

# Proximity switch for T-slot



Festo Core Range  
Solves the majority of your automation tasks

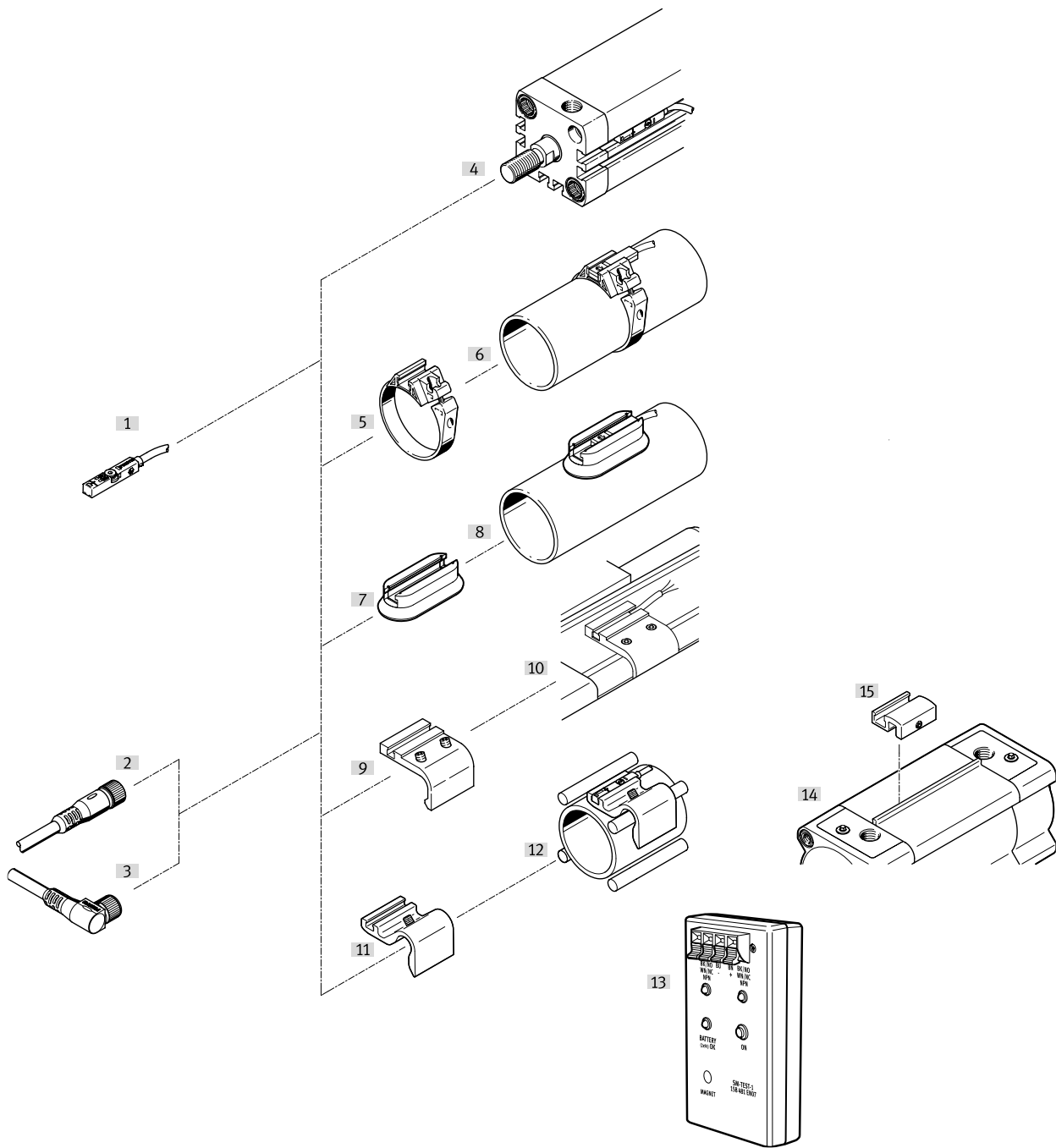
With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.

