



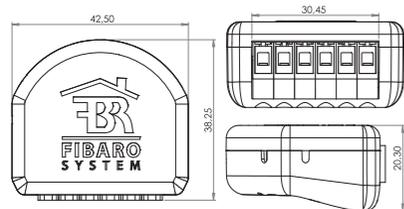
OPERATING MANUAL FIBARO ROLLER SHUTTER 2 FGR-222-US-A-v1.00

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.

I. 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:	Ø ≥ 50mm, depth ≥ 60mm
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 μ
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)
Comply with EU directives:	RoHS 2011/65/EU LVD 2006/95/EC EMC 2004/108/EC R&TTE 1999/5/EC



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

1	FGR-222 lamp and resistive load	110-240 V~ 4,2 A
2	inductive load	1,7 A

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 negatively.

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
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.

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

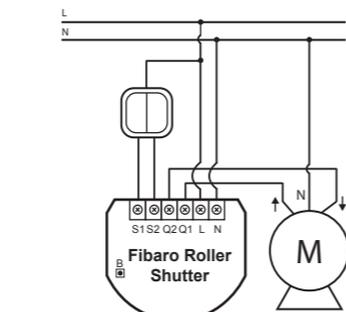


Fig. 1 Roller Shutter wiring diagram

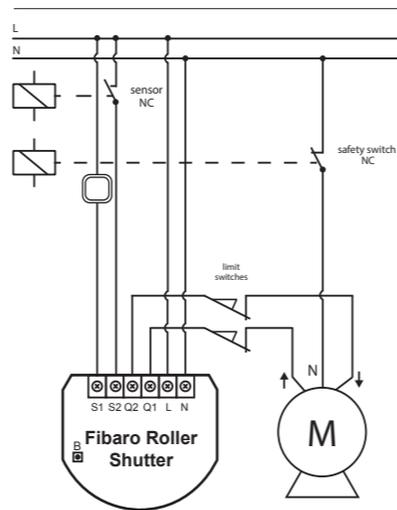


Fig. 2 Connecting Roller Shutter to GATE motor

NOTES FOR THE DIAGRAM:

L - terminal for live lead
N - 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
B - service button (used to add or remove the device)

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

CAUTION
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 recommended to monitor regular 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 regularly.

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 wire, responsible of up movement, to Q1 output terminal. Respectively, a DOWN button should be connected to S2 terminal and a wire, responsible for down movement, to Q2 output terminal.

TIPS FOR ARRANGING THE ANTENNA

- Locate the antenna as far from metal elements as possible (connection wires, bracket rings, etc.) in order to prevent interferences.
- Metal surfaces in direct vicinity of the antenna (e.g. metal switch boxes, door frames) may impair radio signal reception!
- Do not cut or shorten the antenna. Its length is perfectly matched to the band in which the system operates.

VI. Z-WAVE NETWORK INCLUSION

Fibaro Roller Shutter may be included into the Z-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 simply connecting the power supply.

Automatic Z-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.

- Set the main controller into the learn mode (see main controllers operating manual).
- Connect the power supply to include the Roller Shutter in auto inclusion mode.
- 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:

- Connect the power supply.
- Set the main controller into the learn mode (see main controllers operating manual).
- Triple click the B-button or a push button connected to the S1 terminal.
- Fibaro Roller Shutter will be detected and included into the Z-Wave network.

VII. Z-WAVE NETWORK EXCLUSION

- Make sure the module is connected to the power supply.
- Set the main controller into the learn mode (see main controllers operating manual).
- Triple click the B-button or a push button connected to the S1 terminal.

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.

- Make sure the module is connected to the power supply.
- Press and hold the B-button for ca. 14 seconds.
- LED indicator will glow yellow.
- Release the B-button and press it again, briefly.
- The Roller Shutter memory is now empty.
- 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.

TIP
After memory reset, the Roller Shutter goes into the 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.

