FireVibes WM110 Wireless Battery Powered Input Module Instruction Manual

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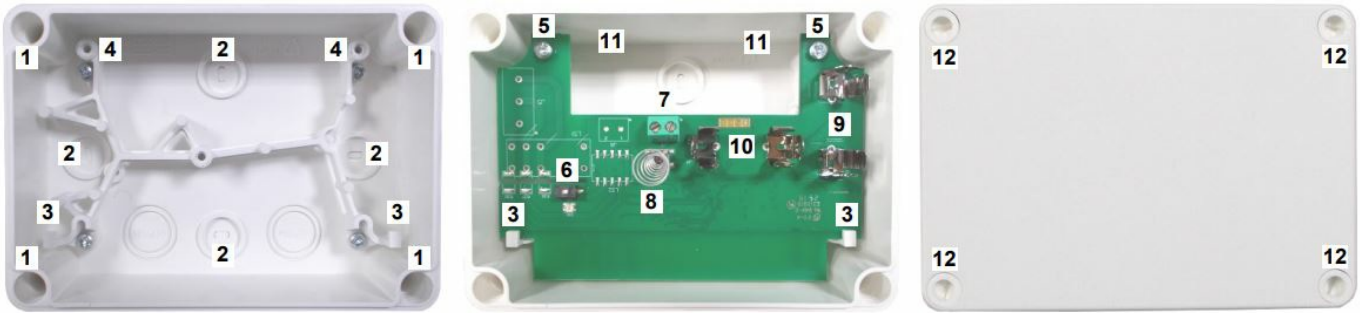
FireVibes WM110 Wireless Battery Powered Input Module

GENERAL DESCRIPTION

The WM110 is a device that acts as an interface between the FireVibes wireless security system and any external device that works on a “switch on / switch off” criteria. WM110 is battery-powered and doesn’t need any external power supply.



1. Screw hole for wall fixing (IP safe)
2. Knock out screw hole for wall fixing (not IP safe)
3. Printed circuit board stop
4. Printed circuit board fixing screw’s housing
5. Printed circuit board fixing screw
6. Link program switch
7. Input supervised port
8. Tamper detection switch
9. Battery A
10. Battery B
11. Knock-out M16/20 input cabling entry
12. Module box’s sealing screws

DEPLOYMENT PROCEDURE

1. Select a location for the module. See LOCATION SELECTION.
2. Unbox the module from its packaging.
3. Detach the top cover. See HANDLING THE TOP COVER.
4. Uninstall the printed circuit board from the box. See HANDLING THE PRINTED CIRCUIT BOARD.
5. Knock out the required M16/20 input cabling entries. See CABLE ENTRY.
6. Fix the module’s box to the wall. See WALL INSTALLATION.
7. Power up the module. See POWERING UP – FIRST TIME USE. See POWERING UP – RECOVERY.
8. Link the module to the system. See LINKING – WAKE-UP. See LINKING – ONE-BY-ONE.
9. Reinstall the printed circuit board. See HANDLING THE PRINTED CIRCUIT BOARD.
10. Wire up the input cabling to the module. See WIRING.
11. Seal the module with its top cover. See HANDLING THE TOP COVER.
12. Test the module. See TESTING.

LOCATION SELECTION

Select a location for the module that conforms to your local applicable safety standards and that is in a good position for sending/receiving wireless signals to/from the father EWT100, IWT100 or XWT100 network device. Mount the module as far as possible from metal objects, metal doors, metal window openings, etc. as well as

cable conductors, and cables (especially from computers), otherwise, the operating distance may greatly drop. The WM110 must NOT be installed near electronic devices and computer equipment that can interfere with its wireless communication quality.

- It is advisable to use the EWT100-TESTER survey kit to locate a good wireless installation location.

HANDLING THE TOP COVER
To uninstall the top cover unscrew the four module box's sealing screws and detach the cover. To install it perform the opposite operation; take care to seal the module in order to maintain its IP rating.

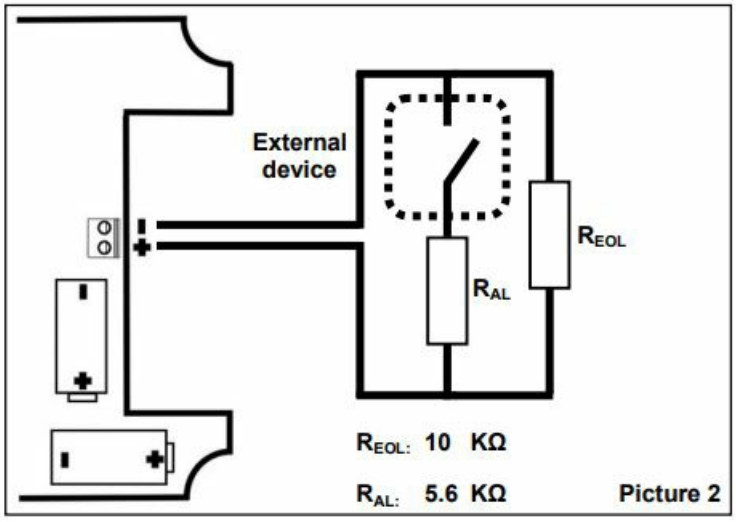
HANDLING THE PRINTED CIRCUIT BOARD
To uninstall the printed circuit board, remove first the two blocking fixing screws, then carefully extract the board from its box. To reinstall it, insert its lower side under the two plastic stops, then install the two blocking screws.

