

# On/Off-Control2

CE

**Turning electrical devices  
on/off remotely**

Compatible with  
**Yubii**<sup>®</sup>  
ECOSYSTEM

**EN** - Instructions and warnings for installation and use

**Nice**

## 1 WARNINGS AND GENERAL PRECAUTIONS

- **Using this product for different purposes than specified in this manual is strictly forbidden!**
- **All installation and connection operations must be performed exclusively by suitably qualified and skilled personnel with the unit disconnected from the mains power supply.**
- **This manual contains important instructions and warnings for personal safety. Read carefully all parts of this manual. If in doubt, suspend installation immediately and contact Nice Technical Assistance.**
- The product packaging materials must be disposed of in full compliance with local regulations.
- Never apply modifications to any part of the device. Operations other than those specified can cause malfunctions. The manufacturer declines all liability for damage caused by makeshift modifications to the product.
- Never place the device near the sources of heat or expose to naked flames. These actions can damage the product and cause malfunctions.
- other connected devices if the connection isn't compliant with their manuals.
- Don't use the product in damp or wet locations, near a bathtub, sink, shower, swimming pool, or anywhere else where water or moisture are present.
- This product isn't intended for use by people (including children) with reduced physical, sensory or mental capabilities or who lack experience and knowledge, unless they are supervised by a person responsible for their safety.
- Make sure children don't play with the product.
- The device is designed to operate in an electrical home installation. Faulty connection or use can result in a fire or electric shock.
- Even when the device is turned off, voltage can be present at its terminals. Any maintenance introducing changes to the configuration of connections or the loads must be always performed with a disabled fuse.

## 2 PRODUCT DESCRIPTION

On/Off-Control2 is designed to be installed in standard wall switch boxes or anywhere else where it's necessary to control electric devices.

On/Off-Control2 enables controlling connected devices either through the Z-Wave Plus® network or through a wall switch connected directly to it. On/Off-Control2 is equipped with active power and energy consumption metering functionality.

The device monitors loads power consumption, loads energy consumption and mains voltage values.

Data is transmitted through the Z-Wave Plus® Network to the controller.

Advanced microcontroller ensures maximum accuracy measurements and resolution (+ / - 5% for loads above 10 W).

### 2.1 - Main features of On/Off-Control2

- Working as an extension unit
- Compatible with any Z-Wave® or Z-Wave Plus® Controller
- Supporting the protected mode (Z-Wave® network security mode) with AES-128 encryption
- Controlled by an advanced microcontroller
- Having an active power and energy metering functionality
- Working with momentary and toggle types of switches
- Possible to be installed in wall switch boxes of dimensions consistent with applicable regulations
- Measuring the active power of the load, energy consumed and voltage of the network
- Compatible with the following:
  - Conventional incandescent lamps (including halogen)
  - LED compact bulbs, CCFL compact fluorescent lamps
  - Electronic power supplies (for LEDs, fluorescent lamps, halogen lamps)
  - Halogen bulbs with magnetic transformers
  - Resistive loads

### 2.2 - Full compatibility with Z-Wave Plus® devices



This device can be used with all devices accredited with the Z-Wave Plus® certificate and is compatible with such devices produced by other manufacturers. All non-battery operated devices within the network act as repeaters to increase reliability of the network. The device is a Security Enabled Z-Wave Plus® product and a Security Enabled Z-Wave® Controller must be used to fully utilize the product.

### 3 SPECIFICATIONS

**⚠** Applied load and the device can be damaged if the applied load is inconsistent with the technical specifications!

**Don't connect loads greater than those recommended!**

| Table 1 - On/Off-Control2 - Hardware parameters |                                                                                   |                                                                                                                                                                                                                                     |
|-------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.                                             | Parameter                                                                         | Value                                                                                                                                                                                                                               |
| 1.                                              | Power supply voltage range:                                                       | 100 - 240 VAC 50/60 Hz                                                                                                                                                                                                              |
| 5.                                              | Radio protocol:                                                                   | Z-Wave (800 series chip)                                                                                                                                                                                                            |
| 6.                                              | Radio frequency band:                                                             | <ul style="list-style-type: none"> <li>• EU: 868.4 MHz, 869.85 MHz</li> <li>• US: 908.4 or 916.0 MHz</li> <li>• AH: 919.8 MHz, 921.4 MHz</li> </ul>                                                                                 |
| 7.                                              | Max. transmitting band:                                                           | +6dBm                                                                                                                                                                                                                               |
| 8.                                              | Range:                                                                            | up to 100 m outdoors,<br>up to 30 m indoors<br>(depending on the terrain and building structure)                                                                                                                                    |
| 9.                                              | Supported device type:                                                            | <ul style="list-style-type: none"> <li>• Incandescent bulbs</li> <li>• LED</li> <li>• Resistive</li> <li>• Fluorescent lamps</li> <li>• Electronic transformers</li> <li>• Ferromagnetic transformer</li> <li>• Halogens</li> </ul> |
| 10.                                             | Nominal Resistive/incandescent bulbs/Halogens channel current:                    | 2x5 A (10 A overall)                                                                                                                                                                                                                |
| 11.                                             | Nominal LED/Fluorescent (Self Ballasted Lamp) real power:                         | 2 x 80 W                                                                                                                                                                                                                            |
| 12.                                             | Nominal electronic transformers (LED/CCFL External Ballast Lamp) channel current: | 2 x 2 A                                                                                                                                                                                                                             |
| 13.                                             | Internal power consumption (stady state):                                         | less than 300 mW                                                                                                                                                                                                                    |
| 14.                                             | Internal power consumption (active state):                                        | less than 1 W                                                                                                                                                                                                                       |
| 15.                                             | Overcurrent protection:                                                           | each channel                                                                                                                                                                                                                        |
| 16.                                             | Operating temperature:                                                            | 0 - 35°C                                                                                                                                                                                                                            |
| 17.                                             | For installation in boxes:                                                        | Ø = 50 mm, dept ≥ 60 mm                                                                                                                                                                                                             |
| 18.                                             | Dimensions (Height x Width x Depth):                                              | 46 x 36 x 19.9 mm                                                                                                                                                                                                                   |
| 19.                                             | Ambient humidity:                                                                 | 10 - 95 RH without condensation                                                                                                                                                                                                     |
| 20.                                             | Ingress Protection class                                                          | IP20                                                                                                                                                                                                                                |
| 21.                                             | Compliance with EU directives:                                                    | RoHS 2011/65/EU<br>RED 2014/53/EU                                                                                                                                                                                                   |

