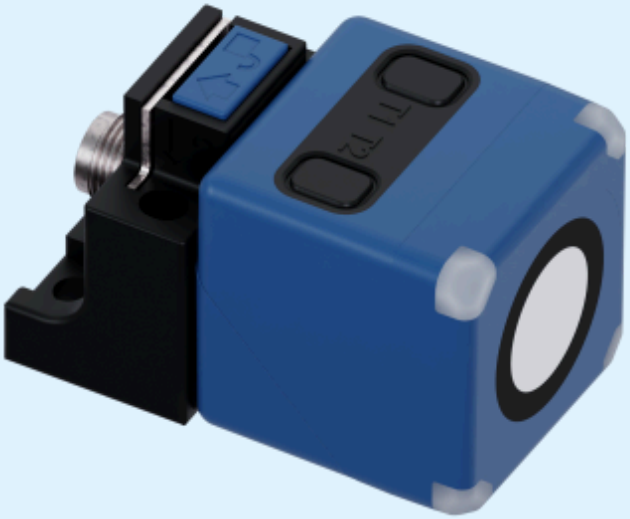


Выдержка из нашего онлайн-каталога:

cube-130/FFIU

По состоянию на: 2026-11-04

microsonic GmbH / Phoenixseestraße 7 / 44263 Dortmund / Germany / **T** +49 231 975151-0 / **F** +49 231 975151-51 / **E** info@microsonic.de
microsonic® ist eine eingetragene Marke der microsonic GmbH. Alle Rechte vorbehalten. Änderungen vorbehalten.



cube

cube ultrasonic sensors – easy installation: no tools required thanks to QuickLock mounting bracket.

Highlights

- Cubic housing › only 40 mm x 40 mm x 40 mm
- Sensor head › mountable in 5 positions
- Easily visible LED display › in any mounting position
- Convenient QuickLock mounting bracket
- IO-Link интерфейс › для поддержки нового стандарта в промышленности
- Smart Sensor Profiles › more transparency between IO-Link Devices
- UL listed › to Canadian and US safety standards

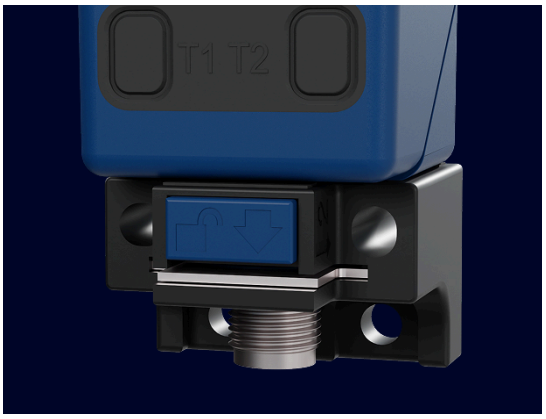
Basics

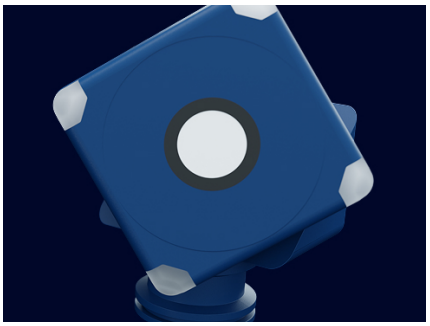
- 1 Push-Pull switching output › pnp or npn basis
- 1 Push-Pull switching output and 1 analogue output › or switchable to second switching output
- 3 detection ranges with a measurement range of 65 mm to 5 m
- microsonic Teach-in by using button T1 and T2
- Temperature compensation
- 9–30 V operating voltage
- LinkControl › for configuration of sensors from a PC

The cube ultrasonic sensors

are designed in a cubic housing for demanding applications. The cube is available with the QuickLock mounting bracket. This allows the sensor to be mounted quickly and easily.

The cube can be easily turned in 5 positions thanks to the rotating sensor head. The convenient mounting allows flexible use in numerous applications.







Four LEDs

show all operating states in any mounting position. The sensor status is therefore clearly visible at all times.

