

Proximity sensors, round design

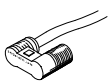
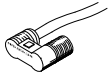
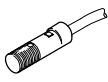
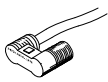
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Proximity sensors, round design

Product range overview

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Measuring principle	Version	Type	Assembly	Switching element function		Switch output	Electrical connection	
				N/O contact	N/C contact		Cable	Plug
Magneto-inductive	Operating voltage range 10 ... 30 V DC							
		SMT0-4U	Via accessories	■	–	PNP	3-wire	M8x1, 3-pin
				■	–	NPN	3-wire	M8x1, 3-pin
Magnetic reed	Operating voltage range 12 ... 30 V AC/DC							
		SME0-4U	Via accessories	■	–	Contacting	3-wire	M8x1, 3-pin
		CRSME0-4 Corrosion resistant	Via accessories	■	–	Contacting	3-wire	–
	Operating voltage range 12 ... 250 V AC/DC							
		SME0-4U	Via accessories	■	–	Contacting	2-wire	–

Proximity sensors, round design

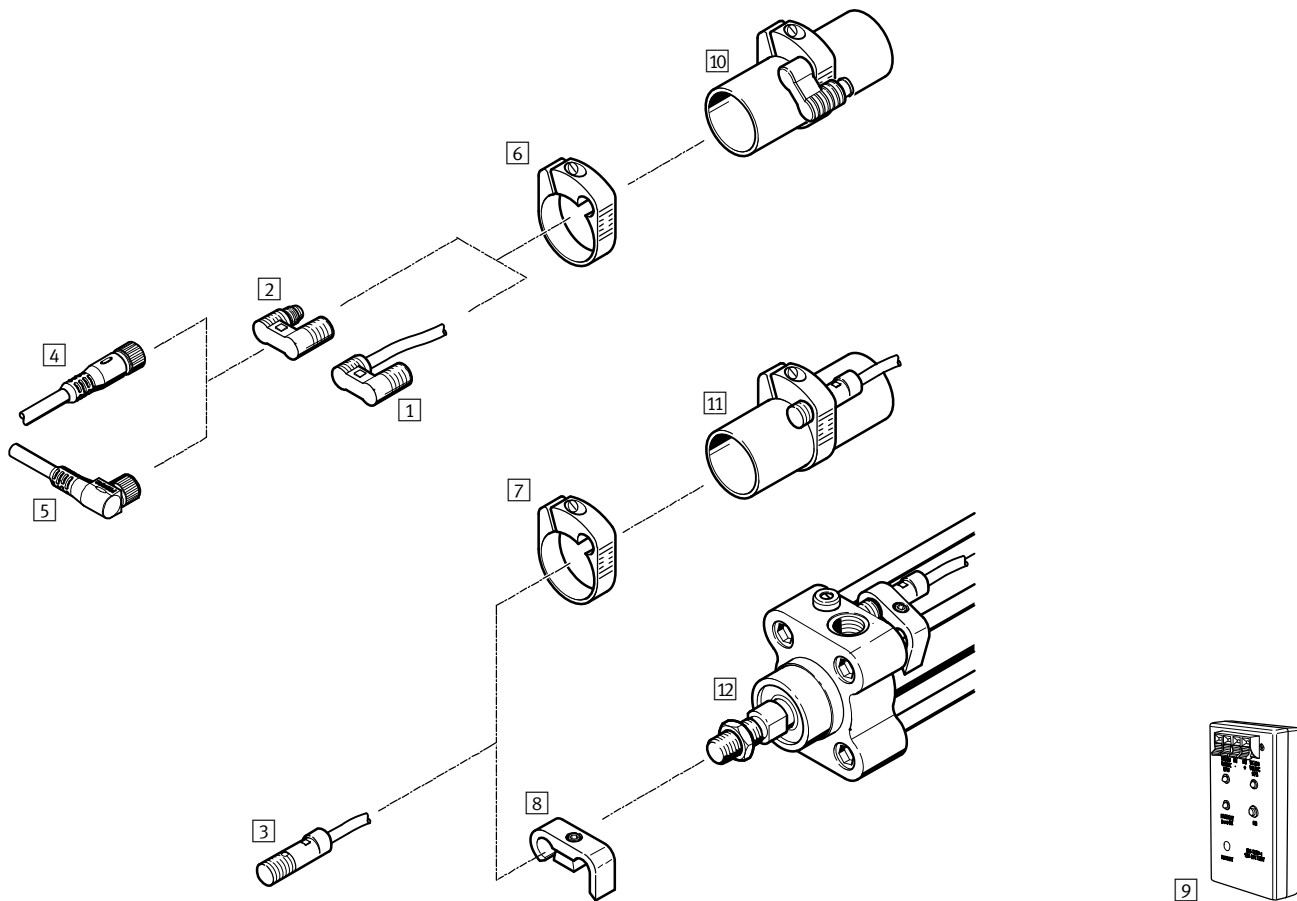
Product range overview

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Type	Connection direction		Switching status display via LED	Free of copper and PTFE	→ Page/Internet
	In-line	Lateral			
Operating voltage range 10 ... 30 V DC					
SMT0-4U	■	–	■	■	6
	■	–	■	–	
Operating voltage range 12 ... 30 V AC/DC					
SME0-4U	■	–	■	■	9
CRSME0-4 Corrosion resistant	■	–	■	–	12
Operating voltage range 12 ... 250 V AC/DC					
SME0-4U	■	–	■	–	9

Proximity sensors, round design

Peripherals overview



Mounting attachments and accessories		
	Brief description	→ Page/Internet
Proximity sensors		
1	SMT0-4U-K SME0-4U-K	Magneto-inductive, with cable Magnetic reed, with cable
