microsonic

EVERY THING ULTRA SONIC

extract from our online catalogue:

crm+ ultrasonic sensors

current to: 2026-11-18

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crm+

Wear-resistant PEEK film protects the sensor membrane from chemicals, contamination and caking.

Highlights

- Ultrasonic transducer protected by PEEK film › for simple cleaning and high resistance to wear
- Stainless-steel housing
- Digital display with direct measured value output in mm/cm or %
- IO-Link interface › for support of the new industry standard
- Numeric configuration of the sensor using digital display › permits the complete advance configuration of the sensor
- Automatic synchronisation and multiplex operation › for simultaneous operation of up to ten sensors in close quarters

Basics

- 1 Push-Pull switching output › pnp or npn basis
- 1 or 2 switching outputs › in pnp variant
- Analogue output 4–20 mA and 0–10 V › with automatic switching between current and voltage outputs
- 5 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

Sensor membrane with wear-resistant protective film

In many filling processes, spray on the sensor membrane simply cannot be avoided. These sprays often harden so that after longer periods of operation contamination can only be removed from the sensor membrane by mechanical means. The new protective film of the crm+ sensors now makes it easy to remove caked-on soiling, such as hardened casting compound and cement spatter.

The protective film is also highly resistant to corrosive media. The threaded sleeve is made of 1.4571 stainless steel.



TouchControl with LED display - Wear-resistant PEEK protective film

There are three output stages

available for all five detection ranges:



1 switching output with Push-Pull circuity



1 Schaltausgang in pnp-Schaltungstechnik 1 pnp switching output



2 pnp switching outputs



1 analogue output 4–20 mA and 0–10 V

Sensors with switching output have three operating modes:

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

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 crm+ sensors support synchronisation and multiplex operation and have extensive parameterisation options via LinkControl. For detailed information, please see at mic+ sensors.

LinkControl

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



Sensor connected to the PC via LCA-2 for programming

IO-Link integrated

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

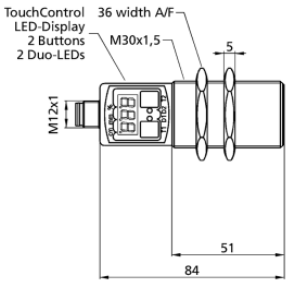
You have special requirements?

Nothing as simple as that.

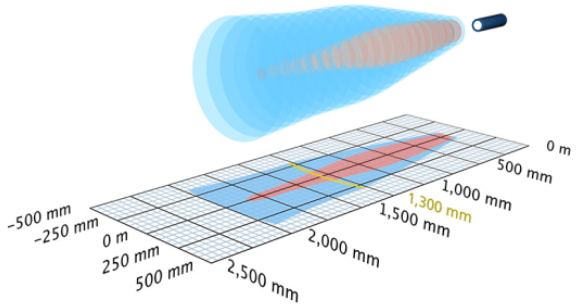
With us, you can easily find an individual solution. Let us talk about your application: +49 231 97 51 51-82.

crm+130/DIU/TC/E

scale drawing



detection zone



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

2,000 mm

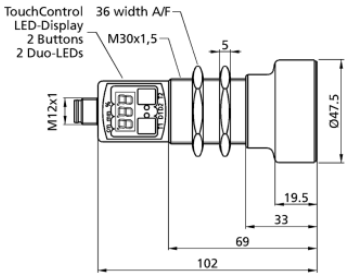
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

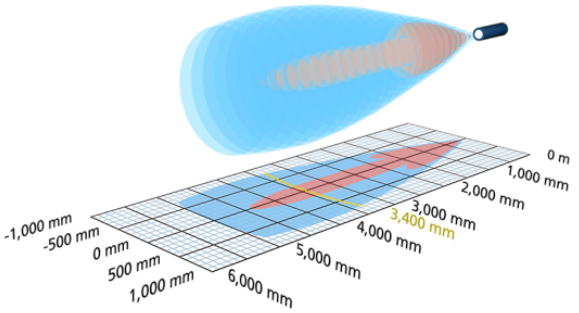
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
max. range	2,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+340/DIU/TC/E

scale drawing



detection zone



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

5,000 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode analogue distance measurement
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
max. range	5,000 mm
resolution	0.025 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	analogue output current: 4-20 mA / voltage: 0-10 V (at $U_B \geq 15$ 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	8 Hz
response delay	92 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

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 (at $U_B \geq 15$ 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	4 Hz
response delay	172 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 PEEK film, PTFE 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
further versions	cable connection (on request)

