

Proximity sensors SMT-10M, for C-slot

FESTO



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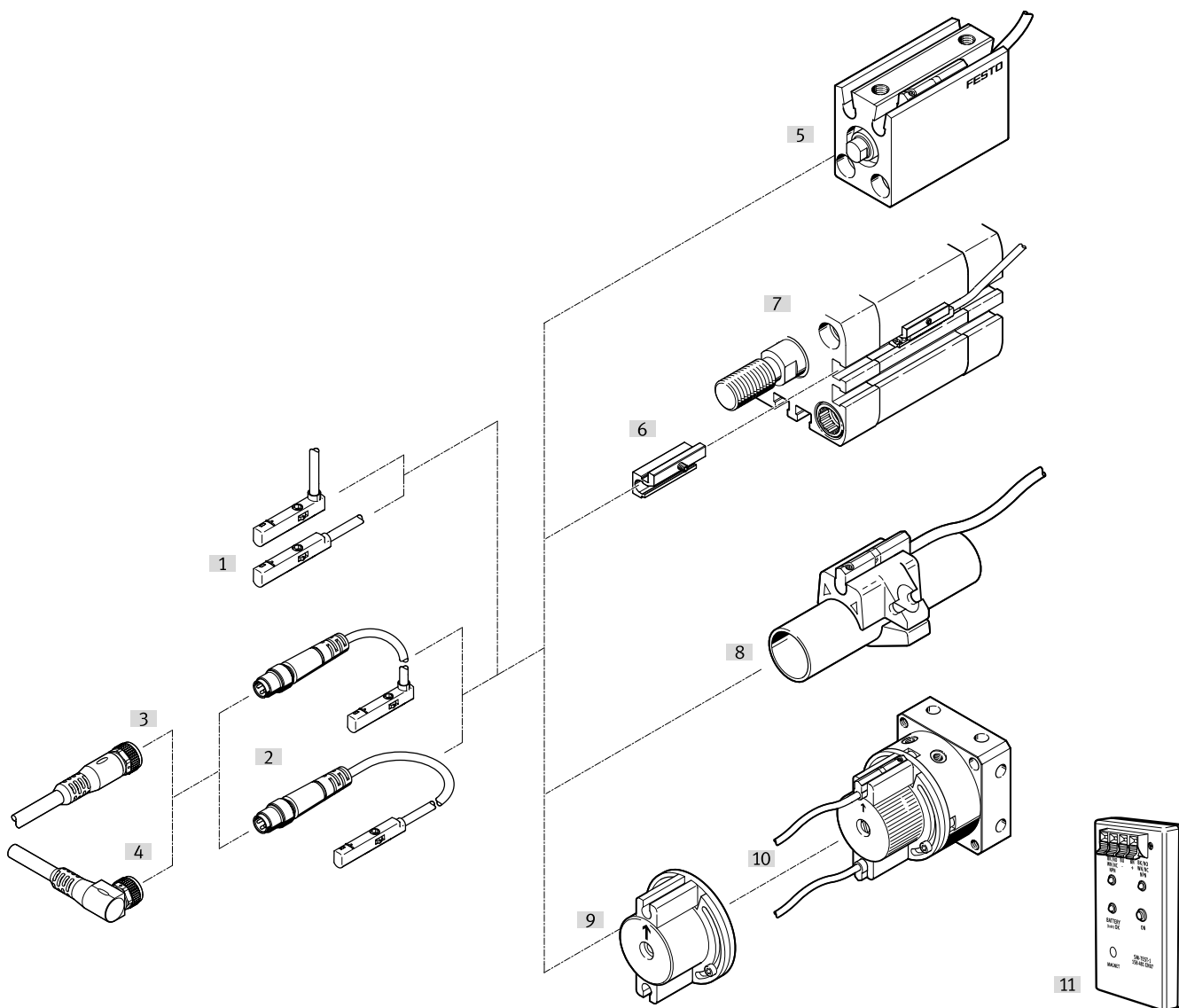
With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.

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Simply good: Expected high Festo quality
Fast: Easy and fast to select

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

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for the
star!

