microsonic



extract from our online catalogue:

# *mic-31/D/HV/M30E*

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# mic

These completely metal mic sensors are available in two device designs with five different detection ranges.

## Highlights

- M30 housing and M12 circular connector in metal design › for harsh usage conditions
- Automatic synchronisation › for simultaneous operation of up to ten sensors in close quarters
- UL Listed to Canadian and US safety standards

## Basics

- 1 switching output 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 on pin 5
- 0.18 mm to 2.4 mm resolution
- Temperature compensation
- 9–30 V operating voltage
- LinkControl › for configuration of sensors from a PC

# *This very solid construction*

is fully made of metal from the M30 housing to the M12 circular connector. Since the sensors do not contain any operating elements or signal lamps, they are especially suited for application under extreme ambient conditions with high mechanical loads for housing and plug connector. The sensors are available in five detection ranges and cover a measuring range of 30 mm up to 8 m.




*M12 metal circular connector (left) and operation under rough conditions (right)*

### *Two output levels*

are available for all five detection ranges:

1 pnp switching output

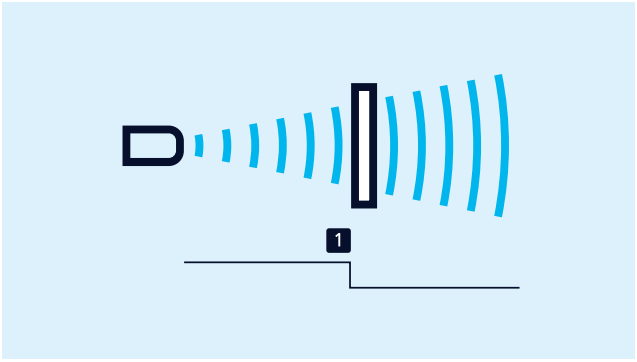
1 analogue output 4–20 mA and 0–10 V

### *Sensors with switching output have three operating modes:*

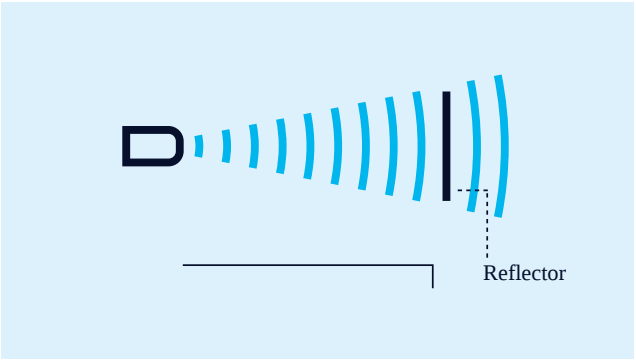
- Single switching point
- Two-way reflective barrier
- Window mode

### *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

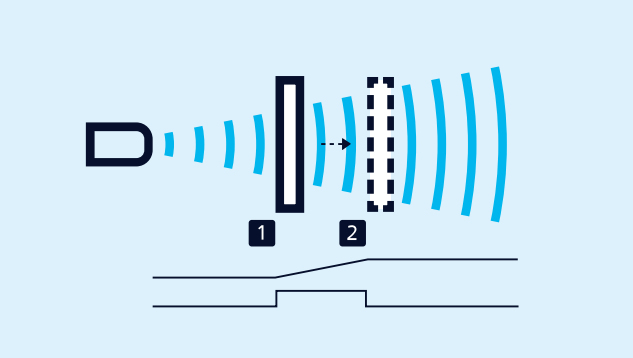
- Apply +$U_B$ to pin 5 for about 3 seconds
- Then apply +$U_B$ to pin 5 again for about 10 seconds

### *For configuration of a window*

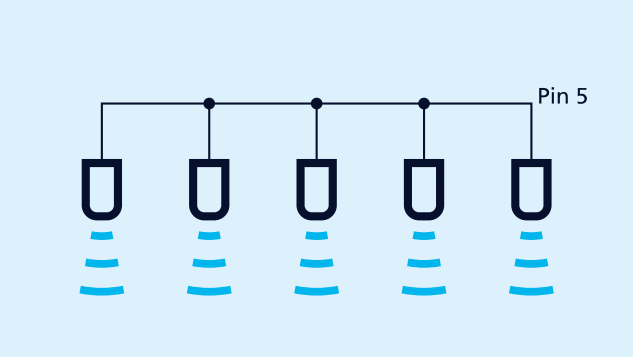
- Place object at the near edge of the window (1)
- Apply +$U_B$ to pin 5 for about 3 seconds
- Then move the object to the far edge of the window (2)
- Then apply +$U_B$ to pin 5 again for about 1 second

### *NCC/NOC*

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




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




*Synchronisation using pin 5*

### *Synchronisation*

permits the simultaneous use of multiple mic sensors in an application. To avoid mutual interference, the sensors can be synchronised with one another. To do this, all the sensors are electrically connected on pin 5.

