

Proximity sensors SMT-10M, for C-slot



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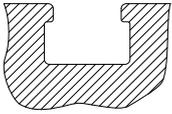
Product range overview

Design	Type of mounting	Measuring principle	Type	Operating voltage range	Switching output	Switching element function	→ Page/ Internet
For C-slot	Standard						
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	SMT-10M	5 ... 30 V DC	PNP	N/O contact	6
					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, NPN	N/O contact	–	
	Magnetic reed	SME-10	12 ... 27 V AC/DC	Contacting	N/O contact	–	
For T-slot	Standard						
	Inserted in the slot from above, flush with the cylinder profile	Magneto-resistive	SMT-8M	10 ... 30 V DC	PNP	N/O contact	T-slot
						N/C contact	
					NPN	N/O contact	
		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	Magneto-resistive	SMT-8	10 ... 30 V DC	PNP	N/O contact	
					NPN		
	Inserted in the slot lengthwise, flush with the cylinder profile	Magnetic reed	SME-8	12 ... 30 V AC/DC	Contacting, bipolar	N/O contact	
				3 ... 230 V AC/DC		N/C contact	
				5 ... 250 V AC/DC		N/O contact	
	Inserted in the slot lengthwise	Magneto-resistive	SMT-8G	10 ... 30 V DC	PNP	N/O contact	
		Magneto-resistive	SMT-8-SL	10 ... 30 V DC	PNP	N/O contact	
		Magnetic reed	SME-8-SL	10 ... 30 V AC/DC	Contacting, bipolar	N/O contact	
	Via accessories	Magneto-resistive	SMT0-8E	10 ... 30 V DC	PNP	N/O contact	
					NPN		
		Magnetic reed	SME0-8E	12 ... 30 V DC	Contacting, bipolar	N/O contact	
				3 ... 250 V DC			
				3 ... 230 V AC			
	Corrosion-resistant						
	Inserted in the slot lengthwise, flush with the cylinder profile	Magneto-resistive	CRSMT-8	10 ... 30 V DC	PNP	N/O contact	T-slot
	Welding field immune						
Via accessories	Magneto-inductive	SMTSO-8E	10 ... 30 V DC	PNP	N/O contact	T-slot	
				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	T-slot	
Via accessories	Magnetic reed	SME0-8E...S6	0 ... 30 V DC	Contacting	N/O contact	T-slot	
			0 ... 30 V AC				

Product range overview

T-slot sensors can be used for drives with T-slot

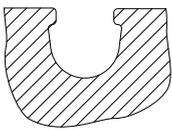
Exceptions



- DFM-B: SMT0-8E, SMTSO-8E, SME0-8E, 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 for size 40 and upwards
- SDBT-BSW- ... -PU/NU can only be used on a limited number of drive series

C-slot sensors can be used for drives with C-slot

Exceptions

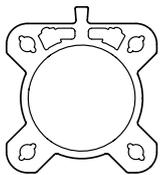


- ADVC $\varnothing 100$: SMT-10M and SME-10M cannot be used (ADVC has a T-slot and a C-slot)
- DSM/DSM-B-6/8/10: SME-10M cannot be used
- DSM/DSM-B-10/16: SMT-10M cannot be used
- HGPT-B: only SMT-10G can be used for sizes up to and including size 35

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

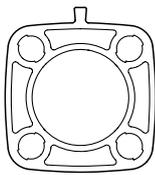
Only T-slot sensors CRSMT-8M and SMT-8M-A can be used, and only with the suitable profile identified below.

