microsonic

EVERY THING ULTRA SONIC

extract from our online catalogue:

hps+ ultrasonic level sensors

current to: 2026-11-03

microsonic GmbH / Phoenixseestraße 7 / 44263 Dortmund / Germany / **T** +49 231 975151-0 / **F** +49 231 975151-51 / **E** info@microsonic.de
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hps+

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
- UL Listed › to Canadian and US safety standards

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

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



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

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.

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

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 LCA-2 and the LinkControl-Software and facilitates the configuration of the hps+ sensors via a PC or laptop with any conventional conventional Windows® operating system.



Sensor connected to the PC via LCA-2 for programming

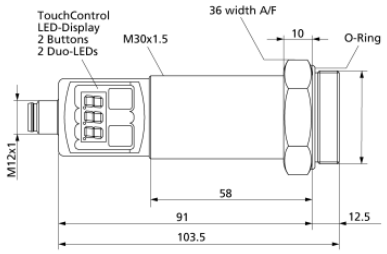
You have special requirements?

Nothing as simple as that.

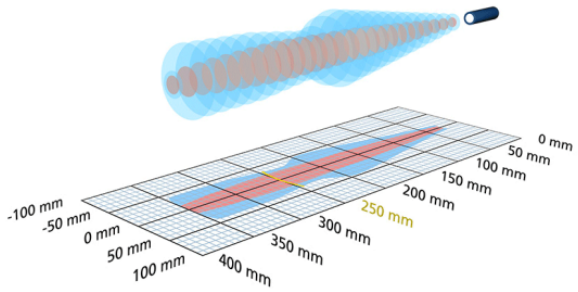
With us, you can easily find an individual solution. Let us talk about your application: +49 231 97 51 51-82.

hps+25/DIU/TC/E/G1

scale drawing



detection zone

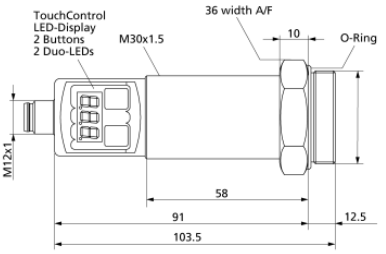


1 x pnp + 1 x analogue 4-20 mA / 0-10 V

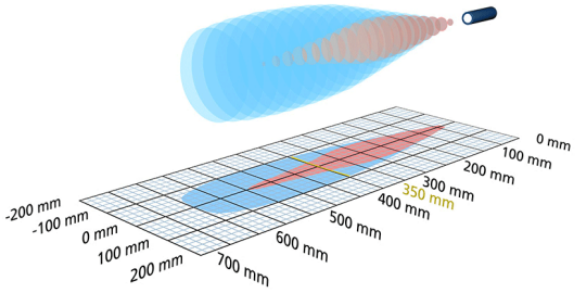
design	process connection G1
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1 UL Listed

hps+35/DIU/TC/E/G1

scale drawing



detection zone



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

design	process connection 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 UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
resolution	0.025 mm to 0.30 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

Outputs

output 1	analogue output current: 4-20 mA / voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	11 Hz
response delay	65 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	85 mm
operating range	350 mm
resolution	0.18 mm to 0.45 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

Outputs

output 1	analogue output current: 4-20 mA / voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	9 Hz
response delay	84 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

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

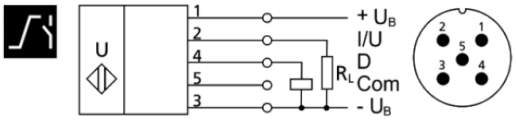
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment



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
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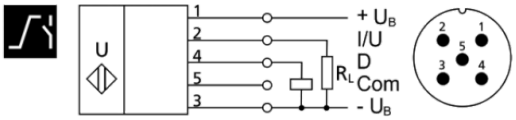
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Accessories

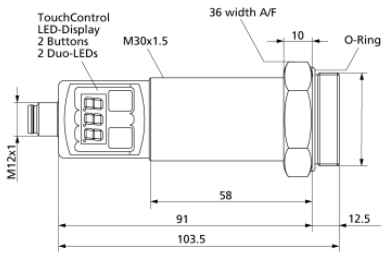
deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment

