Proximity sensors SMT/SME

Product overview



- Versions for T-slot and -slot
- Switch output contactless or via reed contacts
- Wide range of mounting and connection options
- Heat and corrosion-resistant designs
- Free of copper and PTFE
- Specified types in accordance with ATEX directive for potentially explosive atmospheres
 - → www.festo.com/en/ex

Detailed product information

→ www.festo.com/catalogue/sm

Product ove	rview						
Design	Type of mounting	Measuring principle	Туре	Operating voltage range	Switch output	Switching el- ement function	→ Page
For T slot	Insertable in the slot from above, flush with	Magneto-resistive	SMT-8M	10 30 V DC	PNP/NPN	N/O contact N/C contact	15
	cylinder profile	Magnetic reed	SME-8M	5 30 V AC/DC	Contacting	N/O contact	17
	Insertable in the slot	Magneto-resistive	SMT-8	10 30 V DC	PNP/NPN	N/O contact	21
	lengthwise, flush with the cylinder profile	Magneto-resistive, cor- rosion-resistant	CRSMT-8	10 30 V DC	PNP	N/O contact	21
		Magnetic reed	SME-8	12 30 V AC/DC	Contacting	N/O contact N/C contact	22
		Magnetic reed, heat-resistant up to 120 °C	SME-8S6	0 30 V AC/DC	Contacting	N/O contact	23
		Magnetic reed	SME-8	3 250 V AC	Contacting	N/O contact	23
	Insertable in the slot	Magneto-resistive	SMT-8-SL	10 30 V DC	PNP	N/O contact	21
	lengthwise	Magnetic reed	SME-8-SL	10 30 V AC/DC	Contacting	N/O contact	22
	Via accessories	Magneto-resistive	SMTO-8E	10 30 V DC	PNP/NPN	N/O contact	25
		Magneto-inductive, welding field immune	SMTSO-8E	10 30 V DC	PNP/NPN	N/O contact	25
		Magnetic reed	SMEO-8E	0 30 V DC	Contacting	N/O contact	26
		Magnetic reed, heat-resistant up to 120 °C	SMEO-8ES6	0 30 V DC 5 250 V AC	Contacting	N/O contact	27
		Magnetic reed	SMEO-8E	3 250 V AC	Contacting	N/O contact	27
For C-slot	Insertable in the slot from above, flush with	Magneto-resistive	SMT-10F	5 30 V DC	PNP/NPN/contactless, 2-wire	N/O contact	31
	cylinder profile	Magnetic reed	SME-10F	10 30 V AC/DC	Contacting	N/O contact	32
	Insertable in the slot	Magneto-resistive	SMT-10	10 30 V DC	PNP/NPN	N/O contact	34
	lengthwise	Magnetic reed	SME-10	12 27 V AC/DC	Contacting	N/O contact	35

Proximity sensorsSelection aid



Drive		SMT-8, SMTO-8E CRSMT-8 SME-8, SMEO-8E SMPO-8E	SMT-10 SME-10	SMTO-4U SMEO-4U CRSMEO-4	SMTO-1 SMTO-6 SMEO-1 SMPO-1	SMT-C1
Standards-based cylinders						
Standard cylinders DSNU, ESNU	Ø 8 25 mm				•	-
Standard cylinders DSN, ESN	Ø 8 25 mm					-
Standard cylinders DNCB			-	-	-	-
Standard cylinders DNC		•	-	-	-	-
Standard cylinders DNG		-	-	-	•	-
Standard cylinders CDNR with ser	sor strip	-	-	-	-	•
Standard cylinders ADN			-	-	-	-
Cylinders with piston rod						
Compact cylinders ADVU, AEVU		-	_		I –	_
Short-stroke cylinders ADVC, AEVC	Ø 6 25 mm		•	_	_	_
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Ø 32 100 mm	•		_	_	_
Flat cylinders EZH-10/40-40-A-B		_	_	_	_	_
Flat cylinders DZF		_	_	_	_	_
Flat cylinders DZH	Ø 16 25 mm	_	_	_	_	_
Truc cylinders bzm	Ø 32 63 mm		_	_	•	_
Round cylinders DSNU, ESNU	Ø 32 63 mm	•	•	•	_	_
Round cylinders DSW, ESW	© 32 05 IIIII	_	-	_	_	_
Round cylinders DSEU, ESEU		_	_	_	_	_
Multimount cylinders DMM, EMM		_	_		<u>-</u>	_
Round cylinders CRDG		_	_		_	_
Round cylinders CRDSW				_		_
Standard cylinders CRHD		_	_	<u>-</u>	_	_
Standard cylinders CRDSNU		_	_	•	_	_
Standard cylinders CRDNG		_	_	_	_	_
Standard cylinders CRDNGS		-		-		_
Stalldard Cytillders CRDINGS		-	-	-	-	_
Rodless cylinders						
Linear drives DGC		_	•	_	_	_
Linear drives DGP, DGPL		•	-	-	-	-
Linear drives SLG		-		-	-	-
Linear drives DGO		-	-	•	-	-
Linear drives SLM		•	-	-	-	-
Semi-rotary drives						
Swivel modules DSM	Ø 6 10 mm	I –	•	_	_	_
Semi-rotary drives DSM-B	Ø 12 40 mm	_	-	_	_	_
James Dom D	Ø 63 mm	•	<u>-</u>	_	•	_
Semi-rotary drives DRQ	Ø 16 32 mm	-			<u>-</u>	_
Jenn rotary arrives bite	Ø 40 100 mm	<u>-</u>			-	_
Semi-rotary drives DRQD	Ø 6 12 mm		-			
Semi-rotary unives DRQD	Ø 16 32 mm	-		_	_	-
	∠ 10 JZ IIIIII	_	-	-	-	_
Technical data → Page		15	31	www.festo.com		

Proximity sensorsSelection aid

Drive		SMT-8, SMTO-8E	SMT-10	SMH-S1		
		CRSMT-8	SME-10			
		SME-8, SMEO-8E, SMPO-8E				
Function-oriented drives						
Stopper cylinders STA, STAF			_	_		
Linear/swivel clamps CLR		<u> </u>	_	_		
Swivel/linear units DSL		-	_			
Swivel/linear units DSL-B		-	_	-		
Swiver/illiear utilis DSL-D		-	-	_		
Drives with linear guide						
Mini slides SLS, SLF, SLT		_	•	_		
Mini slides DGSL		_	•	_		
Twin cylinders SPZ		•	_	_		
Slide units SLZ		•	_	_		
Guided cylinders DFP	Ø 6 16 mm	_	•	_		
ourded cylinders bir	Ø 25 80 mm	•		_		
Mini guide units DFC	Ø 23 00 IIIII	<u>-</u>		_		
Guided drives DFM		-		-		
Guided drives DFM-B		■ ■ 1)	-			
	Ø 22 F2			-		
Linear units SLE	Ø 32 50 mm	•		-		
Twin cylinders DPZC		-		_		
Twin cylinders DPZ		•	-	-		
Handling units						
Linear modules HMP		•	_			
Linear modules HMPL		-		-		
Handling modules HSP, HSW		-		-		
		-		-		
Feed separators HPV	Q 4 (-	-		
Three-point grippers HGD	Ø 16 mm	2)	-	•		
	Ø 32, 50 mm	1 2)	-	-		
Three-point grippers HGDT		-	•	-		
Parallel grippers HGP	Ø6 mm	-	-			
	Ø 10 35 mm	2)	_	-		
Parallel grippers HGPC		-	•	-		
Parallel grippers HGPP	Ø 12 32 mm	-	-	•		
Parallel grippers HGPT	Ø 16 63 mm	-	•	-		
Angle grippers HGW	Ø 10 mm	-	-			
	Ø 16 40 mm	•	-	-		
Radial grippers HGR	Ø 10 mm	-	-	•		
• •	Ø 16 40 mm	•	_	_		
Swivel/gripper units HGDS		-		-		
			I .			
Cushioning components						
Hydraulic stop elements YSRWJ			-	-		
Electrical positioning systems						
Toothed belt axes DGE-ZR		•	-	-		
Spindle axes DGE-SP			-	-		
			<u> </u>	-		
System components						
Heavy-duty guides HD			-	-		
Valve actuators						
Copac linear actuators DLP-A		•	-	-		
Tradestal data N 2		145	24	F0		
Technical data → Page		15	31	50		

¹⁾ Not SM...0-8E. 2) SME-8M only for HGD-50, HGP-20 ... 35.

