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FLEX AUTOMATION Micro-Smart Module for AC Motors FXS-M08 Manual

Contents

FLEX AUTOMATION

Micro-Smart Module for AC Motors

SKU: FXS-M08

Quickstart

This is a

Window Covering – Pos/End Aware
for
Brazil.

To run this device please connect it to your mains power supply.

To add this device to your network execute the following action:
1.Put your Z-Wave controller into inclusion mode by following the instructions provided by the controller manufacturer.2.Pressing Include button three times within 2 seconds will enter inclusion mode.

Please refer to the

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law.
The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material.
Use this equipment only for its intended purpose. Follow the disposal instructions.

Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section.

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.

Product Description

The in-wall Roller Shutter Controller is designed to switch rise/lower roller shutter connected to its terminals using radio waves, controllers and a push button directly connected to this Roller Controller. This in-wall Roller Shutter Controller is a transceiver which is a Z-Wave Plus TM enabled device and is fully compatible with any Z-Wave TMenabled network. Slim design let the Controller can easily hide itself into the wall box and that will be good for the house decoration.The new smart relay calibration technology can reduce the inrush current caused by the load and let the module work perfectly with many kind of Roller Shutter. This in-wall Roller Shutter Controller is able to detect position of the Shutter by using the patterned power measuring method, so it can be remote controlled not only fully up or down, but also can be adjusted to ex. 30% or 50%. And when manual controlled by push button, the controller also can memorize the position and send the new shutter position to its controller (ex. IP-Gateway).Adding to Z-Wave TMNetworkIn the front casing, there is an include button with LED indicator below which is used to carry out inclusion, exclusion, reset or association. When first power is applied, its LED flashes on and off alternately and repeatedly at 0.5 second intervals. It implies that it has not been assigned a node ID and start auto inclusion. Auto InclusionThe function of auto inclusion will be executed as long as the FXS-M08 does not have Node ID and just connect the FXS-M08 to main power.Note: Auto inclusion timeout is 2 minute

during which the node information of explorer frame will be emitted once every several seconds. Unlike inclusionfunction as shown in the table below, the execution of auto inclusion is free from pressing the Include button on the FXS-M08.

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state.** Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

Use this procedure only in the event that the primary controller is lost or otherwise inoperable.1. Pressing Include button three times within 2 seconds will enter inclusion mode. 2.Within 1 second, press Include button again for 5 seconds.

Safety Warning for Mains Powered Devices

ATTENTION: only authorized technicians under consideration of the country-specific installation guidelines/norms may do works with mains power. Prior to the assembly of the product, the voltage network has to be switched off and ensured against re-switching.

Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

1.Put your Z-Wave controller into inclusion mode by following the instructions provided by the controller manufacturer.2.Pressing Include button three times within 2 seconds will enter inclusion mode.

Exclusion

1.Put your Z-Wave controller into exclusion mode by following the instructions provided by the controller manufacturer.2.Pressing Include button three times within 2 seconds will enter exclusion mode.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.

2. If inclusion still fails, check if both devices use the same frequency.

3. Remove all dead devices from associations. Otherwise you will see severe delays.

4. Never use sleeping battery devices without a central controller.

5. Dont poll FLIRS devices.

6. Make sure to have enough mains powered device to benefit from the meshing

Association – one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, …). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group NumberMaximum NodesDescription

1	1	Z-Wave Plus Lifeline

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 … 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200â€ˆit may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: Watt Meter Report Period

*If the setting is configured for 1hour (set value =720), the FXS-M08 will report its instant power consumption every 1 hour to the node of Group 1. The maximum interval to report its instant power consumption is 45 hours (5s*32767/3600=45hr). Default value is 1 hour.*
Size: 2 Byte, Default Value: 720

SettingDescription

1 – 32767	5*720s=3600s=1 hour

Parameter 2: KWH Meter Report Period

*If the setting is configured for 1hour (set value =6), the FXS-M08 will report its Accumulated Power Consumption (KWh) every 1 hour to the node of correspond Group. The maximum interval to report its Accumulated Power Consumption (KWh) is 227.55 days (10min*32767/1440=227.55 days). Default value=1 hour.*
Size: 2 Byte, Default Value: 6

SettingDescription

1 – 32767	6*10min= 1 hour

Parameter 3: Threshold of current for Load Caution

This is a warning when the current of load over the preset threshold value, if the setting value is 500, when the load current of Relay1 over this value, FXS-M08 will send current meter report to warn the Group1 node, the Range of the setting value is from 10 to 500, and the default value is 500.
Size: 2 Byte, Default Value: 500

