

Fork light barriers S00F

FESTO



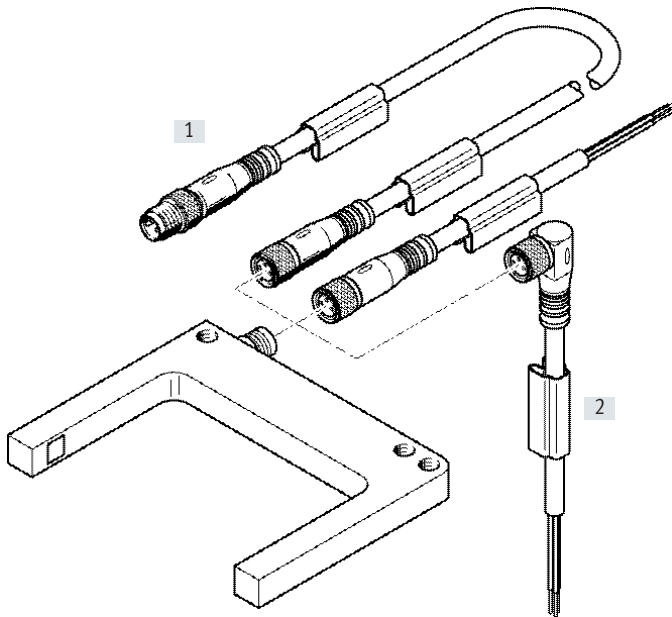
Product range overview

Measuring method		Size [mm]	Min. object diameter (default mode) ¹⁾ [mm]	Max. switching frequency (default mode) ¹⁾ [Hz]	Switching output (push-pull = factory setting) ¹⁾	Type of light	→ Page/ Internet
Metal							
Fork light barrier	SOOF-M-...-C30	Fork 30x35	0.3	5000	Push-pull, PNP, NPN	Red	5
	SOOF-M-...-C50	Fork 50x55	0.3	5000	Push-pull, PNP, NPN		
	SOOF-M-...-C80	Fork 80x55	0.3	5000	Push-pull, PNP, NPN		
	SOOF-M-...-C120	Fork 120x60	0.5	5000	Push-pull, PNP, NPN		
Polymer							
Fork light barrier	SOOF-P-...-C30	Fork 30x35	0.5	2000	PNP	Red	5
					NPN		
	SOOF-P-...-C50	Fork 50x55	0.3	2000	PNP		
					NPN		
	SOOF-P-...-C80	Fork 80x55	0.5	2000	PNP		
					NPN		
	SOOF-P-...-C120	Fork 120x60	0.4	2000	PNP		
					NPN		

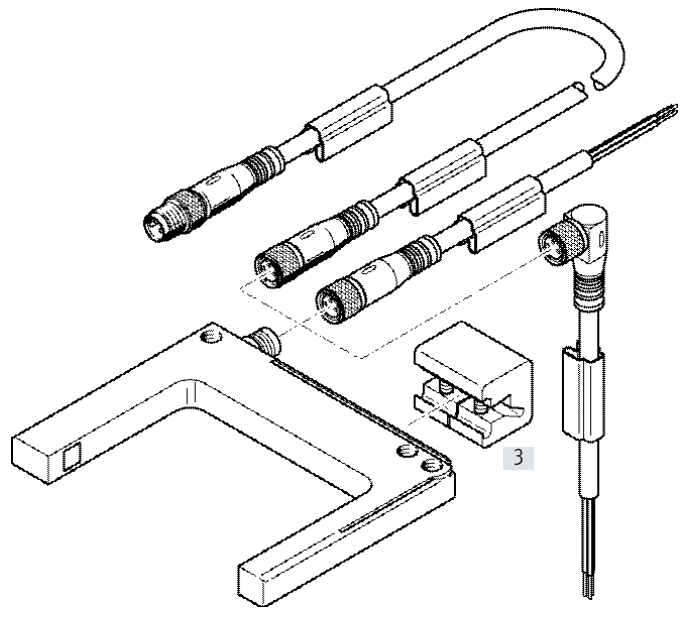
1) Only SOOF-M-... (variant metal)

Peripherals overview

Metal



Polymer



Accessories		→ Page/Internet
[1]	Connecting cable M8x1 NEBU	11
[2]	Inscription label holder (included in scope of delivery NEBU)	-
Accessories		→ Page/Internet
[3]	Mounting SAMH	11

Type codes

001	Series	
SOOF	Optoelectronic sensor	

002	Product version	
M	Mainly metal	
P	Mainly polymer	

003	Sensor function	
FL	Fork light barrier	

004	Sensor characteristic	
S	Adjustable switching type	

005	Setting options	
M	Potentiometer	
T	Teach-in	

006	Design	
C30	Fork 30 mm	
C50	Fork 50 mm	
C80	Fork 80 mm	
C120	Fork 120 mm	

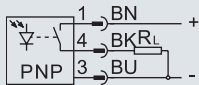
007	Switching input/output	
P	PNP	
N	NPN	