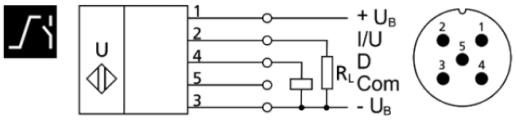
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment



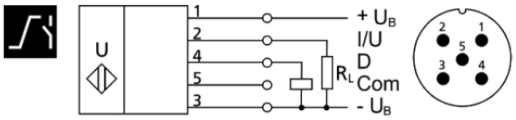
Technical Features/Characteristics

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

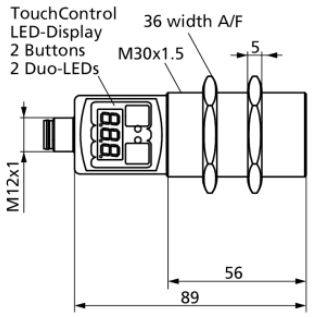
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

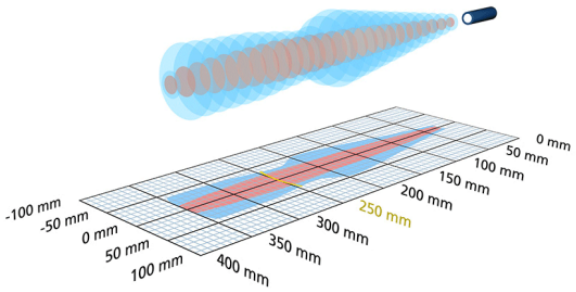


crm+25/IU/TC/E

scale drawing



detection zone



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

350 mm

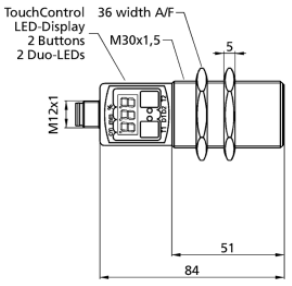
design	cylindrical M30
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

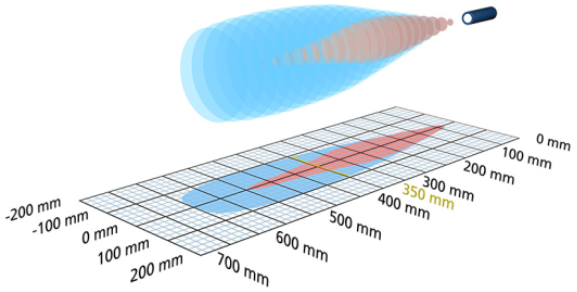
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
resolution	0.025 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+35/IU/TC/E

scale drawing



detection zone



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

600 mm

design	cylindrical M30
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	360 kHz
blind zone	85 mm
operating range	350 mm
max. range	600 mm
resolution	0.069 mm to 0.17 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 (at $U_B \geq 15$ V), short-circuit-proof switchable rising/falling
response delay	32 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 PEEK film, PTFE 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	150 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

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 (at $U_B \geq 15$ V), short-circuit-proof switchable rising/falling
response delay	64 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 PEEK film, PTFE 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	150 g

further versions	cable connection (on request)

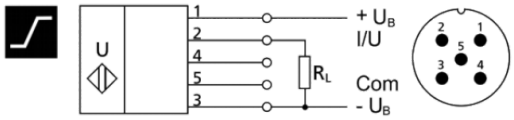
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

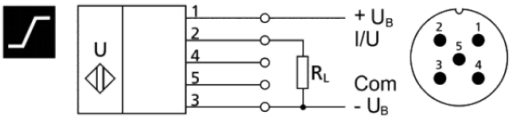
pin assignment



Accessories

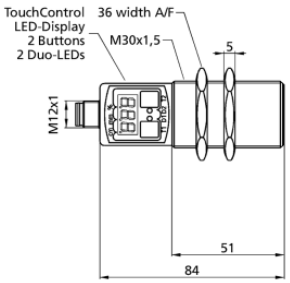
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

