

EVERY THING ULTRA SONIC

extract from our online catalogue:

ipc+ ultrasonic sensors

current to: 2026-09-03



IPC+

IPC+ well equipped: 2 Push-Pull switching outputs or 1 Push-Pull switching output with an analogue output in M18 housing.

Highlights

- > Analogue output 4–20 mA or 0–10 V plus 1 Push-Pull switching output in M18 design
- > IO-Link interface > for support of the new industry standard
- > Smart Sensor Profiles > more transparency between IO-Link Devices
- > Improved temperature compensation > adjustment to working conditions within 120 seconds
- > UL Listed to Canadian and US safety standards
- > 2 Push-Pull switching outputs > pnp or npn basis
- > 4 detection ranges with a measurement range of 20 mm to 1.3 m
- > microsonic Teach-in on pin 5
- > 0.1 mm resolution
- > 10–30 V operating voltage
- > LinkControl > for configuration of sensors from a PC

Basics

The lpc+ ultrasonic sensors

are optionally equipped with two Push-Pull switching outputs or an analogue output plus a Push-Pull switching output. The compact series with M18 threaded sleeves covers four detection ranges from 20 mm to 1.3 m.

Ultrasonic sensors with the Push-Pull output stage support SIO and IO-Link modes. Sensors with analogue output are optionally available with 4–20 mA current output or 0–10 V voltage output. In SIO mode, sensors are configured using the microsonic Teach-in procedure on pin 5.

two output stages:

2 output stages and 4 detection ranges available:



2 Push-Pull-switching outputs, optionally in pnp or npn circuitry with IO-Link interface



1 Push-Pull switching output and analogue output 4–20 mA or 0–10 V

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 5 for about 3 seconds
- Then apply +U_B to pin 5 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 5 for about 3 seconds
- Then apply $+U_B$ to pin 5 again for about 10 seconds

For configuration of a window

- Place object at the near edge of the window (1)
- Apply $+U_B$ to pin 5 for about 3 seconds
- Then move the object to the far edge of the window (2)
- Then apply $+U_B$ to pin 5 again for about 1 seconds



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

NCC/NOC

and rising/falling analogue characteristic curve can also be set via pin 5.

LinkControl

optionally permits the extensive parameterisation of lpc+ sensors. The LCA-2 LinkControl adapter, which is available as an accessory, can be used to connect lpc+ sensors to the PC.

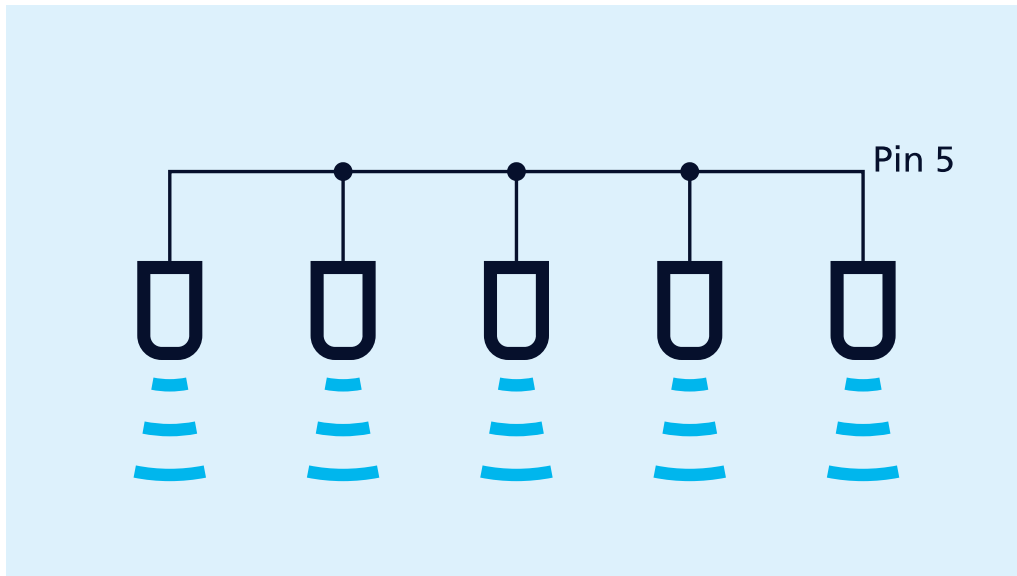


Sensor connected to the PC via LCA-2 for programming

Easy to synchronise

A number of lpc+ ultrasonic sensors can be run closely packed in applications synchronised to stop them from influencing one another. To this end, the sync mode has to be activated and all the sensors are to be electrically connected one to another with 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 using pin 5

IO-Link integrated

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

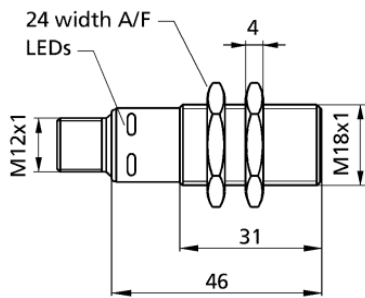
You have special requirements?

