

# **OPERATING MANUAL** FIBARO ROLLER SHUTTER 2 FGR-222-US-A-v1.00

FIBARO Roller Shutter 2 is a universal, Z-Wave compatible, electric motor controller. The device allows for controlling motors of roller blinds, awnings, venetian blinds, gates and others, which are single phase AC powered. FIBARO Roller Shutter 2 allows for precise positioning of a roller blind or venetian blind slats. Precise positioning is available for the motors equipped with mechanic and electronic end switches.

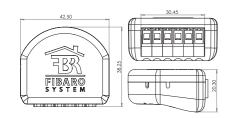
The module may be controlled wirelessly, through the Z-Wave network main controller, or through the switch keys connected to it. It's also possible to combine few devices into groups of devices which then can be controlled simultaneously. In addition, FIBARO Roller Shutter 2 is equipped with Power Metering.

## L SPECIFICATIONS

Power supply:	110 - 240 V AC 50 - 60 Hz
Power consumption:	to 0,8 W
Operational temperature:	32 - 95°F
Dimensions (L x W x H):	42,5 x 38,25 x 20,3 mm
For installation in boxes:	$\emptyset \ge 50$ mm, depth $\ge 60$ mm
Rated load current:	4,2 A for lamps and resistive loads 1,7 A for motors with compensated power factor (inductive loads)
Active element:	micro-gap relay switch $\boldsymbol{\mu}$
Type of supported motor:	single-phase AC motors
Supported limit switches type:	electronic and mechanic
Device control:	remotely - radio waves directly - push buttons
Radio protocol:	Z-Wave
Radio signal power:	1mW
Radio Frequency:	868,4 MHz EU; 908,4 MHz US; 921,4 MHz ANZ; 869,0 MHz RU;
Range:	up to 50 m outdoors

up to 30 m indoors (depending on building materials) RoHS 2011/65/EU Comply with EU directives:

LVD 2006/95/EC EMC 2004/108/EC R&TTE 1999/5/E0



# **II. TECHNICAL INFORMATION**

· Controlled by FIBARO system devices or any Z-Wave controller. • FIBARO Roller Shutter 2 is an extension unit

· Microprocessor control. · Active element: electromagnetic, micro-gap relay switch. • The device may be operated by momentary or toggle switches, and by dedicated roller blind control switches.

· Connected motor's current and historical power consumption measured

• To be installed in wall switch boxes of dimensions allowing for installation, conforming to provisions of applicable regulations

# III. SUPPORTED LOADS FGR-222 110-240 V~ $\mathbb{P}$ 42A lamp and resistive load 2 M 1.7 A inductive load

# IV. GENERAL INFORMATION ABOUT FIBARO SYSTEM

FIBARO is a wireless smart home automation system, based on the Z-Wave protocol. All of available devices can be controlled through a computer (PC or Mac), smartphone or tablet. Devices are not only receivers, but can also repeat the signal, increasing the Z-Wave network's range. It gives advantage over traditional wireless systems that require direct link between transmitter and receiver, as a result the construction of the building could affect network's range

Every FIBARO network has its unique identification number (home ID). Multiple independent networks can exist in the building without interfering. Transmission security of FIBARO System is comparable to wired systems

Z-Wave technology is the leading solution in smart home automation. There is a wide range of Z-Wave devices that are mutually compatible, independently of manufacturer. It gives the system the ability to evolve and expand over time. For more information visit: www.fibaro.com

# V ROLLER SHUTTER INSTALLATION

CAUTION 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, Fibar Group S.A., will not be held responsible for any loss or damage resulting from not following the instructions of operating manual.

CAUTION Electrical system of the building must be protected with an overcurrent protection (fuse) with a value not higher than 10A.

#### DANGER

Danger of electrocution! All works on the device may be performed only by a qualified and licensed electrician. Observe national regulations. Faulty connection or use may result in fire or electric shock

# DANGER

Danger of electrocution! Even when the device is turned off, voltage may be present at its terminals. Any works introducing changes into the configuration of connections or the load must be always performed with disconnected voltage (disable the fuse)

# DANGER

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Any maintenance work on controlled devices may be performed only after the power supply has been disconnected

# CAUTION

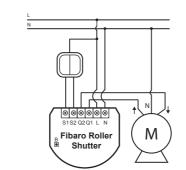
It's not recommended to operate all of the roller blinds simultaneously. For safety reasons, at least one roller blind should be controlled independently, providing safe escape route in case of emergency.

# CAUTION

Do not connect the device to loads exceeding recommended values. Connect only in accordance with the diagram presented in the manual. Improper connections may be dangerous.

1. Before installation make sure the voltage supply is disconnected.

- 2. Connect the Roller Shutter in accordance with the wiring diagram presented on Fig. 1 (roller blinds, venetian blinds) or
- Fig. 2 (gates).
- 3. Place the device in a switch box Arrange the antenna.
- 5. Turn on the power supply keeping the necessary safety
- precautions. 6. Include the module into the Z-Wave network, observing pt. VI
- description
- 7. If necessary, calibrate the module, observing pt. IX description





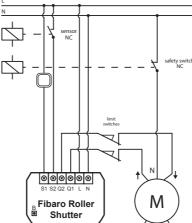


Fig. 2 Connecting Roller Shutter to GATE motor

#### NOTES FOR THE DIAGRAM: - terminal for live lead

- terminal for neutral lead S1 - terminal for key no. 1 (has the option of entering the device in learning mode) S2 - terminal for key No. 2
- Q1 output terminal no. 1 for shutter motor Q2 - output terminal no. 2 for shutter motor - service button (used to add or remove the device)

CALITION The device is designed for installation in wall switch boxes and can work only with the electrical connectors compliant with the relevant safety standards



The switch box must be compliant with the relevant national safety standards and its depth should not be less than 60mm.

