

Fork light barrier S00F

FESTO



Characteristics

At a glance

- The transmitter and receiver are housed in a single, compact housing.
- Minimal installation effort.
- The robust housing offers high shock and vibration resistance.

Product version

[M] Mainly metal



[P] Mainly polymer



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

Setting options

[M] Potentiometer

[T] Teach-in

Type code

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

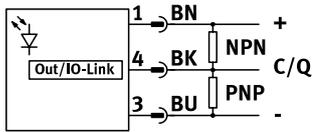
005	Setting options
M	Potentiometer
T	Teach-in

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

007	Switching input/output
N	NPN
P	PNP

Datasheet

General technical data, metal, SOOF-M



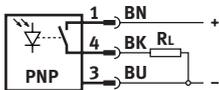
SOOF-M, with IO-Link®
Push-pull, PNP, NPN

Fork gap	30 mm	50 mm	80 mm	120 mm
Measured variable	Position			
Measuring principle	Optoelectronic			
Measurement method	Fork light barrier			
Size	Fork 30x35 mm	Fork 50x55 mm	Fork 80x55 mm	Fork 120x60 mm
Min. object diameter	0.3 mm			0.5 mm
Note on min. object diameter	0.3 mm with standard mode, 0.2 mm with high resolution mode, 1 mm with power mode, 0.3 mm with speed mode			0.5 mm with standard mode, 0.3 mm with high resolution mode, 1.5 mm with power mode, 0.5 mm with speed mode
Repetition accuracy	0.02 mm			
Approval	RCM trademark, c UL us listed (OL)			
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, In accordance with EU RoHS Directive			
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions			
Note on materials	RoHS-compliant			

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

If the devices are subject to usage restrictions in residential, commercial or industrial environments as well as small businesses, further measures for reducing the emitted interference may be necessary.

General technical data, polymer, SOOF-P



SOOF-P
PNP, switchable
NPN, switchable

Fork gap	30 mm	50 mm	80 mm	120 mm
Measured variable	Position			
Measuring principle	Optoelectronic			
Measurement method	Fork light barrier			
Size	Fork 30x35 mm	Fork 50x55 mm	Fork 80x55 mm	Fork 120x60 mm
Min. object diameter	0.5 mm	0.3 mm	0.5 mm	0.4 mm
Repetition accuracy	0.03 mm			
Approval	RCM trademark, c UL us listed (OL)			
CE mark (see declaration of conformity)	To EU EMC Directive, In accordance with EU RoHS Directive			
UKCA marking (see declaration of conformity)	To UK instructions for EMC, To UK RoHS instructions			
Note on materials	RoHS-compliant			

Datasheet

Electrical data, metal, SOOF-M

Switching output	Push-pull, NPN, PNP
Switching element function	Switchable
Hysteresis	≤0.1 mm
Max. switching frequency	5,000 Hz
Note on switching frequency	5,000 Hz with standard mode 1,500 Hz with high resolution mode 250 Hz with power mode 8,000 Hz with speed mode
Max. output current	100 mA
Short circuit current rating	Pulsed
Operational voltage range DC	10 ... 30 V
Ambient temperature	-25 ... 60°C
Residual ripple	± 5%
No-load supply current	30
Reverse polarity protection	For all electrical connections
Type of light	Red

Electrical data, polymer, SOOF-P

Switching output	NPN, PNP
Switching element function	Switchable
Hysteresis	≤0.25 mm
Max. switching frequency	2,000 Hz
Max. output current	100 mA
Short circuit current rating	Pulsed
Operational voltage range DC	10 ... 30 V
Ambient temperature	-10 ... 60°C
Residual ripple	10%
No-load supply current	30
Reverse polarity protection	For operating voltage connections
Type of light	Red