Nothing as simple as that.

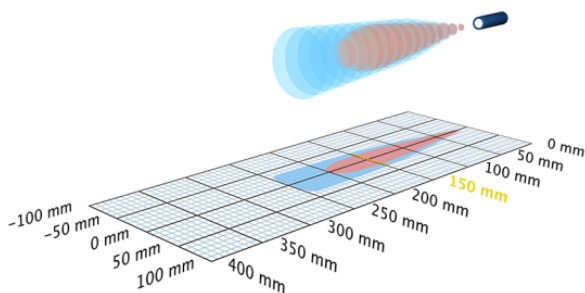
With us, you can easily find an individual solution. Let us talk about your application: +49 231 97 51 51-82.

lpc+15/CFF

scale drawing



detection zone



2 x Push-Pull

250 mm

design

cylindrical M18

operating mode

IO-Link
proximity switch/reflective
mode
reflective barrier
window mode

particularities

IO-Link
UL Listed

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

0.10 mm

reproducibility

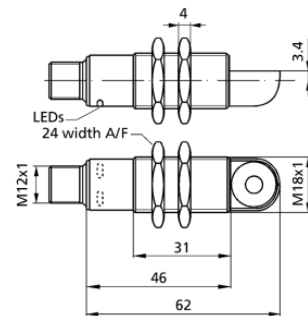
± 0.15 %

accuracy

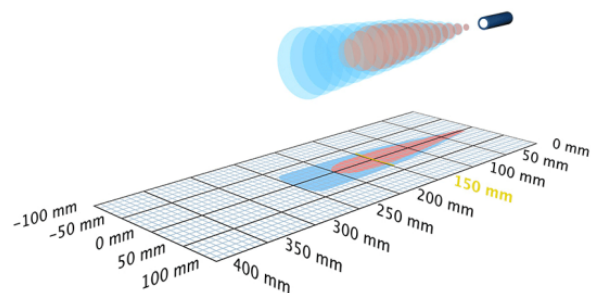
± 1 % (temperature drift in-
ternally compensated)

lpc+15/WK/CFF

scale drawing



detection zone



2 x Push-Pull

250 mm

design

cylindrical M18

operating mode

IO-Link
proximity switch/reflective
mode
reflective barrier
window mode

particularities

90°-Winkelkopf
IO-Link
Smart Sensor Profile
UL Listed

Ultrasonic-Specific

means of measurement

echo propagation time
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transducer frequency

380 kHz

blind zone

20 mm

operating range

150 mm

max. range

250 mm

resolution

0.10 mm

reproducibility

± 0.15 %

accuracy

± 1 % (temperature drift in-
ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	2.0 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+15/WK/CFF
further versions	90° angular head

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operating voltage U_B	10 - 30 V d.c., reverse polarity protection
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storage temperature	-40°C to +85°C
weight	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



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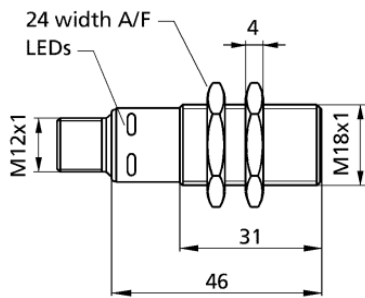
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pin assignment

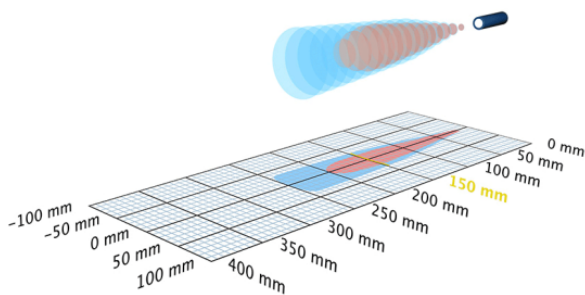


lpc+15/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

250 mm

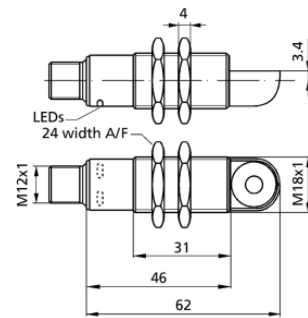
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile

