

Fibre-optic unit SOE4

FESTO



Characteristics

At a glance

- High-precision fibre-optic units
- Switching frequencies up to 8000 Hz
- Reach up to 2000 mm
- Variants with LED display, switching and analogue outputs
- Setting via teach-in
- Extensive range of fibre-optic units and accessories

Display

[L]

1 light emitting diode



[D]

Display



Type code

001	Series		005	Fibre-optic cable connection	
SOE4	Fibre-optic unit		F2	2 mm	
002	Sensor function		006	Electrical output	
FO	Fibre-optic unit		1P	1 switching output PNP	
003	Display		1N	1 switching output NPN	
L	LED		1PU	1 switching output PNP and 0 ... 10 V analogue	
D	Display		1NU	1 switching output NPN and 0 ... 10 V analogue	
004	Type of mounting		007	Electrical connection	
H	H-rail mounting or via through-holes		M8	Plug M8x1	
			K	Cable	

Datasheet

General technical data

Display	LED	LED display
Working range	400 mm [400]	
Measured variable	Position	
Measuring principle	Optoelectronic	
Mutual influence	Protected, Up to four devices mounted directly next to one another	
Type of light	Red	
Setting options	Teach-in, Teach-in via electrical connection	
Mounting position	optional	
Type of mounting	With through-hole, With H-rail	

Electrical data

Display	LED	LED display
Max. switching frequency	1,500 Hz	—
Timer function	1 - 2000 ms	
Operational voltage range DC	10 ... 30 V	
Voltage drop	≤2.4 V	
Insulation voltage	50 V	
Residual ripple	10%	
Max. output current	100 mA	
No-load supply current	≤25 mA	
Short circuit current rating	Pulsed	
Reverse polarity protection	For all electrical operating voltage connections	
Degree of protection	IP64	

Electromechanics

Electrical connection 1, connection type	Cable, Plugs
Electrical connection 1, connector system	M8x1, A-coded, to EN 61076-2-104, Open end
Electrical connection 1, number of connections/cores	4, 5
Electrical connection 1, used connections/cores	4, 5
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

Operating and environmental conditions

Ambient temperature	-20°C, 60°C
Ambient temperature with moving cable	-5°C, 60°C
CE mark (see declaration of conformity) ¹⁾	To EU EMC Directive, In accordance with EU RoHS Directive
Conforms to standard	EN 60947-5-2
Approval	RCM trademark, c UL us listed (OL)
Corrosion resistance class CRC ²⁾	4 - Very high corrosion stress

1) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/soe4 → 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.

2) More information www.festo.com/x/topic/kbk

Materials

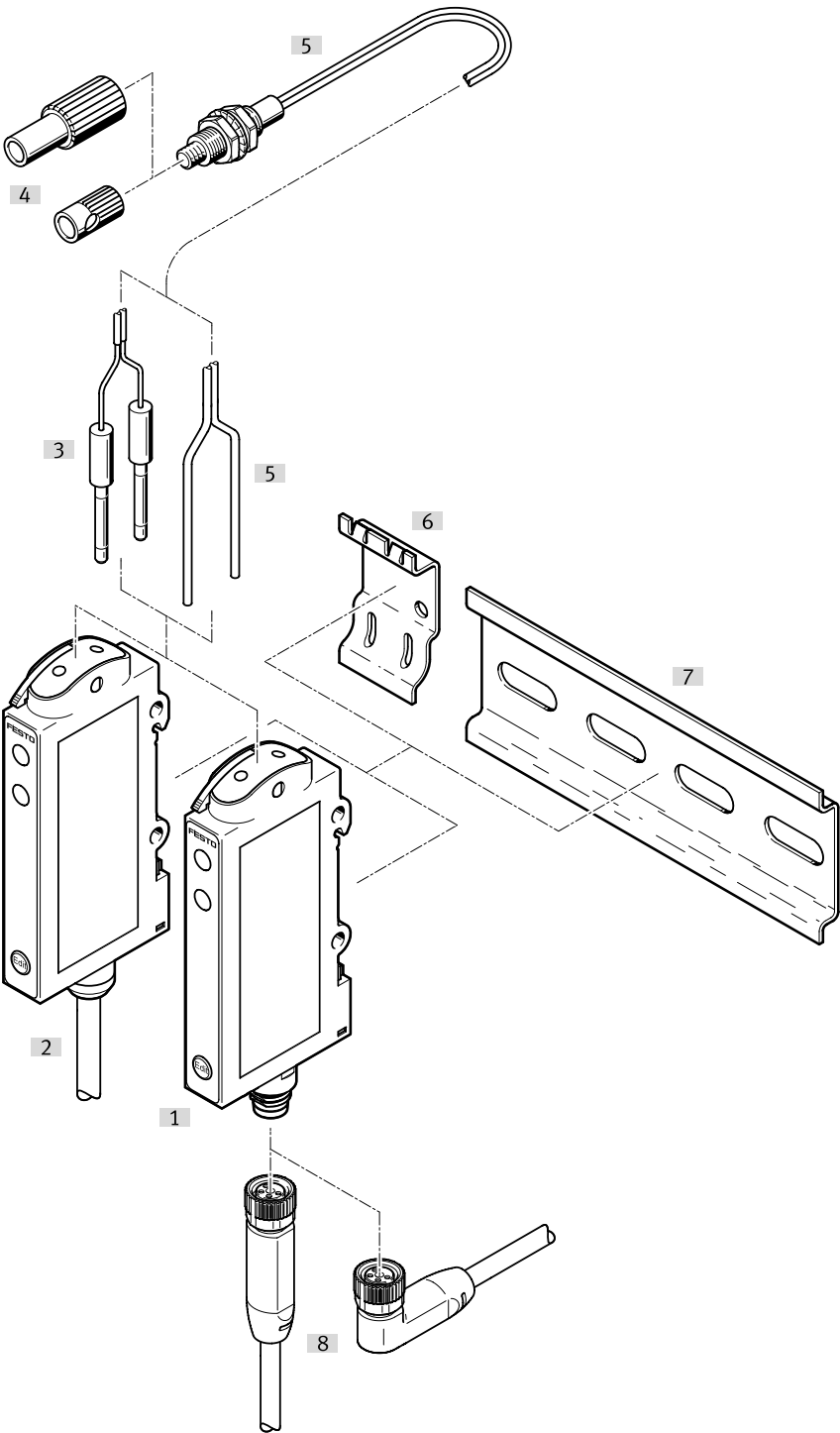
Material housing	ABS
Material cable sheath	TPE-U(PUR)