#### WARNING

Fibaro Roller Shutter is dedicated to operate with AC powered electric motors. Connecting the device directly to DC powered motors may result in them being damaged.

#### WARNING

It is recomended to monitor regulary operation of Fibaro Roller shutter in all modes. In case of gate control mode device, motor limit switches, infrared barriers and emergency stop should be monitored and maintained regulary

NOTE A push button connected to S1 terminal operates the Q1 output, while the push button connected to S2 terminal operates the Q2 output. It's recommended to connect an UP button to S1 terminal and a 1 wire, responsible of up movement, to Q1 output terminal. Respectively, a DOWN button should be connected to S2 terminal and a wire, responsible for

# TIPS FOR ARRANGING THE ANTENNA

1. Locate the antenna as far from metal elements as possible (connection wires, bracket rings, etc.) in order to prevent interferences

down movement, to Q2 output terminal

- 2. Metal surfaces in direct vicinity of the antenna (e.g. metal switch boxes, door frames) may impair radio signal reception!
- 3. Do not cut or shorten the antenna. Its length is perfectly matched to the band in which the system operate

#### VI. Z-WAVE NETWORK INCLUSION

Fibaro Roller Shutter may be included into the 7-Wave network via the B-button or a push button connected to the S1 terminal. In addition, the module may be included in auto inclusion mode, by User can choose from the following operating modes:

After choosing one of the above operating modes, device will be

represented in Home Center 2 interface by icons shown in Fig.3. In

addition, each operating mode affects certain parameters settings:

2) Roller blind with positioning (parameter 10 set to 1)
3) Venetian blind (parameter 10 set to 2; parameter 13, set to 2)

4) Gate without positioning (parameter 10 set to 3; parameter 12 set

5) Gate with positioning (parameter 10 set to 4; parameter 12 set to

Opening / Closing a blind is acheved through moving a slider or

In Venetian Blind mode, setting slats angle is achieved through

Fibaro Roller Shutter allows for connecting push buttons to S1 and S2 terminals. These may be momentary or toggle switches,

alternatively. Push buttons are responsible for managing the blind's

Clicking **A** button connected to S1 terminal, initiates up

Clicking V button connected to S2 terminal, initiates down

If the blind is moving, each click, of any button, will stop the

In case of venetian blinds, it's possible to manage the slats angle

Operating Mode - Venetian Blind, or Parameter 10 value set to 2.

Holding A connected to S1 terminal initiates slats rotation up.

Holding ▼ connected to S2 terminal initiates slats rotation down.

In addition a button hold sends a Fibar Command Class control

Changing **A** switch key position, connected to S1 terminal,

Changing V switch key position, connected to S2 terminal,

Through an association Fibaro Roller Shutter may control another

Z-Wave network device, e.g. another Roller Shutter, Wall Plug,

Association allows for direct communication

between Z-Wave network devices. Main controller

Il association group is inactive when toggle switches

are used or in Gate Controller mode (parameter 10).

In case of controlling Venetian Blinds control

commands are sent in Fibar Command Class

does not take part in such communication.

I association group is triggered through a momentary switch click,

Il association group is triggered through a momentary switch hold

III association group reports the module status. Only one device

may be assigned to this group, main controller by default. It's not

Fibaro Roller Shutter allows for commanding other Roller Shutters,

associated into I or II association group, through clicking or holding a switch key. For example, this mechanism allows for operating a

Roller Shutter connected to the switch with a button click, and

operating the devices associated in II association group by a button

hold. In addition, when operating Venetian Blinds, it's possible to

USING ASSOCIATIONS TO OPERATE ANOTHER

ROLLER SHUTTER OR ANY OTHER Z-WAVE

Clicking **button**, connected to S1 terminal will initiate up

movement in associated Roller Shutters, or send Turn On command

Clicking V button, connected to S2 terminal will initiate down

movement in associated Roller Shutters, or send Turn Off command

frame to the devices associated in I-st association group.

frame to the devices associated in I-st association group.

Fibaro Roller Shutter provides three association groups:

movement. In addition a button click sends a command frame to I-st

moving a slider or pushing a button shown in Fig. 3.

Above operating modes and their default settings

are modified automatically only in Home Center 2

controller. In case of the Z-Wave network

controllers from other manufacturers, these

settings need to be manually adjusted (see section

1) Roller blind without positioning (parameter 10 set to 0)

1. Roller Blind Mode, without positioning

2. Roller Blind Mode, with positioning

4. Gate Mode, without positioning

to 0; parameter 17 set to 0)

NOTE

 $X \setminus (III)$ 

pushing a button shown in Fig. 3.

XI. MANUAL OPERATION

Using momentary switches:

association group devices.

Using toggle switches

initiates up movement

initiates down mo

frame to II-nd association group devices

Choosing a middle position stops the blind.

Dimmer, Relay Switch, RGBW Controller.

NOTE

or a toggle switch position change.

NOTE

standard

recommended to modify this group's settings.

synchronize many devices

LASSOCIATION GROUP

DEVICE.

