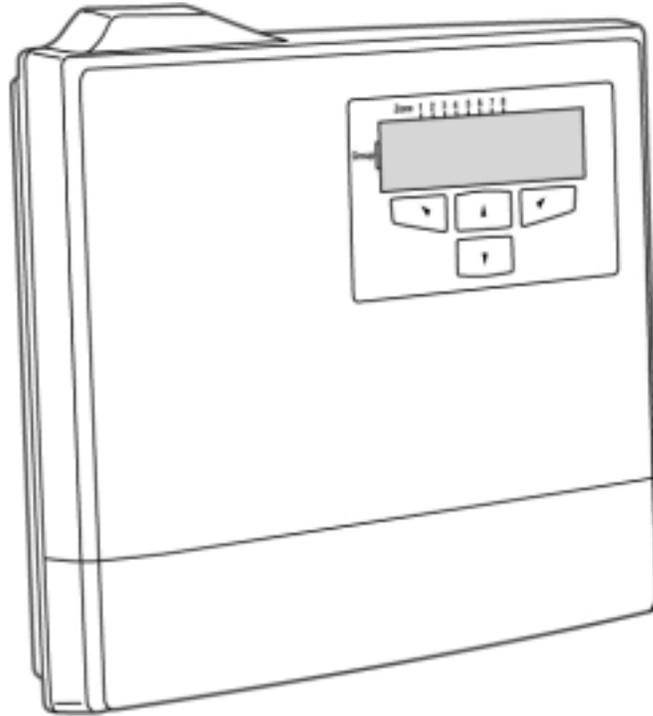




ELECTRONIC ENGINEERING LTD.



Merlin Pro Programming & Installation

Preliminary

P/N 7102452 Rev. B Y.A. / A.Y

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Introduction:

The Merlin Pro is a programmable standalone FW receiver with a small LCD display for easy programming and status indication.

The programming is performed by 4 keys touch contacts (rolling menu).

It can learn up to 64 wireless detectors and 256 Remotes Control, 8 wirelesses for every output.

Any pre programmed wireless detection is converting to the outputs accordingly.

The Merlin Pro contains 8 Outputs (Dry contact) that can be connected to Zones inputs in wire Control Panel.

The Merlin Pro is protected with tampers that activate when opening the service cover or while there is a tamper alarm from one of the detectors.

Features:

- Small LCD 2 x 16 Characters.
- Keypad with 4 touches contacts.
- Rolling menu.
- Easy to program.
- Can learn up to 64 wireless detectors (8 detectors to each output).
- Can learn up to 256 Remotes Control with 4 modes: Toggle, Pulse 3 Sec, Pulse 5 Sec, 1 & 2.
- Access to Installer mode is required a Password.
- Real Time Clock with back up battery.
- Protected by tamper.
- Full supervised – beeps every minute while supervision missing for more the two hours.
- Beeps every minute while Low battery signal from one of the detectors.
- Log events of 64-recorded events (FIFO).

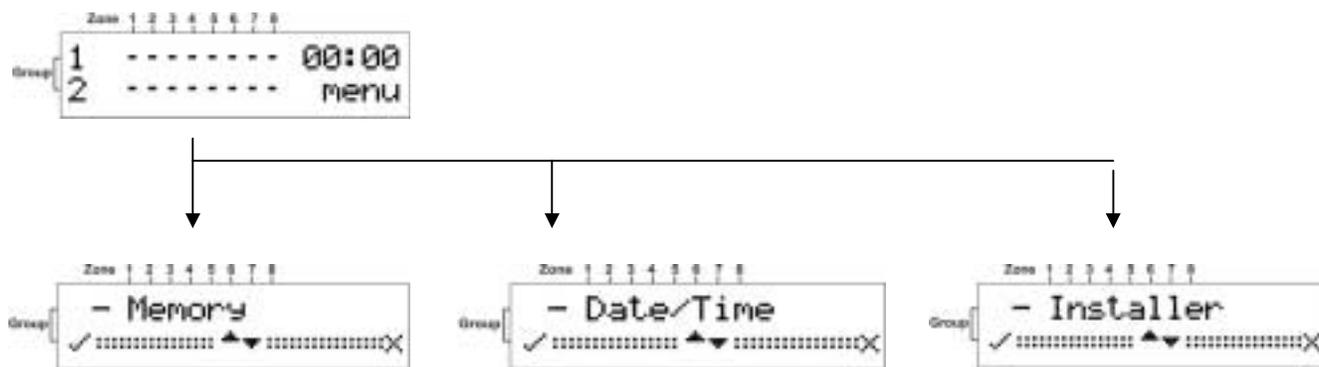
Programming Procedure:

It's recommended to program the Merlin Pro on the workbench before the actual installation.