Example: DSBF



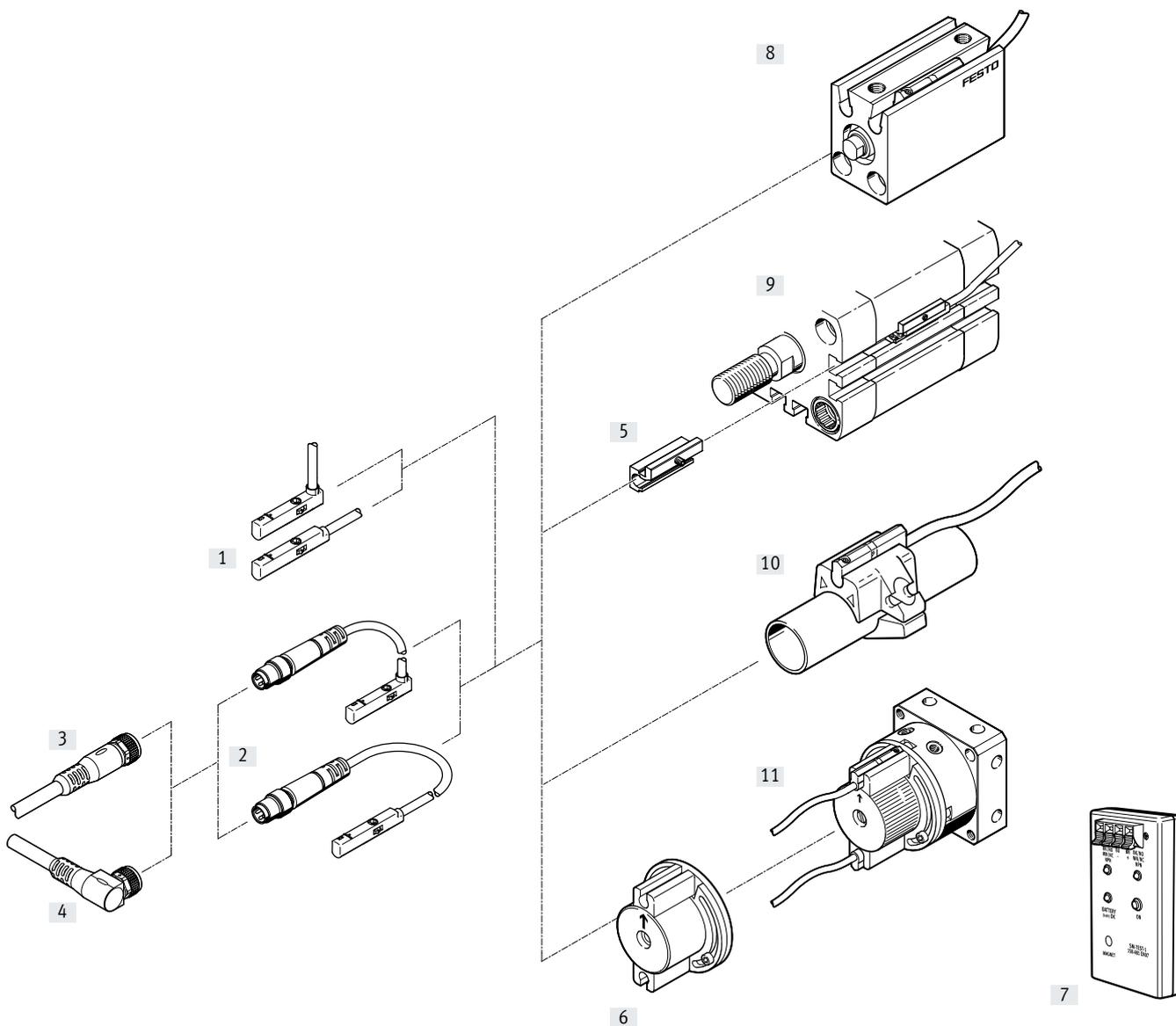
Suitable

Example: CDC



Not suitable

Peripherals overview



Mounting attachments and accessories		→ Page/ Internet
Proximity sensors		
[1]	SMT-10M-...-OE, with cable	6
[2]	SMT-10M-...-M..., with cable and plug	6
Connecting cables		
[3]	Connecting cable NEBU-M...G...	13
[4]	Connecting cable NEBU-M...W...	13
Mounting kits		
[5]	Mounting kit SMBN-10	12
[6]	Mounting kit WSM-...SME-10	13