Ultrasonic-Specific

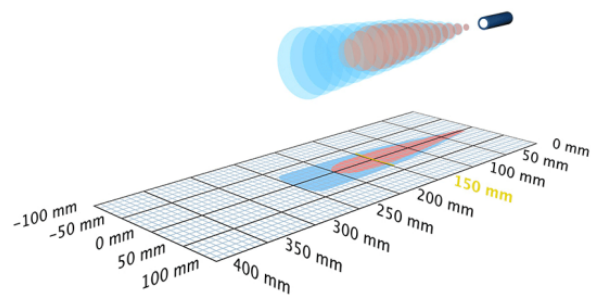
means of measurement	echo propagation time measurement
transducer frequency	380 kHz
blind zone	20 mm
operating range	150 mm
max. range	250 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+15/WK/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

250 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90° angular head IO-Link Smart Sensor Profile

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transducer frequency	380 kHz
blind zone	20 mm
operating range	150 mm
max. range	250 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	2.0 mm
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further versions	lpc+15/WK/CFI
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weight	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



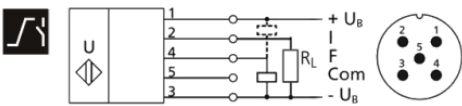
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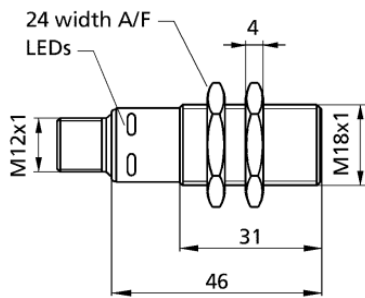
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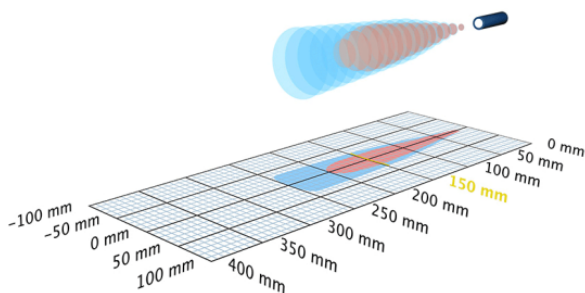


lpc+15/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 0-10 V

250 mm

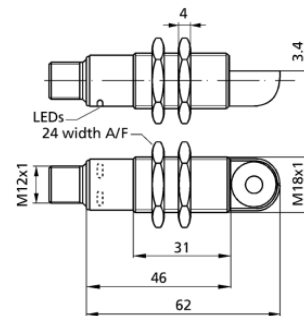
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

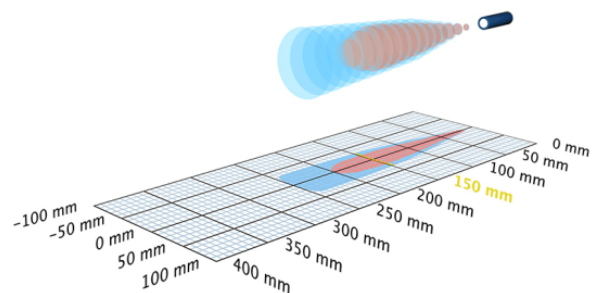
means of measurement	echo propagation time measurement
transducer frequency	380 kHz
blind zone	20 mm
operating range	150 mm
max. range	250 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+15/WK/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
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250 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
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Ultrasonic-Specific

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transducer frequency	380 kHz
blind zone	20 mm
operating range	150 mm
max. range	250 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	2.0 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+15/WK/CFU
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
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storage temperature	-40°C to +85°C
weight	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



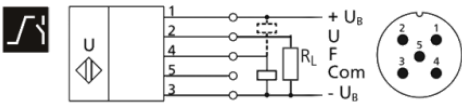
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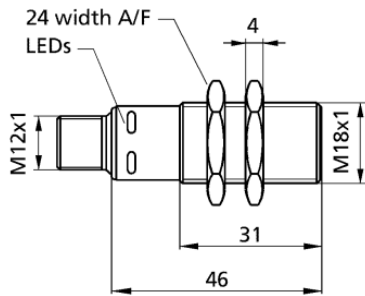
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pin assignment

