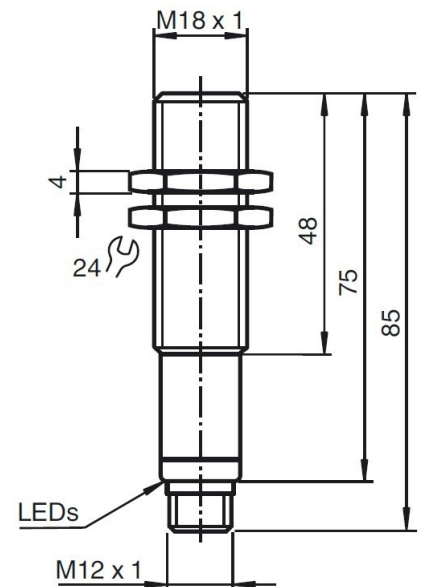
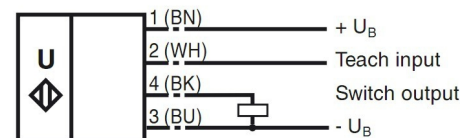


Ultrasonic sensor

UB800-18GM75-E5-V1

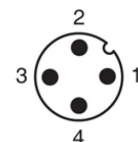


Standard symbol/Connections:
(version E5, pnp)



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

V1 Connector



Technical data

General Specifications

Sensing distance	50...800mm
Adjustment range	70...800mm
Unusable area	0...50mm
Standard target plate	100mm×100mm
Transducer frequency	About 255kHz
Response delay	About 100ms

Indicators/Operating means

LED blue	Power on
LED yellow	indication of the switching state Flashing:program function object detected
LED red	permanently red: Error Red,flashing:program function,object not detected

Electrical specifications

Operating voltage U_B	10...30VDC,ripple10%ss
No-load supply current	$\leq 20\text{mA}$

Input

Input type	1 TEACH-IN input Operating distance A1:- U_B ...+1V,operating distanceA2:+6... + U_B Input impedance: $> 4.7\text{K}\Omega$ TEACH-IN programmable pulse $\geq 1\text{S}$
------------	---

Output

Output type	1 switch output E5,PNP NO/NC,programmable
Rated operational current	200mA,short-circuit/overload protected
Default setting	Switching point A1:70mm Switching point A2: 800mm
Voltage drop	$\leq 3\text{V}$
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

Ambient conditions

Ambient temperature	-25...70°C(248...343K)
Storage temperature	-40...85°C(233...358K)

Mechanical specifications

Protection grade	IP67
Connection	V1 connector(M12×1),4-pin
Material Housing	brass,nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane,cover PBT
Weight	25g
Compliance with standards and di	
Standard conformity	EN 60947-5-2:2007 IEC 60947-5-2:2007

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.

Switching point, Setting distance only after power on. The internal clock can assure can't be changed after 5 mins when power on. If want to change the switching point, the user can only setting the request distance after power restart.

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 $+U_B$

Default setting of switching point

A1=blind range, A2=nominal distance

LED displays

Displays in dependence on operating mode

	Red LED	Yellow LED
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

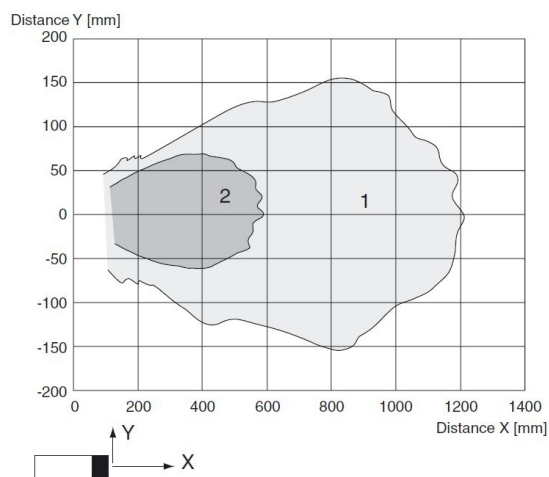
TEACH-IN switching point

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

Installation conditions

If the sensor is installed at the environment temperature fall below 0°C , It should do well on the protective measures. In case of direct mounting of the sensor in a through hole using the steel nuts, it has to be fixed at the middle of the housing thread.

Characteristic response curve



Curve 1: flat surface $100\text{mm} \times 100\text{mm}$

Curve 2: round bar, $\Phi 25\text{mm}$

Programmable output modes

1. Window mode, normally open mode
 $A1 < A2$:
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