IntegrAlarm USER AND INSTALLER MANUAL
(DOOR / WINDOW CONTACT SENSOR)
IntegrAlarm MODEL IA-DWC1

February 09, 2004

Table of Contents

1 IntegrAlarm Overview

The IntegrAlarm wireless security system includes a Control Panel and a number of wireless peripheral units. The system operates on the ISM wireless band of 902-928 MHz, in frequency hopping mode, transmitting short (about 10 ms) packets of data, with each packet transmitted on a different frequency. Time and frequency synchronization is maintained by a synchronization signal transmitted by the system Control Panel to the various peripherals (including the IA DWC-1) every 3 minutes. The system operates on 56 pseudo random selected channels.

In its present configuration, the system includes five types of peripheral units:

- Door / window sensor.
- PIR sensor.
- Smoke detector.
- Handheld remote control.
- Remote siren.

This manual is devoted to the installation instructions for the IntegrAlarm IA DWC-1 door / window sensor.

The installation instructions for the other IntegrAlarm peripherals and the IntegrAlarm Control Panel appear in the User and Installer Manuals for the respective units.

FCC Compliance Statement

The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

a) Reorient or relocate the receiving antenna.

b) Increase the separation between the equipment and receiver.

c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

d) Consult the dealer or an experienced radio technician.

FCC ID: RUF150704

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.

FCC Warning

Modifications not expressly approved by the manufacturer could void the user authority to operate the equipment under FCC Rules.

Instructions concerning human exposure to radio frequency electromagnetic fields.

To comply with FCC Section 1.307 (b)(1) for human exposure to radio frequency electromagnetic fields, implement the following instruction:

A distance of at least 20cm. between the equipment and all persons should be maintained during the operation of the equipment.

2 Door / Window Sensor

2.1 Description

The door / window sensor unit consists of an RF transceiver, a micro-controller, a non-volatile memory, a power supply, a magnetic switch, a tamper switch and a battery.

The sensor unit is composed of the following principal parts:

- Sensor assembly.
- Magnet block.
- 3V Lithium HNO_2 battery type CR2.

The sensor assembly includes the following subassemblies:

- Mounting plate.
- Sensor base.
- Sensor PCB with RF controller, terminal block, reed switch and LED.
- Cover.

An exploded view of the door / window sensor unit is shown in Figure 1 below.

2.2 Technical Specifications

Operating frequency band – ISM 902-928 MHz.

Mode of operation – frequency hopping; every data packet is transmitted on a different pseudo random selected frequency.

Data packet transmission duration – less than 7 milliseconds.

Data packet validity check – CRC.

Transmission and reception verification – two-way communication; each received packet is acknowledged, with an automatic repeat request (ARQ) in case of unacknowledged data packet.

Events reported – door / window opened, door / window closed, tamper.

Automatic self-test (transmission of a data packet and receipt of acknowledgment).

Magnet gap from sensor – 3 mm max.

Power source – 3V Lithium MNO_2 battery type CR2.

Average current drain in normal use – 8 uA

Current drain in “no change” state – 5 uA

Sensor dimensions (mm): L-58, W-58, D-29.

Magnet dimensions (mm): L-37, W-13, D-13.

Weight (grams): 55.

2.3 Installation

Installation of each door / window sensor is a three-step procedure. The sensor should first be registered via the IntegrAlarm Control Panel. It should then be mounted on the door or window to be secured, and then tested to confirm that it operates properly.

2.3.1 Registration

From Installer Menu on Control Panel, select ENROLL. Screen will show:

ENTER ZONE #

Use numeric keypad at right of Control Panel to enter the desired zone number. The description of the zone number (e.g. MASTER BEDROOM) will appear at bottom of screen. If zone description is correct, press OK at left of Control Panel. Screen will show:

PLEASE POWER UP THE ZONE

Insert battery. Sensor will begin to transmit. If Control Panel does not identify sensor, screen will show:

ZONE NOT FOUND

If Control Panel identifies sensor, Control Panel will emit an audible beep and screen will show:

S/N: XXXXXX TYPE: YYYY

where XXXXX is the sensor serial number and YYYY is either DOOR or WINDOW as defined in the system. Ensure that the serial number displayed corresponds to the serial number of the sensor and press OK at left of Control Panel. Screen will show:

ACCEPT ZONE DATA NO YES

Press OK at left of Control Panel.

