Extract from our online catalogue:

mic ultrasonic sensors

Current to: 2021-12-16



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
- \triangleright 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

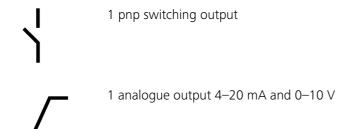
is fully made of metal from the M30 housing to the M12 circular connector. Since the sensors do not contain any operating elements or signal lamps, they are especially suited for application under extreme ambient conditions with high mechanical loads for housing and plug connector. The sensors are available 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:

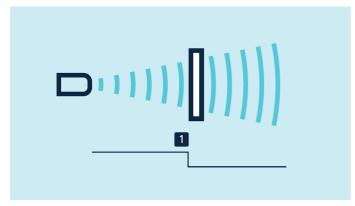


Sensors with switching output have three operating modes:

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

Teach-in of a single switching point

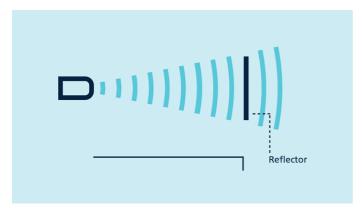
- > Place object to be detected (1) at the desired distance
- > Apply +U_B to pin 5 for about 3 seconds
- > Then apply +U_B to pin 5 again for about 1 seconds



Teach-in of a switching point

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

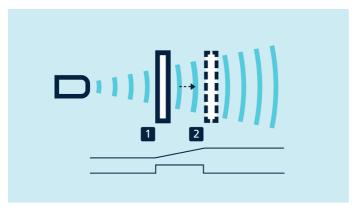
- > Apply +U_B to pin 5 for about 3 seconds
- > Then apply +U_B to pin 5 again for about 10 seconds



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

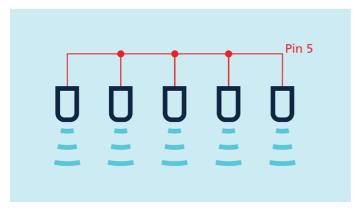
optionally permits the extensive parameterisation of mic sensors. The LCA-2 LinkControl adapter , which is available as an accessory, can be used to connect mic sensors to the PC.



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.

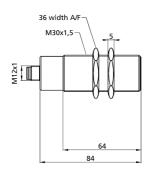


Synchronisation using pin 5

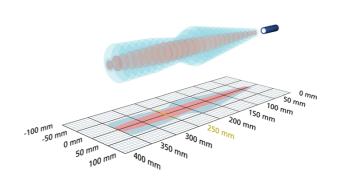
If more than 10 sensors need to be synchronised, this can be carried out with the SyncBox1, which is available as an accessory.

mic-25/D/M

scale drawing



detection zone





1 x pnp



measuring range	30 - 350 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

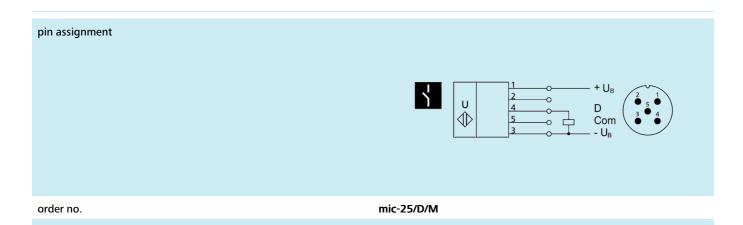
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
maximum range	350 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

operating voltage $U_{\scriptscriptstyle B}$	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-25/D/M

outputs	
output 1	switching output $pnp: I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	3 mm
switching frequency	25 Hz
response time	32 ms
delay prior to availability	< 390 ms
inputs	
input 1	com input
	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	200 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions

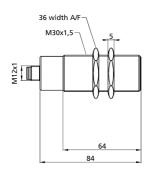
mic-25/D/M



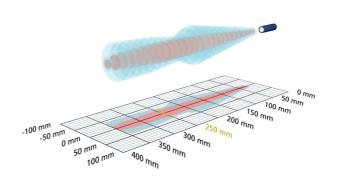
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mic-25/IU/M

scale drawing



detection zone





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



measuring range	30 - 350 mm
design	cylindrical M30
operating mode	analogue distance measurements
particularities	metal plug for harsh operational conditions

ultrasonic-specific

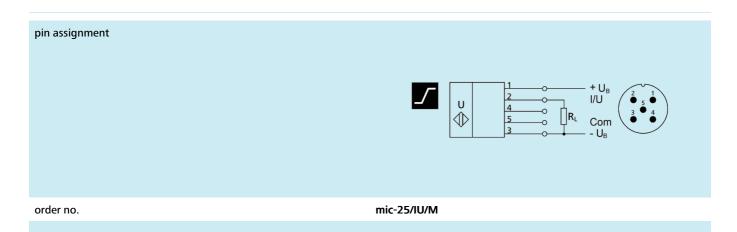
means of measurement	echo propagation time measurement
transducer frequency	320 kHz
blind zone	30 mm
operating range	250 mm
maximum range	350 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-25/IU/M

outputs	
output 1	analogue output current: 4-20 mA / voltage: 0-10 V (at $U_B \ge 15$ V), short-circuit-proof switchable rising/falling
response time	32 ms
delay prior to availability	< 390 ms
inputs	
input 1	com input 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	200 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions

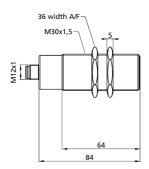
mic-25/IU/M



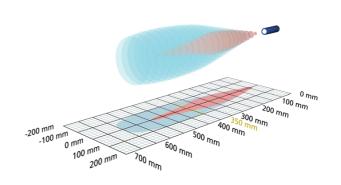
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mic-35/D/M

scale drawing



detection zone





1 x pnp



measuring range	65 - 600 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
maximum range	600 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

operating voltage $U_{\scriptscriptstyle B}$	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

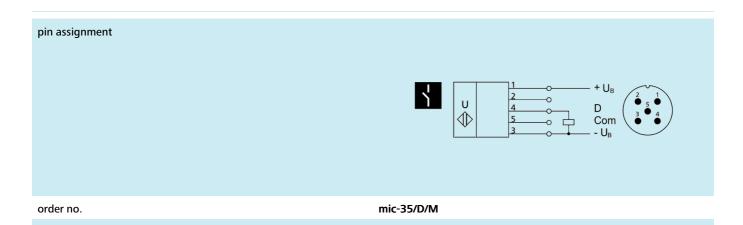
mic-35/D/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	12 Hz
response time	64 ms
delay prior to availability	< 420 ms
inputs	
input 1	com input 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	200 g
further versions	cable connection (on request)
further versions	<u>mic-35/D/M/K6</u>
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no

metal plug for harsh operational conditions

particularities

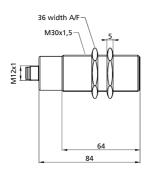
mic-35/D/M



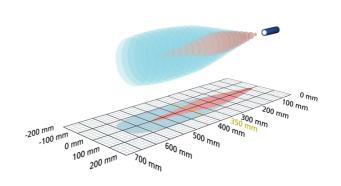
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mic-35/D/M/K6

scale drawing



detection zone





1 x pnp



measuring range	65 - 600 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	cable connection

ultrasonic-specific

means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
maximum range	600 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

operating voltage U _B	9 - 30 V d.c., reverse polarity protection
voltage ripple	± 10 %
no-load current consumption	≤ 55 mA
type of connection	6 m PVC cable, 5 x 0.25 mm ²

mic-35/D/M/K6

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	8 Hz
response time	64 ms
delay prior to availability	< 420 ms
inputs	
input 1	com input 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	355 g
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes

no

no

cable connection

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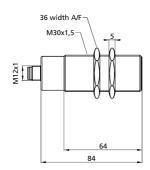
multiplex

