



Through-beam ultrasonic barrier

UBE800-F77-SE2-V31

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

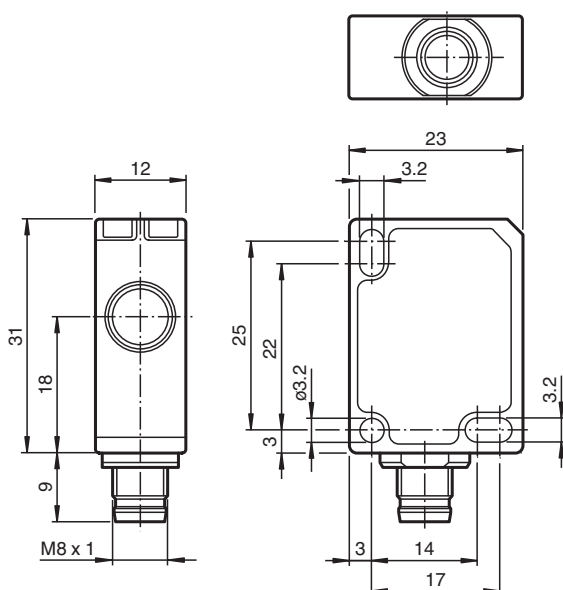
Through-beam ultrasonic barrier



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

Limit data

Permissible cable length	max. 300 m
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Indicators/operating means

LED green	Power on (emitter)
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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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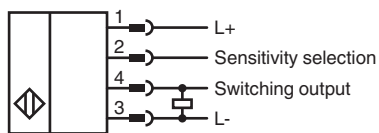
Technical Data

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, NO	
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	
Dimensions			
Height		31 mm	
Width		12 mm	
Length		23 mm	

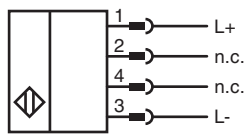
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Connection Assignment

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.