

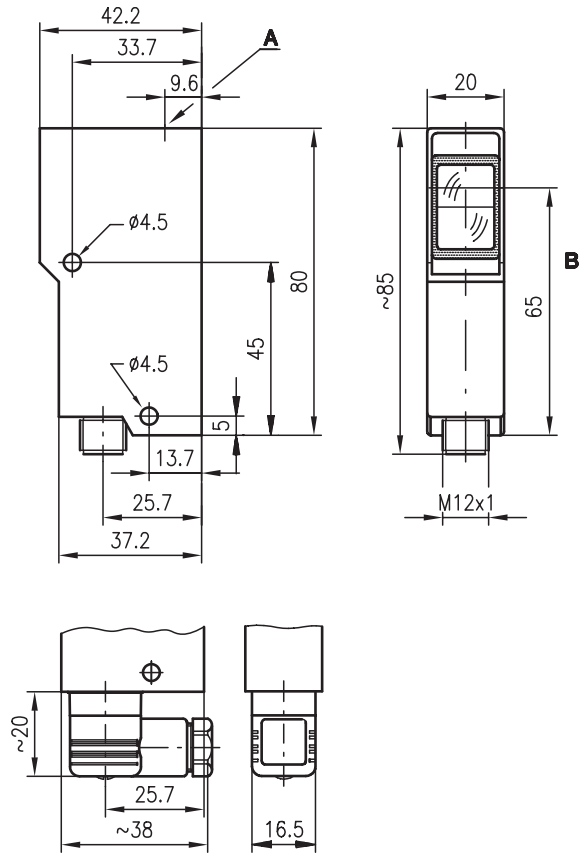


LS 92

Protective throughbeam photoelectric sensors



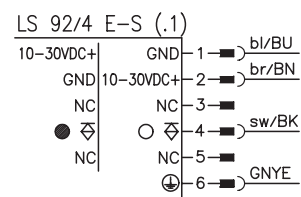
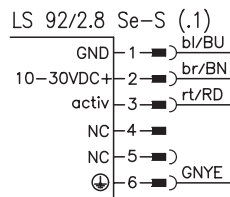
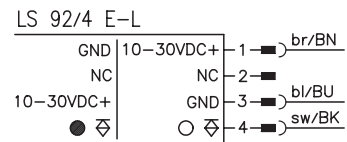
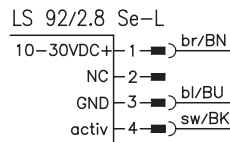
Dimensioned drawing



LS 92/2.8 Se-S
LS 92/4 E-S
LS 92/4 E-S.1
LS 92/2.8 Se-S.1

A Indicator diode
B Optical axis

Electrical connection



16m



- Activation input for testing and interlinking
- Compact construction with robust diecast zinc housing and glass optics for protection against environmental influences
- Light or dark switching by reversing the polarity of the operating voltage
- Electrical connection with M 12 connector or 6-pin standard plug



Accessories:

(available separately)

- Mounting systems (BT 92, UMS 1)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)
- Test-monitoring units:
 - TNT 32 (Part No. 500 20476)
 - TNT 33 (Part No. 500 28158)
 - TNT 34 (Part No. 500 81023)
 - TNT 35 (Part No. 500 33058)
 - TMC 66 (Part No. 500 82121)

We reserve the right to make changes • 92_a03e.fm



Specifications

Optical data

Typ. operating range limit ¹⁾	0 ... 16m
Operating range ²⁾	0 ... 12m
Light source	LED (modulated light)
Wavelength	880nm

Timing

Switching frequency	200Hz
Response time	2.5ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U_B
Bias current	≤ 35mA
Switching output	PNP transistor output
Function characteristics	light or dark switching (by reversing the polarity of U_B)
Signal voltage high/low	≥ ($U_B - 2V$) / ≤ 2V
Output current	max. 100mA

Indicators

Receiver

LED yellow	light path free
LED yellow flashing	light path free, no performance reserve

Transmitter

LED yellow	transmitter ON
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Mechanical data

Housing	diecast zinc
Optics	glass
Weight	140g
Connection type	M12 connector or 6-pin standard plug

Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -30°C ... +70°C
VDE safety class	I for S types
VDE safety class ³⁾	II for L types (M12 connector)
Protective circuit ⁴⁾	2, 3
Protection class	IP 67, IP 65 for all S types
Standards applied	IEC 60947-5-2

Options

Activation input active

Transmitter active/not active	≥ 8V / ≤ 2V or not connected
Activation/disable delay	≤ 1ms
Input resistance	4.7K < Ω ± 10%

1) Typ. operating range limit: max. attainable range without performance reserve

2) Operating range: recommended range with performance reserve

3) Rating voltage 250 VAC

4) 2=polarity reversal protection, 3=short-circuit protection for all outputs

Tables

Diagrams

Order guide

	Designation	Part No.
with 6-pin standard plug		
Transmitter and receiver	LS 92/4.8-S	
Transmitter	LS 92/2.8 Se-S	500 11218
Receiver	LS 92/4 E-S	500 11217
with M12 connector		
Transmitter and receiver	LS 92/4.8-L	
Transmitter	LS 92/2.8 Se-L	500 22703
Receiver	LS 92/4 E-L	500 22704
with 6-pin standard plug without cable connector		
Transmitter and receiver	LS 92/4.8-S.1	
Transmitter	LS 92/2.8 Se-S.1	500 20360
Receiver	LS 92/4 E-S.1	500 20573

Remarks

The protective throughbeam photoelectric sensor is a contactless active protective device only in connection with a safety-relevant control system, in which the cyclical testing of transmitter and receiver is carried out according to EN 61496-1, category 2 (testing).

The power supply unit used to operate the photoelectric sensor has to be able to compensate for changes and interruptions of the supply voltage acc. to EN 61496-1. Minimum blackening object: Ø13mm.