

UT121120

ULTRASONIC SENSORS • DIFFUSE REFLECTIONS SENSORS

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) | 60 °C |
| Ambient temperature (MIN) | -10 °C |
| Degree of protection (IP) | IP67 |
| Diameter detection | Yes |
| Housing coating | Nickel-plated |
| Housing design | Cylinder, screw-thread |
| Housing material | Brass |
| Housing material, detail | Brass |
| Sensor length | 70 mm |
| Thread length | 55 mm |
| Thread pitch | 1 mm |
| Thread size, metric | 12 |

ELECTRICAL DATA

| | |
|------------------------------|----------|
| Adjustable measuring range | Yes |
| Carrier frequency | 380 kHz |
| Max. output current | 200 mA |
| Measuring range length (MAX) | 200 mm |
| Measuring range length (MIN) | 30 mm |
| No-load current | 35 mA |
| Number of switching outputs | 1 |
| Relative repeat accuracy | 0.25 % |
| Response/decay time | 10 ms |
| Reverse polarity protection | Yes |
| Sensing range (MAX) | 200 mm |
| Sensing range (MIN) | 30 mm |
| Setting procedure | Teach-In |
| Setting via teach-in | Yes |

ELECTRICAL DATA

| | |
|--|----------------------------|
| Short-circuit-proof | Yes |
| Sound cone (angle of beam spread) | 6 ° |
| Sound cone with small angle of beam spread | Yes |
| Sound outlet | Axial |
| Supply voltage (MAX) | 30 V |
| Supply voltage (MIN) | 12 V |
| Synchronization possible | No |
| Temperature drift | 0.18 % |
| Type of electrical connection | Connector M12 |
| Type of switching function | Normally open contact (NO) |
| Type of switching output | NPN |
| Voltage drop | 2 V |
| Voltage type | DC |
| With LED display | Yes |

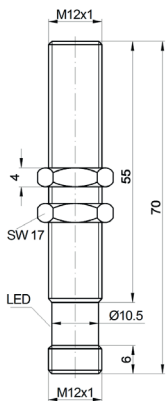
OPTICAL DATA

| | |
|-----------------|-----|
| High resolution | Yes |
|-----------------|-----|

OTHER DATA

| | |
|--------------------------------------|-------|
| Dead zone | 30 mm |
| Level detection | Yes |
| Object detection on conveyor systems | Yes |

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.