Mounting attachments and accessories		→ Page/ Internet
Accessories		
[7]	Sensor tester SM-TEST-1	13
-	Positioning element SMM-10	12
-	Clip SMBK-10	13
-	Inscription label ASLR	13
-	Safety clip NEAU	13
Drives		
[8]	Drives with C-slot	-
[9]	Drives with T-slot	-
[10]	Round cylinder	-
[11]	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	

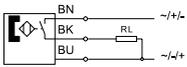
009	Cable identification	
	With label holder	
N	Without label holder	

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

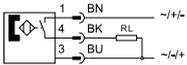
Data sheet – Magneto-resistive

Function

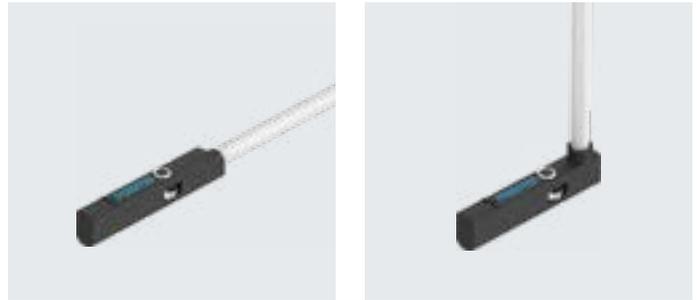
e.g. PNP, N/O contact, with cable



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

Design	For C-slot
Conforms to standard	EN 60947-5-2
Certification	RCM compliance mark
KC mark	KC EMC KCs explosion protection ¹⁾
CE mark (see declaration of conformity)	To EU EMC Directive ²⁾ To EU RoHS Directive
Special characteristics	Oil resistant
Note on materials	Cable free of halogen Free of copper and PTFE RoHS-compliant

1) Only with SMT-10M-PS-24V-E-0,3-L-M12

2) 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	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

Switching output	PS	NS	ZS
Type SMT-10M	PNP	NPN	Non-contacting, 2-wire
Switching element function	N/O contact		
Switching output repetition accuracy in ± mm [mm]	0.2		
Switch-on time [ms]	≤ 1.3	≤ 1.3	≤ 1.0
Switch-off time [ms]	≤ 1.4	≤ 1.4	≤ 1.0
Max. switching frequency [Hz]	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
Devices can be switched in parallel	5	3	5
Minimum load current [mA]	0		2.4
Residual current (in new condition at room temperature) [mA]	< 0.05	< 0.15	< 1.5

Data sheet – Magneto-resistive

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									
Type SMT-10M	PS/NS				ZS				
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)								
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								

