SLS46CK4 — Protective throughbeam photoelectric sensor

en 01-2015/01 50127541



0.5 … 48m
5 … 80m

24 V DC

250 Hz

- Protective throughbeam photoelectric sensor with visible red light or infrared light (for multi-axis operation), up to category 4 in accordance with EN ISO 13849-1:2008
- Two operating ranges: 0.5 … 40m and 5 … 70m
- Small and compact construction with robust plastic housing, degree of protection IP 67/IP 69K for industrial application
- Fast alignment through *brightVision*®
- LED display featuring excellent visibility for alignment control

IP 69K
IP 67

IEC 60947...

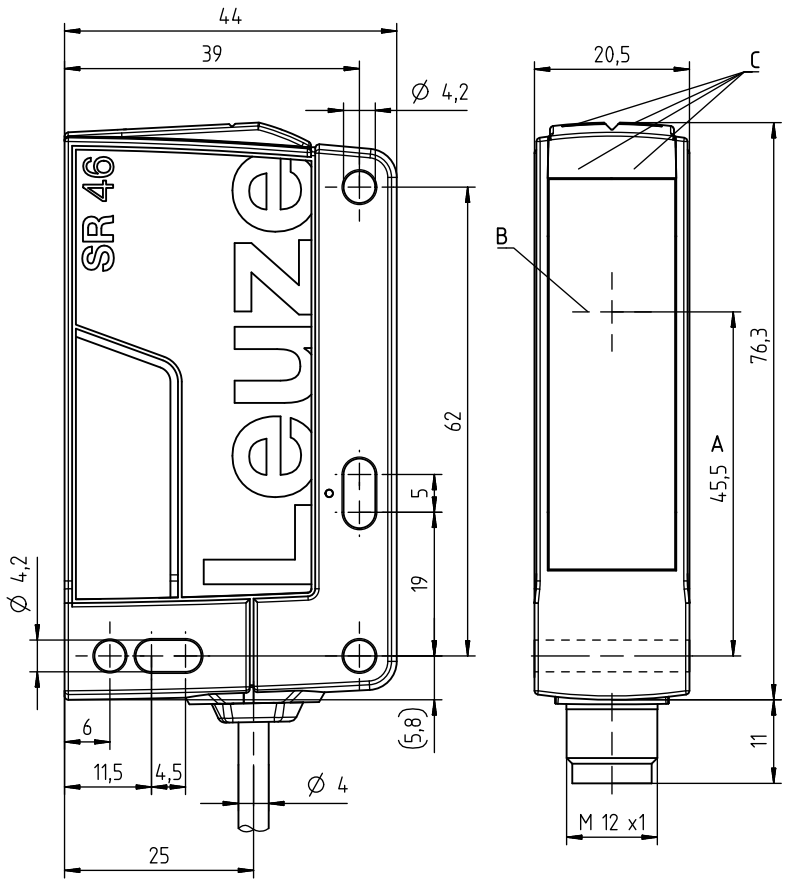
IEC 60947...

Accessories:

(available separately)

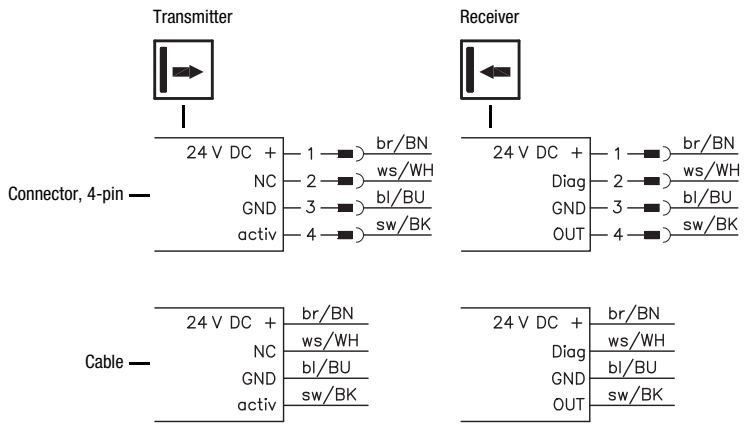
- Mounting systems (BT 46, BTU 300M, BTU 900M)
- M12 connectors (KD …)
- Ready-made cables (K-D …)
- Safety relays MSI-TRMB-01, MSI-TRMB-02
- Sensorscope SAT 5 (alignment control, part no. 50109545)