#### Power of the load

Measuring the active power of the load connected to the output enables controlling the value of the load in real time. The power is expressed in Watts [W].

#### Mains voltage

The device enables controlling the status of the mains supply to the device(s) in real time. The value is given in Volts [V].

## 4 INSTALLATION

### 4.1 - Safety notes

#### Danger of electrocution!

- On/Off-Control2 is designed to operate in an electrical home installation. Faulty connection or use can result in a fire or electric shock.
- All works on the device can be performed only by a qualified and licensed electrician. Observe national regulations.
- Even when the device is turned off, voltage can be present at its terminals. Any maintenance introducing changes to the configuration of connections or the load must be always performed with the disabled fuse.
- Connecting the device in a manner inconsistent with the manual can cause risk to health, life or material damage.

#### Connect On/Off-Control2 in accordance with the following rules:

- Connect only in accordance with one of the figures below.
- **Don't bridge outputs with any kind of wiring. This can result in the permanent transmitter malfunction and/or the entire device damage.**
- The device should be installed in a wall switch box compliant with relevant national safety standards and with depth no less than 60 mm.
- Electrical switches used in the installation should be compliant with relevant safety standards.
- Wires used to connect the control switch shouldn't be longer than 100 m.

### 4.2 - Installation of On/Off-Control2

1. Switch off the mains voltage (disable the fuse).
2. Open the wall switch box.
3. Connect the device in accordance with with one of the following figures:

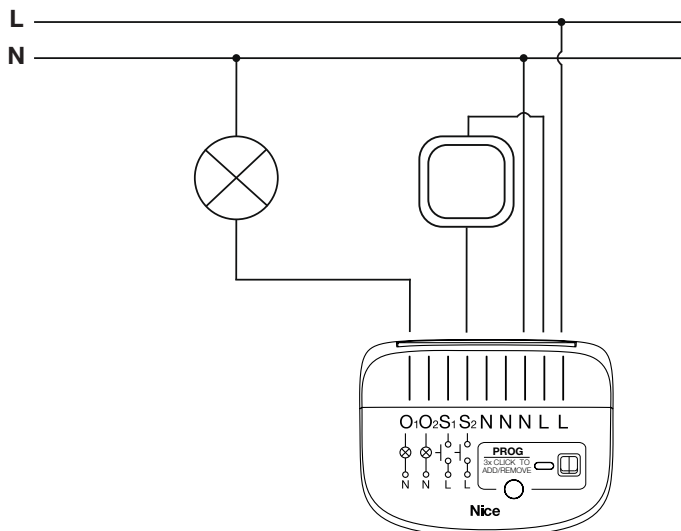


Figure :1 Single wall switch

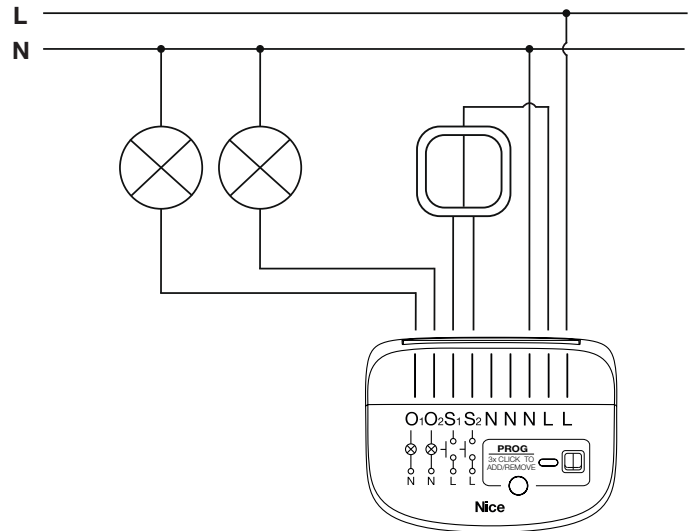


Figure 2: Double wall switch

#### Notes for the figures

**S1** - Terminal for the 1<sup>st</sup> wall switch

**S2** - Terminal for the 2<sup>nd</sup> wall switch

**L** - Terminal for the live lead

**O1** - Output terminal of the 1<sup>st</sup> channel

**O2** - Output terminal of the 2<sup>nd</sup> channel

**N** - Terminal for the neutral lead

**PROG** - Service button (used to add/remove the device and navigate the menu)

4. After verifying correctness of the connection, switch on the mains voltage.
5. Add the device to the Z-Wave network.
6. Turn off the mains voltage, then arrange the device in the wall switch box.
7. Close the wall switch box and turn on the mains voltage.