Cable with plug M8x1, snap-on flange

Cable with plug M8x1, turnable

Cable with plug M12x1, turnable

SMT/SME-8M SMT 8M P0 24V 0E **Function** SMT Proximity sensor, magneto-resistive SME Proximity sensor, magnetic reed Design 8M For T-slot, insertable in slot from above Switch output, switching element function PNP, N/O contact, 3-wire РО PNP, N/C contact, 3-wire NS NPN, N/O contact, 3-wire N/O contact, 2-wire DS N/O contact, 3-wire Rated operating voltage 24 V DC Cable attribute Standard Suitable for drag chain R Suitable for robots Cable length [m] Connection technology OE Open end M5D Cable with plug M5x0.5, turnable

M8

M8D

M12

Proximity sensors SMT-8M, for T-slot Technical data – Magneto-resistive

Technical data										
Type of mounting		Screwed in slot, inse	Screwed in slot, insertable from above, flush with cylinder profile							
Electrical connection		Cable, 3-wire	Cable, 3-wire Cable with plug, turnable							
			M5x0.5, 3-pin	M8 x 1, 3-pin	M12 x 1, 3-pin					
Cable length	[m]	0.2 30								
Cable attribute ¹⁾		Standard								
		Suitable for drag cha	in							
		Suitable for robots								
Test conditions for standard cable	5	Drag chain: 5 million	cycles, bending radius 75 mi	n						
		Resistance to bending: To Festo standard; test conditions on request								
Test conditions for suitability for d	rag chain	Drag chain: 5 million cycles, bending radius 28 mm								
		Resistance to bending: To Festo standard; test conditions on request								
Test conditions for suitability for ro	bots	Drag chain: 5 million cycles, bending radius 28 mm								
		Torsional strength: >	300,000 cycles, ±270°/0.1 n	n						
		Resistance to bendin	g: To Festo standard; test cond	litions on request						
Operating voltage range DC	[V]	10 30								
Max. output current	[mA]	100								
Max. switching capacity DC	[W]	3.0								
Protection against short circuit		Pulsed								
Protection against overloading		Yes								
Protection against polarity reversa	l	For all electrical connections								
Protection class		IP65, IP68								

1) If the relevant option is selected → Modular products16

Operating and environmental conditions					
Ambient temperature [°C]	-20 +70				
Ambient temperature with flexible [°C]	-5 +70				
cable installation					
CE mark (see declaration of conformity)	In accordance with EU EMC directive				
Certification	c UL us - Listed (OL)				
	C-Tick				

Materials	
Housing	Polyamide; polyurethane; high-alloy stainless steel
Cable sheath	Polyurethane

Ordering data								
	Switch output	Electrical c	onnection			Cable length	Part No.	Туре
		Cable	Cable with	plug, turnable				
			M5x0.5	M8x1	M12x1	[m]		
1	N/O contact							
	PNP	3-wire	-	-	-	2.5	543 867	SMT-8M-PS-24V-K-2,5-OE
						5.0	543 868	SMT-8M-PS-24V-K-5,0-OE
		-	3-pin	-	-	0.3	543 865	SMT-8M-PS-24V-K-0,3-M5D
		-	-	3-pin	-		543 866	SMT-8M-PS-24V-K-0,3-M8D
		-	-	-	3-pin		543 869	SMT-8M-PS-24V-K-0,3-M12
	NPN	3-wire	-	-	-	2.5	543 870	SMT-8M-NS-24V-K-2,5-0E
		-	_	3-pin	-	0.3	543 871	SMT-8M-NS-24V-K-0,3-M8D
			•		•	•		
	N/C contact							
	PNP	3-wire	-	-	-	7.5	543 873	SMT-8M-PO-24V-K-7,5-OE

Proximity sensors SMT-8M, for T-slotModular products – Magneto-resistive



M Mandatory	M Mandatory data					
Module No.	Function	Switch output	Nominal operating voltage	Cable attribute	Cable length	Connection tech- nology
543 893	SMT-8M	PS NS PO	24V	K E R	0.2 30	OE M8D M8 M12
Order example 543 893	SMT-8M	- NS	- 24V -	- E -	3 -	M8D

Ordering t	table					
Size			8	Condi-	Code	Enter
				tions		code
M Modul	le No.		543 893			
Functi	ion		Proximity sensor for T-slot, contactless		SMT-8M	SMT-8M
					-	-
Switch	h output		3-wire PNP N/O contact		PS	
			3-wire NPN N/O contact		NS	
			3-wire PNP N/C contact		PO	
					-	-
Nomin	nal operating volt-	[V DC]	24		24V	24V
age						
					-	-
Cable	attribute		Standard		K	
			Suitable for drag chain		E	
			Suitable for robots		R	
					-	-
Cable	length	[m]	0.2 30			
			(0.2 2.5 m in 0.1 m steps, 2.5 15 m in 0.5 m steps, 15 30 m in 1 m steps)			
					-	-
Conne	ection technology		Open end		OE	
			M8, turnable		M8D	
			M8, snap flange		M8	
			M12, turnable		M12	

Transfer order co	ode	е							
543 893		SMT-8M	-	-	24V	-	-	-	

Proximity sensors SME-8M, for T-slot Technical data – Magnetic reed

Technical data					
Type of mounting		Screwed in slot, inser	table from above, flush with	cylinder profile	
Electrical connection		Cable, 3-wire	Cable with plug, turn	able	Cable, 2-wire
			M5x0.5, 3-pin	M8 x 1, 3-pin	
Cable length	[m]	0.2 10	•	•	
Cable attribute ¹⁾		Standard			
		Suitable for drag chai	n		
		Suitable for robots			
Test conditions for standard cables		Drag chain: 5 million	cycles, bending radius 75 m	m	
		Resistance to bending	g: To Festo standard; test con	ditions on request	
Test conditions for suitability for drag of	hain	Drag chain: 5 million	cycles, bending radius 28 m	m	
		Resistance to bending	g: To Festo standard; test con	ditions on request	
Test conditions for suitability for robots			cycles, bending radius 28 m		
		Torsional strength: >	300,000 cycles, ±270°/0.1 r	n	
		Resistance to bending	g: To Festo standard; test con	ditions on request	
Operating voltage range DC	[V]	5 30			
Operating voltage range AC	[V]	5 30			
Max. output current	[mA]	500			80
Max. output current in mounting kits	[mA]	80			
Max. switching capacity DC	[W]	10.0			2.4
Max. switching capacity AC	[VA]	10.0			2.4
Max. switching capacity DC in mount-	[W]	2.4			
ing kits					
Max. switching capacity AC in mount-	[VA]	2.4			
ing kits					
Protection against short circuit		No			
Protection against overloading		Not available			
Protection against polarity reversal		No			
Protection class		IP65, IP68			

