EN 50131-1
EN 50131-2-6
EN 50131-5-3
EN 50130-4
EN 50130-5

INCERT
CEB T031

Air2-MC200

Magnetic contact with shock and tilt sensor

Installation and programming manual

inim ELECTRONICS

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1. Air2 system description

All anti-intrusion systems INIM can manage the two-way wireless system Air2 characterized by a MHz carrier frequency 868 MHz.

The system components Air2 are:

- Air2-BS200/50 transceiver module, 50 terminals
- Air2-BS200/30 transceiver module, 30 terminals
- Air2-BS200/10 transceiver module, 10 terminals
- Air2-KF100 4 button remote-control key
- Air2-Ergo 4 button remote-control key
- Air2-Pebble 4 button remote-control key
- Air2-MC200 magnetic contact with shock and tilt sensor in white or brown
- Air2-MC300 magnetic contact with two I/O terminals, in white or brown
- Air2-FD100 smoke detector
- Air2-Aria/W keypad with graphic display
- Air2-Hedera outdoor sounder, in white or chrome effect
- Air2-Smarty/W indoor sounderflasher
- Air2-DT200T dual technology curtain detector, in white or brown
- Air2-XIR200W PIR detector, 12 m
- Air2-XDT200W dual technology curtain detector
- Air2-UT100 universal transceiver
- Air2-ODI100W outdoor wireless dual-infrared detector
- Air2-OTT100W outdoor wireless triple-technology detector

Technical specifications of the system Air2	
Operating frequency	
range	868.0 - 868.6 MHz
selectable channels	868.1, 868.3, 868.5 MHz
RF output power	25mW e.r.p.
Communication type	Two-way
Modulation	GFSK
Device supervision	from 12 to 250 minutes

Note

In order to comply with the EN 50131-1 standards the alarm system supervision time must be below 120 minutes.

2. Description Air2-MC200

The magnetic contact Air2-MC200 is supplied with a magnet which is to be secured (by means of two screws) to the side of the contact, in the position indicated by the two notches.

Air2-MC200 it also integrates a shock and a tilt sensor that allow its use without the need of the magnet.

Air2-MC200 it is equipped with open and dislodgement tamper protection.

The device uses separate channels for the different types of signalling, thus allowing precise identification of the alarm source.

Magnet detection range

The following table indicates the distance in millimeters of the operating capacity of the magnet depending on the side in use and the axes illustrated in the figure (values starting from a nominal distance of 10mm, except for axis y-):

Axis	Distance between magnet and contact (mm)	
	Near	Withdrawn
x +/-	14	18
y -	14	18
z +/-	18	22

Shock detection

Signalling of shock waves is achieved through a tri-axial vibration detector. The vibration sensibility can be set either from a keypad or via the programming software application.

Tilt detection

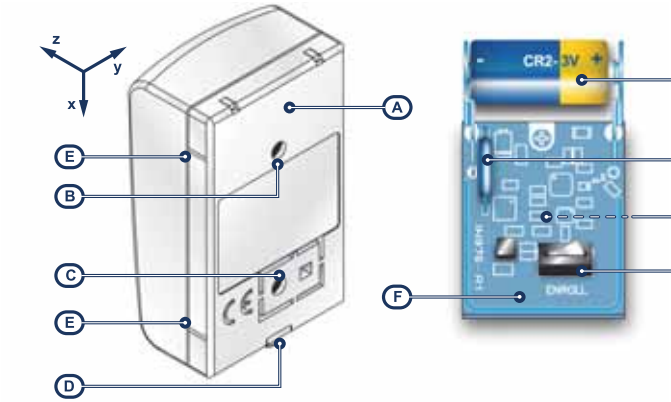
Signalling of tilting (angle change) is achieved through tri-axial tilt sensing. The tilt-variation value (angle) can be set in relation to the standby position, which is saved to the memory during the reset-after -alarm phase.

Note

The device programming allows, besides magnet detection, the use of only one other type of detection, to be enabled between the detection of shocks and that of tilting.

The shock and tilt sensors are not subject to certification of this product.

