

OUR SALES NETWORK IN EUROPE

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OUR COMPETENCE CENTRES & PRODUCTION SITES

| | | | |
|---|--|--|--|
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Further information on
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CARLO GAVAZZI
Automation Components

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IRS Long Range Motion Radar Sensor Quick Start Guide

CARLO GAVAZZI
Automation Components

CARLO GAVAZZI

Long Range Motion Radar Sensor

IRS Series



IRS01

Safety Notes

Read Instructions!
Before working with this unit, read these instructions carefully and completely. Make sure that you have understood all the information!

Disconnect sensor from supply network
Before any installation, maintenance or modification work: Disconnect your sensor from the supply network. Ensure that cannot be re-connected inadvertently!

Before start of operation ensure appropriate installation

Warning! Improper installation / operation impair safety and result in operational difficulties or complete failure of the unit.
The unit must be installed and put into service appropriately by qualified personnel. Compliance with the relevant regulations must be ensured.
With stranded wires: all strands must be secured in the terminal blocks (potential danger of short circuit).

In operation: No modifications!
As long as the unit is in operation: do not modify the installation! The same applies also to the secondary side.
• The unit must not be opened except appropriately trained personnel!
• Do not introduce any object into the unit!
• Keep away from fire and water!

- The unit is a motion sensor, and thus still requires some type of presence sensing device for most applications (ie. Safety beams, overhead infrared curtain, etc.).
- The housing of the sensor shall be concealed within a NEMA-4 type-rated enclosure and is extremely reliable in abusive environments, but not necessarily vehicular traffic.

FCC warnings

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) this device may not cause harmful interference, and
2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE

IRS is a motion detector, and thus still requires some type of presence sensing device for most applications (ie. Safety beams, overhead infrared curtain, etc.).

Box Content

- Motion Radar Sensor
- Connecting cable
- Screws and anchor fixing set
- Instruction manual

Ordering Key

IRS 01

Type _____
Detection mode _____
Options _____

Accessory

IRS 00 RC

Type _____
IR remote controller _____

General Data

| | |
|---------------------------|---|
| Sensing field orientation | by housing orientation |
| Detection angle | ±45° vertical and lateral |
| Detecting area | see the "maximum field extension" pictures |
| Detection mode | to detect motions towards or away from sensor |
| Unidirectional | to detect motions towards and away from sensor |
| Bidirectional | |
| Motion detecting speed | 0.05 - 3.0m/s (0.164 - 6.56fps) along sensor axis |

Electrical data

| | |
|-----------------------|-------------------------------|
| Frequency emitted | (K-Band) 24.125GHz |
| Radiated power | < 16dBm EIRP |
| Rated supply voltage | 12 - 24VAC ±10% 12 - 32VDC |
| Main frequency | 50 to 60Hz |
| Power consumption | < 1.2W |
| Output Relays | 2 x SPDT |
| Rated Voltage | 30VAC/DC |
| Max switching current | 1A (resistive load) |
| Max switching power | 30W (resistive load) |
| Hold time | 0.5 - 6s (adjustable) |

Environmental Data

| | |
|-------------------|-------------------------------------|
| Temperature range | -20°C to +60°C (-4°F to +140°F) |
| Humidity | from 0% to 90%RH |
| Immunity | R&TTE 1999/5/EC EMC 2004/108/EEC |
| Mounting height | 2.5m to 7m (8.20ft to 22.96ft) |
| Protection degree | IP65, NEMA-4 |

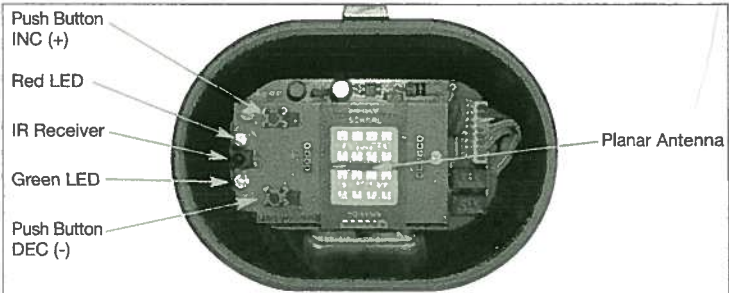
Mechanical data

| | |
|------------------|--|
| Housing Material | Aluminium with plastic junction box |
| Dimensions WxHxD | 14 x 19 x 100mm (5.51 x 7.48 x 3.94inch.) |
| Weight | xxkg (xxoz) |
| Cable length | 5m (16.4ft) |
| Colour | Black |

