

UT210170

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 design	Cuboid
Housing material	Plastic
Housing material, detail	Plastic
Sensor height	42 mm
Sensor length	15 mm
Sensor width	20 mm

ELECTRICAL DATA

Adjustable measuring range	Yes
Carrier frequency	380 kHz
Hysteresis	4 %
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 %
Residual ripple	10 %
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 M8
Type of switching function	Normally open contact (NO)
Type of switching output	PNP
Voltage drop	2 V
Voltage type	DC
With LED display	Yes

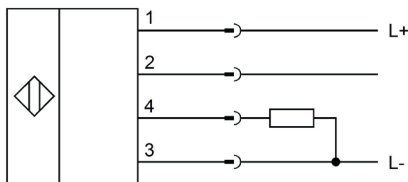
OPTICAL DATA

High resolution	Yes
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OTHER DATA

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

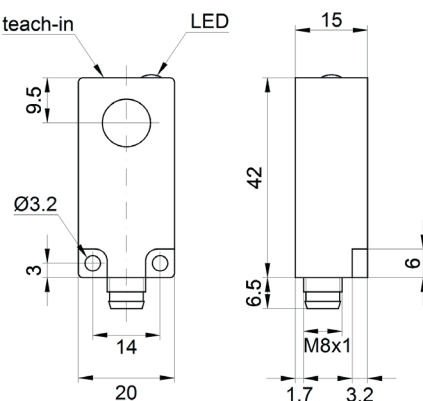
CONNECTION



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

Functions: 1 = L+, 2 = teach-In, 3 = L-, 4 = PNP NO

DIMENSIONAL DRAWING



INSTALLATION

DISPOSAL



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



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.