2	SMT0-4U-S SME0-4U-S	Magneto-inductive, with plug M8x1 Magnetic reed, with plug M8x1
3	CRSMEO-4	Magnetic reed, corrosion resistant, with cable
Accessories		
4	Plug socket with cable NEBU-M83GD-...	Straight socket, M8x1, 3-pin
5	Plug socket with cable NEBU-M83WD-...	Angled socket, M8x1, 3-pin
6	Mounting kit SMBR-...	For round cylinders
7	Mounting kit CRSMBR-...	Corrosion resistant, for round cylinders
8	Mounting kit CRSMB-...	Corrosion resistant
9	Sensor tester SM-TEST-1	
Drives		
10	Round cylinders	Ø 8 ... 25 mm
11	Round cylinders CRDSNU, stainless steel	Ø 12 ... 63 mm
12	Standard cylinders CRDNG, CRDNGS, stainless steel	Ø 32 ... 125 mm

Proximity sensors, round design

Type codes

		SMT0	–	4U	–	PS	–	K	–	LED	–	24	–	
Function														
SMT0	Proximity sensor, magneto-inductive													
SME0	Proximity sensor, magnetic reed													
CRSME0	Proximity sensor, magnetic reed, corrosion resistant													
Design														
4U	Round design, U-shaped housing													
4	Round design, straight housing													
Switch output, switching element function														
PS	PNP, N/O contact, 3-wire													
NS	NPN, N/O contact, 3-wire													
	N/O contact, 2- or 3-wire													
Electrical connection, cable length														
K	Cable, 2.5 m													
K5	Cable, 5 m													
S	Plug M8x1													
Switching status display														
LED	Yellow LED													
Rated operating voltage														
24	24 V DC													
230	230 V AC													
Generation														
B	B series													

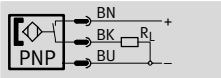
Proximity sensors SMT0-4U, round design, magneto-inductive