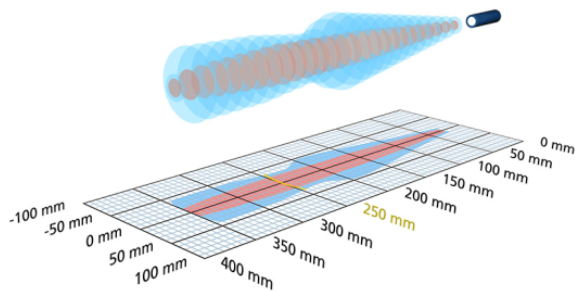


lpc+25/CFF

scale drawing



detection zone



 2 x Push-Pull  350 mm

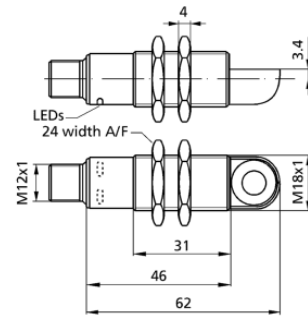
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

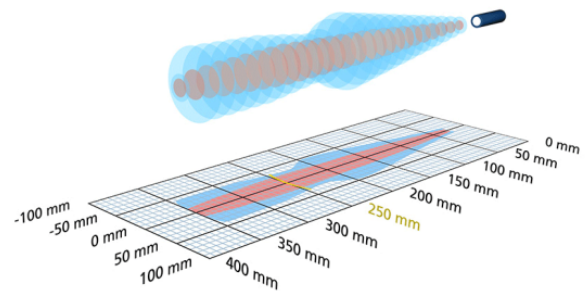
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

lpc+25/WK/CFF

scale drawing



detection zone



 2 x Push-Pull  350 mm

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operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
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Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+25/WK/CFF
further versions	90° angular head

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controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

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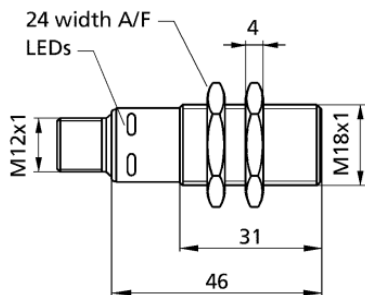
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pin assignment

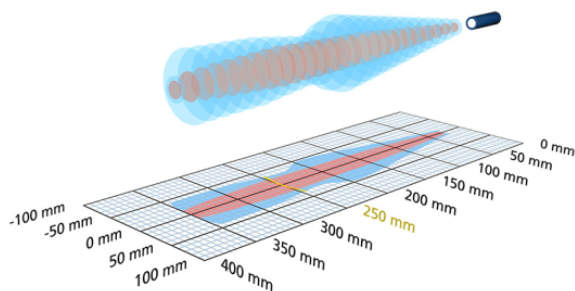


lpc+25/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

350 mm

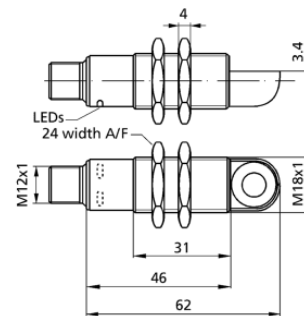
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particularities	IO-Link Smart Sensor Profile

Ultrasonic-Specific

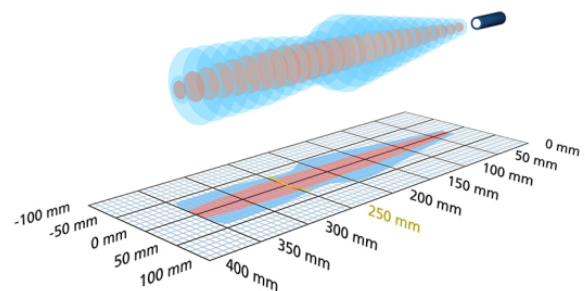
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+25/WK/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

350 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90° angular head IO-Link Smart Sensor Profile

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+25/WK/CFI
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	Com-Eingang Teach-in-Eingang Synchronisations-Eingang
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



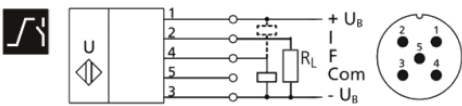
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

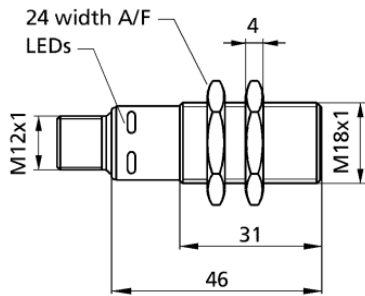
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

