







Model Number

UB800-18GM40A-E5-V1

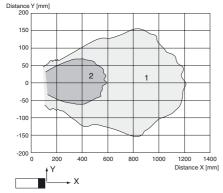
Single head system

Features

- Short design, 40 mm
- Function indicators visible from all directions
- Switch output
- 5 different output functions can be set
- · Program input
- · Temperature compensation

Diagrams

Characteristic response curve



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

Technical data

acticiai specifications	
Sensing range	50 800 mm
Adjustment range	70 800 mm
Unusable area	0 50 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 255 kHz
Response delay	approx. 100 ms

Indicators/operating means

I FD green

g. co	
LED yellow	indication of the switching state

flashing: program function object detected

LED red solid red: Error

Power on

red, flashing: program function, object not detected **Electrical specifications**

Operating voltage U_B 10 ... 30 V DC , ripple 10 %_{SS}

No-load supply current $I_0 \le 20 \text{ mA}$

Input Input type 1 program input

operating distance 1: -U_B ... +1 V, operating distance 2: +6 V

input impedance: > 4,7 k Ω program pulse: \geq 1 s

Output

Output type 1 switch output E5, PNP 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

 $\begin{array}{ll} \mbox{Voltage drop U}_d & \leq 3 \ \mbox{V} \\ \mbox{Repeat accuracy} & \leq 1 \ \ \% \\ \mbox{Switching frequency f} & \leq 4 \ \mbox{Hz} \\ \end{array}$

Range hysteresis H 1 % of the set operating distance Temperature influence \pm 1.5 % of full-scale value

Ambient conditions

Ambient temperature $-25 \dots 70 \,^{\circ}\text{C} \, (-13 \dots 158 \,^{\circ}\text{F})$ Storage temperature $-40 \dots 85 \,^{\circ}\text{C} \, (-40 \dots 185 \,^{\circ}\text{F})$

Mechanical specifications

Connection type Connector M12 x 1 , 4-pin

Protection degree IP67

Material
Housing brass, nickel-plated

Transducer epoxy resin/hollow glass sphere mixture; foam

polyurethane, cover PBT

Mass 25 g Compliance with standards and

directives

Standard conformity

Standards EN 60947-5-2:2007 IEC 60947-5-2:2007

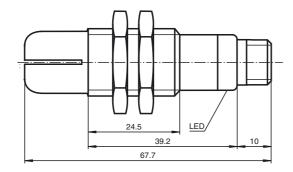
Approvals and certificates

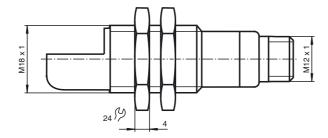
UL approval cULus Listed, General Purpose
CSA approval cCSAus Listed, General Purpose

CCC approval / marking not required for products rated

≤36 V

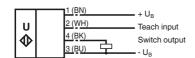
Dimensions





Electrical Connection

Standard symbol/Connections: (version E5, pnp)



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

Pinout

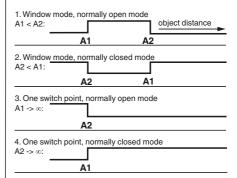


Wire colors in accordance with EN 60947-5-2

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

Additional Information

Programmable output modes



5. A1 -> ∞ , A2 -> ∞ : Object presence detection mode Object detected: Switch output closed No object detected: Switch output open

Accessories

UB-PROG2

Programming unit

OMH-04

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

BF 18

Mounting flange, 18 mm

BF 18-F

Mounting flange with dead stop, 18 mm

BF 5-30

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

V1-G-2M-PVC

Female cordset, M12, 4-pin, PVC cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

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 -UB
- Set target to far switching point
- TEACH-IN switching point A2 with +UB

TEACH-IN window mode, normally-closed function

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

TEACH-IN switching point, normally-closed function

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

TEACH-IN detection of objects presence

- Cover sensor with hand or remove all objects from sensing range
- TEACH-IN switching point A1 with -UB
- 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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