There are two output stages available:

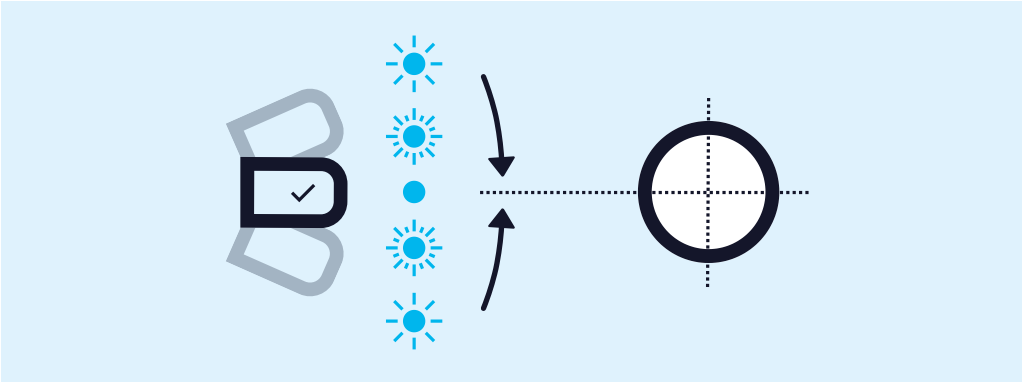
1 Push-Pull switching output in pnp- or npn-circuitry

1 Push-Pull switching output and 1 analogue output or switchable to 2. switching output

With LinkControl or IO-Link, the analogue output can be deactivated and a second Push-Pull switching output activated instead. The second switching output could be used in level monitoring, for example, to control the overflow.

With the internal alignment assistance

the sensor can be optimally aligned to the object during installation.



Using alignment assistance

Using the two Teach-in buttons T1 and T2

the cube sensors can be be easily set (microsonic Teach-in).

IO-Link integrated

cube ultrasonic sensors support IO-Link in version 1.1.2 as well as Smart Sensor Profile.

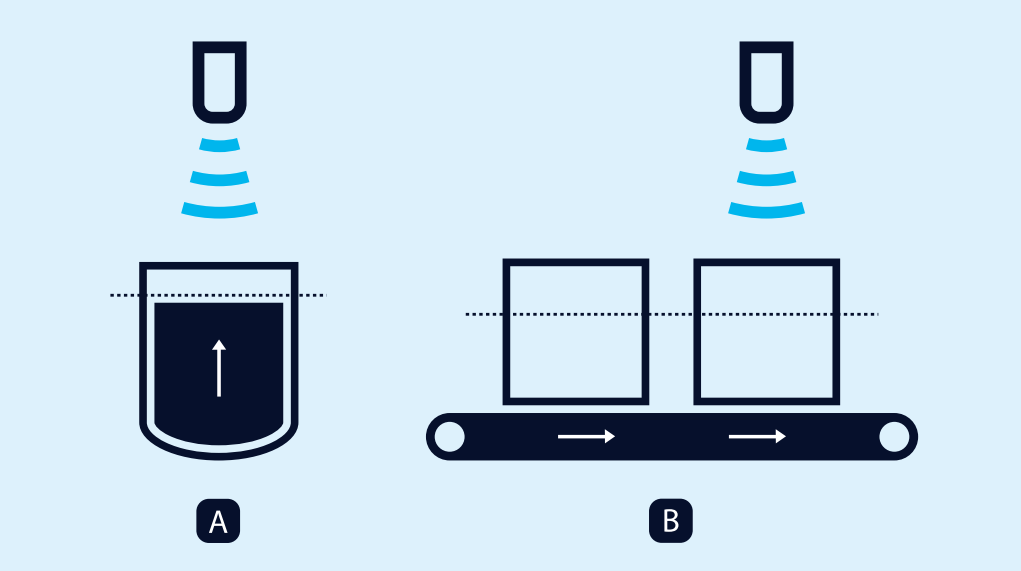
Set cube sensor via Teach-in procedure

The cube sensors with switching output have three operating modes:

- Single switching point (Method A and B)
- Two-way reflective barrier
- Window mode

The operating mode single switching point (Method A)

is suitable for applications, in which the actual distance to the object is also the switching point. A typical application is level control, where the ultrasonic sensor detects the filling level vertically from above during the filling process. The taught switching point corresponds to the maximum filling level.



