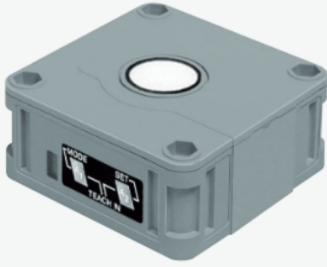


# Ultrasonic sensor

## UB2000-F42-E7-V15

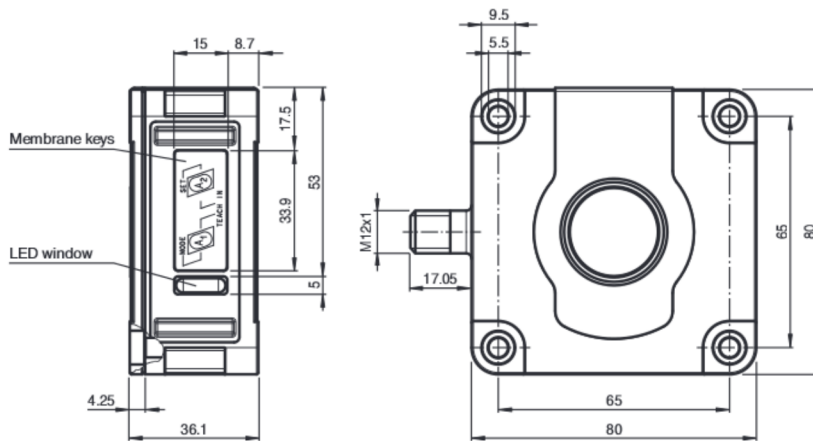


- 2 independent switch outputs
- Extremely small unusable area
- TEACH-IN
- Interference suppression (adjustable divergence of sound cone in close range)
- Temperature compensation
- Synchronization options
- NO/NC selectable

Single head system



### Dimensions



### Technical Data

#### General specifications

Sensing range	60 ... 2000 mm
Adjustment range	90 ... 2000 mm
Dead band	0 ... 60 mm
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 175 kHz
Response delay	approx. 150 ms

#### Indicators/operating means

LED green	solid green: Power on
LED yellow 1	solid: switching state switch output 1 flashing: program function

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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**PF** PEPPERL+FUCHS

**Technical Data**

LED yellow 2	solid: switching state switch output 2 flashing: program function
LED red	normal operation: "fault" program function: no object detected

**Electrical specifications**

Operating voltage	$U_B$	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	$I_0$	≤ 50 mA

**Input/Output**

Synchronization	bi-directional 0 level: $-U_B \dots +1$ V 1 level: $+4$ V... $+U_B$ input impedance: > 12 KOhm synchronization pulse: ≥ 100 μs, synchronization interpulse period: ≥ 2 ms
Synchronization frequency	
Common mode operation	max. 30 Hz
Multiplex operation	≤ 30/n Hz, n = number of sensors

**Output**

Output type	2 switch outputs NPN, normally open/close selectable
Rated operating current	$I_e$ 200 mA , short-circuit/overload protected
Default setting	Switch point A1: 90 mm , Switch point A2: 2000 mm , wide sound lobe
Voltage drop	$U_d$ ≤ 2.5 V
Repeat accuracy	≤ 0.5 % of switching point
Switching frequency	f ≤ 2.7 Hz
Range hysteresis	H 1 % of the set operating distance
Temperature influence	± 1 % of full-scale value

**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

**Ambient conditions**

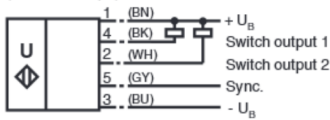
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

**Mechanical specifications**

Connection type	Connector plug M12 x 1 , 5-pin
Degree of protection	IP54
Material	
Housing	ABS
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Mass	140 g

**Connection**

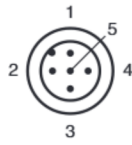
Standard symbol/Connections:  
(version E7, npr)



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

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## Connection Assignment

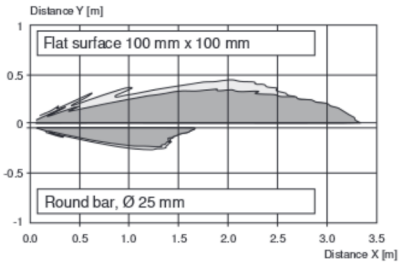


Wire colors in accordance with EN 60947-5-2

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

## Characteristic Curve

### Characteristic response curve



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