Worldwide: Quickest delivery – wherever, whenever  
Simply good: Expected high Festo quality  
Fast: Easy and fast to select

The Core Range offers you the best value for your automation tasks.



Peripherals overview



## Peripherals overview

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<b>Connecting cables</b>			<b>Drives</b>		
[2]	NEBU-M...G...	15	[4]	Drives with T-slot	-
[3]	NEBU-M...W...	15	[6], [8]	Round cylinders	-
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			[12]	Drives with tie or mounting rod	-
			[14]	Standards-based cylinders DSBF	-

## Type codes

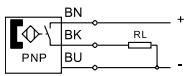
<b>001</b>	<b>Series</b>	
<b>SMT</b>	Proximity sensor	
<b>002</b>	<b>Design type</b>	
<b>8</b>	For T-slot	
<b>003</b>	<b>Sensor version</b>	
<b>M</b>	Inserted in the slot from above	
<b>004</b>	<b>Design</b>	
<b>A</b>	Short	
<b>005</b>	<b>Switching output</b>	
<b>NO</b>	3-wire N/C contact NPN	
<b>NS</b>	3-wire NPN N/O contact	
<b>PO</b>	3-wire PNP N/C contact	
<b>PS</b>	3-wire PNP N/O contact	
<b>ZS</b>	2-wire PNP N/O contact	
<b>006</b>	<b>Rated operating voltage</b>	
<b>24V</b>	24 V	

<b>007</b>	<b>Cable characteristic</b>	
<b>E</b>	Suitable for energy chains/robot applications	
<b>008</b>	<b>Cable length [m]</b>	
	0.1 ... 30 m	
<b>0,3</b>	0.3 m	
<b>2,5</b>	2.5 m	
<b>5,0</b>	5 m	
<b>7,5</b>	7.5 m	
<b>009</b>	<b>Cable identification</b>	
	With label holder	
<b>N</b>	Without label holder	
<b>010</b>	<b>Connection technology</b>	
<b>OE</b>	Open end	
<b>M8</b>	M8, snap-on flange	
<b>M8D</b>	M8, rotatable thread	
<b>M12</b>	M12, rotatable thread	

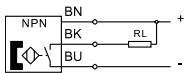
## Data sheet – Magneto-resistive

## Function

PNP, N/O contact, with cable



NPN, N/O contact, with cable



- Magneto-resistive measuring principle
- Insertable in the slot from above, does not protrude over the cylinder profile



General technical data			
Electrical connection	M8, M8D, M12	OE	NO- ... -OE
Design	For T-slot		
Mounting position	Any		
Based on standard	EN 60947-5-2		
Certification	c UL us - Listed (OL)		-
	RCM		
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 EMC regulations		
	To UK RoHS regulations		
Application information	Support / Actuator-sensor overview "The right sensor for the actuator"		
Note on materials	Halogen-free		
	RoHS-compliant		
PWIS conformity	VDMA24364-B2-L		
Certificate-issuing authority	UL E232949		
Special characteristics	Oil-resistant		
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	-

1) For information about the area of use, see the EC 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] -40 ... +85

## Data sheet – Magneto-resistive

Switching output							
Type	PS	NS	PO	NO	ZS		
Switching output	PNP	NPN	PNP	NPN	Non-contacting, 2-wire		
Switching element function	N/O contact	N/O contact	N/C contact	N/C contact	N/O contact		
Repetition accuracy	[mm]	0.2					
Switch-on time	[ms]	≤ 1.3				≤ 1.0	
Switch-off time	[ms]	≤ 1.4				≤ 1.0	
Max. output current	[mA]	100	100	100	100	80	
Max. output current in mounting kits	[mA]	100					
Max. switching capacity DC	[W]	2.8	2.8	2.8	2.8	1.9	
Max. switching capacity DC in mounting kits	[W]	2.8	2.8	2.8	2.8	1.5	
Max. switching frequency	[Hz]	180					
Voltage drop	[V]	< 1.5				< 6	

## Output, additional data

Short circuit protection	Yes
Overload protection	Present

## Electronics

Type	PS, NS, PO, NO	ZS
Operating voltage range	[V DC] 5 ... 30	7 ... 30
Rated operating voltage	[V DC] 24	
Reverse polarity protection	For all electrical connections	

