



# RAP50

USER / INSTALLER MANUAL








# 00. CONTENT

## INDEX

<b>01. SAFETY INSTRUCTIONS</b>	<b>1B</b>
<b>02. THE PRODUCT</b>	
RAP50	4A
LED INDICATION	4A
TECHNICAL CHARACTERISTICS	4B
DESCRIPTION	4B
DIMENSIONS	4B
<b>03. INSTALLATION</b>	
INSTALLATION AND CONNECTIONS	5
<b>04. CONFIGURATION</b>	
DIP SWITCH SETTINGS	6A
ORIENTATION DETECTION	6A
PRESENCE TIMER	6B
RELAY CONTACT TYPE	6B
<b>05. PROGRAMMING</b>	
DETECTION AREA ADJUSTMENT	7A
REGULATE SENSITIVITY	7A
WIDTH ADJUSTMENT	7B
<b>06. TROUBLESHOOTING</b>	
INSTRUCTIONS FOR CONSUMERS AND SPECIALIZED TECHNICIANS	8

# 01. SAFETY INSTRUCTIONS

## ATTENTION:

	This product is certified in accordance with European Community (EC) safety standards.
	This product complies with Directive 2011/65/EU of the European Parliament and of the Council, of 8 June 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment and with Delegated Directive (EU) 2015/863 from Commission.
	(Applicable in countries with recycling systems). This marking on the product or literature indicates that the product and electronic accessories (eg. Charger, USB cable, electronic material, controls, etc.) should not be disposed of as other household waste at the end of its useful life. To avoid possible harm to the environment or human health resulting from the uncontrolled disposal of waste, separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Home users should contact the dealer where they purchased this product or the National Environment Agency for details on where and how they can take these items for environmentally safe recycling. Business users should contact their vendor and check the terms and conditions of the purchase agreement. This product and its electronic accessories should not be mixed with other commercial waste.
	
	This marking indicates that the product and electronic accessories (eg. charger, USB cable, electronic material, controls, etc.) are susceptible to electric shock by direct or indirect contact with electricity. Be cautious when handling the product and observe all safety procedures in this manual.

# 01. SAFETY INSTRUCTIONS

## **GENERAL WARNINGS**

- This manual contains very important safety and usage information. Read all instructions carefully before beginning the installation/usage procedures and keep this manual in a safe place that it can be consulted whenever necessary.
- This product is intended for use only as described in this manual. Any other enforcement or operation that is not mentioned is expressly prohibited, as it may damage the product and put people at risk causing serious injuries.
- This manual is intended firstly for specialized technicians, and does not invalidate the user's responsibility to read the "User Norms" section in order to ensure the correct functioning of the product.
- The installation and repair of this product may be done by qualified and specialized technicians, to assure every procedure are carried out in accordance with applicable rules and norms. Nonprofessional and inexperienced users are expressly prohibited of taking any action, unless explicitly requested by specialized technicians to do so.
- Installations must be frequently inspected for unbalance and the wear signals of the cables, springs, hinges, wheels, supports and other mechanical assembly parts.
- Do not use the product if it is necessary repair or adjustment is required.
- When performing maintenance, cleaning and replacement of parts, the product must be disconnected from power supply. Also including any operation that requires opening the product cover.
- The use, cleaning and maintenance of this product may be carried out by any persons aged eight years old and over and persons whose physical, sensorial or mental capacities are lower, or by persons without any knowledge of the product, provided that these are supervision and instructions given by persons with experienced in terms of usage of the product in a safe manner and who understands the risks and dangers involved.

- Children shouldn't play with the product or opening devices to avoid the motorized door or gate from being triggered involuntarily.

