

# Proximity switches for T-slot



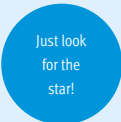
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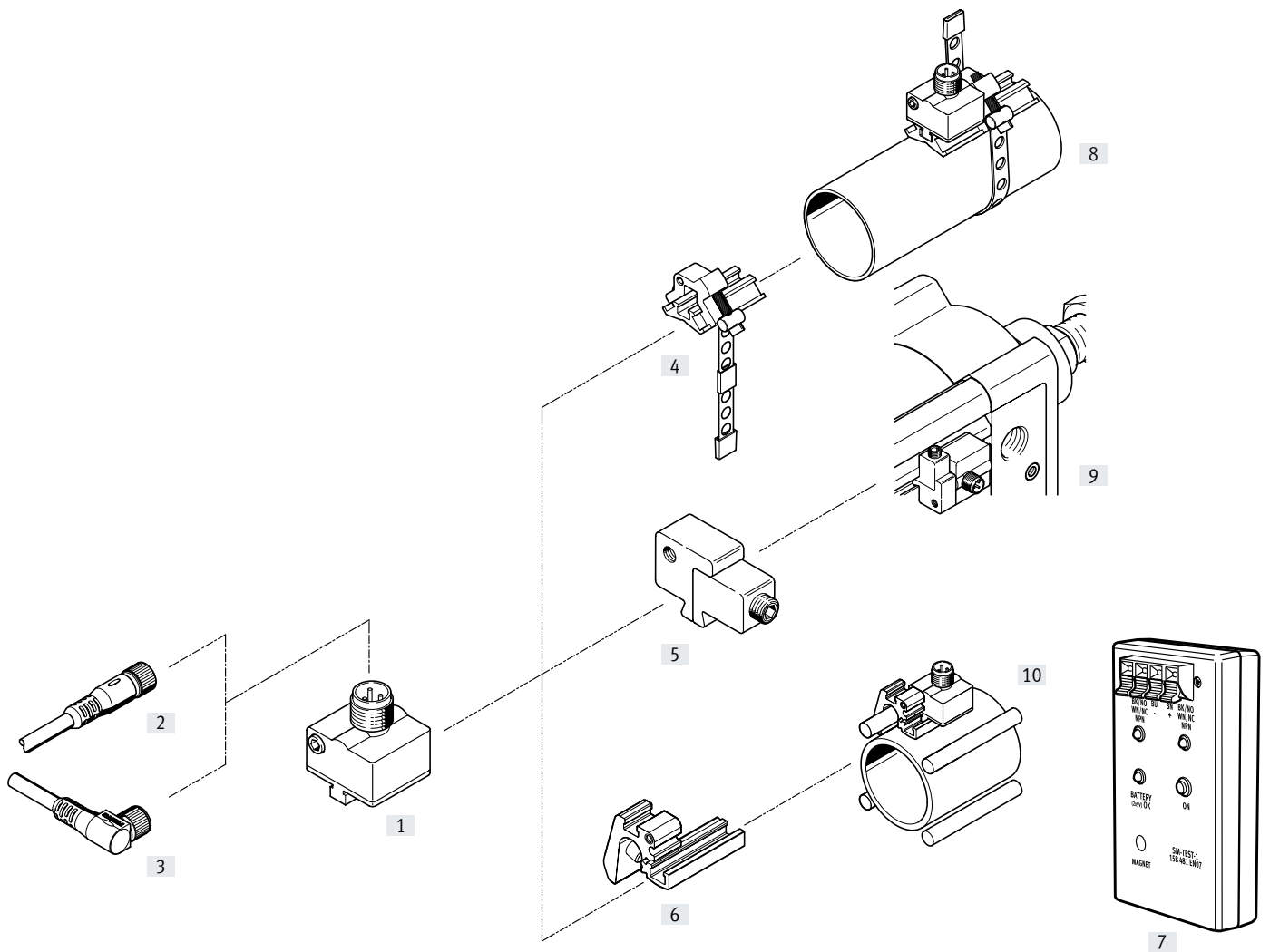
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Peripherals overview



