# 3.2 Relay Switch 2x1,5kW FGS211



Figure 3.8: Relay Switch 2x1,5kW module, FGS-221

The radio controlled Fibaro Double On/Off Relay Switch is designed to be installed in standard wall switch boxes, or anywhere else where it is necessary to operate two independent devices of 1,5kW power output each. The Fibaro Double On/Off Relay Switch can switch connected devices on or off either through radio waves or through the wall switch connected directly to it.

# 3.2.1 Product Characteristics

- Controlled by FIBARO system devices or any Z-Wave controller.
- Microprocessor control.
- Executive elements: relays.
- The device may be operated by mono-stable (press switch) and bi-stable push-buttons.

## 3.2.2 Specifications

- Power supply:  $24 230V \pm 10\% 50/60$ Hz,
- Maximum load current for single AC output: 8A / 230V 50/60Hz\*,
- Maximum load current for single DC output: 8A / 30V\*,
- Output circuit power (resistive load-230V): 2 x 1,5 kW\*,
- Comply with standards: EN 55015; EN 60669-2-1, AS/NZS 3100
- Temperature limits: 105 °C,
- Operational temperature: from 0 to 40 °C,

- For installation in boxes:  $\emptyset \ge 50$ mm,
- Radio protocol: Z-Wave,
- Radio Frequency: 868 MHz for EU; 908 MHz for US; 921 MHz for AUS/NZ/BRA
- Range: up to 50 m outdoors, up to 30 m indoors (depending on building materials),
- Dimensions (H x W x D) 15 x 42 x 38 mm.
- Electricity consumption: j0,8W

\* In case of load other than resistive, pay attention to the value of  $\cos\varphi$  and if necessary apply load lower than the rated load.



Figure 3.9: Relay Switch 2x1,5kW configuration window

Relay Switch 2x1,5kW configuration window (HC2 interface) shows the following parameters:

- Devices name
- *Room* Parameter available from the list of rooms created (see 5.3 for detailed description)
- Device kind
- Devices type
- *ID* Devices number
- Node ID Unique devices number within Z-Wave network,

- EndPointID Multichannel devices number
- Controlled Device Parameter taken from available devices list
- Show Slave Devices
- Show Slave Devices
- Power Output

## 3.2.3 Example Configuration Parameters

Configuration parameters for each module are available in the Advanced Settings tab for each device in he Home Center 2 interface.

# Parameter 3

Relay Auto OFF after specified time. Default Setting: Auto OFF disabled.

## Parameter 4 & 5

Relay 1 / 2 Auto OFF after specified time. Default Setting: 0,2s

### Parameter 13

State Change (ON / OFF) for bistable switch (Parameter no.14). Default Setting: key position change = ON or OFF.

#### Parameter 14

Switch Type - mono-stable (press switch) or bistable. *Default Setting: mono-stable*.

#### Parameter 15

Operating associated Dimmer / Roller Shutter, enable / disable. Default Setting: disable. (If enabled, hold or double click given key to trigger associated Dimmer / Roller Shutter).

### Parameter 16

Device On / Off after power cut. Default setting - OFF

### 3.2.4 Associations

Association lets Relay Switch 2x1,5kW trigger other Z-Wave devices, e.g. Dimmer, another Relay Switch, Roller Shutter, or a scene (only involving Home Center 2). Triggering is performed in direct communication between devices, without contacting the Home Center 2 (except for the use as a scene triggering device). Relay Switch 2x1,5kW may associate with up to 16 ordinary devices or up to 7 multi channel devices per association group, from which 1 device is always a network controller. Recommended number of devices per association - 10. The more devices that are associated, the longer it will take for association action to take effect on each associated device.

Relay Switch 2x1,5kW supports two association groups - I and II:

I association group is designated for Switch Key no.1,

II association group is designated for Switch Key no.2.

# 3.2.5 Tips and Tricks

1. What is the minimum powering voltage?

Relay Switch 2x1,5kW may be powered by 24V DC current.

2. May I connect two different Live wires - one for the module, another one for the device triggered by the module?

Yes, a Relay Switch 2x1,5kW may be connected to two independent circuits at the same time - one powering the module, another one (even powered by a different voltage) powering the circuit triggered by the module.

3. May I use Relay Switch 2x1,5kW in two and three wire electrical systems, just like the Dimmer?

The Relay Switch 2x1,5kW is designed to work on three-wire electrical system only, i.e. it needs the Neutral wire.

4. I would like to use two Relay Switch 2x1,5kW modules to control home alarm control unit, but it is powered by 12V current.

In such a case another circuit, powering the Relay Switches (with 24V at least) will be necessary (see p. 2)

5. Can I use the Relay Switch modules to operate floor heating?

Yes. These modules may be used to operate both electrical and hydraulic floor heating systems, in such use the modules will be used to turn electric valves ON or OFF. Heating itself will be programmed in the Heating Panel in of the HC2. For monitoring temperature we recommended the use of a DS18B20 sensor, together with a Fibaro Universal Binary Sensor.

### Wiring Diagrams - Relay Switch 2x1,5kW

- 1. Before beginning, please make sure power supply is disconnected.
- 2. Connect Relay Switch 2x1,5kW observing wiring diagram shown below.

- 3. Insert Relay Switch 2x1,5kW and wall switch into connecting box.
- 4. While completing point 3. please take special care to lay antenna wire properly.

Symbol descriptions - Relay Switch 2x1.5kW :

- N Neutral wire
- L Live wire
- I Output device power in
- O1 Output 1
- O2 Output 2
- S1 Switch key 1 (also, enters the module into learning mode, see. inclusion process)
- S2 Switch key 2
- B Service key (used for including/excluding device, see S1)



Figure 3.10: Single switch, Relay Switch 2x1,5kW connection diagram



Figure 3.11: Single switch with an alternative power supply for the load



Figure 3.12: Double switch, Relay Switch 2x1,5kW connection diagram



Figure 3.13: Double switch with an alternative power supply for the load

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