Peripherals overview



Mounting attachments and accessories		→ Page/ Internet
Proximity sensors		
[1]	SMT-10M-...-OE, with cable	5
[2]	SMT-10M-...-M..., with cable and plug	5
Connecting cables		
[3]	Connecting cable NEBU-M...G...	12
[4]	Connecting cable NEBU-M...W...	12
Mounting kits		
[6]	Mounting kit SMBN-10	11
[9]	Mounting kit WSM-...SME-10	12

Mounting attachments and accessories		→ Page/ Internet
Accessories		
[11]	Sensor tester SM-TEST-1	12
-	Positioning element SMM-10	11
-	Clip SMBK-10	12
-	Inscription label ASLR	12
-	Safety clip NEAU	12
Drives		
[5]	Drives with C-slot	-
[7]	Drives with T-slot	-
[8]	Round cylinder	-
[10]	Semi-rotary drive DSM	-

Type codes

001	Series	
SMT	Proximity sensor	

002	Design type	
10M	For C-slot, inserted in slot from above	

003	Switching output	
NS	3-wire NPN N/O contact	
PS	3-wire PNP N/O contact	
ZS	2-wire PNP N/O contact	

004	Rated operating voltage	
24V	24 V	

005	Cable characteristic	
E	Suitable for energy chains/robot applications	

006	Cable length [m]	
0.2	0.2	
0.3	0.3	
2.5	2.5	
30	30	

007	Display	
L	LED	

008	Cable outlet	
L	Longitudinal	
Q	Transverse	

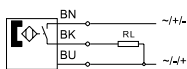
009	Cable identification	
	With label holder	
N	Without label holder	

010	Connection technology	
OE	Open end	
M8	M8, snap-on flange	
M8D	M8, rotatable thread	
M12	M12, rotatable thread	

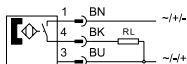
Data sheet – Magneto-resistive

Function

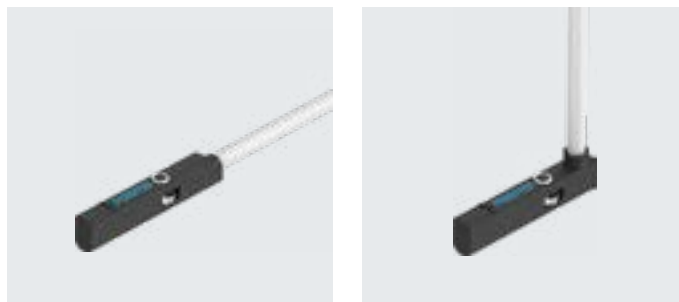
e.g. PNP, N/O contact, with cable



e.g. NPN, N/O contact, with cable



- Magneto-resistive measuring principle
- Inserted in the slot from above, does not protrude beyond the cylinder profile
- Cable clip and retaining bracket for inscription labels holders included in the scope of delivery



General technical data				
Electrical connection 1, connection technology	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded to EN 61076-2-104, open end	M8x1, A-coded to EN 61076-2-104	Open end
Design	For C-slot			
Conforms to standard	EN 60947-5-2			
Certification	RCM compliance mark			
KC mark ¹⁾	KCs explosion protection	KC EMC		
KC certification number EMC/radio ²⁾	R-R-FTO-KC-2018-1076			
UKCA mark (see declaration of conformity) ²⁾	To UK instructions for EMC, to UK RoHS instructions			
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive, to EU RoHS Directive			
Special characteristics	Oil resistant			
Note on materials	RoHS-compliant, free of halogen			
PWIS conformity	VDMA24364-B2-L			
Application information	Support / Actuator-sensor overview "The right sensor for the actuator"			
Suitable for the production of lithium-ion batteries	-			Metals with more than 1% copper, zinc or nickel by mass 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) Only with SMT-10M-PS-24V-E-0,3-L-M12

2) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/sdbt → 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	PS	NS	ZS
Measured variable	Position		
Measuring principle	Magneto-resistive		
Ambient temperature [°C]	-40 ... +70		
Fused switching field strength			
at -40 ... +70°C [mT]	1.6 ... 3.0		1.95 ... 2.6
at 25°C [mT]	1.8 ... 2.8		2.0 ... 2.5