IO-Link® device according to IEC 61131-9, metal, SOOF-M

Timer function	Via IO-Link®
Protocol	IO-Link®
IO-Link, Protocol version	Device V 1.1
IO-Link, Profile	Smart sensor profile
IO-Link, Function classes	Binary data channel (BDC), Process data variable (PDV), Identification, Diagnostics, Teach channel
IO-Link, communication mode	COM2 (38.4 kBaud)
IO-Link, SIO-Mode support	Yes
IO-Link, Port class	A
IO-Link, Process data length OUT	0 bytes
IO-Link, Process data length IN	2 bytes
IO-Link, Process data content IN	1 bit BDC (stability), 1 bit BDC (switching signal), 12 bit PDV (signal level)
IO-Link, Service data IN	16 bit maximum signal level, 16 bit minimum signal level, 16 bit temperature, 32 bit switching counter, 8 bit teach-in quality
IO-Link, Min. cycle time	2.3 ms
IO-Link, Data storage required	73
IO-Link, Device ID	0x0000CC, 0x0000CD, 0x0000CE, 0x0000CF

Datasheet

Electromechanics, metal, SOOF-M

Electrical connection	3-pin, M8x1, Plugs
Electrical connection 1, connection type	Plugs
Electrical connection 1, connector system	M8x1, A-coded, to EN 61076-2-104
Electrical connection 1, number of connections/cores	3
Electrical connection 1, used connections/cores	3
Electrical connection 1, type of mounting	Snap-locking, Screw-type lock, Not rotatable
Electrical connection 1, compatible type of mounting	Compatible with latching lock, Compatible with rotatable screw-type lock

Electromechanics, polymer, SOOF-P

Electrical connection	3-pin, M8x1, Plugs
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Electrical connection 1, compatible type of mounting	Compatible with latching lock, Compatible with rotatable screw-type lock

Mechanics, metal, SOOF-M

Fork gap	30	50	80	120
Material housing	Die-cast zinc, coated			
Product weight	68 g	96 g	118 g	244 g

Mechanics, polymer, SOOF-P

Fork gap	30	50	80	120
Material housing	PC			
Product weight	20 g	30 g	35 g	40 g

Display, operation, metal, SOOF-M

Switching status indication	Yellow LED
Setting options	IO-Link®, Potentiometer
Degree of protection	IP67

Display, operation, polymer, SOOF-P

Switching status indication	Yellow LED
Setting options	Teach-in
Degree of protection	IP67

Immission, emission, metal, SOOF-M

Insulation voltage	500 V
Immunity to surge	0.8 kV
LABS (PWIS) conformity	VDMA24364 zone III
Pollution degree	3
Corrosion resistance class CRC ¹⁾	0 - No corrosion stress

1) More information www.festo.com/x/topic/crc

Datasheet

Immission, emission, polymer, SOOF-P

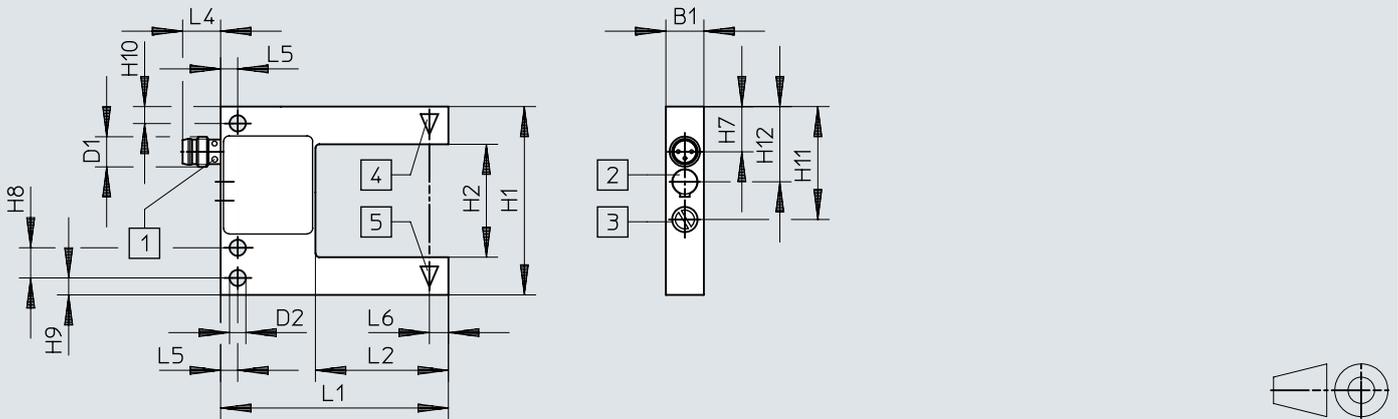
Insulation voltage	500 V
Immunity to surge	0.8 kV
LABS (PWIS) conformity	VDMA24364 zone III
Pollution degree	3
Corrosion resistance class CRC ¹⁾	0 - No corrosion stress