XII. ASSOCIATIONS

movement

movemen

movement

0; parameter 17 set to 0)

5 Gate Mode with positioning

3. Venetian Blind Mode

3) Press and hold the switch key connected to S1 or S2 input

6) After pressing and releasing the button for the third time.

1) Make sure the module is connected to the power supply,

4) Press and hold the same switch key again, and release it after 3

5) Now press and hold the same button, for 3 seconds, for the 3rd

7) Roller Shutter performs the calibration process, completing full

Include the module into the Z-Wave network, according to section

6) Roller Shutter performs the calibration process, completing full

It's possible to force the calibration process execution through

sending a Fibar Command Class control frame through a Z-Wave

Apart from calibrating the roller blind position, it's possible to

calibrate the position of venetian blinds slats. After correct

calibration, in case of venetian blinds, it's possible to set the position

between the limit switches, as well as the slats angle. By default,

time of full turn of the slats is set to 1,5 seconds. If necessary, it can

2) Include the module into the Z-Wave network, according to section

1) Make sure the module is connected to the power supply

3) Calibrate the Roller Shutter, according to the instructions

4) Set the parameter 10 value to 2 or choose in HC2 interface:

5) Another device icon, responsible for slats operation, will show

up in Home Center 2 interface. In case of any other Z-Wave

network controllers managing the slats position is achieved

through pressing and holding a switch key (up or down). 6) By default, time of transition between extreme positions is set to

7) Turn slats between extreme positions. If after full cycle a blind

starts moving up or down, then parameter's 12 value must be modified, e.g. to 1 000ms (1 second). Correctly configured

Roller Shutter needs to be calibrated to work with

In Venatian Blind mode, slats need to be calibrated

Venetian blind slats may be only operated by

**V** 

.....

0

-0

10kW

slats should not force the blind to move up or down

to work with any given motor

X. OPERATING THROUGH THE 7-WAVE NETWORK

After including into the Z-Wave network, Fibaro Roller Shutter will

be presented in a Home Center 2 interface as a roller blind icon (see

fig. below). After choosing Venetian Blind device type, a second icor

momentary switches

will show up, responsible for managing slats position.

• 

= "

0

10kV

Fig. 3 Roller Shutter icons in Home Center interface

0

CAUTION

CAUTION

CAUTION

any given motor.

provided in sections IX.A, IX.B, IX.C, IX.D or IX.E.

To abort the calibration process press any key

(connected to S1 or S2) or send a STOP control

frame through the Z-Wave network controller. In

Gate Controller mode the calibration process will

be aborted after disconnecting the S2 terminal.

E. Calibration through a Fibar Command Class control frame.

CALIBRATING SLATS POSITIONING

terminal and release it after at least 3 seconds.

automatic calibration sequence will start.

3) Press and hold the B-button for ca. 6 seconds

5) Release the B-button and press it again, briefly.

cycle - up, down and up again.

according to Fig.1

VI of instructions.

4) LED will glow blue.

network main controller

cycle - up, down and up again

NOTE

IN VENETIAN BLINDS

be modified following below instructions.

Device Type - Venetian Blind

1 500 ms (1 5 seconds)

-

-

according to Fig.1

VI of instructions.

D. Calibration through Menu (B-button)

seconds

simply connecting the power supply. Automatic 7-Wave network inclusion: 1) Make sure the power supply is disconnected and a Roller Shutter

is located within a direct Z-Wave network's main controller

- communication range. 2) Set the main controller into the learn mode (see main controllers operating manual).
- 3) Connect the power supply to include the Roller Shutter in auto inclusion mode
- 4) Fibaro Roller Shutter will be automatically detected and included

into the Z-Wave network To disable the auto inclusion mode, press the B-button briefly, after

connecting the module to the power supply.

Manual Z-Wave network inclusion: 1) Connect the power supply.

2) Set the main controller into the learn mode (see main controllers

operating manual)

3) Triple click the B-button or a push button connected to the S1

4) Fibaro Roller Shutter will be detected and included into the Z-Wave network

## VII. Z-WAVE NETWORK EXCLUSION

1) Make sure the module is connected to the power supply. 2) Set the main controller into the learn mode (see main controllers operating manual)

3) Triple click the B-button or a push button connected to the S1

## VIII. ROLLER SHUTTER RESET

Reset procedure clears the modules' EPROM memory, including all information about the Z-Wave network controller, calibration and power consumption data.

1) Make sure the module is connected to the power supply 2) Press and hold the B-button for ca. 14 seconds.

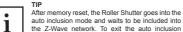
3) LED indicator will glow yellow. 4) Release the B-button and press it again, briefly.

5) The Roller Shutter memory is now empty.

6) The module goes into the auto inclusion mode, until any button is pushed.

## CAUTION

Memory reset does not remove the module from the Z-Wave network main controller's memory Prior to memory reset it's recommended to exclude the module from the Z-Wave network.



#### auto inclusion mode and waits to be included into the Z-Wave network. To exit the auto inclusion mode press the B-button briefly.