Data sheet – Magneto-resistive

Switching output		PS		NS	ZS
Type SMT-10M					
Switching output		PNP		NPN	Non-contacting, 2-wire
Switching element function		N/O contact			
Switching output repetition accuracy in \pm mm	[mm]	0.2			
Switch-on time	[ms]	≤ 1.3		≤ 1.3	≤ 1.0
Switch-off time	[ms]	4.2 ... 7.3		4.2 ... 7.3	≤ 1.0
Max. switching frequency	[Hz]	130		130	150
Max. output current	[mA]	100			
Max. output current in mounting kits	[mA]	50			
Max. switching capacity DC	[W]	2.8		2.8	2.4
Max. switching capacity DC in mounting kits	[W]	1.5			1.2
Voltage drop	[V]	≤ 1.7		≤ 1.5	≤ 6

Additional output data	
Short circuit current rating	Yes
Overload protection	Present

Electronics		PS/NS		ZS
Rated operating voltage	[V DC]	24		
Operating voltage range	[V DC]	5 ... 30		
Ready-state delay	[ms]	< 45		< 17.2
Reverse polarity protection		For all electrical connections		


Electromechanical components		PS/NS				ZS			
Type SMT-10M									
Electrical connection		OE	M8D	M8	M12	OE	M8D	M8	M12
Connection type		Cable	Cable with plug			Cable	Cable with plug		
Connection technology		Open end	M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101	Open end	M8x1, A-coded to EN 61076-2-104		M12x1, A-coded to EN 61076-2-101
Number of pins/wires		3				2	3		
Type of mounting		–	Screw-type lock			–	Screw-type lock		
Outlet direction of connection		In-line							
		Lateral							
Cable test conditions		Energy 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]	0.2 ... 30							
Cable characteristic		Energy chain + robot							
Information on materials: Cable sheath		TPE-U(PUR)							


Data sheet – Magneto-resistive


Mechanical system	
Type of mounting	Screw-clamped, inserted in the slot from above
Max. tightening torque [Nm]	0.4
Mounting position	Any
Housing	PA-reinforced High-alloy stainless steel


Display/operation	
Switching status indication	Yellow LED

Immission/emission	
Ambient temperature with flexible cable installation [°C]	-20 ... +70
Degree of protection	IP65 IP68

Pin allocation to EN 60947-5-2			
M8x1, 2-pin N/O contact 	Pin	Wire colour	Allocation
	1	Brown	+
	4	Black	Output

Pin allocation to EN 60947-5-2			
M8x1, 3-pin N/O contact 	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

Pin allocation to EN 60947-5-2			
M12x1, 2-pin N/O contact 	Pin	Wire colour	Allocation
	1	Brown	+
	4	Black	Output

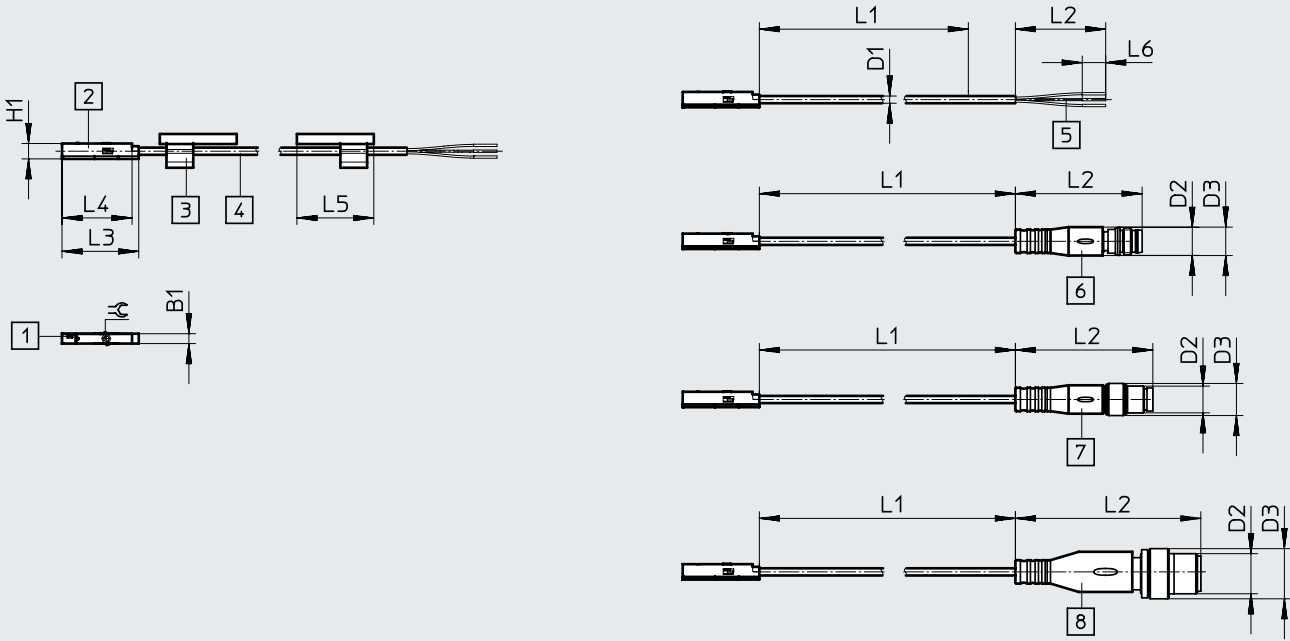
Pin allocation to EN 60947-5-2			
M12x1, 3-pin N/O contact 	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

