

Proximity switches for T-slot

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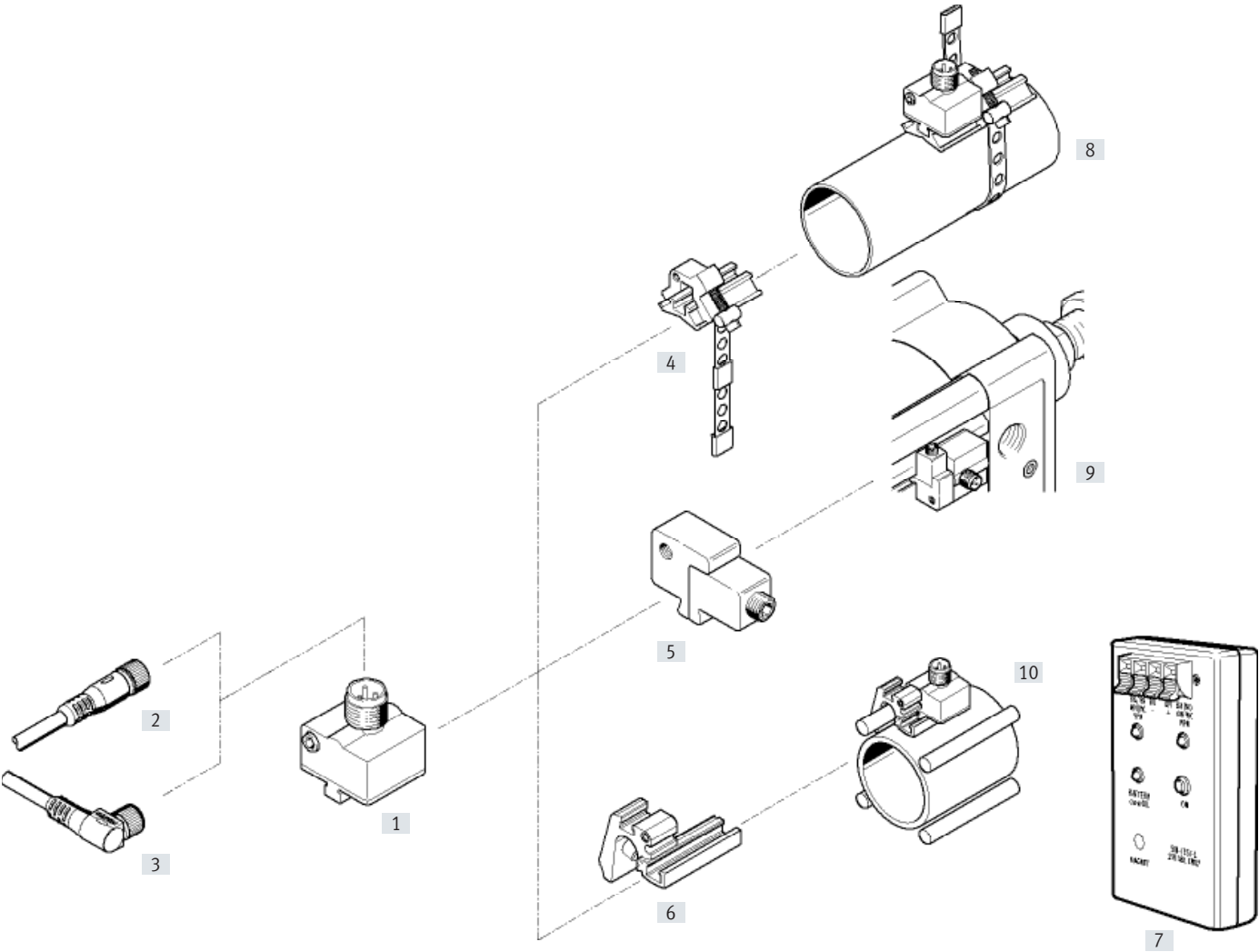
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Up to 6×10^{12} variants per product family

Just look
for the
star!

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	4		[4]	Mounting kit SMBR-8-8/100-S6, heat resistant	9	
				[5]	Mounting kit SMB-8E	9	
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Connecting cables				Drives			
[2]	NEBU-M...G...	11		[8]	Round cylinders	–	
[3]	NEBU-M...W...	11		[9]	Standards-based cylinder DSBC	–	
				[10]	Drives with tie or mounting rod	–	

Type codes

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

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

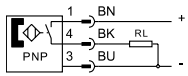
001	Series	
SMTSO	Proximity sensor, magneto-inductive, welding field immune	
002	Design type	
8	For T-slot	
003	Sensor version	
E	Mounting with accessories	
004	Switching output	
NS	3-wire NPN N/O contact	
PS	3-wire PNP N/O contact	

