FIBARO
HOME INTELLIGENCE

OPERATING MANUAL

EN

eVI WISE Fan

WISE-AC-01

v1.6

Table of contents

1: Important safety information

Read this manual before attempting to install the device!

Failure to observe recommendations included in this manual may be dangerous or cause a violation of the law. The manufacturer will not be held responsible for any loss or damage resulting from not following the instructions of operating manual.

CAUTION!

All works on the device may be performed only by a qualified and licensed electrician. Observe national regulations.

Do not modify!

Do not modify this device in any way not included in this manual.

This product is intended for indoor use only in dry locations.

Do not use in damp or wet locations, near a bathtub, sink, shower, swimming pool, or anywhere else where water or moisture are present.

Not a toy!

This product is not a toy. Keep away from children and animals!

2: Description and features

2.1: Description

eVI WISE is a Z-Wave™ device that allows control the air flow through the fan. Evi WISE fan is a device designed for rooms like kitchens and bathrooms and is meant to extract used air, excess humidity and bad smells. It is a highly efficient device designed with balance between power, sound level and energy consumption. It is equipped with a Z-Wave module and integrated humidity and temperature sensor. Evi WISE fan is a main part in the Venture WISE system.

2.2: Main features

- The device allows control of the air flow through the fan
- Pre-set configurations allow to easily adjust operation for specific type of controlled devices
- 230 VAC powered
- Adjustable speed
- Equipped with humidity and temperature sensor
- Supports Z-Wave network Security Modes: S0 with AES-128 encryption and S2 Authenticated with PRNG-based encryption.
- Works as a Z-Wave signal repeater when VDC powered (all non-battery operated devices within the network will act as repeaters to increase reliability of the network).
- May be used with all devices certified with the Z-Wave Plus™ certificate and should be compatible with such devices produced by other manufacturers.

i The device is a Security Enabled Z-Wave Plus product and a Security Enabled Z-Wave Controller must be used in order to fully utilize the product.

3: Connection diagrams

In order for the device to operate correctly it is necessary to:

- Provide mains voltage of 230 VAC connected to terminals marked L-phase, N-neutral.
- Connect two "toggle" buttons, i.e. those with On/Off states, to the terminals marked S1 and S2 - the first end of the button to the terminal (S1, S2) and the second end to the L-phase cable.
- Connect the POWER and LOGIC boards to each other using the dedicated cable.
- Connect the fan to the connector intended for it.

