



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

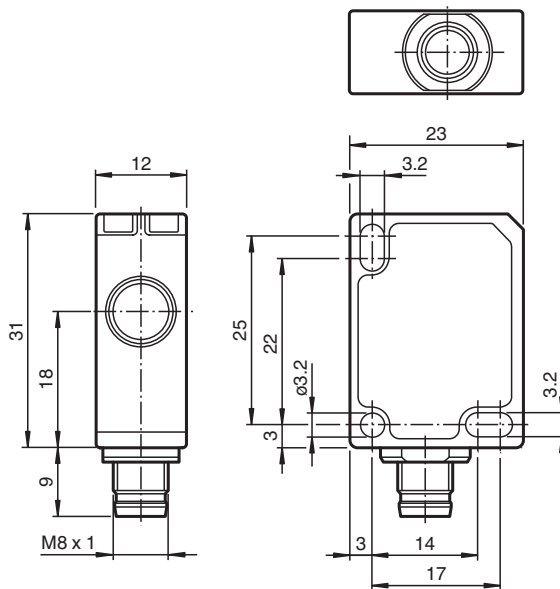
Through-beam ultrasonic barrier



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

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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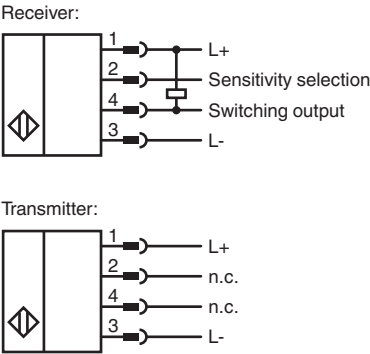
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Technical Data

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 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



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