1) If the relevant option is selected → Modular products18

Operating and environmental conditions					
Ambient temperature [°C]	-20 +70				
Ambient temperature with flexible [°C]	-5 +70				
cable installation					
CE mark (see declaration of conformity)	In accordance with EU EMC directive				
Certification	c UL us - Listed (OL)				
	C-Tick				

Materials	
Housing	Polyamide; polyurethane; high-alloy stainless steel
Cable sheath	Polyurethane

Ordering data							
	Switch output	Electrical connect	ion		Cable length	Part No.	Туре
		Cable	Cable with plug, t	urnable			
			M5x0.5	M8x1	[m]		
	N/O contact						
	Contacting, bipolar	3-wire	-	-	2.5	543 862	SME-8M-DS-24V-K-2,5-0E
					5.0	543 863	SME-8M-DS-24V-K-5,0-0E
					7.5	543 876	SME-8M-DS-24V-K-7,5-0E
		-	3-pin	-	0.3	543 864	SME-8M-DS-24V-K-0,3-M5D
	3-pin		3-pin		543 861	SME-8M-DS-24V-K-0,3-M8D	
		2-wire	-	-	2.5	543 872	SME-8M-ZS-24V-K-2,5-OE

Proximity sensors SME-8M, for T-slot Modular products – Magnetic reed



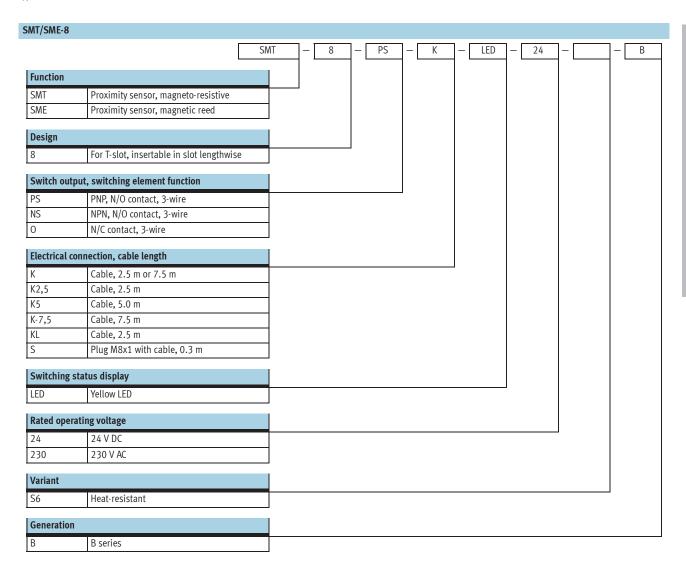
M Mandatory	M Mandatory data										
Module No.	Function	Switch output		Nominal operating voltage		Cable attribute		Cable length		Connection tech- nology	
543 892	SME-8M	DS ZS		24V		K E R		0.2 10		OE M8D M8 M12	
Order example 543 892	SME-8M	- ZS	-	24V	_	К	_	0.8	_	OE	

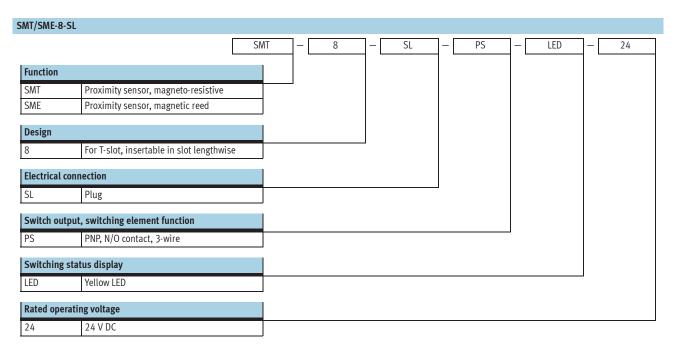
Ordering table				
Size	8	Condi-	Code	Enter
		tions		code
Module No.	543 892			
Function	Proximity sensor for T-slot, contacting		SME-8M	SME-8M
			-	-
Switch output	3-wire N/O contact		DS	
	2-wire N/O contact		ZS	
			-	-
Nominal operating volt- [\	DC] 24		24V	24V
			-	-
Cable attribute	Standard		K	
	Suitable for drag chain		E	
	Suitable for robots		R	
			-	-
Cable length [r	0.2 10 (0.2 2.5 m in 0.1 m steps, 2.5 10 m in 0.5 m steps)			
	1,7 2 2 2 2 2 2 2		_	-
Connection technology	Open end		OE	
	M8, turnable		M8D	
	M8, snap flange		M8	
	M12, turnable		M12	

Transfer order								
543 892	SME-8M	-	-	24V	-	-	-	

Proximity sensors SMT/CRSMT/SME-8, for T-slot

Type codes

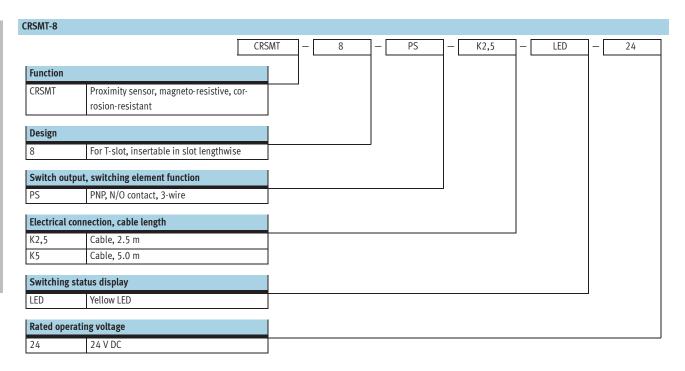


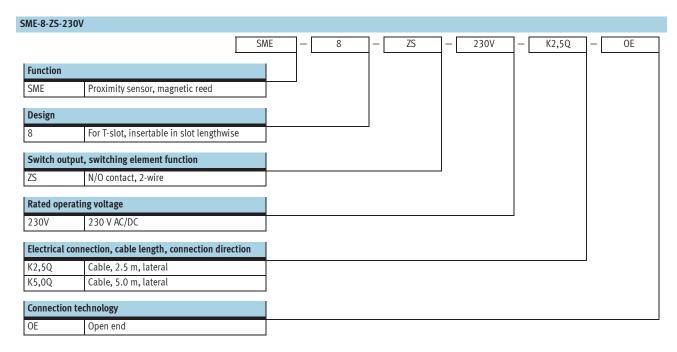


Proximity sensors SMT/CRSMT/SME-8, for T-slot



Type codes





Proximity sensors SMT-8/CRSMT-8, for T-slot Technical data – Magneto-resistive

Technical data								
		SMT-8	SMT-8-SL	CRSMT-8, corrosion-resistant				
Type of mounting		Clamped in T-slot, insertable in slot lengthwise						
		Flush with cylinder profile	Flush with cylinder profile –					
Electrical connection		Cable, 3-wire	Plug, M8x1, 3-pin	Cable, 3-wire				
		Cable with plug, turnable M8x1,						
		3-pin						
Operating voltage range DC	[V]	10 30	•					
Max. output current	[mA]	100	200	100				
Max. switching capacity DC	[W]	3.0	6.0	3.0				
Protection against short circuit		Yes						
Protection against overloading		Not available						
Protection against polarity reversal		For all electrical connections						
Protection class		IP65, IP67	IP65, IP67					