- S1 and S2 have the function of activating the learning mode. You can activate the basic functionality of the device and activate the learning mode (adding/removing). You can remove the device for 10 min. after powering it.
- The switch connected to the S1 terminal turns on/off the first load, and the switch connected to the S2 terminal turns on/off the second load.
- After switching on the mains voltage LED indicator signals the Z-Wave network inclusion state with a color:  
**GREEN** - the device added to the non-secure, S0 or S2 Unauthenticated mode  
**MAGENTA** - the device added to the S2 Authenticated mode  
**RED** - the device not added

4.3 - Staircase switch connection

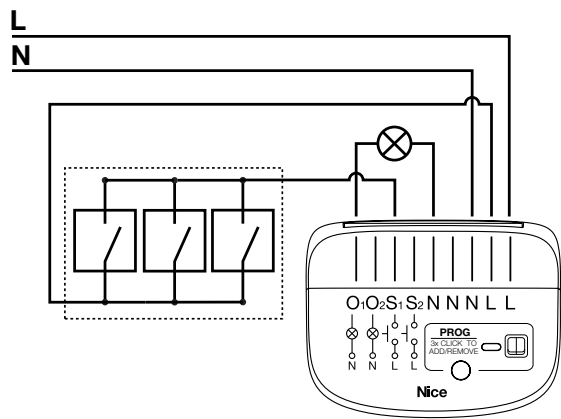


Figure 3: Momentary switches ×1

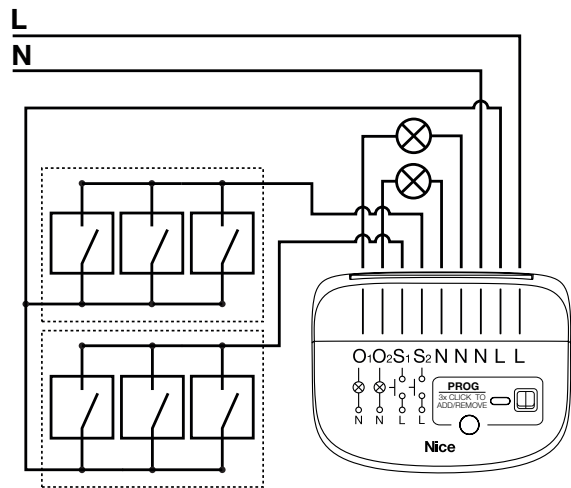


Figure 4: Momentary switches ×2

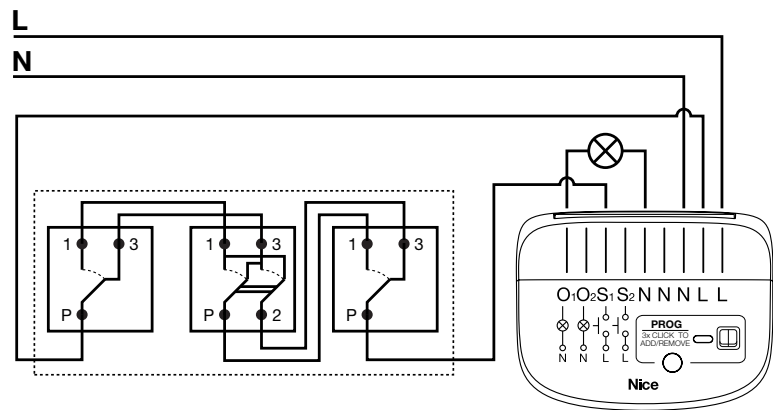


Figure 5: Stair-cross switches ×1

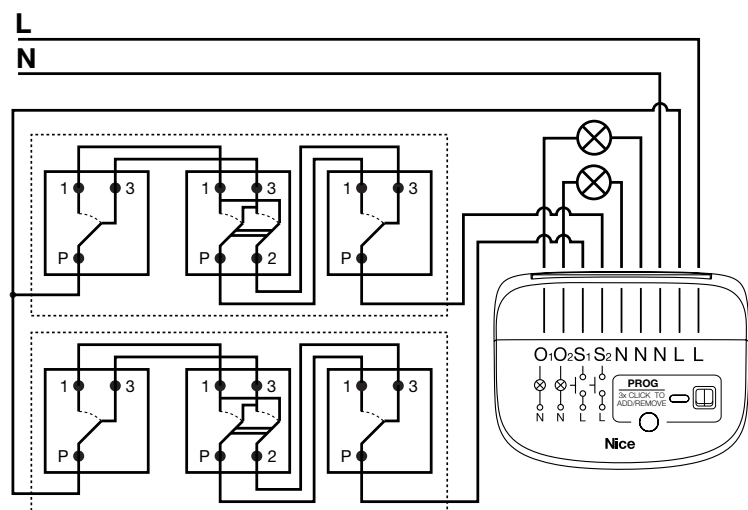


Figure 6: Stair-cross switches ×2

## 5 ADDING THE DEVICE TO Z-WAVE NETWORK

- In case of problems with adding, removing, or using S1 or S2 wall switch, use the PROG-button instead (located on the housing).
- The device tries to add itself after pressing the switch 3 times.

