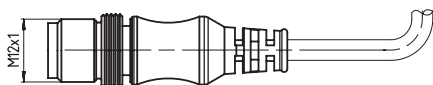
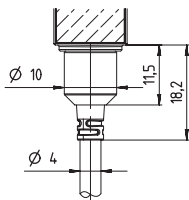
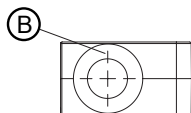
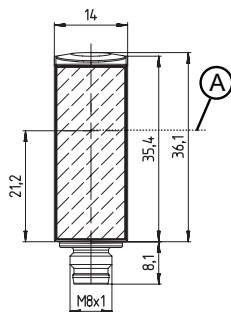
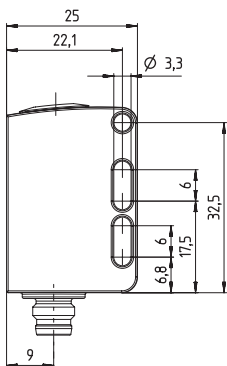


Throughbeam photoelectric sensor for the detection of aqueous liquids

LS55C.H2O

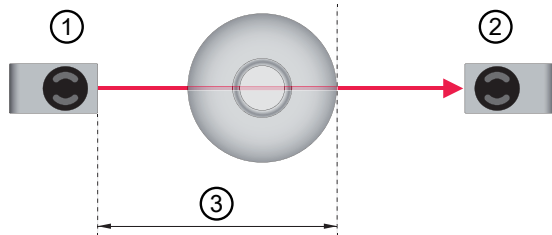


1

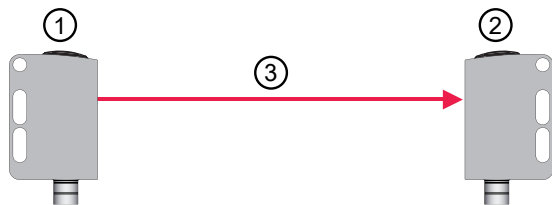


Leuze

2

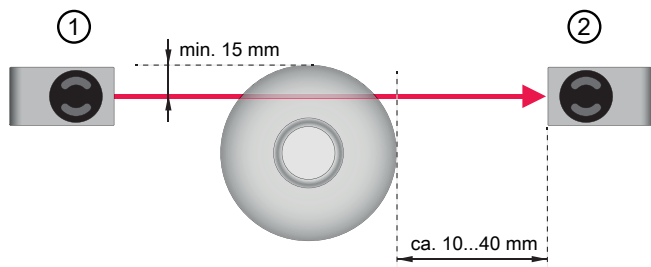
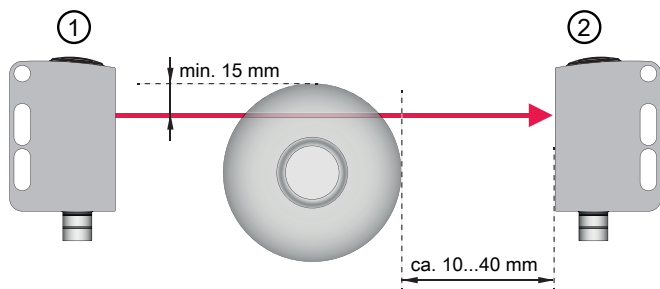


3



4



5**6**

Notes on the function of the photoelectric sensor

- Colored liquids and labels increase the damping.
- The function reserve can be adjusted on the transmitter (pin 2 + pin 4).
- The function reserve can be reduced by misaligning the receiver.

Sensitivity adjustment on the transmitter

To reliably detect aqueous liquids in glass and plastic containers (bottles, syringes, trays, etc.), the sensitivity on the transmitter must be adjusted to the measuring environment.