Operating and environmental condition	ns					
		SMT-8	SMT-8-SL	CRSMT-8, corrosion-resistant		
Ambient temperature	[°C]	-20 +60	-25 +70	-20 +60		
Ambient temperature with flexible	[°C]	-5 +60	-	-5 +60		
cable installation						
CE mark (see declaration of conformity)		In accordance with EU EMC directive				

Materials			
	SMT-8	SMT-8-SL	CRSMT-8, corrosion-resistant
Housing	Polyurethane	*	Polypropylene, thermoplastic styrene elastomer
Cable sheath	Polyurethane	_	Polyurethane

Ordering data							
	Switch output	Electrical connecti	on		Cable length	Part No.	Туре
		Cable	Cable with plug,	Plug M8x1			
			turnable M8x1		[m]		
N/O contact, basi	c version						
~	PNP	3-wire	-	-	2.5	175 436	SMT-8-PS-K-LED-24-B
					5.0	175 434	SMT-8-PS-K5-LED-24-B
		-	3-pin	-	0.3	175 484	SMT-8-PS-S-LED-24-B
	NPN	3-wire	-	-	2.5	171 180	SMT-8-NS-K-LED-24-B
		-	3-pin	-	0.3	171 181	SMT-8-NS-S-LED-24-B
	PNP	-	-	3-pin	-	531 145	SMT-8-SL-PS-LED-24
11/2							
N/O contact, corre		<u> </u>	1	1	1	1	
	PNP	3-wire	-	-	2.5	525 563	CRSMT-8-PS-K-LED-24
					5.0	525 564	CRSMT-8-PS-K5-LED-24

Proximity sensors SME-8, for T-slot Technical data – Magnetic reed



Technical data									
		SME-8-K	SME-8-S	SME-8-ZS	SME-8-SL	SME-8-0			
Type of mounting		Clamped in T-slot, insertable in slot lengthwise							
		Flush with cylinder	profile		-	Flush with cylinder			
						profile			
Switch output		Contacting, bipolar			•	•			
Switching element function	Switching element function					N/C contact			
Electrical connection		Cable, 3-wire	Cable with plug	Cable, 2-wire	Plug, M8x1, 3-pin	Cable, 3-wire			
			M8x1, 3-pin						
Operating voltage range DC	[V]	12 30		12 27	10 30	12 30			
Operating voltage range AC	[V]	12 30		-	10 30	12 30			
Max. output current	[mA]	500		80	500	50			
Max. switching capacity DC	[W]	10.0		2.0	10.0	1.5			
Protection against short circuit		No		•					
Protection against overloading		Not available							
Protection against polarity reversal		No							
Protection class		IP65, IP67				IP67			

Operating and environmental conditions										
		SME-8-K	SME-8-S	SME-8-ZS	SME-8-SL	SME-8-0				
Ambient temperature	[°C]	-20 +70		-20 +60	-20 +60	-20 +60				
Ambient temperature with flexible	[°C]	-5 +70		-5 +60	-	-5 +60				
cable installation										
CE mark (see declaration of conformity)		In accordance with EU EMC directive								

Materials					
	SME-8-K	SME-8-S	SME-8-ZS	SME-8-SL	SME-8-0
Housing	Polyethylene terephtha	alate	Polyamide	Polyethylene tereph- thalate	
Cable sheath	Polyurethane		-	Polyurethane	

Ordering data							
	Switch output	Electrical conn	Electrical connection			Part No.	Туре
		Cable	Cable with plug	Plug M8x1			
			M8x1		[m]		
N/O contact, ba	sic version						
~	Contacting, bi-	3-wire	-	-	2.5	150 855	SME-8-K-LED-24
	polar				5.0	175 404	SME-8-K5-LED-24
					7.5	530 491	SME-8-K-7,5-LED-24
		-	3-pin	-	2.5	150 857	SME-8-S-LED-24
		2-wire	-	-	0.3	171 169	SME-8-ZS-KL-LED-24
	Contacting, bi-	-	-	3-pin	-	526 622	SME-8-SL-LED-24
	polar						
N/C contact							
	Contacting, bi-	3-wire	-	_	7.5	160 251	SME-8-O-K-LED-24
	polar						
~							

Proximity sensors SME-8, for T-slot Technical data – Magnetic reed

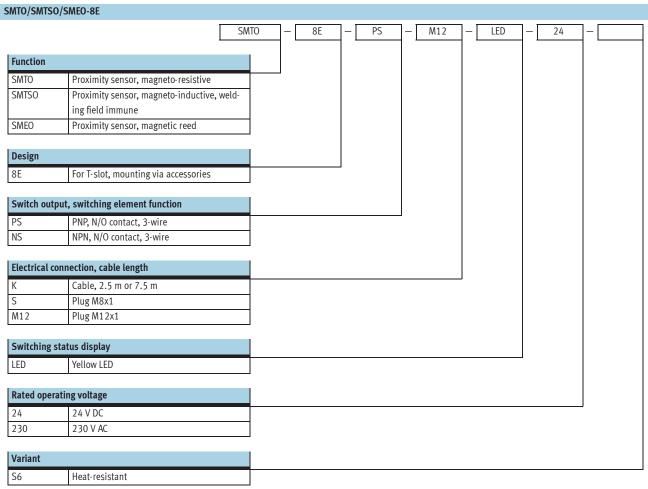
Technical data							
		SME-8S6	SME-8230	SME-8-ZS-230V			
Type of mounting		Clamped, insertable in the slot l	engthwise				
		Flush with cylinder profile	-				
Electrical connection		Cable, 2-wire	Cable, 2-wire				
Connection direction		In-line		Lateral			
Operating voltage range DC	[V]	0 30	3 250	5 250			
Operating voltage range AC	[V]	_	3 250	5 250			
Max. output current	[mA]	500	120	120			
Max. switching capacity DC	[W]	10.0	10.0	10.0			
Max. switching capacity AC	[VA]	_	10.0	10.0			
Protection against short circuit		No					
Protection against overloading		Not available					
Protection against polarity reversal		No					
Protection class		IP67 IP65, IP67					

Operating and environmental conditions					
		SME-8S6	SME-8230	SME-8-ZS-230V	
Ambient temperature	[°C]	-40 +120	-20 +60		
Ambient temperature with flexible	[°C]	-5 +120	-5 +60		
cable installation					
CE mark (see declaration of conformity)		In accordance with EU EMC directive			
		-	In accordance with EU Low Voltage Dir	ective	

Materials			
	SME-8S6	SME-8230	SME-8-ZS-230V
Housing	Polyethylene terephthalate		
Cable sheath	Thermoplastic styrene elastomer	Polyvinyl chloride	Polyurethane

Ordering data						
	Switch output	Electrical connection Cable	Connection direction	Cable length [m]	Part No.	Туре
N/O contact, heat-	resistant					
	Contacting, bipolar	2-wire	In-line	2.5	161 756	SME-8-K-24-S6
N/O contact, opera	N/O contact, operating voltage range 3 250 V AC/DC					
	Contacting, bipolar	2-wire	Lateral	2.5	538 816	SME-8-ZS-230V-K2,5Q-0E
				5.0	538 817	SME-8-ZS-230V-K5,0Q-0E
			In-line	2.5	152 820	SME-8-K-LED-230