## **WARNINGS FOR TECHNICIANS**

- Before beginning the installation procedures, make sure that you have all the devices and materials necessary to complete the installation of the product.
- You should note your Protection Index (IP) and operating temperature to ensure that is suitable for the installation site.
- Provide the manual of the product to the user and let them know how to handle it in an emergency.
- If the automatism is installed on a gate with a pedestrian door, a door locking mechanism must be installed while the gate is in motion.
- Do not install the product "upside down" or supported by elements do not support its weight. If necessary, add brackets at strategic points to ensure the safety of the automatism.
- Do not install the product in explosive site.
- Safety devices must protect the possible crushing, cutting, transport and danger areas of the motorized door or gate.
- Verify that the elements to be automated (gates, door, windows, blinds, etc.) are in perfect function, aligned and level. Also verify if the necessary mechanical stops are in the appropriate places.
- The central must be installed on a safe place of any fluid (rain, moisture, etc.), dust and pests.
- You must route the various electrical cables through protective tubes, to protect them against mechanical exertions, essentially on the power supply cable. Please note that all the cables must enter the central from the bottom.
- If the automatism is to be installed at a height of more than 2,5m from the ground or other level of access, the minimum safety and health requirements for the use of work equipment workers at the work of Directive 2009/104/CE of European Parliament and of the Council of 16

# 01. SAFETY INSTRUCTIONS

September 2009.

- Attach the permanent label for the manual release as close as possible to the release mechanism.
- Disconnect means, such as a switch or circuit breaker on the electrical panel, must be provided on the product's fixed power supply leads in accordance with the installation rules.
- If the product to be installed requires power supply of 230Vac or 110Vac, ensure that connection is to an electrical panel with ground connection.
- The product is only powered by low voltage safety with central (only at 24V motors)

## WARNINGS FOR USERS

- Keep this manual in a safe place to be consulted whenever necessary.
- If the product has contact with fluids without being prepared, it must immediately disconnect from the power supply to avoid short circuits, and consult a specialized technician.
- Ensure that technician has provided you the product manual and informed you how to handle the product in an emergency.
- If the system requires any repair or modification, unlock the automatism, turn off the power and do not use it until all safety conditions have been met.
- In the event of tripping of circuits breakers or fuse failure, locate the malfunction and solve it before resetting the circuit breaker or replacing the fuse. If the malfunction is not repairable by consult this manual, contact a technician.
- Keep the operation area of the motorized gate free while the gate in in motion, and do not create strength to the gate movement.
- Do not perform any operation on mechanical elements or hinges if the product is in motion.

## RESPONSABILITY

- Supplier disclaims any liability if:
  - Product failure or deformation result from improper installation use or maintenance!
  - Safety norms are not followed in the installation, use and maintenance of the product.
  - Instructions in this manual are not followed.
  - Damaged is caused by unauthorized modifications
  - In these cases, the warranty is voided.

### **MOTORLINE ELECTROCELOS SA.**

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## SYMBOLS LEGEND:



• Important safety notices



• Useful information



• Programming information



• Potentiometer information



• Connectors information



• Buttons information

## 02. THE PRODUCT

### RAP50

The **RAP50** is a small microwave radar ideal for glass and pedestrian doors, and can be installed up to 4m high. It has long-distance technology for unidirectional detection of people or objects.