Peripherals overview

Mounting attachments and accessories		→ Page	Mounting attachments and accessories		→ Page
<b>Proximity switches</b>			<b>Mounting kits and accessories</b>		
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			[10]	Drives with tie or mounting rod	-

## Proximity switches SMT0-8E/SMTSO-8E, for T-slot

### 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	

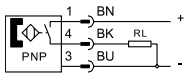
001	Series	
<b>SMTSO</b>	Proximity sensor, magneto-inductive, welding field immune	
002	Design type	
<b>8</b>	For T-slot	
003	Sensor version	
<b>E</b>	Mounting with accessories	
004	Switching output	
<b>NS</b>	3-wire NPN N/O contact	
<b>PS</b>	3-wire PNP N/O contact	

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	

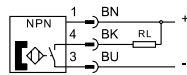
## Data sheet – Magneto-resistive

## Function

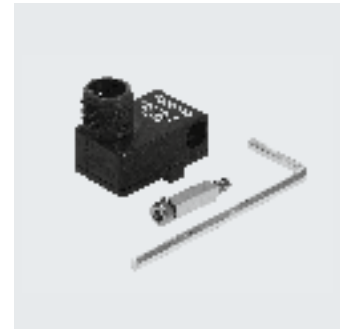
PNP, N/O contact with plug



NPN, N/O contact with plug



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



General technical data		
Type	SMT0-8E	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	SMT0-8E	SMTSO-8E, welding-field-resistant
Measuring principle	Magneto-resistive	Magneto-inductive
Ambient temperature [°C]	–20 ... +60	–25 ... +70

Switching output				
Type	SMT0-8E		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	SMT0-8E		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

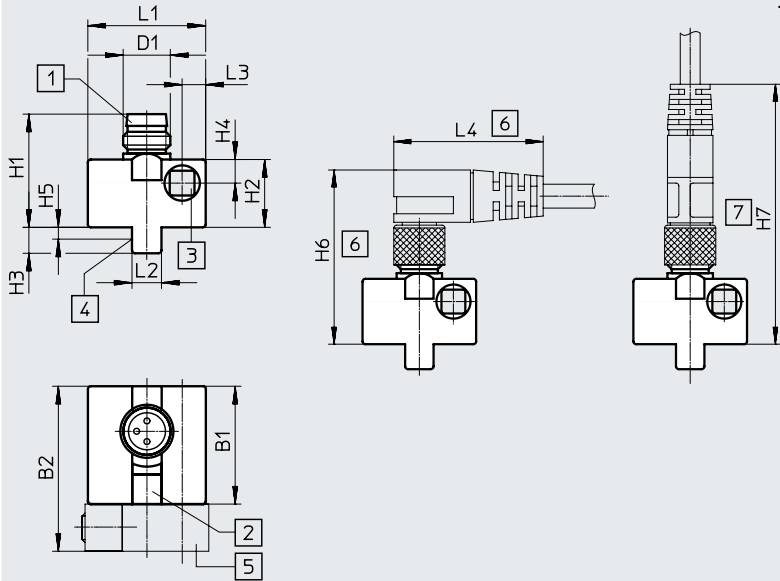
Type	SMT0-8E...S	SMT0-8E...-M12	SMTSO-8E...-M12, welding-field-resistant
Degree of protection	IP65		
	IP67		
Resistance to interference from magnetic fields	–	–	Alternating magnetic field 45 ... 65 Hz

