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: Ø13mm.

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

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)

Electrical Connection

Dimensional Drawing

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Technical Data

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: \(\geq (U_B-2V)/2V\)
- 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

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: IP67, IP 65 for all S types
- Standards applied: IEC 60947-5-2

Options

- Activation input active:
  - ≥ 8V/ ≤ 2V or not connected
- Activation/disable delay: ≤ 1ms
- Input resistance: 4.7kΩ ± 10%

Order guide

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- with 6-pin standard plug

- with M12 connector

- 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 |

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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