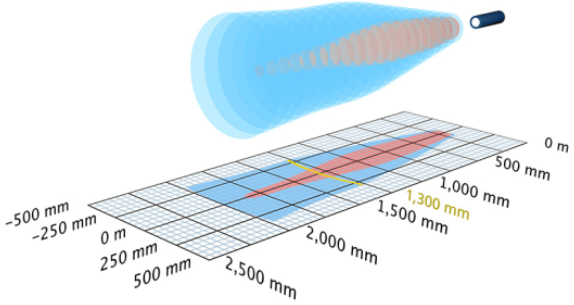


crm+130/IU/TC/E

scale drawing



detection zone



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

2,000 mm

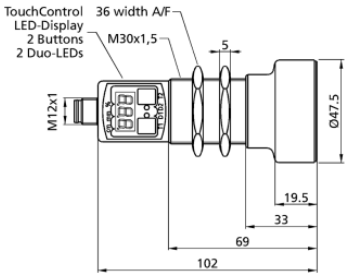
design	cylindrical M30
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

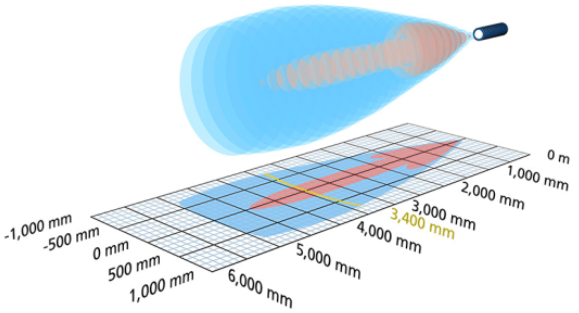
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
max. range	2,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+340/IU/TC/E

scale drawing



detection zone



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

5,000 mm

design	cylindrical M30
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
max. range	5,000 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	analogue output current: 4-20 mA / voltage: 0-10 V (at $U_B \geq 15$ V), short-circuit-proof switchable rising/falling
response delay	92 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

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

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 (at $U_B \geq 15$ V), short-circuit-proof switchable rising/falling
response delay	172 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 PEEK film, PTFE 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

further versions	cable connection (on request)

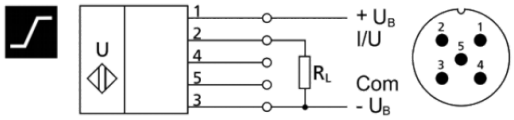
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

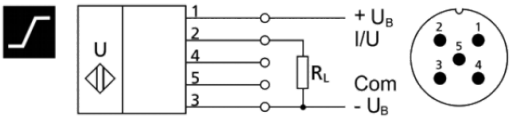
pin assignment



Accessories

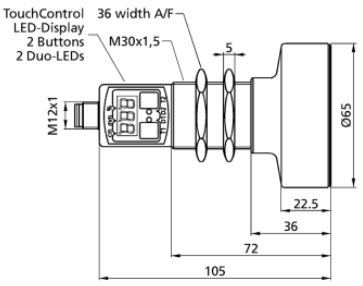
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

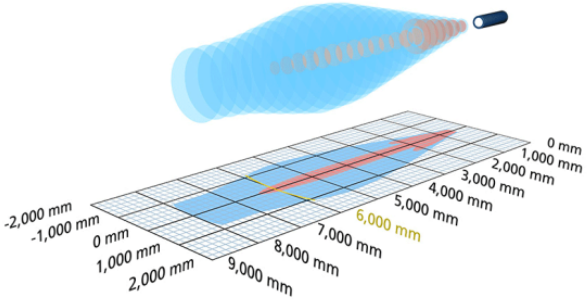


crm+600/IU/TC/E

scale drawing



detection zone



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

8,000 mm

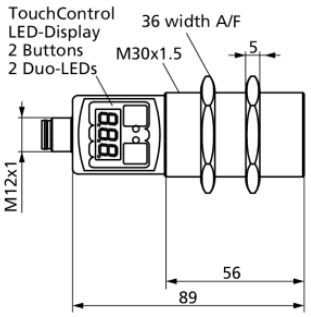
design	cylindrical M30
operating mode	analogue distance measurements
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

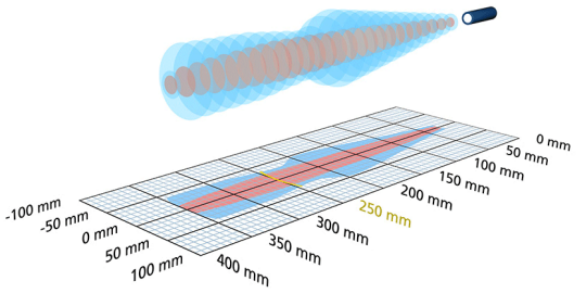
means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
max. range	8,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+25/F/TC/E

scale drawing



detection zone



1 x Push-Pull

350 mm

design	cylindrical M30
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display IO-Link version 1.1 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)

