



Extract from our online catalogue:

hps+130/DIU/TC/E/G1

Current to: 2017-08-10



hps+ in safety gear - When you need chemically resistant, pressure-resistant sensors.

## HIGHLIGHTS

- › Optionally used in normal pressure or overpressure
- › PTFE membrane › for protection against aggressive media
- › Stainless-steel or optional PVDF housing for hps+340 › for use in the food industry
- › Sealed against the housing with an O-ring made from FFKM › for the highest possible chemical resistance
- › Digital display with direct measured value output in mm/cm or %
- › Numeric configuration of the sensor using digital display

## BASICS

- › 2 switching outputs in pnp variant
- › Analogue output plus 1 pnp switching output
- › 4 detection ranges with a measurement range of 30 mm to 8 m
- › microsonic Teach-in using T1 or T2 buttons
- › 0.025 mm to 2.4 mm resolution
- › Temperature compensation
- › 9–30 V operating voltage
- › LinkControl › for configuration of sensors from a PC

# Description

## For fill level measurements of aggressive media and in overpressure

the ultrasonic transducers of the new hps+ sensors are now fitted out - as standard - with a PTFE film. It is sealed with a FFKM O-ring against the housing made of 1.4571 stainless steel or PVDF. This ensures a high degree of resistance to aggressive media.



*Fill level measurement in tanks*

The hps+ sensors can be used for fill level measurement under normal pressure or in tanks and containers with an overpressure of up to 6 bar. Its special software filters also allow its use in containers filled from above or that have a stirring system.

Pressure-tight installation in a tank is undertaken by means of a 1" threaded flange or a 2" one in the case of hps+340.

## Chemical resistance

and seal tightness were tested through being stored over cellulose thinner and 1,000,000 alternating pressure stresses. Cellulose thinner is extremely corrosive and has a high rate of penetration.



*hps+340 in highly resistant PVDF housing - PTFE protective film sealed with an O-ring made from FFKM against the housing*

Two different output stages are available for four detection ranges:



2 switching outputs in pnp switching technology



1 analogue output with an additional pnp switching output

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

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

Two three-colour LEDs

always show the current state of the switching outputs or the analogue output.

With TouchControl

all configuration can be done right at the sensor. The easily legible three-digit LED display continually shows the current distance value and automatically switches between millimetre and centimetre displays.

Setting a switching or analogue output

can optionally be carried out by numeric input of the desired distance values, or using a Teach-in procedure. This permits the user to select the configuration method preferred. The hps+ sensors support synchronisation and multiplex operation and have extensive parameterisation options via LinkControl.

Further information on how to set up hps+ sensors can be found at [mic+ sensors](#).

LinkControl

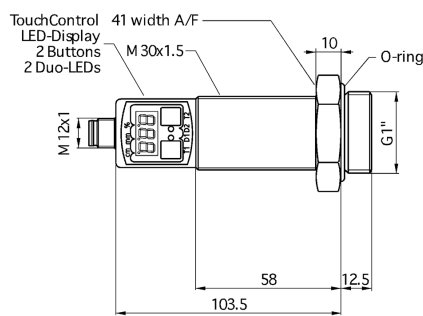
consists of the [LinkControl adapter](#) and the [LinkControl software](#) and facilitates the configuration of the hps+ sensors via a PC or laptop with any conventional Windows® operating system.



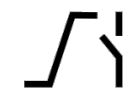
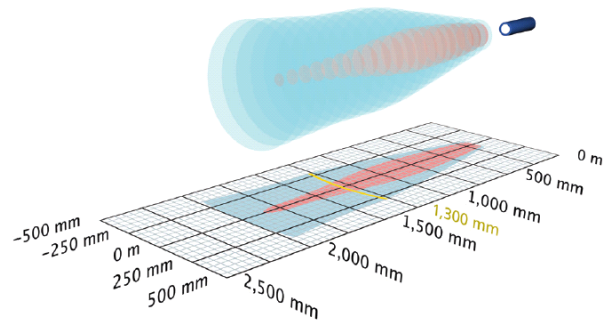
*Sensor connected to the PC via LCA-2 for programming*

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## scale drawing



## detection zone



1 x pnp + 1 x analogue 4-20 mA / 0-10 V

 5,000 mm

operating range	200 - 5.000 mm
design	Prozessanschluss G1
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1

## ultrasonic-specific

means of measurement	echo propagation time measurement
transducer frequency	180 kHz
blind zone	200 mm
operating range	1,300 mm
maximum range	5,000 mm
resolution/sampling rate	0.18 mm to 1.5 mm, depending on the analogue window
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	≤ 80 mA
type of connection	5-pin M12 initiator plug

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## outputs

output 1	analogue output current: 4-20 mA / voltage: 0-10 V, short-circuit-proof switchable rising/falling
output 2	switching output pnp: $I_{\max} = 200 \text{ mA}$ ( $U_B - 2 \text{ V}$ ) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	5 Hz
response time	160 ms
delay prior to availability	< 300 ms

## inputs

input 1	com input synchronisation input
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## housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PTFE film, FFKM O-ring
class of protection to EN 60529	IP 67
operating temperature	-25°C to +70°C
storage temperature	-40°C to +85°C
weight	210 g

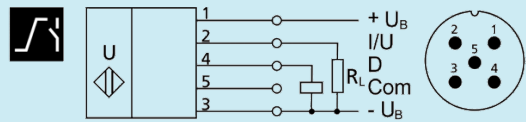
## technical features/characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
Synchronisation	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1

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[documentation \(download\)](#)

pin assignment



order no.

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