Flush Dimmer

**ORDERING CODE**

<table>
<thead>
<tr>
<th>Code</th>
<th>Z-WAVE FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZMNHDD1</td>
<td>868.4 MHz</td>
</tr>
<tr>
<td>ZMNHDD2</td>
<td>921.4 MHz</td>
</tr>
<tr>
<td>ZMNHDD3</td>
<td>904.8 MHz</td>
</tr>
<tr>
<td>ZMNHDD4</td>
<td>869.0 MHz</td>
</tr>
<tr>
<td>ZMNHDD5</td>
<td>916.0 MHz</td>
</tr>
<tr>
<td>ZMNHDD8</td>
<td>965.2 MHz</td>
</tr>
</tbody>
</table>

### Notes for the diagram:  
- **N**: Neutral  
- **L**: Live  
- **I**: Input  
- **O**: Output  
- **S**: Service button (used to add or remove module from the Z-Wave network in case of 24 V SELV power supply).

### ELECTRICAL DIAGRAM 230VAC

**Electrical diagram 230VAC**

- **WARNING**: Service button S MUST NOT be used when module is connected to 110-230V power supply.  
  **NOTE**: When overload is detected, module automatically switches off the output. In this case check if the load is according to specifications and if connections are according diagram. To recover module in normal state, you need to power cycle the module.

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### Module Inclusion (Adding to Z-Wave network)

- **Connect module to power supply** (with temperature sensor connected if purchased).

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

- **Connect module to power supply**  
- **Bring module within maximum 1 meter (3feet) of the main controller**  
- **Enable auto move on module**  
- **Press button I5 five times within 3s (5 times change state within 3 seconds)**  
- **Press service button S (only applicable for 24 V SELV supply voltage) for more than 6 second.**

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### Configuration parameters

**Parameter no. 1 – Input 1 switch type**  
Available config. parameters (data type is 1 Byte DEC):
- **default value 0**  
- **0 - mono-switchable type (switch push) – button quick press turns between previous set dimmer value and zero**  
- **1 - bistable switch type**  

**Parameter no. 2 – Input 2 switch type**  
Available config. parameters (data type is 1 Byte DEC):
- **default value 0**  
- **0 - mono-switchable type (switch push) – button quick press turns between previous set dimmer value and zero**  
- **1 - bistable switch type**  

**Parameter no. 3 – Input 2 contact type**  
Available config. parameters (data type is 1 Byte DEC):
- **default value 0**  
- **0 - normally open (input type)**  
- **1 - normally closed (input type)**  

**Parameter no. 4 – Input 3 contact type**  
Available config. parameters (data type is 1 Byte DEC):
- **default value 0**  
- **0 - normally open (input type)**  
- **1 - normally close (input type)**  

**Parameter no. 10 – Active/ deactivate functions ALL OFF**  
Available config. parameters (data type is 2 Byte DEC):
- **default value 255**  
- **255 - all LON/ OFF, 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**

**Parameter no. 11 - Automatic turning off output after set time**  
Available config. parameters (data type is 2 Byte DEC):
- **default value 0**  
- **0 - Auto OFF disabled**  
- **1 - 32535 = 1second – 32536 seconds Auto OFF enabled with defined time, step is 1 second**  

**Parameter no. 20 – Enable/Disable 3way switch**  
Dimming is done by push button or switch connected to I1 by default. Enabling 3way switch, dimming can be controlled by push button or switch connected to I1 and I2.  
Available config. parameters (data type is 1 Byte DEC):
- **0 - single push button (connected to I1)**  
- **1 - 3way switch (connected to I1 and I2)**  

**Parameter no. 21 – Enable/Disable Double click function**  
If double click function is enabled, a fast double click on the push button will set dimming power at maximum dimming value.  
Available config. parameters (data type is 1 Byte DEC):
- **default value 0**  
- **0 - Dimmer module saves its state before power failure**  
- **1 - Flush Dimmer module does not save the state after a power failure, it returns to “off” position.**  

