

Flush 1D relay

ORDERING CODE	Z-WAVE FREQUENCY
ZMNHND1	868,4 MHz
ZMNHND2	921,4 MHz
ZMNHND3	908,4 MHz
ZMNHND4	869,0 MHz
ZMNHND5	916,0 MHz
ZMNHND8	865,2 MHz

This Z-Wave module is used for switching on or off the electrical device (e.g. light or fan). The module can be controlled either through Z-wave network or through the wall switch.

The module is designed to be mounted inside a "flush mounting box", hidden behind a traditional wall switch.

Module supports connection of digital temperature sensor. It is designed to act as repeater in order to improve range and stability of Z-wave network.

Supported switches

Module supports **mono-stable** switches (push button) and **bi-stable** switches. The module is factory set to operate with bi-stable switches.

Installation

- To prevent electrical shock and/or equipment damage, disconnect electrical power at the main fuse or circuit breaker before installation or any servicing.
- Make sure, that no voltage is present in the installation.
- Prevent the disconnecting device from being switched on accidentally.
- Connect the module according to electrical diagram.
- Locate the antenna far from metal elements (as far as possible).
- Do not shorten the antenna.

Danger of electrocution!

- Module installation requires a great degree of skill and may be performed only by a qualified

and licensed electrician.

- Even when the module is turned off, voltage may be present on its terminals.

Note!

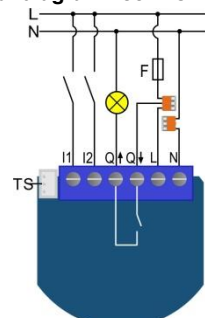
Do not connect the module to loads exceeding recommended values. Connect the module only in accordance to the below diagrams. Improper connections may be dangerous.

Electrical installation must be protected by directly associated over current protection fuse 10A, gG or Time lag T, rated breaking capacity 1500V (ESKA 522.727) must be used according to wiring diagram to achieve appropriate overload protection of the module.

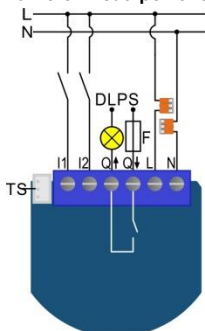
Package contents

- Flush 1D relay

Electrical diagram 230VAC



Option for different load power supply - DPLS:

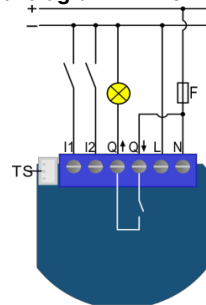


Notes for the diagrams:

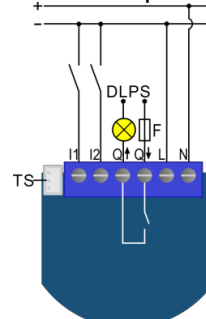
- N** Neutral lead
- L** Live lead
- Q+** Input for electrical device power supply
- Q+** Output for electrical device
- I2** Input for switch /push button or sensor
- I1** Input for switch /push button
- TS** Terminal for digital temperature sensor (only for Flush 1D relay module compatible digital temperature sensor, which must be ordered separately).

Wago 221-413 splicing connectors for L and N connection must be used.

Electrical diagram 24VDC



Option for different load power supply - DPLS:

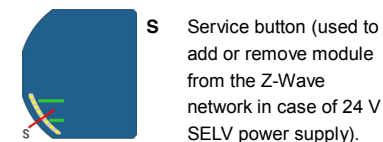


Notes for the diagrams:

- N** + VDC
- L** - VDC
- Q+** Input for electrical device power supply
- Q+** Output for electrical device
- I2** Input for switch /push button or sensor
- I1** Input for switch /push button
- TS** Terminal for digital temperature sensor (only for Flush 1D relay module compatible digital temperature sensor, which must be ordered separately).

NOTE!

Output contact is voltage free (dry contact), so also loads with different power supply can be connected to the module.



