMA24364-B2-L

Input signal/measuring element


Measured variable	Position
Measuring principle	Magneto-resistive
Ambient temperature [°C]	-20 ... +70

	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

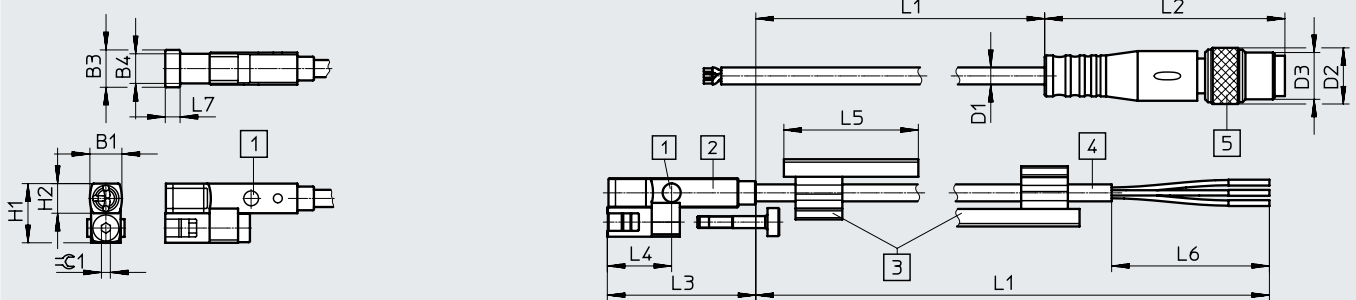
Data sheet – Magneto-resistive

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, $\pm 270^\circ/0.1$ 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		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	
Pin allocation to EN 60947-5-2			
PS			
Plug, 3-pin			
M8x1		Pin	Wire colour
			Allocation
		1	Brown
		3	Blue
		4	Black
			Output

Data sheet – Magneto-resistive

Dimensions

Download CAD data → 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 with plug, rotatable thread M8x1	Cable length	Part no.	Type
	Cable		[m]		

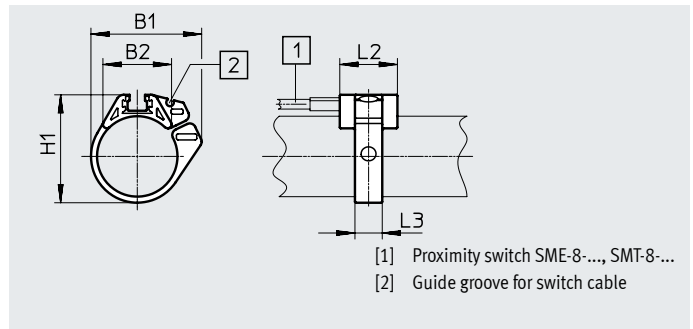
N/O contact

	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

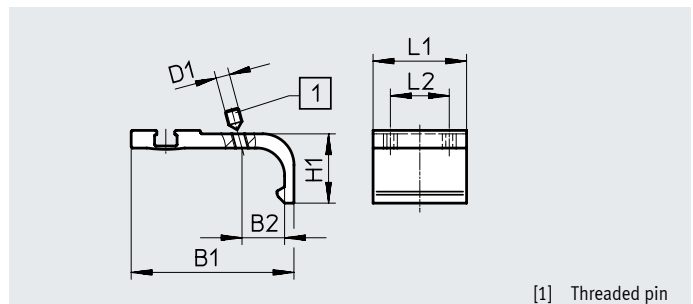
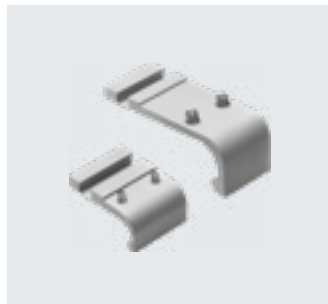


Dimensions and ordering data

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



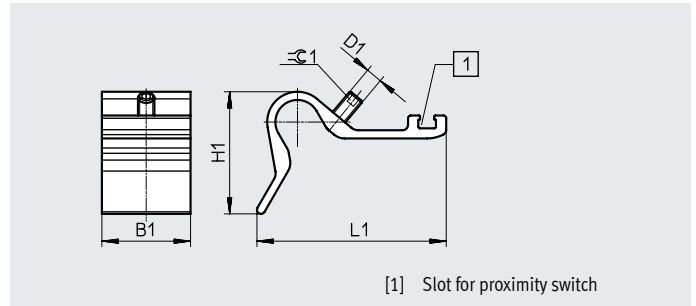
Dimensions and ordering data

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	± 0.1	Tightening torque [Nm]	CRC ¹⁾	Weight [g]	Part no.	Type
DASP-M4-125-A	32.5	M5	28	45.4	2.5	1	3	26.5	1451483	DASP-M4-125-A
DASP-M4-160-A	32.5	M6	44.7	69.4	3	1	3	41.5	1553813	DASP-M4-160-A
DASP-M4-250-A	32.5	M6	56.3	88	3	1	3	60	1456781	DASP-M4-250-A
DASP-M4-320-A	32.5	M6	56.3	88	3	1	3	60	3015256	DASP-M4-320-A

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

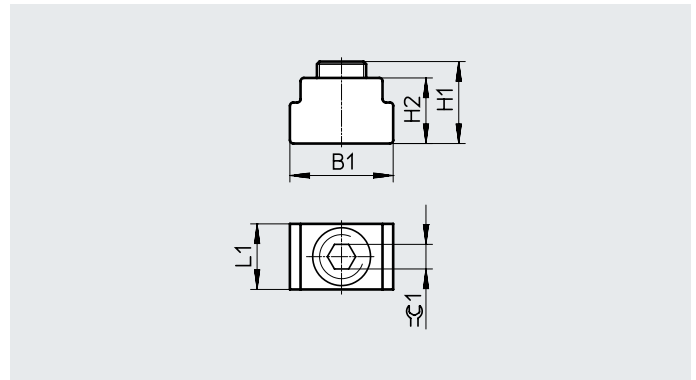
High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

Positioning element SMM

Inserted in the slot lengthwise

Ambient temperature: -40 ... +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	± 0.1	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		Number of wires	Cable length [m]	Part no.	Type	Data sheets → Internet: nebu
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	

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 disconnection ATEX 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 supply Adjusting 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