



Model Number

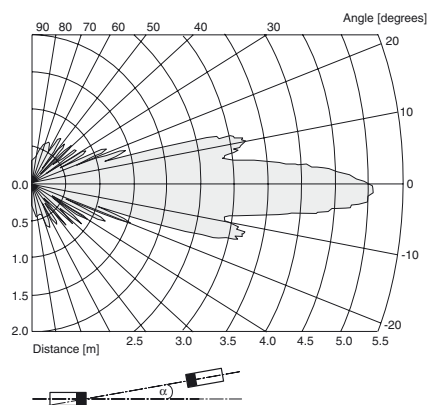
UBE4000-30GM-SA2-V1

Features

- Reliable detection of transparent materials
- High switching frequency
- Small angle of divergence
- Protective functions
- Emitter and receiver included in the delivery package
- Adjustable acoustic power
- Adjustable switch-on delay

Diagrams

Characteristic response curves



Technical data

General specifications

Sensing range	0 ... 4000 mm , distance emitter-receiver 500 mm ... 4000 mm
Reference target	receiver
Transducer frequency	120 kHz

Indicators/operating means

LED green	alignment aid OFF: no ultrasonic signal flashing: uncertain area ON: positive reception
LED yellow	switching state

Electrical specifications

Operating voltage U_B	18 ... 30 V DC , ripple 10 % _{SS}
No-load supply current I_0	35 mA emitter 25 mA receiver

Output

Output type	2 switch outputs PNP, normally open/closed (complementary)
Rated operating current I_e	200 mA
Voltage drop U_d	≤ 2.5 V
Switch-on delay t_{on}	30 ... 3000 ms
Switching frequency f	≤ 15 Hz

Standard conformity

Standards	EN 60947-5-2
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Ambient conditions

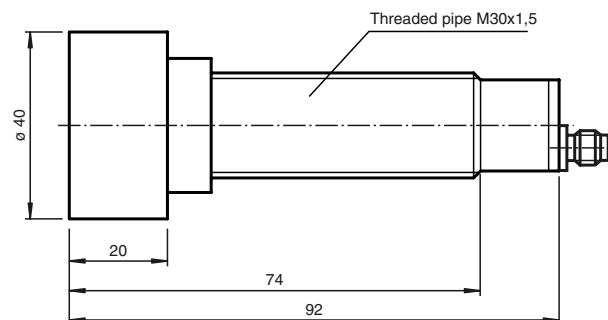
Ambient temperature	0 ... 60 °C (32 ... 140 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

Mechanical specifications

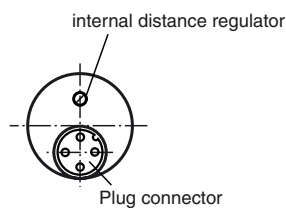
Connection type	Device connector M12 x 1 , 4-pin
Protection degree	IP65
Material	
Housing	nickel plated brass, plastic components: Delrin
Mass	190 g each sensor

Dimensions

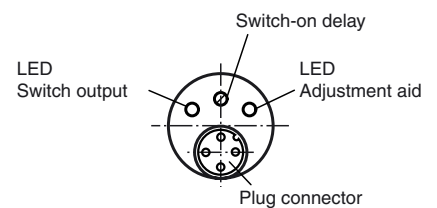
Dimensions:



Emitter:



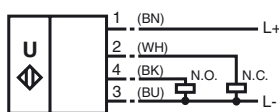
Receiver:



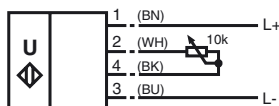
Electrical Connection

Standard symbol/Connection:
(version A2, pnp)

Receiver:



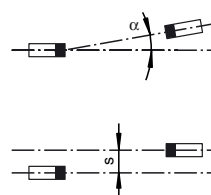
Emitter:



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

Additional Information

Alignment



Pinout

Connector V1



Accessories

FP100

Remote potentiometer

BF 30

Mounting flange, 30 mm

BF 5-30

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

V1-G-2M-PVC

Cable socket, M12, 4-pin, PVC cable

V1-W-2M-PVC

Cable socket, M12, 4-pin, PVC cable

Description of the sensor functions

Remote potentiometer

The distance range of the through-beam ultrasonic barrier can be adjusted with the potentiometer integrated in the emitter, or via a remote potentiometer connected to the emitter.

The remote potentiometer simplifies the adjustment of the distance range if the sensors are installed in an inaccessible location. A 10 k Ω /0.3 W potentiometer serves as the remote potentiometer. The connection is realised using the plug connector pins 2 and 4 of the emitter (see: Electrical Connection).

The following distance ranges can be set using the remote potentiometer:

Adjustment of the internal distance regulator	Distance range adjustable via remote potentiometer
Minimum switching point	0 m ... 2 m
Maximum switching point	2 m ... 4 m

When operating without a remote potentiometer, the plug connector pins 2 and 4 must be bridged.

Alignment

When adjusting the emitter and receiver, take care to align them as precisely as possible.

Angular tolerance: $\alpha < \pm 2^\circ$

maximum offset: $s < \pm 5 \text{ mm}$

A through-beam ultrasonic barrier consists of a single emitter and a single receiver.



Caution

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

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