1.1



SMEO-8E-ZS-230V SMEO 8E ZS 230V K2,5Q OE S6 **Function** SMEO Proximity sensor, magnetic reed Design For T-slot, mounting via accessories Switch output, switching element function N/O contact, 2-wire Rated operating voltage 230V 230 V AC/DC Electrical connection, cable length, connection direction K2,5Q Cable, 2.5 m, lateral Connection technology Open end OE Variant Heat-resistant

Proximity sensors SMTO-8E/SMTSO-8E, for T-slot Technical data – Magneto-resistive

Technical data					
		SMTO-8E	SMTSO-8E, welding field immune		
Type of mounting		Via accessories			
Electrical connection		Plug, M8x1, 3-pin	Plug M12x1, 3-pin		
		Plug M12x1, 3-pin			
Operating voltage range DC	[V]	10 30			
Max. output current	[mA]	100	200		
Max. switching capacity DC	[W]	3.0	6.0		
Protection against short circuit		Yes			
Protection against overloading	Protection against overloading		Not available		
Protection against polarity reversal		For all electrical connections			
Resistance to interference from magnetic fields		-	Alternating magnetic field 45 65 Hz		
Protection class		IP65, IP67	<u>.</u>		

Operating and environmental conditions				
	SMTO-8E	SMTSO-8E, welding field immune		
Ambient temperature [°C]	-20 +60	-25 +70		
CE mark (see declaration of conformity)	In accordance with EU EMC directive			

Materials		
	SMTO-8E	SMTSO-8E, welding field immune
Housing	Polyurethane	Polyamide

Ordering data					
	Switch output	Electrical connection		Part No.	Туре
		Plug M8x1	Plug M12x1		
N/O contact, basic	version				
	PNP	3-pin	-	171 178	SMTO-8E-PS-S-LED-24
		-	3-pin	171 179	SMTO-8E-PS-M12-LED-24
	NPN	3-pin	-	171 166	SMTO-8E-NS-S-LED-24
		-	3-pin	171 176	SMTO-8E-NS-M12-LED-24
N/O contact, weld	ing field immune				
930	PNP	_	3-pin	191 986	SMTSO-8E-PS-M12-LED-24
	NPN	-	3-pin	175 825	SMTSO-8E-NS-M12-LED-24



Mounting kit not included in scope of delivery. Corresponding mounting kits → Peripherals overview 28

Proximity sensors SMEO-8E, for T-slot Technical data – Magnetic reed



Technical data				
Type of mounting		Via accessories		
Electrical connection		Plug, M8x1, 3-pin	Plug M12x1, 3-pin	
Operating voltage range DC	[V]	12 30		
Max. output current	[mA]	500		
Max. switching capacity DC	[W]	10.0		
Protection against short circuit		No		
Protection against overloading		Not available		
Protection against polarity reversal		No		
Protection class		IP65, IP67		

Operating and environmental conditions				
Ambient temperature	[°C]	-20 +60		
CE mark (see declaration of conformity)		In accordance with EU EMC directive		

Materials	
Housing	Polyurethane

Ordering data					
	Switch output	Electrical connection	Part No.	Туре	
		Plug M8x1	Plug M12x1		
N/O contact, basic					
	Contacting, bi- polar	3-pin		171 163	SMEO-8E-S-LED-24
		_	3-pin	171 164	SMEO-8E-M12-LED-24



Note

Mounting kit not included in scope of delivery. Corresponding mounting kits → Peripherals overview 28

Proximity sensors SMEO-8E, for T-slot Technical data – Magnetic reed

Technical data						
		SMEO-8ES6	SMEO-8E230	SMEO-8E-ZS-230VS6		
Type of mounting		Via accessories, insertable in the slot from above				
Electrical connection		Cable, 2-wire	Plug M12x1, 3-pin	Cable, 2-wire		
Operating voltage range DC	[V]	0 30	3 250	5 250		
Operating voltage range AC	[V]	0 30	3 250	5 250		
Max. output current	[mA]	500	120	120		
Max. switching capacity DC	[W]	10.0	10.0	10.0		
Max. switching capacity AC	[VA]	10.0	10.0	10.0		
Protection against short circuit		No				
Protection against overloading		Not available				
Protection against polarity reversal		No				
Protection class		IP65, IP67				

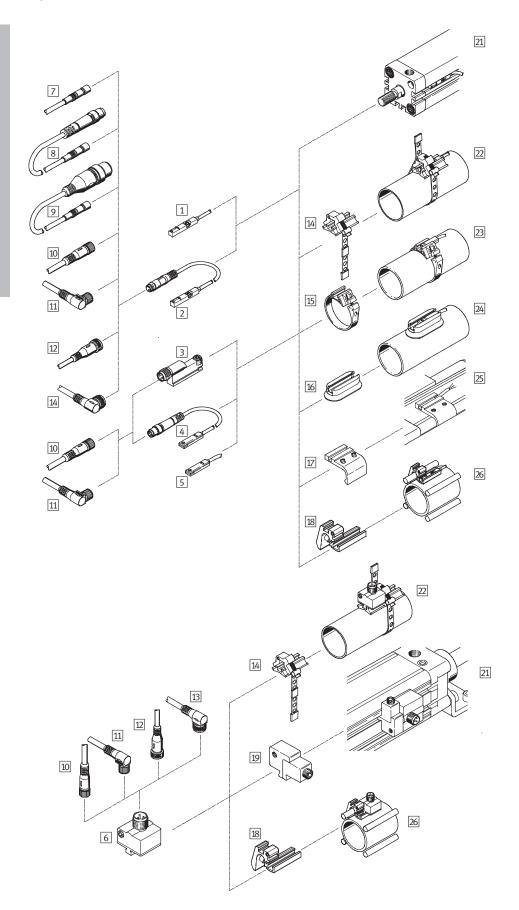
Operating and environmental conditions							
		SMEO-8ES6	SMEO-8E230	SMEO-8E-ZS-230VS6			
Ambient temperature	[°C]	-20 +120	-20 +60	−20 +120			
Ambient temperature with flexible	[°C]	−5 +120	_	-2 +120			
cable installation							
CE mark (see declaration of conformity)		Not necessary	In accordance with EU EMC directive				
		_	In accordance with EU Low Voltage Directive				

Materials			
	SMEO-8ES6	SMEO-8E230	SMEO-8E-ZS-230VS6
Housing	Polyurethane		
Cable sheath	Thermoplastic styrene elastomer	-	Thermoplastic polyolefin elastomer

Ordering data	Ordering data								
	Switch output	Electrical connection		Cable length	Part No.	Туре			
		Cable	Plug	[m]					
N/O contact, heat-	N/O contact, heat-resistant								
	Contacting, bipolar	2-wire		2.5	171 158	SMEO-8E-K-24-S6			
N/O contact, opera	ating voltage range 3	250 V AC/DC							
	Contacting, bipolar	-	3-pin	_	171 160	SMEO-8E-M12-LED-230			
N/O contact, heat-	resistant, operating vol	tage range 3 250 V AC/D	С						
	Contacting, bipolar	2-wire		2.5	538 990	SMEO-8E-ZS-230V-K2,5Q-OE-S6			



Mounting kit not included in scope of delivery. Corresponding mounting kits → Peripherals overview 28