- Electrostatic sensitive device: observe precautions when handling the printed circuit board and making connections.
- To avoid damage, remove the printed circuit board before knocking out the cable entry holes.

CABLE ENTRY
The module box is designed with six M16/20 cable entry knockout holes, distributed on the lateral sides; the two entries above the input port give the best choice. These entries allow sealed, gland-fitted input port cables to be connected to the device and, at the same time, to preserve the original IP protection rating. Fit the cable's gland (or glands) into the "knocked out" device box's cable entry.

WALL INSTALLATION
Knockout wall fixing screw openings are indicated in picture 1; these openings, once knocked out, compromise the IP rating of the module's box. Alternatively, you can choose to use the four IP-safe screw holes (picture 1).

WIRING
The input line has to be connected to the input port of the module (picture 1). Make sure to install the REOL resistor at the end of the input line. If line supervision is not desired, fit the REOL directly across the input dipole at the beginning of the line.



BATTERY FAULTS AND BATTERY SUBSTITUTION PROCEDURE

When one or both batteries are low in charge, a specific fault message is routed to the control panel. If such an event occurs:

1. Remove the top cover.
2. Extract both batteries.
3. Insert both new batteries into their holders, correctly oriented. See POWERING UP – DEVICE LINKED TO THE SYSTEM.
4. Reinstall the top cover.
    - When a low battery condition is indicated, both batteries must be changed altogether. Batteries must be brand new. Do not touch the Link/program switch. Ensure that the batteries are installed properly, with their correct polarities.

TESTING
Test the module as follows:

1. Activate the device on the input line.
2. Check the triggering of the alarm condition.
3. Remove the alarm condition.

- Local safety standards may require you to test these devices on a regular basis.

LED INDICATOR STATUS MESSAGES

The LED indicator's messages are used only during installation and servicing. LED indicator is inactive when the front cover is in place to save up battery charge (and due to the fact that normally the LED is hidden by the front cover).

Device status	**LEDs indication**
Power up (DIP on "ON")	Blinks red 4 times
Power up (DIP opposite "ON")	Blinks green 4 times
Entering wake-up mode	Blinks alternatively green / red 4 times
Link success (one-by-one)	Blinks green 4 times, then the same pattern again
Link failure (one-by-one)	Enters wake-up mode and signals "Entering wake-up mode" following this fail ure
Link success (wake-up)	Blinks green 4 times, then same pattern again
Link failure (wake-up)	Blinks green 4 times, then blinks red on once, then blinks alternatively green / red 4 times
Normal condition	LED off (can be programmed so as to blink green every wireless communicati on)
Alarm activation	Blinks red every 2 seconds
Battery fault	LED off (can be programmed so as to blink amber every 5 seconds)
Tamper fault	LED off
Replaced	Blinks amber 2 times
Input port fault	LED off (can be programmed so as to blink amber every 5 seconds)

- With the front cover installed, the LED indicator remains inactive.

POWERING UP AND LINKING – PRELIMINARY NOTES
WM110 needs to be powered up with the supplied batteries. Linking is the operation through which WM110 is “wirelessly connected” to an EWT100, IWT100 or XWT100 FireVibes network device.

POWERING UP – FIRST-TIME USE
Use this procedure the first time you power up a WM110.

1. Make sure the Link/program switch is set on “ON”.
2. Insert the two supplied batteries into their device’s lodgments.

POWERING UP – DEVICE LINKED TO THE SYSTEM
Use this procedure when a WM110 is successfully linked to its FireVibes system and you have to extract one or both batteries (e.g. batteries substitution).

1. Reinsert the battery or both batteries into their lodgments. If performing a battery substitution, use two brand-new batteries and substitute both of them.Do not touch the Link/program switch.

POWERING UP – RECOVERY
Use this procedure when you fail to link successfully a WM110 or you want to link it again.

1. Move alternatively the Link/program switch 5 times.
2. Set the Link/program switch on “ON”.
3. Insert the two supplied batteries into their device’s lodgments.

