FEATURES

- Ultrasonic Sensors
- insensitivity to countless materials, surface types, and colors
- Wood, metal, orplastic; colored, reflective or transparent
- Short dead band
- Output type PNP (NO/NC)
- Temperature compensation
- 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.: 2181169

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.

Product Description

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.

- Very Short Dead Band 30mm
- Small Size M18
- Liquid and Solid Level Measurement
- Position Detection
- Factory automation
- Tanks, Totes, Processing

General Specifications

Series	M30
Detection Range	100mm – 2000mm
Transducer Frequency	180KHz
Sensor Configuration	Diffuse Reflection
Output Type	1 Switch output PNP NO/NC, Programmable
Response Time	85ms
Beam Angle	9°
Directivity (Deg)	
Sensitivity (mVp-p)	
Terminal Type	M12 - 4 Pin
Communication Interface	
Indicator	LED
Wire Technique	4-wire
Electrical Connection	Male connector M12 4 pins
Cable Length	2m
Minimum Operating Temperature	-25℃
Maximum Operating Temperature	75℃
Shock Resistance	
Vibration Resistance	

Electrical Specifications

Operating Voltage Range	10V to 30V DC
Current Consumption	≤15mA（No-load）
Voltage Drop	2V
Maximum Load	500 Ohm
Switching Frequency	MAX 10Hz
Switching Current	200mA
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes

Overload Protection	Yes

Mechanical Specifications

Body Style	Cylindrical
Thread Size	M30
Housing Material	Brass, nickel-plated
Front Material	Epoxy
Dimensions	¢30mm x 110mm
Width / Diameter	¢30mm
Length	110mm
Depth	
Weight	160g

Protection Category

IP Rating	IP67

Additional Information

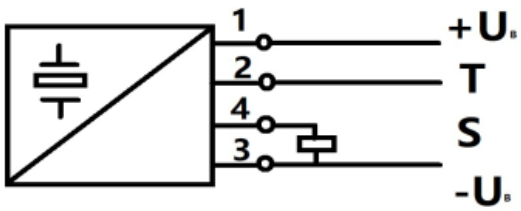
EAN	
Custom Tariff Number	

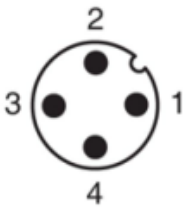
Classification

eCl@ss Version	
UNSPSC Version	

Approvals

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

Adjusting switching Points

The ultrasonic sensor features a switch output with two teachable switching points. 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. Switching point A1 is taught with** - U_B**,A2 with +**U_B. Five different output functions can be set.

1. Window mode, normally-open function.
2. Window mode, normally-closed function.
3. One switching point,normally-open function
4. One switching point,normally-closed function.
5. Detection of objet presence.

Switching point, Setting distance only after power on. The internal clock can assure can't be changed after 5 mins when power on. If want to change the switching point, the user can only set the request distance after power restart.

TEACH-IN window mode,normally-open function

-Set target to near switching point

-TEACH-IN switching point A1 with - U_B

-Set target to far switching point

-TEACH-IN switching point A2 with + U_B

TEACH-IN window mode,normally-closed function

-Set target to near switching point

-TEACH-IN switching point A2 with + U_B

-Set target to far switching point

-TEACH-IN switching point A1 with - U_B

TEACH-IN switching point, normally-open function

-Set target to near switching point

-TEACH-IN switching point A2 with + U_B

-Cover sensor with hand or remove all objects from sensing range

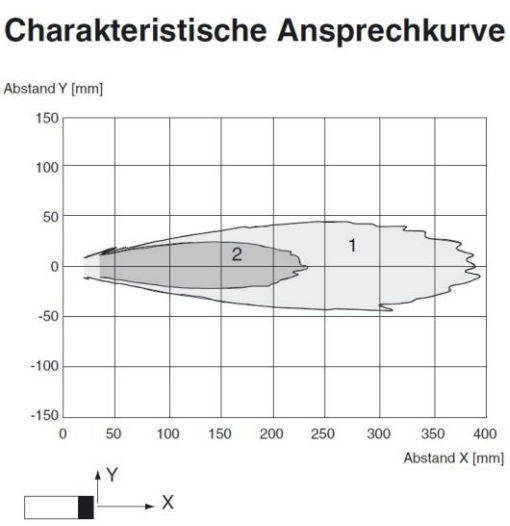
-TEACH-IN switching point A1 with - U_B

TEACH-IN switching point, normally-closed function

-Set target to near switching point

-TEACH-IN switching point A1 with - U_B

-Cover sensor with hand or remove all objects from sensing range

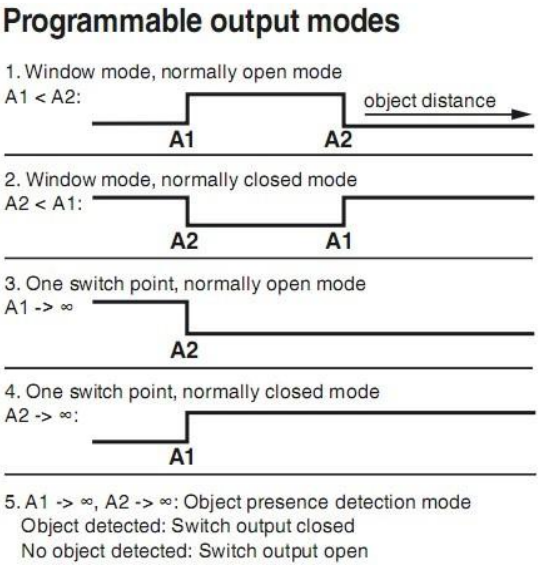


Curve1:flat surface 100mm×100mm

Curve2:round bar,Φ25mm

-TEACH-IN switching point A2 with + U_B

TEACH-IN detection of objects presence		
-Cover sensor with hand or remove all objects from sensing range		
-TEACH-IN switching point A1 with - U_B		
-TEACH-IN switching point A2 with + U_B		
Default setting of switching point		
A1=blind range,A2=nominal distance		
LED displays		
Displays in dependence on operating mode	Red LED	Blue LED
TEACH-IN switching point		
Object detected	off	flashes
No object detected	flashes	off
Object uncertain(TEACH-IN invalid)	off	off
Normal operation	off	Switching state
Fault	on	Previous state



Installation conditions

If the sensor is installed at the environment temperature fall below 0℃,It should do well on the protective measures. In case of direct mounting of the sensor in a through hole using the steel nuts, it has to be fixed at the middle of the housing thread.

Drawing