Data sheet – Magneto-resistive

Dimensions

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

SMT0-8E...-S-LED-24 – Plug M8x1



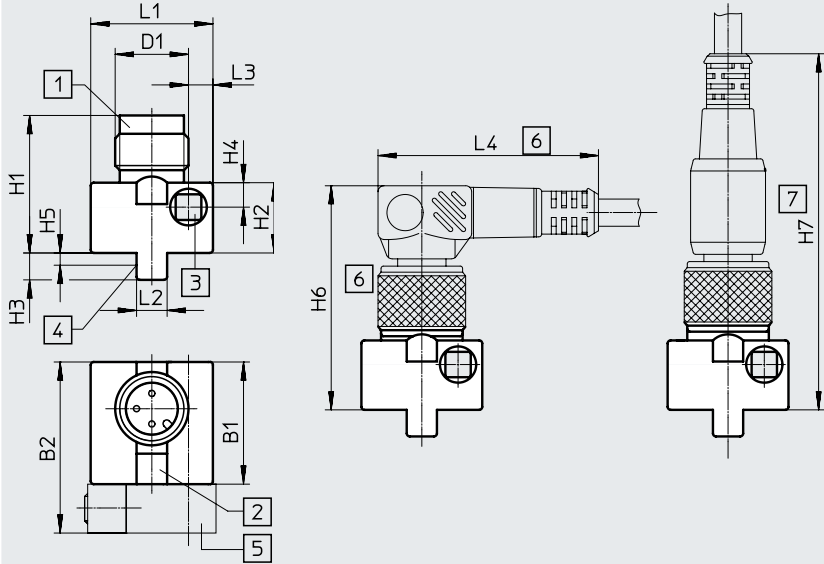
- [1] Suitable for plug socket type SIM-M8
- [2] Yellow light emitting diode
- [3] Socket head screw M3x25 DIN 912, max. tightening torque 1 Nm
- [4] Theoretical switching point
- [5] Mounting kit SMB-8E (not included in scope of delivery)
- [6] Installation space for angled plug socket 90°
- [7] Installation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

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

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

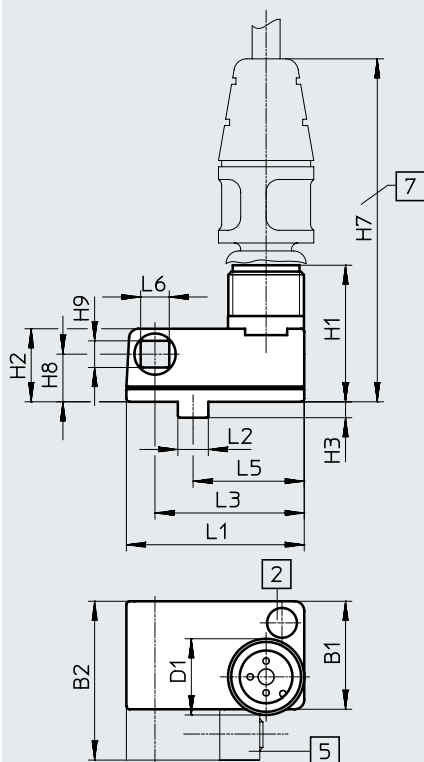
	B1 ±0.3	B2	D1	H1 ±0.34	H2 ±0.27	H3	H4	H5	H6	H7	L1 ±0.3	L2	L3	L4
SMT0-8E- ... -M12-LED-24	20	28	M12x1	22.5	11.5	4.4	4	2.2	~36	~59	20	5	4	~36.5

## 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

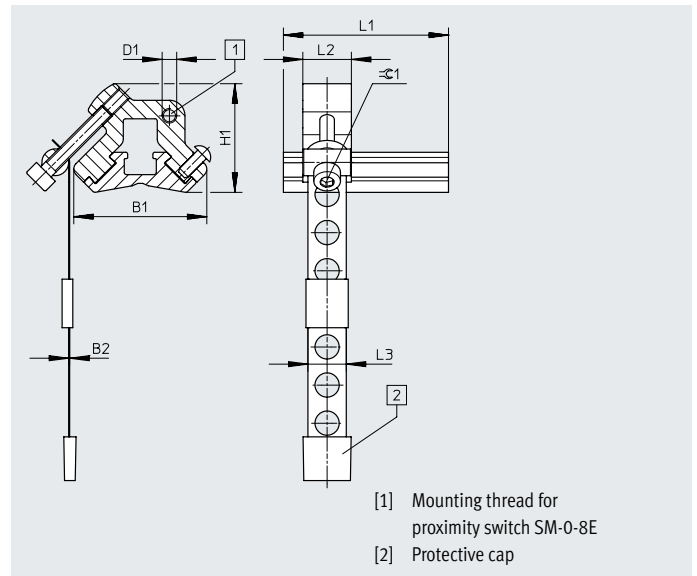
	Switching output	Electrical connection Plug M8x1	Plug M12x1	Weight [g]	Part no.	Type
<b>N/O contact, basic version</b>						
	PNP	3-pin	–	12	<b>171178</b>	<b>SMT0-8E-PS-S-LED-24</b>
		–	3-pin		<b>171179</b>	<b>SMT0-8E-PS-M12-LED-24</b>
	NPN	3-pin	–		<b>171166</b>	<b>SMT0-8E-NS-S-LED-24</b>
		–	3-pin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