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 (at $U_B \geq 15$ V), short-circuit-proof switchable rising/falling
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 PEEK film, PTFE 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	270 g
further versions	cable connection (on request)

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

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	Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA Schließer/Öffner einstellbar, kurzschlussfest
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

Housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

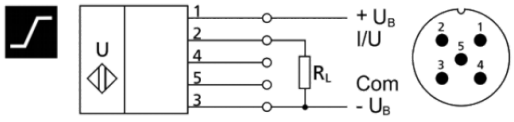
Technical Features/Characteristics

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

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

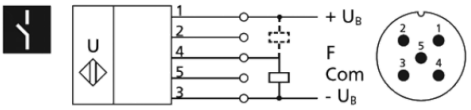
pin assignment



Accessories

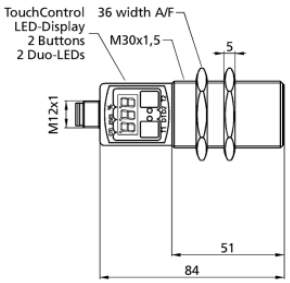
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer

pin assignment

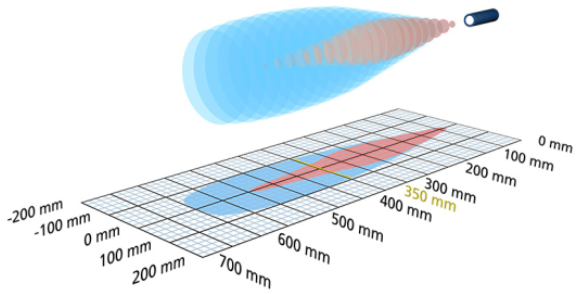


crm+35/F/TC/E

scale drawing



detection zone



1 x Push-Pull | 600 mm

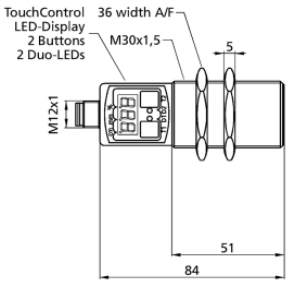
design	cylindrical M30
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display IO-Link version 1.1 Smart Sensor Profile UL Listed

Ultrasonic-Specific

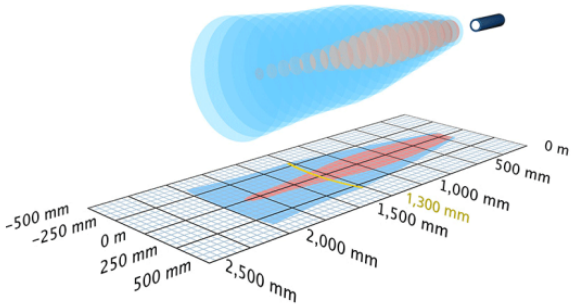
means of measurement	echo propagation time measurement
transducer frequency	360 kHz
blind zone	85 mm
operating range	350 mm
max. range	600 mm
resolution	0.10 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+130/F/TC/E

scale drawing



detection zone



1 x Push-Pull | 2,000 mm

design	cylindrical M30
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display IO-Link version 1.1 Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
max. range	2,000 mm
resolution	1 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	Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA Schließer/Öffner einstellbar, kurzschlussfest
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

Housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

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 IO-Link
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

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	Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA Schließer/Öffner einstellbar, kurzschlussfest
switching hysteresis	20 mm
switching frequency	8 Hz
response delay	92 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

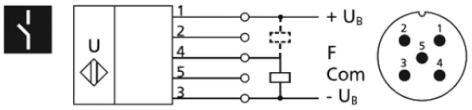
Technical Features/Characteristics

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

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer

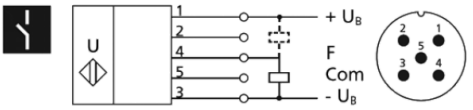
pin assignment



Accessories

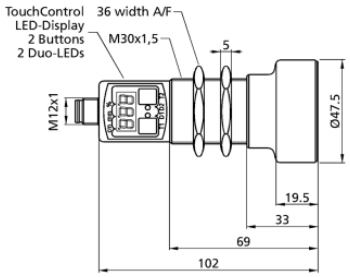
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer