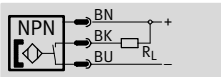
Technical data

Function

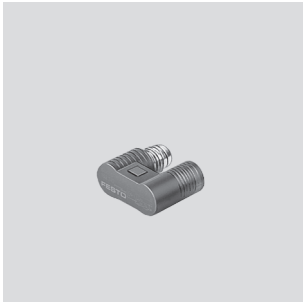
e.g. PNP, N/O contact, with plug



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



- Magneto-inductive measuring principle



General technical data	
Design	Round
Certification	RCM trademark
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾
Note on materials	Free of copper and PTFE

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Input signal/measuring element	
Measuring principle	Magneto-inductive
Ambient temperature [°C]	-25 ... +70

Switching output		
Type	SMT0-4U-...-K	SMT0-4U-...-S
Switching output	NPN	NPN
	PNP	PNP
Switching element function	N/O contact	N/O contact
Reproducibility of switching point ¹⁾ [mm]	±0.1	±0.1
Switch-on time [ms]	0 ... 5	0.5
Switch-off time [ms]	0 ... 5	0.5
Max. output current [mA]	200	200
Max. contact rating DC [W]	6	6
Voltage drop [V]	2	0 ... 2
Residual current [mA]	0 ... 0.01	0 ... 0.01

1) Only applicable to drives secured against rotation.

Output, additional data	
Protection against short circuit	Pulsed
Protection against overloading	Yes

Electronic components	
Operating voltage range DC [V]	10 ... 30
Reverse polarity protection	For all electrical connections

Proximity sensors SMT0-4U, round design, magneto-inductive

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Technical data

Electromechanical components		
Type	SMT0-4U-...-K	SMT0-4U-...-S
Electrical connection	Cable, 3-wire	Plug M8x1, 3-pin
Connection direction	In-line	–
Max. tightening torque, [Nm]	–	0.3
Cable length [m]	2.5	–
Cable characteristics	Standard	–
Cable sheath materials	PVC	–

Mechanical components		
Type	SMT0-4U-...-K	SMT0-4U-...-S
Type of mounting	Via accessories	
Max. tightening torque [Nm]	0.8	0.8
Product weight [g]	70	6
Housing materials	PET	PET
	–	PA
	–	PUR

Display/operation	
Switching status display	Yellow LED

Immissions/emissions		
Type	SMT0-4U-...-K	SMT0-4U-...-S
Ambient temperature with flexible cable installation [°C]	–5 ... +70	–
Protection class	IP67	
Corrosion resistance class CRC ¹⁾	2	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Dimensions Download CAD data → www.festo.com

1 2-wire cable, 3-wire cable for SMEO-4U-K-LED-220

2 Yellow LED for switching status

	L1	L2	D1 Ø	D2 Ø	D3 Ø	H1
SMT0-4U-...-K-LED-24	19	15.5	9.4	9	4.2	23

Proximity sensors SMT0-4U, round design, magneto-inductive



Technical data

Dimensions

Download CAD data → www.festo.com

Plug M8x1

2

Yellow LED for switching status

3

Plug to fit connecting cable
SIM-8-...

4

Installation space for angled
socket

	L1	L2	L3	L4	D1 Ø	D2 Ø	H1
SMT0-4U- ... -S-LED-24	19	21	~34	~22	10	9	23

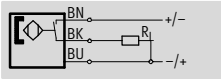
Ordering data						
	Switching output	Electrical connection		Cable length [m]	Part No.	Type
		Cable	Plug M8x1			
	N/O contact					
	PNP	3-wire	–	2.5	152836	SMT0-4U-PS-K-LED-24
		–	3-pin	–	152742	SMT0-4U-PS-S-LED-24
	NPN	3-wire	–	2.5	152837	SMT0-4U-NS-K-LED-24
		–	3-pin	–	152743	SMT0-4U-NS-S-LED-24