 **Note**

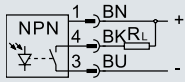
SOOF-M- ... -P with IO-Link:
Push-pull, PNP, NPN

Data sheet

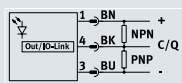
Function
PNP, switchable



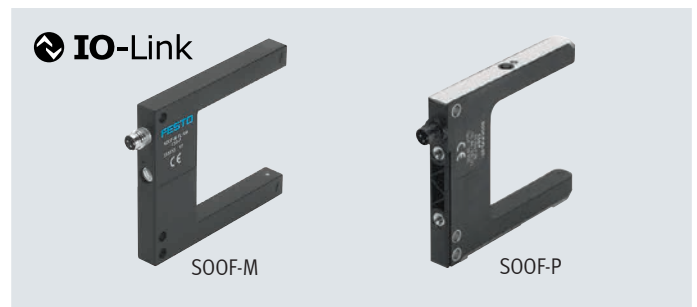
NPN, switchable



SOOF-M, with IO-Link
push-pull, PNP, NPN



- Transmitter and receiver in one compact housing
- Minimum installation effort
- Sturdy housing: high shock and vibration resistance



General technical data		Metal				Polymer			
Design									
Fork gap	[mm]	30	50	80	120	30	50	80	120
Measurement method		Fork light barrier				Fork light barrier			
Measuring principle		Optoelectronic							
Measured variable		Position							
Size	[mm]	Fork 30x35	Fork 50x55	Fork 80x55	Fork 120x60	Fork 30x35	Fork 50x55	Fork 80x55	Fork 120x60
Minimum object diameter	[mm]	0.3	0.3	0.3	0.5	0.5	0.3	0.5	0.4
Note on min. object diameter									
Standard mode	[mm]	0.3			0.5	-			
High resolution mode	[mm]	0.2			0.3				
Power mode	[mm]	1.0			1.5				
Speed mode	[mm]	0.3			0.5				
Repetition accuracy	[mm]	0.02				0.03			
Hysteresis	[mm]	≤ 0.1				≤ 0.25			
Type of light		Red				Red			
Setting options		IO-Link, potentiometer				Teach-in			
Switching status indication		Yellow LED				Yellow LED			
Max. tightening torque	[Nm]	-				1 with female thread			
		-				4 with through-hole			
		-				3 with accessories			
Max. tightening torque, plug	[Nm]	-				0.3			
Product weight	[g]	68	96	118	244	20	30	35	40

Data sheet

Electrical data		Metal				Polymer			
Design		30	50	80	120	30	50	80	120
Fork gap	[mm]	30	50	80	120	30	50	80	120
Max. switching frequency	[Hz]	5000				2000			
Note on switching frequency	[Hz]	5000 with standard mode				-			
		1500 with high resolution mode							
		250 with power mode							
		8000 with speed mode							
Operating voltage range	[V DC]	10 ... 30							
Residual ripple	[%]	±5				10			
Max. output current	[mA]	100							
No-load supply current	[mA]	30							
Electrical connection		Plug M8x1, 3-pin				Plug M8x1, 3-pin			
Switching element function		Switchable				Switchable			
Short circuit current rating		Pulsed				Pulsed			
Reverse polarity protection		For all electrical connections				For operating voltage connections			
Surge resistance	[kV]	0.8				0.8			
Insulation voltage	[V]	500				500			
Degree of protection		IP67				IP67			

IO-Link device to IEC 61131-9	Metal	Polymer
Timer function	Via IO-Link	-
Protocol	IO-Link	
Protocol version	Device V 1.1	
Profile	Smart sensor profile	
Function classes	Binary data channel (BDC)	
	Process data variable (PDV)	
	Identification	
	Diagnostics	
	Teach channel	
Communication mode	COM2 (38.4 kBd)	
SIO mode support	Yes	
Port class	A	
Process data width OUT	0 bytes	
Process data width IN	2 bytes	
Process data content IN	1 bit BDC (switching signal)	
	1 bit BDC (stability)	
	12 bit PDV (signal level)	
Service data content IN	32 bit switching counter	
	16 bit temperature	
	8 bit teach-in quality	
	16 bit minimum signal level	
	16 bit maximum signal level	
Minimum cycle time	2.3 ms	
Data memory required	73 bytes	

Data sheet

Operating and environmental conditions

Design	Metal	Polymer
Ambient temperature [°C]	-25 ... +60	-10 ... +60
Pollution degree	3	
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	
Certification	c UL us listed (OL) RCM	
PWIS conformity	VDMA24364 zone III	

1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/catalogue/SOOF → 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.