Approvals



Inside View

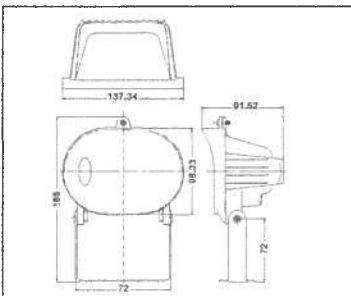


Electrical Connection

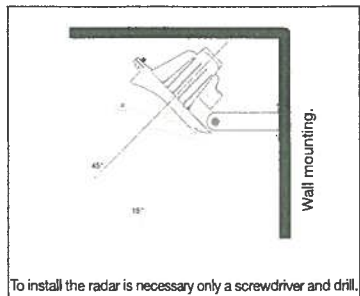
The unit should be powered by Class 2 or LVE transformer. Do not switch on the power until all primary and secondary wiring are completed. The contacts of relays should be connected to Class 2 circuit. Opening the junction box of the housing an 8 pole snap connector will be accessible. Connect the wires as below indicated.

| | Code | Description |
|------|------|------------------------------------|
| VS1 | VS1 | First supply terminal |
| VS2 | VS2 | Second supply terminal |
| NC1 | NC1 | Relay n°1 - Normally close contact |
| NO1 | NO1 | Relay n°1 - Normally open contact |
| COM1 | COM1 | Relay n°1 - Common |
| NC2 | NC2 | Relay n°2 - Normally close contact |
| NO2 | NO2 | Relay n°2 - Normally open contact |
| COM2 | COM2 | Relay n°2 - Common |

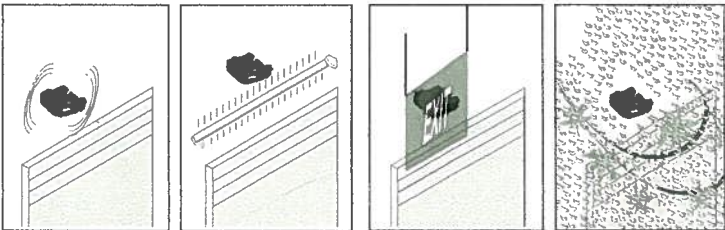
Dimension (mm)



Mounting Instructions

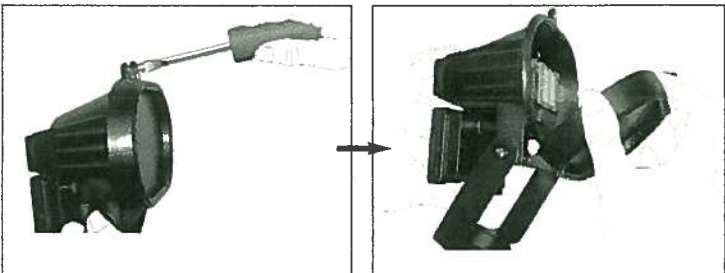


Installation Tips

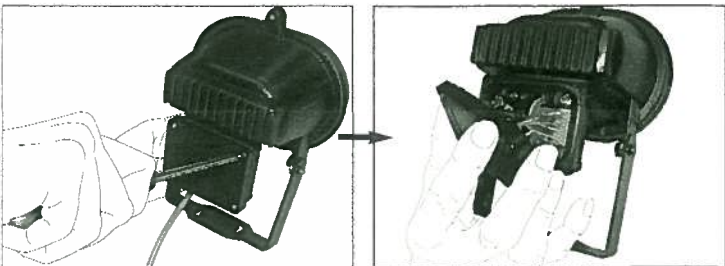


The sensor shall be firmly fixed to avoid any false activation by shocks or vibrations. It should not be mounted to high vibration surfaces such as a door canopy that houses the operating mechanism.