Data sheet – Magneto-resistive

Pin allocation to EN 60947-5-2

M8x1, 2-pin
N/O contact

	Pin	Wire colour	Allocation
	1	Brown	+
	4	Black	Output

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

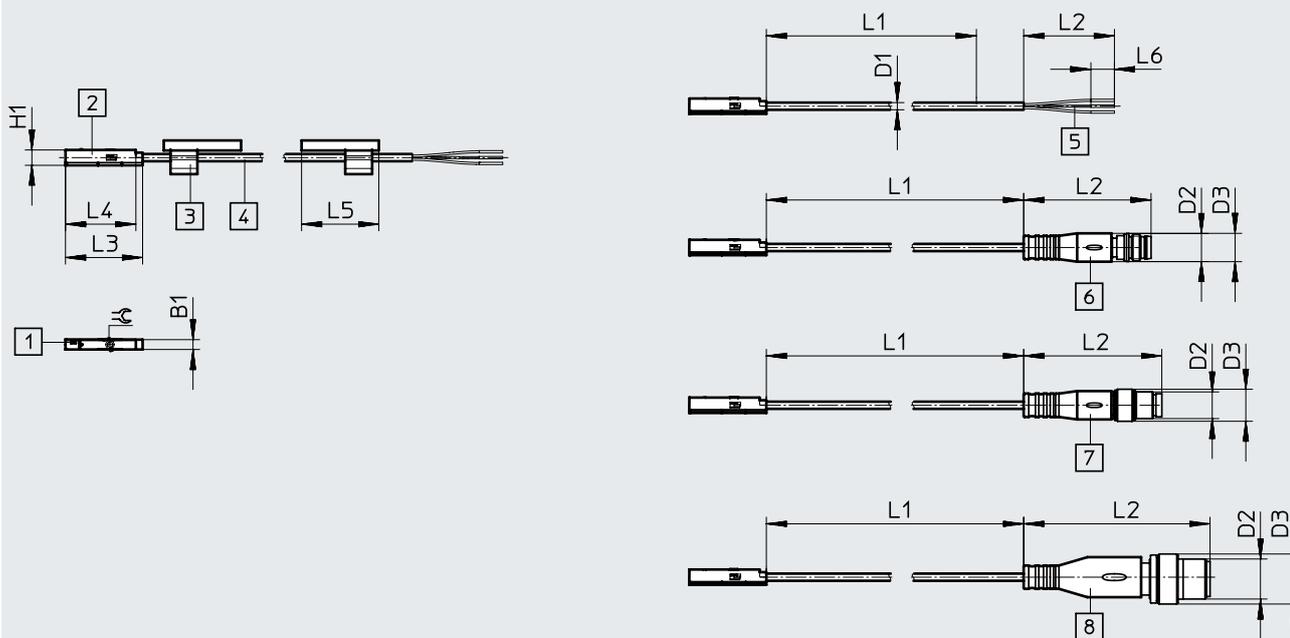
M12x1, 3-pin
N/O contact

	Pin	Wire colour	Allocation
	1	Brown	+
	3	Blue	-
	4	Black	Output

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

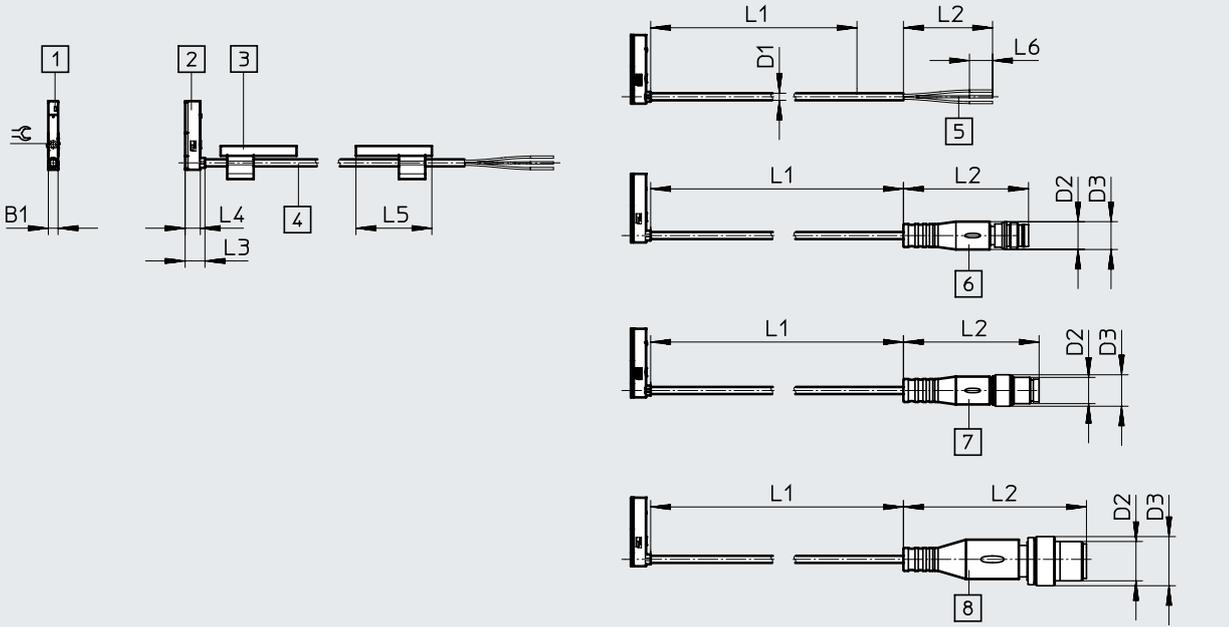
Type	B1	D1	D2	D3	H1	L2	L3	L4	L5	L6	L7	⌀
SMT-10M-...-OE	2.9	2.15	-	-	4.6	50	22.9	20.9	23	50	7	1.5
SMT-10M-...-M8D			M8x1	8.5		-						
SMT-10M-...-M8			M8x1	9.6		-						
SMT-10M-...-M12			M12x1	15		-						