#### IX. POSITIONING CALIBRATION

Calibration is a process during which a Roller Shutter learns the position of the limit switches and a motor characteristic. Calibration is mandatory in order for the Roller Shutter to correctly recognize a roller blind position. The procedure consists of an automatic, full movement between the limit switches (up, down, and up again). There are separate procedures of calibrating roller blind and slats (venetian blind) positioning. Each time the calibration requires the completion of a full cycle (up and down

## ROLLER BLIND POSITIONING CALIBRATION

There are 5 procedures of calibrating a Fibaro Roller Shutter to choose from. Each one gives the same results and the user may choose which one to execute. A Calibration through a Fibaro Home Center 2 interface

1) Make sure the module is connected to the power supply, according to Fig 1

2) Include the module into the Z-Wave network, according to section VI of instructions 3) In Home Center 2 interface choose Fibaro Roller Shutter's

advanced settings.4) Click CALIBRATE buttin in the devices advanced settings tab.

5) Roller Shutter performs the calibration process, completing full cvcle - up, down and up again. 6) Using an interface test whether the positioning works correctly

B. Calibration through the Z-Wave network

6) Using an interface test whether the positioning works correctly

according to Fig.1, and to the switch keys as well (S1 and S2

Include the module into the Z-Wave network, according to section

1) Make sure the module is connected to the power supply,

- 1) Make sure the module is connected to the power supply,
- according to Fig.1 Include the module into the Z-Wave network, according to section
- VI of instructions. 3) Set the parameter 29 value to 1. 4) Roller Shutter performs the calibration process, completing full cycle - up, down and up again. 5) The parameter 29 value will be automatically set to 0.

C. Calibration through the switch keys

inputs).

VI of instructions.

#### ILASSOCIATION GROUP

Holding **A** button, connected to S1 terminal will move the connected roller blind up and after 1 second delay initiate up movement in associated Roller Shutters, or send Turn On command frame to the devices associated in II-nd association group. Holding V button, connected to S2 terminal will move the conected rolled blind down, and after 1 second delay initiate down movement in associated Roller Shutters, or send Turn Off command frame to the devices associated in II-nd association group.

#### USING ASSOCIATIONS TO OPERATE ROLLER SHUTTERS CONNECTED TO VENETIAN BLINDS.

Using association mechanism to operating venetian blinds requires configuring both, I-st and II-nd association groups.

LASSOCIATION GROUP Clicking A button, connected to S1 terminal will initiate up movement of the connected venetian blind and other devices associated in I-st association group.

Clicking V button, connected to S2 terminal will initiate down movement of the connected venetian blind and other devices associated in I-st association group.

II ASSOCIATION GROUP (relevant for momentary switches only) Holding A button, connected to S1 terminal will initiate slats rotation up, of the connected venetian blind as well as the other devices associated in II-nd association droup

Holding 🔻 button, connected to S2 terminal will initiate slats rotation down, of the connected venetian blind as well as the other devices associated in II-nd association group.



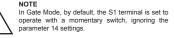
## XIII. OPERATING GATE MOTORS

Fibaro Roller Shutter allows for operating gate motors. Gate motor should be connected to Q1 and Q2 terminals according to Fig.2. In the Gate Mode, a momentary switch may be connected to S1 terminal. It's recommended to connect an IR barrier, an emergency stop button or any alarm mechanism to S2 terminal. Opening a contact in a device connected to S2 terminal will always result in stopping a motor in current position (see Fig. 2).

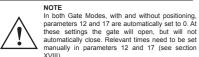
Clicking a push button connected to S1 terminal will initiate opening the gate. Next click of a button will stop the gate. Yet another click of a button will close the gate. According to following seaquence:  $OPEN \rightarrow STOP \rightarrow CLOSE \rightarrow STOP \rightarrow OPEN$ 

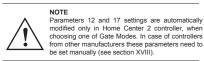


Fig. 4 Roller Shutter icon in Home Center interface



Full opening the gate initiates a Roller Shutter COUNTDOWN. After the COUNTDOWN the gate will start closing. COUNTDOWN length is set through the parameter 12. In addition, if the IR barrier is cut (S2 contact opened) at the gate fully open, the gate will start closing after a time period specified in parameter 17.





NOTE

Installation of the gate driver may be performed only by certified professionals. The motor must be equipped with the appropriate limit switches (see Fig 2). It's recommended to connect a NC (normally closed) contact of an IR barrier to S2 terminal Opening the contact will stop the gate. In addition, it's recommened to connect an emergency stop button to the motors neutral (N) wire. In emergency pushing the emergency stop button will cut the power and stop the gate. It is recomended to monitor regulary operation of Fibaro Roller shutter in all modes. Also it is recomended to regulary verificate and maintenance connectors.



S1 and S2 terminals react to mains voltage only. Using IR barriers with NC contacts operating on lower voltages require using an additional relay (see Fig. 2)

### XIV. LED INDICATOR

vour choice with the B-button click.

XV. Z-WAVE RANGE TESTER

CAUTION

In order to test the Z-Wave network range:

5) Click the B-button to exit the Range Tester.

Indicator glows violet.

2) Release the B-button.

description below).

GREEN, without blinking.

.

1

controller (step 1)

-Iome Center 2.

in Watts (W)

Network range signaling modes:

3) Click the B-button

estimate the Z-Wave network range.

in the following sequence:

Fibaro Roller Shutter has a MENU. Each MENU level is signaled through a LED Indicator colour. To enter MENU press and hold the B-button for at least 2 seconds

GREEN - reset energy consumption data memory (see section XVI)

Release the B-button to choose the desired function and confirm

Fibaro Roller Shutter has a built in mechanism, allowing to roughly

function only in special cases.