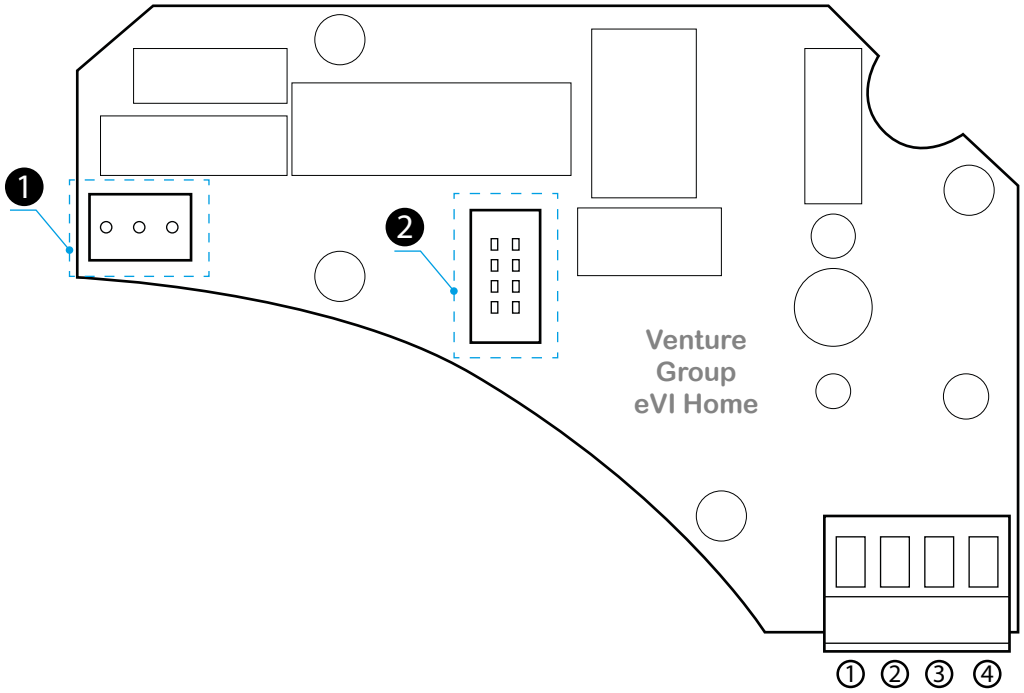

Fig. 1. Wiring diagram for the POWER board.

❶ - Fan Power Connector

❷ - Communication interface with Z-Wave logic board

① - S1

② - S2

③ - L-phase

④ - N-neutral

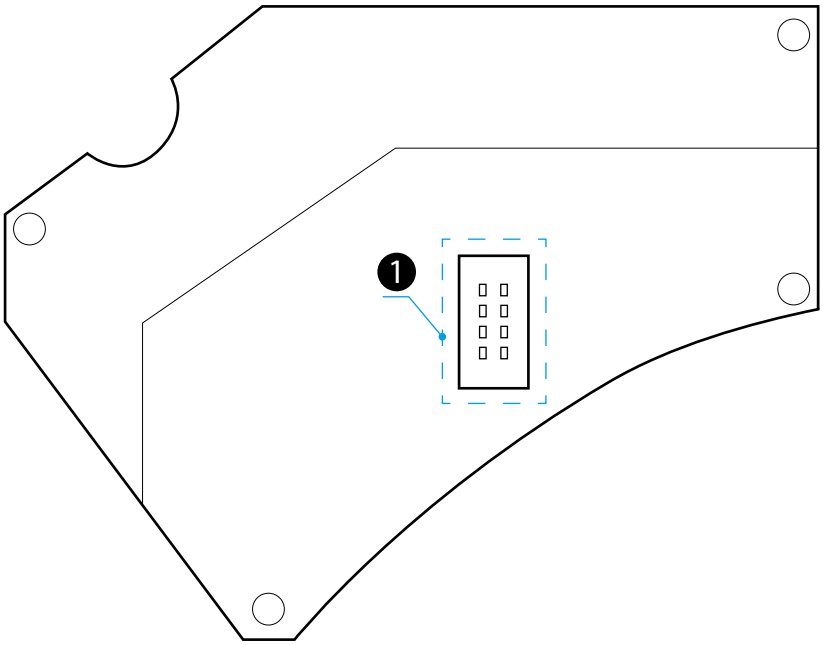

Fig. 2. Wiring diagram for LOGIC Z-Wave board (bottom view)

❶ - Communication interface with power board

3.1: Operation of physical buttons

The device is equipped with two function buttons S1 and S2.

The S1 button turns the higher gears on or off.

The S2 button determines which higher gear is switched on, 60 (2nd gear) or 100 (3rd gear).

Attention

The device should be operated only via Z-Wave commands or only via physical buttons at the same time.

The action performed on the device overwrites the previously set action. If an action is performed on the buttons, the device will be set according to their configuration. If a Z-Wave command is sent, the device will ignore the configuration of the buttons and set what the Z-Wave is requesting.

Mixing the two types of control can lead to a discrepancy between the position of the buttons and their status.

4: Adding to Z-Wave network

Adding (Inclusion) – Z-Wave device learning mode, allowing to add the device to existing Z-Wave network.

4.1: Adding manually

To add the device to the Z-Wave network **manually**:

1. Set the main controller in (Security/non-Security Mode) add mode (see the controller's manual).
2. Set the device in learning mode by single-clicking the button on the PCB .
3. If you are adding in Security S2 Authenticated, input the underlined part of the DSK (label on the device).