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

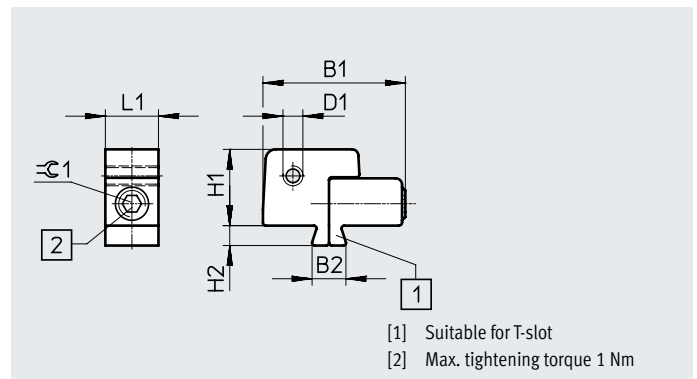
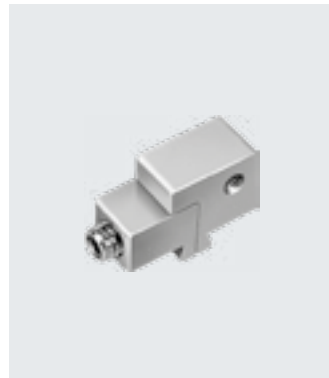
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

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 $\varnothing$	B1	B2	D1	H1	H2	L1	$\approx \varnothing 1$				
10 ... 125	21.5	5.1	M3	11.5	3	8	2.5	178230	SMB-8E		

## Accessories

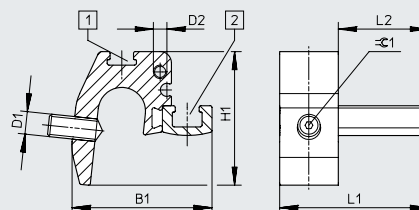
### Mounting SMBZ-8-...

Design: For tie rods  
 Mounting position: Any  
 Type of mounting: Clamped  
 Tightening torque:  $\leq 0.5$  Nm  
 Ambient temperature:  
 -40 ... +120°C  
 PWIS conformity:  
 VDMA24364-B2-L

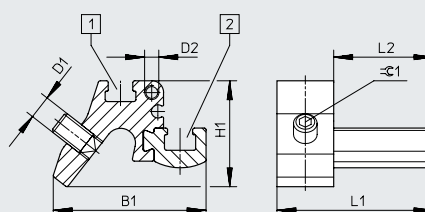
Material:  
 Housing: Anodised wrought aluminium alloy  
 Screws: High-alloy stainless steel  
 Free of copper and PTFE  
 RoHS-compliant



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

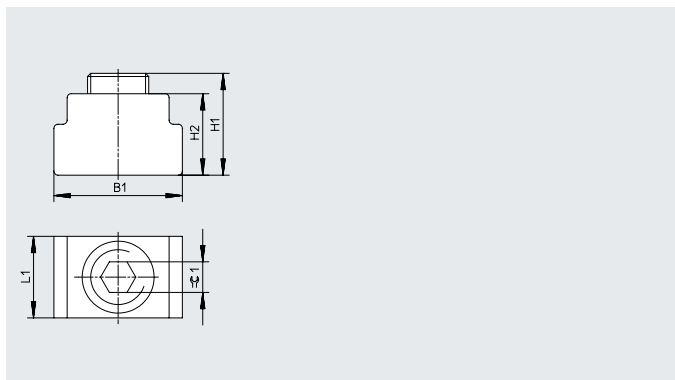
Moderate corrosion stress. Indoor application where condensation is allowed to occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

### Positioning element SMM

Insertable in the slot lengthwise

Ambient temperature: -40 ... +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	PJ <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		Number of wires	Cable length [m]	Part no.	Type	Data sheets → Internet: nebu/sim
<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 – 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