



Through-beam ultrasonic barrier UBE800-F77-SE1-V31

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

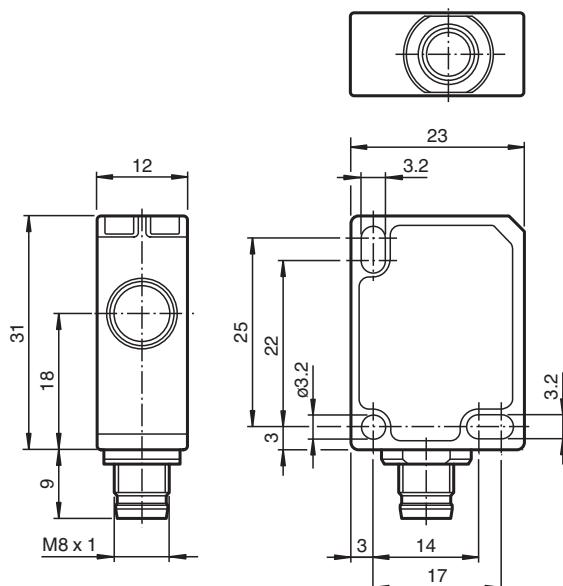
Through-beam ultrasonic barrier



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

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

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

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Technical Data

Limit data

Permissible cable length	max. 300 m
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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 k Ω
Pulse length		≥ 3 s

Output

Output type		1 switch output E1, NPN, NC
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

UL approval	cULus Listed, Class 2 Power Source
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Ambient conditions

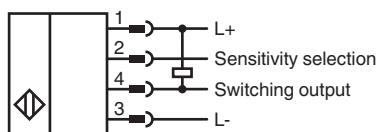
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Shock resistance	30 g, 11 ms period
Vibration resistance	10 ... 55 Hz, Amplitude ± 1 mm

Mechanical specifications

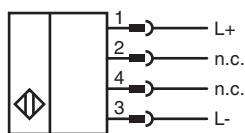
Connection type	M8 x 1 connector, 4-pin
Degree of protection	IP67
Material	
Housing	Polycarbonate
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Installation position	any position
Mass	per 10 g
Tightening torque, fastening screws	max. 0.2 Nm

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