1) More information www.festo.com/x/topic/crc

Dimensions

Dimensions – Fork gap 30 ... 80, SOOF-M

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- [1] Yellow LED switching status
- [2] NO/NC switchable
- [3] Potentiometer
- [4] Transmitter
- [5] Receiver

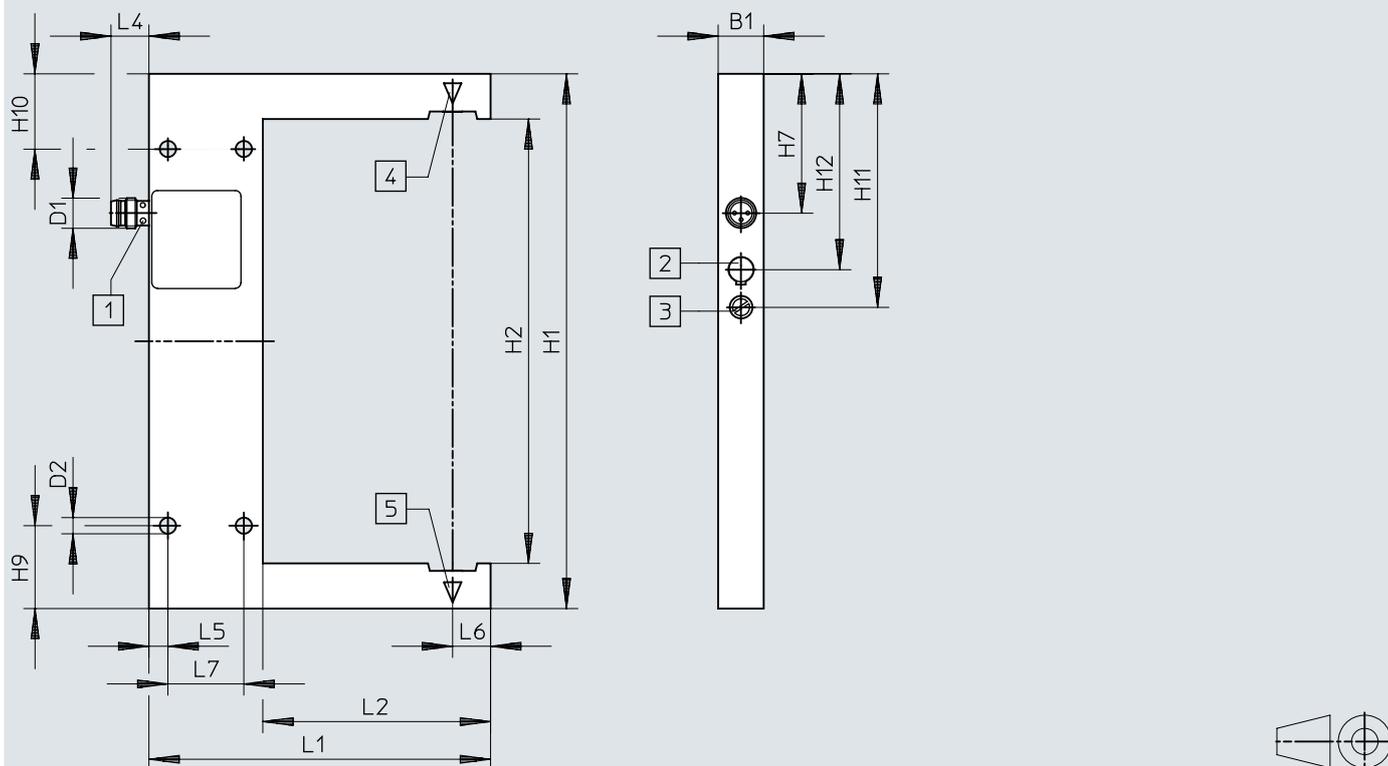
	B1	D1	D2 ∅	H1	H2 ¹⁾	H7	H8	H9	H10	H11	H12	L1	L2	L4	L5	L6
SOOF-M-FL-SM-C30-P	10	M8x1	4,3	50	30	12	8	4,5	4,5	30	20	60	35	10	4,5	5
SOOF-M-FL-SM-C50-P	10	M8x1	4,3	70	50	12	8	4,5	4,5	30	20	80	55	10	4,5	5
SOOF-M-FL-SM-C80-P	10	M8x1	4,3	100	80	12	8	4,5	4,5	30	20	80	55	10	4,5	5