System will update zone enable parameters, sensor serial number and type, and mode of operation (A, B or C).

2.3.2 Mounting

Remove the door / window sensor from its package. Select and mark the locations on the door / window and the door / window frame inside the room, near the top outer corner of the door / window, where the magnet block and the sensor assembly are to be installed. The sensor assembly may be installed above or on the side of the door / window; if installed on the side of a door, it must be installed on the side opposite the hinges. Ensure that the door / window sensor will not interfere with the opening of the door / window.

Note: Ensure that the part of the door / window frame intended for the installation is flush with the door / window itself, so that the magnet is opposite the row of raised dots on the sensor assembly outer cover. This positioning ensures that the magnet will activate the sensor when the door / window is opened or closed. If the door / window frame protrudes outward beyond the door / window, it may be necessary to remove part of the protrusion in order to accommodate the door / window sensor. If it is not possible to remove the protrusion, the sensor may be mounted next to the door / window frame, and an external reed switch may be installed in parallel to the reed switch.

Before mounting the door / window sensor, it is necessary to ensure that all of the components listed in Section 2.1 above are present and in good order. Insert a small flat screwdriver into the rectangular holes in the mounting frame and the sensor base in order to disassemble the sensor assembly, and perform a visual inspection.

Write down the serial number from sensor base on a piece of paper for use in the registration process. Now, using two screws, attach the mounting plate to the door / window frame in the marked location as shown in Figure 1 below.

When the mounting plate is in place, take the sensor PCB and battery to the Control Panel and perform the registration process as set forth in Section 2.3.1 above.

Now return to the site where the sensor is to be installed. Insert the sensor PCB and battery into the sensor base and attach the sensor base to the mounting plate (taking care to insert the anti-tamper stud of the mounting plate through the slot in the inner cover).

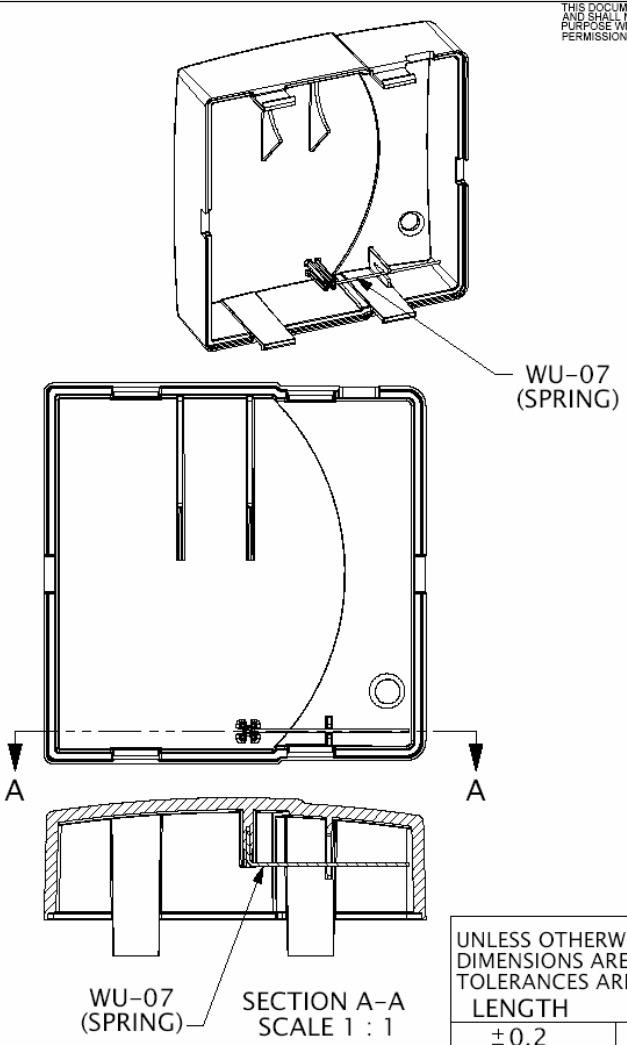
When the sensor base is in place, attach the cover. Ensure that the LED can be seen through the hole in the cover.