- Always ensure that the batteries are installed properly, with their polarities matching the indications on picture 2 or on the device.

LINKING – WAKE-UP
“Wake-up” linking consists in associating one or more child devices to the FireVibes system altogether in a single operation. Wake-up is performed either through the FireVibes Studio software or the EWT100 / IWT100 keyboard-screen interface; it CANNOT be done through XWT100 devices.

1. Create the “virtual model” of the WM110 either on FireVibes Studio or on the EWT100 / IWT100.
2. Power up the module (either “first-time use” or “recovery”).
3. Set the Link/program switch OPPOSITE to “ON”.
4. Trigger the wake-up procedure either from FireVibes Studio or from the EWT100 / IWT100.
5. Wait until the end of the “wake-up” linking procedure.
6. Check on FireVibes Studio or from EWT100 / IWT100 for linking success. Consult their user manual.

LINKING – ONE-BY-ONE
“One-by-one” linking consists of associating one child device at a time to the FireVibes system. This operation is performed either through the FireVibes Studio software or the EWT100 / IWT100 keyboard-screen interface; it CANNOT be done through XWT100 devices.

1. Create the “virtual model” of the child device either on FireVibes Studio or on the EWT100 / IWT100.

2. Trigger the linking procedure either from FireVibes Studio or from the EWT100 / IWT100.
3. Power up the child device (either “first-time use” or “recovery”).
4. Set the child device’s Link/program switch OPPOSITE to “ON”.
5. Wait until the end of the “one-by-one” linking procedure.
6. Check on FireVibes Studio or from EWT100 / IWT100 for linking success. Consult their user manual.

TECHNICAL SPECIFICATIONS

Specification	**Value**
Communication range with **EWT100**, **IWT100** or **XWT 100** network devices	200 m (in open space)
Wireless frequency band(s) of operation	868-868.6 MHz, 868.7-869.2 MHz, 869.4-869.65 MHz, 869.7-870.0 MHz
Number of wireless channels	66
RF output power (max)	14 dBm (25 mW) e.r.p.
Operating temperature range	-10 °C to 55 °C
Maximum humidity (non condensing)	95% RH
Certified IP rating (EN 54)	IP 30
Design IP rating (not EN 54 certified)	IP 65
Knockout cable entry specification	M16/20
Wire gauge range compatible with the input port’s ter minal blocks	From 0.5 mm^2 to 2.5 mm^2

BATTERY SPECIFICATIONS

Specification	**Value**
Batteries type	CR123A (3 V, 1.25 Ah)
Batteries lifespan *	10 years
Low battery threshold value (nominal)	2.850 V

- Batteries’ lifespan depends by environmental conditions, default monitor settings and link quality.

INPUT PORT SPECIFICATIONS

	End of Line impedance limits				Module status	Notes
	Min	**Typ**	**Max**	**Units**		
Input port	6.5	10	14	kΩ	Normal	
	0	–	2.4	kΩ	Fault	Short circuit
	2.5	5	6.4	kΩ	Alarm	Triggered by input line's devic e
	14.2	–	+∞	kΩ	Fault	Open circuit
REOL	8	10	12	kΩ		
RAL	8	10	12	kΩ		

WARNINGS AND LIMITATIONS

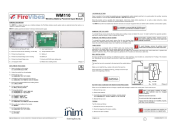
Our devices use high-quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years of continuous operation, it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that this device is only used with compatible control panels. Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation. Smoke sensors may respond differently to various kinds of smoke particles, thus application advice should be sought for special risks. Sensors cannot respond correctly if barriers exist between them and the fire location and may be affected by special environmental conditions. Refer to and follow national codes of practice and other internationally recognized fire engineering standards. Appropriate risk assessment should be carried out initially to determine correct design criteria and updated periodically. Use only in FireVibes fire detection and alarm systems.

WARRANTY

All devices are supplied with the benefit of a limited 5 years warranty relating to faulty materials or manufacturing defects, effective from the production date indicated on each product. This warranty is invalidated by mechanical or electrical damage caused in the field by incorrect handling or usage. Product must be returned via your authorized supplier for repair or replacement together with full information on any problem identified. Full details on our warranty and product's returns policy can be obtained upon request.

- INIM ELECTRONICS S.R.L. VIA DEI LAVORATORI 10 FRAZIONE CENTOBUCHI 63076 MONTEPRANDONE (AP) – ITALY
- WM110 Wireless Battery Powered Input Module for fire detection and fire alarm systems installed in buildings Level or class of the performance per each essential characteristic can be found in the Declaration of Performance

Documents / Resources

	FireVibes WM110 Wireless Battery Powered Input Module [pdf] Instruction Manual WM110 Wireless Battery Powered Input Module, WM110, Wireless Battery Powered Input Mod ule, Powered Input Module, Input Module