- Calibration through a Fibaro Home Center 2 interface
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.
- In Home Center 2 interface choose Fibaro Roller Shutter's advanced settings.
- Click CALIBRATE button in the devices advanced settings tab.
- Roller Shutter performs the calibration process, completing full cycle - up, down and up again.
- Using an interface test whether the positioning works correctly.

- Calibration through the Z-Wave network
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.
- Set the parameter 29 value to 1.
- Roller Shutter performs the calibration process, completing full cycle - up, down and up again.
- The parameter 29 value will be automatically set to 0.
- Using an interface test whether the positioning works correctly.

- Calibration through the switch keys
1) Make sure the module is connected to the power supply, according to Fig.1, and to the switch keys as well (S1 and S2 inputs).
- Include the module into the Z-Wave network, according to section VI of instructions.

- Press and hold the switch key connected to S1 or S2 input terminal and release it after at least 3 seconds.
- Press and hold the same switch key again, and release it after 3 seconds.
- Now press and hold the same button, for 3 seconds, for the 3rd time.
- After pressing and releasing the button for the third time, automatic calibration sequence will start.
- Roller Shutter performs the calibration process, completing full cycle - up, down and up again.

- Calibration through Menu (B-button)
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.
- Press and hold the B-button for ca. 6 seconds.
- LED will glow blue.
- Release the B-button and press it again, briefly.
- Roller Shutter performs the calibration process, completing full cycle - up, down and up again.

E. Calibration through a Fibar Command Class control frame. It's possible to force the calibration process execution through sending a Fibar Command Class control frame through a Z-Wave network main controller.

NOTE
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.

CALIBRATING SLATS POSITIONING IN VENETIAN BLINDS

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 be modified following below instructions.

- 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.
- Calibrate the Roller Shutter, according to the instructions provided in sections IX.A, IX.B, IX.C, IX.D or IX.E.
- Set the parameter 10 value to 2 or choose in HC2 interface: Device Type - Venetian Blind
- 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).
- By default, time of transition between extreme positions is set to 1 500 ms (1,5 seconds).
- 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 slats should not force the blind to move up or down.

CAUTION
Roller Shutter needs to be calibrated to work with any given motor.

CAUTION
In Venetian Blind mode, slats need to be calibrated to work with any given motor.

CAUTION
Venetian blind slats may be only operated by momentary switches.

X. OPERATING THROUGH THE Z-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 icon will show up, responsible for managing slats position.

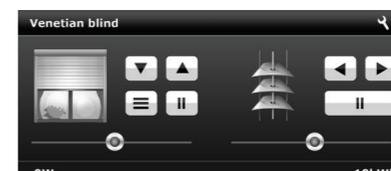


Fig. 3 Roller Shutter icons in Home Center interface

User can choose from the following operating modes:

- Roller Blind Mode, without positioning
- Roller Blind Mode, with positioning
- Venetian Blind Mode
- Gate Mode, without positioning
- Gate Mode, with positioning

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:

- Roller blind without positioning (parameter 10 set to 0)
- Roller blind with positioning (parameter 10 set to 1)
- Venetian blind (parameter 10 set to 2; parameter 13, set to 2)
- Gate without positioning (parameter 10 set to 3; parameter 12 set to 0; parameter 17 set to 0)
- Gate with positioning (parameter 10 set to 4; parameter 12 set to 0; parameter 17 set to 0)

NOTE
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 XVIII).

Opening / Closing a blind is achieved through moving a slider or pushing a button shown in Fig. 3.

In Venetian Blind mode, setting slats angle is achieved through moving a slider or pushing a button shown in Fig. 3.

XI. MANUAL OPERATION

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 movement.

Using momentary switches:

Clicking ▲ button connected to S1 terminal, initiates up movement.

Clicking ▼ button connected to S2 terminal, initiates down movement.

If the blind is moving, each click, of any button, will stop the movement. In addition a button click sends a command frame to I-st association group devices.

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 ▲ 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 frame to II-nd association group devices.

Using toggle switches:

Changing ▲ switch key position, connected to S1 terminal, initiates up movement.