**Adding (Inclusion)** - The Z-Wave device learning mode enables adding the device to the existing Z-Wave network.

### 5.1 - Adding the device to the Z-Wave network manually

1. Place On/Off-Control2 within the direct range of your Z-Wave controller.
2. Set the main controller in the (security/non-security) add mode (for more information, see the controller manual).
3. Press quickly three times S1 or S2 switch or the PROG button.
4. If you're adding the device in the Security S2 Authenticated mode, input the PIN Code, which is labelled on the device. The PIN Code is also an underlined part of the device specific key (DSK) labelled at the bottom of the box.
5. Wait for the adding process to end.
6. Successful adding is confirmed by the Z-Wave controller message and the green LED diode when adding the device to the non-secure, S0, S2 Unauthenticated mode or magenta LED diode when adding the device to the S2 Authenticated mode.

### 5.2 - Adding device using the SmartStart method

1. Enter the full DSK string code to your controller. If your controller is capable of QR scanning, scan the QR code placed on the label.
2. Power the device (turn on the mains voltage).
3. The LED indicator starts blinking yellow, wait for the adding process to end.
4. Successful adding is confirmed by the Z-Wave controller message and the device LED indicator:

**Green** – successful (non-secure, S0, S2 non-authenticated)

**Magenta** – successful (Security S2 Authenticated)

**Red** – not successful

## 6 REMOVING THE DEVICE FROM Z-WAVE NETWORK

You can remove the device from the Z-Wave Network using switches (S1 or S2) for 10 min. after powering the device.

**Removing (Exclusion)** - The Z-Wave device remove mode enables removing the device from the existing Z-Wave network.

### To remove the device from the Z-Wave network:

1. Place On/Off-Control2 within the direct range of your Z-Wave controller.
2. Set the main controller in the (security/non-security) remove mode (for more information, see the controller manual).
3. Press quickly three times S1 or S2 switch or the PROG button.
4. Wait for the removing process to end.
5. Successful removing is confirmed with the Z-Wave controller message and the red LED diode.

## 7 OPERATING THE DEVICE

### 7.1 - Controlling On/Off-Control2 with the PROG-button

On/Off-Control2 is equipped with the PROG-button, which enables using the menu and performing actions listed in the table below:

**Table 2 - On/Off-Control2 - PROG-button actions**

| Action          | Result                                                                                                                                                                           |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1x click</b> | <ul style="list-style-type: none"><li>• Select a desired menu position (if menu is active)</li><li>• Turn ON/OFF both channels (the 1<sup>st</sup> and 2<sup>nd</sup>)</li></ul> |
| <b>3x click</b> | Send the Node Info Z-Wave command frame (adding/removing)                                                                                                                        |
| <b>Hold</b>     | Enter the menu                                                                                                                                                                   |

### 7.2 - Resetting On/Off-Control2

1. Switch off the mains voltage (disable the fuse).
2. Remove On/Off-Control2 from the wall switch box.
3. Switch on the mains voltage.
4. Press and hold the PROG-button to enter the menu.
5. Wait for the visual LED indicator to glow yellow.
6. Quickly release and click the PROG-button again.
7. After a few seconds the device is restarted, which is signalled with the red LED indicator color.

## 8 POWER AND ENERGY CONSUMPTION

- On/Off-Control2 requires the power consumption of connected load equal to 5 W or greater to correctly measure the power and energy.
- Power measurement can contain mains voltage fluctuations within +/- 10%.
- On/Off-Control2 stores periodically (every hour) the consumption data in the device memory. Disconnecting the module from the power supply doesn't erase stored energy consumption data.

Power value is sent to the main Z-Wave controller, for example Yubii Home

- every hour.
- if the current power differs more than 20% from the value sent in the previous report.

Consumed energy value is sent to the main Z-Wave controller and saved in the device memory

- every hour.
- if the current energy differs more than 1 kWh from the value sent in the previous report.

The most advanced microcontroller technology carries out the measuring, which guarantees maximum accuracy and precision (+/- 5% for loads greater than 10 W).

Electric active power - the power that an energy receiver changes into work or heat. The unit of active power is Watt [W].

Electric energy - the energy consumed by a device through a time period. Electricity consumers are charged on the basis of active power used for a given unit of time, which is most commonly measured in kilowatt-hour [kWh]. One kilowatt-hour is equal to one kilowatt of power consumed over a period of one hour, 1 kWh = 1000 Wh.

On/Off-Control2 is equipped with the voltage measurement feature. The voltage value is displayed in the user interface and the app interface.

The voltage measurement feature is turned off by default.

The voltage measurement has to be turned on, to be viewed on display. For more information, see chapter 11 ADVANCED PARAMETERS, Parameter 200 Voltage Measurement.

## 9 ASSOCIATIONS

**Association (linking devices)** - the direct control of other devices within the Z-Wave system network using the wall switch connected to On/Off-Control2.

The association enables On/Off-Control2 to control directly devices included in the Z-Wave network such as Dimmer, Switch or Roller Shutter.

- Associations ensure the direct transfer of control commands between devices, which is performed without participation of the main controller and requires an associated device to be in the direct range.
- On/Off-Control2 supports the operation of multichannel devices. Multichannel devices include two or more circuits inside one physical unit.

On/Off-Control2 provides **the association of three groups** listed in the table below:

**Table 3 - On/Off-Control2 - Association groups**

| Association group | Group name | Description                                                        | Usage                      |
|-------------------|------------|--------------------------------------------------------------------|----------------------------|
| 1 <sup>st</sup>   | Lifeline   | Reports the device status and enables assigning single device only | Main controller by default |
| 2 <sup>nd</sup>   | On/Off S1  | Assigned to switch connected to S1 terminal                        | Uses Basic command class   |
| 3 <sup>rd</sup>   | On/Off S2  | Assigned to switch connected to S2 terminal                        | Uses Basic command class   |

On/Off-Control2 in the 2<sup>nd</sup> and 3<sup>rd</sup> group enables controlling five regular or multichannel devices per one association group. The Lifeline group is reserved solely for the controller and hence only 1 node can be assigned.