Proximity sensors SMT/SME-8, for T-slotAccessories

Mou	nting attachments and accessories						
Prox	imity sensors						
1	SMT/SME-8MOE, with cable						
2	SMT/SME-8MM, with cable and plug						
3	SMT/SME-8-SL, with plug						
4	SMT/SME-8-S, with cable and plug						
5	SMT/SME-8-K, with cable						
	CRSMT-8-K, with cable, corrosion-resistant						
6	SMTO/SMTSO/SMEO-8E, with cable or plug						
Conr	necting cables						
7	NEBU-M55-Q3-LE3						
8	NEBU-M51-Q3-M8G3						
9	NEBU-M51-Q3-M12G4						
10	NEBU-M8G3, SIM-M8-3GD						
11	NEBU-M8W3, SIM-M8-3WD						
12	NEBU-M12G5, SIM-M12-3GD						
13	NEBU-M12W5, SIM-M12-3WD						

Ordering d	ata – Conn	ecting cable	S	Technical data 🗪 169
	Number	Cable	Part No.	Туре
	of wires	length [m]		
M5x0.5, st	raight sock	et		
	3	2.5	539 508	NEBU-M5G4-K-5-Q3-LE3
CT CO	,	1.0	539 510	NEBU-M5G4-K-1-Q3-M8G3
OL CES	4	1.0	539 512	NEBU-M5G4-K-1-Q3-M12G4
M8x1, stra	ight socket			
	3	2.5	541 333	NEBU-M8G3-K-2.5-LE3
		5	541 334	NEBU-M8G3-K-5-LE3
M8x1, angl	led socket			
	3	2.5	541 338	NEBU-M8W3-K-2.5-LE3
6		5	541 341	NEBU-M8W3-K-5-LE3
		-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	NEDO-MOW J-K-J-LEJ
			3,23,2	NEDO-WOW J-N-J-LEJ
M12x1, str	aight socke	t	31-31-	NEDO-MOWJ-N-J-LEJ
M12x1, str	aight socke	t 2.5	541 363	NEBU-M12G5-K-2.5-LE3
M12x1, str				
M12x1, str		2.5	541 363	NEBU-M12G5-K-2.5-LE3
M12x1, str	3	2.5 5	541 363	NEBU-M12G5-K-2.5-LE3
6 7 8	3	2.5 5	541 363	NEBU-M12G5-K-2.5-LE3

Ordering data – Inscription labels, safety clips						
	Size	Part No.	Туре	PU ¹⁾		
	23x4 mm	541 598	ASLR-L-423	51		
of the second	M8	548 067	NEAU-M8-GD	1		
	M12	548 068	NEAU-M12-GD	1		

¹⁾ Packaging unit in quantity per frame

Mou	nting attachments and accessories					
Mou	nting kits and accessories					
14	Mounting kit SMBR-8-8/100-S6, heat-resistant					
15	Mounting kit SMBR					
16	Mounting kit CRSMB, corrosion-resistant					
17	Mounting kit SMB-8-FENG					
18	Mounting SMBZ-8					
19	Mounting kit SMB-8E					
20	Sensor tester SM-TEST-1					
-	Clip SMBK-8					
Driv	e units					
21	Drives with T-slot					
22	Round cylinders					
23	Round cylinders					
24	Round cylinders					
25	Standard cylinders DNC, DNCB, DNCKE					
26	Drives with tie or mounting rod					

Ordering data	- Mounting att	achments	
	For Ø	Part No.	Туре
a	8 100	538 937	SMBR-8-8/100-S6
an an	8	175 091	SMBR-8-8
	10	175 092	SMBR-8-10
	12	175 093	SMBR-8-12
	16	175 094	SMBR-8-16
	20	175 095	SMBR-8-20
	25	175 096	SMBR-8-25
	32	175 097	SMBR-8-32
	40	175 098	SMBR-8-40
	50	175 099	SMBR-8-50
	63	175 100	SMBR-8-63
133	32 100	525 565	CRSMB-8-32/100
122	32/40	175 705	SMB-8-FENG-32/40
	50/63	175 706	SMB-8-FENG-50/63
	80/100	175 707	SMB-8-FENG-80/100
Boan	32 100	537 806	SMBZ-8-32/100
	125 320	537 808	SMBZ-8-125/320
\bigcirc	-	178 230	SMB-8E
	-	534 254	SMBK-8

Ordering data – Sensor tester						
	Part No.	Туре				
	158 481	SM-TEST-1				

Sensors for drive units

1.1

SMT/SME-10F SMT 10F 24V K2,5L OE PS **Function** SMT Proximity sensor, magneto-resistive SME Proximity sensor, magnetic reed Design 10F For C-slot, insertable in slot from above Switch output, switching element function PNP, N/O contact, 3-wire NS NPN, N/O contact, 3-wire DS N/O contact, 3-wire ZS N/O contact, 2-wire (SMT) N/O contact, 2-wire (SME) Rated operating voltage 24 V DC Cable length, connection direction K0,3L 0.3 m, in-line K0,3Q 0.3 m, lateral K2,5L 2.5 m, in-line K2,5Q 2.5 m, lateral **Electrical connection** OE M5D Cable with plug M5x0.5 M8D Cable with plug M8x1

Proximity sensors SMT-10F, for C-slot Technical data – Magneto-resistive

Technical data							
Type of mounting		Clamped in C-slot, in	Clamped in C-slot, insertable in slot from above, flush with cylinder profile ¹⁾				
Electrical connection		Cable, 3-wire	Cable with plug, turn	able	Cable, 2-wire		
			M5x0.5, 3-pin	M8 x 1, 3-pin			
Operating voltage range DC	[V]	5 30		•	10 30		
Max. output current	[mA]	200			50		
Max. switching capacity DC	[W]	6.0			1.5		
Protection against short circuit		Yes					
Protection against overloading		Yes					
Protection against polarity reversal		For all electrical connections					
Protection class		IP65, IP67					

1) Applies to in-line connection.

Operating and environmental conditions				
Ambient temperature [°C]	-20 +60			
Ambient temperature with flexible [°C]	-5 +60			
cable installation				
CE mark (see declaration of conformity)	In accordance with EU EMC directive			
Certification	c UL us - Listed (OL)			
	C-Tick			

Materials	
Housing	Polyamide
Cable sheath	Polyurethane

Ordering data							
	Switch output	Electrical connection			Cable length	Part No.	Туре
		Cable	Cable with pl	ug, turnable			
			M5x0.5	M8x1	[m]		
-line connect	ion						
	N/O contact						
	PNP	3-wire	-	-	2.5	525 915	SMT-10F-PS-24V-K2,5L-0E
		-	3-pin	-	0.3	539 495	SMT-10F-PS-24V-K0,3L-M5D
		-	-	3-pin		525 916	SMT-10F-PS-24V-K0,3L-M8D
	NPN	3-wire	-	-	2.5	526 678	SMT-10F-NS-24V-K2,5L-OE
		-	-	3-pin	0.3	526 679	SMT-10F-NS-24V-K0,3L-M8D
	Contactless,	2-wire	-	-	2.5	526 677	SMT-10F-ZS-24V-K2,5L-0E
	2-wire						
	•	•	•	•			
ateral connect	tion						
A	N/O contact						
A	PNP	3-wire	-	-	2.5	526 674	SMT-10F-PS-24V-K2,5Q-OE
14		-	-	3-pin	0.3	526 675	SMT-10F-PS-24V-K0,3Q-M8D
	NPN	3-wire	-	-	2.5	526 680	SMT-10F-NS-24V-K2,5Q-0E
		-	_	3-pin	0.3	526 681	SMT-10F-NS-24V-K0,3Q-M8D
	Contactless, 2-wire	2-wire	-	-	2.5	526 676	SMT-10F-ZS-24V-K2,5Q-0E

Proximity sensors SME-10F, for C-slot Technical data – Magnetic reed



Technical data					
Type of mounting		Clamped in C-slot, insertable in slot f	from above , flush with cylinder profile ¹	.)	
Electrical connection		Cable, 3-wire Cable with plug, turnable M8x1,		Cable, 2-wire	
			3-pin		
Operating voltage range DC	[V]	10 30	•	5 30	
Operating voltage range AC	[V]	10 30	10 30		
Max. output current	[mA]	500		100	
Max. switching capacity DC	[W]	10.0		3.0	
Max. switching capacity DC	[VA]	10.0		3.0	
Protection against short circuit		No			
Protection against overloading	Not available				
Protection against polarity reversal		No			
Protection class		IP65, IP67			

1) Applies to in-line connection.