1) Fork gap

Dimensions

Dimensions – Fork gap 120, SOOF-M

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- [1] Yellow LED switching status
- [2] NO/NC switchable
- [3] Potentiometer
- [4] Transmitter
- [5] Receiver

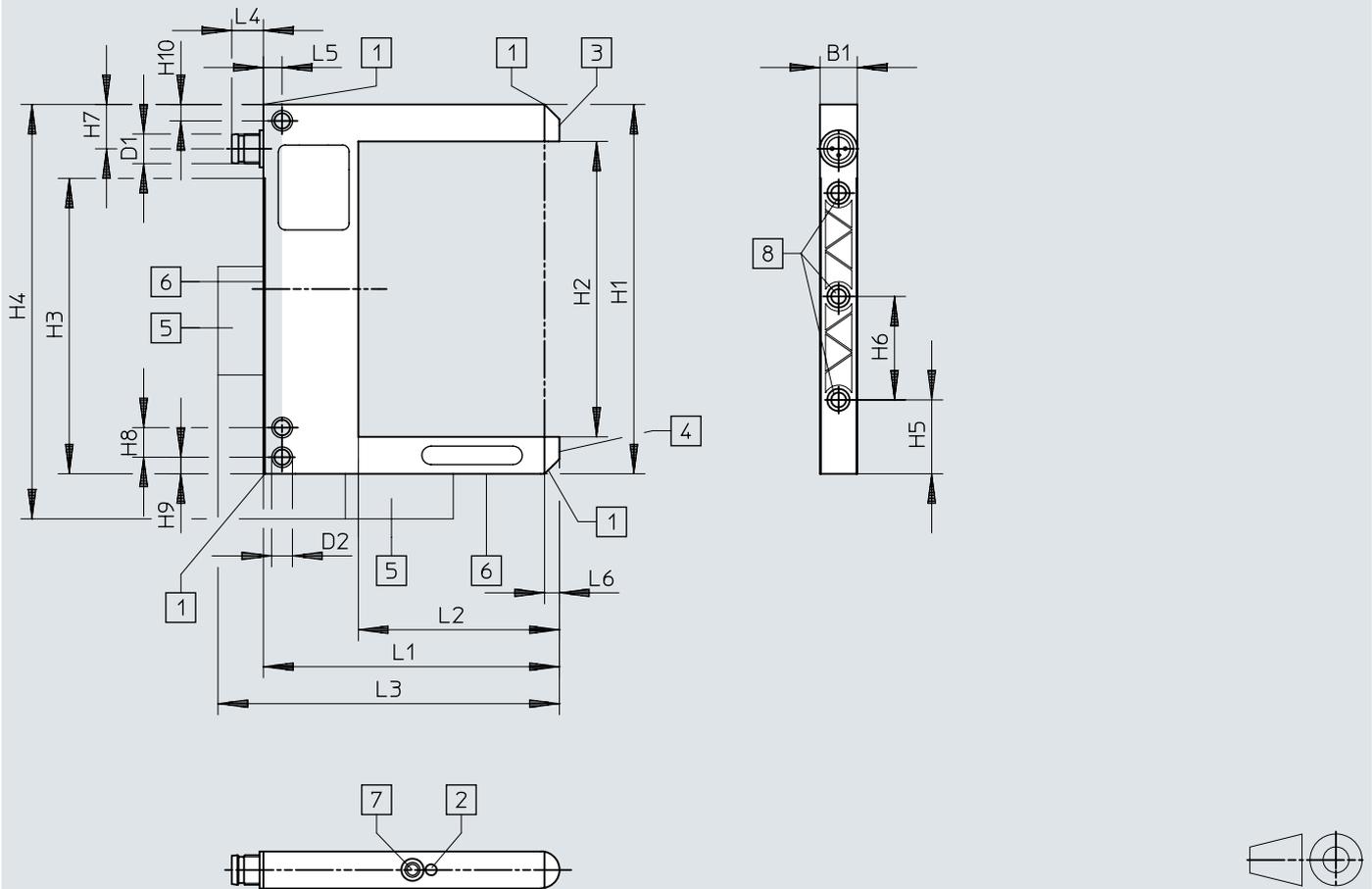
	B1	D1	D2 ∅	H1	H2 ¹⁾	H7	H9	H10	H11	H12	L1	L2	L4	L5	L6	L7
SOOF-M-FL-SM-C120-P	12	M8x1	4,3	144	120	37	22	22	62	54	90	60	10	5	10	20