1. First set the Clock (unsetting the clock can cause an unexpected behavior).
2. Get in the Installer mode (the password is 111) and change the password.
3. Program all the detectors and remotes that you need for the installation it's recommended to mark the detectors according the zone assigned.
4. Locate the detectors and the Merlin Pro close to the point you want to install them and perform RSSI test.
5. Final Installation.

Table #1: Index of Indication marks on LCD screen.

Icon	Signification	Description
	Tamper	Tamper transmission from the detector
	Alarm	Alarm transmission from the detector or the remote.
	Supervision	Missed supervision transmission for more than 120 minutes
	Low Battery	Low Battery in the Detector.
	New Event	New events record in Log event.



User Programming:

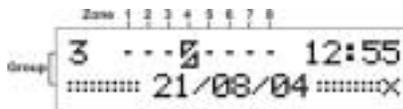
The user can program the Date /Time and show the list of the events in Memory.

Memory:

The memory buffer can store up to 64 events, the leafing is done by Up/Down arrows ▲▼. Event- every activity while the Status Input at “Low” Level and Tamper of detector at all modes.

Every event is display with the date and the time

For Example:

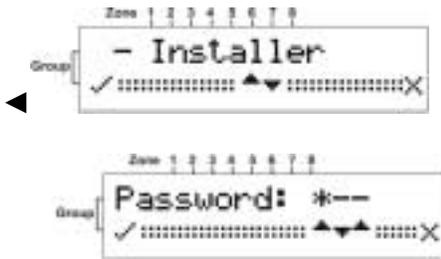


Detector at Zone 4, group 3 transmitted a tamper at 21/08/04 on 12:55.

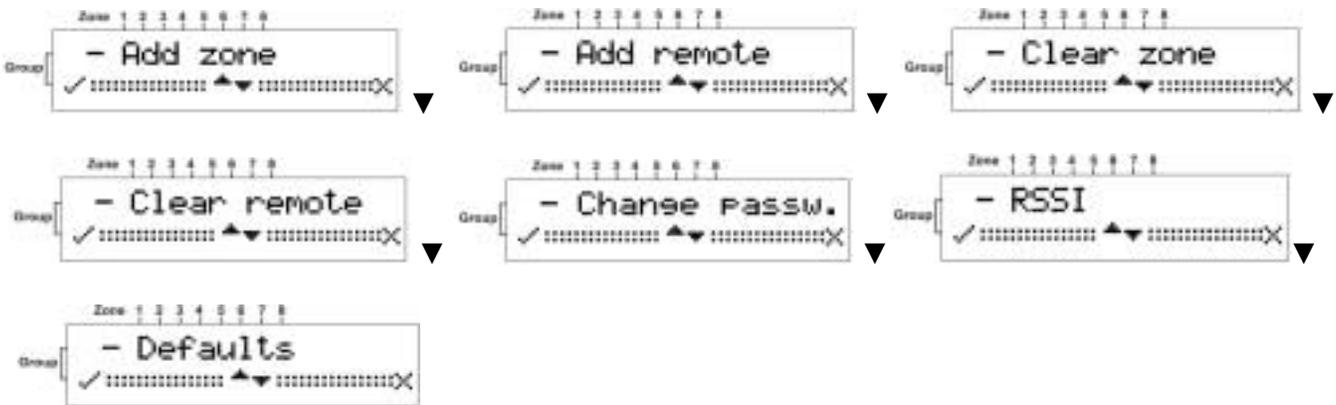
Date/Time:

Setting the date and the time, the setting is done by Up/Down arrows ▲▼.The Merlin have a Real Time clock with back up battery which mean that the date and time is stored even while The power of the Merlin is shut down.

