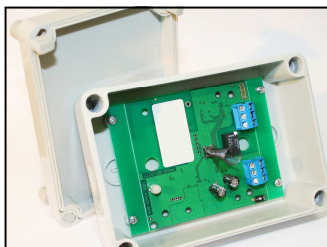
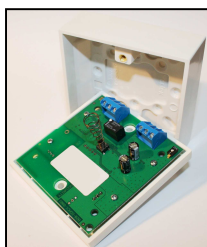


**GENERAL DESCRIPTION**

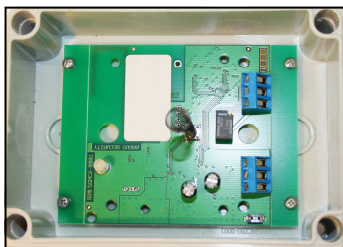
The wireless output module allows the activation of an external device, following an activation message transmitted by the control panel via a translator module / expander module. The external device's activation is operated and controlled directly by the module through an SPDT (Single Pole Double Throw) relay. Communication between the wireless output module and the translator / expander module(s) is wireless, via the 'Wireless' bidirectional protocol. The wireless module, unlike many wireless devices, is powered by an external power source.



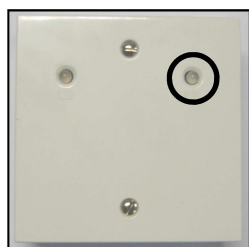
Picture 1 - General view of the FDWVM120



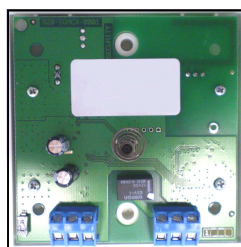
Picture 2 - General view of the SFDWVM120-B



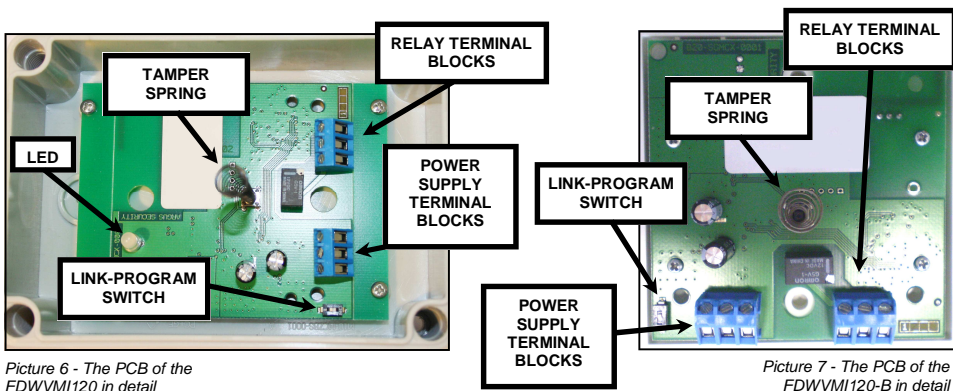
Picture 3 - The PCB of the FDWVM120



Picture 4 - The front of the FDWVM120-B and its LED



Picture 5 - The PCB of the FDWVM120-B



Picture 6 - The PCB of the FDWVM120 in detail

Picture 7 - The PCB of the FDWVM120-B in detail

**MODULES VISUAL LED INDICATOR**

The wireless output module is equipped with a bi-colour LED (red / green) that provides visual indication for functional conditions and power supply levels as indicated in table 1. Both versions of the output modules have the LED positioned in different locations: refer to picture 4 and picture 6.

**TECHNICAL SPECIFICATIONS**

Communication range with the translator or the expander *	200 m	In open space
Operating frequency	868 MHz	
Modulation type	FSK	
Operating frequency channels	7	
Radiated power	5 dBm (3 mW)	Typical
Transmission message period	60 seconds	Default
Device's operating voltage	10 V <sub>dc</sub> - 27 V <sub>dc</sub>	Externally powered
Maximum device's current absorption	50 mA	Externally powered
Ingress protection rating	IP 65	Only for the FDWVM120
Operating temperature range	From -30 °C to +55 °C	

Device Status	Green LED	Red LED
Switching into operating mode	Short blinks	-
Switching into programming mode	-	4 short blinks
Normal mode	ON	-
Output circuit activated (alarm condition)	-	ON
Power supply fault	-	0.1 second blinks with 2 seconds intervals

Table 1

\* Ideal operating range: may vary consistently according to environmental conditions.

