

Start-up

- Connect the power supply.
- Set the parameters of the sensor according to diagram.

Factory Setting

- Synchronous mode deactivated
- D1 = NCC, D2 = NOC
- Detect points on operating range

Available Operating Modes

- Operation with one detect point
- Window mode
- Two-way reflective barrier

The two switching outputs always switch antivalent.

Synchronisation

With the synchronous mode activated and an electrical interconnection of the Sync/Com inputs (pin 5), up to 10 sensors can be synchronised.

Maintenance

microsonic sensors are maintenance-free. With heavy dirt deposits, we recommend a cleaning of the white sensor surface.

Notes

- The usc sensor has a blind zone, within which distance measurements are not possible.
- The usc sensor is equipped with an internal temperature compensation. Due to the sensor's self-heating, the temperature compensation reaches its optimum working point after approx. 30 minutes of operation.
- In the normal operating mode, a yellow LED signals that the switching output D2 is switched through.
- In the Teach-in mode, the hystereses are reset to factory setting.
- In the »Two-way reflective barrier« operating mode, the reflector is surrounded by a symmetrical window of $\pm 8\%$ of the distance value.
- If the button is not pressed for 30 seconds during the teach-in setting, the setting made hitherto is deleted.
- The sensor can be reset to its factory setting.

Operating manual

Ultrasonic Proximity Switch with two antivalent switching outputs ucs-24/CDD/QM ucs-24/CEE/QM

Product Description

The usc sensor offers a non-contact measurement of the distance to an object which must be positioned within the sensor's detection zone. Both switching outputs are set antivalent in dependence of the adjusted detect distance. Via a button, the detect distance and the operating mode can be adjusted (Teach-in). One LED indicates the state of the switching outputs. Using the LinkControl adapter (optional accessory) and the LinkControl software for Windows®, all Teach-in and additional sensor parameter settings can be optionally adjusted.

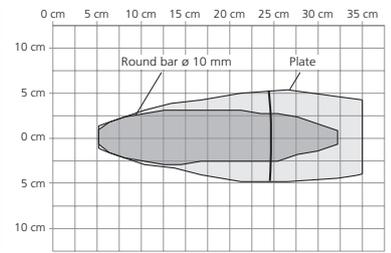
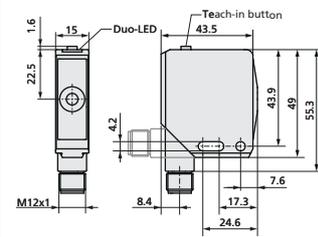
Safety Notes

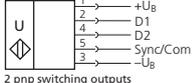
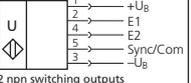
- Read the operating manual prior to start-up.
- Connection, installation and adjustments may only be carried out by qualified staff.
- No safety component in accordance with the EU Machine Directive, use in the area of personal and machine protection not permitted.

Installation

- Mount the sensor at the place of fitting.
- Connect a connection cable to the M12 device plug.

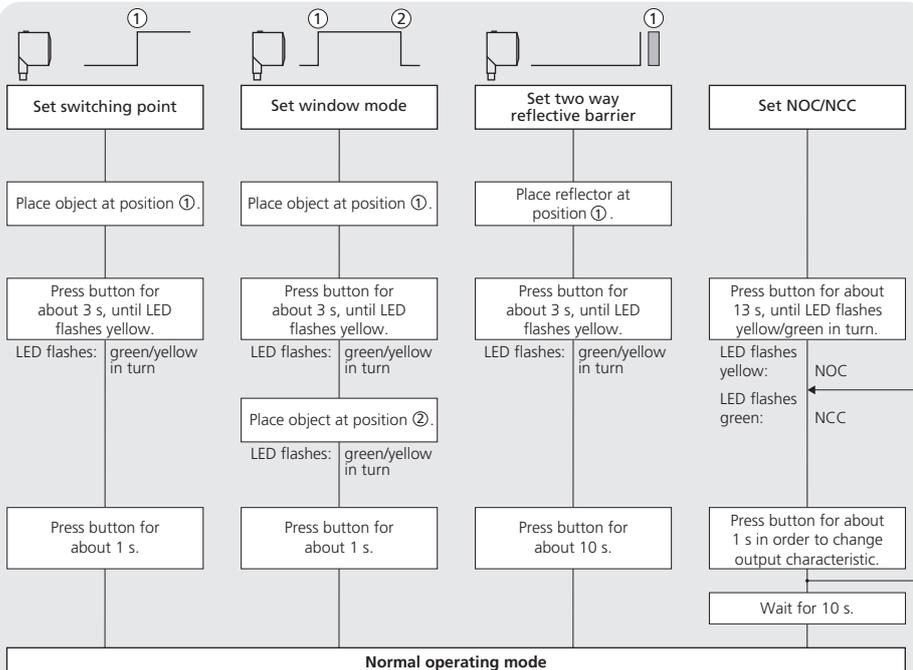
Technical data



Blind zone	55 mm
Operating range	240 mm
Maximum range	350 mm
Angle of beam spread	see detection zone
Transducer frequency	500 kHz
Resolution, sampling rate	0.08 mm
Reproducibility	$\pm 0.15\%$
Accuracy	Temperature drift internal compensated, $\leq 2\%$, may be deactivated ¹⁾
Operating voltage U_B	10 to 30 V DC, reverse polarity protection
Voltage ripple	$\pm 10\%$
No-load current consumption	$< 45\text{ mA}$
Housing	Zinc die-cast, plastic parts: PBT, ultrasonic transducer: polyurethane foam, epoxy resin with glass content
Class of protection to EN 60529	IP 67
Type of connection	5-pin M12 initiator plug
Controls	1 Teach-in button
Indicators	1 Duo-LED yellow/green
Programmable	via LinkControl
Synchronisation	internal
Operating temperature	-25 to $+70\text{ }^\circ\text{C}$
Storage temperature	-40 to $+85\text{ }^\circ\text{C}$
Weight	65 g
Switching output	2x npn, $U_B - 2\text{ V}$; 2x npn, $-U_B + 2\text{ V}$ $I_{\text{max}} = 2 \times 200\text{ mA}$ antivalent switchable, short-circuit-proof
Switching hysteresis ¹⁾	2 mm
Switching frequency ¹⁾	25 Hz
Response time ¹⁾	30 ms
Time delay before availability	$< 300\text{ ms}$
Norm conformity	EN 60947-5-2
Order no.	ucs-24/CDD/QM ucs-24/CEE/QM
	
¹⁾ Can be programmed via LinkControl	 

Set sensor via Teach-in procedure

Set antivalent switching outputs D1 and D2



Further settings

