

Extract from our online catalogue:

**mic-600/IU/M**

Current to: 2023-11-13



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

# Description

## 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



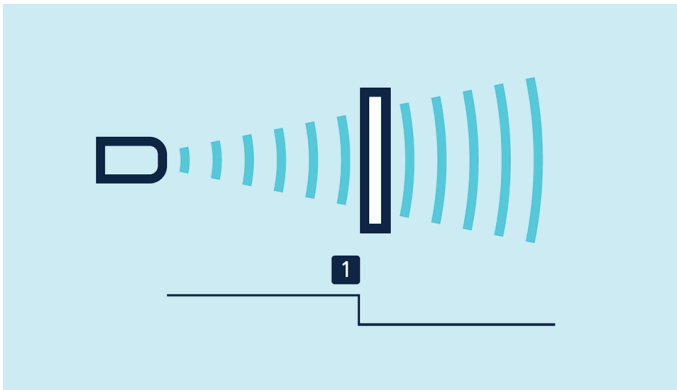
1 analogue output 4–20 mA and 0–10 V

## Sensors with switching output have three operating modes:

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

## Teach-in of a single switching point

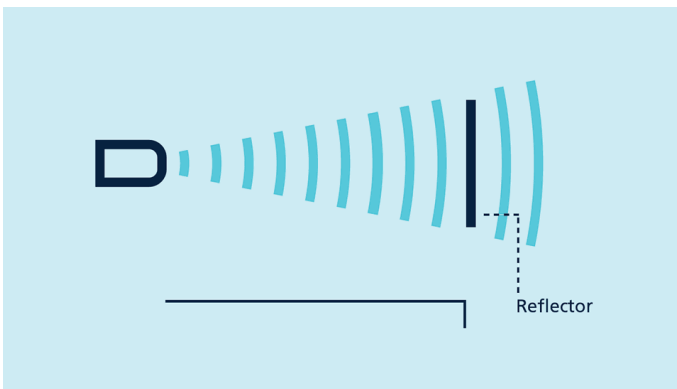
- › Place object to be detected (1) at the desired distance
- › Apply  $+U_B$  to pin 5 for about 3 seconds
- › Then apply  $+U_B$  to pin 5 again for about 1 seconds



*Teach-in of a switching point*

#### Teach-in of a two-way reflective barrier with a fixed reflector

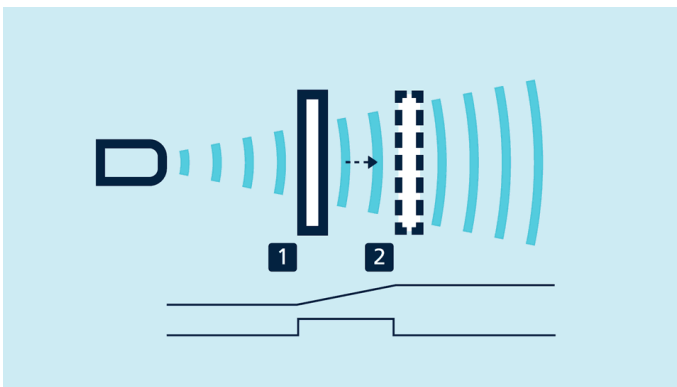
- › Apply  $+U_B$  to pin 5 for about 3 seconds
- › Then apply  $+U_B$  to pin 5 again for about 10 seconds



*Teach-in of a two-way reflective barrier*

#### 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

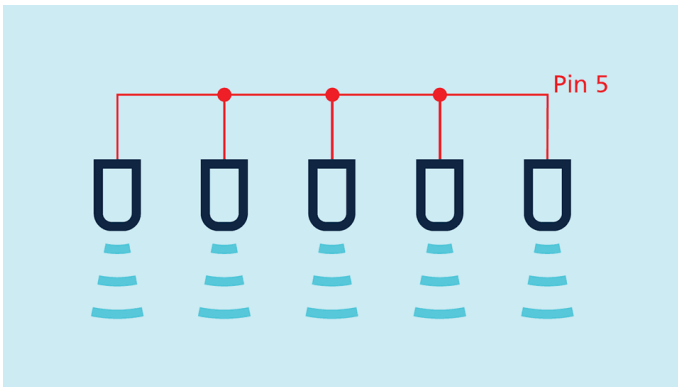
optionally permits the extensive parameterisation of mic sensors. The LCA-2 **LinkControl adapter** , which is available as an accessory, can be used to connect mic sensors to the PC.