**INSTALLATION**

Before placing and wiring the output module it is wise to assess the wireless coverage (in the particular position in space where you want to install the module) of the specific translator / expander to which you want connect (link) the output module itself; for this purpose it is better and comfortable to use a battery powered wireless device (preferably an input module), already linked with the SAME specific translator / expander you want to use for the output module, and follow the procedure written in the WIRELESS COMMUNICATION QUALITY ASSESSMENT OF AN INSTALLATION SITE'S SPOT paragraph. Alternatively, for this operation, a radio survey kit can be used.

**WIRELESS COMMUNICATION QUALITY ASSESSMENT OF AN INSTALLATION SITE'S SPOT**

It is possible to assess the wireless communication quality of a spot in the installation's site, covered by a specific translator / expander, by using a testing feature, built in a wireless device already successfully linked; by switching over the link-programming switch on the ON position, the device's indicator will start blinking according to table 2, giving the indication of the wireless communication quality between the device, used for the assessment, and the specific translator / expander.

**Always remember to reposition the device's switch to 1 after the assessment operation: device will NOT work operatively while the switch is switched on the ON position.**

Communication quality	Assessment	Device's indication
No connection	Fail	Two red blinks
Link margin is less than 10 dB	Poor	One red blink
Robust communication with link margin from 10 dB to 20 dB	Good	One green blink
Robust communication with link margin over 20 dB	Excellent	Two green blinks

Table 2

**MODULE PLACEMENT**

It is strongly advised to mount the device as far as possible from metal objects, metal doors, metal window openings, etc. as well as cable conductors, cables (especially from computers), otherwise the operating distance may greatly drop. The device should not be installed near electronic devices and computer equipment that can interfere with the reception's quality.

- 1) Select the position of the module before installing it. Verify that the place where you want to install the module is well covered by the translator or the expander (see the WIRELESS COMMUNICATION QUALITY ASSESSMENT OF AN INSTALLATION SITE'S SPOT paragraph).
- 2a) - **FDWVM120** - Install and fix the device's box in the selected position using the provided screws and their indicated lodgment holes (picture 8).
- 3a) - **FDWVM120** - Fit the cable's gland (or glands) into the "knocked out" device box's cable entry.
- 4a) - **FDWVM120** - Feed the cables into the box, giving them sufficient length for a secure connection.

The output module box is designed with 6 cable entry knockout holes, distributed on the lateral sides of the device's box, allowing sealed, gland fitted cables to be connected to the device and, at the same time, to preserve the original IP protection rating (picture 9).

- 5a) - **FDWVM120** - Connect the external device's input cable terminals to the module's output terminal blocks as indicated in the following paragraph.
- 6a) - **FDWVM120** - Connect the power supply cable terminals to the module's power supply terminal's blocks, **paying attention to the correctness their polarities!**
- 7a) - **FDWVM120** - Test the module (as described later in this manual), then install and screw securely the cover onto the module's box.

2b) - **FDWVM120 -B** - The output module box is designed with a set of breakable knock-out surfaces through which the external cables can pass; so, knock out the surface (or surfaces) and let the cables pass through it (picture 10).

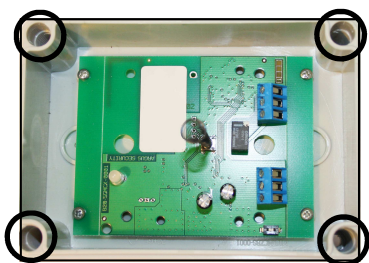
3b) - **FDWVM120 -B** - Feed the cables into the box, giving them sufficient length for a secure connection.

4b) - **FDWVM120 -B** - Connect the external device's input cable terminals to the module's output terminal blocks as indicated in the following paragraph.

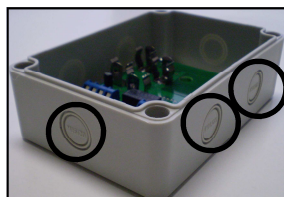
5b) - **FDWVM120 -B** - Connect the power supply cable terminals to the module's power supply terminal's blocks, **paying attention to the correctness their polarities!**

6b) - **FDWVM120 -B** - Install and fix the device's box in the selected position using the provided screws and their indicated lodgment holes (picture 11).

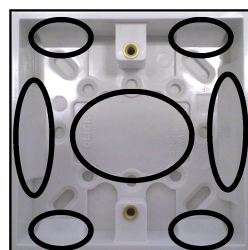
7b) - **FDWVM120 -B** - Test the module (as described later in this manual), then install and screw securely the cover with the PCB onto the module's box.