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

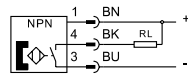
Data sheet – Magneto-resistive

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 ¹⁾ 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 → 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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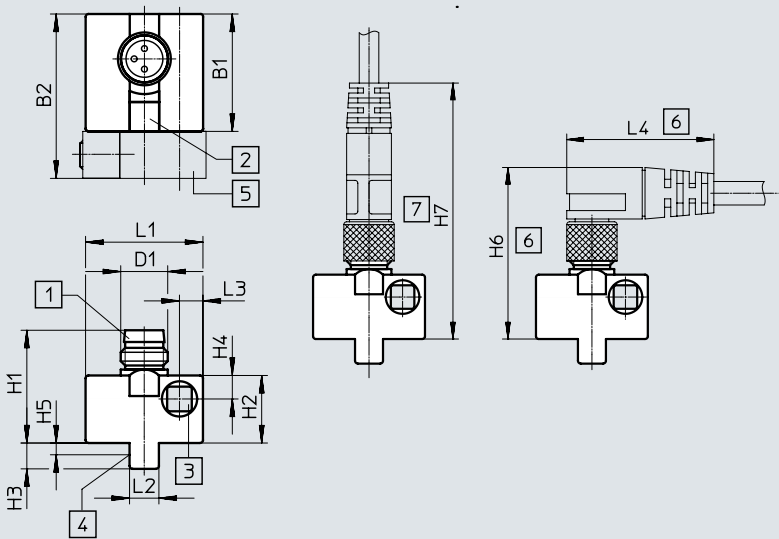
Immission/emission

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

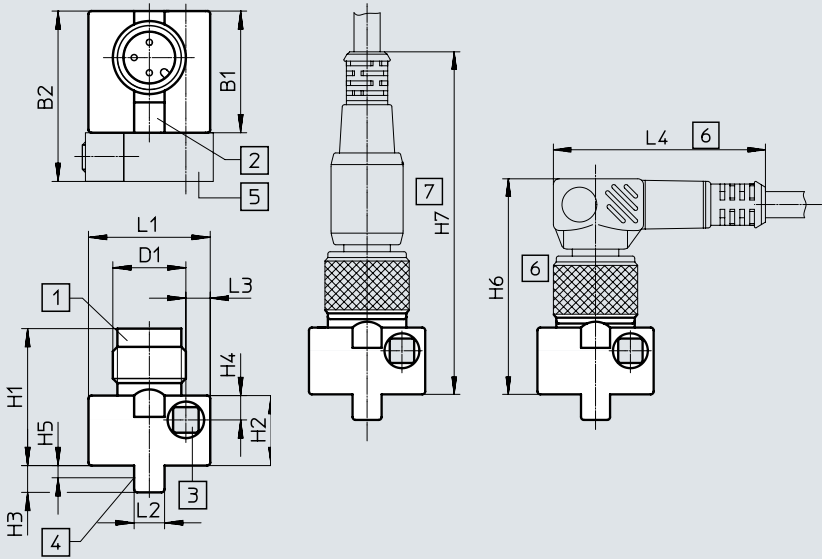


- [1] Suitable for plug socket type SIM-M8
- [2] Yellow light emitting diode
- [3] Socket head screw M3x25 DIN 912, max. tightening torque 1 Nm
- [4] Theoretical switching point
- [5] Mounting kit SMB-8E (not included in scope of delivery)
- [6] Installation space for angled plug socket 90°
- [7] Installation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

SMTSO-8E-...-M12-LED-24 – Plug M12x1

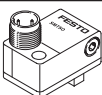
Technical drawing of the SMTSO-8E-...-M12-LED-24 proximity switch. The top view shows dimensions B1 (width), B2 (height), and D1 (diameter). The side view shows dimensions H1 (total height), H2 (height to mounting bracket), H3 (height to base), H7 (height to LED), H8 (height to base), H9 (height to mounting bracket), L1 (total length), L2 (length to LED), L3 (length to base), L5 (length to mounting bracket), and L6 (length to base).

[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	

Accessories

Mounting kit SMBR-8-8/100-S6

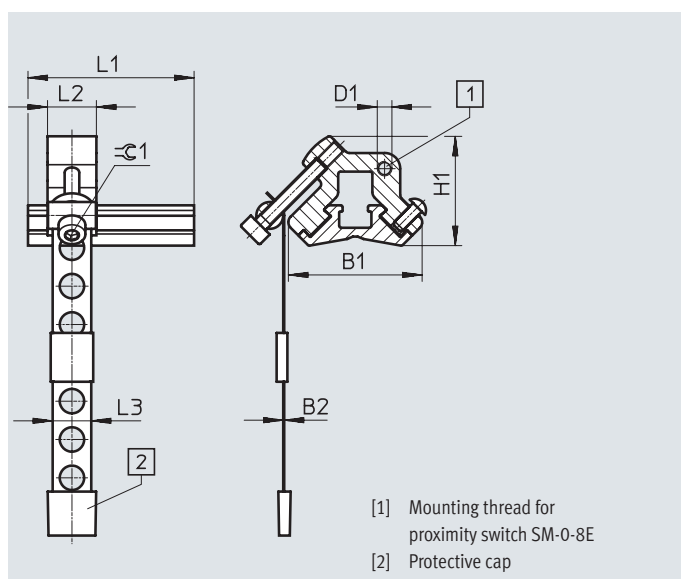
Material:

