Model Number

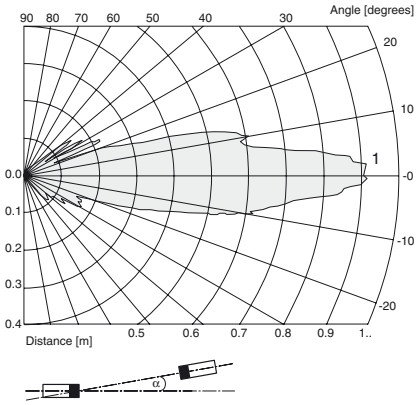
UBE500-18GK-SE0-V1

Features

- **High switching frequency**
- **Small, compact design**
- **Plastic housing**
- **Suited for applications detecting and counting of transparent objects (e.g., bottles and plastic-wrapping)**
- **Emitter and receiver included in the delivery package**

Diagrams

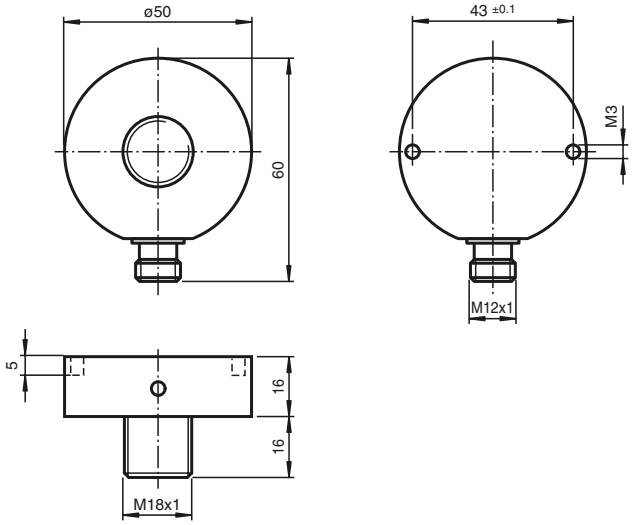
Characteristic response curves



Technical data

General specifications	
Sensing range	0 ... 500 mm , distance emitter-receiver 15 mm ... 500 mm
Transducer frequency	400 kHz
Indicators/operating means	
LED yellow	indication of the switching state (receiver)
Electrical specifications	
Operating voltage U_B	18 ... 30 V DC , ripple 10 $\%_{SS}$
No-load supply current I_0	20 mA receiver 25 mA emitter
Output	
Output type	1 switch output E0, NPN, NO
Rated operational current I_e	200 mA
Voltage drop U_d	≤ 1.5 V
Switching frequency f	100 Hz
Ambient conditions	
Ambient temperature	0 ... 60 °C (32 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	Device connector M12 x 1 , 4-pin
Protection degree	IP65
Material	
Housing	Polyamide (PA)
Mass	50 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

Dimensions



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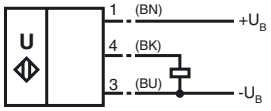
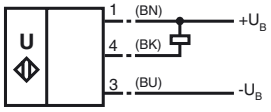
Electrical Connection

Standard symbol / Connection:

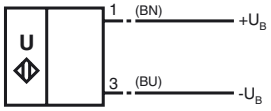
Receiver E2:



Receiver E0:

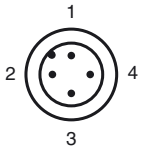


Emitter:



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

Pinout



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Function

A through-beam ultrasonic barrier always consists of a single emitter and a single receiver. The function of a through-beam ultrasonic barrier is based in the interruption of the sound transmission to the receiver by the object to be detected.
The emitter sends an ultrasonic signal that is evaluated by the receiver. If the signal is interrupted or muted by the object to be detected, the receiver switches.
No electrical connections are required between the emitter and receiver.
The function of through-beam ultrasonic barriers is not dependent on the position of their installation. We recommend, however, to install the emitter below in the case of vertical installations to prevent the accumulation of dust particles.

Installation tolerances

The installation tolerances of the central axes of the emitter and receiver may not exceed the values specified in the illustration.

Detection of thin foils

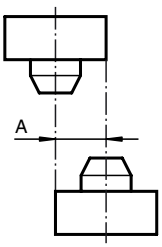
For the detection of thin foils (< 0.1 mm), install the through-beam ultrasonic barrier at an angle of ≥ 10° from perpendicular to the foil.

Caution

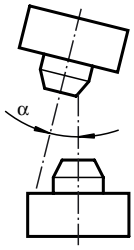
Mount or replace emitter and receiver only in pairs. Both devices are optimally matched to each other by the manufacturer.

Additional Information

Mounting/Adjustment

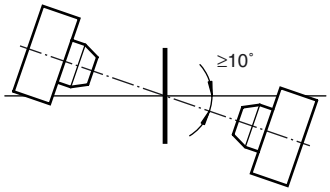


Parallel displacement
A ≤ 8 mm



Angle displacement
α ≤ 5°

Thin foil detection



Accessories

V1-G-2M-PVC
Cable socket, M12, 4-pin, PVC cable

V1-W-2M-PVC
Cable socket, M12, 4-pin, PVC cable

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