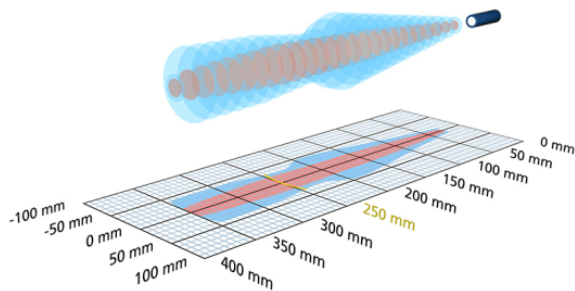


lpc+25/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 0-10 V

350 mm

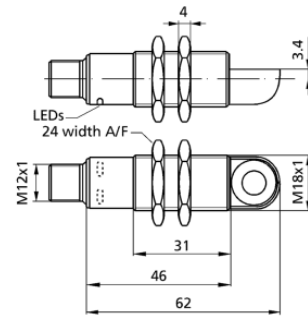
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

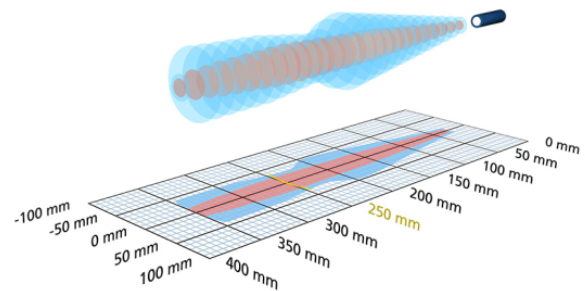
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+25/WK/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 0-10 V

350 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90°-Winkelkopf IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+25/WK/CFU
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

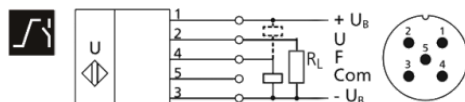
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



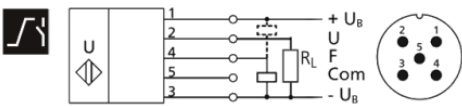
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

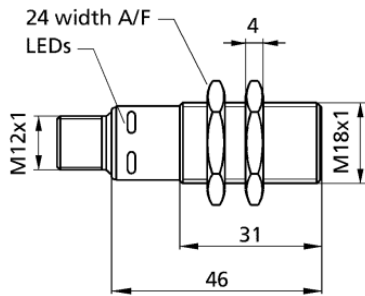
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

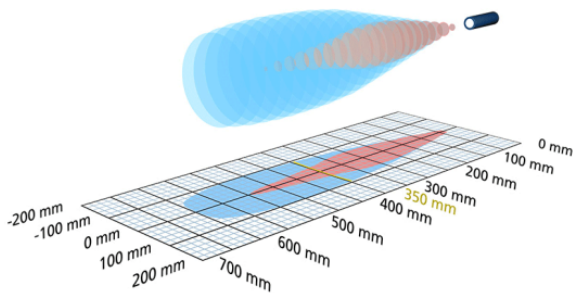


lpc+35/CFF

scale drawing



detection zone



 2 x Push-Pull  600 mm

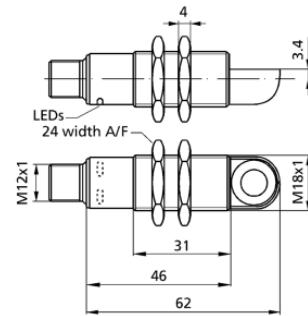
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

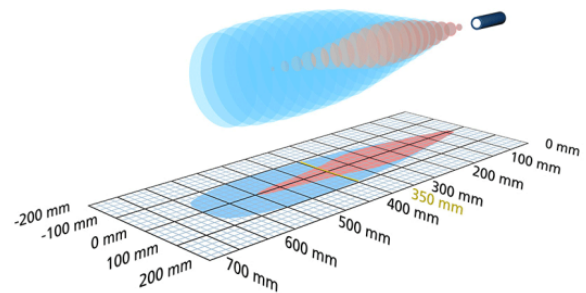
means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

lpc+35/WK/CFF

scale drawing



detection zone



 2 x Push-Pull  600 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	90°-Winkelkopf IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V, I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V, I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+35/WK/CFF
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V, I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V, I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

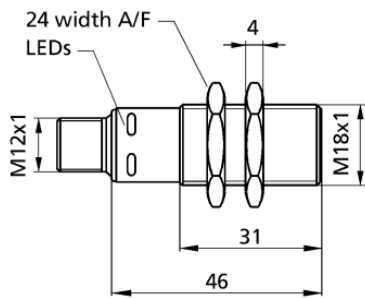
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

