Model Number

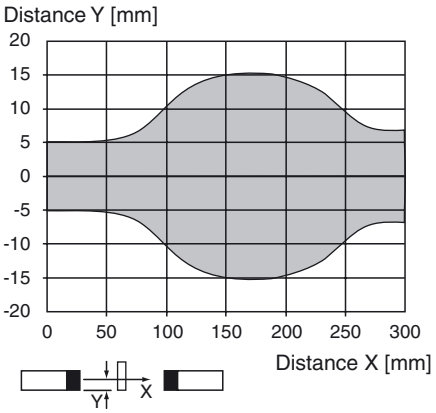
UBEC300-18GH40-SE2-2M-Y274491

Features

- **Chemically highly resistant**
- **Short design, 40 mm**
- **Stainless steel housing**
- **PTFE connection cable**
- **Switch output**
- **Program input**

Diagrams

Characteristic response curve

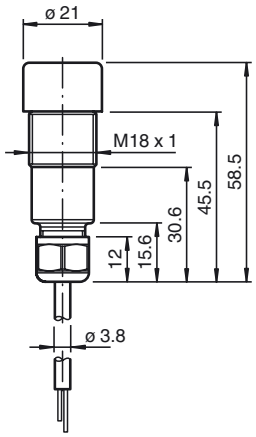


Obstacle: flat plate 100 mm x 100 mm

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	
Degree of protection	IP68 / IP69K
Connection	cable, PTFE coated, 2 m length
Material	
Housing	Stainless steel 1.4404 / AISI 316L O-ring for cover sealing: FFKM O-romg for cable sealing: FFKM, FEP coated
Transducer	PTFE (diaphragm surface)
Mass	220 g
Compliance with standards and directives	
Standard conformity	
Standards	EN 60947-5-2:2007 + A1:2012 IEC 60947-5-2:2007 + A1:2012
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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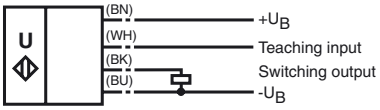
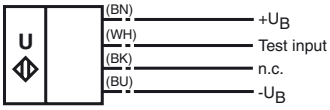
Electrical Connection

Standard symbol/Connection:
(version E2, pnp)

Receiver:



Emitter:



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

Safety Information

Attention

To guarantee that the sensor is impermeable, the cap nut for the cable gland is fitted with a defined torque at the factory. This torque must not be changed by the user. Otherwise, the impermeability of the sensor is not guaranteed and any guarantee or warranty claims on behalf of the user are void.

Function

An ultrasonic thru-beam sensor always consists of one emitter and one receiver. The functional principle of ultrasonic thru-beam sensors is based on the transmission of sound from the emitter to the receiver being interrupted by the object to be detected (obstacle).
The emitter generates an ultrasonic signal, which is analyzed by the receiver. If the ultrasonic signal is dampened or interrupted by the object to be detected, the receiver trips.
The emitter and the receiver do not have to be electrically connected.
Ultrasonic thru-beam sensors function regardless of their installation position. However, in order to avoid a build-up of dirt particles, it is recommended to install the emitter facing downwards if fitted vertically.

Commissioning and parameterization

On delivery, the receiver is preconfigured for a distance between the emitter and receiver of 300 mm. If the ultrasonic thru-beam sensor is to be used for other distances, a Teach-in must be performed.

Teach-in

1. Install the emitter and receiver for the ultrasonic thru-beam sensor at the required distance.
2. Align the emitter and receiver accurately with one another and fix the devices in place.
3. Remove all objects between the emitter and the receiver.
4. Connect the Teach-in input on the receiver to -U_B for at least 2 seconds.
   The receiver now detects the signal level in the clearance distance between the two units.
5. Position the obstacle to be detected at the required distance in the path of the ultrasonic signal.
6. Connect the Teach-in input on the receiver to +U_B for at least 2 seconds.
   The receiver now detects the signal level in the clearance distance between the two devices, which is dampened, and detects the optimum signal threshold. The signal threshold is now stored in the receiver in nonvolatile form.
7. Disconnect the receiver Teach-in input from +U_B.

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