pin assignment

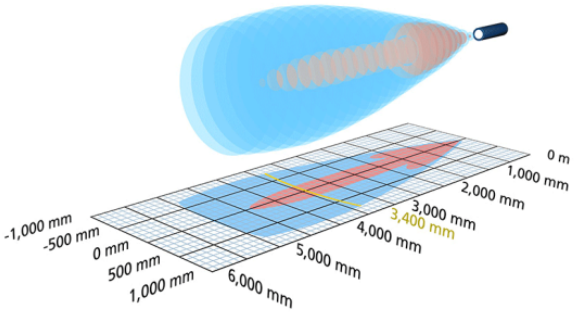


crm+340/F/TC/E

scale drawing



detection zone



1 x Push-Pull | 5,000 mm

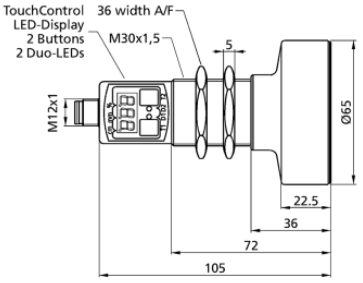
design	cylindrical M30
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display IO-Link version 1.1 Smart Sensor Profile UL Listed

Ultrasonic-Specific

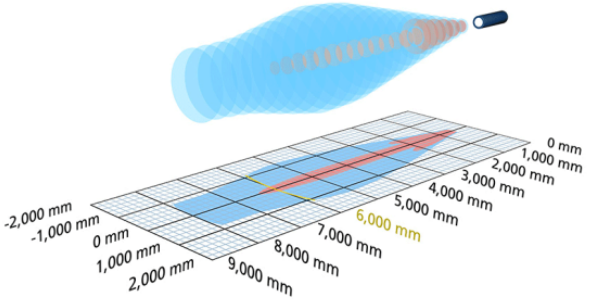
means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
max. range	5,000 mm
resolution	1 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+600/F/TC/E

scale drawing



detection zone



1 x Push-Pull | 8,000 mm

design	cylindrical M30
operating mode	IO-Link proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display IO-Link version 1.1 Smart Sensor Profile UL Listed

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
max. range	8,000 mm
resolution	1 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	Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA Schließer/Öffner einstellbar, kurzschlussfest
switching hysteresis	50 mm
switching frequency	4 Hz
response delay	172 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 PEEK film, PTFE 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
further versions	cable connection (on request)

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 IO-Link
synchronization	yes
multiplex	yes
indicators	3-digit LED display, 2 x three-colour LED

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	Push-Pull, U_B-3 V, -U_B+3 V,I_{max} = 100 mA Schließer/Öffner einstellbar, kurzschlussfest
switching hysteresis	100 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 PEEK film, PTFE 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	270 g
further versions	cable connection (on request)

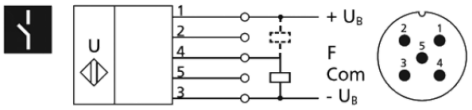
Technical Features/Characteristics

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

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer

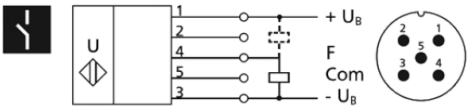
pin assignment



Accessories

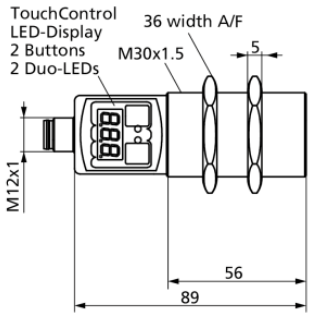
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer

pin assignment

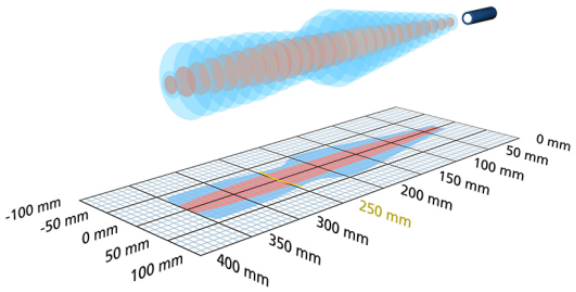


crm+25/D/TC/E

scale drawing



detection zone



1 x pnp | 350 mm

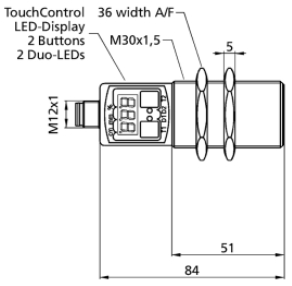
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

