



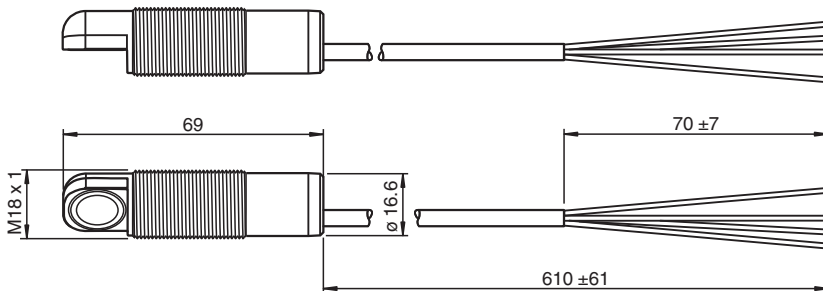
Ultrasonic sensor UB800-18GM40A-E4-610MM-Y

- Short design, 40 mm
- Function indicators visible from all directions
- Switching output
- 5 different output functions can be set
- Program input
- Temperature compensation
- Customer-specific cable length
- Deutsch 4-pin, DT04 connector

Single head system



Dimensions



Technical Data

General specifications

Sensing range	50 ... 800 mm
Adjustment range	70 ... 800 mm
Dead band	0 ... 50 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 255 kHz
Response delay	approx. 100 ms

Indicators/operating means

LED green	Power on
LED yellow	indication of the switching state flashing: program function object detected
LED red	solid red: Error red, flashing: program function, object not detected

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC
No-load supply current	I_0	≤ 20 mA

Input

Input type	1 program input operating distance 1: $-U_B \dots +1$ V, operating distance 2: $+6$ V ... $+U_B$ input impedance: $> 4,7$ k Ω program pulse: ≥ 1 s
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Output

Output type	1 switching output E4, NPN, NO/NC, programmable
Rated operating current	I_e 200 mA, short-circuit/overload protected
Default setting	Switch point A1: 70 mm Switch point A2: 800 mm

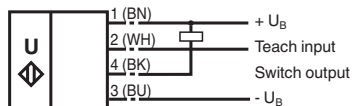
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Technical Data

Voltage drop	U_d	$\leq 3 \text{ V}$
Repeat accuracy		$\leq 1 \%$
Switching frequency	f	$\leq 4 \text{ Hz}$
Range hysteresis	H	1 % of the set operating distance
Temperature influence		$\pm 1.5 \%$ of full-scale value
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Approvals and certificates		
UL approval		cULus Listed, Class 2 Power Source
CCC approval		CCC approval / marking not required for products rated $\leq 36 \text{ V}$
Ambient conditions		
Ambient temperature		$-25 \dots 70 \text{ }^\circ\text{C}$ ($-13 \dots 158 \text{ }^\circ\text{F}$)
Storage temperature		$-40 \dots 85 \text{ }^\circ\text{C}$ ($-40 \dots 185 \text{ }^\circ\text{F}$)
Mechanical specifications		
Connection type		cable
Degree of protection		IP67
Material		
Housing		brass, nickel-plated
Transducer		epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Cable		
Sheath diameter		4.8 mm
Bending radius		$> 38.4 \text{ mm}$, fixed installation $> 72 \text{ mm}$, movable installation
Material		PVC
Number of cores		4
Core cross section		$4 \times 0.5 \text{ mm}^2$
Length	L	610 mm
Mass		65 g
Dimensions		
Length		69 mm
Diameter		18 mm
General information		
Scope of delivery		Deutsch connector DT04-4P-CE01 Deutsch wedge W4P German contact 0460-202-1631

Connection Assignment

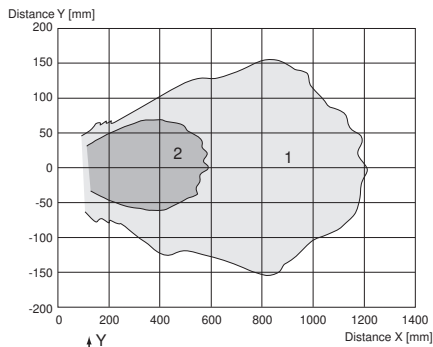
Standard symbol/Connections:
(version E4, npn)



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

Characteristic Curve

Characteristic response curve



Curve 1: flat surface 100 mm x 100 mm
 Curve 2: round bar, Ø 25 mm

Programmable output modes

1. Window mode, normally open mode
 $A1 < A2$: object distance →
2. Window mode, normally closed mode
 $A2 < A1$:
3. One switch point, normally open mode
 $A1 \rightarrow \infty$:
4. One switch point, normally closed mode
 $A2 \rightarrow \infty$:
5. $A1 \rightarrow \infty, A2 \rightarrow \infty$: Object presence detection mode
 Object detected: Switch output closed
 No object detected: Switch output open

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Teach-In

Adjusting the switching points

The ultrasonic sensor features a switch output with two teachable switching points. These are set by applying the supply voltage $-U_B$ or $+U_B$ to the TEACH-IN input. The supply voltage must be applied to the TEACH-IN input for at least 1 s. LEDs indicate whether the sensor has recognised the target during the TEACH-IN procedure. Switching point A1 is taught with $-U_B$, A2 with $+U_B$.

Five different output functions can be set

1. Window mode, normally-open function
2. Window mode, normally-closed function
3. one switching point, normally-open function
4. one switching point, normally-closed function
5. Detection of object presence

TEACH-IN window mode, normally-open function

- Set target to near switching point
- TEACH-IN switching point A1 with $-U_B$
- Set target to far switching point
- TEACH-IN switching point A2 with $+U_B$

TEACH-IN window mode, normally-closed function

- Set target to near switching point
- TEACH-IN switching point A2 with $+U_B$
- Set target to far switching point
- TEACH-IN switching point A1 with $-U_B$

TEACH-IN switching point, normally-open function

- Set target to near switching point
- TEACH-IN switching point A2 with $+U_B$
- Cover sensor with hand or remove all objects from sensing range
- TEACH-IN switching point A1 with $-U_B$

TEACH-IN switching point, normally-closed function

- Set target to near switching point
- TEACH-IN switching point A1 with $-U_B$
- Cover sensor with hand or remove all objects from sensing range
- TEACH-IN switching point A2 with $+U_B$

TEACH-IN detection of objects presence

- Cover sensor with hand or remove all objects from sensing range
- TEACH-IN switching point A1 with $-U_B$
- TEACH-IN switching point A2 with $+U_B$

LED Displays

Displays in dependence on operating mode	Red LED	Yellow LED
TEACH-IN switching point:		
Object detected	off	flashes
No object detected	flashes	off
Object uncertain (TEACH-IN invalid)	On	off
Normal operation	off	Switching state
Fault	on	Previous state

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