Materials

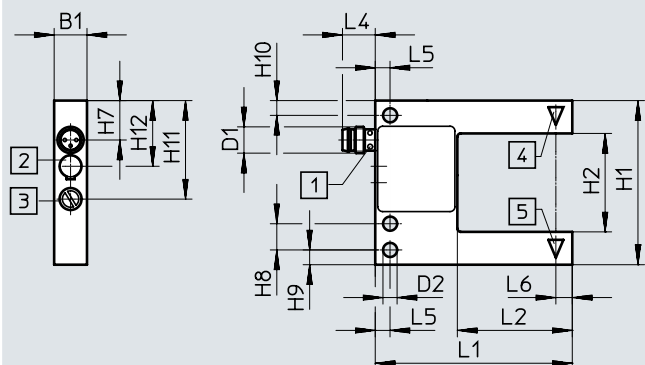
Design	Metal	Polymer
Housing	Die-cast zinc, coated	PC
Note on materials	Free of copper and PTFE RoHS-compliant	- RoHS-compliant

Data sheet

Dimensions – Metal

Download CAD data → www.festo.com

Fork gap 30 ... 80



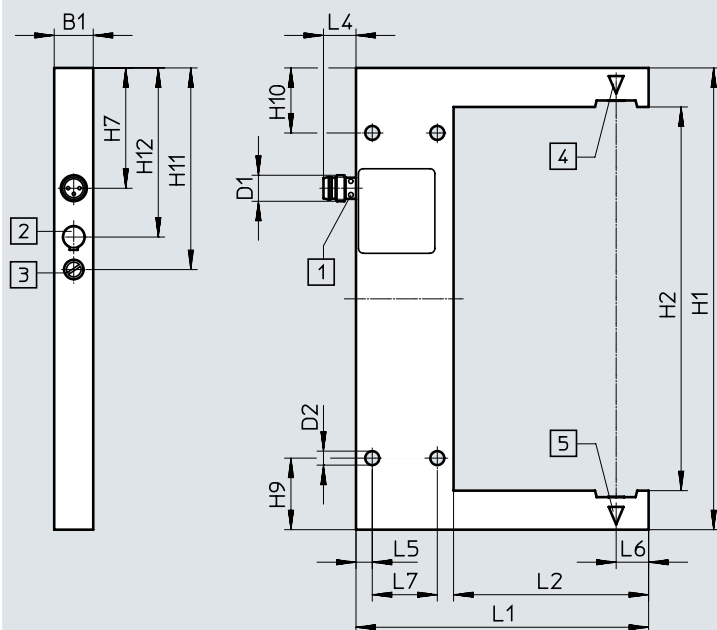
- [1] Switching status indication, yellow LED
- [2] N/O or N/C, switchable
- [3] Potentiometer
- [4] Transmitter
- [5] Receiver

Type	B1	D1	D2 ø	H1	H2 Fork gap	H7	H8	H9	H10	H11	H12	L1	L2	L4	L5	L6
SOOF-M-FL-SM-C30-P	10	M8x1	4.3	50	30	12	8	4.5	4.5	30	20	60	35	10	4.5	5
SOOF-M-FL-SM-C50-P	10	M8x1	4.3	70	50	12	8	4.5	4.5	30	20	80	55	10	4.5	5
SOOF-M-FL-SM-C80-P	10	M8x1	4.3	100	80	12	8	4.5	4.5	30	20	80	55	10	4.5	5

Dimensions – Metal

Download CAD data → www.festo.com

Fork gap 120



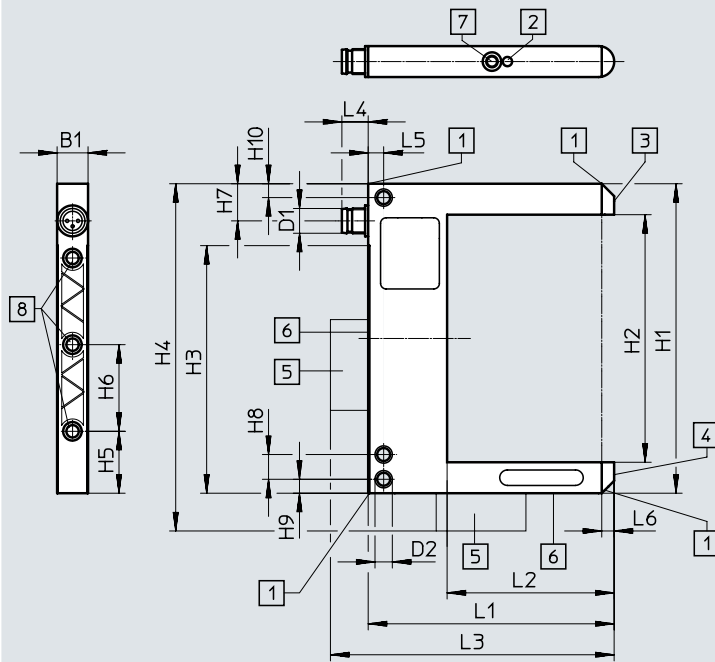
- [1] Switching status indication, yellow LED
- [2] N/O or N/C, switchable
- [3] Potentiometer
- [4] Transmitter
- [5] Receiver