1) Fork gap

Dimensions

Dimensions – Polymer , SOOF-P

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- [1] Yellow LED switching status
- [2] Green LED ready status indication
- [3] Receiver
- [4] Transmitter
- [5] Fastening SAMH, must be ordered separately as an accessory
- [6] Dovetail for fastening SAMH
- [7] Teach-in button
- [8] Threaded insert M4, max. screw-in depth 6 mm

Dimensions

	B1	D1	D2 ∅	H1	H2 ¹⁾	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										
SOOF-P-FL-ST-C50-P	10	M8x1	4,2	70	50	50	82,2	20	28	12
SOOF-P-FL-ST-C50-N										
SOOF-P-FL-ST-C80-P	10	M8x1	4,2	100	80	80	112,2	20	2x28	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										

	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									
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									
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									
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									

1) Fork gap

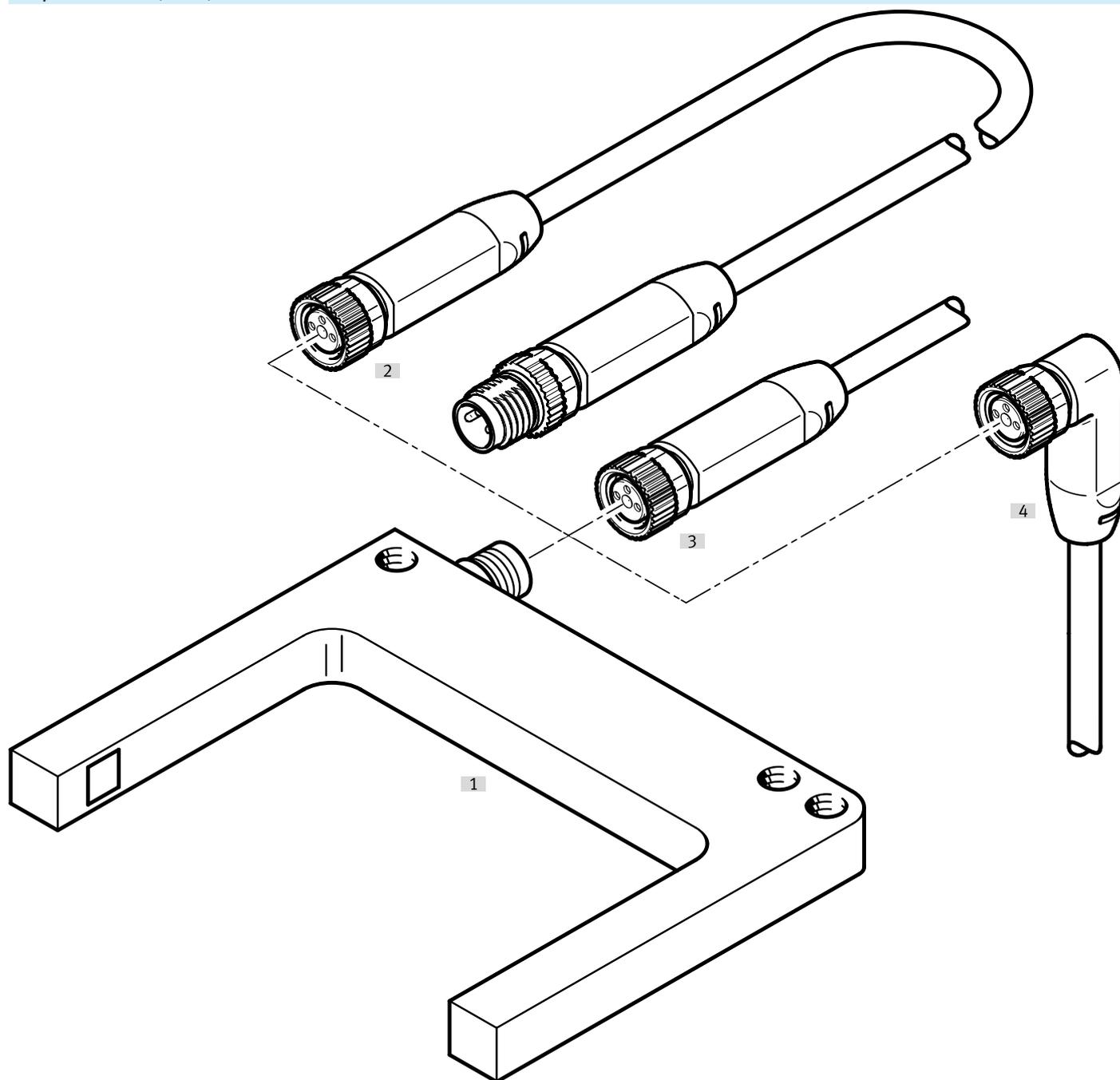
Ordering data

Ordering data, metal, SOOF-M					
	Fork gap	Switching output	Min. object diameter	Part no.	Type
	30 mm	Push-pull, NPN, PNP	0.3 mm	553553	SOOF-M-FL-SM-C30-P
	50 mm			553555	SOOF-M-FL-SM-C50-P
	80 mm		553557	SOOF-M-FL-SM-C80-P	
	120 mm		0.5 mm	553559	SOOF-M-FL-SM-C120-P

Ordering information, polymer, SOOF-P					
	Fork gap	Switching output	Min. object diameter	Part no.	Type
	30 mm	NPN	0.5 mm	553562	SOOF-P-FL-ST-C30-N
		PNP		553561	SOOF-P-FL-ST-C30-P
	50 mm	NPN	0.3 mm	553564	SOOF-P-FL-ST-C50-N
		PNP		553563	SOOF-P-FL-ST-C50-P
	80 mm	NPN	0.5 mm	553566	SOOF-P-FL-ST-C80-N
		PNP		553565	SOOF-P-FL-ST-C80-P
	120 mm	NPN	0.4 mm	553568	SOOF-P-FL-ST-C120-N
		PNP		553567	SOOF-P-FL-ST-C120-P

