wictotolic



Operating Manual Ultrasonic sensor with two switching outputs lcs+340/DD

lcs+600/DD

Product Description

The lcs+ sensor offers a non-contact measurement of the distance to an object which must be positioned within the sensor's detection zone. The switching outputs are set conditional upon the adjusted detect distances.

The sensors can be adjusted via Teachin procedure using two buttons. Two LEDs indicate operation and the states of the switching outputs.

Optionally all Teach-in and additional sensor parameter settings can be made using the LinkControl adapter (optional accessory) and the LinkControl software for Windows®.

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The housing was updated with Batch number

- FA2304912 for lcs+340
- FA2304201 for lcs+600.

The assembly diagram and installation height are identical to the old housing.

Safety Notes

- Read the operating manual prior to start-up.
- Connection, installation and adjustment works should be carried out by expert personnel only.
- No safety component in accordance with the EU Machine Directive, use in the area of personal and machine protection not permitted

Proper Use

lcs+ ultrasonic sensors are used for non-contact detection of objects.

Installation

- → Mount the sensor at the place of fitting.
- → Connect a connection cable to the M12 device plug, see Fig. 1.

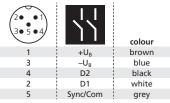


Fig. 1: Pin assignment with view onto sensor plug and colour coding of the microsonic connection cables

Start-Up

- → Connect the power supply.
- → Set the sensor parameters using the Teach-in procedure, see Diagram 1.

Factory Setting

- Switching outputs on NOC
- Detect distance D1 at operating range and D2 at half operating range

Synchronisation

If the assembly distance of multiple sensors falls below the values shown in Fig. 2, the internal synchronisation should be used to avoid mutual interference between them. To do this interconnect each pin 5 of the sensors to be synchronised (max. 10 sensors).

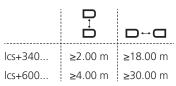


Fig. 2: Minimal assembly distances without synchronisation

Notes

Maintenance

sensor surface.

 Pin 5 (Sync/Com) of the sensor may only be connected for synchronisation.

microsonic sensors are maintenance-

free. In case of excess caked-on dirt

we recommend to clean the white

- The sensors of the lcs+ family have a blind zone, within which a distance measurement is not possible.
- The lcs+ sensors are equipped with an internal temperature compensation. Due to the sensors self heating, the temperature compensation reaches its optimum workingpoint after approx. 30 minutes of operation.
- In the normal operating mode, an illuminated yellow LED signals that the corresponding switching output is set.
- In the »Two-way reflective barrier« operating mode, the object has to be within the range of 0 to 85 % of the set distance.
- If no push-buttons are pressed for 5 minutes during parameter setting mode the made changes are discarded and the sensor returns to normal operating mode.
- In the »Set switching point method A« Teach-in procedure the actual distance to the object is taught to the sensor as the detect point. If the object moves towards the sensor (e.g. with level control) then the taught distance is the level at which the sensor has to switch the output (see Fig. 3).

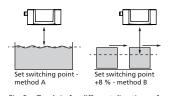
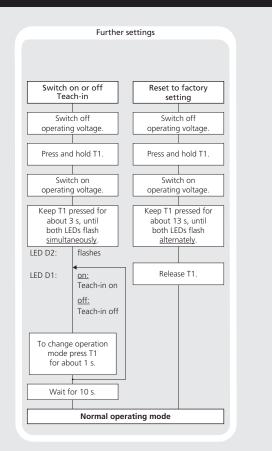
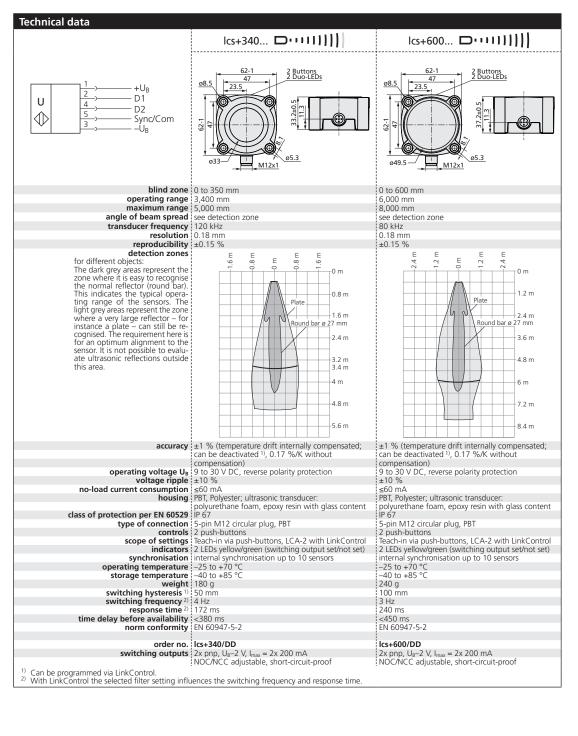


Fig. 3: Teach-in for different directions of movement of the obcject

Diagram 1: Set sensor parameters via Teach-in procedure Set switching outputs Set switching point Set switching point Set window mode Set two way reflective Set NOC/NCC D1/D2 D1/D2 - method A D1/D2 +8% - method E D1/D2 barrier D1/D2 Place object at Place object at Place object at Place reflector at Press T1/T2 for position (1) position (1). position (1) position (1) about 13 s, until both LEDs flash alternately. Output D1 LED D2: flashes Press T1/T2 for about 3 s LED D1: on: NOC until both LEDs flash until both LEDs flash until both LEDs flash until both LEDs flash off: NCC simultaneously. simultaneously. simultaneously. simultaneously. Both LEDs: flash Both LEDs: flash Both LEDs: flash Both LEDs: flash alternately alternately alternately alternately Output D2: LED D1 lashes Place object at LED D2: on: NOC position 2 off: NCC Both LEDs: flash alternately Press T1/T2 for Press T1/T2 for To change output Press T1/T2 for Press T1/T2 for about 3 s about 10 s, until characteristic press about 1 s about 1 s until both LEDs both LEDs stop flashing. T1/T2 for about 1 s. flash <u>alternately</u> again. Wait for 10 s.

Normal operating mode





- If the object to be scanned moves into the detection area from the side, the »Set switching point +8 % method B« Teach-in procedure should be used. In this way the switching distance is set 8 % further than the actual measured distance to the object. This ensures a reliable switching distance even if the height of the objects varies slightly (see Fig. 3).
- The sensor can be reset to its factory setting (see Diagram 1).





Enclosure Type 1 For use only in industrial machinery NFPA 79 applications.

The proximity switches shall be used with a Listed (CYJV/7) cable/connector assembly rated minimum 32 Vdc, minimum 290 mA, in the final installation

