

Ultrasonic sensor UB4000-30GM-H3-V1

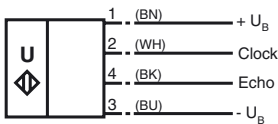


Features

- Separate evaluation
- Direct detection mode

Electrical connection

Standard symbol/Connection:

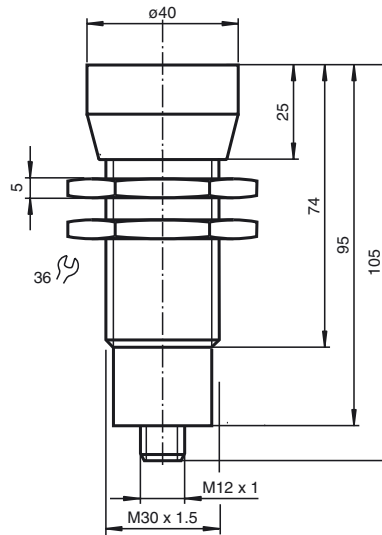


2 = Emitter pulse input
4 = Echo propagation time output
Core colours in accordance with EN 60947-5-2.

Connector V1



Dimensions



Technical data



General specifications

Sensing range	200 ... 4000 mm
Adjustment range	240 ... 4000 mm
Unusable area	0 ... 200 mm ¹⁾
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 85 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	40 ... 600 μs (typ. 500 μs) ²⁾
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Pause length	≥ 50 x pulse length
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Impedance	10 kOhm internal connected to +U _B
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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
Temperature influence	the echo propagation time: 0,17 % / K

Standard conformity

Standards	EN 60947-5-2
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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

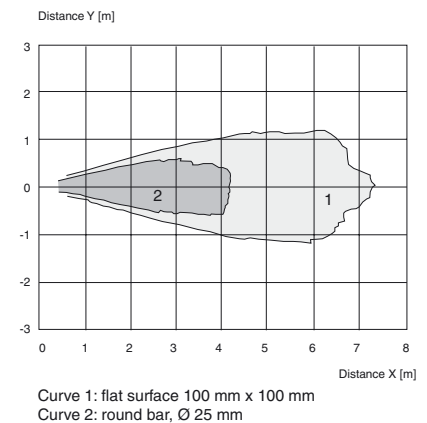
Housing	brass, nickel-plated, plastic components PBT
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Mass	180 g

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.

UB4000-30GM-H3-V1**Characteristic curves/additional information****Characteristic response curves****Accessories****Mounting aid**

BF30
BF5-30

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“.