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extract from our online catalogue:

pms-15/CU/A1

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pms

The design of the wash-down stainless steel housing with no crevices and dirt edges makes pms sensor perfectly suited to intensive cleaning and disinfection.

Highlights

- Innovative housing in Washdown Design › easy to clean, EHEDG certified
- Stainless-steel housing › for use in the food and pharmaceutical industry
- PTFE membrane › for protection against aggressive media
- Sealed against the housing with an O-ring made from FKM › for the highest possible chemical resistance
- ECOLAB certified and FDA-compliant materials
- IO-Link interface › for support of the new industry standard
- UL Listed to Canadian and US safety standards

Basics

- 1 Push-Pull switching output › pnp or npn basis
- Analogue output 4–20 mA or 0–10 V
- 4 detection ranges with a measurement range of 20 mm to 1,300 mm
- Temperature compensation
- 9–30 V operating voltage
- LinkControl › for configuration of sensors from a PC

The pms ultrasonic sensors

are designed for the most demanding hygienic requirements according to EHEDG guidelines. The hygiene sensors, with their D12 adapter shaft, is mounted with a hygienic screw connection BF-pms/A1 or an adequate mounting clip.

The innovative design of the stainless steel housing ensures that the pms sensor has no horizontal surfaces in almost all conceivable installation positions. Even with horizontal installation of the hygienic sensor for measuring vertical downwards, the rear side of the housing maintains an angle of ≥ 3°. Cleaning fluids can safely drain off the housing.



Stainless-steel sensor in wash-down design, all horizontal surfaces are at least inclined by 3°

The smooth stainless steel housing has a roughness depth of Ra < 0.8 µm and has no crevices and dirt edges. Besides the sensor design, the right material is crucial. The ultrasonic transducer is protected by a PTFE foil and withstands chemically aggressive cleaning agents and disinfectants. The pms has a high endurance and is ECOLAB certified.

Excellent set-up

The compact pms ultrasonic sensor

is made of stainless steel and FDA-conform materials.

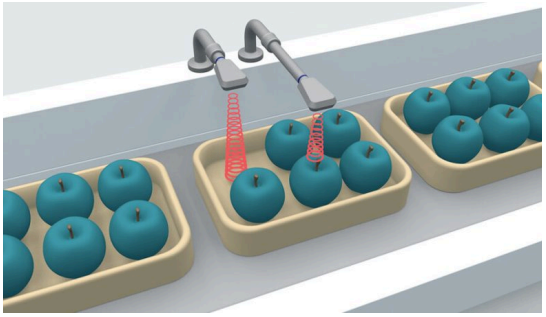
Ensures high resistance

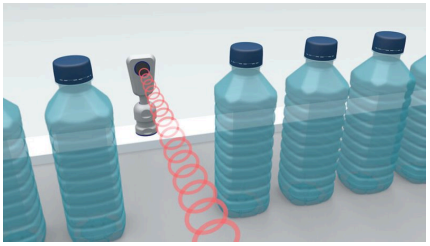
to cleaning agents in areas coming into contact with products in the pharmaceuticals, food and beverage industry.

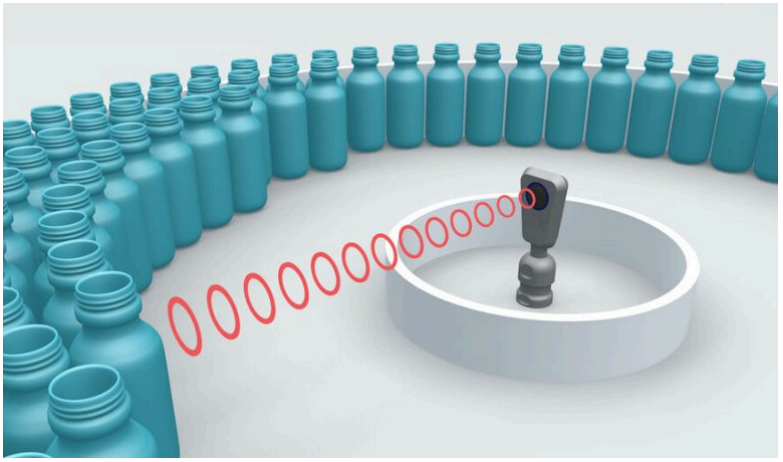
The innovative hygiene design

was designed in accordance with EHEDG guidelines. The pms sensor with the mounting adapter BF-pms/A1 is EHEDG-certified.

