

Ultrasonic sensor UB500-30GM-H3-V1

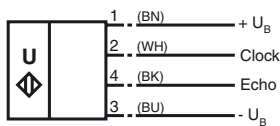


Features

- Separate evaluation
- Direct detection mode

Electrical connection

Standard symbol/Connection:

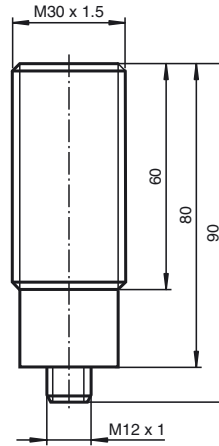


2 = Emitter pulse input
4 = Echo propagation time output
Core colours in accordance with EN 60947-5-2.

Connector V1



Dimensions



Technical data



General specifications

Sensing range	30 ... 500 mm
Adjustment range	50 ... 500 mm
Unusable area	0 ... 30 mm ¹⁾
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 380 kHz

Electrical specifications

Operating voltage	10 ... 30 V DC, ripple 10 % _{SS}
No-load supply current I ₀	≤ 30 mA

Input

Input type	1 pulse input for transmitter pulse (clock) 0-level (active): < 5 V (U _B > 15 V) 1-level (inactive): > 10 V ... +U _B (U _B > 15 V) 0-level (active): < 1/3 U _B (10 V < U _B < 15 V) 1-level (inactive): > 2/3 U _B ... +U _B (10 V < U _B < 15 V)
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Pulse length 5 ... 100 μs (typ. 50 μs) ²⁾

Pause length ≥ 50 x pulse length

Impedance 10 kOhm internal connected to +U_B

Output

Output type	1 pulse output for echo run time, short-circuit proof open collector pnp with pulldown resistor = 22 kOhm level 0 (no echo): -U _B level 1 (echo detected): ≥ (+U _B -2 V)
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Rated operational current I_e 15 mA, short-circuit/overload protected
the echo propagation time: 0,17 % / K

Standard conformity

Standards EN 60947-5-2

Ambient conditions

Ambient temperature -25 ... 85 °C (248 ... 358 K)

Storage temperature -40 ... 85 °C (233 ... 358 K)

Mechanical specifications

Protection degree	IP67
Connection	V1 connector (M12 x 1), 4-pin

Material

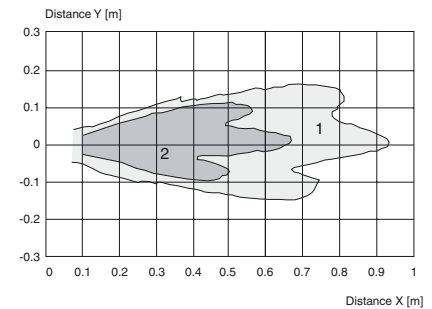
Housing	brass, nickel-plated, plastic components PBT
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Mass	140 g

Function

The sensing range is determined in the downstream evaluation electronics (e. g. the units UH3-KHD2-4E5, UH3-KHD2-4I or UH3-T1-KT). PLC modules or other existing evaluation units can also be substituted for these units offered by Pepperl+Fuchs.

The object distance in pulse-echo mode is obtained from the echo time.

- 1) The unusable area (blind range) BR depends on the pulse duration T_i .
The unusable area reaches a minimum with the shortest pulse duration.
- 2) The sensors detection range depends on the pulse duration T_i .
With pulse duration < typical pulse duration, the sensors detection range may be reduced.

UB500-30GM-H3-V1**Characteristic curves/additional information****Characteristic response curves**

Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, Ø 25 mm

Accessories**Mounting aid**

BF30
BF30F
BF5-30
M-105

Sound deflectors

UVW90-M30
UVW90-K30

Evaluation units

UH3-KHD2-4E5
UH3-KHD2-4I
UH3-T1-KT

Cable sockets ^{*)}

V1-G-2M-PVC
V1-W-2M-PVC

^{*)} For additional cable sockets see section „Accessories“.