indicators

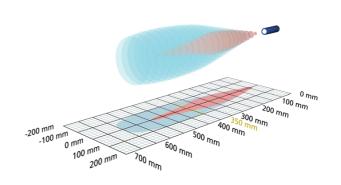
particularities

mic-35/DD/M

scale drawing



detection zone





2 x pnp



measuring range	65 - 600 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

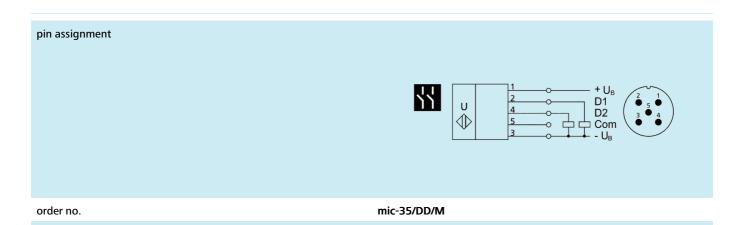
means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
maximum range	600 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-35/DD/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B\text{-}2V)$ NOC/NCC adjustable, short-circuit-proof
output 2	switching output pnp: $I_{max} = 200 \text{ mA } (U_B\text{-}2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	5 mm
switching frequency	8 Hz
response time	70 ms
delay prior to availability	< 300 ms
inputs	
input 1	com 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	140 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input
scope for settings	LCA-2 with LinkCopy or LinkControl software
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions

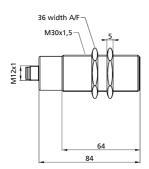
mic-35/DD/M



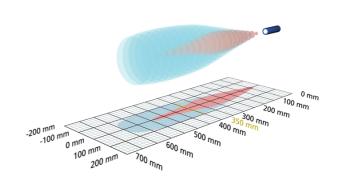
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mic-35/IU/M

scale drawing



detection zone





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



measuring range	65 - 600 mm
design	cylindrical M30
operating mode	analogue distance measurements
particularities	metal plug for harsh operational conditions

ultrasonic-specific

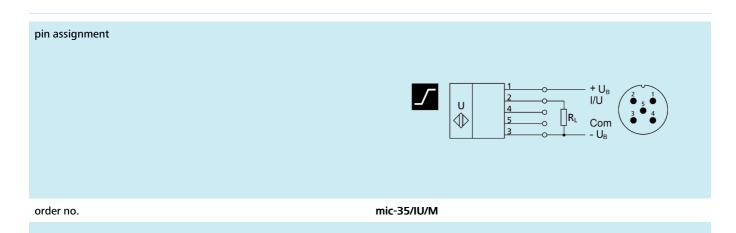
means of measurement	echo propagation time measurement
transducer frequency	400 kHz
blind zone	65 mm
operating range	350 mm
maximum range	600 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-35/IU/M

outputs	
output 1	analogue output current: 4-20 mA / voltage: 0-10 V (at $U_B \ge 15$ V), short-circuit-proof switchable rising/falling
response time	64 ms
delay prior to availability	< 420 ms
inputs	
input 1	com input 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	200 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions

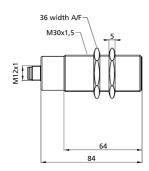
mic-35/IU/M



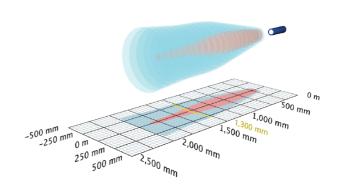
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mic-130/D/M

scale drawing



detection zone





1 x pnp



measuring range	200 - 2.000 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

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

operating voltage $U_{\scriptscriptstyle B}$	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

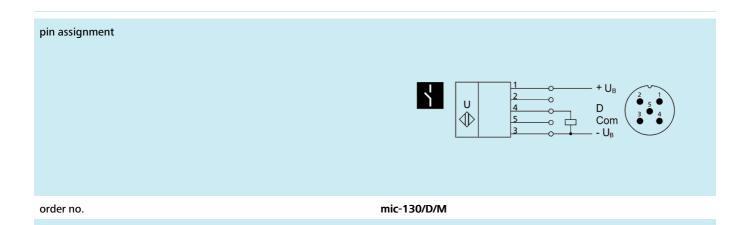
mic-130/D/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	8 Hz
response time	92 ms
delay prior to availability	< 440 ms
innute	
input 1	com input 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	200 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no

metal plug for harsh operational conditions

particularities

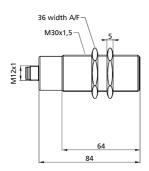
mic-130/D/M



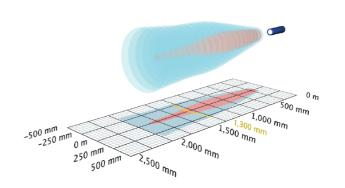
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mic-130/DD/M

scale drawing



detection zone







measuring range	200 - 2.000 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