### TECHNICAL CHARACTERISTICS

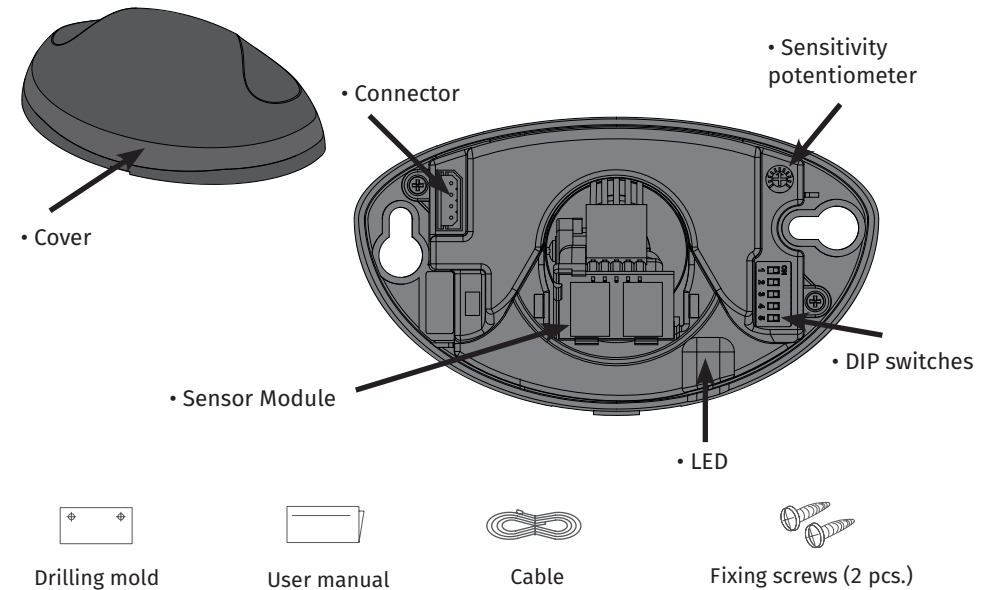
• Power supply	12-30 Vdc, 12-24Vac
• Detection method	Microwave Technology
• Maximum installation height	4.0[m]
• Consumption	< 1,4 W
• Contact capacity	0,5A /125 V AC, 1A /24V DC
• Detection area	5 m (W) x 3 m (D) x 2.2 m (H)
• Working frequency	24.125 GHz
• Relay wait time	1.2 seconds
• Operating temperature	-20°C to +60°C (-4oF to 140oF)
• Operating humidity	Below 90%
• Protection class	IP54
• Weight	320g (without cable), 650g (with cable)
• Dimensions	120mm (width) x 41.5mm (height) x 70mm (depth)

### LED INDICATION

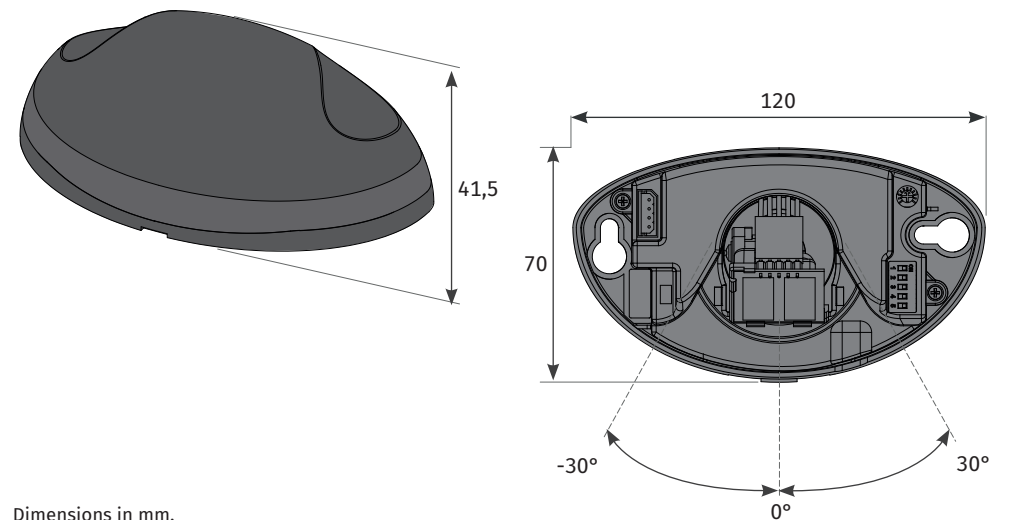
Green	On hold.
Blue	Microwave detection

## 02. THE PRODUCT

### DESCRIPTION



### DIMENSIONS



# 03. INSTALLATION

## INSTALLATION AND CONNECTIONS



To guarantee the correct functioning of the RAP50, pay attention to the following instructions:

- Disconnect the power during installation as it may damage the device or cause damage to its functioning;
- Avoid moving objects near the detector;
- Avoid heavy rain and snow;
- Install in a place where there is no vibration;
- Avoid fluorescent light sources.

### 1 DRILLING

Attach the mounting mold and drill the fixing holes (3.5 mm) and the wires passage (10 mm).

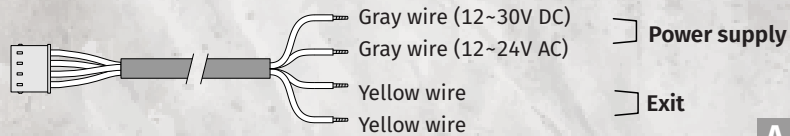
### 2 FIX THE FIXING BRACKET

Fix the fixing bracket with the screws provided in the kit.