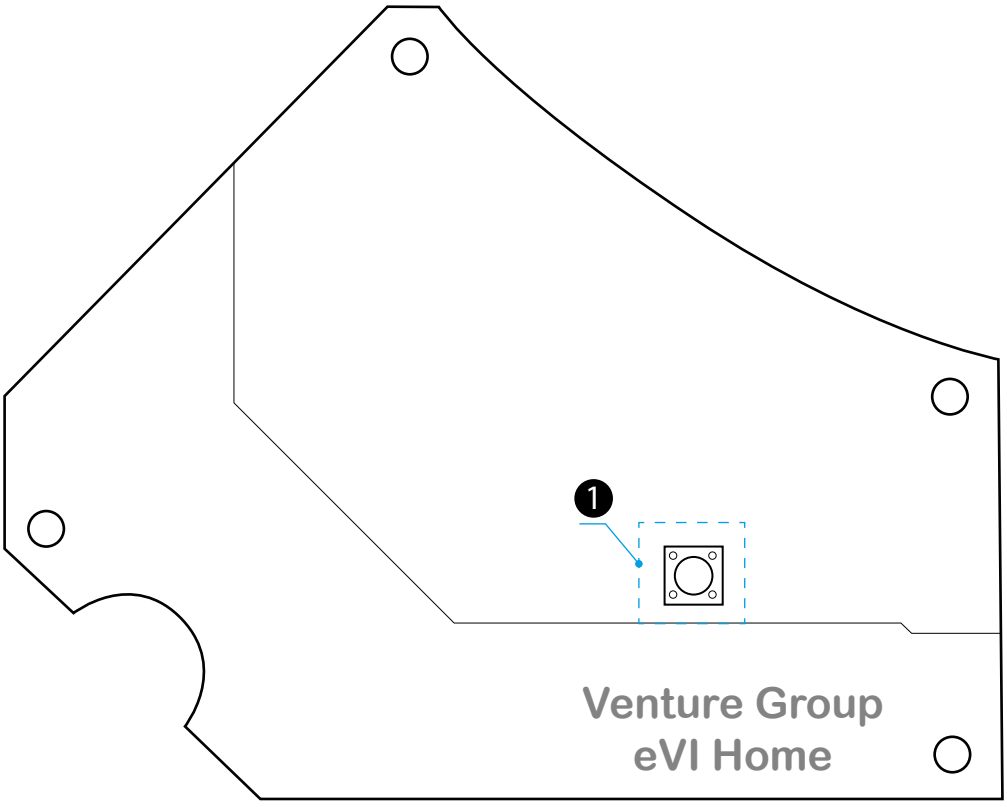

Fig. 3. Location of the button on the LOGIC Z-Wave board

❶ - Button to enter learning mode.

4.2: Adding using SmartStart

SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. SmartStart product will be added automatically within 10 minutes of being switched on in the network range.

To add the device to the Z-Wave network **using SmartStart**:

1. To use SmartStart your controller needs to support Security S2 (see the controller's manual).
2. Enter the full DSK string code to your controller. If your controller is capable of QR scanning, scan the QR code placed on the label on the device.
3. Power the device.
4. Wait for the adding process to start (up to few minutes), which is signalled with green LED blinking.
5. Adding result will be confirmed by the Z-Wave controller's message.

i In case of problems with adding the device, please reset the device and repeat the adding procedure.

5: Removing from Z-Wave network

Removing (Exclusion) – Z-Wave device learning mode, allowing to remove the device from existing Z-Wave network.

To **remove** the device from the Z-Wave network:

1. Set the main controller into remove mode (see the controller's manual).
2. Click once on the PCB button (Fig. 3).
3. Wait for the removal process to complete.

6: Resetting to factory defaults

Reset procedure allows to restore the device back to its factory settings, which means all information about the Z-Wave controller and user configuration will be deleted.

Resetting the device is not the recommended way of removing the device from the Z-Wave network. Use reset procedure only if the primary controller is missing or inoperable. To remove the device properly, follow the removing procedure described in "Removing from Z-Wave network".

1. To restore the device to the factory settings, hold down the button located on the PCB for at least 5 seconds (Fig. 3).
2. Wait for the reset procedure to complete (red led will stop illuminating for 1 second and the relay will click).

7: Operation

7.1: Visual indications

The built-in LED light shows current device status.