With the Outputs (channels) mode parameter set to 1 (Outputs connected), after clicking the S1/S2 button, the associations from both end points are sent (groups On/Off (1) and On/Off (2)).

With the auto off mode enabled, association aren't sent with the exception of "Lifeline" reports.

**10.1 - Overheat and overcurrent protection**

After detecting overheat or overcurrent On/Off-Control2:

- switches off its relay/relays.
- sends information about switching off the relay/relays to the controller.
- sends Notification Report to the controller.

**10.2 - Activating scenes**

On/Off-Control2 can activate scenes in the Z-Wave controller by sending the scene ID and attribute of a specific action using the Central Scene Command Class. By default scenes are activated. Scene parameters are number 40 and 41.

**Table 4 - On/Off-Contro2 - Activating scenes**

| Terminal                               | Action                | Scene ID | Attribute           |
|----------------------------------------|-----------------------|----------|---------------------|
| <b>Switch connected to S1 terminal</b> | Switch clicked once   | 1        | Key Pressed 1 time  |
|                                        | Switch clicked twice  |          | Key Pressed 2 times |
|                                        | Switch clicked thrice |          | Key Pressed 3 times |
|                                        | Switch held           |          | Key Held Down       |
|                                        | Switch released       |          | Key Released        |
| <b>Switch connected to S2 terminal</b> | Switch clicked once   | 2        | Key Pressed 1 time  |
|                                        | Switch clicked twice  |          | Key Pressed 2 times |
|                                        | Switch clicked thrice |          | Key Pressed 3 times |
|                                        | Switch held           |          | Key Held Down       |
|                                        | Switch released       |          | Key Released        |

# 11 ADVANCED PARAMETERS

On/Off-Control2 enables customizing its operation to user's needs. The settings are available in the interface of the Z-Wave controller. Parameters available for On/Off-Control2 are listed in the table below:

| Table 5 - On/Off-Control2 - Advanced parameters             |                                                                                                                                                                       |                                                                                                                                                                                                                                                                  |                 |        |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|
| Parameter                                                   | Description                                                                                                                                                           | Available setting                                                                                                                                                                                                                                                | Default setting | Length |
| <b>1 [0x01]</b><br><b>Restore state after power failure</b> | Determines if the device returns to the state prior to the power failure after power is restored                                                                      | <ul style="list-style-type: none"> <li>• <b>0</b> - The device doesn't save the state prior to the power failure and returns to „off” position</li> <li>• <b>1</b> - The device restores its state prior to the power failure</li> </ul>                         | <b>1</b>        | 1B     |
| <b>20 [0x14]</b><br><b>Switch type</b>                      | Defines as what type the device should treat switches connected to S1 and S2 terminals.                                                                               | <ul style="list-style-type: none"> <li>• <b>0</b> - Momentary switch</li> <li>• <b>1</b> - Toggle switch (contact closed - ON, contact opened - OFF)</li> <li>• <b>2</b> - Toggle switch (the output changes state whenever the switch changes state)</li> </ul> | <b>2</b>        | 1B     |
| <b>24 [0x18]</b><br><b>Buttons orientation</b>              | Enables changing inputs orientation without the need of changing electrical connections                                                                               | <ul style="list-style-type: none"> <li>• <b>0</b> - Normal orientation</li> <li>• <b>1</b> - Inverted orientation</li> </ul>                                                                                                                                     | <b>0</b>        | 1B     |
| <b>40 [0x28]</b><br><b>First button - scenes sent</b>       | Determines which actions result in sending scene IDs assigned to them                                                                                                 | Range: 0...15 (bitmask)<br><ul style="list-style-type: none"> <li>• <b>1</b> - Key pressed 1 time</li> <li>• <b>2</b> - Key pressed 2 times</li> <li>• <b>4</b> - Key pressed 3 times</li> <li>• <b>8</b> - Key Hold Down and Key Released</li> </ul>            | <b>15</b>       | 1B     |
| <b>41 [0x29]</b><br><b>Second button - scenes sent</b>      |                                                                                                                                                                       |                                                                                                                                                                                                                                                                  |                 |        |
| <b>154 [0x9A]</b><br><b>First channel - auto off</b>        | Enables setting the auto off time for the first channel. For the value „0” the functionality is disabled.                                                             | Range: 0...3600 [s]<br><ul style="list-style-type: none"> <li>• <b>0</b> - Auto off disabled</li> <li>• <b>1...3600</b> - Auto off time</li> </ul>                                                                                                               | <b>0</b>        | 2B     |
| <b>155 [0x9B]</b><br><b>Second channel - auto off</b>       | Enables setting the auto off time for the second channel. For the value „0” the functionality is disabled                                                             |                                                                                                                                                                                                                                                                  |                 |        |
| <b>200 [0xC8]</b><br><b>Voltage measurement</b>             | Enables setting the value change by which the device sends the voltage measurement report. For the value „0” the functionality is disabled.                           | Range: 0, 3...10<br><ul style="list-style-type: none"> <li>• <b>0</b> - Functionality disabled</li> <li>• <b>3...10 [V]</b> - Threshold value for voltage reports</li> </ul>                                                                                     | <b>0</b>        | 1B     |
| <b>201 [0xC9]</b><br><b>Voltage value for notification</b>  | Enables setting the value that the mains voltage must exceed for the device to send the voltage notification report. For the value „0” the functionality is disabled. | Range: 0, 100...260<br><ul style="list-style-type: none"> <li>• <b>0</b> - Functionality disabled</li> <li>• <b>100...260 [V]</b> value for voltage notifications</li> </ul>                                                                                     | <b>0</b>        | 2B     |
| <b>202 [0xCA]</b><br><b>Outputs (channels) mode</b>         | Enables connecting both channels and controlling them simultaneously.                                                                                                 | <ul style="list-style-type: none"> <li>• <b>0</b> - Outputs independent</li> <li>• <b>1</b> - Outputs connected</li> </ul>                                                                                                                                       | <b>0</b>        | 1B     |