If more than 10 sensors need to be synchronised, this can be carried out with the SyncBox1 , which is available as an accessory.

### *LinkControl*

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




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

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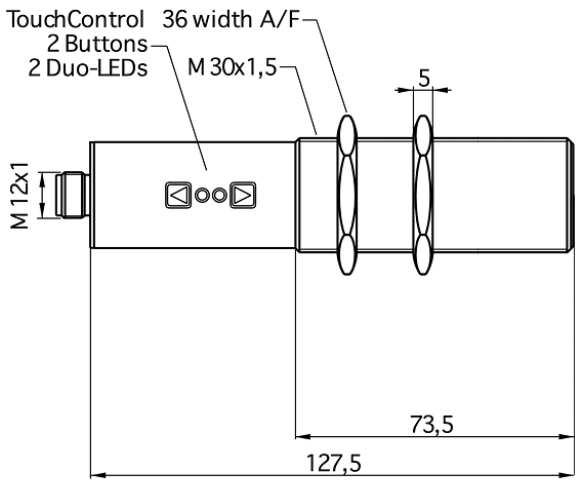
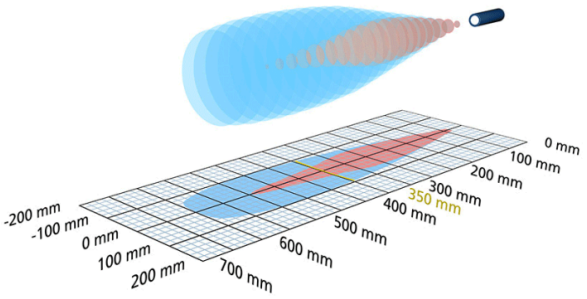
**Archivsensor**

# mic-31/D/HV/M30E

## scale drawing




## detection zone




| Successor model available | mic+35/D/TC/E |
|---|---|
| 1 x pnp | 600 mm |
| design | cylindrical M30 |
| operating mode | proximity switch/reflective mode<br>reflective barrier<br>window mode |
| particularities | archive sensor<br>stainless steel version |

## Ultrasonic-Specific

| | |
|---|---|
| means of measurement | echo propagation time measurement |
| transducer frequency | 400 kHz |
| blind zone | 60 mm |
| operating range | 350 mm |
| max. range | 600 mm |
| resolution | 0.36 mm |
| reproducibility | ± 0.15 % |
| accuracy | ± 1 % (temperature drift internally compensated) |

## Electrical Data

| | |
|---|---|
| operating voltage $U_B$ | 12 - 30 V d.c., reverse polarity protection |
| voltage ripple | ± 10 % |
| no-load current consumption | ≤ 70 mA |
| type of connection | 5-pin M12 initiator plug |

## Outputs

| | |
|---|---|
| output 1 | switching output<br>pnp: $I_{max}$ = 500 mA ($U_B$-2V)<br>NOC/NCC adjustable, short-circuit-proof |
| switching hysteresis | 5 mm |
| switching frequency | 8 Hz |
| response delay | 70 ms |
| delay prior to availability | < 1,500 ms |

## Inputs

| | |
|---|---|
| input 1 | com input |

## Housing

| | |
|---|---|
| material | stainless steel, plastic parts: PBT, TPU |
| ultrasonic transducer | polyurethane foam, epoxy resin with glass contents |
| class of protection to EN 60529 | IP 65 |
| operating temperature | -20°C to +70°C |
| storage temperature | -40°C to +85°C |
| weight | 210 g |
| further versions | mic-31/D/HV/M30 |

## Technical Features/Characteristics

| | |
|---|---|
| temperature compensation | yes |
| controls | 2 push-buttons + LED display (TouchControl) |
| scope for settings | LCA-2 with LinkCopy or LinkControl software |
| indicators | 2 x three-colour LED |

## Accessories

| | |
|---|---|
| deployable accessory | KST5A-2/M12<br>KST5A-5/M12<br>KST5G-2/M12<br>KST5G-5/M12 |

## pin assignment

