



Extract from our online catalogue:

Ics+600/F/A

Current to: 2023-11-13

NEW  
DESIGN



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 62.2 mm x 62.2 mm x 36.7 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 62.2 x 62.2 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

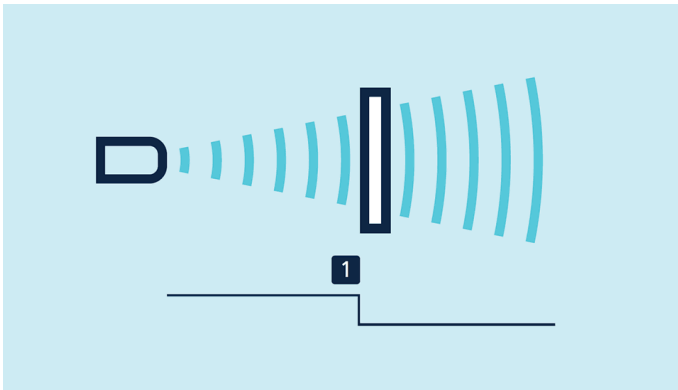
the Ics+ sensors can be easily set.

## 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

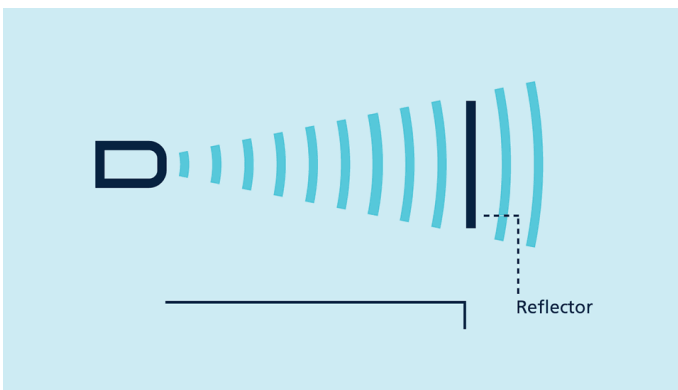


*Teach-in of a switching point*

### Teach-in of a two-way reflective barrier

with a fixed mounted reflector

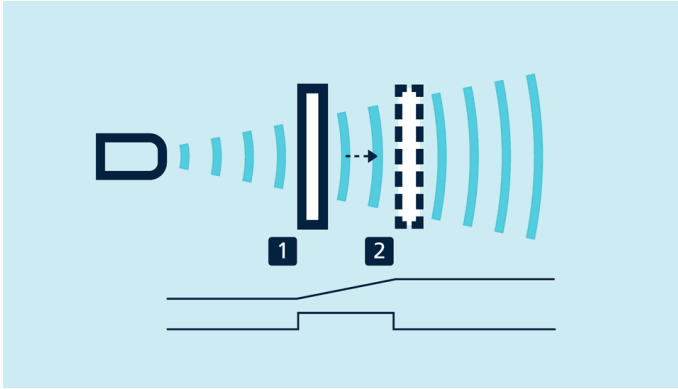
- › Push button T1 for about 3 seconds
- › Then push button T1 again for about 10 seconds



*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

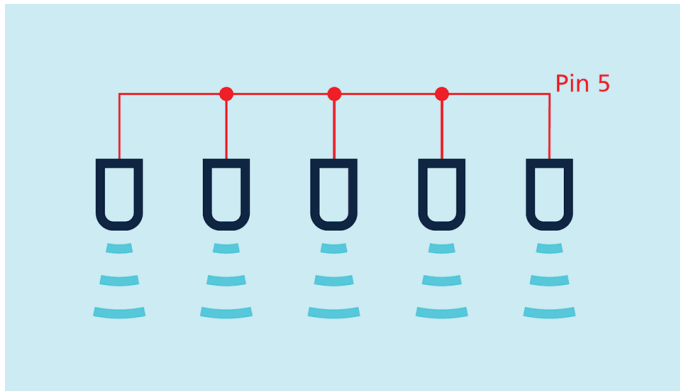
permits comprehensive parameterisation of lcs+ ultrasonic sensors via the **LinkControl adapter** LCA-2 which connects the sensors to the PC.



*Sensor connected to the PC via LCA-2 for programming*

### Easy to synchronise

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



*Synchronisation using pin 5*

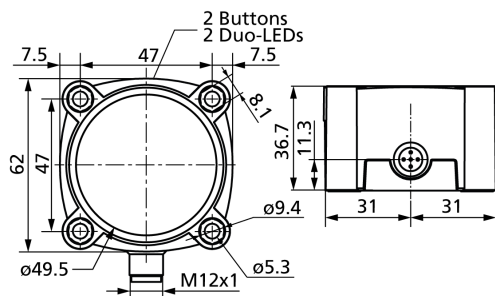
If more than 10 sensors must be synchronised, this can be carried out with the **SyncBox1** , which is available as an accessory. Synchronisation via pin 5 is also possible in IO-Link mode.

### IO-Link

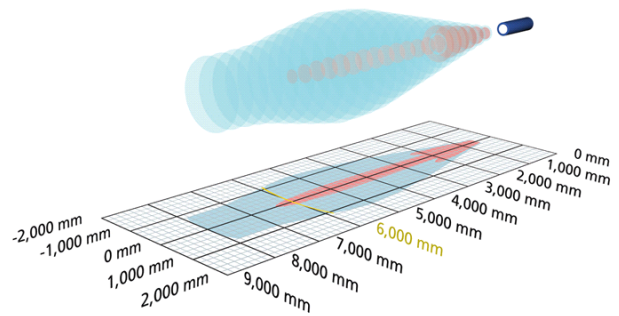
Ultrasonic sensors **Ics+340/F/A** and **Ics+600/F/A** have a Push-Pull switching output and support IO-Link in version 1.1 as well as the Smart Sensor profile.

# Ics+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, $U_B-3\text{ V}$ , $-U_B+3\text{ V}$ , $I_{\max} = 100\text{ mA}$
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

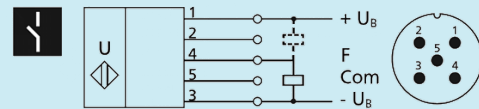


# lcs+600/F/A

## 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**

The content of this document is subject to technical changes.  
Specifications in this document are presented in a descriptive way  
only. They do not warrant any product features.