2.1 Description of parts



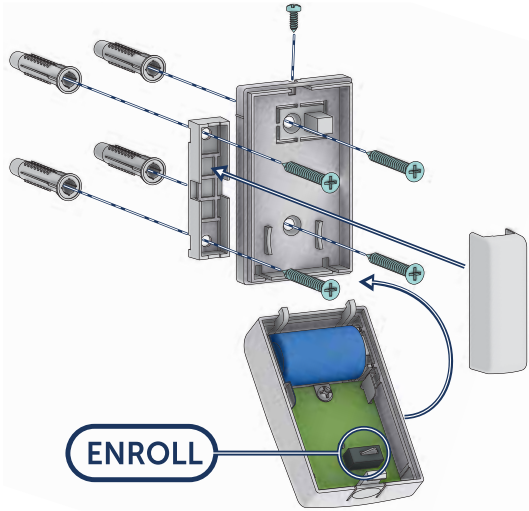
[A]	Backbox
[B]	Mounting screw hole
[C]	Tamper-screw location
[D]	Securing screws
[E]	Magnet position notches

[F]	PCB board
[G]	Battery
[H]	Signalling LED - red (on rear)
[I]	Microswitch: open/dis-lodgement/ENROLL
[J]	Reed contact

2.2 Air2-MC200 technical specifications

Battery	
type	Lithium CR2 3V
estimated life	4 years
“Low battery” fault voltage	Less than 2.4V
Current draw	
during standby	10µA
maximum	30mA
Operating environmental conditions	
Temperature	from -10 to +40 °C
Relative humidity	≤93% without condensation
Security rating	2
Environmental class	II
Dimensions (W x H x D)	35 x 58 x 23mm
Weight	30 g
Magnet dimensions	13 x 40 x 14mm
Colours	White, Brown

3. Installation of Air2-MC200



1. Choose a suitable mounting placement.

Attention!

Ferromagnetic materials which are located in the vicinity of the mounting position can influence the magnetic field and can result in the reduced operating capacity of the device.

2. Using a flat-bladed screwdriver in the enclosure screw location, push open the enclosure and separate the two parts.
3. Hold the base to the chosen mounting placement and mark the screw holes and tamper protection position.
4. Using the screws, secure the base and the tamper protection in position.
5. Insert the battery, ensure you respect the proper polarity.
6. Enroll the device.
7. If you wish to fit the magnet by means of the screws (included), remove the magnet base by means of a flat-bladed screwdriver.
8. Position the base of the magnet at a distance of about 2 mm from the detector, centering the notches on the side of the detector base.
9. Using the screws or the adhesive tape, attach the magnet.
10. Re-attach the cover to the base of the contact and replace the enclosure screw.

3.1 Enrolling a wireless device

The enrolling procedure allows you to associate a wireless device INIM with the transceiver Air2-BS200 which acts in conjunction with the intrusion control panel.

This procedure varies depending on the control panel in use and the programming software or application:

1. Access the control panel programming.
2. Select the device to be enrolled in accordance with its type:
   - an input terminal, for a detector (motion detector, magnetic contact, etc.)
   - an output terminal, for an output device connected to a terminal of a magnetic contact Air2-MC300
   - a keypad
   - a sounder/flasher
   - a key, for a remote control device, selecting as the associated reader the one simulated by the transceiver
3. Set the device as “Wireless”.
4. Start the learning phase from the control panel.
5. Press the **ENROLL** button on the wireless device.

3.2 Battery replacement

When changing the battery, it is advisable to press the **ENROLL** button in order to be sure that the device is synchronized with the wireless transceiver.

4. Programming wireless terminal

The programming of a wireless terminal can only be done through the control panel programming software.

On accessing the software, it is necessary to open a solution, configuration of the real system to be designed. Successively a terminal previously configured or to be configured as “wireless” must be selected.

After which it will be possible to access the device programming in order to select or change the device type and its parameters.

4.1 Wireless terminal parameters

Use detector LED	The red LED on the device provides visual signalling of alarm or tamper conditions on the device itself.
Bypass tamper	This option disables open/dislodgement tamper signalling.
Disable wireless monitoring	Enabling this option (disabled at default), disables wireless monitoring on the detector. In the event of the loss of the specific detector, no event will be generated and no fault signal will be signalled on the keypad.
Disable detector on partition disarming	In order to increase battery life, the PIR detector will deactivate when the partitions it belongs disarm and activate when the partitions it belongs to arm. When the detector is deactivated it will not generate alarms. From the moment the partitions arm, there may be a delay of up to 3 minutes before the detector receives the activation command.
Alarm pulses	This is the number of pulses (each lasting as long as the programmed “Alarm pulse duration”) necessary to generate a zone alarm event. If this value is more than 1, you must also program the “Multi-pulse time” parameter.
Multi-pulse time	This parameter applies only when the “Alarm pulse num.” is higher than 1. This is the window during which a number of alarm pulses must be detected (each lasting as long as the programmed “Alarm pulse duration”) equal to the value programmed for “Alarm pulses” in order for the system to generate an alarm. This time window can be expressed in seconds or minutes.
Alarm pulse duration	This is the length of time (after detection of alarm conditions) the zone will allow before generating an alarm. Expressed in multiples of 15 milliseconds or minutes.
Shock detector sensitivity	from least sensitive to most sensitive
Maximum angle allowed before signalling of tilting occurs.	from 5° to 70° (the default value depends on the control panel)
Shock/Tilt time	If the device is set to detect shock waves (bangs or vibration), this parameter refers to the time within which the shock waves must be detected. If the device is set to detect tilting, this parameter refers to the time with which the change in the angle will be signalled. from 1 to 125 (100msec or sec)