Proximity sensors SMEO-4U, round design, magnetic reed

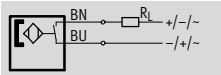
Technical data

Function

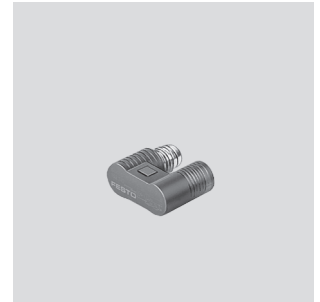
e.g. N/O contact, 3-wire, with cable



e.g. N/O contact, 2-wire, with cable



- Magnetic reed measuring principle



General technical data		
Type	SMEO-4U-...-24	SMEO-4U-...-230
Design	Round	Round
Conforms to	–	EN 60947-5-2
Certification	RCM trademark	RCM trademark
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾ –	To EU EMC Directive ¹⁾ To EU Low Voltage Directive
Note on materials	Free of copper and PTFE	Free of copper and PTFE

- 1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Input signal/measuring element	
Measuring principle	Magnetic reed
Ambient temperature	[°C] –20 ... +60

Switching output		
Type	SMEO-4U-...-24	SMEO-4U-...-230
Switching output	Contacting, bipolar –	Contacting, bipolar Without LED function
Switching element function	N/O contact	N/O contact
Reproducibility of switching point ¹⁾ [mm]	±0.1	±0.1
Switch-on time [ms]	0 ... 0.5	0 ... 2
Switch-off time [ms]	0.03	0.05
Max. switching frequency [Hz]	–	500
Max. output current [mA]	500	500
Max. output current DC [mA]	–	120
Max. output current AC [mA]	–	250
Max. contact rating DC [W]	10	10
Max. contact rating AC [VA]	–	10
Voltage drop [V]	–	0 ... 4.5

- 1) Only applicable to drives secured against rotation.

Output, additional data		
Type	SMEO-4U-...-24	SMEO-4U-...-230
Protection against short circuit	No	
Protection against overloading	–	No

Electronic components		
Type	SMEO-4U-...-24	SMEO-4U-...-230
Operating voltage range DC [V]	12 ... 27	12 ... 250
Operating voltage range AC [V]	–	12 ... 250
Reverse polarity protection	No	No

Proximity sensors SMEO-4U, round design, magnetic reed



Technical data

Electromechanical components			
Type	SMEO-4U-K-...-24	SMEO-4U-S-...-24	SMEO-4U-K-...-230
Electrical connection	Cable, 3-wire	Plug M8x1, 3-pin	Cable, 2-wire
Connection direction	–	–	In-line
Cable length [m]	2.5	–	2.5
	5		–
Cable sheath materials	TPE-U(PUR)	–	PVC

Mechanical components		
Type	SMEO-4U-...-24	SMEO-4U-...-230
Type of mounting	Via accessories	
Tightening torque [Nm]	–	0.8
Housing materials	PET	PET
	–	TPE-O

Display/operation	
Switching status display	Yellow LED

Immissions/emissions			
Type	SMEO-4U-K-...-24	SMEO-4U-S-...-24	SMEO-4U-...-230
Ambient temperature with flexible cable installation [°C]	–5 ... +60	–	–
Protection class	IP67		
Surge capacity [kV]	–	–	4
Degree of contamination	–	–	3

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

Dimensions		Download CAD data → www.festo.com
SMEO-4U-S – Plug M8x1		
		1 2-wire cable, 3-wire cable for SMEO-4U-K-LED-220
		2 Yellow LED for switching status