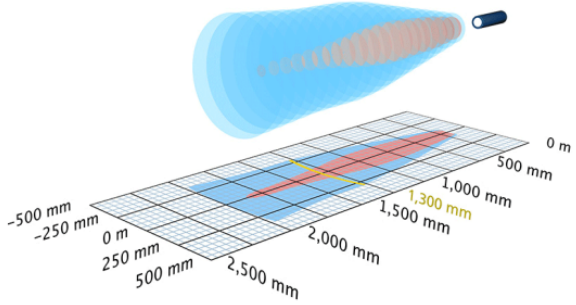


hps+130/DIU/TC/E/G1

scale drawing



detection zone

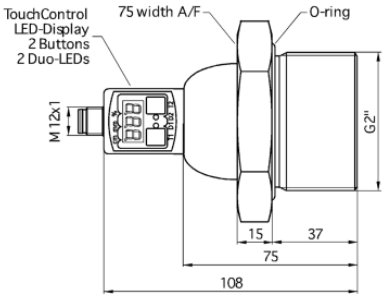


1 x pnp + 1 x analogue 4-20 mA / 0-10 V

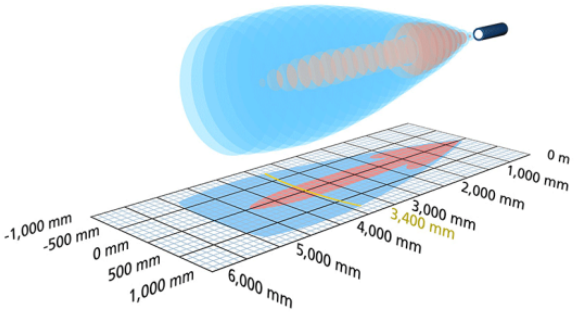
design	process connection G1
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1 UL Listed

hps+340/DIU/TC/E/G2

scale drawing



detection zone



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

design	process connection G2
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 G2 UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	180 kHz
blind zone	200 mm
operating range	1.300 mm
resolution	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

Outputs

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

Inputs

input 1	com input synchronisation input

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3.400 mm
resolution	0.18 mm to 2.4 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

Outputs

output 1	analogue output current: 4-20 mA / voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	50 mm
switching frequency	3 Hz
response delay	240 ms
delay prior to availability	< 450 ms

Inputs

input 1	com input synchronisation input

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

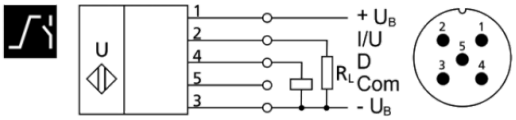
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment



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	1,200 g

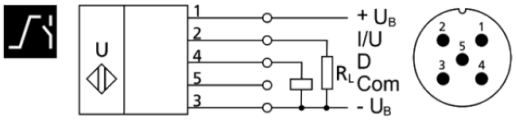
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Accessories

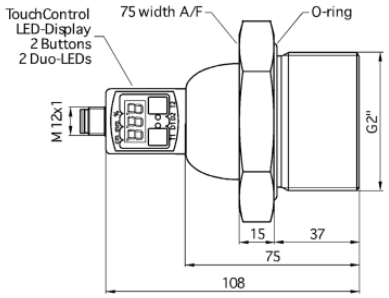
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pin assignment