Changing ▼ switch key position, connected to S2 terminal, initiates down movement.

Choosing a middle position stops the blind.

XII. ASSOCIATIONS

Through an association Fibaro Roller Shutter may control another Z-Wave network device, e.g. another Roller Shutter, Wall Plug, Dimmer, Relay Switch, RGBW Controller.

NOTE
Association allows for direct communication between Z-Wave network devices. Main controller does not take part in such communication.

Fibaro Roller Shutter provides three association groups:

I association group is triggered through a momentary switch click, or a toggle switch position change.

II association group is triggered through a momentary switch hold

NOTE
II 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 standard.

III association group reports the module status. Only one device may be assigned to this group, main controller by default. It's not recommended to modify this group's settings.

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 synchronize many devices.

USING ASSOCIATIONS TO OPERATE ANOTHER ROLLER SHUTTER OR ANY OTHER Z-WAVE DEVICE.

I ASSOCIATION GROUP:
Clicking ▲ button, connected to S1 terminal will initiate up movement in associated Roller Shutters, or send Turn On command frame to the devices associated in I-st association group.

Clicking ▼ 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.

II ASSOCIATION GROUP:

Holding ▲ 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 ▼ button, connected to S2 terminal will move the connected roller 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.

I ASSOCIATION GROUP

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

Clicking ▼ 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 ▲ 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 group.

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.



NOTE

Once the associated devices are already moving, they will be stopped if any of the buttons is pressed and held.

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 stop the gate. According to following sequence: OPEN → STOP → CLOSE → STOP → OPEN.



Fig. 4 Roller Shutter icon in Home Center interface



NOTE

In Gate Mode, by default, the S1 terminal is set to operate with a momentary switch, ignoring the parameter 14 settings.

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

In both Gate Modes, with and without positioning, parameters 12 and 17 are automatically set to 0. At these settings the gate will open, but will not automatically close. Relevant times need to be set manually in parameters 12 and 17 (see section XVIII).



NOTE

Parameters 12 and 17 settings are automatically modified only in Home Center 2 controller, when choosing one of Gate Modes. In case of controllers from other manufacturers these parameters need to be set manually (see section XVII).



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 recommended 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 recommended to monitor regular operation of Fibaro Roller shutter in all modes. Also it is recommended to regularly verify and maintenance connections.



NOTE

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

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.

While the B-button is being held, LED Indicator colours will change in the following sequence:

BLUE - Roller Shutter calibration procedure (see section IX)

VIOLET - initiate the Z-Wave network range tester

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

YELLOW - Roller Shutter reset (see section VIII)

Release the B-button to choose the desired function and confirm your choice with the B-button click.

XV. Z-WAVE RANGE TESTER

Fibaro Roller Shutter has a built in mechanism, allowing to roughly estimate the Z-Wave network range.



CAUTION

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 function only in special cases.

In order to test the Z-Wave network range:

- 1) Press and hold the B-button for ca. 6 seconds, until the LED Indicator glows violet.
- 2) Release the B-button.
- 3) Click the B-button.
- 4) LED Indicator will signal the Z-Wave network range (see description below).
- 5) Click the B-button to exit the Range Tester.

Network range signaling modes:

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 red.

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 GREEN, without blinking.

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 retry establishing a direct communication (step 1).



NOTE

The module may modify the main controller communication from direct to routed and vice versa, especially if it's located at the direct communication range limit.

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 controller (step 1).

XVI. CURRENT AND HISTORICAL POWER CONSUMPTION MEASURING

Fibaro Roller Shutter allows for the current load and power consumption monitoring. Data is sent to the main controller, e.g. Home Center 2.

Measuring is carried out by an independent microprocessor dedicated exclusively for the purpose, assuring maximum accuracy and precision. The microprocessor is factory calibrated.

Electric power - power consumed by an electric device in an instant, in Watts (W).