Data sheet – Magneto-resistive

Dimensions

Download CAD data → www.festo.com

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

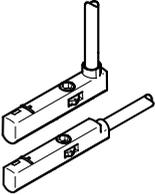


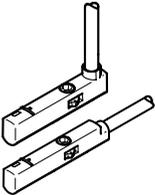
- [1] Yellow LED
- [2] SMT-10M
- [3] Inscription label holder
- [4] Connecting cable
- [5] Cable with open end
- [6] Plug M8x1, snap-on flange
- [7] Plug M8x1, rotatable thread
- [8] Plug M12x1
- L1 Cable length

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:

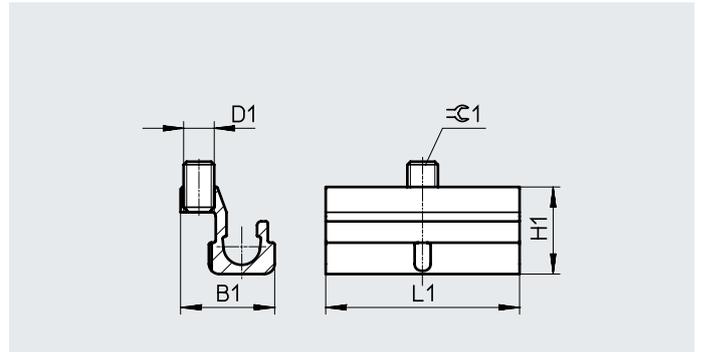
Rail: Anodised wrought aluminium alloy

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	$\varnothing 1$	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: $-40 \dots +120^{\circ}\text{C}$

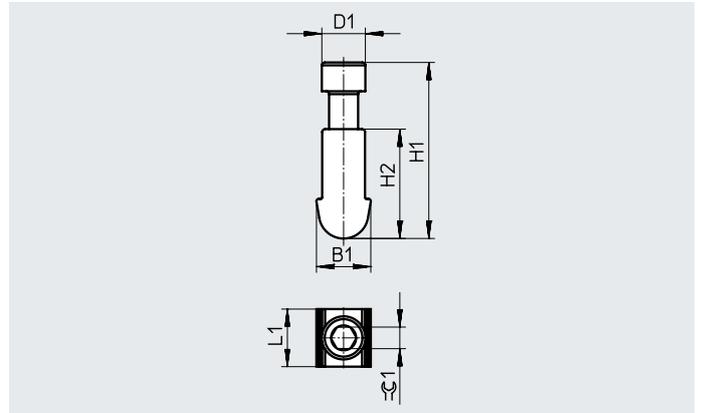
Materials:

Housing: Anodised wrought aluminium alloy

Screws: High-alloy stainless steel

Note on materials:

RoHS-compliant



Dimensions and ordering data

B1	D1	H1	H2	L1	$\varnothing 1$	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

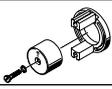
Accessories

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

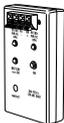
	For Ø	Description	Part no.	Type
	6	Mounting kit for mounting proximity sensors on semi-rotary drive DSM	173205	WSM-6-SME-10
	8		173206	WSM-8-SME-10
	10		173207	WSM-10-SME-10
	–	For fixing connecting cables in place	534255	SMBK-10

Ordering data – Safety clips for ATEX zone

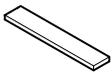
	Size	Description	Part no.	Type	PU ¹⁾
	M8	<ul style="list-style-type: none"> Protects "equipment that is not intrinsically safe" in zones 2 and 22 against simple disconnection ATEX category: gas: II 3G / dust: II 3D 	548067	NEAU-M8-GD	1
	M12		548068	NEAU-M12-GD	1

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