**Table 6 - On/Off-Control2 - NIF Command Class**

| No.                               | Command Class                                  | Version | Secure            |
|-----------------------------------|------------------------------------------------|---------|-------------------|
| 1.                                | COMMAND_CLASS_ZWAVEPLUS_INFO [0x5E]            | V2      | None              |
| 2.                                | COMMAND_CLASS_SWITCH_BINARY [0x25]             | V2      | Highest Available |
| 3.                                | COMMAND_CLASS_ASSOCIATION [0x85]               | V2      | Highest Available |
| 4.                                | COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION [0x8E] | V3      | Highest Available |
| 5.                                | COMMAND_CLASS_ASSOCIATION_GRP_INFO [0x59]      | V3      | Highest Available |
| 6.                                | COMMAND_CLASS_TRANSPORT_SERVICE [0x55]         | V2      | None              |
| 7.                                | COMMAND_CLASS_SECURITY [0x98]                  | V1      | None              |
| 8.                                | COMMAND_CLASS_SECURITY_2 [0x9F]                | V1      | None              |
| 9.                                | COMMAND_CLASS_MULTI_CHANNEL [0x60]             | V4      | Highest Available |
| 10.                               | COMMAND_CLASS_SUPERVISION [0x6C]               | V1      | None              |
| 11.                               | COMMAND_CLASS_DEVICE_RESET_LOCALLY [0x5A]      | V1      | Highest Available |
| 12.                               | COMMAND_CLASS_POWERLEVEL [0x73]                | V1      | Highest Available |
| 13.                               | COMMAND_CLASS_VERSION [0x86]                   | V3      | Highest Available |
| 14.                               | COMMAND_CLASS_MANUFACTURER_SPECIFIC [0x72]     | V2      | Highest Available |
| 15.                               | COMMAND_CLASS_INDICATOR [0x87]                 | V3      | Highest Available |
| 16.                               | COMMAND_CLASS_CONFIGURATION [0x70]             | V4      | Highest Available |
| 17.                               | COMMAND_CLASS_FIRMWARE_UPDATE_MD [0x7A]        | V5      | Highest Available |
| 18.                               | COMMAND_CLASS_METER [0x32]                     | V5      | Highest Available |
| 19.                               | COMMAND_CLASS_NOTIFICATION [0x71]              | V8      | Highest Available |
| 20.                               | COMMAND_CLASS_PROTECTION [0x75]                | V2      | Highest Available |
| 21.                               | COMMAND_CLASS_APPLICATION_STATUS [0x22]        | V1      | None              |
| 22.                               | COMMAND_CLASS_CENTRAL_SCENE [0x5B]             | V3      | Highest Available |
| <b>Command Class – not in NIF</b> |                                                |         |                   |
| 23.                               | COMMAND_CLASS_BASIC [0x20]                     | V2      | Highest Available |

**Table 7 - On/Off-Control2 - Z-WAVE Plus CC**

| Root Device / End Point 1 |                                                |
|---------------------------|------------------------------------------------|
| Role Type                 | AOS - ROLE_TYPE_SLAVE_ALWAYS_ON                |
| Node Type                 | ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE |
| Installer Icon Type       | ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH [0x0700] |
| User Icon Type            | ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH [0x0700] |
| End Point 2               |                                                |
| Role Type                 | AOS - ROLE_TYPE_SLAVE_ALWAYS_ON                |
| Node Type                 | ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE |
| Installer Icon Type       | ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH [0x0700] |
| User Icon Type            | ICON_TYPE_GENERIC_ON_OFF_POWER_SWITCH [0x0700] |

