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# *crm+25/D/TC/E*

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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.

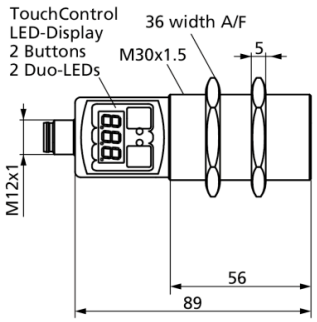
## *You have special requirements?*

Nothing as simple as that.

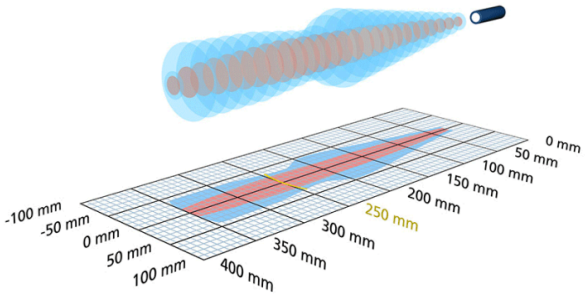
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# crm+25/D/TC/E

## scale drawing




## detection zone




1 x pnp

350 mm

| | |
|---|---|
| design | cylindrical M30 |
| operating mode | proximity switch/reflective mode<br>reflective barrier<br>window mode |
| particularities | high chemical resistance<br>stainless steel version<br>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<br>pnp: $I_{max}$ = 200 mA ($U_B$-2V)<br>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<br>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<br>LCA-2 with LinkControl |
| synchronization | yes |
| multiplex | yes |
| indicators | 3-digit LED display, 2 x three-colour LED |

## Accessories

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

## *pin assignment*