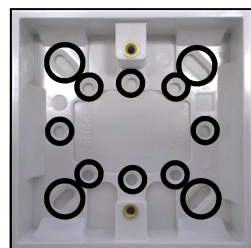
Picture 8 - Wall fixing screw entry points - FDWVM120



Picture 9 - Cable entry knockout holes - FDWVM120



Picture 10 - Cable entry knockout surfaces - FDWVM120-B



Picture 11 - Wall fixing screw entry points - FDWVM120-B

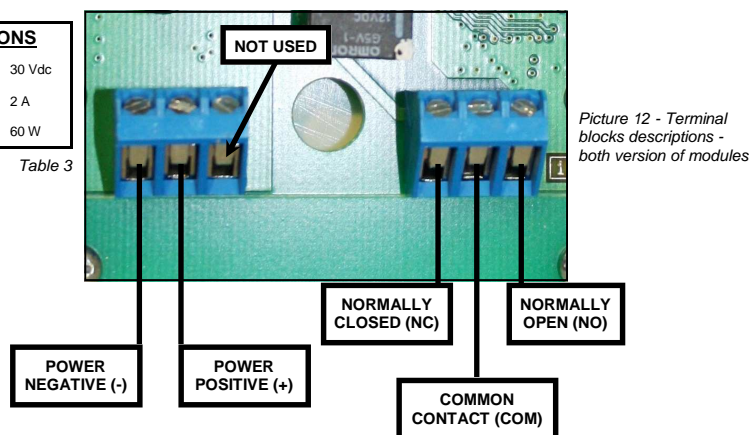
## WIRING CONNECTION

Following is illustrated the module's terminal blocks descriptions used for the connection to the external device, to which power supply is given, after the activation message is received by the control panel (picture 12). External power supply terminal blocks are also illustrated. Table 3 gives the SPDT relay specifications.

### RELAY SPECIFICATIONS

Maximum switched voltage	30 Vdc
Maximum switched current	2 A
Maximum switched power	60 W

Table 3



Picture 12 - Terminal blocks descriptions - both version of modules

## POWER SUPPLY WIRING

The wireless output module requires an external power supply as specified in the TECHNICAL SPECIFICATIONS paragraph.

### IMPORTANT NOTE! CHECK WIRING POLARITY BEFORE APPLYING POWER TO THE DEVICE!

### DEVICE'S POWER SUPPLY AND LINKING

The linking operation permits the configuration of the wireless output module on the translator module. The linking operation described below does not change if made directly from the translator or from the PC configuration program.

1) Move the link-program switch to position ON.

2) Power on the external power supply.

**Ensure that power's polarity is correct.**

*The visual LED indicator switches green once, then four times red (programming mode) and will, successively, turn off. This indicates that the device is ready to be linked to the translator module.*

3) Move the switch in position 1 to trigger the communication between the module and the translator.

*The green LED switches on once, then it blinks many times (operating mode), and, finally, after alternating green-red for one second, the indicator turns off: this indicates that the linking procedure has been performed correctly and the device has programmed itself.*

*The output module is linked and all the parameters (address, system code etc.) necessary to work correctly are stored. If the LED remains switched on the red light it means that the linking operation failed. In this case power off the device, switch over alternatively the ON / 1 switch a few times in order to discharge the internal capacitor and then start again from point 1).*

**IMPORTANT NOTE!** Programming is considered to be completed successfully only if there is an indication of programming success on the device and on the translator or on the window of the PC configuration program.

### TAMPER DETECTION FEATURE

The wireless output module is provided with a tamper detection switch-spring system, and, in case of removal of the cover from its box, it sends a tamper detection message to the control panel. For this reason assure that the front cover is well inserted and closed.

### FAULT SELF-TEST

If a fault condition is detected by the output module, a fault message is sent to the control panel via translator / expander. The fault condition is locally signaled by the module's visual LED indicator (see table 1).

A fault condition is normally determined by:

- electronic fault
- low power supply.

### TESTING

In order to test the functionality of the installed output module the following test must be performed: activate an alarm condition on the control panel (by a call-point or sensor in the installed system): the control panel will transmit an activation message to the module via translator / expander and switch on the red LED indicator (see table 1) and activate the external device.

After each test the module must be reset by the specific command on the control panel (see the RESET paragraph).

**All devices must be tested after installation and, successively, on a periodic basis.**

### RESET

To reset the output module from alarm or fault condition it is necessary to send the reset command from the control panel: the red LED indicator will be, as a consequence, turned off, and the green one turned on (table 1).

### MAINTENANCE

1) Before starting any maintenance work, isolate and disable the system, in order to avoid accidental and unwanted fault / tamper detection conditions.

2) Remove the cover from its box.

3) Perform the planned necessary maintenance operations.

4) After the device has been serviced, reinstall correctly its cover, re-apply power to the system and check correct operation as described under the TESTING paragraph.

#### **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.

#### **WARRANTY**

All devices are supplied with the benefit of a limited 3 year 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.

#### **NORMATIVE COMPLIANCES**

EN 54-18

EN 54-25