| Table 8 - On/Off-Control2 - Multichannel CC |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Endpoint 1                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Generic Type                                | GENERIC_TYPE_SWITCH_BINARY                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Specific Type                               | SPECIFIC_TYPE_NOT_USED                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Supported CC                                | COMMAND_CLASS_ZWAVEPLUS_INFO [0x5E]<br>COMMAND_CLASS_SWITCH_BINARY [0x25]<br>COMMAND_CLASS_ASSOCIATION [0x85]<br>COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION [0x8E]<br>COMMAND_CLASS_ASSOCIATION_GRP_INFO [0x59]<br>COMMAND_CLASS_SECURITY [0x98]<br>COMMAND_CLASS_SECURITY_2 [0x9F]<br>COMMAND_CLASS_SUPERVISION [0x6C]<br>COMMAND_CLASS_METER [0x32]<br>COMMAND_CLASS_NOTIFICATION [0x71]<br>COMMAND_CLASS_APPLICATION_STATUS [0x22]<br>COMMAND_CLASS_PROTECTION [0x75] |
| Description                                 | Channel 1                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Endpoint 2                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Generic Type                                | GENERIC_TYPE_SWITCH_BINARY                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Specific Type                               | SPECIFIC_TYPE_NOT_USED                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Supported CC                                | COMMAND_CLASS_ZWAVEPLUS_INFO [0x5E]<br>COMMAND_CLASS_SWITCH_BINARY [0x25]<br>COMMAND_CLASS_ASSOCIATION [0x85]<br>COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION [0x8E]<br>COMMAND_CLASS_ASSOCIATION_GRP_INFO [0x59]<br>COMMAND_CLASS_SECURITY [0x98]<br>COMMAND_CLASS_SECURITY_2 [0x9F]<br>COMMAND_CLASS_SUPERVISION [0x6C]<br>COMMAND_CLASS_METER [0x32]<br>COMMAND_CLASS_NOTIFICATION [0x71]<br>COMMAND_CLASS_APPLICATION_STATUS [0x22]<br>COMMAND_CLASS_PROTECTION [0x75] |
| Description                                 | Channel 2                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Table 9 - On/Off-Control2 - ASSOCIATION GROUP INFORMATION CC |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
|--------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Root                                                         |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
| Group                                                        | Profile                           | Command Class & Command                                                                                                                                                                                                                                                                                                                                                                                                    | Group Name |
| 1                                                            | General: Lifeline<br>(0x00: 0x01) | COMMAND_CLASS_DEVICE_RESET_LOCALLY [0x5A]<br>DEVICE_RESET_LOCALLY_NOTIFICATION [0x01]<br>COMMAND_CLASS_INDICATOR [0x87]<br>INDICATOR_REPORT [0x03]<br>COMMAND_CLASS_CENTRAL_SCENE [0x5B]<br>CENTRAL_SCENE_NOTIFICATION [0x03]<br>COMMAND_CLASS_SWITCH_BINARY [0x25]<br>SWITCH_BINARY_REPORT [0x03]<br>COMMAND_CLASS_METER [0x32]<br>METER_REPORT [0x02]<br>COMMAND_CLASS_NOTIFICATION [0x71]<br>NOTIFICATION_REPORT [0x05] | Lifeline   |
| 2                                                            | Control: KEY01<br>(0x20: 0x01)    | COMMAND_CLASS_BASIC [0x20]<br>BASIC_SET [0x01]                                                                                                                                                                                                                                                                                                                                                                             | On/Off (1) |
| 3                                                            | Control: KEY02<br>(0x20: 0x02)    | COMMAND_CLASS_BASIC [0x20]<br>BASIC_SET [0x01]                                                                                                                                                                                                                                                                                                                                                                             | On/Off (2) |
| End Point 1                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
| 1                                                            | General: Lifeline<br>(0x00: 0x01) | COMMAND_CLASS_SWITCH_BINARY [0x25]<br>SWITCH_BINARY_REPORT [0x03]<br>COMMAND_CLASS_METER [0x32]<br>METER_REPORT [0x02]<br>COMMAND_CLASS_NOTIFICATION [0x71]<br>NOTIFICATION_REPORT [0x05]                                                                                                                                                                                                                                  | Lifeline   |
| 2                                                            | Control: KEY01<br>(0x20: 0x01)    | COMMAND_CLASS_BASIC [0x20]<br>BASIC_SET [0x01]                                                                                                                                                                                                                                                                                                                                                                             | On/Off (1) |
| End Point 2                                                  |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                            |            |
| 1                                                            | General: Lifeline<br>(0x00: 0x01) | COMMAND_CLASS_SWITCH_BINARY [0x25]<br>SWITCH_BINARY_REPORT [0x03]<br>COMMAND_CLASS_METER [0x32]<br>METER_REPORT [0x02]<br>COMMAND_CLASS_NOTIFICATION [0x71]<br>NOTIFICATION_REPORT [0x05]                                                                                                                                                                                                                                  | Lifeline   |
| 2                                                            | Control: KEY02<br>(0x20: 0x02)    | COMMAND_CLASS_BASIC [0x20]<br>BASIC_SET [0x01]                                                                                                                                                                                                                                                                                                                                                                             | On/Off (2) |

| Table 10 - On/Off-Control2 - Association CC / Multichannel association CC |                     |            |
|---------------------------------------------------------------------------|---------------------|------------|
| Root Device                                                               |                     |            |
| Group                                                                     | Max Nodes Supported | Comment    |
| 1                                                                         | 1                   | Lifeline   |
| 2                                                                         | 5                   | On/Off (1) |
| 3                                                                         | 5                   | On/Off (2) |
| End Point 1                                                               |                     |            |
| Group                                                                     | Max Nodes Supported | Comment    |
| 1                                                                         | 0                   | Lifeline   |
| 2                                                                         | 5                   | On/Off (1) |
| End Point 2                                                               |                     |            |
| Group                                                                     | Max Nodes Supported | Comment    |
| 1                                                                         | 0                   | Lifeline   |
| 2                                                                         | 5                   | On/Off (2) |

| Table 11 - On/Off-Control2 - Switch Binary CC |                  |          |             |
|-----------------------------------------------|------------------|----------|-------------|
| Root Device / Endpoint 1                      |                  |          |             |
| Command                                       | Value            | State    | Description |
| SET/REPORT                                    | 0 (0x00)         | OFF      | Channel 1   |
| SET                                           | 1-99 (0x01-0x63) | ON       | Channel 1   |
| SET                                           | ...              | reserved | Channel 1   |
| SET/REPORT                                    | 255 (0xFF)       | ON       | Channel 1   |
| Endpoint 2                                    |                  |          |             |
| Command                                       | Value            | State    | Description |
| SET/REPORT                                    | 0 (0x00)         | OFF      | Channel 2   |
| SET                                           | 1-99 (0x01-0x63) | ON       | Channel 2   |
| SET                                           | ...              | reserved | Channel 2   |
| SET/REPORT                                    | 255 (0xFF)       | ON       | Channel 2   |

