



Ultrasonic sensor, receiver

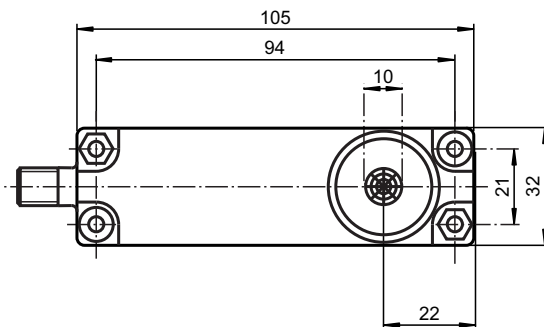
UBE15M-F54-H2-V1

- Large sensing range
- Large possible lateral distance between emitter and receiver
- Separate evaluation

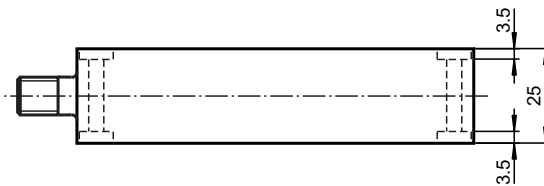
Multi-head system



Dimensions



Bore hole and countersinking
for screws/hexagon M4



Technical Data

General specifications

Sensing range	0 ... 15000 mm , emitter - receiver synchronised
Transducer frequency	approx. 40 kHz
Opening angle	$\pm 45^\circ$ at -6 dB
Temperature drift of echo propagation delay	0.2 %/K

Electrical specifications

Operating voltage	U_B	10 ... 30 V DC , ripple 10 % _{SS}
No-load supply current	I_0	≤ 15 mA (typ. 10 mA at $U_B = 24$ V DC)

Output

Release date: 2022-12-01 Date of issue: 2022-12-01 Filename: 109086_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

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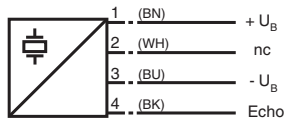
Technical Data

Output type	1 pulse output for echo run time, open collector NPN, short-circuit proof 0 level (active): $U_{OL} \leq 2 \text{ V}$, $I_{OL} \leq 15 \text{ mA}$ 1 level (inactive): $U_{OH} = U_B$ (pull-up $R = 330 \text{ k}\Omega$)	
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 $\leq 36 \text{ V}$	
Ambient conditions		
Ambient temperature	0 ... 50 °C (32 ... 122 °F)	
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)	
Mechanical specifications		
Connection type	Connector plug M12 x 1 , 4-pin	
Degree of protection	IP30	
Material		
Housing	PBT	
Mass	110 g	

Connection

Standard symbol/Connection:

Receiver



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

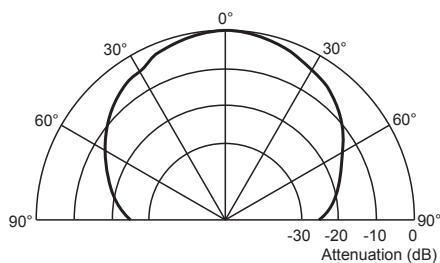
Connection Assignment

Connector V1



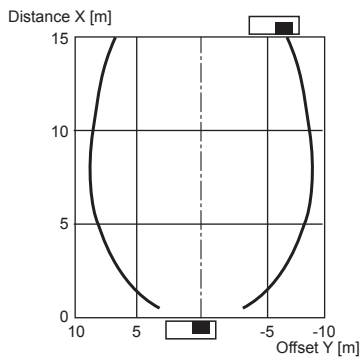
Characteristic Curve

Direction characteristics



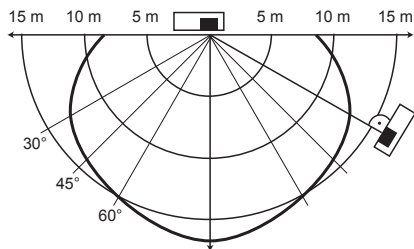
Characteristic Curve

Characteristic response curve



Permissible distance (offset) between the optical axis of the emitter and receiver.

Characteristic response curve



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Function

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The receiver is part of a complete system consisting of receiver, emitter, and controller

Transmitter UBE15M-F54-H1-V1

Controller: UH3-16E4A-K15-R3

In real mode, the transmitter and receiver will not be not aligned to each other. This reduces the detection range that can be achieved.

The characteristic response curve to the side illustrates examples of the detection range of the system under the following operating conditions.

- The transmitter and receiver are arranged so they lie parallel opposite each other. The graph shows the detection range as a function of lateral offset.
- The receiver is arranged vertically downward, while the emitter is arranged in the direction of the receiver. The graph shows the detection range as a function of the angle of incidence.

This makes it possible to evaluate the detection range of the system as a function of the positioning of the transmitter and receiver for conditions that will occur in practical usage.



Cable sockets with built-in indicator LEDs must not be used to connect this device!