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EN 50131-2-4
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EN 50130-4
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CEB T031



Air2-QDT200W

Indoor wireless combined passive infrared and microwave detector with anti-masking protection for intrusion alarm systems

Installation and programming manual



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1. Qtech detectors

The Qtech series of detectors to be applied in indoor installations.

By means of the amplification, filtering and digital analysis of the signals detected by their sensors, these devices are capable of detecting motion in the area they watch over with appropriately programmable sensitivity, immunity to false alarms and adequate protection against tamper.

The Qtech detector series also provides 'pet immune' versions dedicated to applications that must not generate alarms in the presence of animals of up to 25 kg.

1.1 Functioning of the Air2-QDT200W detector

If someone is moving in the space covered by the detector, the alarm signal will activate and the LEDs corresponding to the detectors that have sensed the movement will light up.

In this case the red LED lights up to indicate that the alarm signal has been sent and received by the control panel.

Ambient temperature can affect infrared sensing ability and the possible presence of moving or vibrating objects can affect the MW sensor. The installer can adjust the sensitivity of the detectors through programming.

Changing the sensitivity of the sensors does not always reduce the range, but it does reduce the ability to detect small changes in heat/temperature.

Tamper protection

The detector is protected by anti-tamper systems:

- through the contact on the PCB for anti-opening
- through a sensor that detects changes in position of the detector and tilting

Anti-masking

The anti-masking protection is achieved via the microwave module and is programmable.

If someone is covering the detector frontally with reflective or ferrous materials, the detector will generate a 'masking' signal which will be restored only after the removal of the covering material in question.

In order to generate a masking alarm, the distance between the detector of the covering material depends on the material itself and can be between 0 and 30cm. Ferrous materials are detected at shorter distances than reflective materials.

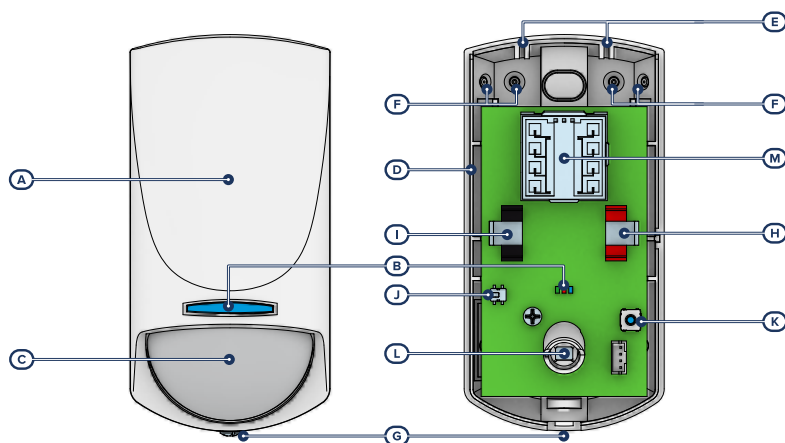
The signalling occurs within approximately 30 seconds from when the covering of the detector begins and the activation time of the masking phase is influenced by the material itself. Reset occurs approximately 5 seconds after the removal of the covering material.

1.2 Main features

- Digital signal analysis
- Coverage 10m
- Detection angle 90°

- Pulse counter
- Temperature compensation
- White light immunity
- Signalling LED
- Signals from bypassable LEDs
- Anti-opening protection
- Movement and tilt protection
- Anti-masking protection
- Bypassable sensors
- Adjustable sensor sensitivity
- Wireless interface Air2

1.3 Description of parts



[A]	Cover	[H]	Positive battery contact
[B]	Signalling LED	[I]	Negative battery contact
[C]	Lens	[J]	Anti-opening tamper
[D]	Base	[K]	ENROLL button
[E]	Cover retainer locations	[L]	PIR sensor (infrared)
[F]	Mounting screw locations	[M]	MW sensor (microwave)
[G]	Cover securing screws		

1.4 Technical specifications

Power supply voltage

Battery type	Lithium CR17450 3V
Estimated life	3 years
“Low battery” fault voltage	≤ 2.4 V
Stand-by current draw	50µA
Maximum current draw	30mA
Detectors type	digital dual PIR, microwave module
Detection mode	Infrared emission + doppler effect
Alarm pulses	from 1 to 2
Signal minimum duration	5 seconds
Detection range (max)	10 m
Detection angle	90°
Security grade	2
Environmental class	II
Installation method	wall-mounting
Installation height	2.2m
Dimensions (HxWxD)	120 x 60 x 48 mm
Weight (with battery)	100 g
Microwave	
Band frequency	24.05 - 24.25 GHz
RF output power (max)	100mW e.i.r.p.
Environmental operating conditions	
Temperature	from -10 to +40 °C
Relative humidity	≤93% without condensation