| Table 12 - On/Off-Control2 - Basic CC |       |                      |                      |
|---------------------------------------|-------|----------------------|----------------------|
| Command                               | Root  | Mapping              |                      |
|                                       |       | EP1                  | EP2                  |
| Basic Set                             | = EP1 | Binary Switch Set    | Binary Switch Set    |
| Basic Get                             | = EP1 | Binary Switch Get    | Binary Switch Get    |
| Basic Report                          | = EP1 | Binary Switch Report | Binary Switch Report |

| Table 13 - On/Off-Control2 - INDICATOR CC        |              |             |             |                              |
|--------------------------------------------------|--------------|-------------|-------------|------------------------------|
| Root                                             |              |             |             |                              |
| Indicator ID                                     |              |             |             |                              |
| Node Identify [0x50]                             |              |             |             |                              |
| Property ID                                      |              |             |             |                              |
| 0x03 (Toggling, On/Off Periods)                  |              |             |             |                              |
| 0x04 (Toggling, On/Off Cycles)                   |              |             |             |                              |
| 0x05 (Toggling, On time within an On/Off period) |              |             |             |                              |
| etc.                                             |              |             |             |                              |
| Command                                          | Indicator ID | Property ID | Value       | Other                        |
| SET                                              | All          | 0x03        | 0x00 – 0xFF |                              |
| SET                                              | All          | 0x04        | 0x00 – 0xFF |                              |
| SET                                              | All          | 0x05]       | 0x00 – 0xFF |                              |
| GET                                              | All          | -           | -           | Device send Indicator Report |

| Table 14 - On/Off-Control2 - Meter CC |                     |               |           |      |
|---------------------------------------|---------------------|---------------|-----------|------|
| Root/Endpoint 1                       |                     |               |           |      |
| Meter Type                            | Scale               | Rate Type     | Precision | Size |
| Electric [0x01]                       | Electric_V [0x04]   | Import [0x01] | 0         | 4    |
| Electric [0x01]                       | Electric_W [0x02]   | Import [0x01] | 1         | 4    |
| Electric [0x01]                       | Electric_kWh [0x00] | Import [0x01] | 1         | 4    |
| Endpoint 2                            |                     |               |           |      |
| Electric [0x01]                       | Electric_W [0x02]   | Import [0x01] | 1         | 2    |
| Electric [0x01]                       | Electric_kWh [0x00] | Import [0x01] | 1         | 4    |

| Table 15 - On/Off-Control2 - Protection CC |       |                                                                                                              |
|--------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------|
| Root                                       |       |                                                                                                              |
| Type                                       | State | Description                                                                                                  |
| Local                                      | 0     | Unprotected - The device isn't protected, and can be operated normally with the user interface.              |
| Local                                      | 2     | No operation possible – button can't change relay state. Other functionalities, such as menu, are available. |
| RF                                         | 0     | Unprotected - The device accept and respond to all RF Commands.                                              |
| RF                                         | 1     | No RF control - Command class basic and switch binary are rejected. Other command classes are handled.       |

#### Note

Protection CC State can be set independently on each endpoint.

| Table 16 - On/Off-Control2 - Notification CC |                                                                                 |                                 |                                |
|----------------------------------------------|---------------------------------------------------------------------------------|---------------------------------|--------------------------------|
| Root device                                  |                                                                                 |                                 |                                |
| Notification Type                            | Event / State                                                                   | Event /State Parameter          | Status (default)               |
| Power Management [0x08]                      | Voltage drop/drift [0x05/V2]                                                    | -                               | 0xFF – enable (not changeable) |
| Power Management [0x08]                      | Over-current detected [0x06/V3]                                                 |                                 | 0xFF – enable (not changeable) |
| Power Management [0x08]                      | Over-voltage detected [0x07]                                                    | -                               | 0xFF – enable (not changeable) |
| System [0x09]                                | System hardware failure (manufacturer proprietary failure code provided) [0x03] | MP code: 0x02 [device overheat] | 0xFF – enable (not changeable) |
| Endpoint 1/ Endpoint 2                       |                                                                                 |                                 |                                |
| Power Management [0x08]                      | Over-current detected [0x06/V3]                                                 | -                               | 0xFF – enable (not changeable) |

## 13 REGULATIONS

### This device complies 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 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 the instructions, may cause harmful interference to radio communications. 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 equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

#### Note

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

### 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, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux normes d'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 peuvent affecter son fonctionnement.

## 14 REGULATIONS

### Legal Notices:

All information, including, but not limited to, information regarding the features, functionality, and/or other product specification are subject to change without notice. NICE reserves all rights to revise or update its products, software, or documentation without any obligation to notify any individual or entity.

NICE logo is a trademark of NICE SpA Oderzo TV Italia All other brands and product names referred to herein are trademarks of their respective holders.

### Declaration of conformity



Hereby, NICE SpA Oderzo TV Italia declares that On/Off-Control2 is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [www.niceforyou.com/en/download?v=18](http://www.niceforyou.com/en/download?v=18)

### WEEE Directive Compliance



Device labelled with this symbol shouldn't be disposed with other household wastes.

It shall be handed over to the applicable collection point for the recycling of waste electrical and electronic equipment.



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