Electric energy - energy consumed by a device through a time period. Most commonly measured in kilowatt-hours (kWh). One kilowatt-hour is equal to one kilowatt of power consumed over a period of one hour, 1kWh = 1000 Wh.

RESETTING ELECTRICITY CONSUMPTION MEMORY

Fibaro Roller Shutters electricity consumption memory may be cleared in one of the following ways:

- 1) Through the module reset (see section VIII)
- 2) Through the main controller menu (see main controllers operating manual)
- 3) Manually using the following instructions:
 - a) Make sure the device is connected to voltage supply.
 - b) Press and hold the B-button for ca. 10 seconds, until LED indicator glows GREEN.
 - c) Release the B-button.
 - d) Click the B-button.
 - e) Energy consumption memory has been erased.



NOTE

- 1) Please contact your local supplier for the current rates
- 2) Fibaro Roller Shutter stores consumed electricity data on its memory, which means disconnecting the module from voltage supply does not erase the data.

XVII. PROTECTION MODE

Fibaro Roller Shutter uses the Protection Command Class v2 to prevent from unintended motor movement.

1) Local Protection

- Local Protection State:
- 0 - no protection. Roller Shutter responds to push buttons.
 - 1 - not supported
 - 2 - Local protection active. Roller Shutter does not respond to push buttons.

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.



WARNING

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



CAUTION

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 - RF Protection active. Roller Shutter does not respond to the Z-Wave control frames.
 - 2 - not supported.

Once the RF 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 should be set to 1 if the module operates in Venetian Blind mode.

Default setting: 0

Parameter size: 1 [byte]



NOTE

To make sure whether Fibar Command Class is supported by Z-Wave network main controllers from other manufacturers, please contact the controllers manufacturer.

10. Roller Shutter operating modes:

- 0 - Roller Blind Mode, without positioning
- 1 - Roller Blind Mode, with positioning
- 2 - 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 determines 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 Stop).

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)

Default setting: 0

Parameter size: 1 [byte]

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.

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.

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 (1-25,5 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 [bytes]

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

Parameter size: 1 [byte]

ALARM SETTINGS:

30. Response to general alarm

0 - No reaction.

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 general alarm, CO or CO2 alarm

0 - No reaction.

1 - Open blind.

2 - Close blind.

Default setting: 1

Parameter size: 1 [byte]

33. Response to temperature alarm

0 - No reaction.

1 - Open 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]

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.

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

Parameter size: 2 [bytes]

43. Energy reports.

Energy level change which will result in new energy value report being sent. The parameter defines a change that needs to occur in order to trigger the report.

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

Value of 0 means the reports are turned off.

Default setting 10 (0,1kWh).

Parameter size: 1 [byte]

44. Self-measurement.

A Roller Shutter may include power and energy used by itself in reports sent to the main controller.

0 - Self-measurement inactive.

1 - Self-measurement active.

Default setting: 0

Parameter size: 1 [byte]

50. Scenes / Associations activation.

Parameter determines whether scenes or associations are activated by the switch keys.

0 - Associations activation

1 - Scenes activation

Default setting: 0

Parameter size: 1 [byte]

XIX. LIMITED WARRANTY

This 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 is subject to all terms sets forth below.

1. LIMITED 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 period".

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-infringement and the implied condition of satisfactory quality.

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

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 repair or replacement of the products.

In the event that the product cannot be repaired or replaced, the company reserves the right to substitute a product of similar technical parameters.

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

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 Company's personnel and representatives for site travel and diagnosis under this limited warranty shall be borne by the Customer unless accepted in writing 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 products/components.

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, costs 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 is 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 above exclusions may not apply to certain customers.

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 products/components.

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 Customer 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 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 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 possession of the authorized service representative or the Company. Remember: before you submit a warranty claim, contact our technical support using telephone or e-mail. More than 50% of operational problems is resolved remotely, saving time and money spent to initiating claim procedure.

5. GOVERNING LAW AND BINDING ARBITRATION:

Please read this section carefully. The Customer's 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 binding arbitration provision which may be