Versatile applications in the beverage, food, and pharmaceutical industries







Beverage industry

The pms ultrasonic sensor detects glass and PET bottles in operating mode and withstands the cleaning intervals of filling machines. The sensor is mounted with the hygienic sensor mounting BF-pms/A1. For example, pms-25/CF/A1 with Push-Pull switching output to count bottles.

Within the pharma industry

ampoules and glass vials have to be counted and the volume flow in the filling level process has to be controlled. On a turntable, a pms sensor controls the volume flow of glass vials ahead of the filling line. For example, pms-35/CU/A1 with voltage output 0-10 V.

Within the food industry

containers have to be counted or positioned, volume flow checked on conveyor belts, or food items have to be controlled on filling level and completeness. Two pms ultrasonic sensors monitor the completeness of apples in packaging boxes. For example, 2 x pms-25/CF/A1 each with Push-Pull switching output in a suitable mounting bracket for height control.

For the pms sensor family

there are 2 output stages and 4 detection ranges available:



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



1 analogue output 4–20 mA or 0–10 V

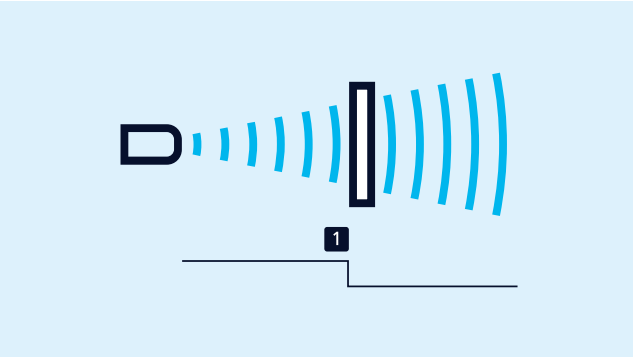
Configuring pms Sensors Using Teach-in

Sensors with switching output have three operating modes:

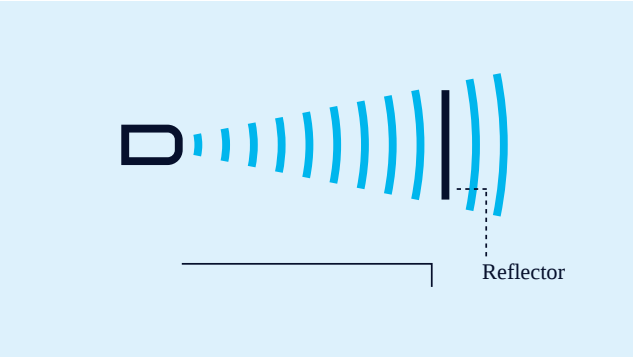
- Single switching point
- Two-way reflective barrier
- Window mode

Teach-in of a single switching point

- Place object to be detected (1) at the desired distance
- Apply +U_B to pin 2 for about 3 seconds
- Then apply +U_B to pin 2 again for about 1 second



Teach-in of a switching point



Teach-in of a two-way reflective barrier

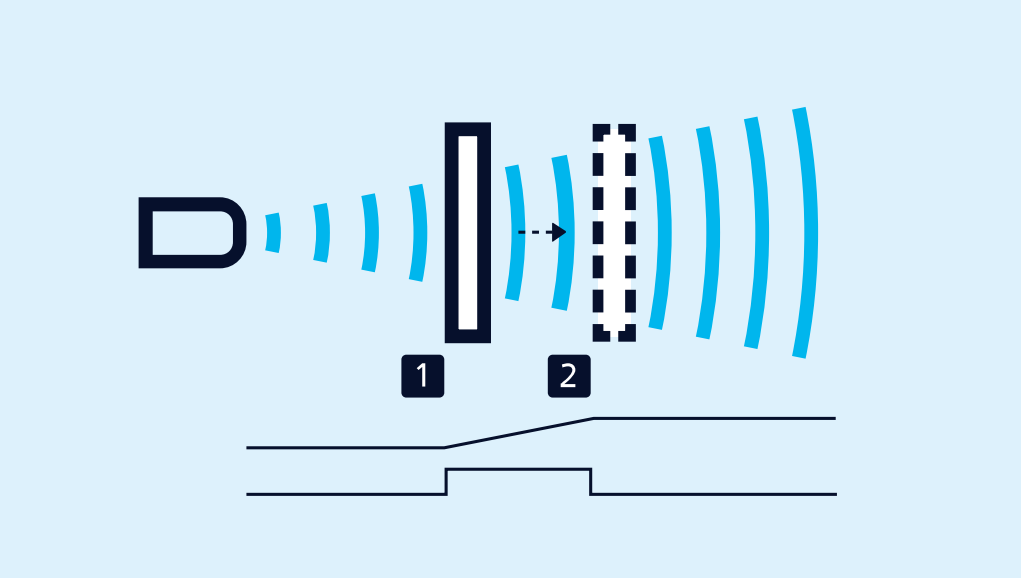
Teach-in of a two-way reflective barrier