Colour	Fan speed
Red	30%
Green	60%
Orange	100%

7.2: Temperature sensor

The device has a built-in temperature sensor. It measures the ambient temperature. It reports cyclically every hour and if the value has changed by 0.3°C since the last measurement.

7.3: Humidity sensor

The device has a built-in humidity sensor. It measures the ambient humidity. It reports cyclically every hour and if the value has changed by 2% since the last measurement.

8: Configuration

8.1: Associations

Association (linking devices) – direct control of other devices within the Z-Wave system network.

Associations allow:

- reporting the device status to the Z-Wave controller (using Lifeline Group)

The device provides the association of group:

1st association group – "Lifeline" reports the device status and allows for assigning single device only (main controller by default).

"Lifeline" is reserved solely for the controller and hence only 1 node can be assigned.

8.2: Advanced parameters

The device allows to customize its operation to user's needs using configurable parameters.

The settings can be adjusted via Z-Wave controller to which the device is added. The way of adjusting them might differ depending on the controller.

In the interface parameters are presented as simple options in Advanced Settings of the device.

Available parameters:

1.	**Device status memory**
Description	The parameter determines the status after a power failure.
Parameter size	1B
Default value	1
Available values	0 - Device resets to default gear 1 - Device will be restored to the state from before power failure
150.	**Delayed on**
Description	This parameter defines the delayed activation time of the fan. The value of the parameter must not exceed the value of parameter 152.
Parameter size	2B
Default value	0
Available values	0 – Delayed activation option inactive - switch on immediately 30 to 32400 (30 seconds to 9 hours)
151.	**Delayed off**
Description	This parameter specifies the time between sending the switch-off command and the actual switch-off of the device.
Parameter size	2B
Default value	0
Available values	0 – Delayed activation option inactive - switch off immediately 30 to 32400 (30 seconds to 9 hours)

152.	Auto off
Description	The parameter specifies the time after which the output is automatically switched off. A value less than the value in parameter 150 cannot be set.
Parameter size	2B
Default value	0
Available values	0 - Automatic switch-off not activated 30 to 32400 (30 seconds to 9 hours)
154.	**Enabling the fan to be switched off completely**
Description	This parameter determines what state the device will be in when the OFF or set 0 command is sent to the multi-level switch.
Parameter size	1B
Default value	0
Available values	0 - Sending OFF command turns on 1st gear of fan 1 - Sending the OFF command completely shuts down the device

9: Z-Wave specification

Generic Device Class: GENERIC_TYPE_SWITCH_MULTILEVEL (0x11)

Specific Device Class: SPECIFIC_TYPE_NOT_USED (0x00)

Basic Command Class

Command	Root	Mapping	
		Endpoint 1	Endpoint 2
Basic Set	= EP1	Multilevel Switch Set	Not apply
Basic Get	= EP1	Multilevel Switch Get	Not apply
Basic Report	= EP1	Multilevel Switch Report	Not apply

Supported Command Classes

	Command Class	Version	Secure
1.	COMMAND_CLASS_ZWAVEPLUS_INFO [0x5E]	V2	
2.	COMMAND_CLASS_SWITCH_MULTILEVEL [0x26]	V4	YES
3.	COMMAND_CLASS_ASSOCIATION [0x85]	V2	YES
4.	COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION [0x8E]	V3	YES
5.	COMMAND_CLASS_ASSOCIATION_GRP_INFO [0x59]	V3	YES
6.	COMMAND_CLASS_INDICATOR [0x87]	V3	YES
7.	COMMAND_CLASS_TRANSPORT_SERVICE [0x55]	V2	
8.	COMMAND_CLASS_VERSION [0x86]	V3	YES
9.	COMMAND_CLASS_MANUFACTURER_SPECIFIC [0x72]	V2	YES
10.	COMMAND_CLASS_DEVICE_RESET_LOCALLY [0x5A]	V1	YES
11.	COMMAND_CLASS_POWERLEVEL [0x73]	V1	YES
12.	COMMAND_CLASS_SECURITY [0x98]	V1	
13.	COMMAND_CLASS_SECURITY_2 [0x9F]	V1	
14.	COMMAND_CLASS_MULTI_CHANNEL [0x60]	V4	YES
15.	COMMAND_CLASS_SUPERVISION [0x6C]	V1	
16.	COMMAND_CLASS_CONFIGURATION [0x70]	V4	YES
17.	COMMAND_CLASS_FIRMWARE_UPDATE_MD [0x7A]	V5	YES
18.	COMMAND_CLASS_SENSOR_MULTILEVEL [0x31]	V11	YES
Command Class – not in NIF			
21.	COMMAND_CLASS_BASIC [0x20]		YES

