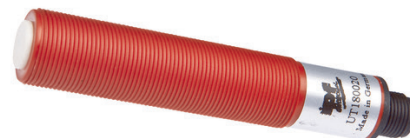


## UT180020

### 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)	IP67
Diameter detection	Yes
Housing design	Cylinder, screw-thread
Housing material	Plastic
Housing material, detail	PBT
Sensor length	104 mm
Thread length	65 mm
Thread pitch	1 mm
Thread size, metric	18

#### ELECTRICAL DATA

Adjustable measuring range	Yes
Carrier frequency	330 kHz
Distance measuring sensors	Yes
Filling level measurement	Yes
Measuring range length (MAX)	500 mm
Measuring range length (MIN)	60 mm
No-load current	30 mA
Number of pins	5
Relative repeat accuracy	0.2 %
Response time	100 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	4 mA ... 20 mA
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

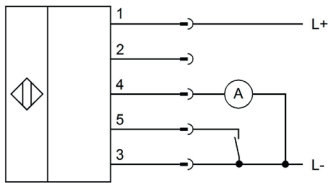
## OPTICAL DATA

High resolution	Yes
Resolution	0.25 mm

## OTHER DATA

Level detection	Yes
Loop control	Yes
Relative linearity deviation	0.5 %

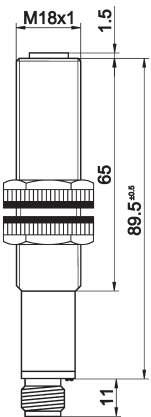
## CONNECTION



**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 = 4-20mA, 5 = teach-in

## 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.