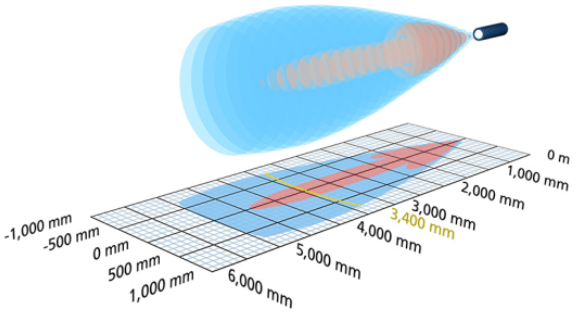


hps+340/DIU/TC/G2

scale drawing



detection zone

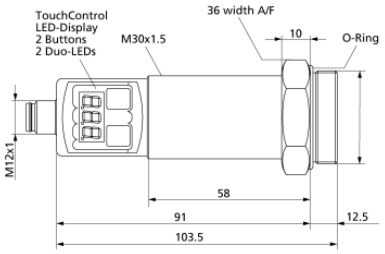


1 x pnp + 1 x analogue 4-20 mA / 0-10 V

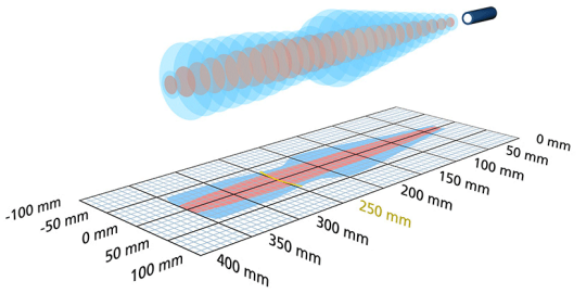
design	process connection G2
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance PVDF housing display process connection G2 UL Listed

hps+25/DD/TC/E/G1

scale drawing



detection zone



2 x pnp

design	process connection G1
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1 UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
resolution	0.025 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3.400 mm
resolution	0.18 mm to 2.4 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

Outputs

output 1	analogue output current: 4-20 mA / voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	50 mm
switching frequency	3 Hz
response delay	240 ms
delay prior to availability	< 450 ms

Inputs

input 1	com input synchronisation input

Electrical Data

operating voltage U_B	9 - 30 V d.c., reverse polarity protection
voltage ripple	± 10 %
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Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	11 Hz
response delay	65 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

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

Housing

material	PVDF, 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	350 g
further versions	hps+340/DIU/TC/E/G2
further versions	stainless steel

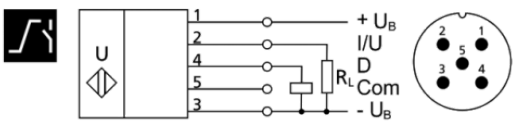
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment



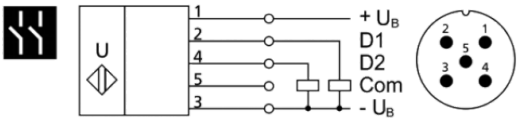
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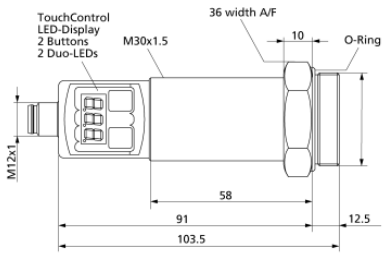
deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment

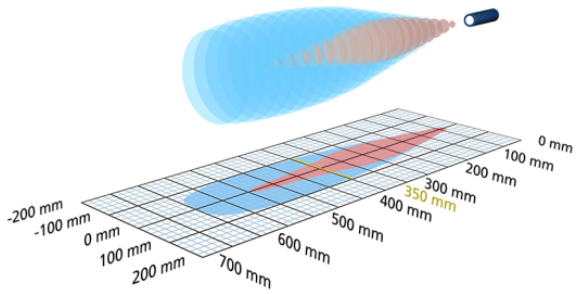


hps+35/DD/TC/E/G1

scale drawing



detection zone

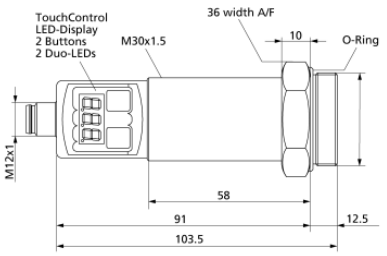


2 x pnp

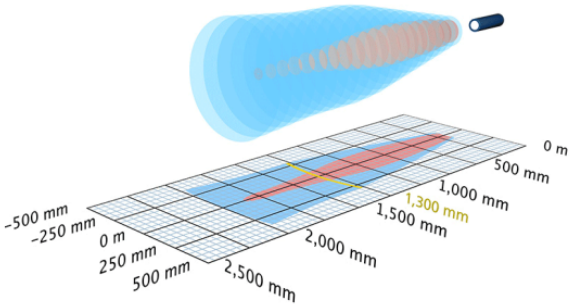
design	process connection G1
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1 UL Listed

hps+130/DD/TC/E/G1

scale drawing



detection zone



2 x pnp

design	process connection G1
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G1 UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
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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

Outputs

output 1	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	9 Hz
response delay	84 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

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

Outputs

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Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	5 Hz
response delay	160 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

