

PARKING SOLUTION

Technical Data Sheet

Ultrasonic sensor

(Autonomous Version)



1 Introduction

1.1 The **autonomous** ultrasonic sensor for **proximity detecting applications** is described below.

2 Description

2.1 This ultrasonic sensor is designed for detecting four-wheeled vehicles. This device is adapted for ceiling or a cable channel mounting. It is recommended for covered parking lots. All parking sensors have DSP - digital signal processing, adaptive sensitivity and temperature compensation functions. This type of sensor can indicate if there is an obstacle below or not. LED indicators show in what state the sensor currently is. RED means that obstacle is detected and GREEN means that there is no obstacle below sensor, down to the floor. In addition to this, it can provide special switch signal for sensor state indication. This function allows using sensor in various applications where autonomous vehicle detection is needed.

Technical characteristics

2.2 Electrical characteristics

- | | |
|-------------------------|------------|
| • Power supply voltage | 24 V DC |
| • Power supply current | 0.1-0.15 A |
| • Power consumption | 2 W at 24V |
| • Switch signal current | 6A max. |

2.3 Sensors typical characteristics

- | | |
|-----------------------|--------------------|
| • Detection method | Ultrasonic |
| • Calibration method | Reed switch |
| • Detection distance | 0.7 — 4m |
| • Normal output state | N.O. — normal open |

2.4 Indication

- | | |
|---------------------------------|---|
| • Light color, angle adjustment | Integrated or remote RED/GREEN LED up to 45 degrees |
| • Remote indicator connection | RJ-11 socket |

2.5 Environment

- | | |
|--------------------|---------------|
| • Work temperature | -30°C ..+50°C |
| • Humidity | 20% ... 95% |

2.6 Other

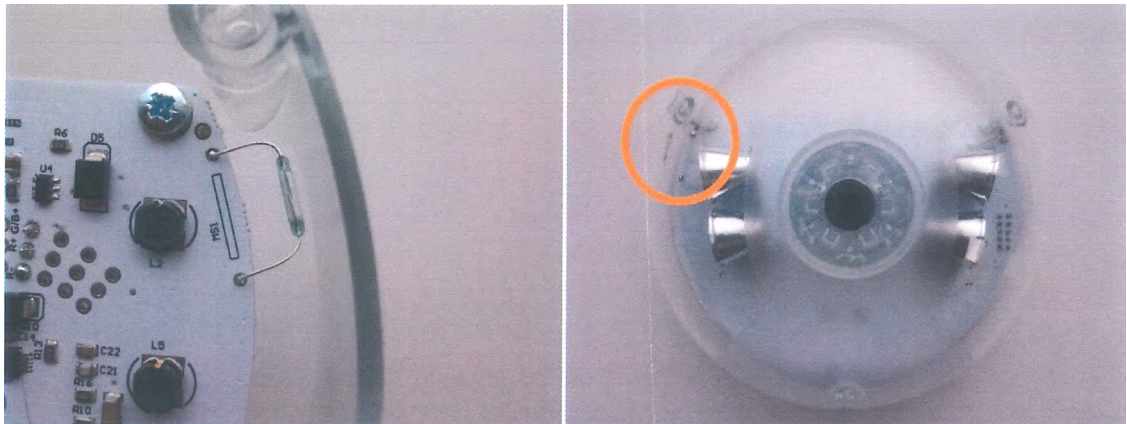
- | | |
|-------------------|--------------------------------|
| • Housing type | IP66 |
| • Mounting method | Wall/ Chanel mount with screws |
| • Dimension (mm) | 136 x 123 x 200 |
| • Weight | 350 g |
| • Color | Grey/Transparent |

3 Ultrasonic sensors calibration and operation

3.1 After all installation procedures are done, the sensor needs to be calibrated for normal operation. To calibrate the sensor follow these steps:

1. Apply power for the sensor\
2. Make sure that there is no obstacles under the sensor.
3. Put the strong permanent magnet near the reed switch (see Pic. 1)
4. After few seconds sensor starts to shine ORANGE indicating that calibration procedure has begun. Aproximety after 40 seconds the calibration procedure is over. Sensor starts to shine GREEN indicating free space.
5. If calibration fails, sensor starts to blink RED/GREEN. Please try once more. If it fails again, please contact yours supplier.