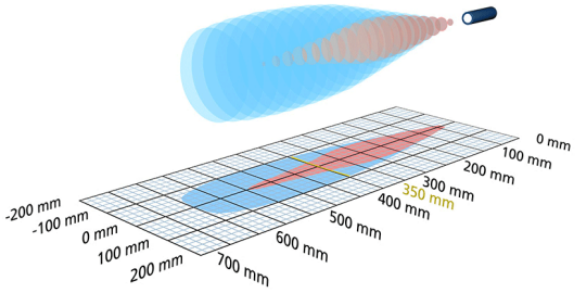
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
max. range	350 mm
resolution	0.025 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+35/D/TC/E

scale drawing



detection zone



1 x pnp | 600 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	360 kHz
blind zone	85 mm
operating range	350 mm
max. range	600 mm
resolution	0.025 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
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

Housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PEEK film, PTFE 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	150 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

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
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

Housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

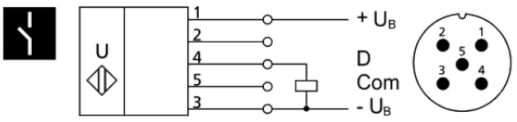
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

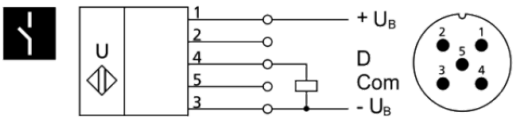
pin assignment



Accessories

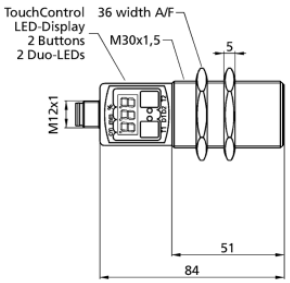
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

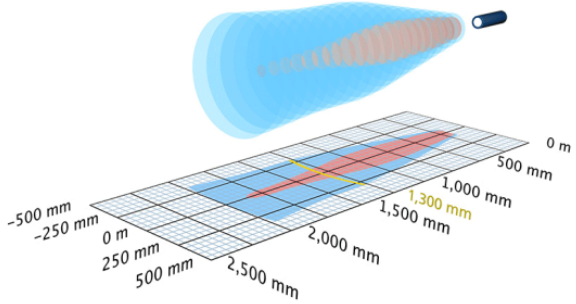


crm+130/D/TC/E

scale drawing



detection zone



1 x pnp | 2,000 mm

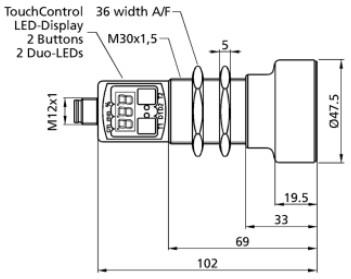
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

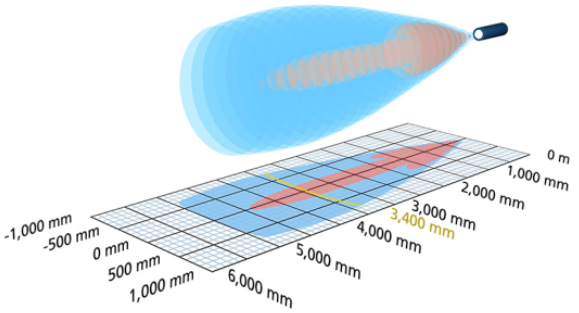
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
max. range	2,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+340/D/TC/E

scale drawing



detection zone



1 x pnp | 5,000 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
max. range	5,000 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
switching hysteresis	20 mm
switching frequency	8 Hz
response delay	92 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

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

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
switching hysteresis	50 mm
switching frequency	4 Hz
response delay	172 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 PEEK film, PTFE 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
further versions	cable connection (on request)

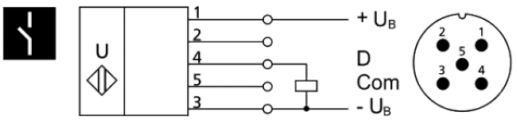
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

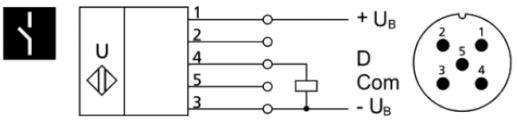
pin assignment



Accessories

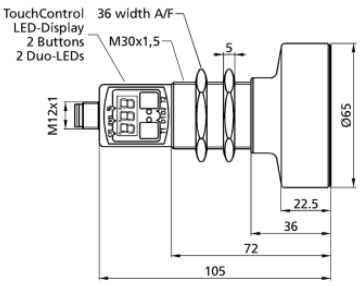
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