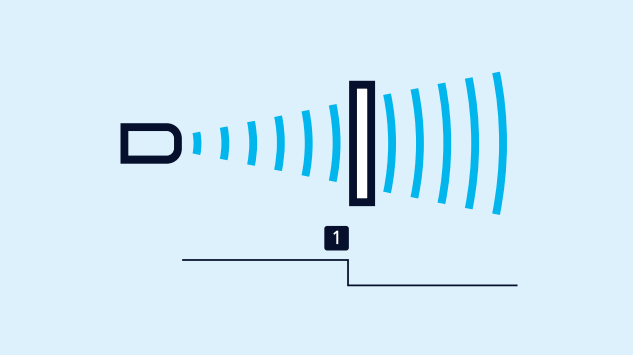
Teach-in of a switching point Method A and Method B

The operating mode single switching point +8% (Method B)

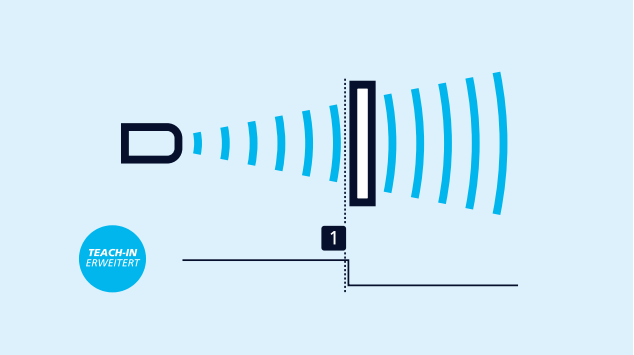
is recommended by objects, which move into the detection area from the side. In this case the switching distance is set 8 % further than the actual measured distance to the object. This ensures a reliable switching distance even if the height of the objects varies slightly.

Teach-in of a single switching point (Method A)

- 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 (Method A)



Teach-in of a switching point +8% (Method B)

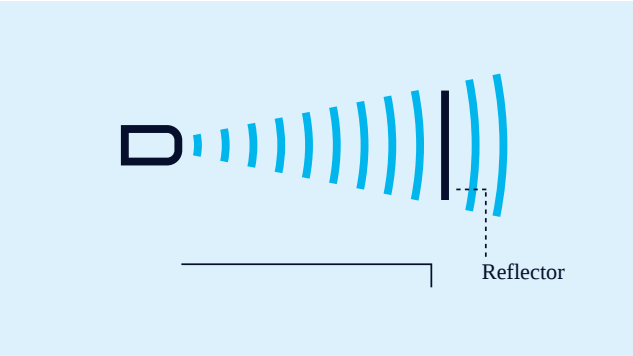
Teach-in of a single switching point +8% (Method B)

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

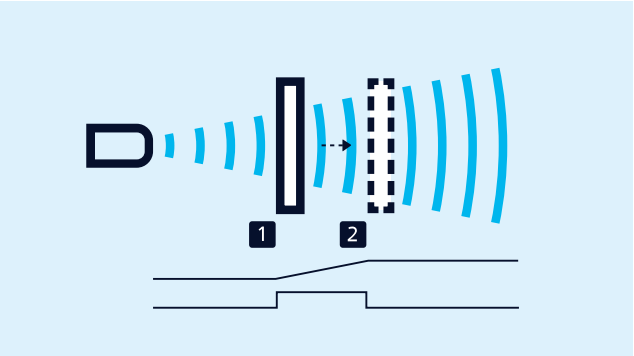
Teach-in of a two-way reflective barrier

with a fixed mounted reflector

- Push button T2 for about 3 seconds.
- Then push button T2 again for about 10 seconds.



Teach-in of a two-way reflective barrier



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

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.

NCC/NOC

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

LinkControl

permits comprehensive parameterisation of cube ultrasonic sensors via the LinkControl-Adapter LCA-2 which connects the sensors to the PC.