### 3 PROGRAM THE RADAR

Connect the power cable to the radar body. See figure A.

#### CONNECTIONS:



### 4 FIX THE RADAR

Tilt the sensor module angle up-down-left-right to modify the detection area. Put the cover to close the radar.



## 04. CONFIGURATION

### DIP SWITCH SETTINGS



### ORIENTATION DETECTION

This setting is used to define the orientation of the flow direction of people or objects.

	Direction detection	Dip switch #1, #2, #3 e #4
A		
B		

In the next table "Presence timer" you can set the time according to the option previously chosen for the orientation.

## 04. CONFIGURATION

### PRESENCE TIMER

	Time	Dip switch #1, #2, #3 e #4
A	1s (factory set)	
	3s	
	5s	
B	1s	
	3s	
	5s	

### RELAY CONTACT TYPE

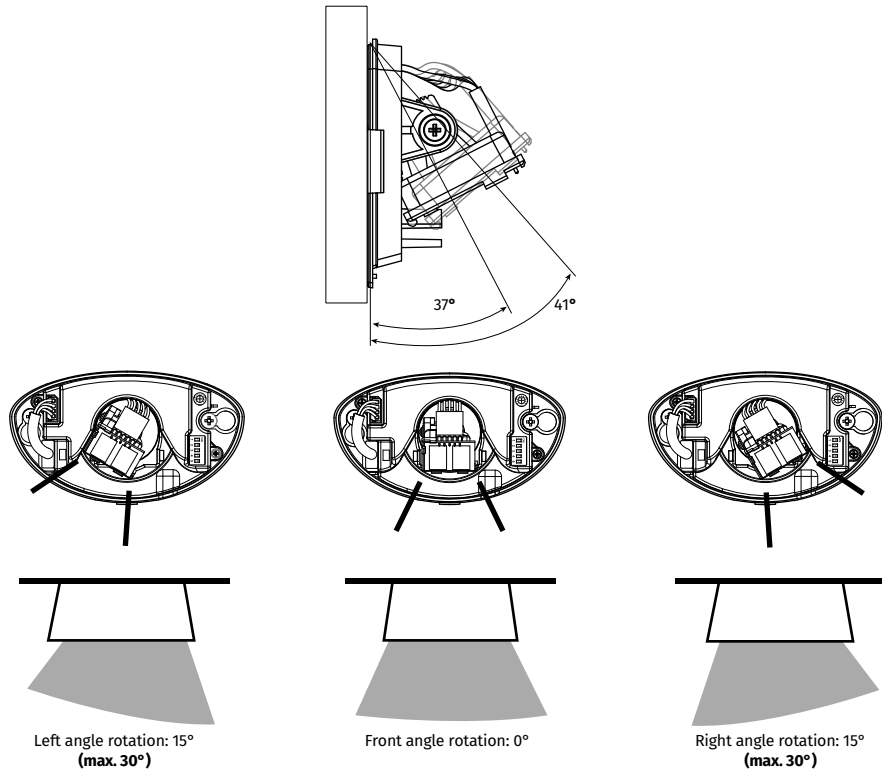
Mode		Dip switch #5
Normal NC	the contact opens when it detects            the contact closes when it detects	
Active NO	the contact closes when it detects            the contact opens when it detects	

## 05. PROGRAMMING

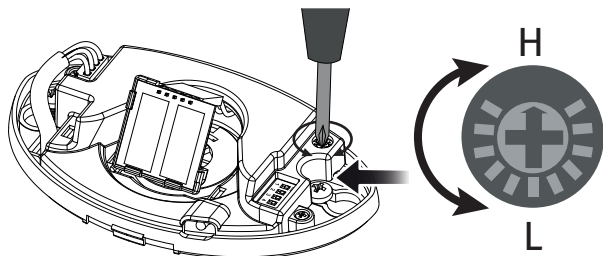
### DETECTION AREA ADJUSTMENT

Adjust the detection module up or down to determine how close the detection area is to the door.

Adjust the detection module to the left or right to obtain the desired side detection area.