SettingDescription

10 – 500	500*0.01A=5A

Parameter 4: Threshold of KWH for Load Caution

This is a warning when the KWh of load over the preset threshold value, If the setting value is 10000, when the Accumulated Power Consumption of Relay1 or Relay2 over this value, FXS-M08 will send KWh Meter Report command to the node of correspond Group, minimum value is 1KWh and default value is 10000 kWh.
Size: 2 Byte, Default Value: 10000

SettingDescription

1 – 10000	10000 * 1KWh = 10000 KWh

Parameter 5: External switch type

1. One Push ButtonWhen the configuration setting is One Push Button, only S1 input will be valid. The control moving commands can be accepted in this switch type while the shutter is moving. In this switch type, the inclusion/exclusion/reset/association function can also be fulfilled by pressing S1 just like the operation of include button.When S1 is short pressed, the shutter will move up toward TOP(0x63). While in this moving S1 is short pressed again, the shutter will stop moving. A third short pressing of S1 will move the shutter down toward BOTTOM(0x00). While in this moving S1 is short pressed again, the shutter will stop moving. And so on Inverting direction and stopping. 2. Two Push Button (The default setting is Two Push Button (2)) If this setting is configured as Two Push Button, S1 and S2 input will be valid, but will not accept pressing S1and S2 at the same time. In this switch type, the inclusion/exclusion/reset/association function can also be fulfilled by pressing S1 or S2 just like the operation of include button. When S1 is pressed and hold more than 1.5 seconds, the shutter will move up toward TOP(0x63), and the shutter will stop moving when S1 is released. When S2 is pressed and hold more than 1.5 seconds, the shutter will move down toward BOTTOM(0x00), and the shutter will stop moving when S2 is released. When S1 is short pressed, the shutter will move up toward TOP(0x63). While in this moving short pressed S1 again, the shutter just keep moving up toward TOP(0x63). The easy way to stop this moving is short pressing S2. When S2 is short pressed, the shutter will move down toward BOTTON(0x00). While in this moving short pressed S2 again, the shutter just keep moving down toward BOTTON(0x00). The easy way to stop this moving is short pressing S1.When in Two Push Button switch type, S1 or S2 are pressed and not released, and FXS-M08 receive any control moving command from Z-Wave RF (Ex. BASIC_SETBINARY_SWITCH_SETMULTILEVEL_SWITCH_SETMULTILEVEL_SWITCH_START_LEVEL_CHANGE or MULTILEVEL_SWITCH_STOP_LEVEL_CHANGE or SCENE_ACTIVATION_SET), FXS-M08 wont do any change in position but report alarm to Group1 (Alarm_Type=1, Alarm_level =0xFF), this indicate that the S1 or S2 not been release. ATT. : For avoid misunderstanding that RF command dose not work, it is recommended to check the status of S1 and S2.
Size: 1 Byte, Default Value: 2

SettingDescription

1	1: One Push button
2	2:Two Push button

Parameter 6: Level report mode

Mode 1 : In 5 seconds period after controlled by a moving command, it will report the destination level when received request command. Out of the 5 seconds period, it will report the actual level of the shutter when received request command. Mode 2 : Whenever the shutter move pass a 10 percent level, it will auto report the level to

Group 1 node.
Size: 1 Byte, Default Value: 2

SettingDescription

1	1:Report destination level in 5s
2	2:Report 10 percent level while running

Technical Data

Hardware Platform	SD3502
Device Type	Window Covering – Pos/End Aware
Network Operation	Always On Slave
Firmware Version	HW: 1 FW: 1.05
Z-Wave Version	6.51.09
Certification ID	ZC10-17095779
Z-Wave Product Id	0x004F.0x0001.0x0015
Firmware Updatable	Updatable by Consumer by RF
Supported Meter Type	
Switch Type	Push Button
Window Covering Control Features	Position Aware
Frequency	XXfrequency
Maximum transmission power	XXantenna

Supported Command Classes

- Alarm
- Association Grp Info
- Association V2
- Basic
- Configuration
- Device Reset Locally
- Firmware Update Md V2
- Manufacturer Specific V2
- Meter V3
- Powerlevel
- Scene Activation
- Scene Actuator Conf
- Switch Binary
- Switch Multilevel V3
- Version V2
- Zwaveplus Info V2

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network.
  Controllers are typically Gateways,Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network.
  Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be
  a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and
  a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave
  device to announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a
  Z-Wave device to announce its capabilities and functions.