EN 50131-1
EN 50131-2-6
EN 50131-5-3
EN 50130-4
EN 50130-5
CEB T031

# Air2-MC300

## Magnetic contact with two I/O terminals

Installation and programming manual

inim

# Table of contents

# 1. Description of the Air2 system

The advanced Air2 two-way wireless intrusion protection system (868 MHz frequency) integrates directly with all models in INIM intrusion control panel range.

Description of the Air2 system devices:

- *Air2-BS200/50 transceiver module, 50 terminals*
- *Air2-BS200/30 transceiver module, 30 terminals*
- *Air2-BS200/10 transceiver module, 10 terminals*
- *Air2-KF100/S 4 button remote-control key*
- *Air2-Ergo/S 4 button remote-control key*
- *Air2-Pebble/S 4 button remote-control key*
- *Air2-MC200 magnetic contact with shock and tilt sensor*
- *Air2-MC300 magnetic contact with two I/O terminals*
- *Air2-FD100 smoke detector*
- Air2-Aria/W keypad with graphic display
- *Air2-Smarty/W indoor sounder/flasher*
- *Air2-Hedera outdoor sounder/flasher*
- Air2-DT200T dual technology curtain detector
- 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 Air2 system** | |
|---|---|
| **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 monitoring** | 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 of Air2-MC300

The Air2-MC300 magnetic contact has two screw-in positions for placement optimization of the device magnet, 90° one from the other.

The magnet is equipped with three different bases for 3 different installation heights (13.5, 20 and 26.5 mm), depending on the installation requirements.

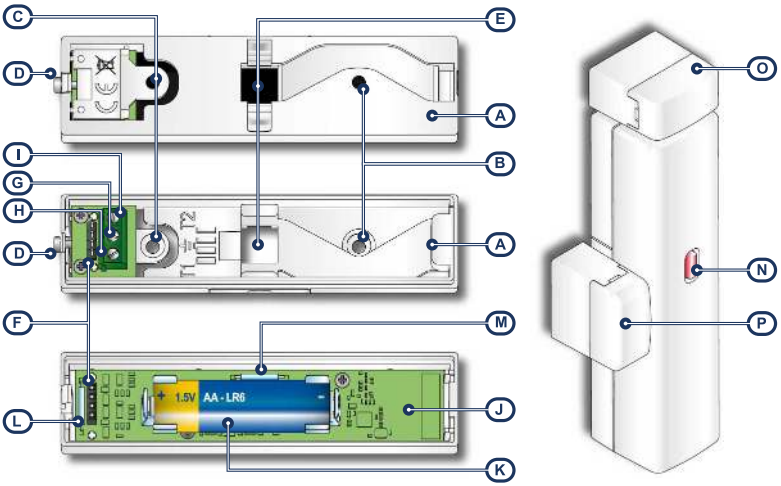
The Air2-MC300 also provides two terminals which can be configured individually as input or open-collector output. Configuring the terminals as inputs allows management of standard zone balancing (NO, NC, single balancing, double balancing) and also direct interfacing with rollerblind and inertial sensors.

Alarms deriving from magnetic contacts and distinctly from the two terminals are signalled separately on the control panel.

In order to comply with the EN 50131 series of standards, double balancing is required when either terminal ‘T1’ or ‘T2’ is configured as an input.

The device is protected against dislodgement and open-cover tamper.

## 2.1 Description of parts

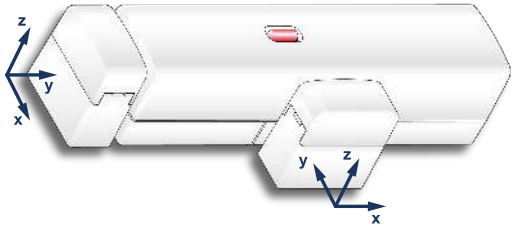



| | |
|---|---|
| [A] | Backbox |
| [B] | Mounting screw hole |
| [C] | Tamper-screw location |
| [D] | Securing screws |
| [E] | Cable entry |
| [F] | Tamper protection |
| [G] | GND terminal |
| [H] | Terminal T1 |
| [I] | Terminal T2 |

| | |
|---|---|
| [J] | PCB board |
| [K] | Battery |
| [L] | Reed contact: short side |
| [M] | Reed contact: long side |
| [N] | Signalling LED - red<br>ENROLL button |
| [O] | Magnet - short side |
| [P] | Magnet - long side |

## 2.2 Operating distances of the magnet

The following tables show the operating distances in millimeters of the magnet in accordance with the base of the magnet, the contact side and the axes, as shown in the figure.




The values were obtained by positioning the magnet in contact with the device, except for the y- axis.