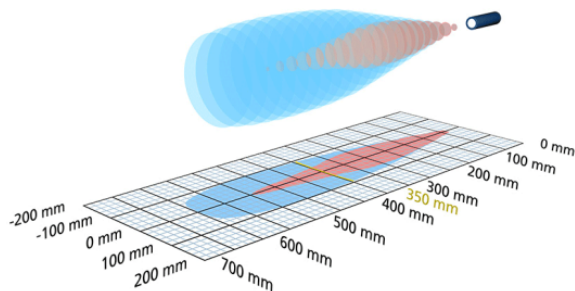


lpc+35/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

600 mm

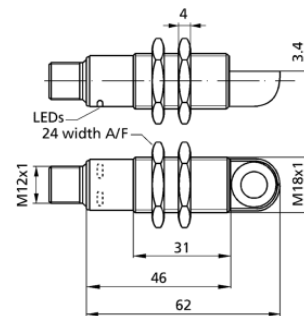
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile

Ultrasonic-Specific

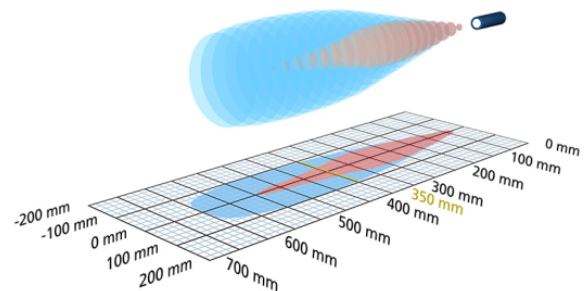
means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+35/WK/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

600 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90° angular head IO-Link Smart Sensor Profile

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+35/WK/CFI
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



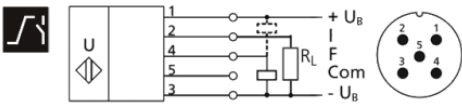
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

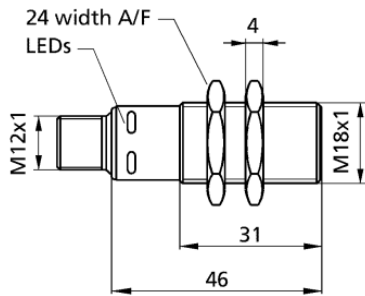
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

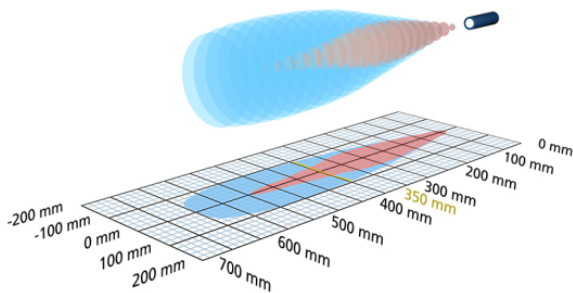


lpc+35/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 0-10 V

600 mm

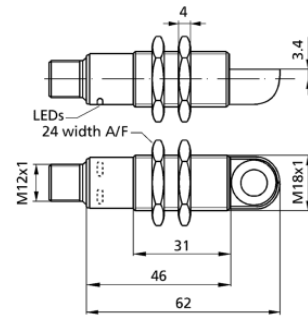
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

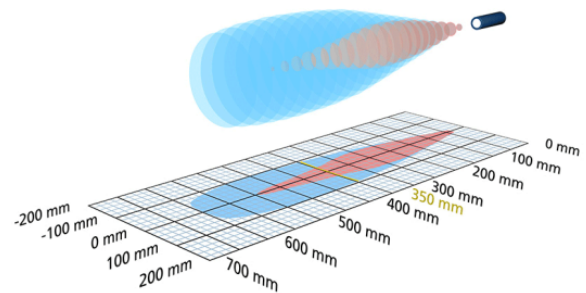
means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+35/WK/CFU

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 0-10 V

600 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90°-Winkelkopf IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
max. range	600 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\text{max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+35/WK/CFU
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\text{max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response delay	64 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



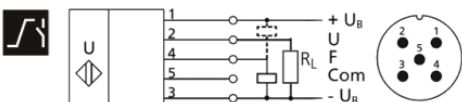
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

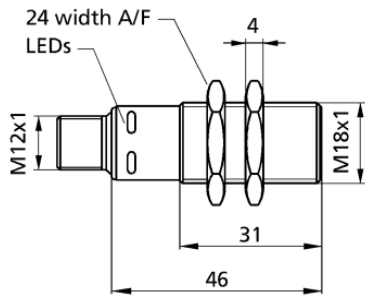
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