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

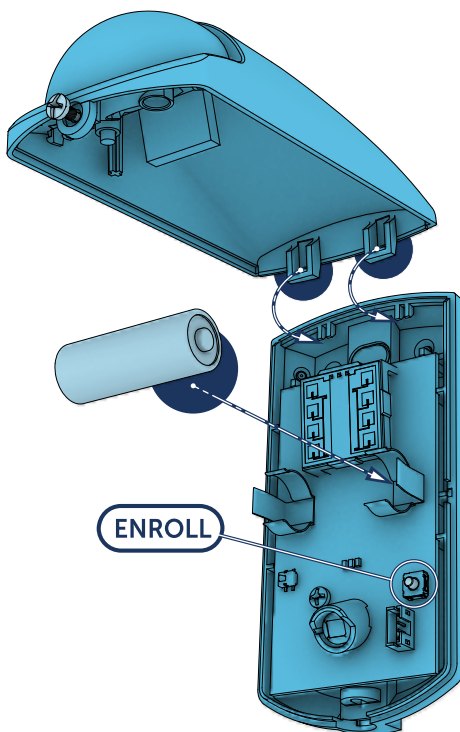
In order to comply with the EN 50131-1 standards the alarm system supervision time must be below 120 minutes.



(EN IEC 62368-1)

Tipo terminali	BATTERY	ES1, PS1
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2. Installation



1. Choose a suitable mounting placement.

Note

If the detector is installed in a partition with high transit (many people in movement), it is advisable to activate the function that disables the detector when the partition is disarmed, in order to preserve battery life.

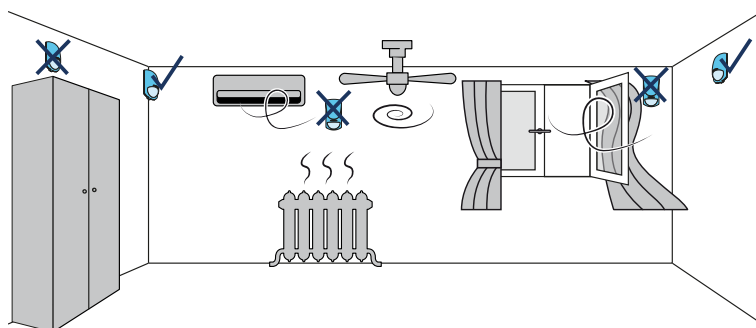
2. Pull the cover away from the base.
3. Push apart the card retainers.
4. Open the anchor-screw holes.
5. Hold the base to the chosen mounting placement and mark the screw holes position.
6. Using the screws, secure the base in position.
7. Insert the battery, ensure you respect the proper polarity.

8. Enroll the device. For details of the enrolling phase, refer to the manual of the Air2-BS200 transceiver.
Configure the detector on the control panel as input terminal, .
9. Fit the PCB back.
10. Re-attach the front cover and replace the securing screw.
11. Complete the programming process and adjust the operating sensitivity.

Note

When using of the optional XBK100 swivel, the function that detects removal from the mounting surface (anti-dislodgement) is void and the degree of safety is reduced to 1.