## Electromechanics

Electrical connection	M8	M8D	M12	OE	ZS....-OE
Connection type	Cable with plug			Cable	
Connection technology	Open end	M8x1, A-coded to EN 61076-2-104	M12x1, A-coded to EN 61076-2-101	Open end	
Number of pins/wires	3			3	2
Type of mounting	-	Screw-type lock		-	
Outlet direction of connection	In-line				
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 characteristic	Cable chain + robot				
Information on materials: cable sheath	TPE-U(PUR)				
Cable sheath colour	Grey				

## Data sheet – Magneto-resistive


Mechanics		
Electrical connection	M8, M8D, M12	OE
Type of mounting	Screw-clamped, insertable in the slot from above	
Max. tightening torque [Nm]	0.6	
Housing	black	
	PA-reinforced	
	High-alloy stainless steel	
	Nickel-plated brass	-

Display/operation	
	PS, NS, PO, NO, ZS
Switching status indication	Yellow LED
Function reserve indication	Orange LED


Immission/emission	
Ambient temperature with flexible cable installation [°C]	-20 ... +85
Degree of protection	IP65, IP68, IP69K

## Pin allocation to EN 60947-5-2

M8x1, 2-pin  
N/O contact

	Pin	Wire colour	Allocation
	1	Brown	+
	4	Black	-

M12x1, 2-pin  
N/O contact


	Pin	Wire colour	Allocation
	1	Brown	+
	4	Black	-

## Pin allocation to EN 60947-5-2

M8x1, 3-pin  
N/O contact / N/C 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

## Pin allocation to EN 60947-5-2

M12x1, 3-pin  
N/C contact

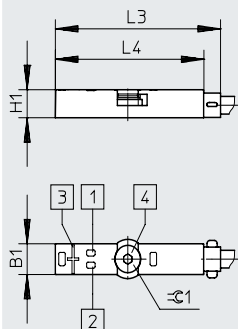
	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	2	White	Output

## Data sheet – Magneto-resistive

### Dimensions

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

SMT8-M-A-24V-E-... (PS, NS, PO, NO, ZS)



- [1] Yellow light emitting diode
- [2] Orange light emitting diode
- [3] Position of sensor element centre
- [4] Clamping element, tightening torque 0.6 Nm

Yellow light emitting diode for safe switching status.  
Yellow and orange light emitting diode for unsafe switching status.



Type	B1	H1	L3	L4	∅ 1
SMT-8M-A-...-24V-E- (PS, NS, PO, NO, ZS)	5	4.6	29.3	26.3	1.5

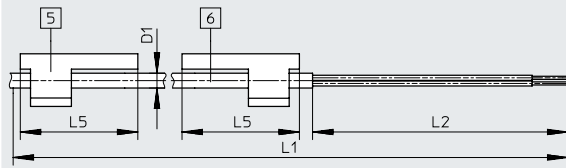


## Data sheet – Magneto-resistive

## Dimensions

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

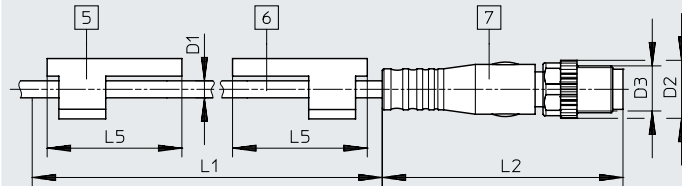
## SMT-8M-A...-OE – Cable



- [5] Inscription label holder drawn turned by 90°
- [6] Connecting cable

L1 Cable length

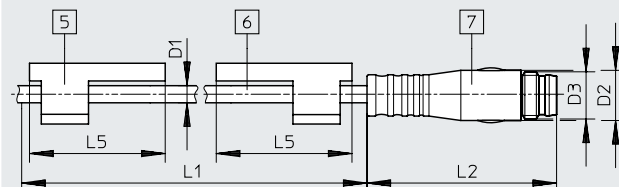
## SMT-8M-A...-M8D – Cable with plug M8x1, rotatable thread



