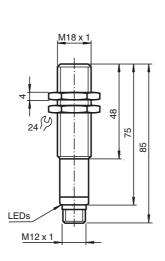
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Could 1-level: +4 ¹ / ₁ ,+U ₀ imput impedance: > 12 kD synchronization induces VModel Number 28 JB1000-18GM75-U-V15 Single head system Features • Analog output 0 10 V • Measuring window adjustable Selectable sound lobe width • Program input • Output • Output • Output • Output • Output • Program input • Synchronization options • Deactivation option • Very small unusable area Diagrams Characteristic response curve mode mode finantifications • Connection type			1 synchronous connection, bi-directional
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UB1000-18GM75-U-V15 Single head system Features • Analog output 0 10 V • Measuring window adjustable • Selectable sound lobe width • Program input • Synchronization options • Deactivation option • Temperature compensation • Very small unusable area Diagrams Characteristic response curve * Imput * Matiguation imix 100 mm ± 100	Model Number	Synchronization frequency	period: ≥ 2 ms
UB1000-18GM75-U-V15 Single head system Features • Analog output 0 10 V • Measuring window adjustable • Selectable sound lobe width • Program input • Synchronization options • Deactivation option • Temperature compensation • Very small unusable area Diagrams Characteristic response curve ataics 10 mm x 100 mm • Mation 10 mm x 100 mm • Material • Very small unusable area Diagrams Characteristic response curve • Material • Material • Motion 10 mm x 100 mm • Material • Deactivation 10 mm x 100 mm • Output • Connector Npc Connector Npc Connector Npc Connector Npc • Connector Npc • Connector Npc • Connector Npc • Connector Npc			< 40 Hz
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UL approval CULus Listed, General Purpose CSA approval CCSAus Listed, General Purpose CCC approval CCC approval / marking not required for products rated ≤36 V x wide sound lobe	200 round bar, Ø 25 mm	Approvals and certificates	
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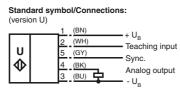
PEPPERL+FUCHS SENSING YOUR NEEDS

UB1000-18GM75-U-V15

Dimensions



Electrical Connection



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

Pinout



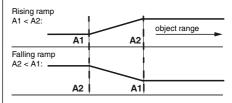
Wire colors in accordance with EN 60947-5-2

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



Additional Information

Programming the analog output mode



Accessories

UB-PROG2 Programming unit

OMH-04

Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm

BF 18

Mounting flange, 18 mm

BF 18-F

Mounting flange with dead stop, 18 mm

BF 5-30

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

UVW90-K18 Ultrasonic -deflector

V15-G-2M-PVC Female cordset, M12, 5-pin, PVC cable

M18K-VE

Description of Sensor Functions

Programming procedure

The sensor features a programmable analog output with two programmable evaluation boundaries. Programming the evaluation boundaries and the operating mode is done by applying the supply voltage $-U_B$ or $+U_B$ to the Teach-In input. The supply voltage must be applied to the Teach-In input for at least 1 s. LEDs indicate whether the sensor has recognized the target during the programming procedure.

Note:

Evaluation boundaries may only be specified directly after Power on. A time lock secures the adjusted switching points against unintended modification 5 minutes after Power on. To modify the evaluation boundaries later, the user may specify the desired values only after a new Power On.

Note:

If a programming adapter UB-PROG2 is used for the programming procedure, button A1 is assigned to -U_B and button A2 is assigned to +U_B.