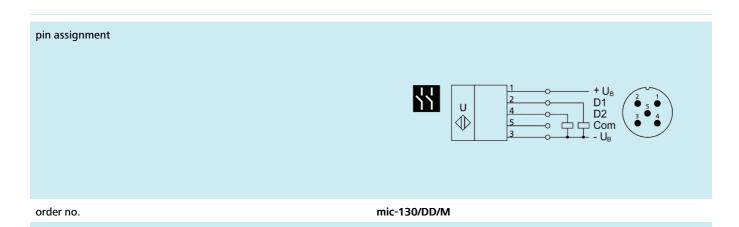
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
maximum range	2,000 mm
resolution	0.18 mm
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-130/DD/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
output 2	switching output pnp: $I_{max} = 200 \text{ mA } (U_{B}\text{-}2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	20 mm
switching frequency	6 Hz
response time	110 ms
delay prior to availability	< 300 ms
inputs	
input 1	com 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	140 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input
scope for settings	LCA-2 with LinkCopy or LinkControl software
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions
particularities	metal plug for harsh operational conditions

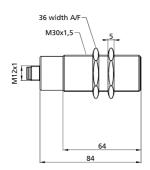
mic-130/DD/M



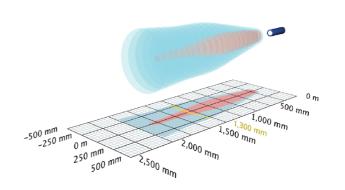
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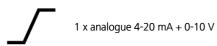
mic-130/IU/M

scale drawing



detection zone







measuring range	200 - 2.000 mm
design	cylindrical M30
operating mode	analogue distance measurements
particularities	metal plug for harsh operational conditions

ultrasonic-specific

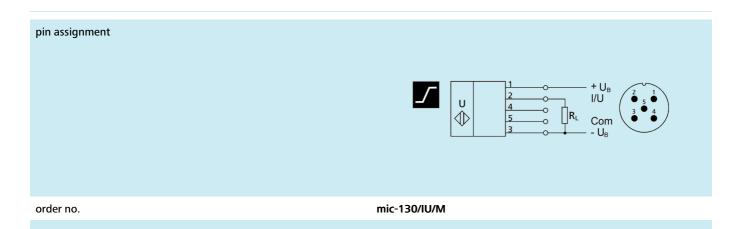
means of measurement	echo propagation time measurement
transducer frequency	200 kHz
blind zone	200 mm
operating range	1,300 mm
maximum range	2,000 mm
resolution	0.18 mm to 0.57 mm, depending on the analogue window
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-130/IU/M

outputs	
output 1	analogue output current: 4-20 mA / voltage: 0-10 V (at $U_B \ge 15$ V), short-circuit-proof switchable rising/falling
response time	92 ms
delay prior to availability	< 440 ms
inputs	
input 1	com input 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	200 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no
particularities	metal plug for harsh operational conditions

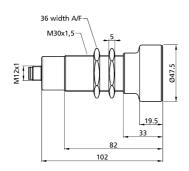
mic-130/IU/M



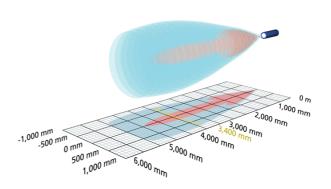
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mic-340/D/M

scale drawing



detection zone





1 x pnp



measuring range	350 - 5.000 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

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

operating voltage $U_{\scriptscriptstyle B}$	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