Installer Programming:

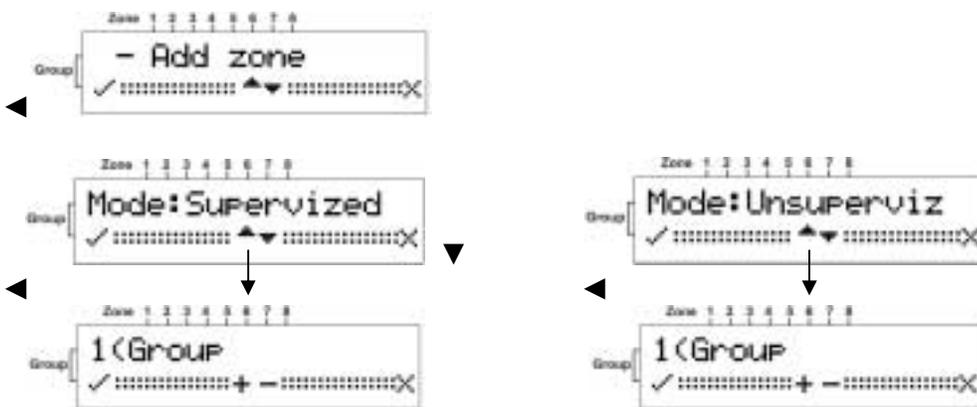


Enter the Password, the Factory default is 111 that mean :▲▼▲ and then type for confirmation left arrow ◀.

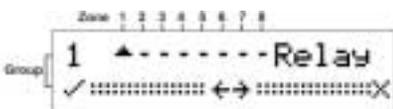


Add Zone:

This screen is for learning the wireless detectors (FW-PIR, FW-MAG, FW-Glass Break).



Choose Supervised or Unsupervised and then choose the group by Up / Down arrows and type ◀ the next screen will show



Choose the Output that you want to assigned to the detector and type ◀ a beeps will be heard and the next screen will be show

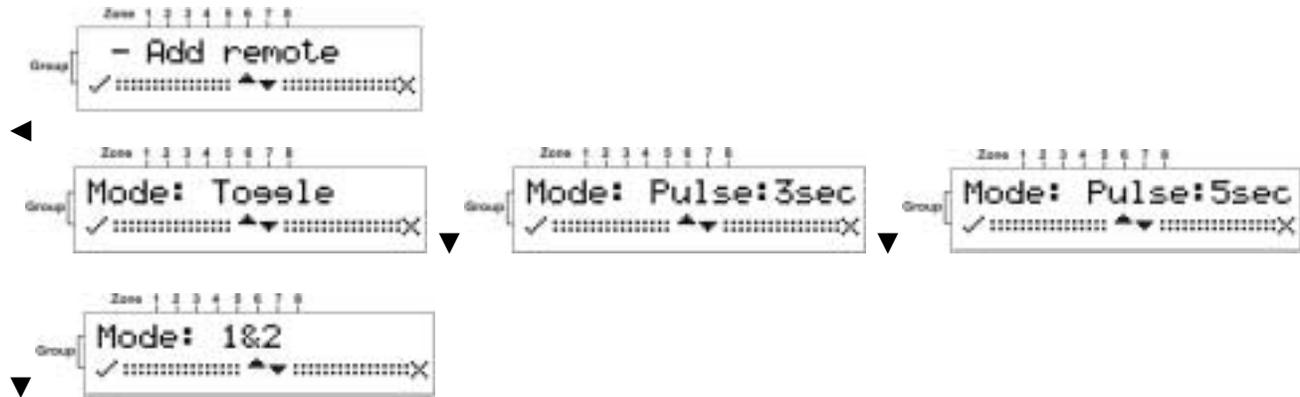


Activate the Tamper of the detector, two beeps for O.K will be heard and the screen will be closed and return to Add Zone screen.

There are options for 8 groups that mean that you can learn on every Output/Relay 8 detectors.

Add Remote:

This screen is for learning the FW-RM



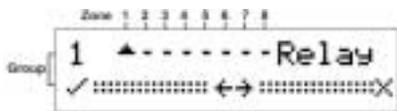
Choose the mode:

Toggle: Every transmission by the Remote Control change the status of the Output

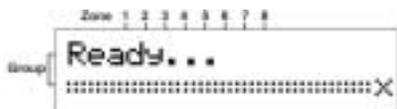
Pulse 3Sec: Every transmission by the Remote Control activates the output for 3 sec.

Pulse 5Sec: Every transmission by the Remote Control activates the output for 5 sec.

1 & 2: Key no#1 is activating to Open and Key no#2 for close.



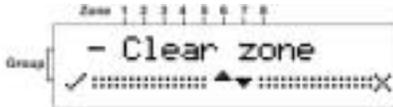
Choose the Output you want to assign to the remote and type ◀ beeps will be heard and the next screen will be show.