Peripherals

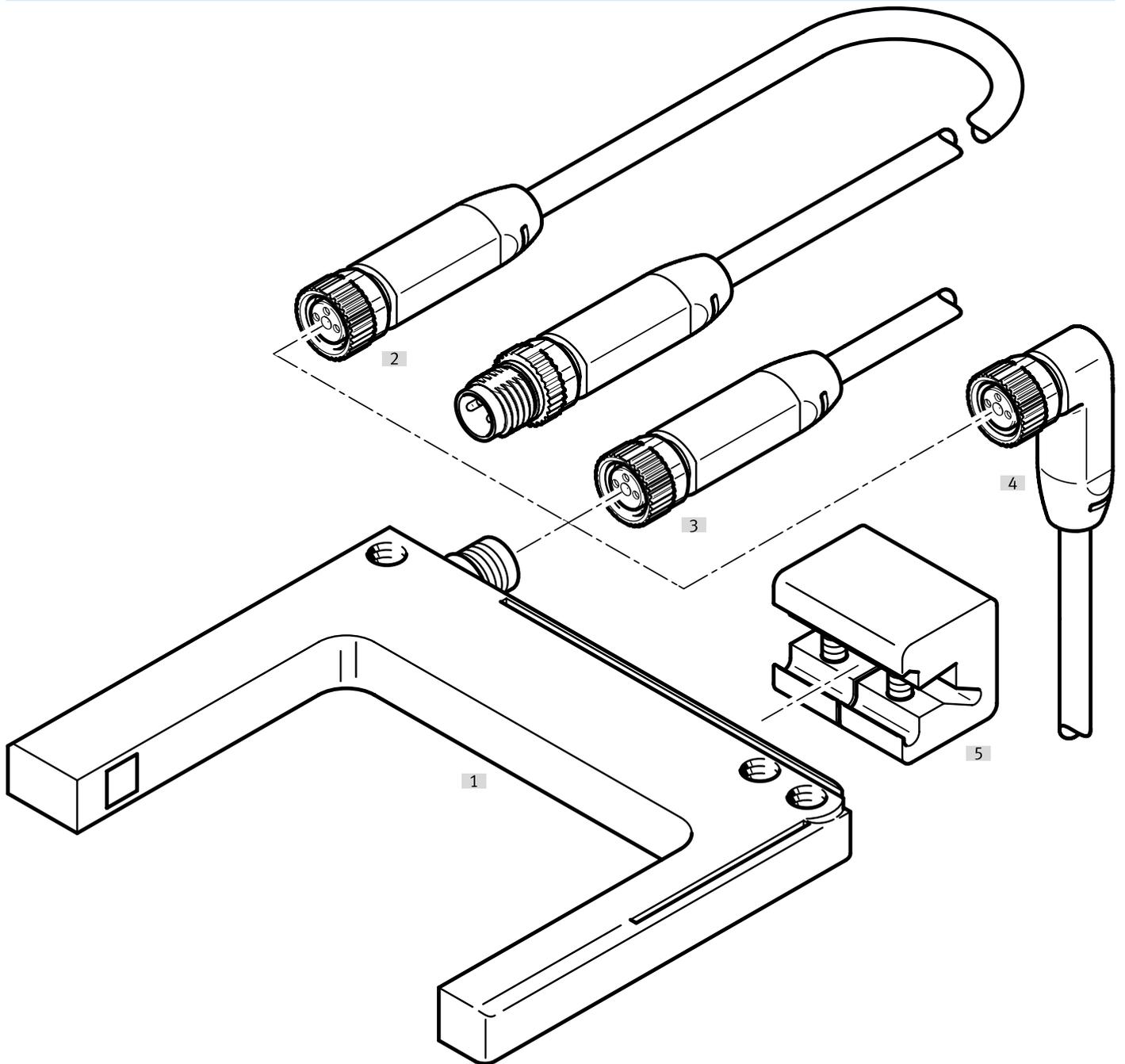
Peripherals overview, metal, SOOF-M



Accessories			→ Link
Type/order code	Description		
[1] Fork light barrier SOOF	Metal		soof
[2] Connecting cable	M8x1 NEBA		15
[3] Connecting cables NEBA	Straight socket		15
[4] Connecting cables NEBA	Angled socket		15

Peripherals

Peripherals overview, polymer, SOOF-P

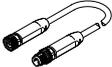


Accessories			→ Link
Type/order code	Description		
[1] Fork light barrier SOOF	Polymer		soof
[2] Connecting cable	M8x1 NEBA		15
[3] Connecting cables NEBA	Straight socket		15
[4] Connecting cables NEBA	Angled socket		15
[5] Mounting SAMH	For SOOF-P		15

Accessories

Connecting cable M8x1, straight socket					
	Cable structure	Cable length	Product weight	Part no.	Type
	3 x 0.25 mm ²	2.5 m	50 g	8078223	NEBA-M8G3-U-2.5-N-LE3