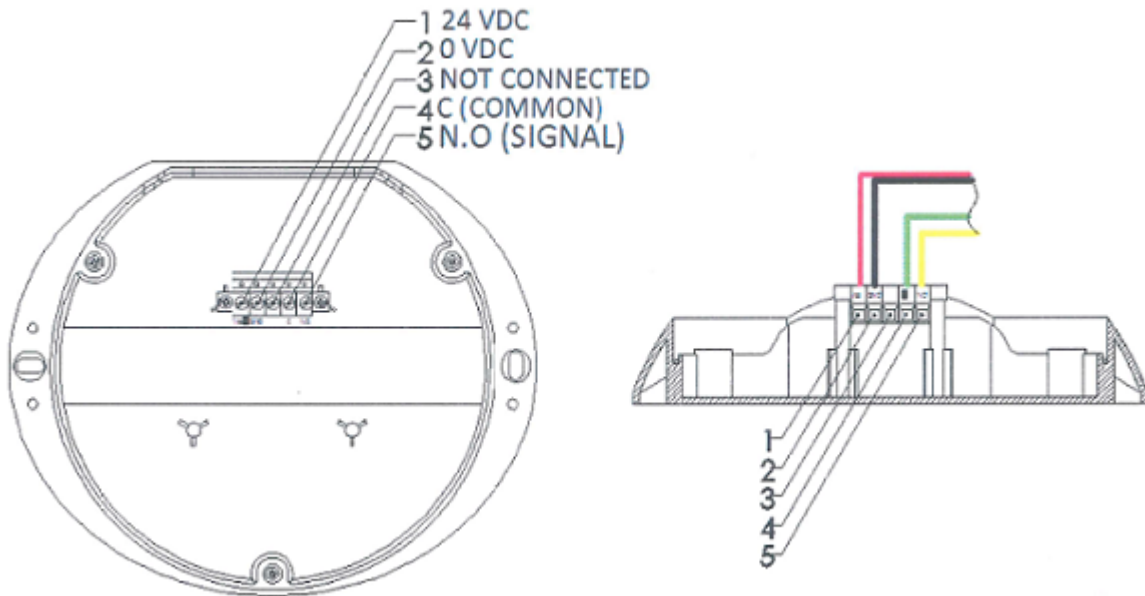
While sensor is in normal state it shines GREEN (or BLUE) and resistance between switch contacts C and N.O. is infinity. After sensor detects an obstacle it starts to shine RED and resistance between C and N.O. contacts gets approximately zero. The sensor remembers the distance between sensor and floor after calibration, so you do not need to recalibrate after power off. Usually calibration is done only once after installation.



Pic. 1 Reed switch location

4 Installation and connection

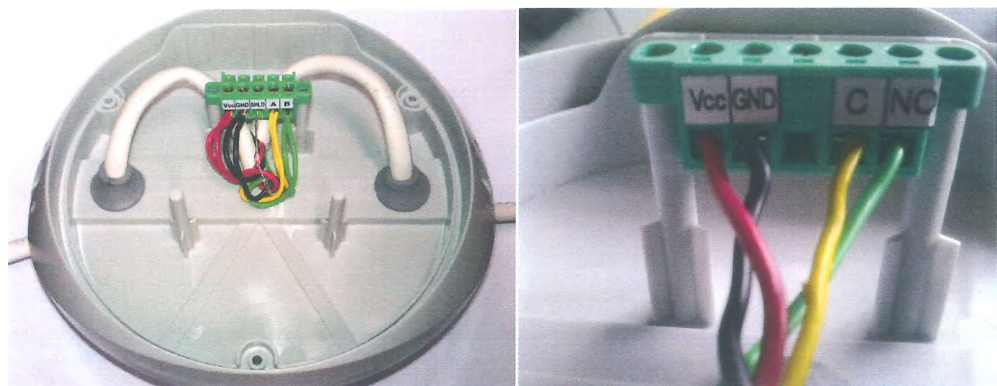
- 4.1 Please use cable which consists of 4 wires with insulator for installation (please see Pic.2). The cable is recommended no larger than 8 mm in diameter. Recommended thickness of each wire no less than 0.5mm^2 . Please stick cables through the casing insulators carefully in order not to damage them.