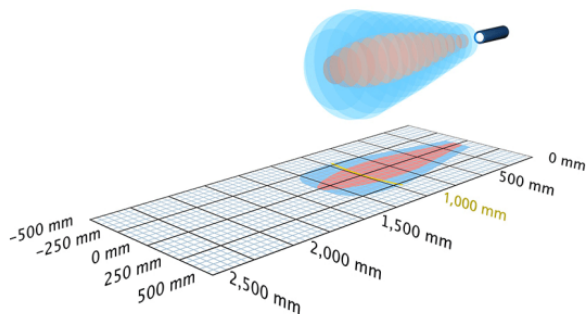


lpc+100/CFF

scale drawing



detection zone



 2 x Push-Pull  1,300 mm

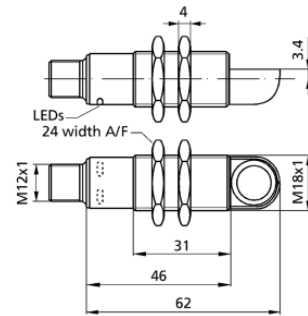
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

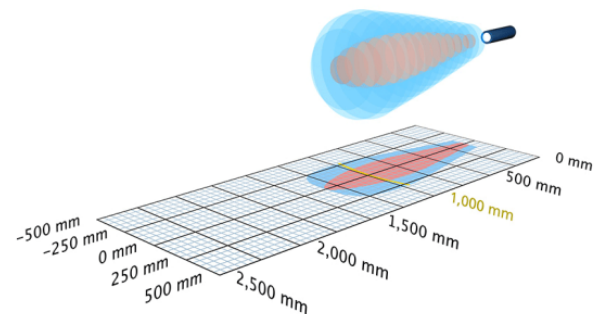
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

lpc+100/WK/CFF

scale drawing



detection zone



 2 x Push-Pull  1,300 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	90°-Winkelkopf IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+100/WK/CFF
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

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Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3$ $V_{I_{\max}} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

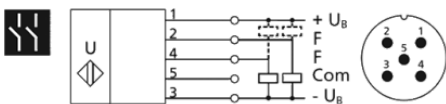
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

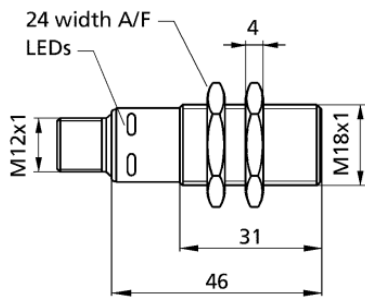
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

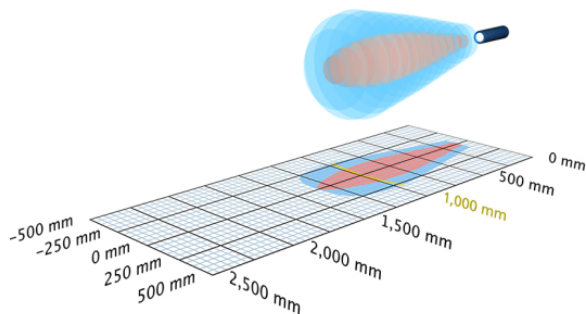


lpc+100/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

1,300 mm

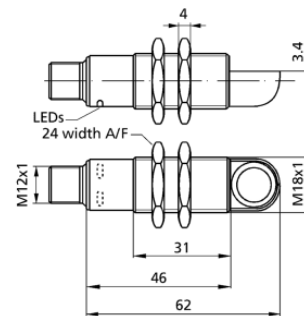
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile

Ultrasonic-Specific

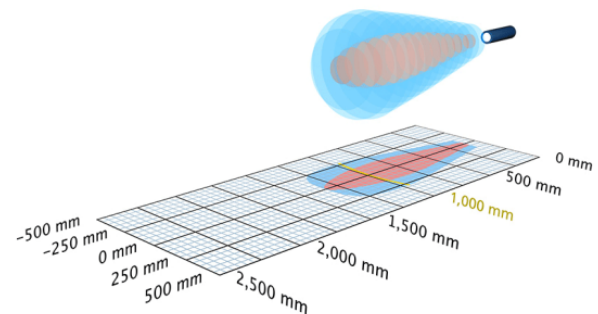
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

lpc+100/WK/CFI

scale drawing



detection zone



1 x Push-Pull + 1 x
analog 4-20 mA

1,300 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90° angular head IO-Link Smart Sensor Profile

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift in- ternally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output current: 4-20 mA switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+100/WK/CFI
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