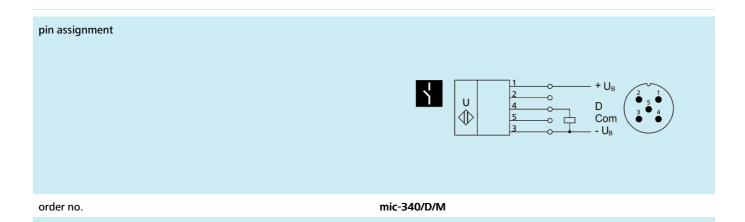
mic-340/D/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	50 mm
switching frequency	4 Hz
response time	172 ms
delay prior to availability	< 530 ms
input 1	com input 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	260 g
further versions	cable connection (on request)
technical features/characteristics	
temperature compensation	yes
controls	com input control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no

metal plug for harsh operational conditions

particularities

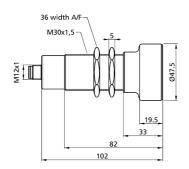
mic-340/D/M



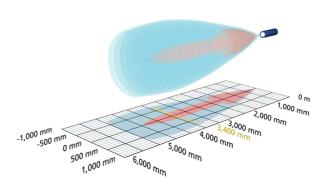
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mic-340/DD/M

scale drawing



detection zone





2 x pnp



measuring range	350 - 5.000 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode window mode
particularities	metal plug for harsh operational conditions

ultrasonic-specific

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

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-340/DD/M

outputs	
output 1	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
output 2	switching output pnp: $I_{max} = 200 \text{ mA } (U_B-2V)$ NOC/NCC adjustable, short-circuit-proof
switching hysteresis	50 mm
switching frequency	3 Hz
response time	180 ms
delay prior to availability	< 380 ms
inputs	
input 1	com input
housing	
housing material	brass sleeve, nickel-plated, plastic parts, PBT
	brass sleeve, nickel-plated, plastic parts, PBT polyurethane foam, epoxy resin with glass contents
material	
material ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
material ultrasonic transducer class of protection to EN 60529	polyurethane foam, epoxy resin with glass contents IP 67
material ultrasonic transducer class of protection to EN 60529 operating temperature	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature weight	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature weight technical features/characteristics	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C 270 g
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature weight technical features/characteristics temperature compensation	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C 270 g yes
material ultrasonic transducer class of protection to EN 60529 operating temperature storage temperature weight technical features/characteristics temperature compensation controls	polyurethane foam, epoxy resin with glass contents IP 67 -25°C to +70°C -40°C to +85°C 270 g yes com input

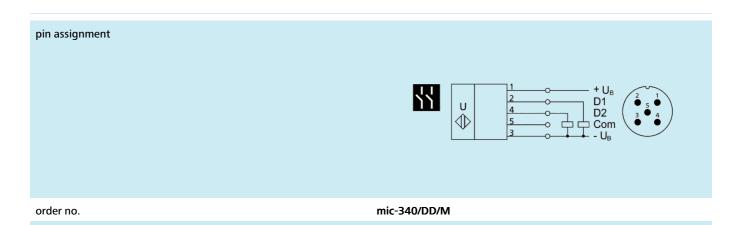
no

metal plug for harsh operational conditions

indicators

particularities

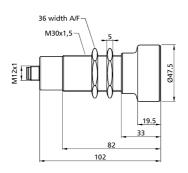
mic-340/DD/M



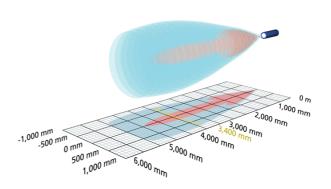
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mic-340/IU/M

scale drawing



detection zone





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



measuring range	350 - 5.000 mm
design	cylindrical M30
operating mode	analogue distance measurements
particularities	metal plug for harsh operational conditions

ultrasonic-specific

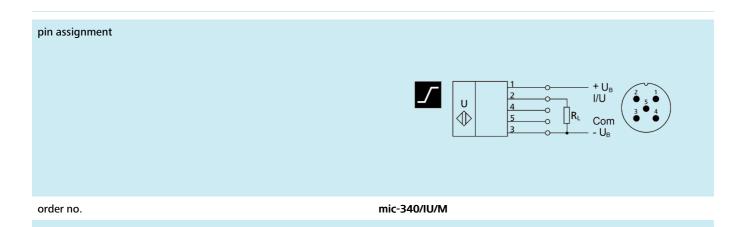
means of measurement	echo propagation time measurement
transducer frequency	120 kHz
blind zone	350 mm
operating range	3,400 mm
maximum range	5,000 mm
resolution	0.18 mm to 1.5 mm, depending on the analogue window
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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-340/IU/M