1) Press and hold the B-button for ca. 6 seconds, until the LED

4) LED Indicator will signal the Z-Wave network range (see

Z-Wave network range is signaled by LED illumination colour and

behaviour. Blinking each 1-second means the modules tries to

establish a direct communication with the main controller, while 2

seconds glowing means the test result. The test is performed in a

loop, until being stopped by the user. Z-Wave range test is

performed in three steps, signaled with green, yellow, violet and

1) Blinking in GREEN means the module tries to establish a direct

communication with the main controller. Positive test result is

signaled by a 2 second glowing in GREEN, after which the test is

repeated (step 1). In practice, if the module is able to establish a

direct communication with the main controller, the LED will glow

2) If the module is not able to establish a direct connection with the

main controller, it will try to establish a routed connection, through

another, intermediary, Z-Wave network devices, LED indicator will

change the illumination colour to RED. Positive test result is

signaled with glowing in YELLOW. After 2 seconds the module will

3) If the module is not able to establish a routed connection with the

main controller. LED Indicator colour will change from YELLOW to

VIOLET. After few seconds test will end and the LED Indicator will

glow RED for two seconds. Whole procedure will start again and

the module will try to establish a direct connection with the main

POWER CONSUMPTION MEASURING

Fibaro Roller Shutter allows for the current load and powe

consumption monitoring. Data is sent to the main controller, e.g.

Measuring is carried out by an independent microprocessor

dedicated exclusively for the purpose, assuring maximum accuracy

Electric power - power consumed by an electric device in an instant

Electric energy - energy consumed by a device through a time

period Most commonly measured in kilowatt-hours (kWh) One

Fibaro Roller Shutters electricity consumption memory may be

kilowatt-hour is equal to one kilowatt of power consumed over a

and precision. The microprocessor is factory calibrated.

RESETTING ELECTRICITY CONSUMPTION MEMORY

2) Through the main controller menu (see main controllers

a) Make sure the device is connected to voltage supply.

e) Energy consumption memory has been erased.

NOTE

rates

b) Press and hold the B-button for ca. 10 seconds, until LED I

The module may modify the main controller

communication from direct to routed and vice

versa, especially if it's located at the direct

retry establishing a direct communication (step 1).

XVI. CURRENT AND HISTORICAL

period of one hour 1kWh = 1000 Wh

cleared in one of the following ways:

operating manual

ndicator glows GREEN.

c) Release the B-button.

d) Click the B-button.

1) Through the module reset (see section VIII)

3) Manually using the following instructions:

communication range limit

NOTE

To allow for the Z-Wave network range test, the

Z-Wave network controller needs to support the

functionality and the module needs to be included

in the network. Z-Wave range test puts heavy strain

on the network, so it's recommended to use the

BLUE - Roller Shutter calibration procedure (see section IX)

VIOLET - initiate the Z-Wave network range tester

YELLOW - Roller Shutter reset (see section VIII)

1) Local Protection While the B-button is being held, LED Indicator colours will change Local Protection State

0 - no protection. Roller Shutter responds to push buttons. - not supported

2 - Local protection active. Roller Shutter does not respond to push buttons.

Fibaro Roller Shutter uses the Protection Command Class v2 to

Once the Local Protection is activated, the module stops responding to S1 and S2 push buttons. SCENE ID and association commands will not be sent as well. The only exception is the B-button. Menu and Z-Wave network inclusion, after the B-button or S1 push button triple click, are still active.



In Protection Mode it will not be possible to control Fibaro Roller Shutter from buttons. It is not recomended to control all Fibaro Roller Shutters in this mode.

#### CAUTION

XVII. PROTECTION MODE

prevent from unintended motor movement

There's one more exception in Local Protection. In Gate Mode, S2 (IR Barrier) is still active. It means if the obstacle is detected, the gate will stop, regardless the Local Protection State set.

## 2) RF Protection (radio protection)

RF Protection State: 0 - No protection. Roller Shutter responds to command frames 1 - RE Protection active Roller Shutter does not respond to the Z-Wave control frames. 2 - not supported.

Once the RE Protection is activated, the module stops responding

to command frames setting the blind position. It's still possible however to configure the device (advanced configuration parameters, protection modes) and checking it's current state through polling (position, power, energy).

## XVIII ADVANCED CONFIGURATION

GENERAL SETTINGS:

#### 3. Reports type

0 - Blind position reports sent to the main controller using Z-Wave Command Class.

1 - Blind position reports sent to the main controller using Fibar Command Class

Parameters value shoud be set to 1 if the module operates in Venetian Blind mode

Default setting: 0 Parameter size: 1 [byte]



#### 10. Roller Shutter operating modes:

0 - Roller Blind Mode, without positioning 1 - Roller Blind Mode, with positioning Venetian Blind Mode, with positioning

3 - Gate Mode, without positioning 4 - Gate Mode, with positioning

Default setting: 1 Parameter size: 1 [byte]

12. In Venetian Blind mode (parameter 10 set to 2) the parameter rmines time of full turn of the slats. In Gate Mode (parameter 10 set to 3 or 4) the parameter defines the

COUNTDOWN time, i.e. the time period after which an open gate starts closing. In any other operating mode the parameter value is irrelevant.

Value of 0 means the gate will not close automatically. Available settings: 0-65535 (0 - 655,35s)

Default setting: 150 (1.5 s) Parameter size: 2 [bytes]

#### 13. Set slats back to previous position.

In Venetian Blind Mode (parameter 10 set to 2) the parameter influences slats positioning in various situations. In any other operating mode the parameter value is irrelevant.