Recommendation for the sensitivity adjustment on the transmitter

IN1 transmitter	IN2 transmitter	Sensitivity	Transmitter – receiver distance ¹⁾	Formats ^{2) 3)} (container volume, clear ... colored)
Not connected or 0 V	U _B	Level 1 (min.)	50 ... 100 mm	<0.5 l, without label
Not connected or 0 V	Not connected or 0 V	Level 2 (default)	100 ... 500 mm	0.1 ... 2 l, without label
U _B	U _B	Level 3	100 ... 500 mm	0.1 ... 5 l, without label
U _B	Not connected or 0 V	Level 4 (max.)	100 ... 500 mm	0.1 ... 5 l, with label ⁴⁾

¹⁾ Additional reduction of the sensitivity by misaligning the receiver

²⁾ Typical details, strong dependence on container color and water column diameter

³⁾ Other containers and films depending on material and sensor distance

⁴⁾ Plastic labels, also with printing

Dimensioned drawing



All dimensions in mm

A Optical axis

B Indicator diodes

Detection of aqueous liquids in glass and plastic containers (bottles, syringes, trays, etc.)

Alignment and sensitivity selection

Valid for LS55C.H2O... transmitter in combination with LE55C.H2O... receiver.

2

- 1 Transmitter
 - 2 Receiver
 - 3 Max. 2/3 x distance transmitter – receiver
- ↳ Mount the transmitter and receiver.
 - Provide for possibility of tilting 0° ... 15° for the receiver.
 - The bottles should not be detected directly in front of the receiver. Observe the recommended installation distance.
 - ↳ Align the optical axis precisely.
 - ↳ Roughly set the sensitivity on the transmitter according to the sensitivity table.

Rough adjustment of the sensitivity

3

- 1 Transmitter
 - 2 Receiver
 - 3 Setting on the transmitter via IN1 and IN2 according to sensitivity table
- ↳ Check that an empty bottle does not cause an interruption.
In case of interruption: Increase the sensitivity on the IN1/IN2 transmitter inputs or reduce the transmitter – receiver distance.
 - ↳ Check that a filled bottle consistently causes interruption.
If not: Reduce the sensitivity on the IN1/IN2 transmitter input and/or make the fine adjustment via the tilt angle.

4

- 1 Transmitter
- 2 Receiver
- 3 Fine adjustment via the tilt angle:
Tilt angle 0° ... ±15°, 15° = reduced sensitivity

Fill-level monitoring with glass and plastic containers

Valid for LS55C.H2O... transmitter in combination with LE55C.H2O... receiver. The photoelectric sensor can be used to determine fill levels during the filling of containers with beverages (e.g., water, fruit juices, beer, wine, milk) or aqueous solutions (e.g., cleaners, acids, bases, alcohols).

Sensitivity adjustment on the transmitter

A transmitter adjustment is not normally necessary, i.e., inputs IN1 and IN2 on the transmitter remain disconnected. If the sensor does not generate a switching signal with this setting, the transmitting power must be reduced to level 1 (min.) according to the table "Recommendation for the sensitivity adjustment on the transmitter".

Notice on correct alignment of the photoelectric sensor

In principle, transmitter and receiver can be mounted at any distance to the container. If feasible, we recommend a distance of 10 - 40 mm.

Vertical arrangement of the sensors (view of the bottle from above / top view)

5

- 1 Transmitter
- 2 Receiver

Horizontal arrangement of the sensors (view of the bottle from above / top view)

6

- 1 Transmitter
- 2 Receiver

- The optical axis of transmitter and receiver must be exactly oriented horizontally as well as vertically. Refer to the dimensioned drawing for the orientation of the optical axis.
- At the position where the fill level is to be monitored, the light beam must not be directed through the filling beam.
- The optical axis must pass through the bottle at a distance of at least 15 mm from the outer wall of the container.
- The fill-level monitoring is largely independent of the bottle geometry, thickness or color. If the surface of the liquid is smooth and level during the filling process, very good reproducibility of typically 0.2 to 0.5 mm can be achieved.

The more wavy or turbulent the surface of the liquid is during the filling process, the lower the reproducibility. No generalizations can be made here; values must be determined through practical trials.