	L1	L2	D1	D2	D3	H1
			Ø	Ø	Ø	
SMEO-4U- ... -K-LED-24	19	15.5	9.4	9	4.2	23

Proximity sensors SMEO-4U, round design, magnetic reed

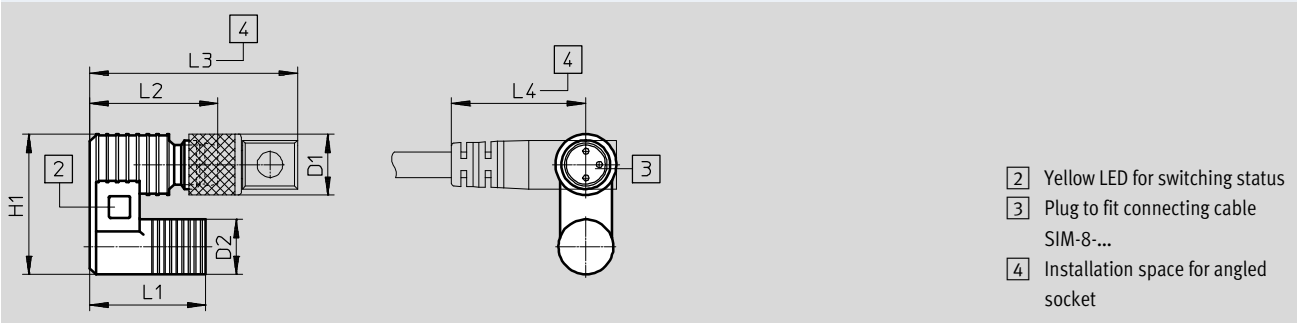
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Technical data

Dimensions

Download CAD data → www.festo.com

SMEO-4U-S – Plug M8x1



	L1	L2	L3	L4	D1 Ø	D2 Ø	H1
SMEO-4U- ... -S-LED-24	19	21	~34	~22	10	9	23

Ordering data

	Electrical connection		Cable length [m]	Switching status display	Product weight [g]	Part No.	Type
	Cable	Plug M8x1					
	N/O contact						
	Operating voltage range 12 ... 27 V DC						
	3-wire	–	2.5	■	70	36198	SMEO-4U-K-LED-24
			5	■	130	175401	SMEO-4U-K5-LED-24
	–	3-pin	–	■	6	151526	SMEO-4U-S-LED-24-B
	Operating voltage range 12 ... 250 V AC/DC						
	2-wire	–	2.5	■	70	150011	SMEO-4U-K-LED-230

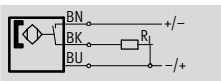
Proximity sensors CRSMEO-4, round design, magnetic reed



Technical data

Function

e.g. N/O contact, 3-wire, with cable



- Corrosion-resistant
- Magnetic reed measuring principle



General technical data	
Design	Round
Certification	C-Tick
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾
Note on materials	Free of copper and PTFE

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Input signal/measuring element	
Measuring principle	Magnetic reed
Ambient temperature	[°C] -20 ... +60

Switching output	
Switching output	Contacting, bipolar
Switching element function	N/O contact
Reproducibility of switching point	[mm] ±0.1
Switch-on time	[ms] 0 ... 0.5
Switch-off time	[ms] 0.03
Max. output current	[mA] 500
Max. contact rating DC	[W] 10

Output, additional data	
Protection against short circuit	No

Electronic components	
Operating voltage range DC	[V] 12 ... 30
Reverse polarity protection	No

Electromechanical components	
Electrical connection	Cable, 3-wire
Cable length	[m] 2.5
Cable sheath materials	TPE-O

Mechanical components	
Type of mounting	Via accessories
Product weight	[g] 70
Housing	PP

Display/operation	
Switching status display	Yellow LED

Proximity sensors CRSMEO-4, round design, magnetic reed

Technical data

Immissions/emissions	
Ambient temperature with flexible cable installation	–5 ... +60
Protection class	IP67

Dimensions

Download CAD data → www.festo.com

1 Connecting cable
2 Yellow LED
3 Clamping range

	D1 Ø ±0.2	D2 Ø	L1	L2 ±0.2	L3 ±0.2
CRSMEO-4-K- ... -K-LED-24	4.2	9.4	30.8	27.8	10.8

Ordering data				
	Electrical connection	Cable length [m]	Part No.	Type
	N/O contact			
	Corrosion-resistant			
	Cable, 3-wire	2.5	161775	CRSMEO-4-K-LED-24