- 0 Slats return to previously set position only in case of the main controller operation
- 1 Slats return to previously set position in case of the main controller operation, momentary switch operation, or when the limit switch is reached.
- 2 Slats return to previously set position in case of the main controller operation momentary switch operation when the limit switch is reached or after receiving a "STOP" control frame (Switch Multilevel Ston)

Default setting: 1 Parameter size: 1 [byte]

## 14. Switch type

The parameter settings are relevant for Roller Blind Mode and Venetian Blind Mode (parameter 10 set to 0, 1, 2). 0 - Momentary switches

- 1 Toggle switches
- 2 Single, momentary switch, (The switch should be connected to S1 terminal)

17. In Roller Blind Mode or Venetian Blind mode (parameter 10

set to 0, 1, 2) the parameter determines when the Roller Shutter

relays are turned off after reaching a limit switch.

- Default setting: 0
- Parameter size: 1 [byte]

2) Fibaro Roller Shutter stores consumed electricity data on its memory, which means disconnecting the module from voltage supply does not erase the

1) Please contact your local supplier for the current

In Gate Mode (parameter 10 set to 3 or 4) the parameter determines a time period after which a gate will start closing after a S2 contact has been disconnected. In this mode, time to turn off the Roller Shutter relays after reaching a limit switch is set to 3 seconds and cannot be modified. 0 means the gate will note close automatically.

XIX. LIMITED WARRANTY

is subject to all terms sets forth below

1 LIMITED WARRANTY

satisfactory quality.

2. LIMITATION OF REMEDY:

repair or replacement of the products.

3. LIMITATION OF LIABILITY:

products/components

claim procedure.

4 CLAIMS PROCEDURE

his limited warranty is provided by Fibar USA, LLC (the "Company")

1040 E. Lake Ave., Glenview, Illinois 60025, as the sole and exclusive remedy offered to a purchaser (the "Customer") of the products (the

"Products") for any alleged defects in any of the Products. The warranty

Subject to the limitations of section 2, the company warrants that the products sold by the company to the customer will be free from defects in material and workmanship under normal use and regular service and

maintenance for a period of one (1) year from the date of purchase of the products. The one-year period may be referred to as the "limited warranty"

This is the sole and exclusive warranty given by the company with respect to the products and is in lieu of and excludes all other warranties, express or implied, arising by operation of law or otherwise, including without limitation, any implied warranties of merchantability, fitness for a particular purpose, non-infingement and the implied condition of

The product is not, is not intended to function or be used as, should not

be used as, and shall not be deemed to be, an alarm system or home security system. The product's intended use shall not include use as ar alarm system or home security system.

This limited warranty does not extend to any losses or damages due in

whole or in part to misuse, accident, abuse, neglect, normal wear and

tear, negligence (other than the Company's), unauthorized modification

or alteration, use beyond rated capacity, unsuitable power sources or

to anelation, use beyond have baptory, insulation power sources of environmental conditions, improper installation, repair, handling, maintenance or application, third party actions or omissions (whether as an agent or apparent agent of the Company), criminal acts, or any other cause not the direct fault of the Company.

2. LIMIATION OF REMEDY: If within the limited warranty period, the Customer discovers any covered warranty defects and notifies the Company within thirty (30) days of such discovery, pursuant to the Claims Procedure in Section 4 below, the

The remedies set forth in this limited warranty are exclusive. The sole and

exclusive remedy for breach of any warranty hereunder shall be limited to

In the event that the product cannot be repaired or replaced, the company

reserves the right to substitute a product of similar technical parameters

Failure by the Customer to give such written notice within the thirty (30)

day time period shall be deemed an absolute and unconditional waiver of the Customer's claim for such covered defects. All costs and expenses of dismantling, reinstallation and freight, including the time of the

Or using the presentation and regin, including the time or are Company's personnel and representatives for site travel and diagnosis under this limited warranty, shall be borne by the Customer unless accepted in willing by the Company. Products repaired or replaced during the limited warranty period shall be covered by the foregoing limited warranty for the remainder of the limited warranty period.

The Customer assumes all other responsibility for any loss, damage, or

injury to persons or property arising out of, connected with, or resulting from the use of Products, either alone or in combination with other

3. LIMITATION OF LIABILITY: In no event, regardless of the form of the claim or cause of action (whether based in contract, infringement, negligence, strict liability, other tort or otherwise), shall the company's liability to the customer or any third

party exceed the price paid by the customer for the specific products giving rise to the claim or cause of action.

To the maximum extent permitted by applicable law, the company shall not be liable to the customer or any third party for any general, direct, indirect, incidental, special, consequential, or punitive damages, including, but not limited to, loss of profits or anticipated profits, business interruption, loss of use, revenue, reputation and data, ocsis incurred,

loss or damage to property or equipment, bodily injury, or death, arising

from any claim or cause of action relating to the product, whether such it

based on warranty, contract, tort (including negligence and strict liability,

These limitations shall apply notwithstanding any failure of essential purpose of any remedy. Some states and/or jurisdictions do not allow the exclusion or limitation of incidental or consequential damages so the abare understanding any market and the abare to a state and the second state of the state of the second state

The Customer assumes all other responsibility for any loss, damage, or

injury to persons or property arising out of, connected with, or resulting from the use of Products, either alone or in combination with other