2.1 Warnings



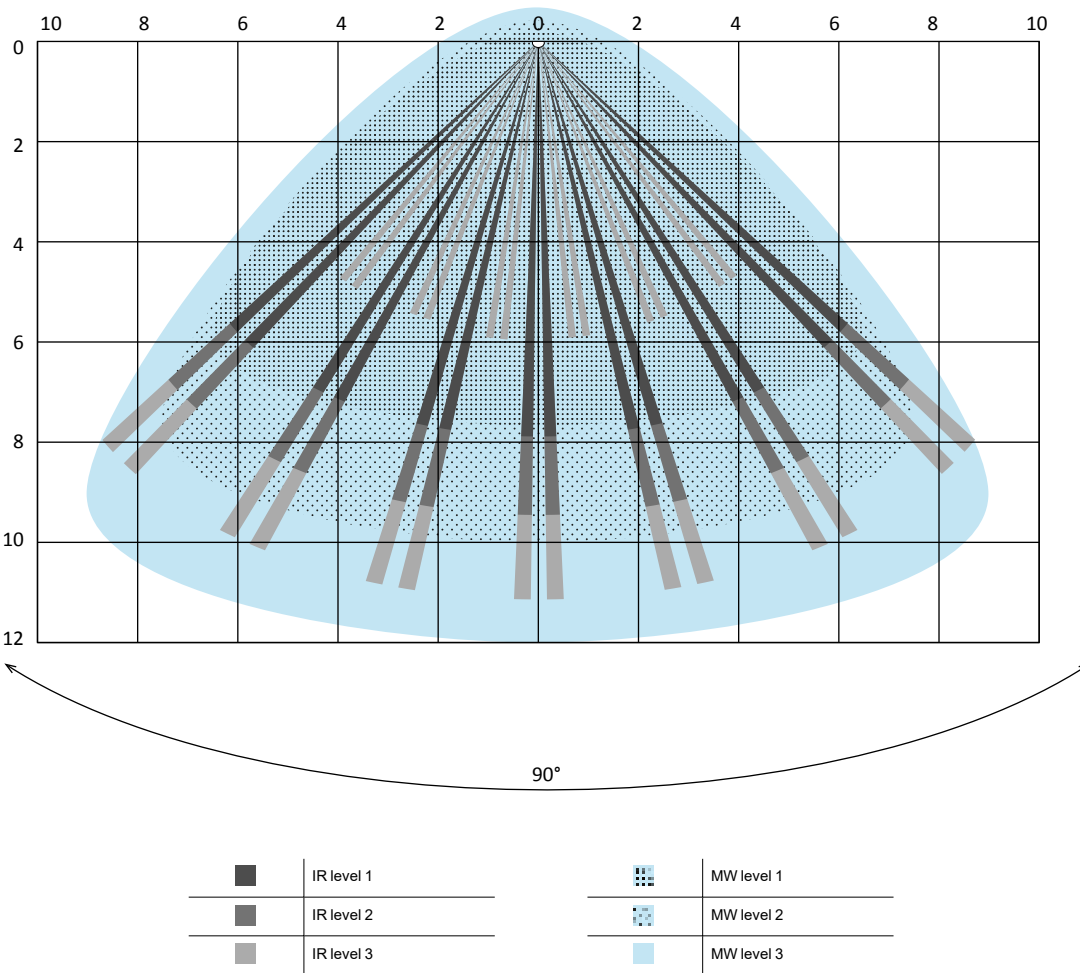
- The securing screws are component parts of the anti-dislodgement device and therefore their use is essential for the correct functioning of the device.
- During the installation phases, pay the utmost attention in order to avoid drilling into water pipes, gas pipes, electrical ducts, etc.
- Avoid installing the detector in the vicinity of the following sources of interference: reflective surfaces, direct air flow, air-conditioning systems, windows, sources of steam, oil fumes, infrared sources, power lines, neon lamps and objects that can cause temperature changes such as stoves, refrigerators and ovens.
- Do not install the detector in locations where there is risk of rapid temperature changes.
- Do not install more than one detector in each room or two detectors in different rooms at a distance of less than 2 m from each other.
- Do not blind the field of detection of the sensor, even partially.
- The detector should be mounted with the alarm-LED strip above the lens and not vice versa.
- Do not touch the electronic components as this may damage the circuits and reduce the reliability of the detector. If necessary, clean the detector with a soft cloth only.
- This detector must be installed in compliance with the laws and standards in force.
- The device should be tested on a regular basis.

2.2 Coverage

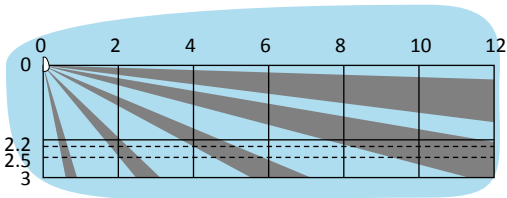
This paragraph shows the projections on a horizontal plane and on a vertical one of the range of the device sensors.

The measurements shown are in metres.

Top view



Side view



2.2.1 Restrictions or requirements in:

UK

Band fre- quency	Country	Implementation	Reason / remarks
24.05 - 24.25 GHz	UK	Restricted imple- mentation	Band limited to 24.150 - 24.250 GHz to prevent speedometer inter- ferences.

3. 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.

3.1 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.	 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. 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. 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. For future use		TamperReed/FallPir
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.	 Zones, selected zone, Device parameters 'generic'	Zones, Generic zone
Multi-pulse time	For future use		
Alarm pulse duration	For future use		

3.2 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:

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.

Such data can be reached through the 'Real time' section relating to the programming of each wireless device or through the 'Monitoring' section which provides an overview of all the devices connected to the control panel.

4. General information

4.1 About this manual

Manual code: DCMIINE0A2QDT200W8E

Revision: 100

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4.2 Manufacturer's details

Manufacturer: Inim Electronics S.r.l.

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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.

4.3 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 or 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.

4.4 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.

4.5 Simplified EU Declaration of Conformity

Hereby, Inim Electronics S.r.l. declares that the radio equipment type Air2-QDT200W 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.

4.6 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.

4.7 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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