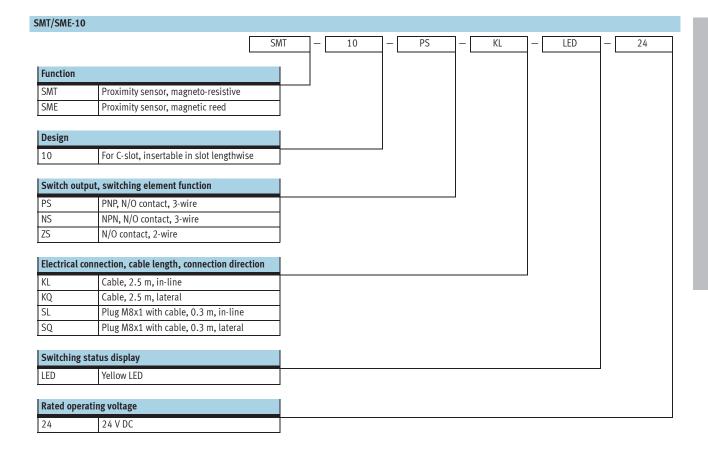
Operating and environmental conditions				
Ambient temperature	[°C]	-20 +60		
Ambient temperature with flexible	[°C]	-5 +60		
cable installation				
CE mark (see declaration of conformity))	In accordance with EU EMC directive		
Certification		c UL us - Listed (OL)		

Materials	
Housing	Polyamide
Cable sheath	Polyurethane

Ordering data							
	Switch output	Electrical connection		Cable lengt		Part No.	Туре
		Cable	Cable with pl	ug, turnable			
			M5x0.5	M8x1	[m]		
n-line connectio	on						
	N/O contact						
	Contacting, bi-	3-wire	-	-	2.5	525 913	SME-10F-DS-24V-K2,5L-OE
	polar	-	3-pin	-	0.3	539 494	SME-10F-DS-24V-K0,3L-M5D
		-	-	3-pin		525 914	SME-10F-DS-24V-K0,3L-M8D
		2-wire	-	-	2.5	526 672	SME-10F-ZS-24V-K2,5L-OE
ateral connecti	on						
M	N/O contact						
	Contacting, bi-	3-wire	-	-	2.5	526 670	SME-10F-DS-24V-K2,5Q-0E
Ц	polar	-	-	3-pin	0.3	526 671	SME-10F-DS-24V-K0,3Q-M8D
		2-wire	-	-	2.5	526 673	SME-10F-ZS-24V-K2,5Q-OE

Proximity sensors SMT/SME-10, for C-slot

Type codes



Proximity sensors SMT-10, for C-slot Technical data – Magneto-resistive

FESTO

Technical data					
Type of mounting		Clamped in C-slot, insertable in slot lengt	hwise		
Electrical connection		Cable, 3-wire	Cable with plug, turnable M8x1, 3-pin		
Operating voltage range DC	[V]	10 30	·		
Max. output current	[mA]	200			
Max. switching capacity DC	[W]	6.0			
Protection against short circuit		Yes			
Protection against overloading		Yes			
Protection against polarity reversal		For all electrical connections			
Protection class		IP65, IP67			

Operating and environmental conditions				
Ambient temperature	[°C]	-20 +60		
Ambient temperature with flexible	[°C]	-5 +60		
cable installation				
CE mark (see declaration of conformity)		In accordance with EU EMC directive		

Materials	
Housing	Polyamide
Cable sheath	Polyurethane

Ordering data						
	Switch output	Electrical connection Cable Cable with plug, turnable		Cable length	Part No.	Туре
			M8x1	[m]		
In-line connect	ion					
N/c	N/O contact					
	PNP	3-wire	-	2.5	173 218	SMT-10-PS-KL-LED-24
(a		-	3-pin	0.3	173 220	SMT-10-PS-SL-LED-24
	NPN	3-wire	-	2.5	173 222	SMT-10-NS-KL-LED-24
		-	3-pin	0.3	173 224	SMT-10-NS-SL-LED-24
Lateral connec	tion					
//	N/O contact					
	PNP	3-wire	-	2.5	173 219	SMT-10-PS-KQ-LED-24
		-	3-pin	0.3	173 221	SMT-10-PS-SQ-LED-24
(Je	NPN	3-wire	-	2.5	173 223	SMT-10-NS-KQ-LED-24
		-	3-pin	0.3	173 225	SMT-10-NS-SQ-LED-24

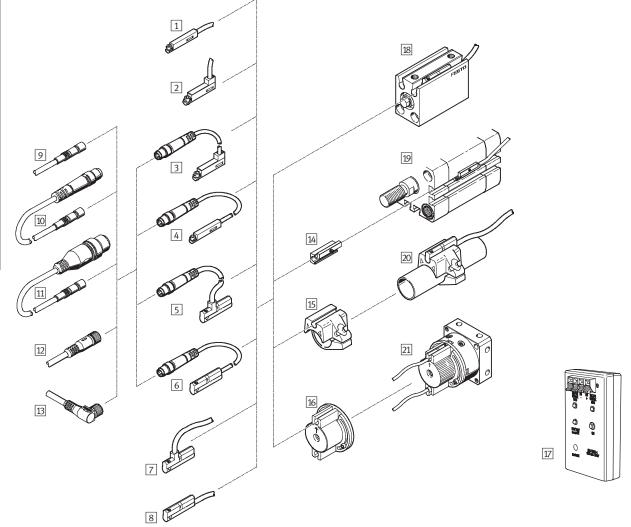
Proximity sensors SME-10, for C-slot Technical data – Magnetic reed

Technical data			
Type of mounting		Clamped in C-slot, insertable in slot lengthwise	
Electrical connection		Cable, 3-wire	Cable with plug, turnable M8x1, 3-pin
Operating voltage range DC	[V]	12 27	
Operating voltage range AC	[V]	12 27	
Max. output current	[mA]	100	
Max. switching capacity DC	[W]	1.0	
Max. switching capacity AC	[VA]	1.0	
Protection against short circuit		No	
Protection against overloading		Not available	
Protection against polarity reversal		No	
Protection class		IP65, IP67	

Operating and environmental conditions			
Ambient temperature	[°C]	-20 +70	
Ambient temperature with flexible	[°C]	-5 +70	
cable installation			
CE mark (see declaration of conformity)		In accordance with EU EMC directive	