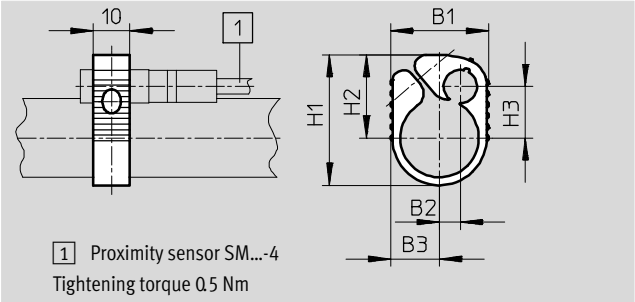
Proximity sensors, round design

Accessories



Mounting kit SMBR

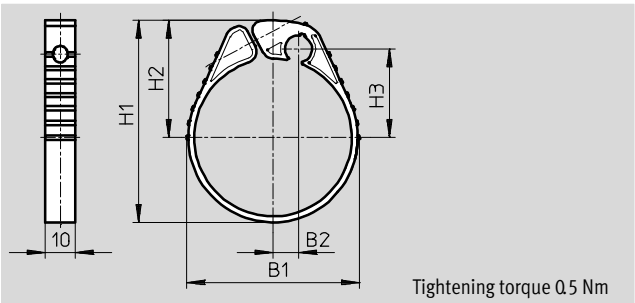
Material:
Polyacetate



Dimensions and ordering data							
For piston Ø	B1	B2	B3	H1	H2	H3	Part No. Type
8	21	–	14	23.5	16.5	9	19272 SMBR-8
10	22	0.5	14	26	18.5	10	19273 SMBR-10
12	22	4	11	28.5	20	10.2	19274 SMBR-12
16	22.5	4	11.5	33.5	22.5	12.4	19275 SMBR-16
20	26.5	5.5	13.5	35.5	22.5	14	19276 SMBR-20
25	31.5	7.5	16	40.5	25	16	19277 SMBR-25

Mounting kit CRSMBR

Material:
Polypropylene



Dimensions and ordering data						
For piston Ø	B1	B2	H1	H2	H3	Part No. Type
12	22	4.1	28.6	20	10.2	164581 CRSMBR-12
16	22.3	4	33.2	22.5	12.4	164582 CRSMBR-16
20	26.5	5.6	35.25	22.5	14	164583 CRSMBR-20
25	31.5	7.4	40.2	25	16	164584 CRSMBR-25
32	38.6	7.9	47.8	29	19.7	163888 CRSMBR-32
40	46.6	8.1	55.8	33	23.8	163889 CRSMBR-40
50	57.4	8.2	67.2	39	29.5	163890 CRSMBR-50
63	70.4	8.2	80.8	45.9	36.2	163891 CRSMBR-63

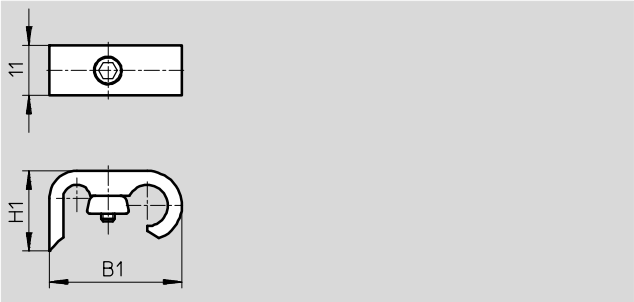
Proximity sensors, round design

Accessories

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Mounting kit CRSMB

Material:
High-alloy stainless steel



Dimensions and ordering data				
For piston $\varnothing$	B1	H1	Part No.	Type
32	29	17.6	161763	CRSMB-32
40	29	15.1	161764	CRSMB-40
50	31.1	17.4	161765	CRSMB-50
63	31.1	18.1	161766	CRSMB-63
80	33	24.2	161767	CRSMB-80
100	33	27.5	161768	CRSMB-100
125	36.5	31.1	185365	CRSMB-125

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