- [5] Inscription label holder drawn turned by 90°
- [6] Connecting cable
- [7] Plug suitable for connecting cable NEBU-M8

L1 Cable length

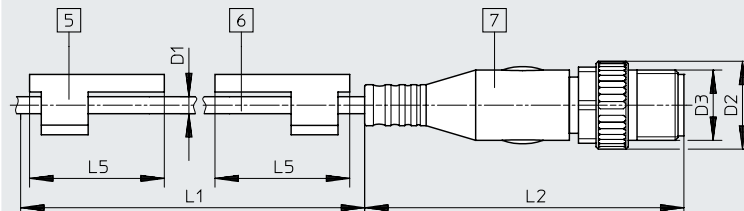
## SMT-8M-A...-M8 – Cable with plug M8x1, snap-on flange



- [5] Inscription label holder drawn turned by 90°
- [6] Connecting cable
- [7] Plug suitable for connecting cable NEBU-M8

L1 Cable length

## SMT-8M-A...-M12 – Cable with plug M12x1, rotatable thread

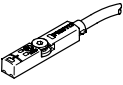


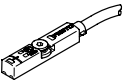
- [5] Inscription label holder drawn turned by 90°
- [6] Connecting cable
- [7] Plug suitable for connecting cable NEBU-M12

L1 Cable length

Type	D1	D2 ∅	D3	L1	L2	L5	±1
SMT-8M-A...-OE	2.9	-	-	2500, 7500	50	23	1.5
SMT-8M-A...-M8D		10	M8x1	300	41.1		
SMT-8M-A...-M8		8.5	M8x1	-	32.7		
SMT-8M-A...-M12		15	M12x1	-	54.5		

Data sheet – Magneto-resistive

Ordering data								
	Switching output	Electrical connection		Cable length	Weight	Part no.	Type	
		Cable	Cable with plug, rotatable thread					
			M8x1	M12x1	[m]	[g]		
	<b>N/O contact</b>							
	PNP	–	3-pin	–	0.3	8.9	★ 574334	SMT-8M-A-PS-24V-E-0.3-M8D
	PNP	3-wire	–	–	2.5	29.1	★ 574335	SMT-8M-A-PS-24V-E-2.5-OE
	PNP	3-wire	–	–	5	57.1	★ 574336	SMT-8M-A-PS-24V-E-5.0-OE
	PNP	–	3-pin	–	0.3	15.9	★ 574337	SMT-8M-A-PS-24V-E-0.3-M12
	NPN	3-wire	–	–	2.5	29.1	★ 574338	SMT-8M-A-NS-24V-E-2.5-OE
		–	3-pin	–	0.3	8.9	★ 574339	SMT-8M-A-NS-24V-E-0.3-M8D
	Non-contacting	2-wire, open end	–	–	5	57.1	8165237	SMT-8M-A-ZS-24V-E-5-OE
	<b>N/C contact</b>							
PNP	3-wire	–	–	7.5	85.1	★ 574340	SMT-8M-A-PO-24V-E-7.5-OE	

Ordering data								
	Switching output	Electrical connection		Cable length	Weight	Part no.	Type	
		Cable	Cable with plug, rotatable thread					
			M8x1	M12x1	[m]	[g]		
	<b>N/C contact</b>							
	NPN/NO	3-wire, open end	–	–	2.5	29.1	8138000	SMT-8M-A-NO-24V-E-2,5-OE
	NPN/NO	3-wire, open end	–	–	7.5	85.1	8138001	SMT-8M-A-NO-24V-E-7,5-OE

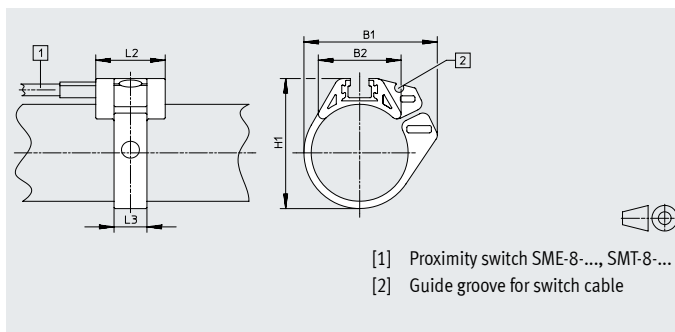
## Ordering data – Modular product system