Data sheet – Magneto-resistive

Dimensions

Download CAD data → www.festo.com

SMT-10M-...-L, in-line connection direction



- [1] Yellow LED
- [2] SMT-10M
- [3] Inscription label holder
- [4] Connecting cable
- [5] Cable with open end
- [6] Plug M8x1, snap-on flange
- [7] Plug M8x1, rotatable thread
- [8] Plug M12x1
- L1 Cable length

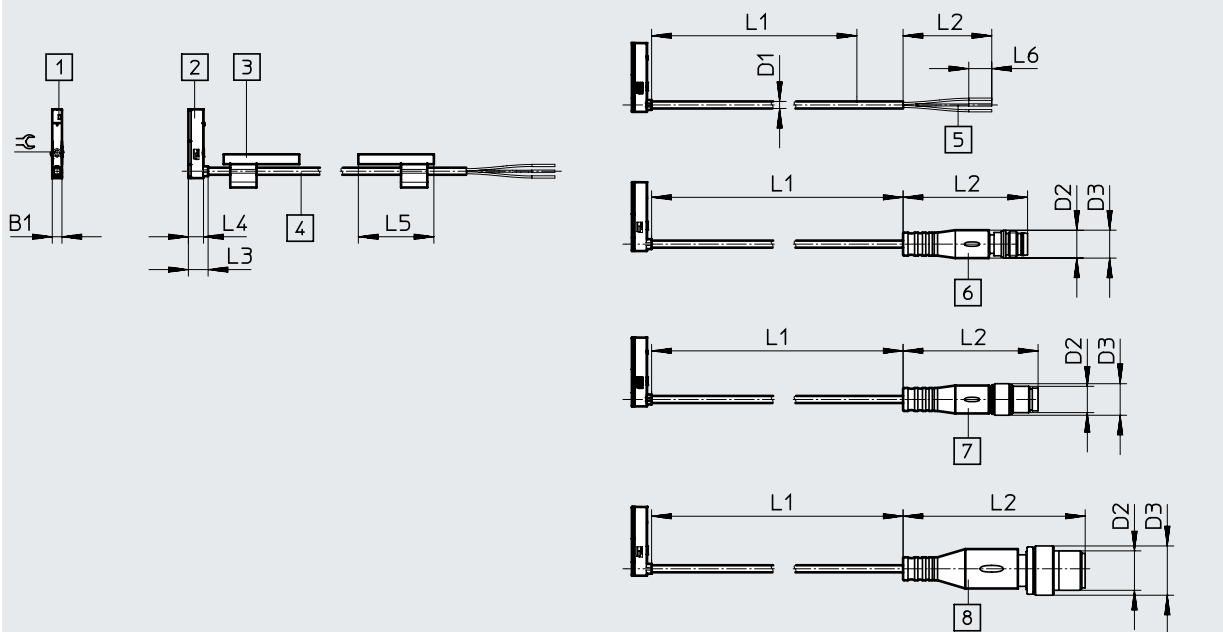
Type	B1	D1	D2	D3	H1	L2	L3	L4	L5	L6	L7	⌀
SMT-10M-...-OE	2.9	2.15	-	-	4.6	50	22.9	20.9	23	50	7	1.5
SMT-10M-...-M8D			M8x1	8.5		-						
SMT-10M-...-M8			M8x1	9.6		-						
SMT-10M-...-M12			M12x1	15		-						