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	≈G 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

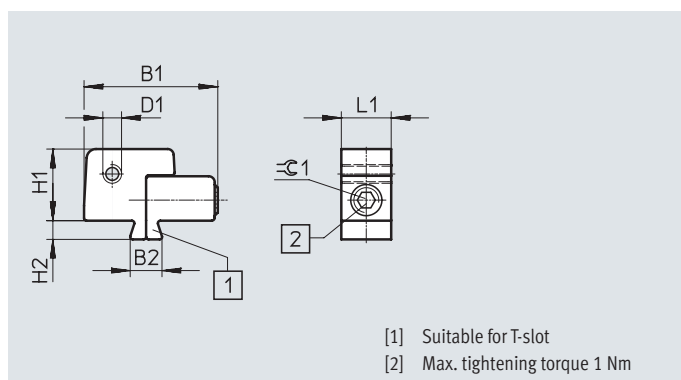
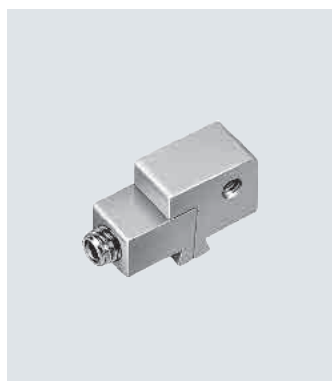
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

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	≈G 1					
10 ... 125	21.5	5.1	M3	11.5	3	8	2.5				178230	SMB-8E

Accessories

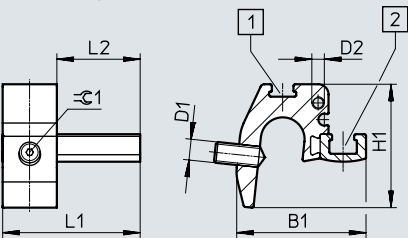
Mounting SMBZ-8-...

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

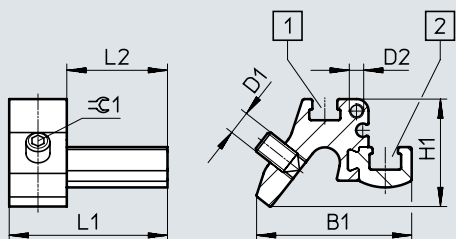
Material:
Housing: Anodised wrought aluminium alloy
Screws: High-alloy stainless steel
Free of copper and PTFE
RoHS-compliant



SMBZ-8-32/100



SMBZ-8-125/320



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

Dimensions and ordering data												
For piston Ø	B1	D1	D2	H1	L1	L2	≈G1	Weight [g]	CRC ¹⁾	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	

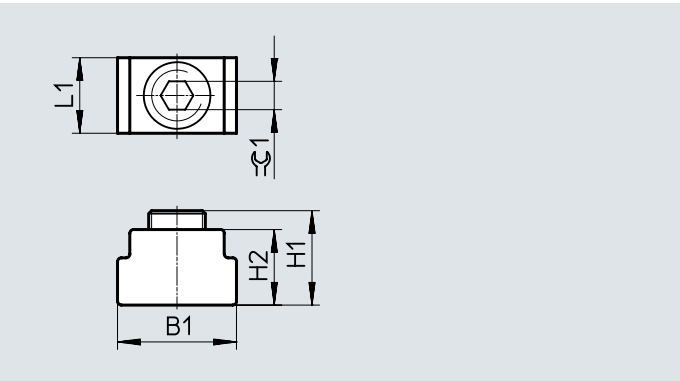
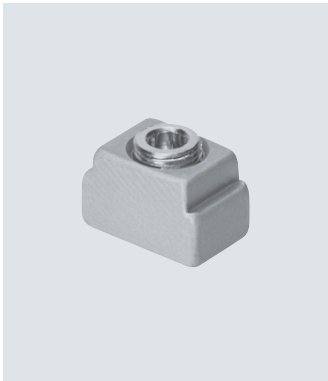
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor application where condensation is allowed to occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

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	≈G1	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

Ordering data – Safety clip for ATEX zone					
	Size	Description	Part no.	Type	PU ¹⁾
	M8	- 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
	- 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

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