Programming the analog output

Rising ramp

- 1. Place the target at the near end of the desired evaluation range
- 2. Program the evaluation boundary by applying -U_B to the Teach-In input (yellow LED flashes)
- 3. Disconnect the Teach-In input from $-U_B$ to save the evaluation boundary
- 4. Place the target at the far end of the desired evaluation range
- 5. Program the evaluation boundary by applying +U_B to the Teach-In input (yellow LED flashes)
- 6. Disconnect the Teach-In input from +UB to save the evaluation boundary

Falling ramp

- 1. Place the target at the far end of the desired evaluation range
- 2. Program the evaluation boundary by applying -U_B to the Teach-In input (yellow LED flashes)
- 3. Disconnect the Teach-In input from $\mbox{-}U_{\rm B}$ to save the evaluation boundary
- 4. Place the target at the near end of the desired evaluation range
- 5. Program the evaluation boundary by applying +U_B to the Teach-In input (yellow LED flashes)
- 6. Disconnect the Teach-In input from +U_B to save the evaluation boundary

Adjusting the sound cone characteristics:

The ultrasonic sensor enables two different shapes of the sound cone, a wide angle sound cone and a small angle sound cone.

1. Small angle sound cone

- switch off the power supply
- connect the Teach-In input wire to -U_B
- switch on the power supply
- the red LED flashes once with a pause before the next.
- yellow LED: permanently on: indicates the presence of an object or disturbing object within the sensing range
- disconnect the Teach-In input wire from -U_B and the changing is saved

2. Wide angle sound cone

- switch off the power supply
- connect the Teach-In input wire with +U_B
- switch on the power supply
- the red LED double-flashes with a long pause before the next.
- yellow LED: permanently on: indicates an object or disturbing object within the sensing range
- disconnect the Teach-In input wire from $+U_B$ and the changing is saved

Factory settings

See technical data.

Display

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Release

The sensor provides LEDs to indicate various conditions.



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pause

-Ò- -Ò- pause -Ò-

	Red LED	Yellow LED
During Normal operation		
Proper operation		
Object in evaluation range	Off	On
No object in evaluation range	Off	Off
Interference (e.g. compressed air)	On	Remains in previous state
During sensor programming		
Object detected	Off	Flashes
No object detected	Flashes	Off
Object uncertain (programming invalid)	On	Off

Synchronization

This sensor features a synchronization input for suppressing ultrasonic mutual interference ("cross talk"). If this input is not connected, the sensor will operate using internally generated clock pulses. It can be synchronized by applying an external square wave. The pulse duration must be \geq 100 µs. Each falling edge of the synchronization pulse triggers transmission of a single ultrasonic pulse. If the synchronization signal remains low for \geq 1 second, the sensor will revert to normal operating mode. Normal operating mode can also be activated by opening the signal connection to the synchronization input (see note below).

If the synchronization input goes to a high level for > 1 second, the sensor will switch to standby mode. In this mode, the outputs will remain in the last valid output state.

Note:

If the option for synchronization is not used, the synchronization input has to be connected to ground (0 V) or the sensor must be operated via a V1 cordset (4-pin).

The synchronization function cannot be activated during programming mode and vice versa.

The following synchronization modes are possible:

- Several sensors (max. number see technical data) can be synchronized together by interconnecting their respective synchronization inputs. In this case, each sensor alternately transmits ultrasonic pulses in a self multiplexing mode. No two sensors will transmit pulses at the same time (see note below).
- 2. Multiple sensors can be controlled by the same external synchronization signal. In this mode the sensors are triggered in parallel and are synchronized by a common external synchronization pulse.
- 3. A separate synchronization pulse can be sent to each individual sensor. In this mode the sensors operate in external multiplex mode (see note below).
- 4. A high level (+U_B) on the synchronization input switches the sensor to standby mode.

Note:

Sensor response times will increase proportionally to the number of sensors that are in the synchronization string. This is a result of the multiplexing of the ultrasonic transmit and receive signal and the resulting increase in the measurement cycle time.

Installation conditions

If the sensor is installed at places, where the environment temperature can fall below 0 °C, for the sensors fixation, one of the mounting flanges BF18, BF18-F or BF 5-30 must be used.

In case of direct mounting of the sensor in a through hole using the steel nuts, it has to be fixed at the middle of the housing thread. If a fixation at the front end of the threaded housing is required, plastic nuts with centering ring (accessories) must be used.

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