		5 m	96 g	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cable M8x1, angled socket					
	Cable structure	Cable length	Product weight	Part no.	Type
	3 x 0.25 mm ²	2.5 m	50 g	8078230	NEBA-M8W3-U-2.5-N-LE3
		5 m	96 g	8078231	NEBA-M8W3-U-5-N-LE3

Connecting cable					
	Cable structure	Cable length	Product weight	Part no.	Type
	3 x 0.25 mm ²	0.5 m	17 g	8078282	NEBA-M8G3-U-0.5-N-M8G3
			26 g	8078283	NEBA-M8G3-U-1-N-M8G3
			49 g	8078264	NEBA-M8CG3-U-2.5-N-LE3
		5 m	54 g	8078286	NEBA-M8CW3-U-2.5-N-LE3
			95 g	8078267	NEBA-M8G3-U-2.5-N-M8G3
				8078265	NEBA-M8CW3-U-5-N-LE3
			100 g	8078287	NEBA-M8CG3-U-5-N-LE3

Mounting SAMH-G3-Q						
	Design ¹⁾	Type of mounting	Material housing	Product weight	Part no.	Type
	For dovetail slot	With through-hole	Wrought aluminium alloy	10 g	553569	SAMH-G3-Q

1) SAMH is only suitable for SOOF-P