4. CLAIMS PROCEDURE: The Customer shall make a claim by written notice to the Company through the contact information listed on its website at www.fibaro.com or by contacting the Company through the telephone number listed on the website. Any telephone conversations will be recorded. The Company

will issue a designated claim number for each claim made. The Custome

may be contacted by an authorized warranty service representative to arrange a date for an inspection of the Product. This inspection shall be

in the presence of the Customer. The Product that is the subject of the

In the presence of the Customer. The Product that is the subject of the claim shall be made available by the Customer together with complete standard equipment and the documents confirming the Product's purchase. Covered defects (as determined by the Company or its authorized service representative) found during the limited warranty period shall be remedied within thirty (30) days from the date of the remediated within thirty (30) days from the date of the termined within thirty (30) days from the termined within the termin

inspection or the date the Product is delivered to the Company or its authorized service representative, whichever is later. The limited warranty period shall be extended by the time that the Product is in the

warrantly bendo shall be extended by the time that the Product is in the possession of the authorized service representative or the Company. Remember: before you submit a warrantly claim, contact our technical support using telephone or e-mail. More than 50% of operational extension of the support of

problems is resolved remotely, saving time and money spent to initiating

Please read this section carefully. It affects customers' rights and will have a substantial impact on how claims the company and the customer

have against each other are resolved. This limited warranty contains a

The Company and the Customer agree that any claim or dispute at law or

A. Applicable Law. The Customer and the Company agree that, except

to the extert illicolisemit with or preempted by redenia raw, the laws on the State of Illicols without regard to principles of conflict of laws, will govern the limited warranty and Products and any claim or dispute that has arisen or may arise between the Company and the Customer, except as otherwise stated herein. The Federal Arbitration Act governs the interpretation and enforcement of this Section 5. The U.N. Convention on

o the extent inconsistent with or preempted by federal law, the laws of

binding arbitration provision which may be enforced by the parties.

quity that has arisen or may arise between them relating in r arising out of this limited warranty or the Products will be

Contracts for the International Sales of Goods shall not apply

5. GOVERNING LAW AND BINDING ARBITRATION:

accordance with the provisions set forth in this Section

above exclusions may not apply to certain customers.

The company will not refund the purchase price of the original product.

Company shall, at its option and as the Customer's exclusive ren repair or replace F.O.B. point of manufacture.

B. Agreement to Arbitrate. The Company and the Customer each agree that any and all disputes or claims that have arisen or may arise between them relating to or arising out of this limited warranty or the products held by the product of building.

Products shall be resolved exclusively through final and binding

arbitration, rather than in a court proceeding. Alternatively, the Custome

may assert his/her claims in small claims court, if the claims qualify and

so long as the matter remains in such court and advances only on an

The Company and the Customer agree that each of them may bring claims against the other only on an individual basis and not as a plaintiff or class member in any purported class or representative action or proceeding. Unless both the Company and the Customer agree, the

arbitration may not consolidate or join more than one person's claims and many not otherwise preside over any form of a consolidated, representa-

C. Opt-Out. The Customer may opt-out of this agreement to arbitrate by

c. Oprovid: The customer may oprove of this agreement to anomate by sending the Company a written optout notice, via certified mail and postmarked no later than 30 days after the date of purchase of the Product. The opt-out notice must include the Customer's name and address, the serial number of the Product purchased, and the date and

location of the purchase. All other parts of this limited warranty will still

D. Procedures. The arbitration shall be administered by JAMS pursuant to its Comprehensive Arbitration Rules and Procedures, whichever as applicable. JAMS "Streamlined Arbitration Rules and Procedures, whichever as applicable. JAMS "ules are available at www.jamsadr.com. The use of the word "arbitrator" in this provision, shall not be constructed to prohibit

more than one arbitrator from presiding over the arbitration; rather, the

JAMS' rules will govern the number of arbitrators that may preside over an arbitration. The Customer will have a reasonable opportunity to

A Customer who intends to seek arbitration must first make a written claim against the Company pursuant to Section 4. If the Customer and the Company are unable to resolve the claim writin thirty (30) days from the date of the notice, the Company or the Customer may initiate arbitration proceedings. A form for initiating arbitration proceedings is a

available on JAMS' website. In addition to filing the form with JAMS, the party initiating the arbitration must mail a copy of the completed form to

party initiating the anotation must main a copy of the completed form to the other party. In the event the Company initiates arbitration against a Customer, it will send a copy of the completed form to the physical address the Company has on file for the Customer.

The arbitration hearing shall be held in the county in which the Customer

Arbitration uses a neutral arbitrator instead of a judge or jury. Discovery or the exchange of non-privileged information will be allowed pursuant to JAMS' rules. The arbitrator will decide the substance of all claims in

arwis rules. The shift applicable law, including recognized principles of equity, and will honor all claims of privilege recognized by law. An arbitrator can award the same damages and relief on an individual basis that a court can, award to an individual. The arbitrator's award shall be final and

binding and judgment on the award rendered by the arbitrator may be

entered in any court having jurisdiction thereof. An award will consist of a

written statement stating the disposition of each claim, and will include a concise written statement of the essential findings and conclusions on

Payment of all filing, administration and arbitrator fees is governed by JAMS; provided, however, that when a Customer initiates arbitration

against the Company, the fee required to be paid by the Customer is that amount designated by JAMS for consumer arbitrations. All other costs

If an arbitrator or court decides that any part of this limited warranty is invalid or unenforceable, the other parts of the limited warranty shall still apply to the extent applicable. In the event that this agreement to arbitrate is wholly inapplicable, the Customers agree that any claim or dispute that has arisen or may arise between the Customer and the Company must

be resolved exclusively by a state or federal court located in Cook County, Illinois. The Customer agrees to submit to the personal jurisdiction of the courts located within Cook County, Illinois, for the

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR

TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This device completes with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference 2. This device must accept any interference received, including interference that may cause undesired operation. 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 convide reasonable participant and the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to convide reasonable participant and the limit for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to convide reasonable participant and the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to convide reasonable participant and the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to convide reasonable participant and the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits the designed to convide reasonable participant and the limits for a Class B digital device.