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

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

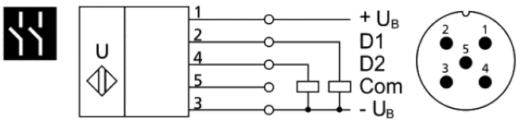
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment



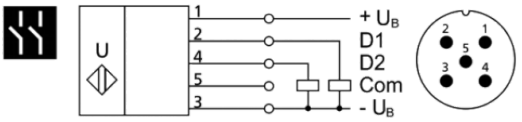
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

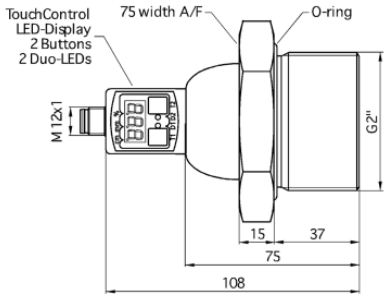
deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment

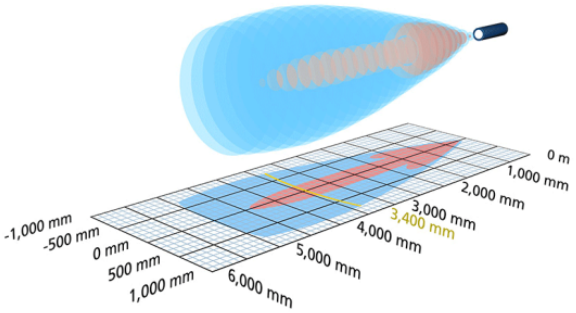


hps+340/DD/TC/E/G2

scale drawing



detection zone



2 x pnp

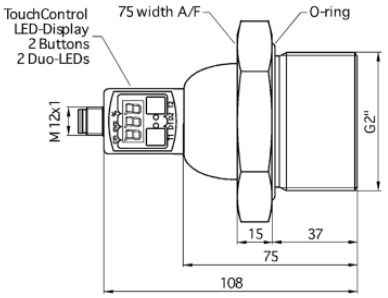
design	process connection G2
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance stainless steel version display process connection G2 UL Listed

Ultrasonic-Specific

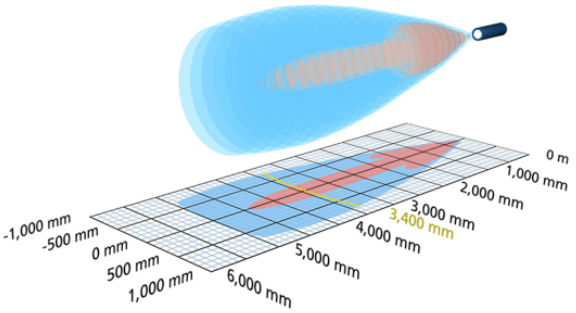
means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3.400 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

hps+340/DD/TC/G2

scale drawing



detection zone



2 x pnp

design	process connection G2
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	pressure-resistant up to 6 bar overpressure high chemical resistance PVDF housing display process connection G2 UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3.400 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	≤ 80 mA
type of connection	5-pin M12 initiator plug

Outputs

output 1	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
switching hysteresis	50 mm
switching frequency	3 Hz
response delay	240 ms
delay prior to availability	< 380 ms

Inputs

input 1	com input synchronisation input

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	1,200 g

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

Outputs

output 1	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output pnp: I_{max} = 200 mA (U_B-2V) NOC/NCC adjustable, short-circuit-proof
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Inputs

input 1	com input synchronisation input

Housing

material	PVDF, 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	350 g
further versions	hps+340/DD/TC/E/G2
further versions	stainless steel

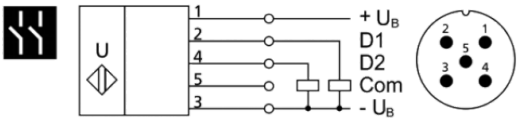
Technical Features/Characteristics

temperature compensation	yes
controls	2 push-buttons + LED display (TouchControl)
scope for settings	Teach-in and numeric configuration via TouchControl LCA-2 with LinkControl
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment



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
synchronization	yes
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Accessories

deployable accessory	LCA-2 LCA-2 Koffer KST5G-2/M12 KST5G-5/M12 KST5A-2/M12 KST5A-5/M12

pin assignment