### 13.5 mm magnet

| Axis | Long side | | Short side | |
|---|---|---|---|---|
| | Near | Withdrawn | Near | Withdrawn |
| x +/- | 13 | 14 | 11 | 13 |
| y - | 22 | 27 | 21 | 25 |
| z + | 40 | 45 | 45 | 48 |
| z - | 21 | 26 | 23 | 25 |

### 20mm magnet

| Axis | Long side | | Short side | |
|---|---|---|---|---|
| | Near | Withdrawn | Near | Withdrawn |
| x +/- | 11 | 12 | 13 | 14 |
| y - | 25 | 28 | 23 | 27 |
| z + | 35 | 40 | 37 | 41 |
| z - | 27 | 31 | 28 | 32 |

### 26.5mm magnet

| Axis | Long side | | Short side | |
|---|---|---|---|---|
| | Near | Withdrawn | Near | Withdrawn |
| x +/- | 9 | 11 | 14 | 15 |
| y - | 24 | 28 | 23 | 27 |
| z +/- | 35 | 40 | 33 | 37 |

## 2.3 Technical specifications of Air2-MC300

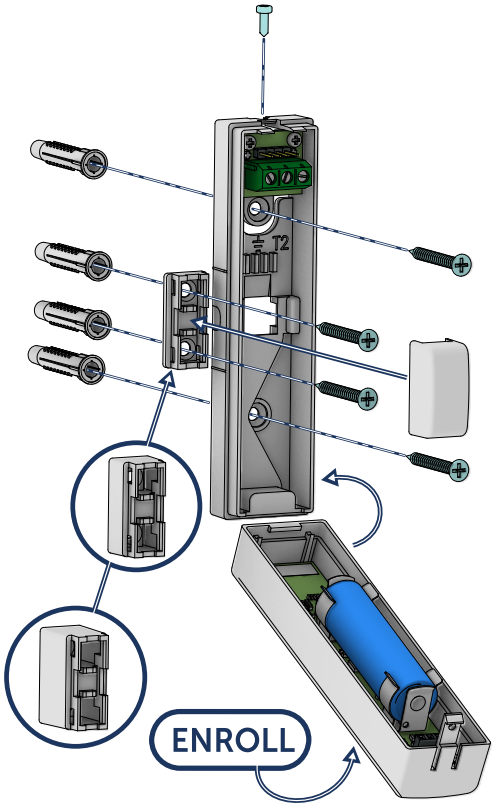
| Battery | |
|---|---|
| type | Alkaline LR6 AA 1.5V |
| estimated life | 4 years |

| | |
|---|---|
| **'Low battery' fault voltage** | Less than 1.15V |
| **Current draw** | |
| **during standby** | 30µA |
| **maximum** | 45mA |
| **Open-collector output** | Max 50mA |
| **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)** | 26 x 108 x 26.5mm |
| **Weight** | 50 g |
| **Magnet dimensions** | |
| **W x D** | 26 x 13 mm |
| **deight, depending on the base used** | • 13.5mm<br>• 20mm<br>• 26.5mm |
| **Colours** | White, Brown and Black |

**(EN IEC 62368-1)**

| | | |
|---|---|---|
| **Terminal type** | **BATTERY** | ES1, PS1 |
| | **T1, T2** | ES1, PS1 |

# 3. Installation of Air2-MC300




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. Open the enclosure by pushing lightly on the anchor tab and separate the two parts.

**Attention!**

**Be careful not to remove the circuit from its housing.**

3. If you are using terminals T1 and T2, pass the cables through the cable entry and connect them. Take care to ensure that inadmissible cable filaments do not come into contact with each other or with the + clip of the battery.
4. Hold the base to the chosen mounting placement and mark the points for the base attachment and tamper protection.
5. Using the screws, secure the base and the tamper protection in position.
6. If you wish to fit the magnet by means of the screws (included), remove the magnet base by means of a flat-bladed screwdriver.
7. In accordance with the installation requirements, use the base of the magnet with the necessary height, from the three available.
8. Position the magnet base on the desired side (long or short) of the magnetic contact at a distance of about 2mm.

**Note**

*If you are using the long side, centre the notches on the side of the base in such as way as to obtain the correct alignment and functioning capacity of the magnet. In the case of the short side, align the magnet with the detector itself.*

9. Using the screws or the adhesive tape, attach the magnet.
10. Remove the battery tab.
11. Re-attach the cover to the base of the contact and replace the enclosure screw.
12. Enroll the device.

## 3.1 Enrolling a wireless device

The enrolling process allows you to associate an INIM wireless device with the Air2-BS200 transceiver that connects to the anti-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 section.
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 the Air2-MC300 magnetic contact
   - 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.
6. If you are enrolling an output device that is connected to an output terminal of the Air2-MC300, you must enable the ‘Broadcast RF’ zone option.

### Via Prime/STUDIO software application

Once the solution for the system to be designed has been opened, click on the **System Layout** button on the menu on the left. Then in the section on the right click on the **Add device on BUS** button.

A window opens where you can select the devices to be configured and add them to the configuration.

In the section on the left you can increase the number using the button corresponding to the selected device type.

To remove a device from the structure, work through the Add device procedure, but instead deselect the device you want to remove

Alternatively, you can access the programming section by clicking on the relevant button on the menu on the left, and from the list that appears click on the **Delete** button that corresponds to the line of the device to be removed.

### Via SmartLeague software application


Once the solution of the system to be designed *[A]* has been opened, in the right 'Design' tab *[B]*, it is possible to select an icon of the type of peripheral to be configured and drag it to the relevant part of the tree structure on the left *[C]*.