Ordering data

Ordering data						
	Display	Switching output	Analogue output	Electrical connection	Part no.	Type
	LED	NPN		4-wire, Cable	552797	SOE4-F0-L-HF2-1N-K
				4-pin, M8x1, Plugs	552798	SOE4-F0-L-HF2-1N-M8
		PNP		4-wire, Cable	552795	SOE4-F0-L-HF2-1P-K
				4-pin, M8x1, Plugs	552796	SOE4-F0-L-HF2-1P-M8
	LED display	NPN	0 - 10 V	5-wire, Cable	552802	SOE4-F0-D-HF2-1NU-K
				4-pin, M8x1, Plugs	552799	SOE4-F0-D-HF2-1P-M8
		PNP	0 - 10 V	5-wire, Cable	552801	SOE4-F0-D-HF2-1PU-K

Peripherals

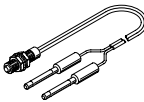
Peripherals overview



Accessories		→ Link
Type/order code	Description	
[1] Fibre-optic unit SOE4-...-M8	With plug M8x1, 4-pin	SOE4
[2] Fibre-optic unit SOE4-...-K	With cable	SOE4
[3] Adapter	For light guides with O.D. 1.0 and 1.25 ... 1.3 mm	8
[4] Adapter lens	For adapting the optical properties of light guides	8
[5] Light guide	As diffuse light sensor, through-beam sensor, fixed-focus or in-line version	7
[6] Adapter plate SXE3-W	For wall mounting max. 2 fibre-optic units	8
[7] DIN mounting rail according to DIN EN 60715	For wall mounting more than 2 fibre-optic units	-
[8] Connecting cables NEBA	With socket M8x1, 4-pin	8

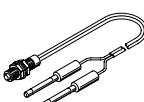
Accessories

Light guide Diffuse sensor

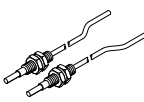
	Head size	Fibre-optic - special feature	Outside diameter ¹⁾	Operating distance	Part no.	Type
	M4	Precision	1 mm	65 mm	552807	SOOC-DS-P-M4-1-R15
					552805	SOOC-DS-P-M4-2-R15
		Flexible	1.3 mm	130 mm	552843	SOOC-DS-F-M4-2-R2
		Coaxial	1.25 mm	75 mm	552842	SOOC-DS-C-M4-2-R15
	M6x0.75	Standard	2.2 mm	140 mm	552836	SOOC-DS-M6-2-R25
					552838	SOOC-DS-M6-1-R25

¹⁾ An adapter SASA is included in the scope of delivery for light guides with fibre-optic cables with $\varnothing < 2.2$ mm

Light guide Diffuse sensor

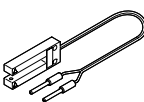
	Size	Measurement method	Setting range upper limit	Ambient temperature	Part no.	Type
	M4	Through-beam sensor, Light guide	280 mm	-20 ... 160 °C	165357	SOEZ-LLG-SE-0,5-M4
	M6x0.75	Light guide, Diffuse sensor	100 mm		165356	SOEZ-LLG-RT-0,5-M6X0,75

Light guide Through-beam sensor

	Fibre-optic - special feature	Outside diameter ¹⁾	Operating distance	Fibre-optic length	Part no.	Type
	Precision	2.2 mm	120 mm	1 m	552825	SOOC-TB-P-M4-1-R15
				2 m	552823	SOOC-TB-P-M4-2-R15
	Standard		400 mm	1 m	552814	SOOC-TB-M4-1-R25
				2 m	552812	SOOC-TB-M4-2-R25
	Flexible	300 mm	300 mm		552818	SOOC-TB-F-M4-2-R2


¹⁾ For fibre optic cables with a diameter of less than 2.2 mm, a SASA adapter is included in the scope of delivery.

