Model Number

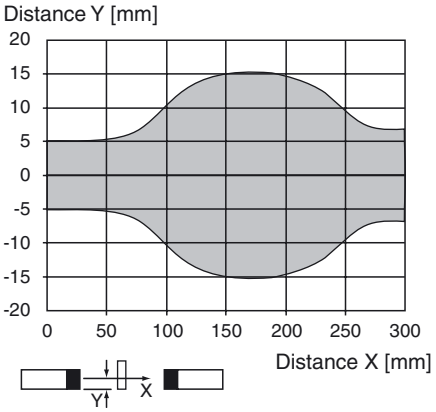
UBEC300-18GH40-SE2-V1

Features

- **Short design, 40 mm**
- **Switch output**
- **Program input**
- **Stainless steel housing**

Diagrams

Characteristic response curve

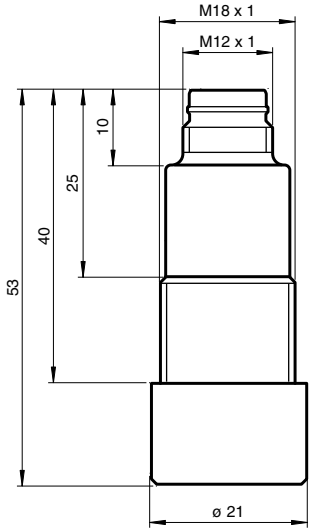


Obstacle: flat plate 100 mm x 100 mm

Technical data

General specifications	
Sensing range	100 ... 300 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 255 kHz
Electrical specifications	
Operating voltage U_B	10 ... 30 V DC , ripple 10 $\%_{SS}$
No-load supply current I_0	≤ 20 mA
Input	
Input type	1 program input [receiver] switch point 1: -U_B ... +1 V, switch point 2: +6 V ... +U_B input impedance: > 4.7 kΩ pulse duration: ≥ 1 s 1 test input [emitter] emitter deactivated: +6 V ... +U_B input impedance: > 4.7 kΩ
Output	
Output type	PNP, NO
Rated operating current I_e	200 mA , short-circuit/overload protected
Voltage drop U_d	≤ 3 V
Switch-on delay t_{on}	< 5 ms
Switching frequency f	≤ 100 Hz
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	Connector M12 x 1 , 4-pin
Protection degree	IP68 / IP69K
Material	
Housing	Stainless steel 1.4435 / AISI 316L O-ring for cover sealing: EPDM
Transducer	PTFE (diaphragm surface)
Mass	25 g
Compliance with standards and directives	
Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007
Approvals and certificates	
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤36 V

Dimensions



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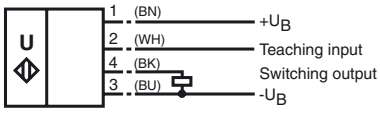
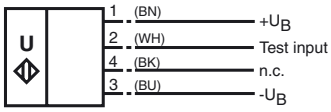
Electrical Connection

Standard symbol/Connection:
(version E2, pnp)

Receiver:

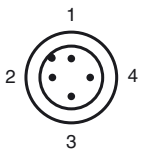


Emitter:



Core colours in accordance with EN 60947-5-2.

Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Accessories

UB-PROG2
Programming unit

V1-GU-BK2M-PVC
Female cordset, M12 Ultra-Lock, 4-pin, PVC cable

V1-WU-BK2M-PVC
Female cordset, M12 Ultra-Lock, 4-pin, PVC cable

Function

A through-beam ultrasonic barrier always consists of a single emitter and a single receiver. The function of a through-beam ultrasonic barrier is based in the interruption of the sound transmission to the receiver by the object to be detected.
The emitter sends an ultrasonic signal that is evaluated by the receiver. If the signal is interrupted or muted by the object to be detected, the receiver switches.
No electrical connections are required between the emitter and receiver.
The function of through-beam ultrasonic barriers is not dependent on the position of their installation. We recommend, however, to install the emitter below in the case of vertical installations to prevent the accumulation of dust particles.

Startup and parameterising

In the delivery status, the receiver is pr-configured for a 300 mm spacing between emitter and receiver. If the through-beam ultrasonic barrier is operated at different spacing, a TEACH-IN procedure has to be carried out.

TEACH-IN

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1. Install both, emitter and receiver of the through-beam ultrasonic barrier at the desired positions.
2. Adust both devices exactly to each other and fix the adjustment.
3. Remove all obstacles from between the emitter and the receiver.
4. Connect the TEACH input of the receiver with $-U_B$ for at least 2 s.

   The receiver evaluates now the signal strength of the clear air path.
5. Place the object to be detected at the desired position between emitter and receiver.
6. Connect the TEACH input of the receiver with $+U_B$ for at least 2 s.

   The receiver evaluates the siognal stength of the attenuated air path and determines the optimal switching threshold. This switching threshold is then stored into the non-volatile memory of the receiver.
7. Disconnect the TEACH input from $+U_B$.

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