Pic. 2 Connection diagram of ultrasonic sensor with indication.

1 Table. Ultrasonic sensor with indication pin assignment table.

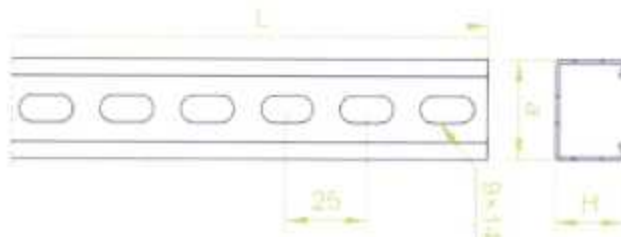
No.	Ultrasonic sensor connection
1	Power supply +24V DC
2	Power supply 0V DC
3	Not connected
4	C - Common
5	N.O. – Normal Open switch signal



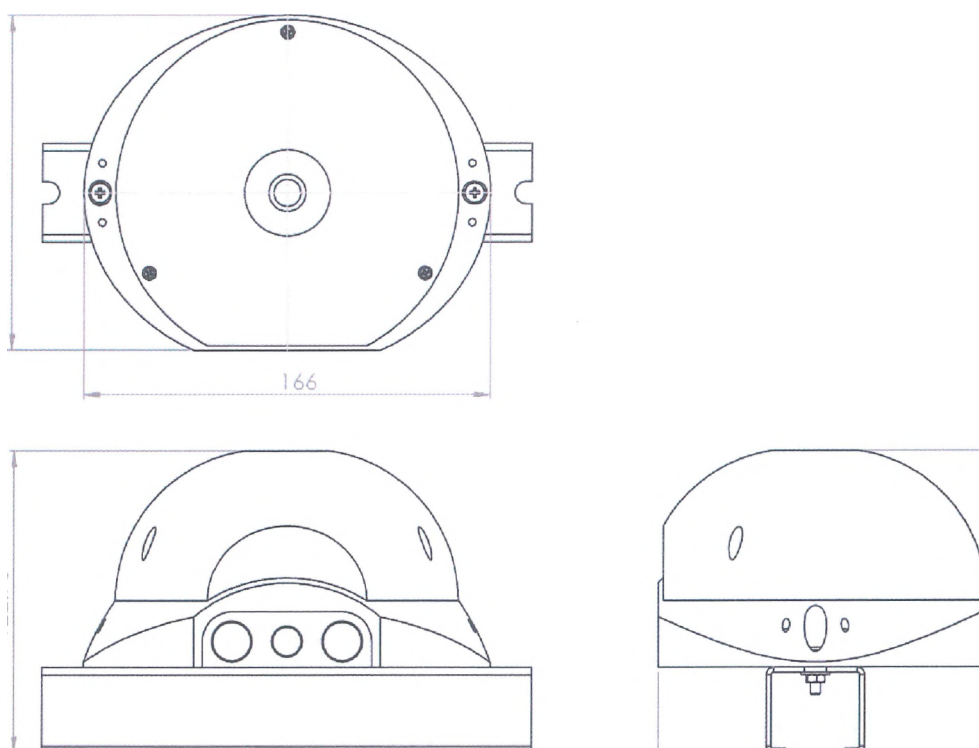
Pic. 3 Ultrasonic sensor terminal block connection.

5 Mounting

5.1. Installation must be performed by qualified personnel who are familiar with these instructions.



Pic. 4 Installation channel type for sensor mounting: CWP4OH35



Pic. 5 Dimensions and mounting position

6 Maintenance

Ultrasonic sensor is protected against dust and water. Protection rating IP-66. Avoid dust and water accumulation inside the sensor case during installation.

7 Warranty

The manufacturer guarantees the sensor operation within 24 months, from the date of purchase, under normal use.