**Parameter no. 40 – Power reporting in Watts on power change**  
Set value means percentage, set value from 0 - 100% - 100%

**Parameter no. 42 – Power reporting in Watts by time interval**
Set value means time interval (0 - 32767) in seconds, when power report is send.  
Available configuration parameters (data type is 2 Byte DEC):
- **default value 0**  
- **0 - reporting disabled**  
- **1 - 32767 seconds, 32767 seconds. Reporting enabled. Power report is send with time interval set by entered value.**  

**Parameter no. 60 – Minimum dimming value**
Available config. parameters (data type is 1 Byte DEC):
- **default value 1 = 1% (minimum dimming value)**  
- **1 - 98% = 98%**  
- **1 - 99% = 99%**  

**Parameter no. 61 – Maximum dimming value**
Available config. parameters (data type is 1 Byte DEC):
- **default value 0% = 0%**  
- **1 - 255% = 99% (maximum dimming value)**  
- **2 - 99% = 99%**  

**NOTE**: The maximum level may not be lower than the minimum level 99% max. dimming value is defined by Z-Wave multilevel device class.

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### Installation

- Prevent the disconnecting device from being switched on accidentally.
- Connect the module according to electrical diagram.
- Locate the antenna far from metal pieces (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.

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**Notes!**

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

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**Electrical installation must be protected by directly associated over current protection fuse 1A, g09 or Time lag T, rated breaking capacity 1500A (ESKA 522:717) must be used according to wiring diagram to achieve appropriate overload protection of the module.**

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**Package contents:**

- Flush Dimmer
Parameter no. 56 - Dimming time (soft on/off) Set value means time of moving the Dimmer between min. and max. dimming values by short press of push button 11 or controlled through UI (BasicSet). Available configuration parameters (data type is 2 Byte DEC):
- default value 3 + 3s
- 1 - 255 + 1 second – 255 seconds

Parameter no. 57 - Ignore start level This parameter is used with association group 3. A receiving device SHOULD respect the start level if the Ignore Start Level bit is 0. A sending device SHOULD ignore the start level if the Ignore Start Level bit is 1. Available configuration parameters (data type is 1 Byte DEC):
- default value 0
- 0 - respect start level
- 1 - ignore start level

Parameter no. 68 – Dimming duration This parameter is used with association group 3. The Duration field MUST specify the time that the transition should take from the current value to the new target value. A sending device SHOULD respect the specified Duration value. Available configuration parameters (data type is 1 Byte DEC):
- default value 0
- 0 - dimming duration according to parameter 66)
- 1 - 127 (from 1 to 127 seconds)

Parameter no. 100 – Enable / Disable Endpoints I2 or select Notification Type and Event Enabling I2 means that Endpoint I2 will be present on UI. Disabling it will result in hiding the endpoint according to the parameter set value. Additionally, a Notification Type and Event can be selected for the endpoint. Available configuration parameters (data type is 1 Byte DEC):
- Enable/Disable I2
- Notification sensor (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED
- – Sensor binary (9): GENERIC_TYPE_SENSOR_BINARY, SPECIFIC_TYPE_NOT_USED

- notification sensor (1 - 6):
  - GENERIC_TYPE_SENSOR_NOTIFICATION, SPECIFIC_TYPE_NOTIFICATION_SENSOR
  - default value 0
  - 1 - Home Security; Motion Detection, unknown loc.
  - 2 - CO; Carbon Monoxide detected, unknown loc.
  - 3 - CO2; Carbon Dioxide detected, unknown loc.
  - 4 - Water Alarm; Water Leak detected, unknown loc.
  - 5 - Heat Alarm; Overheat detected, unknown loc.
  - 6 - Smoke Alarm; Smoke detected, unknown loc.