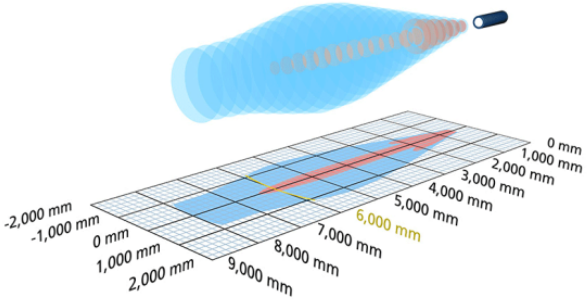


crm+600/D/TC/E

scale drawing



detection zone



1 x pnp | 8,000 mm

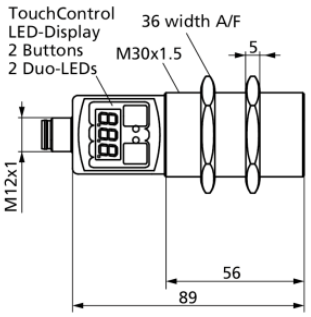
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

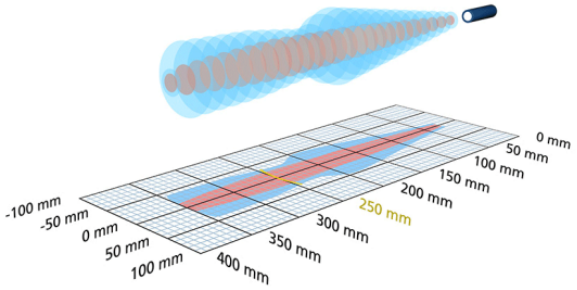
means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
max. range	8,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+25/DD/TC/E

scale drawing



detection zone



2 x pnp | 350 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

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	0.025 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
switching hysteresis	100 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 PEEK film, PTFE 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	270 g
further versions	cable connection (on request)

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

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	3 mm
switching frequency	25 Hz
response delay	32 ms
delay prior to availability	< 300 ms

Inputs

input 1	com input synchronisation input

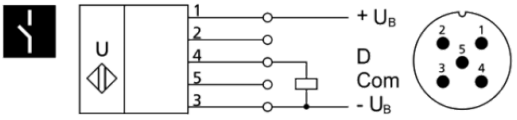
Housing

material	stainless steel, plastic parts: PBT, TPU
ultrasonic transducer	coated with PEEK film, PTFE 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	150 g

Accessories

deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment



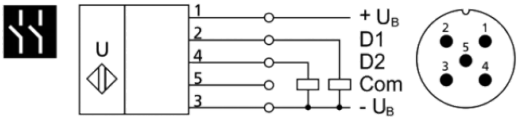
Technical Features/Characteristics

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

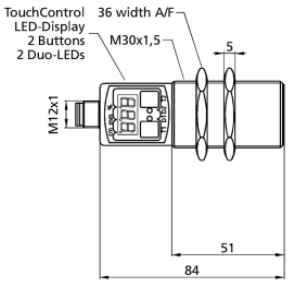
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

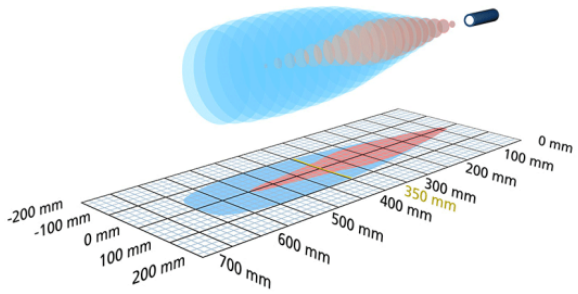


crm+35/DD/TC/E

scale drawing



detection zone



2 x pnp | 600 mm

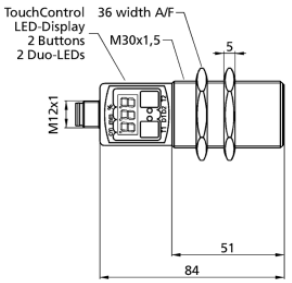
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