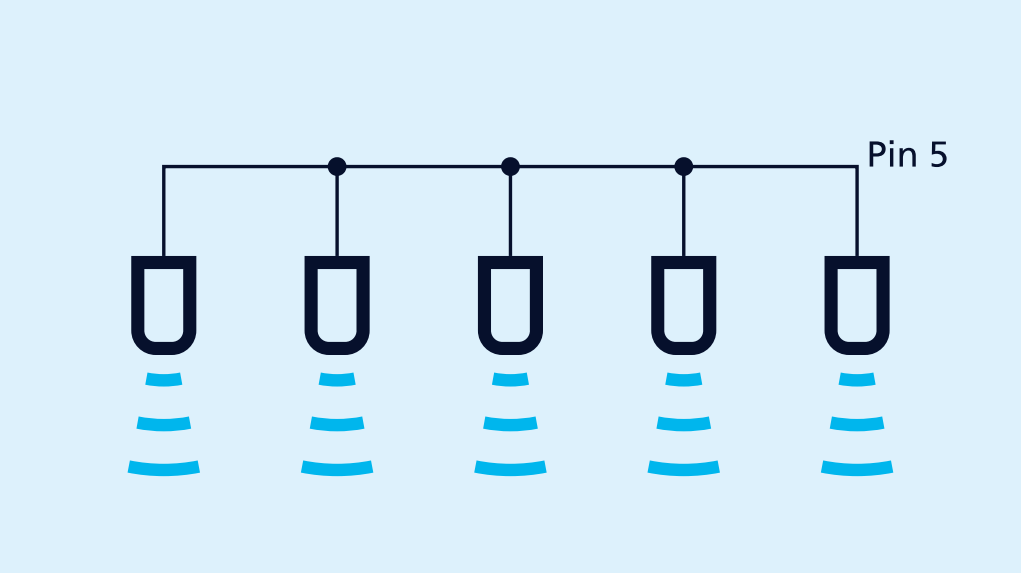


cube sensor connected to the PC via LCA-2 for programming

Easy to synchronise

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

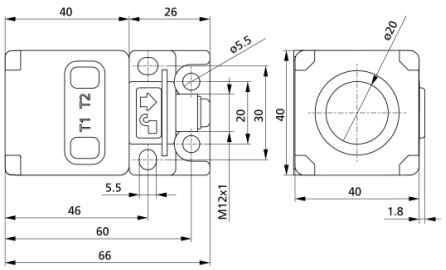
If more than 10 sensors must be synchronised, this can be carried out with the SyncBox1, which is available as an accessory. Synchronisation via pin 5 is also possible in IO-Link mode.



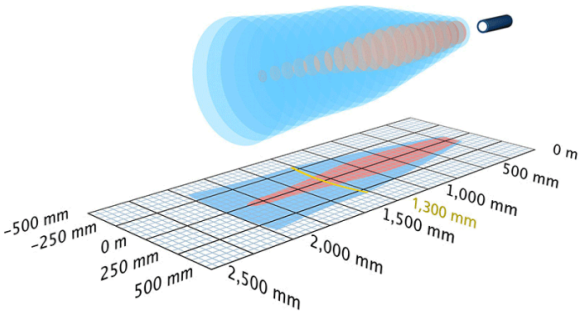
Synchronisation via pin 5

cube-130/FFIU

Масштабный чертеж



Зона обнаружения



2 x Push-Pull + 1 x analog 4-20 mA / 0-10 V

2.000 мм

Модель	прямоугольный
Режим работы	IO-Link бесконтактный выключатель / отражающий режим оконный режим отражающий барьер аналоговое измерение расстояния
Особенности	small cuboidal design IO-Link version 1.1 Smart Sensor Profile UL Listed QuickLock mounting bracket 2nd output switchable

Ультразвуковых конкретных

Средств измерений	Распространение отраженного сигнала по времени задержки
Преобразователь частоты	200 kHz
Слепые зоны	200 mm
Дальность действия	1.300 mm
Максимальная дальность	2.000 мм
Воспроизводимость	± 0.15 %
Точность	± 1 % (температурный дрейф внутренней компенсации)

Электрические данные

Рабочее напряжение U_B	9 - 30 VDC, защита от обратной полярности
Пульсации напряжения	± 10 %
Ток холостого потребления	≤ 50 mA
Тип соединения	5-контактным разъемом M12 инициатора

Выходы

Выход 1	релейный выход Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA NOC/NCC adjustable, short-circuit-proof
Ausgang 2	аналоговый выход ток: 4-20 мА / напряжение: 0-10 В (при U ≥ 15 В), защита от короткого замыкания регулируемая настройка релейный выход Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA NOC/NCC adjustable, short-circuit-proof
Гистерезис	20 mm
Частота переключений	8 Hz
Время реакции	96 ms
Задержка до наличия	< 300 ms

Входы

Вход 1	Вход COM порт синхронизационный вход teach-in вход

Корпус

Материал	PA
Ультразвукового преобразователя	полиуретановой пены, эпоксидной смолы с содержанием стекла
Класс защиты по EN 60529	IP 67
Рабочая температура	-25 ° C до +70 ° C
Температура хранения	-40 ° C до +85 ° C
Вес	120 g

Технические характеристики/характеристики

Температурная компенсация	да
Управления	2 кнопками
Возможности для настройки	Режим «обучения» через кнопки режим «обучения» через COM вход на контакт 5 LCA-2 с LinkControl IO-Link
Synchronisation	да
Мультиплекс	да
Индикаторы	2 x зеленый светодиод, 2 x желтый светодиод

Аксессуары

Развертываемые аксессуары	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 LCA-2 LCA-2 Koffer

Назначение контактов

