

## Fork light barriers S00F

**FESTO**



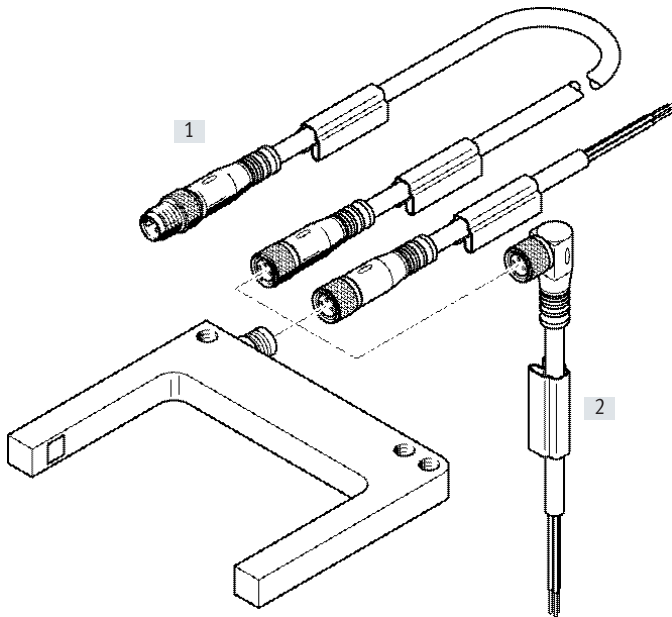
Product range overview

Measuring method		Size [mm]	Min. object diameter (default mode) <sup>1)</sup> [mm]	Max. switching frequency (default mode) <sup>1)</sup> [Hz]	Switching output (push-pull = factory setting) <sup>1)</sup>	Type of light	→ Page/ Internet
<b>Metal</b>							
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		
<b>Polymer</b>							
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		

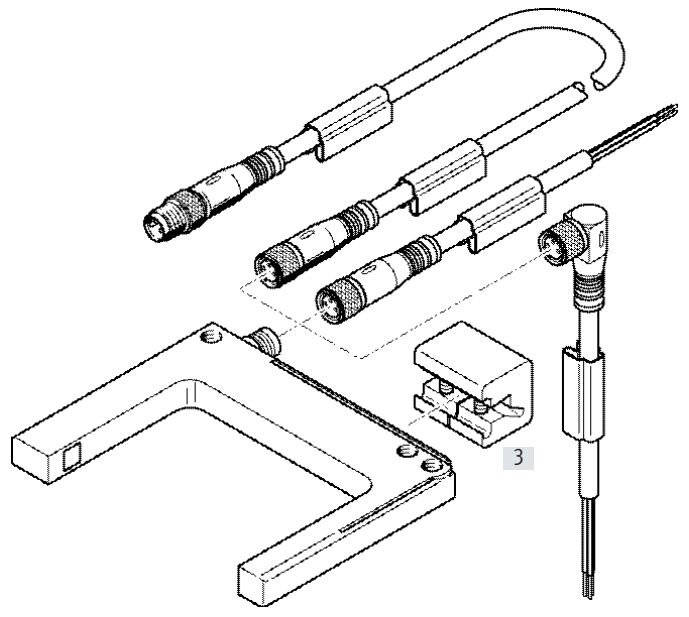
1) Only SOOF-M-... (variant metal)

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	

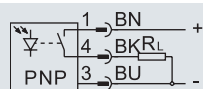
 **Note**

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

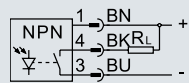
## Data sheet

## Function

PNP, switchable

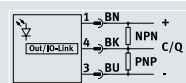


NPN, switchable



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		30	50	80	120	30	50	80	120
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 <sup>1)</sup> 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](http://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.

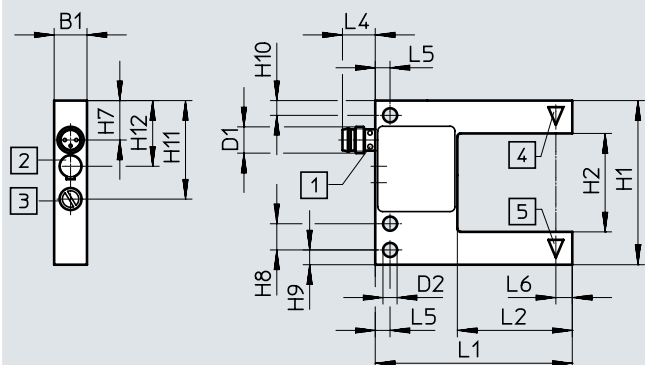
Materials		
Design	Metal	Polymer
Housing	Die-cast zinc, coated	PC
Note on materials	Free of copper and PTFE RoHS-compliant	- RoHS-compliant