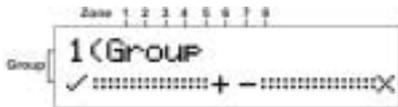
Activate the Remote, two beeps for O.K will be heard and the screen will be closed and return to Add Remote screen.

For Mode 1 & 2 choose the output and lean key 1 at the remote (the top key)and repeat the procedure and on the same output learn key 2 (the second from top)at the remote.

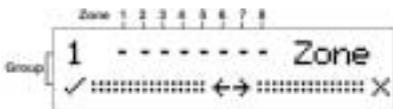
Clear Zone:



◀ Choose the group

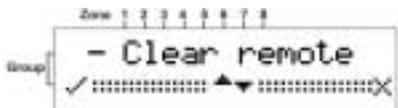


Choose the zone that you want to clear:



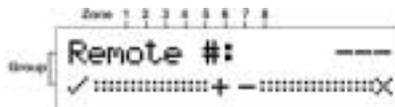
Type ▶ a double click will hear and the screen will jump to Clear Zone screen.

Clear Remote:



There are two options to clear remote:

1. Transmit with the remote you want to clear; on the screen the number of the remote will be view, type ▶ for confirmation and the remote will be clear.
2. Leaf with arrows Up/Down to the number of the remote you want to clear and type ▶ for confirmation and the remote will be clear.



Change Password:



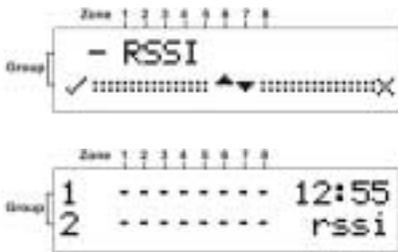
▶



Type the new Password for ex. 123 ▲ , ▼ ▼ , ▲ ▲ ▲ and confirmation Left Arrow ▶.

RSSI:

This screen is to show the installer the strength of the received signal from the detector.

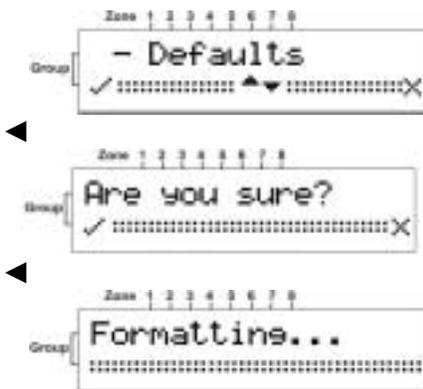


The value of the strength is indicating on numbers 1 to 9 and F (F-indicate 10 and 1 is the weakest).

Note: for this test you can use Tamper transmit or Alarm transmit.

Default:

This action will erase all the detectors, remotes and the events buffer except the clock setting.



Function:

While the Merlin Pro is working it must be on the main screen.
In all others screen It will ignore all the events.

Outputs: Outputs 1 to 8 and Tamper are dry contact (are not related to GND)

Outputs 1 to 7: Normally closed.

Output 8: Relay C/O (C-Common, NC- Normally closed, NO- Normally open)

Tamper: Normally closed.

STA Input: While this Input is “Low” it’s indicating that the Control Panel is armed; in this Mode it will record all the events in Log buffer.

Alarm event: Will be view on the LCD screen and activate the assigned output to “Open” for 3 sec.
On Arm mode the event will be viewed until the disarmed.

Tamper Event: Will activate the tamper and the assigned Output to “Open” until the restore, and will recorded on Log event.

Supervision missing: If a detector is programmed as Supervised and the Merlin didn’t received any transmitting from it for more then 120 minutes it will indicate Supervision missing by warning beep every 1 minute and will record it on the Log events.

Detector Low Battery: While a detector will transmit a Low Battery the Merlin Pro will record it on the Log events and will beep every 1-minute.

Note: The warning beeps will stop while the user will view at the Log events or by typing left arrow ◀ ,the warning beeps will start again after the next Disarm.