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Ausgang 2	switching output Push-Pull, $U_B - 3 \text{ V}$, $-U_B + 3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
---------	--

housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

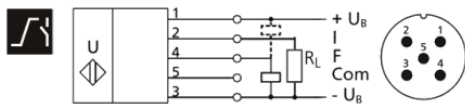
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12
	KST5A-5/M12
	KST5G-2/M12
	BF-18
	LCA-2
	LCA-2 Koffer
	SyncBox1
	UF-90/M18

pin assignment



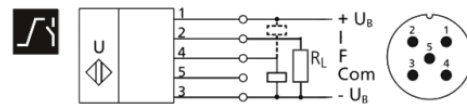
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

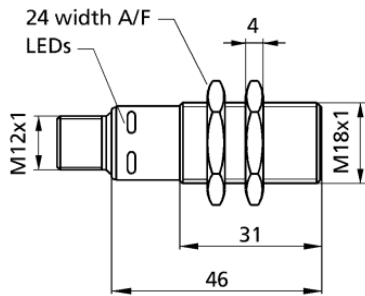
deployable accessory	KST5A-2/M12
	KST5A-5/M12
	KST5G-2/M12
	BF-18
	LCA-2
	LCA-2 Koffer
	SyncBox1
	UF-90/M18

pin assignment

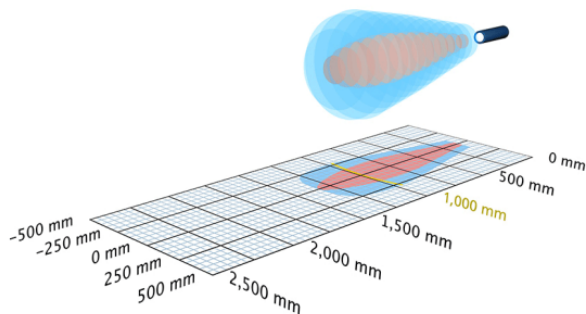


lpc+100/CFU

scale drawing



detection zone



 1 x Push-Pull + 1 x analog 0-10 V  1,300 mm

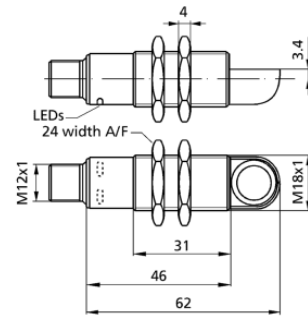
design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

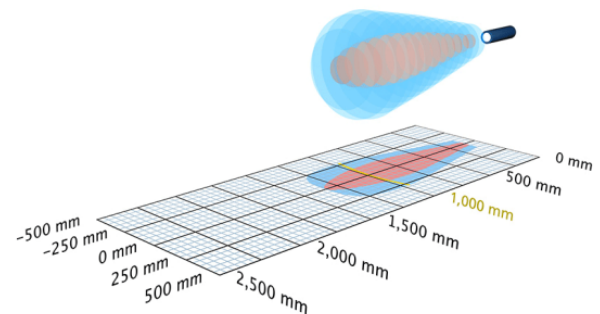
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

lpc+100/WK/CFU

scale drawing



detection zone



 1 x Push-Pull + 1 x analog 0-10 V  1,300 mm

design	cylindrical M18
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	90°-Winkelkopf IO-Link Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	120 mm
operating range	1.000 mm
max. range	1,300 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

output 1	analogue output voltage: 0-10 V, short-circuit-proof switchable rising/falling
Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input teach-in input
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	35 g
further versions	lpc+100/WK/CFU
further versions	90° angular head

Electrical Data

operating voltage U_B	10 - 30 V d.c., reverse polarity protection
voltage ripple	$\pm 10 \%$
no-load current consumption	$\leq 50 \text{ mA}$
type of connection	5-pin M12 initiator plug

outputs

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Ausgang 2	switching output Push-Pull, $U_B-3 \text{ V}$, $-U_B+3 \text{ V}$, $I_{\max} = 100 \text{ mA}$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	10 Hz
response delay	80 ms
delay prior to availability	< 300 ms

Inputs

input 1	Com-Eingang Teach-in-Eingang Synchronisations-Eingang
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housing

material	brass sleeve, nickel-plated, plastic parts, PBT, PA
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	40 g

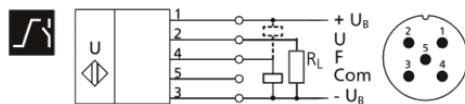
Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment



Technical Features/Characteristics

temperature compensation	yes
controls	com input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl IO-Link
synchronization	yes
multiplex	yes
indicators	2 x LED green, 2 x LED yellow

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 BF-18 LCA-2 LCA-2 Koffer SyncBox1 UF-90/M18
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pin assignment

