Operating manual

ucs-15/CDD/QM
ucs-15/CEE/QM

Ultrasonic Proximity Switch with Two Antivalent Switched Outputs

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 switched 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 switched outputs.
With the LinkControl adapter, which is available as accessory, all sensor parameters can optionally be set via a PC.

Safety Notes

- Read the operating instructions prior to start-up.
- Connection, installation and adjustment works may only be carried out by expert personnel.
- No safety component in accordance with the EU Machine Directive.

Installation

- Mount the sensor at the installation site.
- Connect a connection cable to the M12 device plug.

Start-Up

- Connect the power supply.
- Carry out the adjustment in accordance with the diagram.

Factory Setting

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

Operation

Three operating modes are available for both switched outputs:

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

Both switched outputs are antivalent switching outputs.

Synchronisation

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

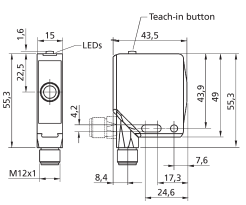
Maintenance

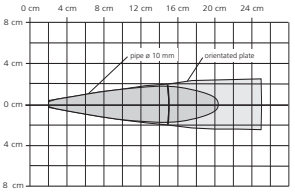
microsonic sensors are maintenance-free. With heavy dirt deposits, we recommend a cleaning of the white sensor surface.

Note

- The usc sensor has a blind zone, within which distance measurements are not possible.
- The ucs 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 switched output D2 is switched through.
- In the teach-in mode, the hystereses are reset to the factory setting.
- In the »Two-way reflective barrier« operating mode, the reflector is surrounded by a symmetrical window of ± 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.

Technical data



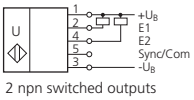


Detection zone

2014/30/EU

Blind zone	20 mm
Operating range	250 mm
Maximum range	250 mm
Angle of beam spread	See detection zone
Transducer frequency	380 kHz
Resolution, sampling rate	0.08 mm
Reproducibility	± 0,15 %
Accuracy	Temperature drift internal compensated, ≤ 2 % may be deactivated [1]
Operating voltage U_B	10 - 30 V DC, reverse polarity protection
Voltage ripple	±10 %
No-load current consumption	< 40 mA
Housing	Zink 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	Yes, 1 Teach-in button
Indicators	1 duo-LED
Programmable	Yes, with LinkControl
Synchronization	Yes, internal
Operating temperature	-25°C to +70°C
Storage temperature	-40°C to +85°C
Weight	65 g
Switched output	2 x pnp, U_B-2 V ¦ 2 x npn, -U_B+2 V I_{max} = 2 x 200 mA antivalent switchable, short-circuit-proof
Switching hysteresis	2 mm
Switching frequency	25 Hz
Response time	30 ms
Time delay before availability	< 300 ms
Norm conformity	EN 60947-5-2
Order no.	**ucs-15/CDD/QM** ¦ **ucs-15/CEE/QM**

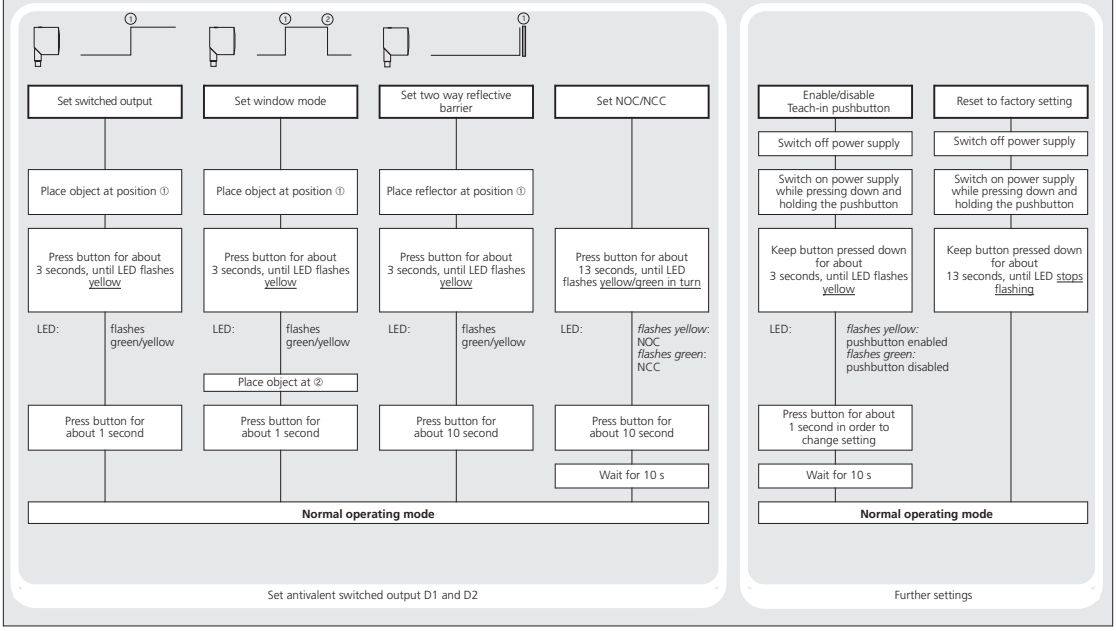
2 pnp switched outputs



2 npn switched outputs

[1] Can be programmed with LinkControl

Sensor adjustment with Teach-in procedure



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