Data sheet – Magneto-resistive

Dimensions

Download CAD data → www.festo.com

SMT-10M-...-Q, lateral connection direction

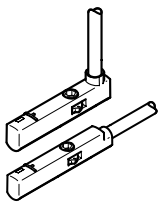


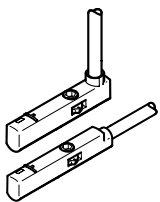
- [1] Yellow LED
- [2] SMT-10M
- [3] Inscription label holder
- [4] Connecting cable
- [5] Cable with open end
- [6] Plug M8x1, snap-on flange
- [7] Plug M8x1, rotatable thread
- [8] Plug M12x1
- L1 Cable length

Type	B1	D1	D2	D3	H1	L2	L3	L4	L5	L6	L7	⌀
SMT-10M-...-OE	2.9	2.15	-	-	20.9	50	6	4.6	23	50	7	1.5
SMT-10M-...-M8D			M8x1	8.5		32.7					-	
SMT-10M-...-M8			M8x1	9.6		41.1					-	
SMT-10M-...-M12			M12x1	15		55.5					-	

Data sheet – Magneto-resistive

★ Core product range

Ordering data	Switching output	Electrical connection		Cable length [m]	Weight [g]	Part no.	Type
		Cable	Cable with plug, rotatable thread				
	N/O contact						
	PNP	3-wire, open end	–	2.5	16.8	★ 551373	SMT-10M-PS-24V-E-2,5-L-OE
		3-pin	M8x1, A-coded to EN 61076-2-104	0.3	6.7	★ 551375	SMT-10M-PS-24V-E-0,3-L-M8D
	NPN	3-wire, open end	–	2.5	16.8	★ 551377	SMT-10M-NS-24V-E-2,5-L-OE
		3-pin	M8x1, A-coded to EN 61076-2-104	0.3	6.7	★ 551379	SMT-10M-NS-24V-E-0,3-L-M8D
	Non-contacting, 2-wire	2-wire, open end	–	2.5	14.6	★ 551382	SMT-10M-ZS-24V-E-2,5-L-OE

Ordering data	Switching output	Electrical connection		Cable length [m]	Weight [g]	Part no.	Type
		Cable	Cable with plug, rotatable thread				
	N/O contact						
	PNP	3-wire, open end	–	2.5	16.8	551374	SMT-10M-PS-24V-E-2,5-Q-OE
		3-pin	M8x1	0.3	6.7	551376	SMT-10M-PS-24V-E-0,3-Q-M8D
	PNP	3-pin	M12x1, A-coded to EN 61076-2-101	0.3	14	8152201	SMT-10M-PS-24V-E-0,3-L-M12
	NPN	3-wire, open end	–	2.5	16.8	551378	SMT-10M-NS-24V-E-2,5-Q-OE
		3-pin	M8x1, A-coded to EN 61076-2-104	0.3	6.7	551380	SMT-10M-NS-24V-E-0,3-Q-M8D
Non-contacting, 2-wire	2-wire, open end	–	2.5	14.6	551383	SMT-10M-ZS-24V-E-2,5-Q-OE	

Modular products – Magneto-resistive

Ordering table				
Size	10	Conditions	Code	Enter code
Module no.	551372			
Function	Proximity sensor for C-slot, non-contacting		SMT-10M	SMT-10M
			-	-
Switching output	3-wire PNP N/O contact		PS	
	3-wire NPN N/O contact		NS	
	2-wire N/O contact		ZS	
			-	-
Rated operating voltage [V DC]	24		24V	24V
			-	-
Cable characteristic	Energy chain + robot		E	E
			-	-
Cable length [m]	0.2 ... 30		...	
	(0.2 ... 5.0 m in 0.1 m increments, 5.0 ... 30 m in 0.5 m increments)			
			-	-
Cable outlet	In-line		L	
	Lateral		Q	
			-	-
Cable designation	With inscription label holder		-	
	Without inscription label holder		N	
			-	-
Connection technology	Open end		OE	
	M8, rotatable thread		M8D	
	M8, snap-on flange		M8	
	M12, rotatable thread		M12	