WARNING: Service button S **must NOT** be used when module is connected to 110-230V power supply.

Durability of the module depends on applied load. For resistive load (light bulbs, etc.) and 10A current consumption of each individual electrical device, the durability exceeds 100.000 switches of each individual electrical device.

Module Inclusion (Adding to Z-wave

network)

- Connect module to power supply (with temperature sensor connected - if purchased),
- auto-inclusion (works for about 5 seconds after connected to power supply) or
- press push button I1 three times within 3s (3 times change switch state within 3 seconds) or
- press service button **S** (only applicable for 24V SELV supply voltage) for more than 2 second.

NOTE1: For auto-inclusion procedure, first set main controller into inclusion mode and then connect module to power supply.

NOTE2: When connecting temperature sensor to module that has already been included, you have to exclude module first. Switch off power supply, connect the sensor and re-include the module.

Module Exclusion/Reset (Removing from Z-Wave network)

- Connect module to power supply
- bring module within maximum 1 meter (3 feet) of the main controller,
- enable add/remove mode on main controller
- press push button I1 five times within 3s (5 times change switch state within 3 seconds) in the first 60 seconds after the module is connected to the power supply or
- press service button **S** (only applicable for 24V SELV supply voltage) for more than 6 second.

By this function all parameters of the module are set to default values and own ID is deleted

If push button I1 is pressed three times within 3s (or service button S is pressed more than 2 and less than 6 seconds) module is excluded, but configuration parameters are not set to default values.

NOTE: If the module is included with parameter 100 with values different to default and module reset is done, wait at least 30s before next inclusion.

Associations

Associations enables Flush 1D relay module to transfer commands inside Z-Wave network directly (without main controller) to other Z-Wave modules.

Associated Groups:

Root device:

Group 1: Lifeline group (reserved for communication with the main controller), 1 node allowed.

Group 2: basic on/off (triggered at change of the output state and reflecting its state) up to 16 nodes.

Group 3: basic on/off (triggered at change of the

input I2 state and reflecting its state) up to 16 nodes.

Group 4: Binary Sensor Report (triggered at change of the input I2 state and reflecting its state) up to 16 nodes.

Group 5: Notification Report (triggered at change of the input I2 state and reflecting its state) up to 16 nodes.

Group 6: multilevel sensor report (triggered at change of temperature sensor) up to 16 nodes.

Endpoint 1:

Group 1: Lifeline group, 0 nodes allowed.

Group 2: basic on/off (triggered at change of the output state and reflecting its state) up to 16 nodes.

Endpoint 2:

Group 1: Lifeline group, 0 nodes allowed.

Group 2: basic on/off (triggered at change of the input I2 state and reflecting its state) up to 16 nodes.

Group 3: Binary Sensor Report (triggered at change of the input I2 state and reflecting its state) up to 16 nodes.

Group 4: Notification Report (triggered at change of the input I2 state and reflecting its state) up to 16 nodes.

End point 3:

Group 1: Lifeline group, 0 nodes allowed.

Group 2: multilevel sensor report (triggered at change of temperature sensor) up to 16 nodes.

Configuration parameters

Parameter no. 1 – Input 1 switch type

Available configuration parameters (data type is 1 Byte DEC):

- default value 1
- 0 - mono-stable switch type (push button)
- 1 - bi-stable switch type

Parameter no. 2 – Input 2 contact type

Available configuration parameters (data type is 1 Byte DEC):

- default value 0
- 0 - NO (normally open) input type
- 1 - NC (normally close) input type

Parameter no. 10 - Activate / deactivate functions ALL ON/ALL OFF

Available configuration parameters (data type is 2 Byte DEC):

- default value 255
- 255 - ALL ON active, ALL OFF active
- 0 - ALL ON is not active ALL OFF is not active
- 1 - ALL ON is not active ALL OFF active
- 2 - ALL ON active ALL OFF is not active

Flush 1D relay module responds to commands ALL ON / ALL OFF that may be sent by the main controller or by other controller belonging to the system.

