FEATURES

- Ultrasonic sensors

- insensitivity to countless materials, surface types, and colors

- Wood, metal, orplastic; colored, reflective or transparent

- Narrow Beam and Short Dead Band

- Temperature Compensated

- Intrinsically Safe CE & IP67 compliant in properly designed integrated system

- Tamperproof & Rugged

- IP67 Enclosure Rating

- Accurate under demanding environmental conditions

RS PRO Ultrasonic Proximity Sensor

RS Stock No.: 2181174

RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Ultrasonic Proximity Sensors

Ultrasonic sensors precisely detect objects made from various materials regardless of their shape, colour, or surface contour. The operate using high-frequency sound waves that are inaudible to the human ear.

- Liquid and Solid Level Measurement
- Position Detection
- Factory automation
- Tanks, Totes, Processing

Series	SR55
Detection Range	200mm – 3000mm
Transducer Frequency	112KHz
Sensor Configuration	Diffuse Reflection
Output Type	1 analogue output 4…20mA
Response Time	125ms
Beam Angle	8°
Directivity (Deg)	
Sensitivity (mVp-p)	
Terminal Type	4 core PVC Cable
Communication Interface	
Indicator	LED
Wire Technique	4-wire
Electrical Connection	4 core PVC Cable
Cable Length	2m
Minimum Operating Temperature	-25℃
Maximum Operating Temperature	75℃
Shock Resistance	
Vibration Resistance	

S

Operating Voltage Range	10V to 30V dc
Current Consumption	≤15mA （No-load）
Voltage Drop	2V
Maximum Load	500 Ohm
Switching Frequency	
Switching Current	
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
Overload Protection	Yes

Ultrasonic Proximity Sensors

Body Style	Block
Thread Size	
Housing Material	PBT OR FRP
Front Material	Epoxy
Dimensions	55mm x 55mm
Width / Diameter	55mm
Length	55mm
Depth	35mm
Weight	300g

IP Rating	IP67

EAN	
Custom Tariff Number	

eCl@ss	
UNSPSC	

Compliance/Certifications	CE / RoHS EN 60947-5-2:2020
Declarations	MFR Declaration of Conformity
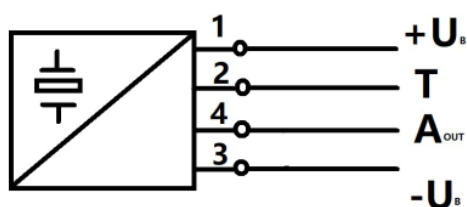
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Wire Colors in accordance with EN 60947-5-2

Ultrasonic Proximity Sensors

Adjusting the evaluation limits

The ultrasonic sensor features an analogue output with two teachable evaluation limits. These are set 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 recognised the target during the TEACH-IN procedure. The lower evaluation limit A1 is taught with $-U_B$, A2 with $+U_B$.

Two different output functions can be set:

1. Analogue value increases with rising distance to object (rising ramp)

2. Analogue value falls with rising distance to object (falling ramp)

Evaluation limits may only be specified within the first 5 minutes after

Power on. To modify the evaluation limits later, the user may specify the desired values only after a new Power On.

TEACH-IN rising ramp (A2 > A1)

- Position object at lower evaluation limit

- TEACH-IN lower limit A1 with $-U_B$

- Position object at upper evaluation limit

- TEACH-IN upper limit A2 with $+U_B$

TEACH-IN falling ramp (A1 > A2):

- Position object at lower evaluation limit

- TEACH-IN lower limit A2 with $+U_B$

- Position object at upper evaluation limit
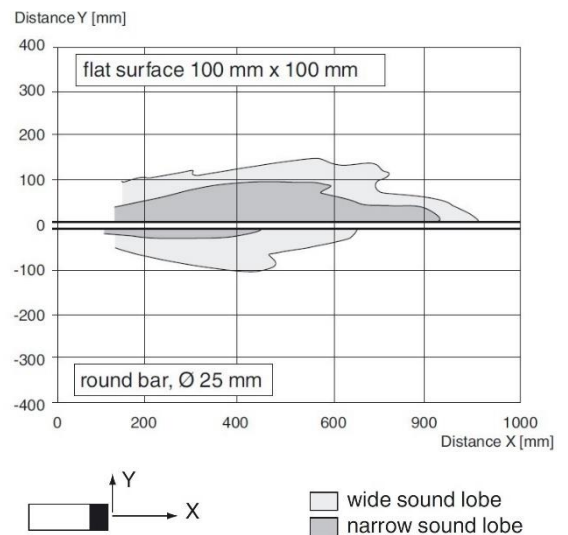
- TEACH-IN upper limit A1 with $-U_B$
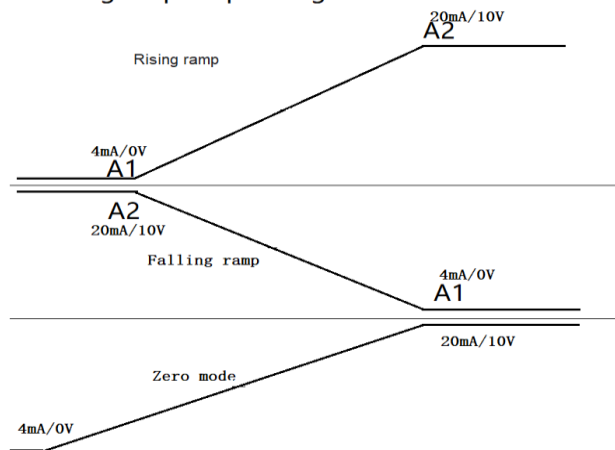
Default setting

A1: unusable area

A2: nominal sensing range

Mode of operation: rising ramp

Characteristic response curve

Analog output operating modes

Ultrasonic Proximity Sensors

Displays in dependence on operating mode	Red LED	Blue LED
TEACH-IN evaluation limit		
Object detected	off	flashes
No object detected	flashes	off
Object uncertain (TEACH-IN invalid)	on	off
Normal mode (evaluation range)	off	on
Fault	on	previous state