Accessories

Mounting SMBN-10

For mounting proximity sensors
SME/SMT-10 on drives with T-slot

Material:

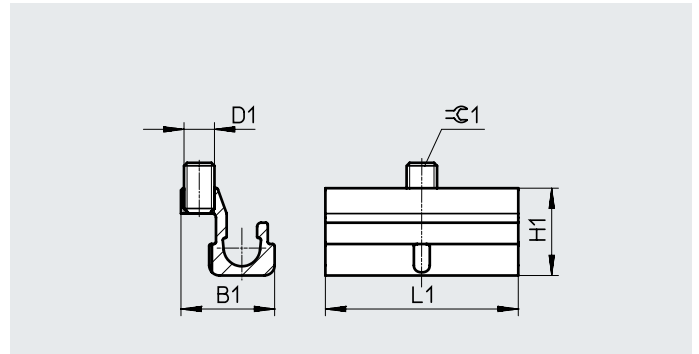
Rail: Anodised wrought aluminium
alloy

Screws: High-alloy stainless steel

Note on materials:

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

For piston \varnothing	D1	B1	H1	L1	$\approx\varnothing 1$	Part no.	Type
125 ... 320	M3	9.3	8.6	19	1.5	537809	SMBN-10

Positioning element SMM

Inserted in the slot lengthwise

Ambient temperature: $-40 \dots +120^{\circ}\text{C}$

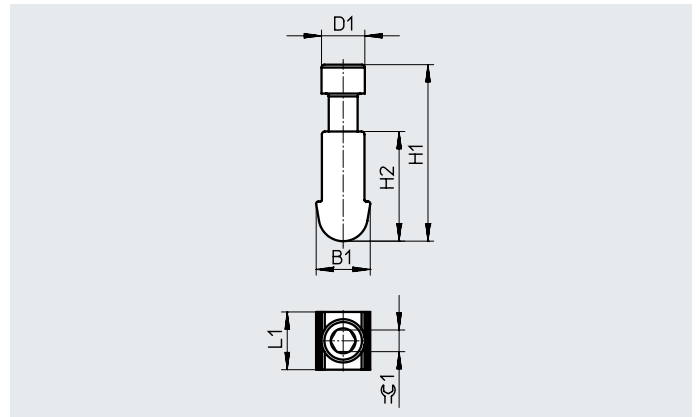
Materials:

Housing: Anodised wrought aluminium
alloy

Screws: High-alloy stainless steel

Note on materials:

RoHS-compliant



Dimensions and ordering data

B1	D1	H1	H2	L1	$\approx\varnothing 1$	CRC ¹⁾	Part no.	Type	PU ²⁾
3.75	3.0	12.23	7.6	4.0	1.5	3	547942	SMM-10	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

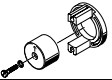

Accessories

Ordering data – Connecting cables


Data sheets → Internet: nebu

	Type	Number of wires	Cable length [m]	Part no.	Type
Socket M8x1, 3-pin					
	For SMT/SME-10...	3	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3
			5	★ 541334	NEBU-M8G3-K-5-LE3
	For SMT/SME-10...	3	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
			5	★ 541341	NEBU-M8W3-K-5-LE3

Ordering data – Mounting components

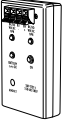
	For Ø	Description	Part no.	Type
	6	Mounting kit for mounting proximity sensors on semi-rotary drive DSM	173205	WSM-6-SME-10
	8		173206	WSM-8-SME-10
	10		173207	WSM-10-SME-10
	–	For fixing connecting cables in place	534255	SMBK-10

Ordering data – Safety clips 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 – Sensor testers


	Description	Part no.	Type
	<ul style="list-style-type: none"> Testing the functionality of proximity sensors using the integrated voltage supply Adjusting the proximity sensors 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

Ordering data – Inscription label holder

	Length	Width	Height	For cable diameter	Part no.	Type	PS ¹⁾
	23 mm	5.4 mm	10.1 mm	1.7 ... 3 mm	8078305	NEAU-LH-1	100

1) Pack size