Sensor Multilevel CC

Root Device				
Sensor Type	**Scale**	**Size**	**Precision**	**Description**
TEMPERATURE	Celsius (°C)	4B	1	Air Temperature
HUMIDITY	Absolute humidity	4B	0	Air Humidity

Association Group Information Command Class

ASSOCIATION GROUP INFORMATION CC			
Root Device			
Group	**Profile**	**Command Class & Command**	**Group Name**
1	General: Lifeline (0x00: 0x01)	DEVICE_RESET_LOCALLY_NOTIFICATION [0x01] SENSOR_MULTILEVEL_REPORT [0x05] SWITCH_MULTILEVEL_REPORT [0x03] INDICATOR_REPORT [0x87]	Lifeline
Endpoint 1			
1	General: Lifeline (0x00: 0x01)	SWITCH_MULTILEVEL_REPORT [0x03]	Lifeline
Endpoint 2			
1	General: Lifeline (0x00: 0x01)	SENSOR_MULTILEVEL_REPORT [0x05]	Lifeline

Association Command Class / Multichannel Association Command Class

ASSOCIATION CC / MULTICHANNEL ASSOCIATION CC			
Group	**Max Nodes Supported**	**Trigger**	**Comment**
Root Device			
1	5	Unsolicited reports	Lifeline
Endpoint 1			
1	0	Unsolicited reports	Lifeline
Endpoint 2			
1	0	Unsolicited reports	Lifeline

Indicator CC - available indicators

Indicator ID – 0x50 (Identify)

Indicator CC - available properties

Property ID	Description	Values and requirements
0x03	Toggling, On/Off Periods	Starts toggling between ON and OFF Used to set the duration of an On/Off period. Available values: • 0x00 .. 0xFF (0 .. 25.5 seconds) If this is specified, the On/Off Cycles MUST also be specified.
0x04	Toggling, On/Off Cycles	Used to set the number of On/Off periods. Available values: • 0x00 .. 0xFE (0 .. 254 times) • 0xFF (indicate until stopped) If this is specified, the On/Off Period MUST also be specified.
0x05	Toggling, On time within an On/Off period	Used to set the length of the On time during an On/Off period. It allows asymetic On/Off periods. Available values • 0x00 (symmetric On/Off period – On time equal to Off time) • 0x01 .. 0xFF (0.1 .. 25.5 seconds) Example: 300ms ON and 500ms OFF is achieved by setting On/Off period (0x03) = 0x08 and On time within an On/Off Period (0x05) = 0x03 This value is ignored if On/Off periods is not defined. This value is ignored if On/Off periods value is less than this value.

Mapping values to relay states

The device controls three relays and appears in the system (Z-Wave) as a multilevel switch. This means that any value from 0-99% can be set, but will map to the switching of the corresponding relay.

Value	State	Gear
0* <= 30	fan set at 30%	Gear 1
>30 <= 60	fan set at 60%	Gear 2
>60 < 100	fan set to 100%	Gear 3

*By setting parameter number 154, the fan can be completely switched off after sending the value 0 or OFF.

10: Technical specification

Technical specification	
Radio frequency	868.4 or 869.8MHz EU
Power supply	230 VAC/50 Hz
Motor run capacitor value	680 nF
Nominal motor power	45 W
Operating temperature	0 - 40°C
Dimensions	76 x 113 x 68 mm

11: Regulations

Legal Notices

Declaration of conformity

CE

WEEE Directive Compliance

Device labelled with this symbol should not be disposed with other household wastes. It shall be handed over to the applicable collection point for the recycling of waste electrical and electronic equipment.