### REGULATE SENSITIVITY

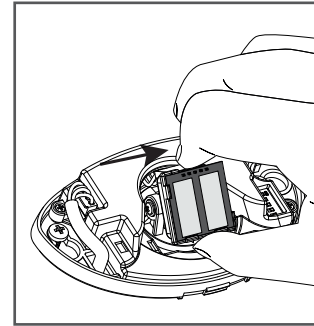


Sensitivity is adjustable by adjusting the potentiometer on the sensor body.

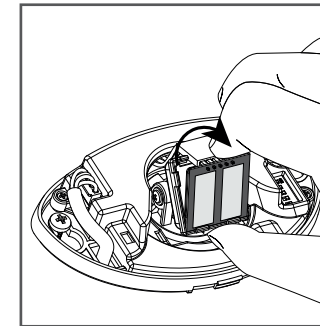
When shipped from the factory, the sensor is at the maximum sensitivity value.

## 05. PROGRAMMING

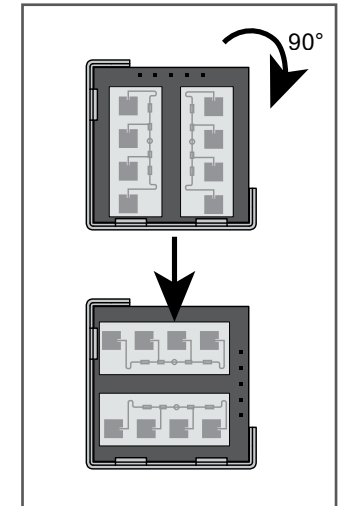
### WIDTH ADJUSTMENT



01 • Rotate the sensor module in the direction of the arrow while holding the module support with the other hand.

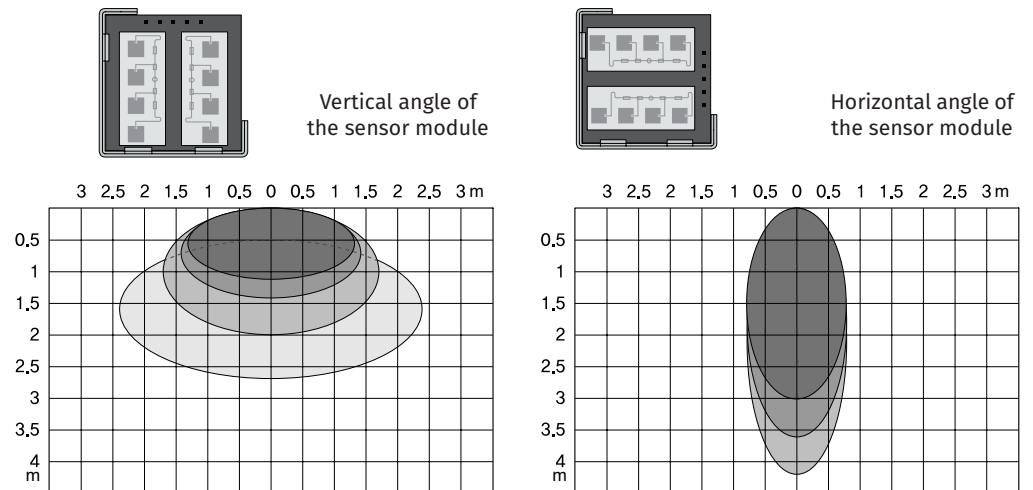


02 • Remove the upper part of the sensor towards you.



03 • Rotate the sensor module by 90° and insert it back into the support.

Ex: In the diagram below, a detection field is shown at a mounting height of 2.2 meters in the two width adjustment modes.





## 06. TROUBLESHOOTING

### INSTRUCTIONS FOR CONSUMERS AND SPECIALIZED TECHNICIANS

FAILURE	CAUSE / RESOLUTION
No LED on	<ul style="list-style-type: none"><li>• There is no current supplying the device;</li><li>• The device is defective (send to technical services).</li></ul>
The door is detected	<ul style="list-style-type: none"><li>• Tilt the sensor housing out of the door;</li><li>• Lower the sensitivity setting;</li></ul>
Object is detected too late	<ul style="list-style-type: none"><li>• Increase sensitivity.</li></ul>