



Through-beam ultrasonic barrier

UBE800-F77-SE3-V31

- Miniature design
- Highly visible LEDs for Power ON and switching state
- High switching frequency
- Program input
- Degree of protection IP67

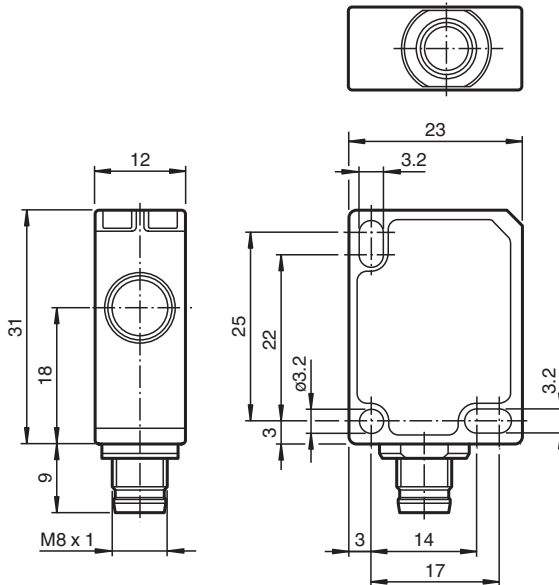
Through-beam ultrasonic barrier



Function

An ultrasonic thru-beam sensor always consists of an ultrasonic emitter and receiver. The working principle of the ultrasonic thru-beam sensor is based on the interruption of the transmission from the emitter to the receiver by the object to be detected (obstacle). The emitter produces an ultrasonic signal which is evaluated by the receiver. If the signal is damped or broken by the object being detected, the receiver switches state. No electrical connections are required between the emitter and receiver.

Dimensions



Technical Data

General specifications

Sensing range	0 ... 800 mm emitter/receiver spacing
Standard target plate	see table
Transducer frequency	approx. 300 kHz
Response delay	≤ 5 ms

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

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Technical Data

Limit data	
Permissible cable length	max. 300 m
Indicators/operating means	
LED green	Power on (emitter)
LED yellow	switching state (receiver)
Electrical specifications	
Rated operating voltage	U_e 24 V DC
Operating voltage	U_B 20 ... 30 V DC , ripple 10 % _{SS} ; 12 ... 20 V DC sensitivity reduced to 80 %
No-load supply current	I_0 ≤ 20 mA
Time delay before availability	t_v ≤ 150 ms
Input	
Input type	1 program input (receiver)
Level	low level : 0 ... 0.7 V ; high level : > 14 V
Input impedance	16 kΩ
Pulse length	≥ 3 s
Output	
Output type	1 switch output PNP , NC contact
Rated operating current	I_e 200 mA , short-circuit/overload protected
Voltage drop	U_d ≤ 2 V
Switching frequency	f 100 Hz
Off-state current	I_r ≤ 0.01 mA
Compliance with standards and directives	
Standard conformity	
Standards	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
Approvals and certificates	
EAC conformity	TR CU 020/2011 TR CU 037/2016
UL approval	cULus Listed, Class 2 Power Source
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)
Shock resistance	30 g , 11 ms period
Vibration resistance	10 ... 55 Hz , Amplitude ± 1 mm
Mechanical specifications	
Connection type	M8 x 1 connector , 4-pin
Degree of protection	IP67
Material	
Housing	Polycarbonate
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Installation position	any position
Mass	per 10 g
Tightening torque, fastening screws	max. 0.2 Nm

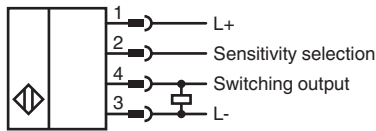
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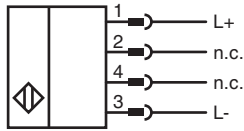
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Connection

Receiver:



Transmitter:



Connection Assignment



Wire colors in accordance with EN 60947-5-2

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

Commissioning




Adjustment possibilities

This sensor is an ultrasonic through-beam barrier consisting of a transmitter and a receiver. The receiver is equipped with a switching output. This switches when there is a sufficiently large object in the path between the transmitter and receiver. To adapt the ultrasonic through-beam barrier to different object sizes and/or distances between transmitter and receiver, the sensitivity can be configured via the „Sensitivity selection“ input on the receiver.

Further Documentation

For information on configuring the sensitivity via the „Sensitivity selection“ input you may refer to the commissioning instruction.

Accessories

	OMH-ML7-01	Mounting aid for ML7 and ML8 series, Mounting bracket
	V31-GM-2M-PVC	Female cordset single-ended M8 straight A-coded, 4-pin, PVC cable grey
	V31-WM-2M-PVC	Female cordset single-ended M8 angled A-coded, 4-pin, PVC cable grey