output 1 output 1 analogue output current: 4-20 mA / voltage: 0-10 V (at U ₈ ≥ 15 V), short-circuit-proof switchable rising/falling response time 172 ms delay prior to availability som input 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 2-25°C to -70°C storage temperature 40°C to -85°C weight 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls controls feath-in via com input on pin 5 LCA-2 with LinkControl yes multiplex no indicators no perticularities		
current: 4-20 mA / voltage: 0-10 V (at U _B ≥ 15 V), short-circuit-proof switchable rising/falling response time 172 ms delay prior to availability <530 ms inputs input 1 com 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 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators 172 ms control input control input scope indicators no	outputs	
delay prior to availability inputs input 1 com input teach-in input housing material brass sleeve, nickel-plated, plastic parts, PBT ultrasonic transducer class of protection to EN 60529 IP 67 operating temperature -25°C to +70°C storage temperature 40°C to +85°C weight 260 g further versions technical features/characteristics temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation multiplex no indicators no	output 1	current: 4-20 mA / voltage: 0-10 V (at $U_B \ge 15$ V), short-circuit-proof
input 1 com input teach-in input housing material ultrasonic transducer class of protection to EN 60529 poperating temperature -25°C to +70°C storage temperature -40°C to +85°C weight 260 g further versions controls controls controls controls controls controls controls control input scope for settings Fach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex in on indicators row input control controls com input on pin 5 LCA-2 with LinkControl synchronisation no	response time	172 ms
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input 1 com input 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 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no		
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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 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	housing	
class of protection to EN 60529 operating temperature -25°C to +70°C storage temperature -40°C to +85°C weight 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	material	brass sleeve, nickel-plated, plastic parts, PBT
operating temperature storage temperature -40°C to +85°C weight 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
storage temperature -40°C to +85°C weight 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	class of protection to EN 60529	IP 67
weight 260 g further versions cable connection (on request) technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	operating temperature	-25°C to +70°C
further versions cable connection (on request) technical features/characteristics temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	storage temperature	-40°C to +85°C
technical features/characteristics temperature compensation yes controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	weight	260 g
temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators yes	further versions	cable connection (on request)
temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators yes		
controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	technical features/characteristics	
control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	temperature compensation	yes
LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	controls	
multiplex no no indicators no	scope for settings	
indicators no	Synchronisation	yes
	multiplex	no
particularities metal plug for harsh operational conditions	indicators	no
	particularities	metal plug for harsh operational conditions

mic-340/IU/M



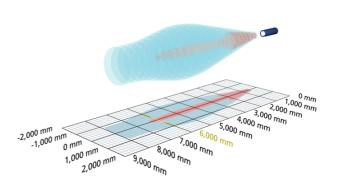
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mic-600/D/M

scale drawing

36 width A/F M30x1,5 22.5 85 105

detection zone





1 x pnp



measuring range	600 - 8.000 mm
design	cylindrical M30
operating mode	proximity switch/reflective mode reflective barrier window mode
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
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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

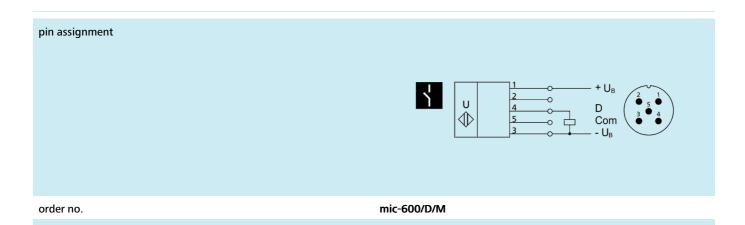
mic-600/D/M

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 time	240 ms
delay prior to availability	< 600 ms
inputs	and in the
input 1	com input 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 control input
scope for settings	Teach-in via com input on pin 5 LCA-2 with LinkControl
Synchronisation	yes
multiplex	no
indicators	no