Ordering table		Conditions	Code	Enter code
Size	8			
Module no.	<b>574333</b>			
Function	Proximity switch for T-slot, electronic		<b>SMT-8M</b>	SMT-8M
			–	–
Series	Short design		<b>A</b>	A
			–	–
Switching output	3-wire PNP N/O contact		<b>PS</b>	
	3-wire NPN N/O contact		<b>NS</b>	
	3-wire PNP N/C contact		<b>PO</b>	
	2-wire PNP N/O contact		<b>ZS</b>	
	PNP / NPN, switchable		<b>PNS</b>	
	PNP N/C contact / N/O contact, switchable		<b>PSO</b>	
	3-wire NPN N/C contact		<b>NO</b>	
			–	–
Rated operating voltage [V DC]	24		<b>24V</b>	24V
			–	–
Cable characteristic	Cable chain + robot		<b>E</b>	E
			–	–
Cable length [m]	0.1 ... 30		<b>...</b>	
	(0.1 ... 5.0 in increments of 0.1, 5.0 ... 30 in increments of 0.5)			
			–	–
Cable designation	With inscription label holder			
	Without inscription label holder		<b>N</b>	
			–	–
Connection technology	Open end		<b>OE</b>	
	M8, rotatable thread		<b>M8D</b>	
	M8, snap-on flange		<b>M8</b>	
	M12, rotatable thread		<b>M12</b>	

## Accessories

### Mounting kit SMBR

Material:  
Polyacetal  
RoHS-compliant

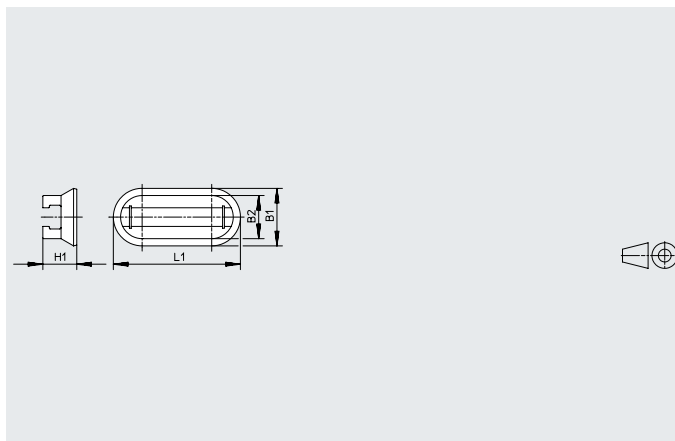


#### Dimensions and ordering data

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 CRSMB

Design: for round cylinders  
Type of mounting: any  
Type of mounting: glued  
Degree of protection: IP65, IP68, IP69K  
Ambient temperature: -40 ... +90°C  
Material:  
Housing: anodised aluminium,  
TPE-U(PU)  
Free of copper and PTFE  
RoHS-compliant  
PWIS conformity:  
VDMA24364-B2-L



#### Ordering data

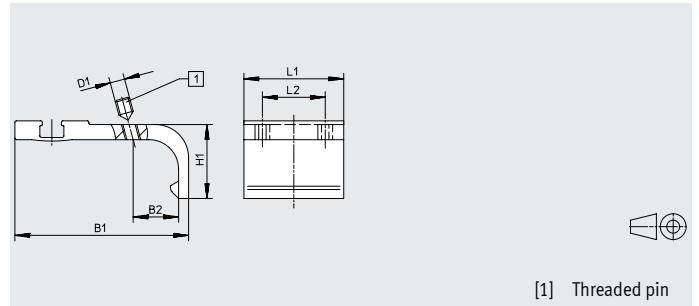
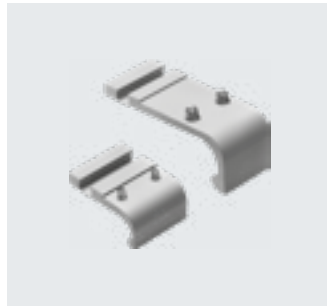
For piston $\varnothing$	B1	B2	H1	L1	CRC <sup>1)</sup>	Part no.	Type
32 ... 100	15.8	11.8	9.3	35	4	525565	CRSMB-8-32/100

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.