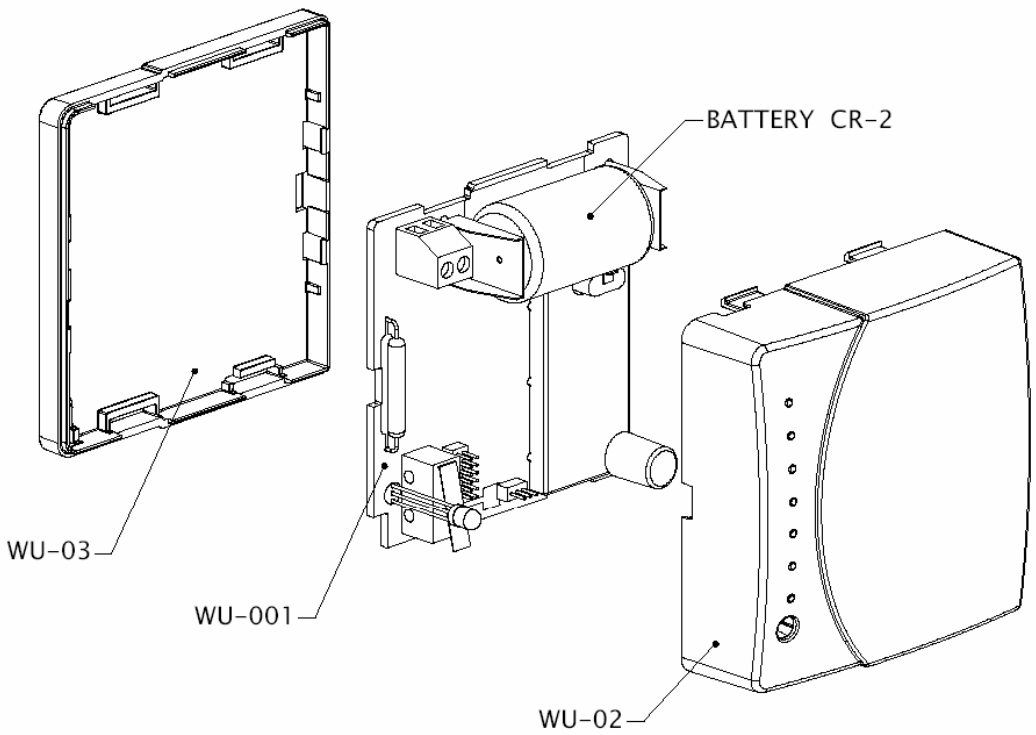
Using two screws, attach the magnet block to the door / window in the marked location. Ensure that the distance between the magnet block and the sensor assembly is no more than 5 mm as shown in Figure 1 below.

2.3.3 Testing

When the door / window sensor has been registered and installed, test it by opening and closing the door / window several times. Each time, ensure that the LED first flashes red (indicating transmission to the Control Panel) and then green (indicating receipt of ACK response from the Control Panel).

VER	CHANGES	APPROVED	DATE





UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN mm. TOLERANCES ARE: LENGTH ±0.2 ANGLES ±1°		DATE OF ISSUE	
		DATE OF DWG. 31.10.03	
BETWEEN HOLES: ±0.1			
HOLES DIAMETER: +0.1			
MATERIAL			
FINISH			

	NAME	SIGN.
DRFM.	YOSSI L.	
CHKD.	TZAHI	
ENG.	YOSSI L.	
APPD.	DORON	

PROJ. NO.	
CAT. NO.	