Alternatively, you can double-click on the device icon to add it to the configuration.

In the tree structure on the left, the number corresponding to the selected device type increases.

To remove a component from the tree structure, select it and press **CANC** on the computer keyboard.

### Via keypad

Enrolling of wireless devices is possible by enabling the menu options in the installer menu section:

In this section it is possible to add the device to the configuration or delete it, by means of keys '▣' and '□'.

As soon as the device is enabled it must be configured as 'Wireless':

Once the **OK** button has been pressed, it is necessary to work through the menu options in order to enroll it.

## 3.2 Battery replacement

When replacing the power supply batteries of the equipment, the installer must use only non-rechargeable lithium batteries compliant with IEC 60086-4 standard.

In the case of battery replacement, it is advisable to press the **ENROLL** in order to ensure 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

**Parameters and sensitivity**

| Parameter | | Software section | Installer menu section |
|---|---|---|---|
| **Use detector LED** | The red LED on the device provides visual signalling of alarm or tamper conditions on the device itself.<br>This option must be enabled on all the terminals of the device. |  Wireless expansion, Selected terminal, Wireless | Terminals, "terminal",Options, Use sensor LED |
| **Bypass tamper** | This option disables open/dislodgement tamper signalling. | | DisableTamperWLS WLS |
| **Disable wireless monitoring** | Enabling this option (disabled by default), disables monitoring on the wireless detector.<br>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. | | No superv. WLS |
| **Disable detector on partition disarming** | In order to increase battery life, the infrared sensor will deactivate when the partitions it belongs to are disarmed and will only activate when the partitions it belongs to arm.<br>When the detector is deactivated it will not generate alarms. When the partitions arm, there may be a delay of up to 3 minutes before the detector receives the activation command. | | TampReed/FollPir |
| **Selection of the magnetic reed contact** | • Magnet long side - for detection on the long side of the magnetic contact.<br>• Magnet short side - for detection on the short side of the magnetic contact.<br>• Both magnets - for detection on at least one side of the magnetic contact. | | MagnetLongSide<br>MagnetShortSide<br>BothMagnets |
| **Tamper on inactive reed relay** | Detects magnetic-contact tamper when both reeds are in standby status. | | - |
| **Broadcast RF** | This option assures the activation/deactivation of the output within 2 seconds of the control panel command.<br>Valid for terminals T1 and T2 configured as outputs. | | Broadcast RF |

| Parameter | | Software section | Installer menu section |
|---|---|---|---|
| **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.<br>If this value is more than 1, you must also program the 'Multi-pulse time' parameter. |  Zones, selected zone, Device parameters 'generic' | Zones, Generic zone |
| **Multi-pulse time** | This parameter applies only when the 'Alarm pulse num.' is higher than 1.<br>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.<br>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.<br>Expressed in multiples of 15 milliseconds or minutes. | | |

## 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:

| | |
|---|---|
| **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 level** | This series of notches represents the reception level of the wireless signal of the device as received by the Air2-BS200 transceiver. |
| **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:** DCMIINE0A2MC3008E

**Revision:** 102



## 5.2 Manufacturer's details

**Manufacturer:** Inim Electronics S.r.l.
**Production plant:** Centobuchi, via Dei Lavoratori 10
63076 Monteprandone (AP), Italy
**Tel.:** +39 0735 705007
**Fax:** +39 0735 734912
**E-mail** info@inim.biz
**Web:** www.inim.biz

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

The information relating to the power-supply batteries required by Air2 devices is shown in the Technical Specification table that follows.

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-MC300 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 Warranty

Inim Electronics S.r.l.. (Seller, Our, Us) warrants the original purchaser that this product shall be free from defects in materials and workmanship under normal use for a period of 24 months.

As Inim Electronics does not install this product directly, and due to the possibility that it may be used with other equipment not approved by Us;Inim Electronics does not warrant against loss of quality, degradation of performance of this product or actual damage that results from the use of products, parts or other replaceable items (such as consumables) that are neither made nor recommended by Inim Electronics. Seller obligation and liability under this warranty is expressly limited to repairing or replacing, at Seller's option, any product not meeting the specifications. In no event shall Inim Electronics be liable to the purchaser or any other person for any loss or damage whether direct of indirect or consequential or incidental, including without limitation, any damages for lost profits, stolen goods, or claims by any other party caused by defective products or otherwise arising from the incorrect or otherwise improper installation or use of this product.

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover damage arising from improper maintenance or negligence, damage caused by fire, flood, wind or lightning, vandalism, fair wear and tear.

Inim Electronics S.r.l. shall, at its option, repair or replace any defective products. Improper use, that is, use for purposes other than those mentioned in this manual will void the warranty. Contact Our authorized dealer, or visit our website for further information regarding this warranty.

## 5.6 Limited warranty

Inim Electronics S.r.l. shall not be liable to the purchaser or any other person for damage arising from improper storage, handling or use of this product.

Installation of this Product must be carried out by qualified persons appointed by Inim Electronics. Installation of this Product must be carried out in accordance with Our instructions in the product manual.

## 5.7 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.

## 5.8 Disposal of the product

**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.

Evolving Security

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