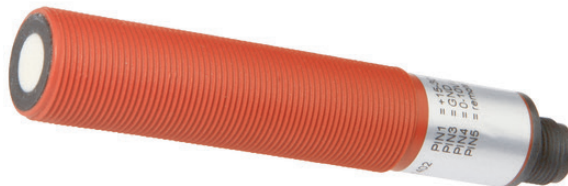


UT18002E

ULTRASONIC SENSORS • DISTANCE MEASUREMENT

Ultrasonic sensors are non-contact and wear-free position switches which can also be used under rough environmental conditions. A key advantage of these devices lies in the fact that the material and the surface characteristics of the objects to be detected can be almost anything. Solids, liquids, grainy materials and powdery materials can be identified without the shape or the color of the object having any influence to the measured result. In addition, the ability to detect transparent materials such as films and fluids is of particular importance. The shape and color of the objects do not influence the result of the detection. The capability to detect transparent films or liquids is also of special importance. Ultrasonic sensors are used for distance measurement (e.g. detection of diameters, loop control), for fill level detection (e.g. silo detection), for positioning and presence detection (e.g. glass pane positioning, film tear check, glass bottle detection)



MECHANICAL DATA

| | |
|---------------------------|------------------------|
| Ambient temperature (MAX) | 70 °C |
| Ambient temperature (MIN) | -20 °C |
| Degree of protection (IP) | IP65 |
| Diameter detection | Yes |
| Housing design | Cylinder, screw-thread |
| Housing material | Plastic |
| Housing material, detail | PBT |
| Sensor length | 100 mm |
| Thread length | 65 mm |
| Thread pitch | 1 mm |
| Thread size, metric | 18 |

ELECTRICAL DATA

| | |
|-----------------------------------|----------|
| Adjustable measuring range | Yes |
| Carrier frequency | 360 kHz |
| Distance measuring sensors | Yes |
| Filling level measurement | Yes |
| Measuring range length (MAX) | 400 mm |
| Measuring range length (MIN) | 30 mm |
| No-load current | 30 mA |
| Number of pins | 5 |
| Relative repeat accuracy | 0.2 % |
| Response time | 60 ms |
| Reverse polarity protection | Yes |
| Setting procedure | Teach-In |
| Setting via teach-in | Yes |
| Short-circuit-proof | Yes |
| Sound cone (angle of beam spread) | 8 ° |

ELECTRICAL DATA

| | |
|------------------------------------|---------------|
| Sound outlet | Axial |
| Supply voltage (MAX) | 30 V |
| Supply voltage (MIN) | 15 V |
| Synchronization possible | No |
| Type of analog output | 0 V ... 10 V |
| Type of electrical connection | Connector M12 |
| Voltage type | DC |
| With LED display | Yes |
| With LED display (alignment aid) | Yes |
| With LED display (measuring range) | Yes |

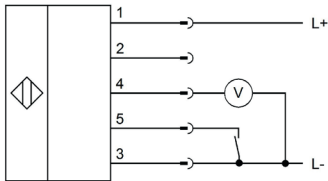
OPTICAL DATA

| | |
|-----------------|---------|
| High resolution | Yes |
| Resolution | 0.12 mm |

OTHER DATA

| | |
|------------------------------|-------|
| Level detection | Yes |
| Relative linearity deviation | 0.5 % |

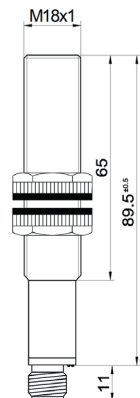
CONNECTION



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

Functions: 1 = L+, 2 = n. c., 3 = L-, 4 = 0-10V, 5 = teach-in

DIMENSIONAL DRAWING



INSTALLATION



Mounting / Installation may only be carried out by a qualified electrician!

DISPOSAL



SAFETY WARNINGS

Before initial operation, please make sure to follow all safety instructions that may be provided in the product information!

Never use these devices in applications where the safety of a person depends on their functionality.