Parameter no. 101 – Enable / Disable Endpoints I3 or select Notification Type and Event Enabling I3 means that Endpoint I3 (3) will be present on UI. Disabling it will result in hiding the endpoint according to the parameter set value. Additionally, a Notification Type and Event can be selected for the endpoint. Available configuration parameters (data type is 1 Byte DEC):

- Notification sensor (1 - 6):
  - GENERIC_TYPE_SENSOR_NOTIFICATION, SPECIFIC_TYPE_NOTIFICATION_SENSOR
  - default value 0
  - 1 - Home Security; Motion Detection, unknown loc.
  - 2 - CO; Carbon Monoxide detected, unknown loc.
  - 3 - CO2; Carbon Dioxide detected, unknown loc.
  - 4 - Water Alarm; Water Leak detected, unknown loc.
  - 5 - Heat Alarm; Overheat detected, unknown loc.
  - 6 - Smoke Alarm; Smoke detected, unknown loc.

Technical Specifications

- Power supply: 110 - 230 VAC 50 or 60Hz (24-30VDC)
- Rated load current of AC output: 0.6A / 230VAC
- Rated load current of DC output: 0.85A / 30VDC
- Output circuit power of AC output (resistive load): 140W (230VAC)
- Output circuit power of DC output: 21W (24VDC)
- Power measurement accuracy: +/- 2W
- Digital temperature sensor range: -50 - +125°C
- Operation temperature: -10 – +40°C

End Device Class: ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAY_ON GENERIC_TYPE_SWITCH_MULTILEVEL SPE SPECIFIC_TYPE_POWER_SWITCH_MULTILEVEL

Endpoints:

- Endpoint 1:
  - COMMAND_CLASS_ZWAVEPLUS_INFO_V2
  - COMMAND_CLASS_SECURITY
  - COMMAND_CLASS_ASSOCIATION_2
  - COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
  - COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2
  - COMMAND_CLASS_BASIC_V1
  - COMMAND_CLASS_SWITCH_ALL_V1
  - COMMAND_CLASS_SWITCH_BINARY_V1
  - COMMAND_CLASS_SWITCH_MULTILeVEL_V1
  - COMMAND_CLASS_METER_V4
  - COMMAND_CLASS_NOTIFICATION_V5
  - COMMAND_CLASS_BASIC_V1

- Endpoint 2 (I2):
  - Device Class: ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAY_ON GENERIC_TYPE_SENSOR_NOTIFICATION
  - Securely Supported Command Classes:
    - COMMAND_CLASS_ZWAVEPLUS_INFO_V2
    - COMMAND_CLASS_SECURITY
    - COMMAND_CLASS_ASSOCIATION_2
    - COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
    - COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2
    - COMMAND_CLASS_BASIC_V1
  - COMMAND_CLASS_SWITCH_BINARY_V1

- Endpoint 3 (I3):
  - Device Class: ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAY_ON GENERIC_TYPE_SENSOR_NOTIFICATION
  - Securely Supported Command Classes:
    - COMMAND_CLASS_ZWAVEPLUS_INFO_V2
    - COMMAND_CLASS_SECURITY
    - COMMAND_CLASS_ASSOCIATION_2
    - COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
    - COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2
    - COMMAND_CLASS_BASIC_V1
    - COMMAND_CLASS_SWITCH_BINARY_V1

- Endpoint 4:
  - Device Class: ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_ALWAY_ON GENERIC_TYPE_SENSOR_NOTIFICATION
  - Securely Supported Command Classes:
    - COMMAND_CLASS_ZWAVEPLUS_INFO_V2
    - COMMAND_CLASS_SECURITY
    - COMMAND_CLASS_ASSOCIATION_2
    - COMMAND_CLASS_MULTI_CHANNEL_ASSOCIATION_V3
    - COMMAND_CLASS_ASSOCIATION_GRP_INFO_V2
    - COMMAND_CLASS_BASIC_V1

NOTE: The product supports the following

- Support alarm v2 – Smoke detected, unknown loc.
- 12V DC – Overheat detected, unknown loc.
- Water Alarm v2 – Water leak detected, unknown loc.
- Home Security – Motion Detection, unknown loc.