Installation Instructions:

1. Choose the right location for installation:

- *It's recommended to install the Merlin in a central place regarding the wireless detectors.*
- *In an accessible place in order to view the status on the LCD when it's needed.*
- *In the range of up to 30 meter from the C.P.*

2. Locate the bracket on the wall and mark the 2 Holes (see fig 1).

3. Drill two marked holes and screw the bracket to the wall (see fig 1).

4. Assemble the Merlin on the holder and mark the drill (see fig 2).

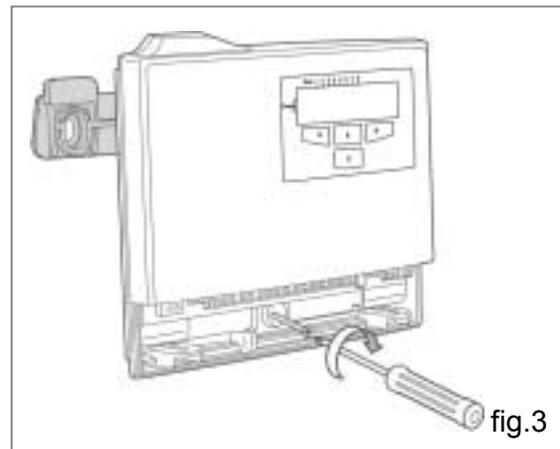
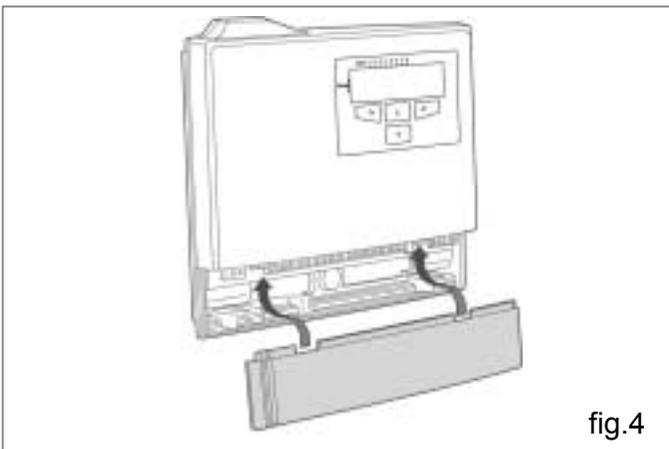
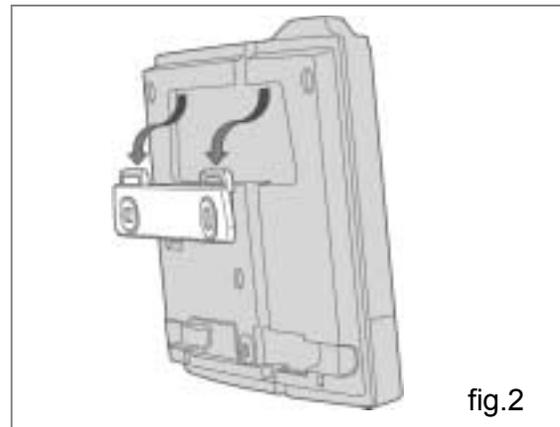
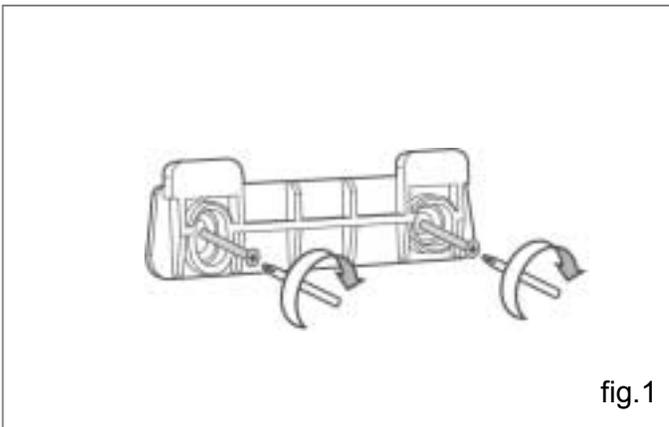
5. Remove the Merlin and drill the hole.

