



## LS 92



### Protective throughbeam photoelectric sensor

Safety note:

- The protective throughbeam photoelectric sensor is a contactless active protective device 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 must be able to compensate for changes and interruptions of the supply voltage acc. to EN 61496-1.  
Minimum blackening object:  $\varnothing 13\text{mm}$ .

### Accessories

(available separately)

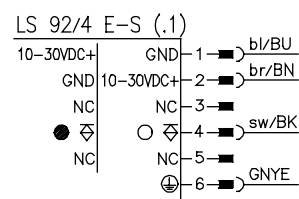
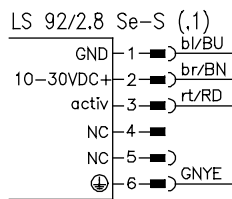
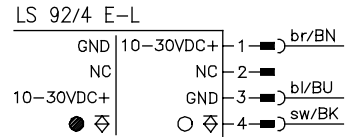
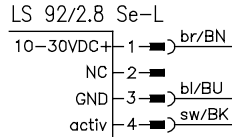
- Mounting system (BT 92, UMS 1)
- M12 connectors (KD ...)
- Ready-made cables (KB ...)
- Test-monitoring unit:
  - TNT 32 (Part No. 500 20476)
  - TNT 33 (Part No. 500 28158)
  - TNT 34 (Part No. 500 81023)
  - TNT 35 (Part No. 500 33058)
  - TMC 66 (Part No. 500 82121)



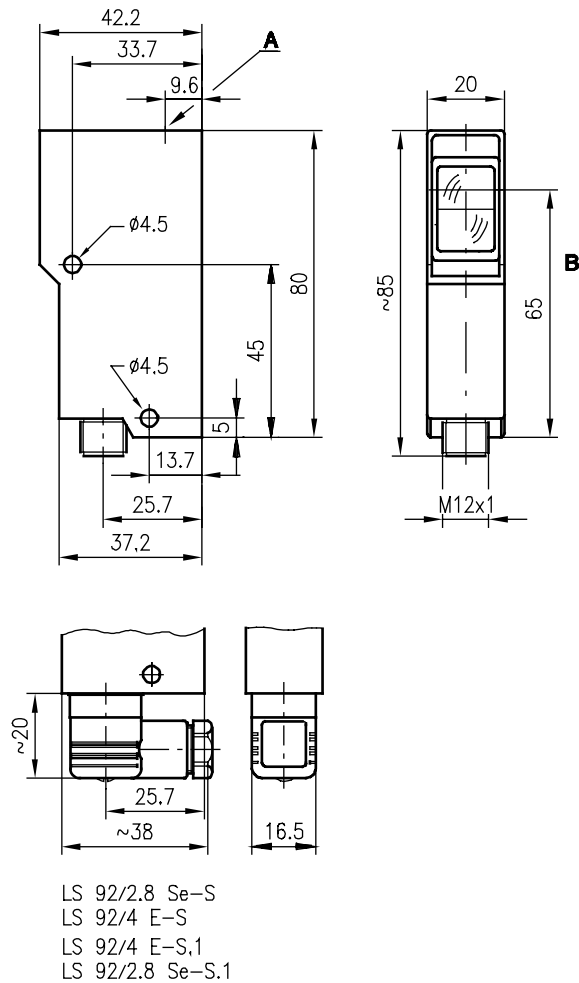
### Features

- 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 M12 connector or 6-pin standard plug

### Electrical Connection



### Dimensional Drawing





## Technical Data

<b>Optical data</b>	
Typ. operating range limit <sup>1)</sup>	0 ... 16m
Operating range <sup>2)</sup>	0 ... 12m
Light source	LED (modulated light)
Wavelength	880nm
<b>Timing</b>	
Switching frequency	200Hz
Response time	2,5ms
Delay before start-up	≤ 100ms
<b>Electrical data</b>	
Operating voltage U <sub>B</sub>	10 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of U <sub>B</sub>
Bias current	≤ 35mA
Switching output	PNP transistor output
Function characteristics	Light or dark switching (by reversing the polarity of U <sub>B</sub> )
Signal voltage high/low	≥ (U <sub>B</sub> -2V)/≤ 2V
Output current	max. 100mA
<b>Indicators</b>	
<b>Receiver</b>	
LED yellow	light path free
LED yellow flashing	light path free, no performance reserve
<b>Transmitter</b>	
LED yellow	transmitter ON
<b>Mechanical data</b>	
Housing	diecast zinc
Optics	glass
Weight	140g
Connection type	M12 connector or 6-pin standard plug
<b>Environmental data</b>	
Ambient temp. (operation/storage)	-20°C ... +60°C/-30°C ... + 70°C
VDE safety class	I for S types
VDE safety class <sup>3)</sup>	II for L types (M12 connector)
Protective circuit <sup>4)</sup>	2,3
Protection class	IP67, IP 65 for all S types
Standards applied	IEC 60947-5-2
<b>Options</b>	
<b>Activation input active</b>	
Transmitter active/not active	≥ 8V/ ≤ 2V or not connected
Activation/disable delay	≤ 1ms
Input resistance	4,7kΩ ± 10%

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

2) Operating range: recommended range with performance reserve

3) Rating voltage 250VAC

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

## Order guide

	Designation	Part No.
<b>with 6-pin standard plug</b>		
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
<b>with M12 connector</b>		
Transmitter and receiver	LS 92/4.8-S.1	
Transmitter	LS 92/2.8 Se-S.1	500 20703
Receiver	LS 92/4 E-S.1	500 20704
<b>with 6-pin standard plug without cable connector</b>		
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