## Accessories

### Mounting kit SMB-8-FENG

Material:  
Wrought aluminium alloy  
Free of copper and PTFE

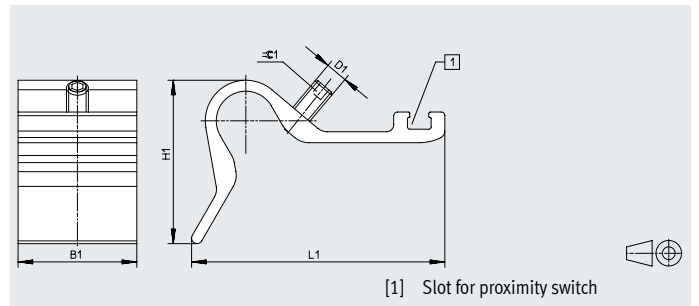


[1] Threaded pin

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	

### 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	$\approx 1$	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	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.

## Accessories

### Mounting kit SMB-8-C

Temperature: -40 ... 120°C

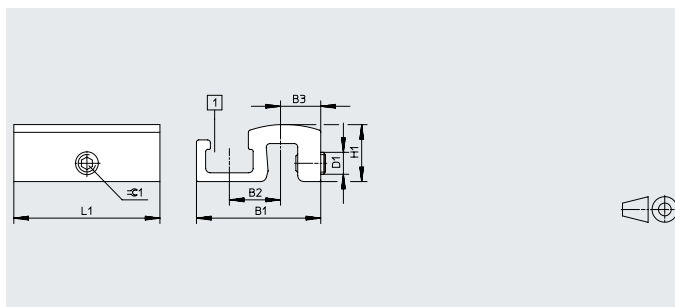
Material:

Retaining bracket: anodised wrought aluminium alloy

Screws: high-alloy stainless steel

Free of copper and PTFE,

RoHS-compliant



#### Dimensions and ordering data

Type	B1	B2	B3	D1	H1	L1	$\varnothing 1$	Tightening torque [Nm]	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
SMB-8-C	17	7	5.5	M3	7.8	20	1.5	0.2 ... 0.6	3	3.5	<b>1806790</b>	<b>SMB-8-C</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

Insertable in the slot lengthwise

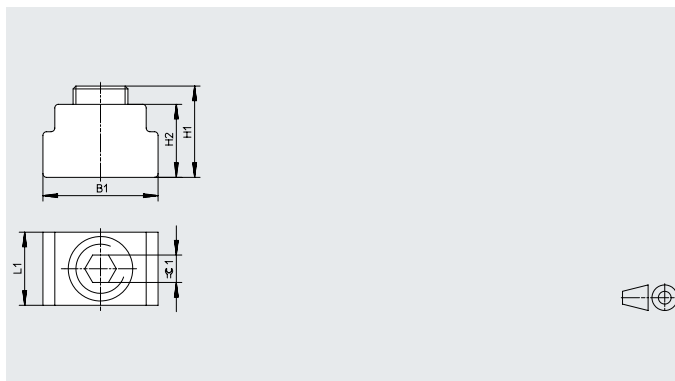
Ambient temperature: -40 ... +120°C

Materials:

Housing: anodised wrought aluminium alloy

Screws: high-alloy stainless steel

Note on materials: RoHS-compliant



#### Dimensions and ordering data





B1	H1	H2	L1	$\varnothing 1$	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				Data sheets → Internet: nebu/sim	
		Number of wires	Cable length [m]	Part no.	Type
<b>Socket M8x1, 3-pin</b>					
	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
<b>Socket M12x1, 5-pin</b>					
	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 – 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

Ordering data – Inscription label holder							
	Length	Width	Height	For cable diameter	Part no.	Type	PS <sup>1)</sup>
	23 mm	5.4 mm	10.3 mm	2.5 ... 3.5 mm	8078306	NEAU-LH-2	100

1) Pack size