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

Table hequency energy and, in our standard and used in document with the instructions, may cause harmful interference to radio communica-tions. 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 environced tried are subject to the interference of the ty commit the optimized of the subject of the su

equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

· Connect the equipment into an outlet on a circuit different from that to

sult the dealer or an experienced radio/TV technician for help.

Industry Canada (IC) Compliance Notice This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions: (1) this device may

not cause interference, and (2) this device must accept any interference.

Cet appareil est conforme aux normes d'exemption de licence RSS

Cet appareir est conforme aux normes o exemption de licence RSS d'Industry Canada. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui

other manufacturers.

to Fibaro system.

Directive 1999/5/EC.

This Device may be used with all devices

certified with Z-Wave certificate and should be

compatible with such devices produced by

Any device compatible with Z-Wave may be added

Hereby, Fibar Group S.A. declares that this Fibaro Roller Shutter 2 is in compliance with the essential requirements and other relevant provisions of Directive 1000/FIC

including interference that may cause undesired operation of the device

Increase the separation between the equipment and receiver

purpose of litigating all such claims or disputes.

Reorient or relocate the receiving antenna.

which the receiver is connected

peuvent affecter son fonctionnement.

1

FIBARGROUP

www.fibaro.com

FIBARO

n any way ti

This device complies with Part 15 of the FCC Rules.

participate in the selection of the arbitrator

resides or at another mutually agreed location

which the award is based

will be paid by the Company

(non-class, non-representative) basi

tive. or class proceeding.

#### Available settings: 0 - 255 (0 1-25 5s) Default setting: 10 (1s).

Parameter size: 1 [byte]

18. Motor operation detection. Power threshold to be interpreted as reaching a limit switch.

Available settings: 0 - 255 (1-255 W) The value of 0 means reaching a limit switch will not be detected Default setting: 10 (10W). Parameter size: 1 [byte]

#### 22. Motor operation time.

Time period for the motor to continue operation Available settings: 0 - 65535 (0 - 65535s) The value of 0 means the function is disabled. Default setting: 240 (240s. – 4 minutes)

Parameter size: 2 [bvtes] 29. Forced Roller Shutter calibration

#### By modifying the parameters setting from 0 to 1 a Roller Shutter

enters the calibration mode. The parameter relevant only if a Roller Shutter is set to work in positioning mode (parameter 10 set to 1, 2 or 4). 1 - Start calibration process Default setting: 0

0 - No reaction

#### Parameter size: 1 [byte] ALARM SETTINGS

## 30. Response to general alarm

1 - Open blind. 2 - Close blind

Default setting: 2 Parameter size: 1 [byte]

31. Response to flooding alarm

0 - No reaction. 1 - Open blind

2 - Close blind. Default setting: 0

Parameter size: 1 [byte]

32. Response to smoke. CO or CO2 alarm 0 - No reaction. - Open blind 2 - Close blind.

Default setting: 1 Parameter size: 1 [byte]

#### 33. Response to temperature alarm

0 - No reaction 1 - Onen blind 2 - Close blind.

Default setting: 1

Parameter size: 1 [byte]

35 Managing slats in response to alarm In Venetian Blind Mode (parameter 10 set to 2), the parameter determines how the slats will react upon alarm detection. In any other modes, the parameter value is not relevant.

0 - Do not change slats position - slats return to the last set position.

1 - Set slats to their extreme position.

Default setting: 1 Parameter size: 1 [byte]

## POWER AND ENERGY REPORTS SETTINGS:

#### 40. Power reports. Power level change that will result in new power value report being

sent. The parameter defines a change that needs to occur in order to trigger the report. The value is a percentage of the previous report. Power report threshold available settings: 1-100 (1-100%).

Value of 0 means the reports are turned off. Default setting: 10 (10%).

Parameter size: 1 [byte]

Parameter size: 2 [bytes]

order to trigger the report

Default setting 10 (0,1kWh).

reports sent to the main controller

50. Scenes / Associations activation.

0 - Self-measurement inactive.

1 - Self-measurement active

Parameter size: 1 [byte]

0 - Associations activation

Parameter size: 1 [byte]

1 - Scenes activation

Default setting: 0

by the switch keys.

Default setting: 0

Parameter size: 1 [bvte]

44. Self-measurement

43. Energy reports.

42. Periodic power or energy reports. The parameter defines a time period between consecutive reports Available settings: 1-65534 (1-65534 seconds) Value of 0 means the reports are turned off

Value of 0 means the reports are turned off

Default setting: 3600 (3600 seconds / 60 minutes).

Energy level change which will result in new energy value report

being sent. The parameter defines a change that needs to occur in

A Roller Shutter may include power and energy used by itself in

Parameter determines whether scenes or associations are activated

Energy threshold available settings: 1-254 (0,01 - 2,54kWh)