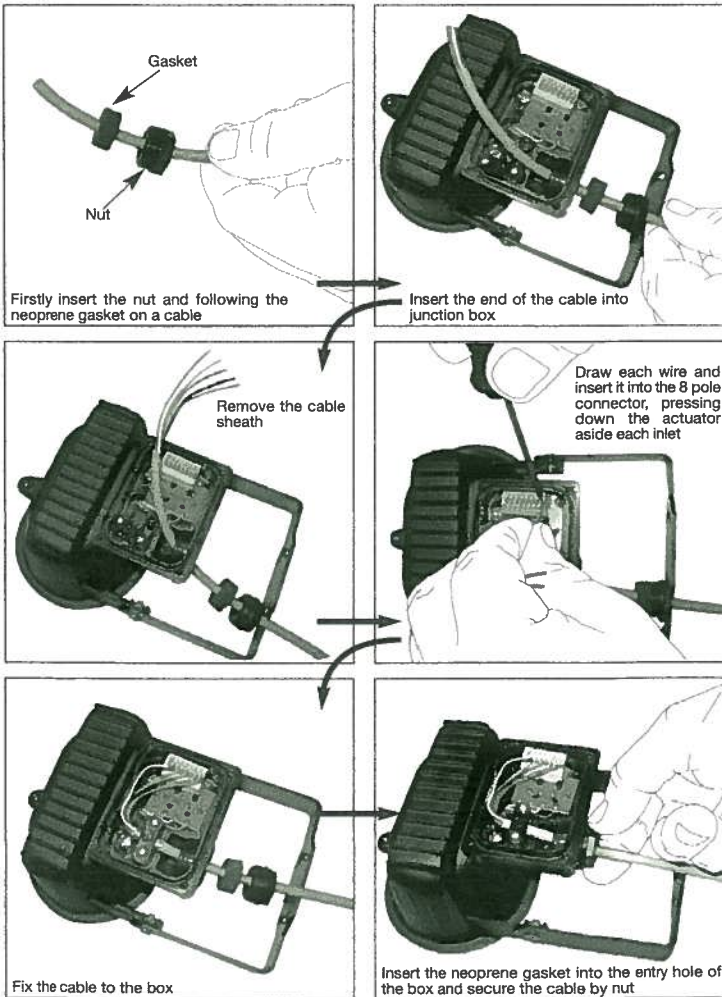
Sensor Cover Removing



Junction Box Cover Removing



Wiring



Adjustment and Setting

| | | | |
|----------------------------|--|------------------------|---|
| Manual adjustment | • orientation of sensing field (mechanically) • multiple functions (by push buttons on board inside). | Immunity detection | • Normal mode • Immunity • "Quasi-presence" • Lateral Traffic suppression |
| Remote control adjustments | • Sensitivity • Hold time • Mounting height • Detection mode • Immunity • Relay configuration | R1 and R2 Relay status | • Active, Passive, can be set independently by remote controller; • Switching in automatic mode (normal detection) the last status of relays will be considered as steady state condition. |
| Sensitivity | • 5 levels. It allows increment or decrement of detection field. | Security code | • 4-digit PIN access code to lock or unlock the keyboard of controller. |
| R1 and R2 Relay hold time | • 5 levels (0.5 to 6s). | | |
| Unidirectional mode | • Forward or backward. | | |

Switching ON and factory settings

1. After the supply voltage has been connected, the RED LED will start flashing quickly for 3 seconds. The unit is set up in factory at the following default values:

| | |
|---|--|
| A) Sensitivity: | level 1 (SENS+1) |
| B) Mounting height: | 2.5 to 3.5 m (F1) |
| C) Relay hold time: | 0.5 sec (HT+1) |
| D) Operating mode | V or P |
| E) Detection Recognition | Movements towards the detector (FW) |
| F) Immunity, Quasi-presence, and Lateral Traffic Suppression: | OFF |
| G) R1 and R2 Relay Status: | OFF in rest condition |
| H) PIN security: | 0000 - lock keyboard disabled on remote controller |

- Set mounting height (F1...F4) if different from factory setting
The detector will not function correctly if the wrong mounting height is set
- Set field size (SEN+1...5) and if necessary using inclination angle, 15-45°.
- Set the optional volume of Relay Hold time (HT +1...5) if different from factory setting HT+1 (0.5")
- Set the other parameters as the specific application requires.

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Specifications are subject to change without notice. Pictures are just an example.