4.2 Real-time

For each configured device the software provides a direct software-to-device connection which allows visualization of the real-time values of the following features of the wireless sounder:

Reading level	The value read by each detector of the device is displayed on a bar which indicates the alarm threshold by means of a colour change from green to red.
Signal reception	The series of notches represent the reception level of the wireless signal of the device as received by the transceiver Air2-BS200.
Battery charge level	Percentage of the device battery charge.
RF analysis	Function to monitor the variation of the signal transmitted by the device and the background noise detected through time.

5. General information

5.1 About this manual

Manual code: DCMIINE0A2MC2008E

Revision: 100-DRAFT

5.2 Manufacturer's details

Manufacturer: Inim Electronics S.r.l.
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The persons authorized by the manufacturer to repair or replace the parts of this system have authorization to work only on devices marketed under the brand Inim Electronics.

5.3 Notes from the Manufacturer

The devices Air2 are certified by IMQ-Sistemi di sicurezza (Italian certification body).

The information relating to the power-supply batteries required by the devices Air2 are provided in the following Technical Specification table.

The manufacturer cannot guarantee the declared battery life.

Attention!

Do not use batteries other than those indicated by the manufacturer as they may explode.

5.4 Simplified EU Declaration of Conformity

Hereby, Inim Electronics S.r.l. declares that the radio equipment type Air2-MC200 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.inim.biz.

5.5 Documents for the users

Declarations of Performance, Declarations of Conformity and Certificates concerning to Inim Electronics S.r.l. products may be downloaded free of charge from the web address www.inim.biz, getting access to Extended Access and then selecting "Certifications" or requested to the e-mail address info@inim.biz or requested by ordinary mail to the address shown in this document.

Manuals may be downloaded free of charge from the web address www.inim.biz, getting access to the reserved area, after the login, and then to the section of each product.

5.6 WEEE

Informative notice regarding the disposal of electrical and electronic equipment (applicable in countries with differentiated waste collection systems)

The crossed-out bin symbol on the equipment or on its packaging indicates that the product must be disposed of correctly at the end of its working life and should never be disposed of together with general household waste. The user, therefore, must take the equipment that has reached the end of its working life to the appropriate civic amenities site designated to the differentiated collection of electrical and electronic waste. As an alternative to the autonomous-management of electrical and electronic waste, you can hand over the equipment you wish to dispose of to a dealer when purchasing new equipment of the same type. You are also entitled to convey for disposal small electronic-waste products with dimensions of less than 25cm to the premises of electronic retail outlets with sales areas of at least 400m2, free of charge and without any obligation to buy. Appropriate differentiated waste collection for the subsequent recycling of the discarded equipment, its treatment and its environmentally compatible disposal helps to avoid possible negative effects on the environment and on health and favours the re-use and/or recycling of the materials it is made of.

Information about disposal of batteries and accumulators (applicable in Countries with separate collection systems)

This marking on batteries and/or their manual and/or their packaging, indicates that batteries of this products, at the end of their working life, should not be disposed of as unsorted municipal waste, but must be object of a separate collection. Where marked, the chemical symbols Hg, Cd o Pb indicate that the battery contains mercury, cadmium or lead above the reference levels of the directive 2006/66/EC. If batteries are not properly disposed of, these substances, together with other ones contained, can cause harm to human health and to the environment. To protect human health and the environment, to facilitate treatment and recycling of materials, separate batteries from other kind of waste and use the collection scheme stated in your area, in accordance to current laws. Before disposing of the above, it's appropriate to remove them from their holders avoiding to damage them or causing short circuits.

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