Data sheet

Dimensions – Metal

Download CAD data → [www.festo.com](http://www.festo.com)

Fork gap 30 ... 80



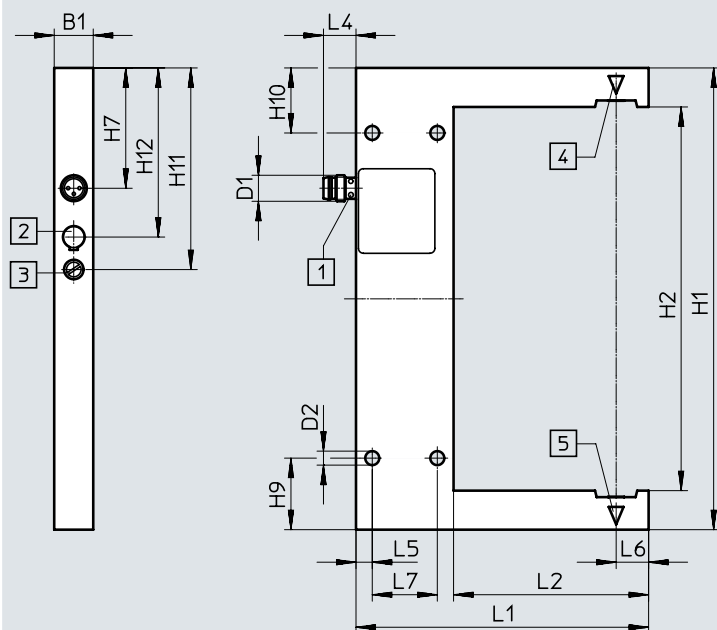
- [1] Switching status indication, yellow LED
- [2] N/O or N/C, switchable
- [3] Potentiometer
- [4] Transmitter
- [5] Receiver

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](http://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

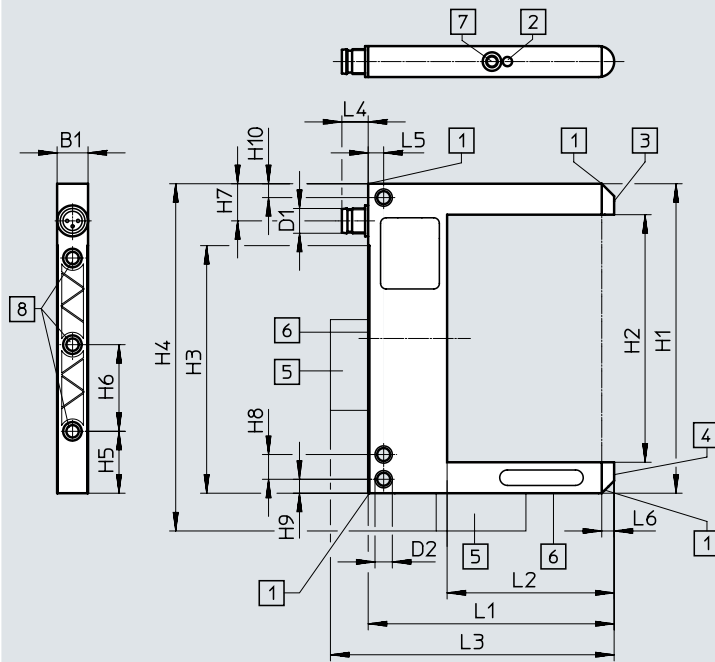
Type	B1	D1	D2 ø	H1	H2 Fork gap	H7	H9	H10	H11	H12	L1	L2	L4	L5	L6	L7
SOOF-M-FL-SM-C120-P	12	M8x1	4.3	144	120	37	22	22	62	54	90	60	10	5	10	20



Data sheet

Dimensions – Polymer

Download CAD data → [www.festo.com](http://www.festo.com)



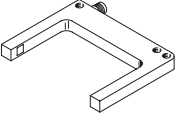
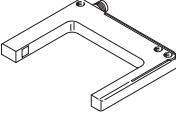
- [1] Switching status indication, yellow LED
- [2] Ready status indication, green LED
- [3] Receiver
- [4] Transmitter
- [5] Mounting SAMH must be ordered separately as an accessory → 11
- [6] Dovetail for mounting SAMH
- [7] Teach-in button
- [8] Threaded insert M4, max. screw-in depth 6 mm

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



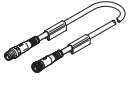
1) With mounting SAMH.

Data sheet

Ordering data				
Design	Fork gap [mm]	Switching output (push-pull = factory setting) <sup>1)</sup>	Part no.	Type
<b>Metal</b>				
	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
<b>Polymer</b>				
	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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Subject to change