microsonic

Extract from our online catalogue:

lcs+600/F/A

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The new lcs+ ultrasonic sensors come in a very compact square-shaped housing - with analogue or switching output + IO-Link.

HIGHLIGHTS

› Very compact housing dimensions › only 62 mm x 62 mm x › 37.2 › mm
› IO-Link interface › for support of the new industry standard
› Synchronisation and multiplex mode › for simultaneous operation of up to ten sensors in close quarters
› 8 m maximum detection range
› UL Listed to Canadian and US safety standards
› Smart Sensor Profiles › more transparency between IO-Link Devices

BASICS

› 1 Push-Pull switching output, or 2 pnp switching outputs
› Analogue output 4–20 mA and 0–10 V › with automatic switching between current and voltage outputs
› microsonic Teach-in by using button T1 and T2
› 0.18 mm to 2.4 mm resolution
› Temperature compensation
› 9–30 V operating voltage
› LinkControl › for configuration of sensors from a PC

Description

The Ics+ ultrasonic sensors

have a block-like plastic housing with a base area of only 62 x 62 mm and four fastening bores.

The sensors are Listed to applicable UL Standards and requirements by UL for Canada and the US.

Two dual colour LEDs

show all operating statuses.

Three output stages are available for selection:

1 Push-Pull switching output with pnp or npn switching technology

2 pnp switching outputs

1 analogue output 4–20 mA or 0–10 V

Using the two Teach-in buttons T1 and T2

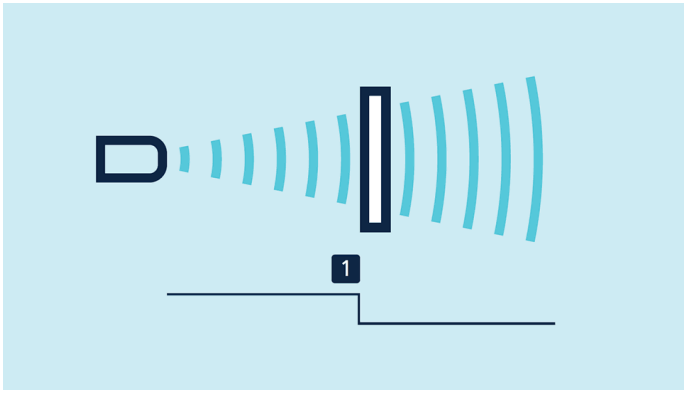
the Ics+ sensors can be easily set.

The Ics+ sensors with switching output have three operating modes:

- Single switching point
- Two-way reflective barrier
- Window mode

Teach-in of a single switching point

- Place object to be detected (1) at the desired distance
- Push button T2 for about 3 seconds
- Then push button T2 again for about 1 second

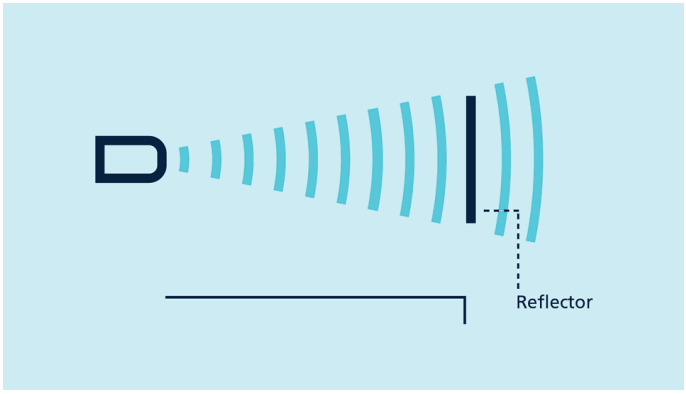


Teach-in of a switching point

Teach-in of a two-way reflective barrier

with a fixed mounted reflector

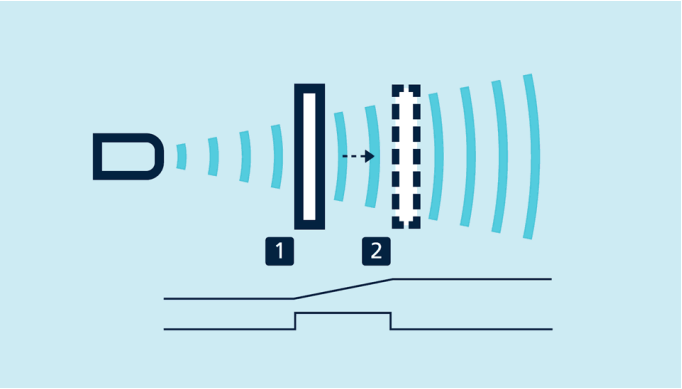
- Push button T1 for about 3 seconds
- Then push button T1 again for about 10 seconds



Teach-in of a two-way reflective barrier

For setting the analogue output

- Initially position the object to be detected to the sensor-close window limit (1)
- Push button T1 for about 3 seconds
- Then move the object to the sensor-distant window limit (2)
- Then push button T1 again for about 1 second



Teach-in of an analogue characteristic or a window with two switching points

For configuration of a window

with two switching points on a single switched output, the procedure is the same as setting the analogue.

