



ITLS 171

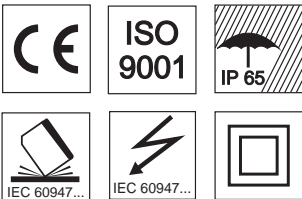
Throughbeam light attachment



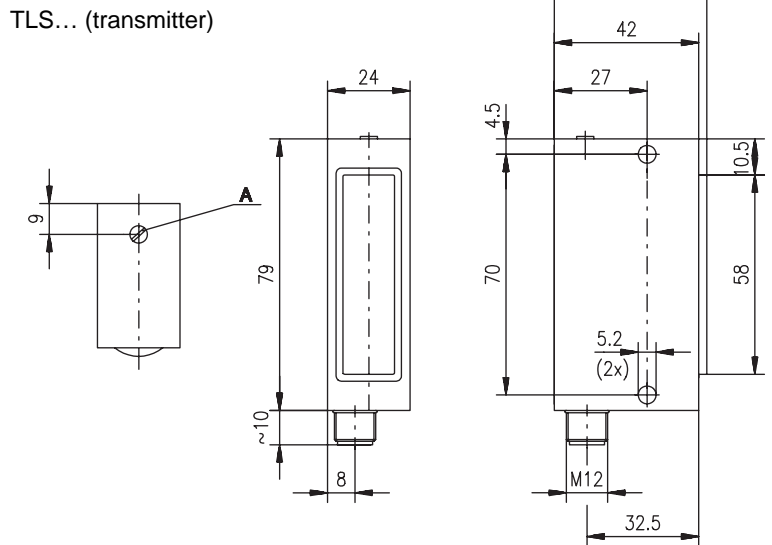
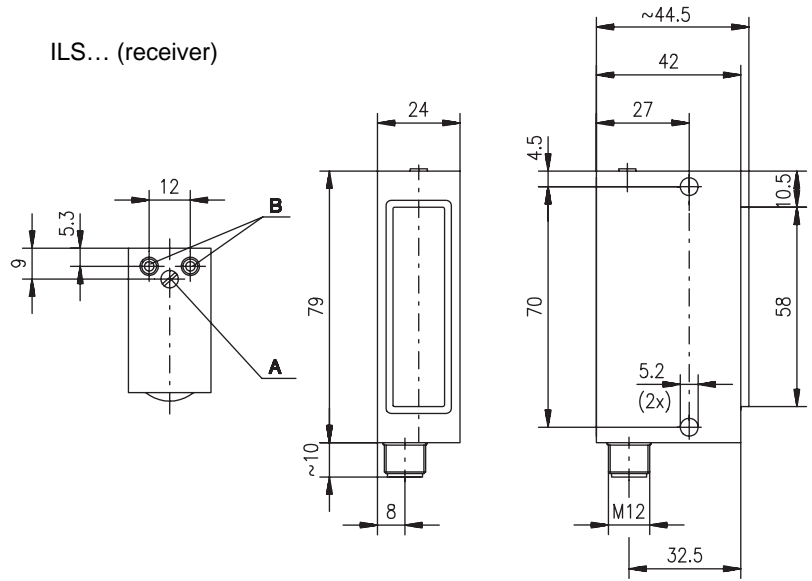
0.35 ... 1.5m
0.35 ... 4.0m



- Throughbeam light attachment featuring dynamic switching behaviour for detection of very small objects
- Diecast aluminium housing for protection against environmental influences
- LEDs allowing display of switching state and performance reserve/alignment aid
- Warning output for increased availability
- Automatic working range adaptation through integrated control ensures safe function
- Mounting holes and M12 connector for fast installation

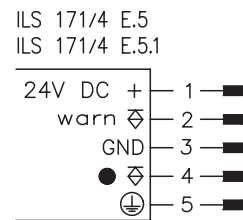
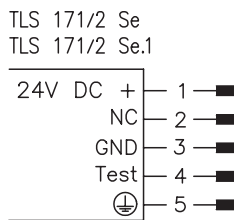


Dimensioned drawing



- A Sensitivity adjustment
- B Indicator LEDs

Electrical connection



We reserve the right to make changes • ITLS171_e.fm

Accessories:

- (available separately)
- M12 connectors (KD ...)
 - Ready-made cables (KB ...)



Specifications

Optical Data

| | ITLS 171/4.5 | ITLS 171/4.5.1 |
|------------------|---------------------------------------|----------------|
| Operating range | 0.35 ... 1.5m | 0.35 ... 4.0m |
| Scanning range | 58mm | |
| Light source | LED (modulated light) | |
| Min. object size | 10x10x0.5mm (length x height x width) | |

Timing

| | |
|-----------------------|-------|
| Switching frequency | 5 Hz |
| Input pulse | ≥ 5ms |
| Delay before start-up | 100ms |

Electrical data

Transmitter and receiver

| | |
|-------------------------------|--|
| Operating voltage U_B | 24V DC, ± 15% |
| Residual ripple | ≤ 15 % of U_B |
| Current consumption | approx. 15mA |
| Transmitter | modulated light |
| Transmitting power | adjustable with 270° potentiometer |
| Transmitter active/not active | ≤ 2V/≥ 8V/ |
| Input resistance | 10kΩ |
| Receiver | 9 silicon pin diodes |
| Switching output | PNP transistor output |
| Function characteristics | switches at light/dark transition, ≥ 100ms transient pulse |
| Warning output | PNP transistor output, with time delay |
| Output current | max. 200mA |
| Sensitivity | adjustable with 270° potentiometer |

Indicators

| | |
|------------------|---|
| LED yellow | parallel to the output |
| LED red | with performance reserve |
| LED red flashing | without performance reserve |
| LED red off | out of control range, output not active |

Mechanical data

| | |
|-----------------|---------------------------------------|
| Housing | aluminium, anodised |
| Optics | cylindrical lens, glass |
| Weight | approx. 110g |
| Connection type | M12 connector, stainless steel, 5-pin |

Environmental data

| | |
|-----------------------------------|---------------------------------|
| Ambient temp. (operation/storage) | -20°C ... +60°C/-30°C ... +70°C |
| Protective circuit ¹⁾ | 1, 2 |
| Protection class | IP 67 |
| Standards applied | IEC 60947-5-2 |

1) 1=short-circuit and overload protection, 2=polarity reversal protection (not analogue)

Order guide

| | Designation | Part No. |
|--------------------------|-----------------|-----------|
| 1.5m | | |
| Transmitter and receiver | ITLS 171/4.5 | |
| Transmitter | TLS 171/2 Se | 500 27238 |
| Receiver | ILS 171/4 E.5 | 500 26737 |
| 4.0m | | |
| Transmitter and receiver | ITLS 171/4.5.1 | |
| Transmitter | TLS 171/2 Se.1 | 500 31770 |
| Receiver | ILS 171/4 E.5.1 | 500 31769 |

Tables

Diagrams

Remarks

- **Coarse alignment:**
 - set pot. of receiver to minimum sensitivity
 - set pot. of transmitter to maximum sensitivity
 - align until the red LED of the receiver is illuminated.
- **Fine alignment:**

turn pot. of transmitter until the red LED of the receiver starts flashing. Correct alignment until the red LED is continuously illuminated again. Set pot. of transmitter back to maximum transmitting power.
- **Sensitivity adjustment of the receiver:**

adaptation of the object size.
- **Warning output:**

is activated with time delay (2s) when performance reserve is not sufficient (red LED flashes).
- **Minimum working distance:**

the minimum working distance of 0.35m can still be decreased by reducing the transmitting power (pot. of transmitter).