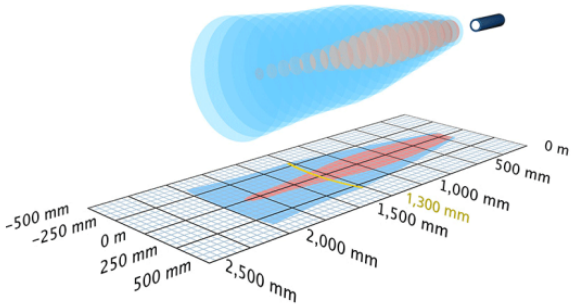
means of measurement	echo propagation time measurement
transducer frequency	360 kHz
blind zone	85 mm
operating range	350 mm
max. range	600 mm
resolution	0.025 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+130/DD/TC/E

scale drawing



detection zone



2 x pnp | 2,000 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
max. range	2,000 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	5 mm
switching frequency	12 Hz
response delay	64 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

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	20 mm
switching frequency	8 Hz
response delay	92 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 PEEK film, PTFE 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	150 g
further versions	cable connection (on request)

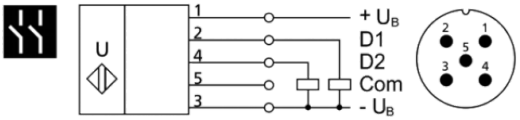
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment



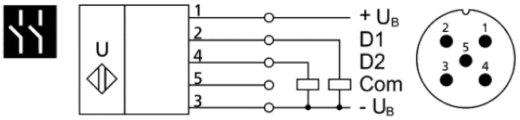
Technical Features/Characteristics

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

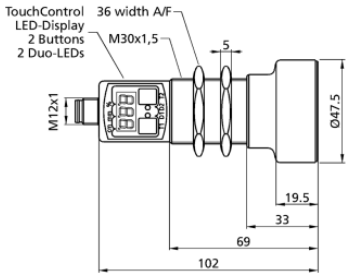
deployable accessory	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

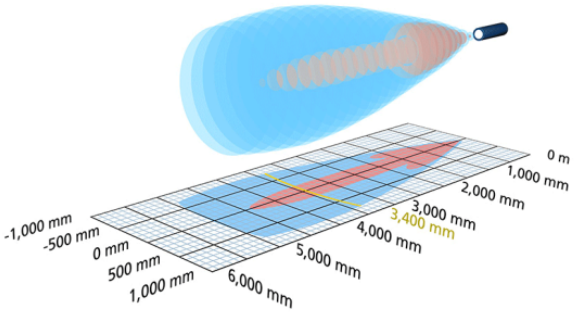


crm+340/DD/TC/E

scale drawing



detection zone



2 x pnp | 5,000 mm

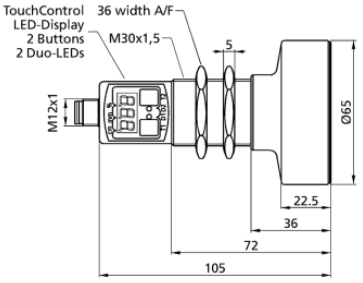
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

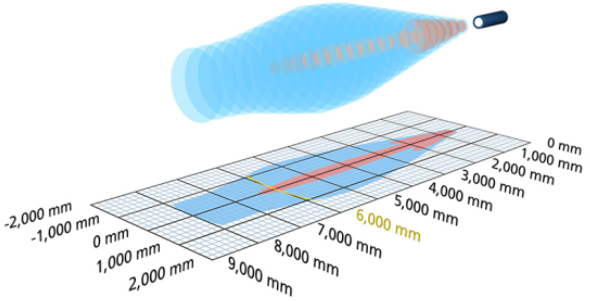
means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
max. range	5,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

crm+600/DD/TC/E

scale drawing



detection zone



2 x pnp | 8,000 mm

design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	high chemical resistance stainless steel version display

Ultrasonic-Specific

means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
max. range	8,000 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	4 Hz
response delay	172 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 PEEK film, PTFE 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
further versions	cable connection (on request)

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	100 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 PEEK film, PTFE 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	270 g
further versions	cable connection (on request)

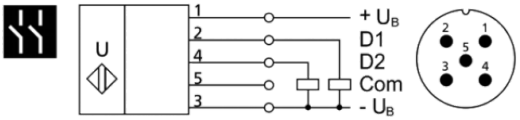
Technical Features/Characteristics

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

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	KST5A-2/M12 KST5A-5/M12 KST5G-2/M12 KST5G-5/M12 BF-30 UF-90/M30 LCA-2 LCA-2 Koffer SyncBox1

pin assignment