Analogue sensors

check the connected working resistance at the output and automatically switch to 4–20 mA current output or 0–10 V voltage output.

NCC/NOC

and rising/falling analogue characteristics can also be set via the buttons.

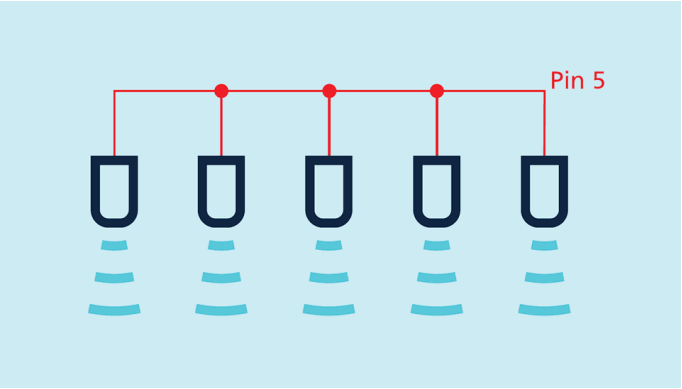
LinkControl

permits comprehensive parameterisation of Ics+ ultrasonic sensors via the LinkControl adapter LCA-2 which connects the sensors to the PC.

Sensor connected to the PC via LCA-2 for programming

Easy to synchronise

If several Ics+ ultrasonic sensors are operated in one application, the can be synchronised via pin 5 to prevent.



Synchronisation using pin 5

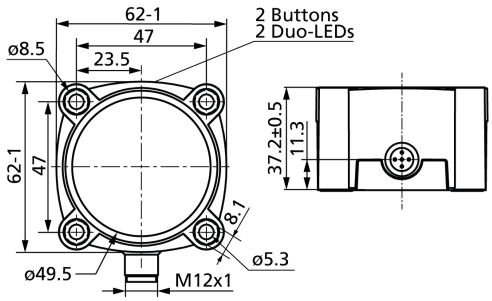
If more than 10 sensors must be synchronised, this can be carried out with the SyncBox1 , which is available as an accessory. Synchronisation via pin 5 is also possible in IO-Link mode.

IO-Link

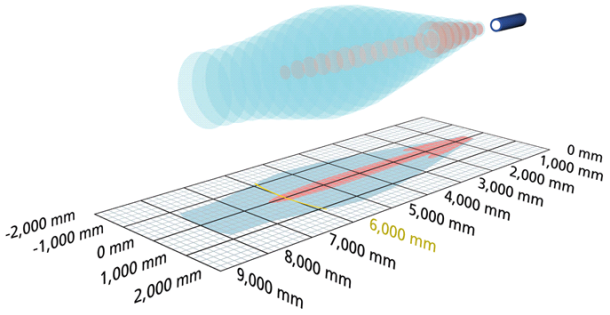
Ultrasonic sensors Ics+340/F/A and Ics+600/F/A have a Push-Pull switching output and support IO-Link in version 1.1 as well as the Smart Sensor profile.

lcs+600/F/A

scale drawing



detection zone



1 x Push-Pull

8,000 mm

measuring range	600 - 8.000 mm
design	cuboidal
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	IO-Link Smart Sensor Profile UL Listed

ultrasonic-specific

means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
maximum range	8,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

electrical data

operating voltage U_B	9 - 30 V d.c., reverse polarity protection
voltage ripple	± 10 %
no-load current consumption	≤ 60 mA
type of connection	5-pin M12 initiator plug

lcs+600/F/A

outputs	
output 1	switching output Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA
switching frequency	3 Hz
response time	240 ms
delay prior to availability	< 450 ms

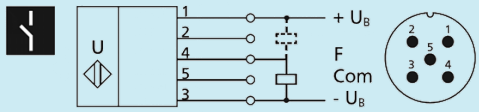
inputs	
input 1	com input synchronisation input

IO-Link	
product name	lcs+
product ID	32580
SIO mode support	yes
COM mode	COM2 (38,4 kBaud)
min. cycle time	60,8 ms
format of process data	32 Bit PDI
content of process data	Bit 0: initial state Pin 4; Bit 8-15: scale (Int. 8); Bit 16-31: measured value (Int. 16)
ISDU paramter	Identification, measuring configuration, switched output, filter, temperature compensation, operation
system commands	SP1 Teach-in, SP2 Teach-in, factory settings
Smart Sensor Profile	yes
IODD version	IODD version 1.1

housing	
material	PBT
ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
class of protection to EN 60529	IP 67
operating temperature	-25°C to +70°C
storage temperature	-40°C to +85°C
weight	240 g

lcs+600/F/A

technical features/characteristics	
temperature compensation	yes
controls	2 push-buttons
scope for settings	Teach-in via push-button LCA-2 with LinkControl IO-Link
Synchronisation	yes
multiplex	yes
indicators	2 x three-colour LED
particularities	IO-Link Smart Sensor Profile UL Listed

pin assignment	
order no.	**lcs+600/F/A**

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