Materials	
Housing	Polyphenylene sulphide
Cable sheath	Polyurethane

Ordering data						
	Switch output	Electrical connection	Electrical connection		Part No.	Туре
		Cable	Cable with plug, turnable M8x1	[m]		
n-line connect	ion					
0/-	N/O contact					
	Contacting, bi-	3-wire	-	2.5	173 210	SME-10-KL-LED-24
Jø.	polar	-	3-pin	0.3	173 212	SME-10-SL-LED-24
ateral connect	tion					
//	N/O contact					
((Contacting, bi-	3-wire	-	2.5	173 211	SME-10-KQ-LED-24
	polar	_	3-pin	0.3	173 213	SME-10-SQ-LED-24



Mou	Mounting attachments and accessories							
Prox	Proximity sensors							
1	SM10FK2,5L-OE, with cable							
2	SM10FK2,5Q-OE, with cable							
3	SM10FK0,3Q-M, with cable and plug							
4	SM10FK0,3L-M, with cable and plug							
5	SM10-KQ, with cable and plug							
6	SM10-KL, with cable and plug							
7	SM10-SQ, with cable							
8	SM10-SL, with cable							
Conr	Connecting cables							
9	Connecting cable NEBU-M55-Q3-LE3							
10	Connecting cable NEBU-M51-Q3-M8G3							
11	Connecting cable NEBU-M51-Q3-M12G4							
12	Connecting cable NEBU-M8G3							
13	Connecting cable NEBU-M8W3							

Mou	Mounting attachments and accessories				
Mou	Mounting kits and accessories				
14	Mounting kit SMBN-10				
15	Mounting kit SMBR-10				
16	Mounting kit WSMSME-10				
17	Sensor tester SM-TEST-1				
-	Clip SMBK-10				
Drive	Drive units				
18	Drive units with C-slot				
19	Drive units with T-slot				
20	Round cylinders				
21	Swivel module DSM				

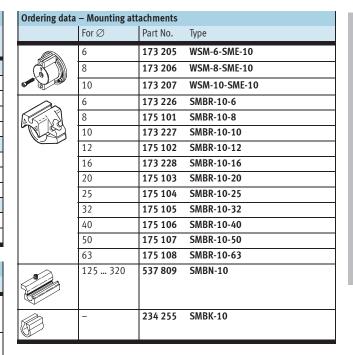
Proximity sensors SMT/SME-10, for C-slot

Accessorie

Ordering dat	ta – Conne	ecting cable	Technical data → 169			
	Number	Cable	Part No.	Туре		
	of wires	length [m]				
M5x0.5, stra	ight socke	et				
	3	2.5	539 508	NEBU-M5G4-K-5-Q3-LE3		
535		1.0	539 510	NEBU-M5G4-K-1-Q3-M8G3		
M. CE	4	1.0	539 512	NEBU-M5G4-K-1-Q3-M12G4		
M8x1, straig	ht socket					
	3	2.5	541 333	NEBU-M8G3-K-2.5-LE3		
		5	541 334	NEBU-M8G3-K-5-LE3		
M8x1, angle	18x1, angled socket					
	3	2.5	541 338	NEBU-M8W3-K-2.5-LE3		
66		5	541 341	NEBU-M8W3-K-5-LE3		

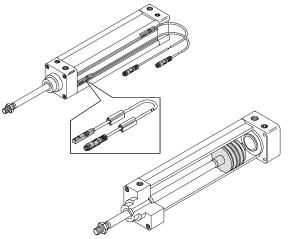
Ordering data – Inscription labels, safety clips						
	Size	Part No.	Туре	PU ¹⁾		
	23x4 mm	541 598	ASLR-L-423	51		
	M8	548 067	NEAU-M8-GD	1		
	M12	548 068	NEAU-M12-GD	1		

¹⁾ Packaging unit in quantity per frame



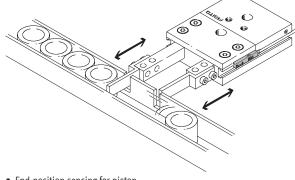
Ordering data – Sensor tester					
	Part No.	Туре			
0.00	158 481	SM-TEST-1			

General application examples



 Proximity sensors are used for sensing the piston position of pneumatic drives. The signal is logically

linked to the controller and used for process control.



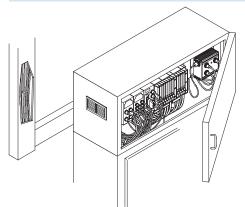
• End-position sensing for piston position detection and consequent feedback of process events

Cable attributes

The connecting cables of the proximity sensors can be configured using the modular system. You can select qua-

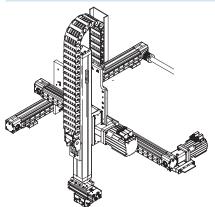
lities that are suited to standard, drag chain or robot applications.

Standard application



 Standard applications are characterised by fixed cable installation or small to medium mechanical loads. Above a bending radius of 75 mm, the Festo standard qualities are also suitable for drag chains.

Drag chain application

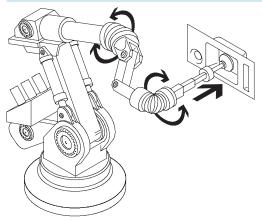


 High mechanical loads occur in the case of drag chain applications, particularly when the drag chain has small radii.

Proximity sensors SMT/SME

Application examples

Robot application

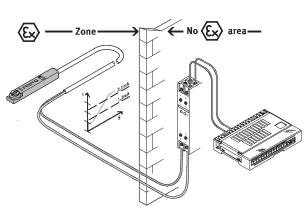


 Robot applications are characterised by high mechanical loads, which are primarily caused by torsion.

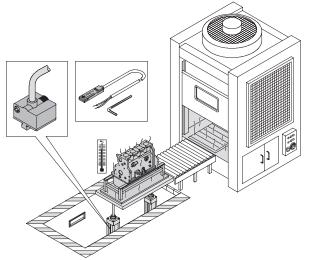
Special application

Areas at risk of explosion → www.festo.com

Extreme temperature ranges



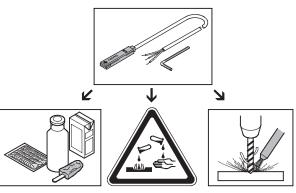
- The range also includes sensors for device categories 1GD and 3GD.
- The sensor meets the high requirements of device category 1GD
 thanks to its Namur interface. The sensor must be operated with an isolation amplifier to analyse the signal. The isolation amplifier
- analyses the proximity sensor signal and provides the conventional binary output signal.
- Proximity sensors for device category 3GD have a normal switch output and can be connected directly to the fieldbus unit or PLC.



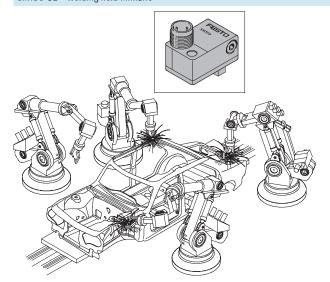
 Proximity sensors with the identifier "S6" in the type code are for increased temperature range and for use up to 120 °C. Some of these sensors are also suitable for a temperature range down to -40 °C.

Special proximity sensors CRSMT-8 - Corrosion-resistant

SMTSO-8E – Welding field immune



- The sensor is suitable for the food industry and ideal for use in the food sector.
- The sensor is acid-resistant and can be used in electroplating, for example.
- The sensor demonstrates very good resistance to lubricant coolants.
- The sensor has the highest corrosion resistance class (Festo CRC4).



- The SMTSO-8E series provides welding field immune proximity sensors.
- This electronic proximity sensor is designed for use in welding areas with alternating fields from 45 $\,$... 65 Hz. The switching signal is
- "frozen" as soon as the proximity sensor detects an alternating magnetic field. This prevents incorrect switching during welding operations.