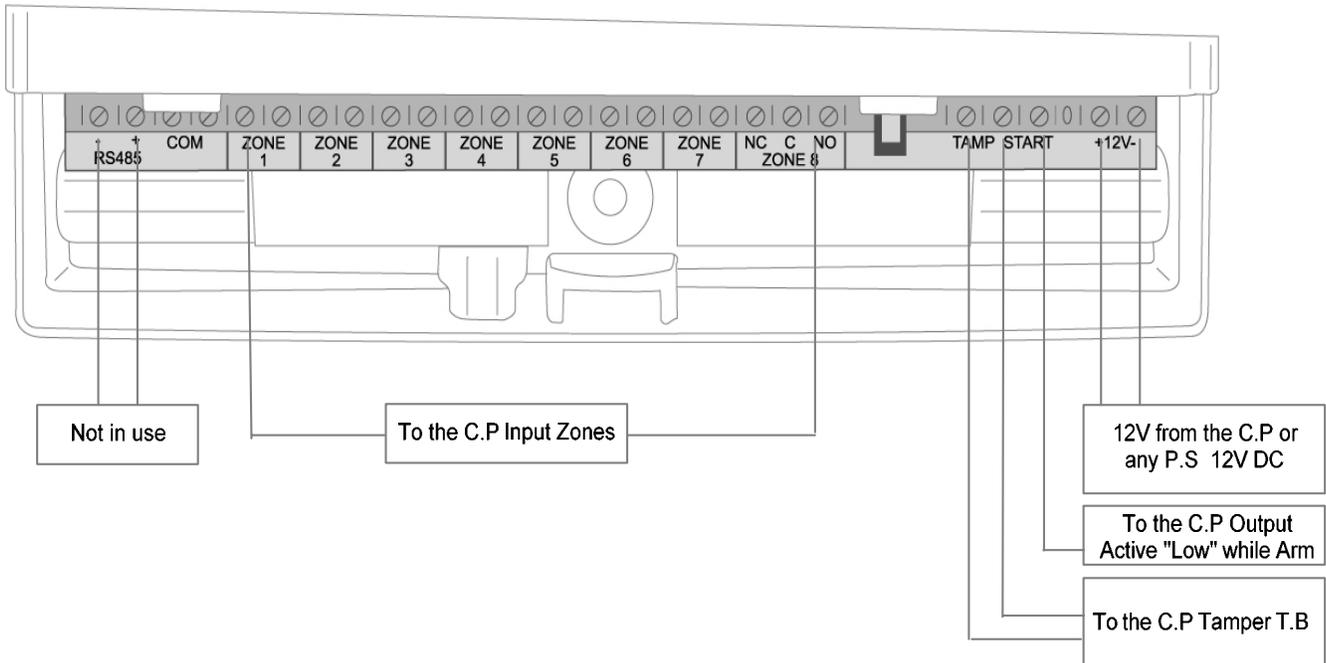
6. Assemble again the Merlin on the Holder and screw it (see fig 3).

6. Wire the Merlin to the C.P (It's recommended to turn off the C.P during the connection).

7. Assemble the Service cover and screw the two nuts (see fig 4)

8. Power Up the C.P and check the functioning.





NOTES:

- If you are power the unit by independent power supply, you will need to common the GND with The C.P.
- On the C.P you need to set an Output to active “Low” while the C.P arm and connect the Output to the STAT input in the Merlin Pro.
- Be aware that the Tamper opens while the Service cover is out.

Technical Specifications:

Input Voltage:	10 to 15V DC.
Current Consumption:	Max. 130mA
Outputs:	
Outputs 1 to 7:	Opto MOSFET, Contact Resistance- 17 ohm, Current Capability - Up to 100mA.
Output 8:	Relay, Contact Resistance- 0 ohm, Current Capability –1A.
Tamper:	Opto MOSFET, Contact Resistance- 17 ohm, Current Capability - Up to 100mA.
STA Input:	While this Input is “Low” it’s indicate that the Control Panel is armed.
Real Time Clock:	Real time clock with back up battery for 2000 hours /5 years.
Wireless Detectors:	Up to 64 –8 detectors to each Output.
Wireless Remotes:	Up to 256.
Log Buffer:	64 records (FIFO).
Receiver Sensitivity:	Up to 300 meter in open space.

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This Warranty Certificate is given in favor of the purchaser (hereunder the "**Purchaser**") purchasing the products directly from Crow or from its authorized distributor.

Crow warrants these products to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "**Warranty Period**"). Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period. All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser.

Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions.

There are no warranties, expressed or implied, of merchantability or fitness of the products for a particular purpose or otherwise, which extend beyond the description on the face hereof.

This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise.

In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection.

Purchaser understands that a properly installed and maintained product may in some cases reduce the risk of burglary, fire, robbery or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result.

Consequently, Crow shall have no liability for any personal injury; property damage or any other loss based on claim that these products failed to give any warning.

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