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

## 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.

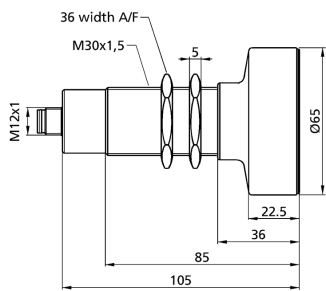


*Synchronisation using pin 5*

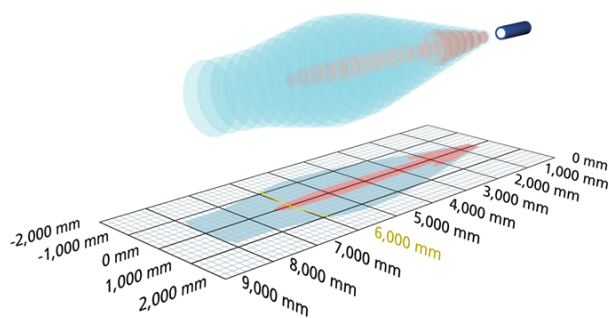
If more than 10 sensors need to be synchronised, this can be carried out with the **SyncBox1** , which is available as an accessory.

# mic-600/IU/M

## scale drawing



## detection zone



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



8,000 mm

|                 |   |
|-----------------|---|
| measuring range | 600 - 8.000 mm                              |
| design          | cylindrical M30                             |
| operating mode  | analogue distance measurements              |
| particularities | metal plug for harsh operational conditions |

## ultrasonic-specific

|                      |   |
|----------------------|---|
| means of measurement | echo propagation time measurement                   |
| transducer frequency | 80 kHz  |
| blind zone           | 600 mm  |
| operating range      | 6,000 mm  |
| maximum range        | 8,000 mm  |
| resolution           | 0.18 mm to 2.4 mm, depending on the analogue window |
| reproducibility      | ± 0.15 %  |
| accuracy             | ± 1 % (temperature drift internally compensated)    |

## electrical data

|                             |  |
|-----------------------------|--|
| operating voltage $U_B$     | 9 - 30 V d.c., reverse polarity protection |
| voltage ripple              | ± 10 %                                     |
| no-load current consumption | ≤ 55 mA                                    |
| type of connection          | 5-pin M12 initiator plug                   |

# mic-600/IU/M

## outputs

|                             |  |
|-----------------------------|--|
| output 1                    | analogue output<br>current: 4-20 mA / voltage: 0-10 V (at $U_B \geq 15$ V), short-circuit-proof<br>switchable rising/falling |
| response time               | 240 ms   |
| delay prior to availability | < 600 ms   |

## inputs

|         |                             |
|---------|-----------------------------|
| input 1 | com input<br>teach-in input |
|---------|-----------------------------|

## housing

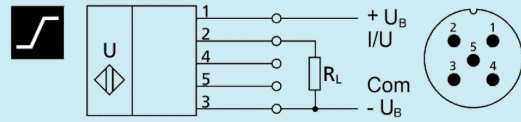
|                                 |  |
|---------------------------------|--|
| material                        | brass sleeve, nickel-plated, plastic parts, PBT    |
| ultrasonic transducer           | polyurethane foam, epoxy resin with glass contents |
| class of protection to EN 60529 | IP 67  |
| operating temperature           | -25°C to +70°C                                     |
| storage temperature             | -40°C to +85°C                                     |
| weight                          | 320 g  |
| further versions                | cable connection (on request)                      |

## technical features/characteristics

|                          |   |
|--------------------------|---|
| temperature compensation | yes   |
| controls                 | com input<br>control input                                |
| scope for settings       | Teach-in via com input on pin 5<br>LCA-2 with LinkControl |
| Synchronisation          | yes   |
| multiplex                | no  |
| indicators               | no  |
| particularities          | metal plug for harsh operational conditions               |

# mic-600/IU/M

## pin assignment



order no.

**mic-600/IU/M**

The content of this document is subject to technical changes.  
Specifications in this document are presented in a descriptive way  
only. They do not warrant any product features.