



Model Number

UBE15M-F54-H2-V1-Y203412

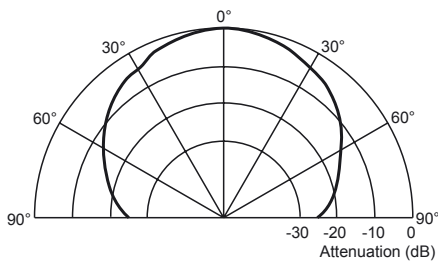
Multi-head system

Features

- 40 kHz ultrasonic receiver with signal strength monitor
- Display of signal strength by 10-digit bar graph
- Accessory for ultrasonic triangulation system

Diagrams

Direction characteristics



Technical data

General specifications

Sensing range	0 ... 15000 mm , emitter - receiver synchronised
Transducer frequency	approx. 40 kHz
Angle of divergence	± 45 ° at -6 dB
Temperature drift of echo propagation delay	0.2 %/K

Indicators/operating means

LED line indicator	Signal strength (10 LEDs green)
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Electrical specifications

Operating voltage U_B	10 ... 30 V DC , ripple 10 % _{SS}
No-load supply current I_0	≤ 25 mA

Output

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 kOhm)	

Ambient conditions

Ambient temperature	0 ... 50 °C (32 ... 122 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

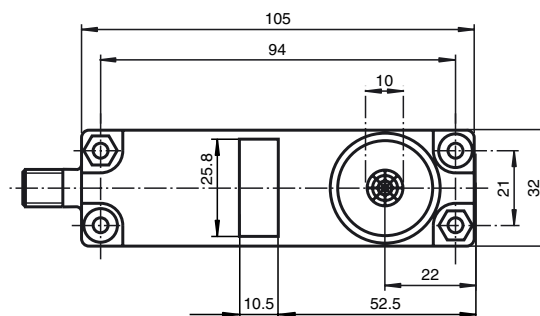
Mechanical specifications

Connection type	Device connector M12 x 1 , 4-pin
Protection degree	IP30
Connection	V1 connector (M12 x 1), 4-pin
Material	
Housing	PBT
Mass	110 g

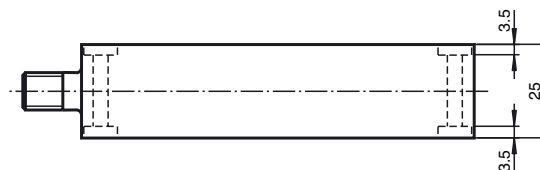
Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

Dimensions



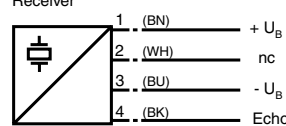
Bore hole and countersinking for screws/hexagon M4



Electrical Connection

Standard symbol/Connection:

Receiver



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

Pinout

Connector V1



Accessories

V1-G-2M-PVC

Cable socket, M12, 4-pin, PVC cable

V1-W-2M-PVC

Cable socket, M12, 4-pin, PVC cable

Function

The signal strength monitor represents an accessory device for the ultrasonic triangulation system which consists of

- ultrasonic emitter UBE15M-F54-H1-V1,
- ultrasonic receiver UBE15M-F54-H2-V1 and
- control unit UH3-16E4A-K15-R3/R4.

The signal strength monitor is constructed in the same way as the receiver UBE15M-F54-H2-V1 but with additional signal strength display. This acts as an aid during the commissioning procedure of the ultrasonic triangulation system. To assure a proper system operation, it is important that there are neither sources of interference in the 40 kHz frequency range nor adjacent interfering systems.

The signal strength monitor contains the same electronic circuit as the ultrasonic receiver UBE15M-F54-H2-V1 and is additionally able to display the amplitude of received 40 kHz ultrasonic signals by means of a 10-digit bar graph. Both, continuous wave and pulsed signals can be received and displayed. The peak level of a pulsed signal is indicated by a peak value LED.

The directional receiving pattern and the sensitivity is equivalent to the ultrasonic receiver UBE15M-F54-H2-V1. The signal strength monitor performs two tasks:

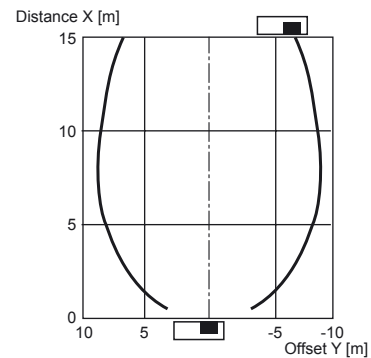
1. Estimation whether there is sufficient signal strength coming from the emitter at the receiver's place. For this task it has to be placed at the receiver's location in the same direction. Signal strength is sufficient if at least 4 LEDs are on.
2. Estimation whether there are sources of interference. For this task it has also to be placed at the receiver's location in the same direction. Sources of interference do not affect if they cause less than 3 LEDs to be on.



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

Additional Information

Characteristic response curve



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

Characteristic response curve