metal plug for harsh operational conditions

particularities

mic-600/D/M



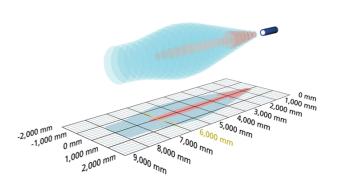
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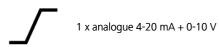
mic-600/IU/M

scale drawing

36 width A/F M30x1,5 22.5 85 105

detection zone







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

ultrasonic-specific

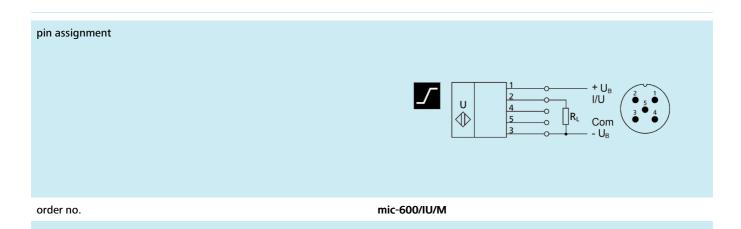
means of measurement	echo propagation time measurement
transducer frequency	80 kHz
blind zone	600 mm
operating range	6,000 mm
maximum range	8,000 mm
resolution	0.18 mm to 2.4 mm, depending on the analogue window
reproducibility	± 0.15 %
accuracy	± 1 % (temperature drift internally compensated)

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

current. 4-20 mA / voltage: 0-10 V (at U _n ≥ 15 V), short-circuit-proof switchable rising/falling response time 240 ms delay prior to availability <600 ms inputs input 1 cominput teach-in input bousing 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 controls controls Synchronisation yes multiplex no indicators availability	outputs	
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input 1 com input teach-in input class of protection to EN 60529 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 control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	response time	240 ms
com input 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 cominput control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no	delay prior to availability	< 600 ms
com input 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 cominput control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no		
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brass sleeve, nickel-plated, plastic parts, PBT ultrasonic transducer polyurethane foam, epoxy resin with glass contents class of protection to EN 60529 perating temperature -25°C to +70°C storage temperature -40°C to +85°C weight 320 g cable connection (on request) technical features/characteristics temperature compensation yes controls controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no no		
ultrasonic transducer class of protection to EN 60529 poperating temperature -25°C to +70°C storage temperature -40°C to +85°C weight 320 g further versions technical features/characteristics temperature compensation controls controls controls scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex mo multiplex indicators polyurethane foam, epoxy resin with glass contents IP 67 cot +70°C cot +70°C cot +85°C cot +85°C coble connection (on request) yes cable connection (on request) Teach-in via com input on pin 5 LCA-2 with LinkControl yes multiplex no	housing	
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operating temperature storage temperature -40°C to +85°C weight 320 g further versions cable connection (on request) technical features/characteristics temperature compensation controls controls controls scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex indicators no	ultrasonic transducer	polyurethane foam, epoxy resin with glass contents
storage temperature weight 320 g further versions cable connection (on request) technical features/characteristics temperature compensation controls controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex multiplex indicators -40°C to +85°C able Connection yes	class of protection to EN 60529	IP 67
weight further versions cable connection (on request) technical features/characteristics temperature compensation controls controls control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation wes multiplex indicators 320 g connection (on request) yes com input control input control input on pin 5 LCA-2 with LinkControl no	operating temperature	-25°C to +70°C
technical features/characteristics temperature compensation controls controls cope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation wes multiplex indicators cable connection (on request) request) request con request) request yes com input com input control input reach-in via com input on pin 5 LCA-2 with LinkControl no	storage temperature	-40°C to +85°C
technical features/characteristics temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	weight	320 g
temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators yes	further versions	cable connection (on request)
temperature compensation controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators yes		
controls com input control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	technical features/characteristics	
control input scope for settings Teach-in via com input on pin 5 LCA-2 with LinkControl Synchronisation yes multiplex no indicators no	temperature compensation	yes
Synchronisation yes multiplex no indicators LCA-2 with LinkControl yes no	controls	
multiplex no no no	scope for settings	
indicators no	Synchronisation	yes
	multiplex	no
particularities metal plug for harsh operational conditions	indicators	no
	particularities	metal plug for harsh operational conditions

mic-600/IU/M



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