Dimensioned drawing



A Optical axis
B Transmitter and receiver
C Green/yellow indicator diodes

Electrical connection



We reserve the right to make changes • DS_SLS46CK4_en_50127541.fm

Specifications

Safety-relevant data

Type in accordance with IEC/EN 61496	Type 4
Performance Level (PL) in accordance with EN ISO 13849-1:2008 [1]	PL e
Category in accordance with EN ISO 13849:2008 [1]	Cat. 4
Mean time to dangerous failure (MTTFd)	900 years
Service life (TM)	20 years

Optical data

Typ. operating range limit [2]	range 1:	0.5 … 48m
	range 2:	5 … 80m
Operating range [3]	range 1:	0.5 … 40m
	range 2:	5 … 70m
Light source [4]	LED (modulated light)	
Wavelength	visible red light:	630nm
	infrared light:	940nm

Timing

Switching frequency	250Hz
Response time	≤ 2.5ms
Delay before start-up	≤ 300ms

Electrical data

Operating voltage U_B [5]	24VDC ±20% (incl. residual ripple)
Residual ripple	≤ 10% of U_B
Open-circuit current	transmitter: ≤ 40mA receiver: ≤ 15mA
Switching output/function	pin 2: diagnostic output **Diag**, PNP dark switching pin 4: switching output **OUT**, PNP light switching
Signal voltage high/low	≥ (U_B-2V)/≤ 2V
Output current	max. 100mA

Indicators

Transmitter	
Green LED	ready
Yellow LED	transmitter active
Receiver	
Green LED	ready
Yellow LED	light path free

Mechanical data

Housing	plastic (PC-PBT)
Optics cover	plastic (PMMA)
Weight (plug/cable)	100g/200g per pair
Connection type	M12 connector (4-pin) or cable, length 2m (cross section 4x0.21mm²)

Environmental data

Ambient temp. (operation/storage)	-30°C … +60°C/-30°C … +70°C
Protective circuit [6]	2, 3
VDE safety class [7]	III
Degree of protection	IP 67, IP 69K
Environmentally tested acc. to	ECOLAB
Light source	exempt group (in acc. with EN 62471)
Standards applied	IEC 60947-5-2, IEC/EN 61496
Certifications	UL 508, C22.2 No.14-13 [5] [8]

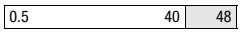
Activation input activ

Transmitter active/not active	≥ 8V/≤ 1.5V
Activation/disable delay	≤ 1ms/≤ 1ms
Input resistance	10KΩ ± 30%

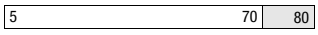
1) In combination with safety relay MSI-TRMB-01 or MSI-TRMB-02
2) Typ. operating range limit: max. attainable range without performance reserve
3) Operating range: recommended range with performance reserve
4) Average life expectancy 100,000h at an ambient temperature of 25°C
5) For UL applications: for use in class 2 circuits only
6) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs
7) Rating voltage 50V
8) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Tables

Operating range 1:



Operating range 2:



Operating range [m]
Typ. operating range limit [m]

Remarks

Operate in accordance with intended use!

- The product may only be put into operation by competent persons.
- Only use the product in accordance with the intended use.

ATTENTION

The SLS46CK4 safety sensors are a type 4 AOPD only in combination with the MSI-TRM… safety relays. For mounting, electrical connection and operation, the operating instructions of the MSI-TRM… safety relays are to be observed.

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Order guide [1)]

	Part no.	Designation	Operating range [m]	Connection	Transmitter light
Transmitter Receiver	50126546 50126328	SLS46C-40.K48-M12 SLE46C-40.K4/4P-M12	40	M12	Visible red light
Transmitter Receiver	50126548 50126330	SLS46C-70.K48-M12 SLE46C-70.K4/4P-M12	70	M12	Visible red light
Transmitter Receiver	50126550 50126332	SLS46CI-40.K48-M12 SLE46CI-40.K4/4P-M12	40	M12	Infrared light
Transmitter Receiver	50126552 50126334	SLS46CI-70.K48-M12 SLE46CI-70.K4/4P-M12	70	M12	Infrared light
Transmitter Receiver	50126545 50126327	SLS46C-40.K48 SLE46C-40.K4/4P	40	Cable, 2m	Visible red light
Transmitter Receiver	50126547 50126329	SLS46C-70.K48 SLE46C-70.K4/4P	70	Cable, 2m	Visible red light
Transmitter Receiver	50126549 50126331	SLS46CI-40.K48 SLE46CI-40.K4/4P	40	Cable, 2m	Infrared light
Transmitter Receiver	50126551 50126333	SLS46CI-70.K48 SLE46CI-70.K4/4P	70	Cable, 2m	Infrared light

1) Version 2010 A-Z