Model Number

UB500+U9+H3

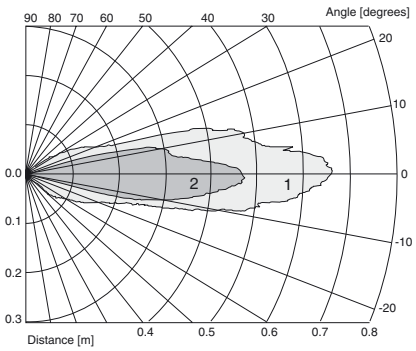
Single head system

Features

- **Separate evaluation**
- **With temperature sensor**
- **Direct detection mode**

Diagrams

Characteristic response curves



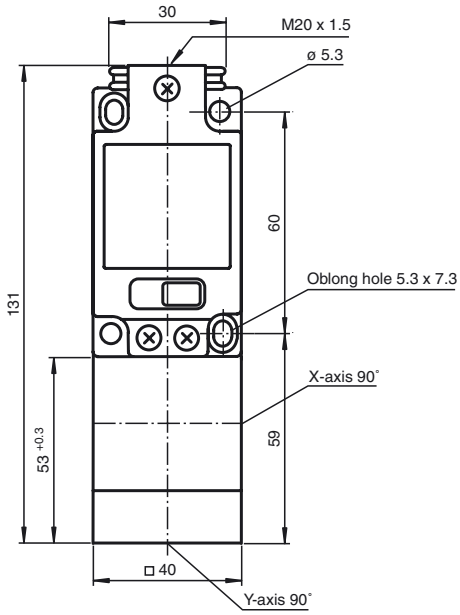
Curve 1: flat surface 100 mm x 100 mm
Curve 2: round bar, Ø 25 mm

Technical data

General specifications	
Sensing range	60 ... 500 mm
Unusable area	0 ... 60 mm [1]
Standard target plate	100 mm x 100 mm
Transducer frequency	approx. 380 kHz
Electrical specifications	
Operating voltage U_B	20 ... 30 V DC , ripple 10 $\%_{SS}$
No-load supply current I_0	≤ 30 mA
Input	
Input type	1 pulse input for transmitter pulse, activation through open collector npn < 1 V: emitter active, > 4 V: emitter inactive
Pulse length	10 ... 100 µs (typ. 50 µs) [2]
Pause length	≥ 50 x pulse length
Output	
Output type	1 pulse output for temperature 1-level: > 4 V (100 µA), 0-level: < 0.5 V (100 µA) 1 pulse output for echo propagation time 1-level: ≥ U_B -3 V (< 10 mA), 0-level: ≤ 1 V (100 µA)
Pulse length	10 µs/K + timer pulse, synchronisation with the timer pulse
Temperature influence	the echo propagation time: 0.17 % / K
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Protection degree	IP65
Connection	terminal compartment, ≤ 2.5 mm^2 conductor csa
Material	
Housing	PBT
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Mass	180 g
Compliance with standards and directives	
Standard conformity	
Standards	EN 60947-5-2:2007 IEC 60947-5-2:2007

Approvals and certificates	
UL approval	cULus Listed, General Purpose
CSA approval	cCSAus Listed, General Purpose
CCC approval	CCC approval / marking not required for products rated ≤36 V

Dimensions



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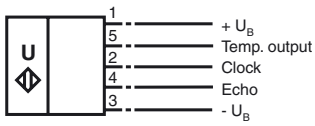
Electrical Connection

Standard symbol/Connection:



Accessories

MH 04-2681F
Mounting aid for VariKont, +U1+ and +U9*

UH3-KHD2-4E5

UH3-KHD2-4I

UH3-T1-KT

Description of the sensor functions

The sensing range is determined in the downstream evaluation electronics (e. g. the units UH3-KHD2-4E5, or UH3-KHD2-4I).
The sensing range is determined on the basis of the echo time of a transmitted pulse in pulse-echo mode.

Temperature compensation

A temperature pulse is available at the temperature output for external temperature compensation. It is synchronous to the externally applied clock pulse and has the length T_{Temp}, calculated as follows:

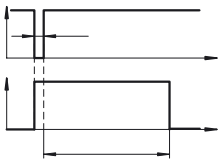
$$T_{Temp}[\mu s] = T_{Takt}[\mu s] + T[K] \times 10\mu s/K$$

Put into the formula the temperature in Kelvin and the clock time in the unit µs.

1) The unusable area (blind range) BR depends on the pulse duration.
The unusable area reaches a minimum with the shortest pulse duration.

2) The sensors detection range depends on the pulse duration.
With pulse duration < typical pulse duration, the sensors detection range may be reduced.

Additional Information



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Refer to “General Notes Relating to Pepperl+Fuchs Product Information”.
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