Type	B1	D1	D2 ø	H1	H2 Fork gap	H7	H9	H10	H11	H12	L1	L2	L4	L5	L6	L7	L8
SOOF-M-FL-SM-C120-P	12	M8x1	4.3	144	120	37	22	22	62	54	90	60	10	5	10	20	

Data sheet

Dimensions – Polymer

Download CAD data → www.festo.com



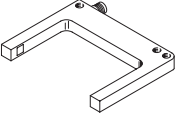
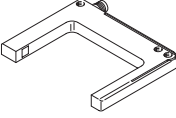
- [1] Switching status indication, yellow LED
- [2] Ready status indication, green LED
- [3] Receiver
- [4] Transmitter
- [5] Mounting SAMH must be ordered separately as an accessory → 11
- [6] Dovetail for mounting SAMH
- [7] Teach-in button
- [8] Threaded insert M4, max. screw-in depth 6 mm

Type	B1	D1	D2 ø	H1	H2 Fork gap	H3	H4	H5	H6	H7
SOOF-P-FL-ST-C30-P	10	M8x1	4.2	50	30	30	62.2	20	-	12
SOOF-P-FL-ST-C30-N				70	50	50	82.2	20	28	12
SOOF-P-FL-ST-C50-P	10	M8x1	4.2	100	80	80	112.2	20	2x28	12
SOOF-P-FL-ST-C50-N				140	120	120	152.2	20	3x28	12
SOOF-P-FL-ST-C80-P	10	M8x1	4.2	140	120	120	152.2	20	3x28	12
SOOF-P-FL-ST-C80-N										
SOOF-P-FL-ST-C120-P	10	M8x1	4.2	140	120	120	152.2	20	3x28	12
SOOF-P-FL-ST-C120-N										

Type	H8	H9	H10	L1	L2	L3	L4	L5	L6
SOOF-P-FL-ST-C30-P	8	4.5	4.5	59.5	34	71.7	8.5	5	4
SOOF-P-FL-ST-C30-N				79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C50-P	8	4.5	4.5	79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C50-N				79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C80-P	8	4.5	4.5	79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C80-N				79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C120-P	8	4.5	4.5	79.5	54	91.7	8.5	5	4
SOOF-P-FL-ST-C120-N				79.5	54	91.7	8.5	5	4



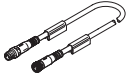
1) With mounting SAMH.

Data sheet

Ordering data				
Design	Fork gap [mm]	Switching output (push-pull = factory setting) ¹⁾	Part no.	Type
Metal				
	30	Push-pull, PNP, NPN	553553	SOOF-M-FL-SM-C30-P
	50	Push-pull, PNP, NPN	553555	SOOF-M-FL-SM-C50-P
	80	Push-pull, PNP, NPN	553557	SOOF-M-FL-SM-C80-P
	120	Push-pull, PNP, NPN	553559	SOOF-M-FL-SM-C120-P
Polymer				
	30	PNP	553561	SOOF-P-FL-ST-C30-P
		NPN	553562	SOOF-P-FL-ST-C30-N
	50	PNP	553563	SOOF-P-FL-ST-C50-P
		NPN	553564	SOOF-P-FL-ST-C50-N
	80	PNP	553565	SOOF-P-FL-ST-C80-P
		NPN	553566	SOOF-P-FL-ST-C80-N
	120	PNP	553567	SOOF-P-FL-ST-C120-P
		NPN	553568	SOOF-P-FL-ST-C120-N

1) Only SOOF-M-... (variant metal)

Accessories

Ordering data – Connecting cables				Data sheets → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5	541334	NEBU-M8G3-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3
			5	541341	NEBU-M8W3-K-5-LE3
	Straight socket, M8x1, 3-pin	Straight plug M8x1, 3-pin	0.5	541346	NEBU-M8G3-K-0.5-M8G3
			1	541347	NEBU-M8G3-K-1-M8G3
			2.5	541348	NEBU-M8G3-K-2.5-M8G3
			5	541349	NEBU-M8G3-K-5-M8G3

Ordering data		Part no.	Type
	Mounting	553569	SAMH-G3-Q

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1 Festo Inc.
5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com



2 Festo Pneumatic
Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalnepantla,
Estado de México

Multinational Contact Center
01 800 337 8669
ventas.mexico@festo.com



3 Festo Corporation
1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com



4 Regional Service Center
7777 Columbia Road
Mason, OH 45040

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