Light guide Fork light barrier


	Fibre-optic - special feature	Outside diameter ¹⁾	Operating distance	Fibre-optic length	Part no.	Type
	Fork light barrier	1.25 mm	5 mm	2 m	552828	SOOC-TB-P-C5-2-R10

¹⁾ For fibre optic cables with a diameter of less than 2.2 mm, a SASA adapter is included in the scope of delivery.

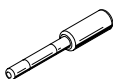
Adapter lenses

	Description	Lens function ¹⁾	Part no.	Type
	For SOOC-DS-P-M4-2-R15 For SOOC-DS-P-M4-1-R15 For SOOC-DS-C-M4-2-R15 For SOOC-TB-M4-2-R25 For SOOC-TB-M4-1-R25 For SOOC-TB-F-M4-2-R2 For SOOC-TB-P-M4-2-R15 For SOOC-TB-P-M4-1-R15	Increase working range, Factor 4 - dependent on light guide	552829	SASF-L1-LD-M2
	For SOOC-TB-M4-2-R25 For SOOC-TB-M4-1-R25 For SOOC-TB-F-M4-2-R2 For SOOC-TB-P-M4-2-R15 For SOOC-TB-P-M4-1-R15	Increase working range, Factor 8 - dependent on light guide	552832	SASF-L1-LD-M4
	For SOOC-DS-P-M4-2-R15 For SOOC-DS-P-M4-1-R15 For SOOC-DS-C-M4-2-R15 For SOOC-TB-M4-2-R25 For SOOC-TB-M4-1-R25 For SOOC-TB-F-M4-2-R2 For SOOC-TB-P-M4-2-R15 For SOOC-TB-P-M4-1-R15	Focusing, Light spot diameter 0.7 mm at a distance of 10 mm, Depending on the light guide	552831	SASF-L1-LS2-M4

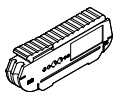
Accessories

Adapter lenses					
	Description	Lens function ¹⁾	Part no.	Type	
	For SOOC-TB-M4-2-R25 For SOOC-TB-M4-1-R25 For SOOC-TB-F-M4-2-R2 For SOOC-TB-P-M4-2-R15 For SOOC-TB-P-M4-1-R15	90° light exit	552830	SASF-L1-LA-M2	

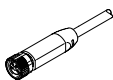
1) Any light guide not listed here is not suitable for combining with an adapter lens.

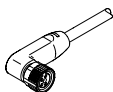
Adapter						
	Suitable for fibre-optic diameter ¹⁾	Degree of protection	Ambient temperature	Material housing	Part no.	Type
	1 mm	IP64	-20 ... 60 °C	ABS	552834	SASA-L1-10
	1.3 mm				552833	SASA-L1-13

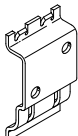
1) For fibre optic cables with a diameter of less than 2.2 mm, a SASA adapter is included in the scope of delivery.

Fibre-optic cutter					
	Suitable for fibre-optic diameter ¹⁾	LABS (PWIS) conformity	Part no.	Type	
	1 mm, 1.3 mm, 2.2 mm	VDMA24364-B2-L	552835	SATC-L1-C	

1) Bending tool for optical fibre sleeves

Connecting cable NEBA, socket M8x1, 3-pin, straight					
	Connection technology left, field device side	Electrical connection 1, cable outlet	Connection technology right, controller side	Part no.	Type
	Socket M8x1 A-coded, EN 61076-2-104	Straight	Open end	8078227	NEBA-M8G4-U-2.5-N-LE4
				8078228	NEBA-M8G4-U-5-N-LE4

Connecting cable NEBU, socket M8x1, 3-pin, angled					
	Connection technology left, field device side	Electrical connection 1, cable outlet	Connection technology right, controller side	Part no.	Type
	Socket M8x1 A-coded, EN 61076-2-104	Angled	Open end	8078233	NEBA-M8W4-U-2.5-N-LE4
				8078234	NEBA-M8W4-U-5-N-LE4

Adapter plate					
	Type of mounting	Note on materials	LABS (PWIS) conformity	Part no.	Type
	With through-hole	RoHS-compliant	VDMA24364-B1/B2-L	540214	SXE3-W