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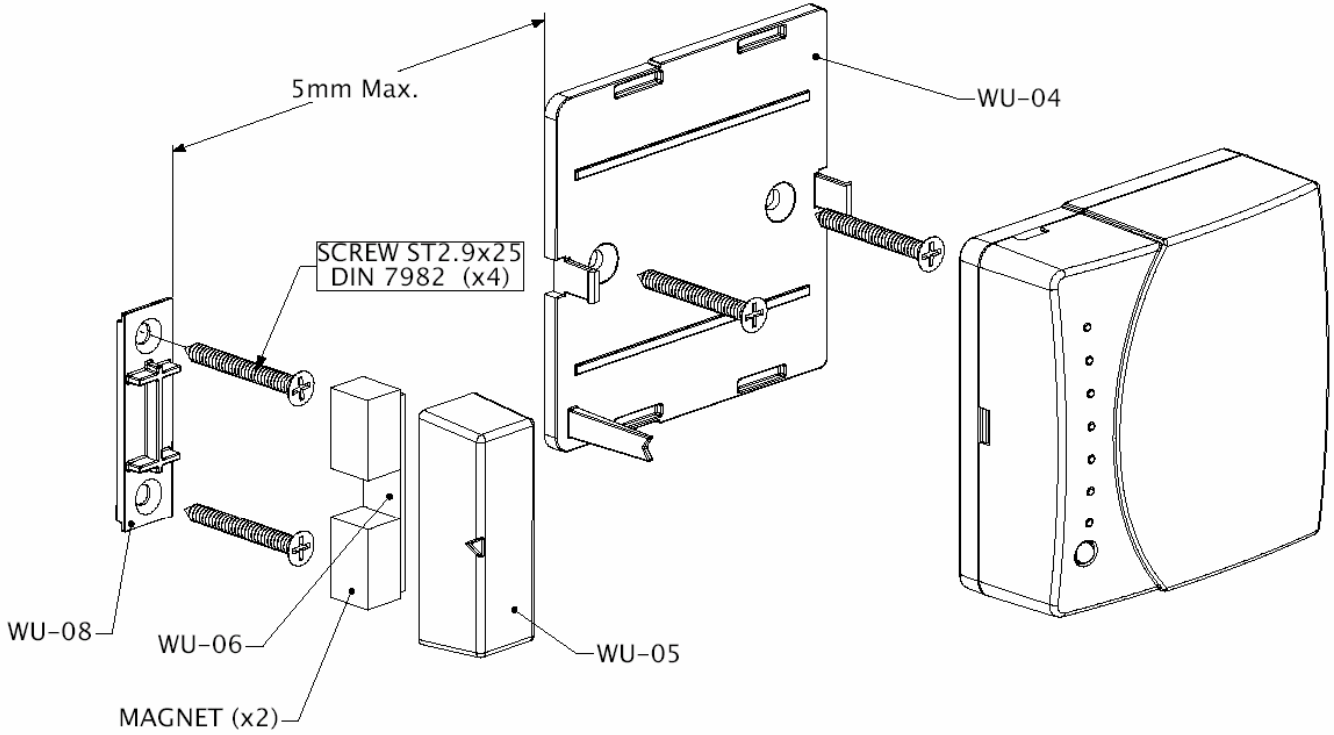
TITLE
ETS
DOOR/WINDOW-SENSOR
ASSEMBLY

ASSY REV.	I	DWG NO.	WU-000
DWG REV.	0		
SCALE	1:1	SHEET 1 OF 2	

VER	CHANGES	APPROVED	DATE



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±0.3 ±1°	DATE OF DWG. 31.10.03	
BETWEEN HOLES: ±0.1	NAME / SIGN.	TITLE: ETS DOOR/WINDOW SENSOER INSTALLATION
HOLES DIAMETER: +0.1	DRFM. YOSSI L.	
MATERIAL	CHKD. TZAHI	
	ENG. YOSSI L.	
	APPD. DORON	ASSY REV. I
FINISH	PROJ. NO.	DWG REV. 0
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		SHEET 2 OF 2