with a fixed reflector

- Apply +U_B to pin 2 for about 3 seconds
- Then apply +U_B to pin 2 again for about 10 seconds

For setting an analogue output

- initially position the object to be detected on the sensor-close window limit (1)
- Apply +U_B to pin 2 for about 3 seconds
- Move the object to the sensor-distant window limit (2)
- Then apply +U_B to pin 2 again for about 1 second



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

To set a window

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

NCC/NOC

and rising/falling analogue characteristic curve can also be set via pin 2.

LinkControl

consist of LinkControl-Adapter LCA-2 and LinkControl-Software and permits the configuration of pms sensors via PC or laptop with all conventional Windows® operating systems. For configuration of pms sensors, the additional Adapter 5G/M12-4G/M12/M8 needed



Sensor connected to the PC via LCA-2 for programming

With the hygienic screw connection

BF-pms/A1 (accessory), the pms sensor is mounted hygienically. The screw connection has a ECOLAB and EHEDG certificate.

IO-Link integrated

in version 1.1. The pms ultrasonic sensors are equipped with Smart Sensor Profile, which creates more transparency between IO-Link devices.

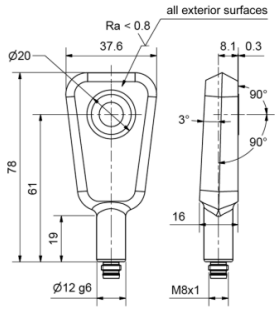
You have special requirements?

Nothing as simple as that.

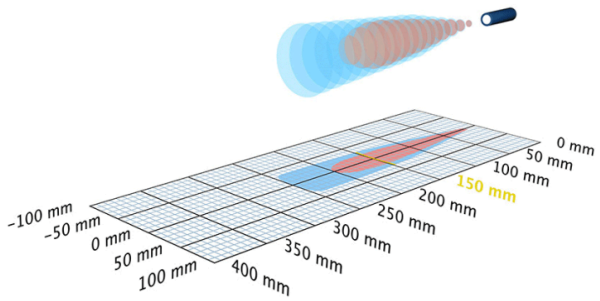
With us, you can easily find an individual solution. Let us talk about your application: +49 231 97 51 51-82.

pms-15/CU/A1

scale drawing



detection zone



1 x analogue 0-10 V

250 mm

design	Innovative housing design in washdown
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel construction UL Listed Hygienic Design ECOLAB EHEDG (TYPE EL Class I AUX)

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	380 kHz
blind zone	20 mm
operating range	150 mm
max. range	250 mm
resolution	0.069 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

Electrical Data

operating voltage U_B	15 V bis 30 V DC, verpolfest
voltage ripple	± 10 %
no-load current consumption	≤ 40 mA
type of connection	4-pin M8 initiator plug

Outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
response delay	24 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input teach-in input

Housing

material	stainless steel
ultrasonic transducer	coated with PTFE film, FKM O-ring
class of protection to EN 60529	IP 66, IP 67, IP 68, IP 69K
operating temperature	-25°C to +70°C
storage temperature	-40°C to +85°C
weight	140 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 2 LCA-2 with LinkControl

Accessories

deployable accessory	KST4A-2/M8 KST4A-5/M8 KST4G-2/M8 KST4G-5/M8 BF-pms/A1 Adapter 5G/M12-4G/M12/M8 LCA-2 Koffer
deployable accessory	The pms ultrasonic sensor in stainless steel housing is designed according to EHEDG guidelines.

pin assignment

