



Qubino

Qubino Smart Plug 16A

SKU: GOAEZMNHYD1



Quickstart

This is a **secure On/Off Power Switch** for **Europe**. To run this device please connect it to your mains power supply. To add this device to your network the following action:

Press the Service button S 3 times within 3 seconds

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 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 source.

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 Smart Plug 16A controls on/off function for the connected device. It also measures power consumption of the connected device according to the principle of sampling of voltage and current signals. A built-in microprocessor calculates energy and power from the measured signals. The Qubino Smart Plug 16A also acts as a Z-Wave repeater to improve the range and stability of the Z-Wave network.

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 inoperative.

Press service button S 5 times within 3 seconds ? reset the module to factory default and clear NIF+ send device reset locally

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 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 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. The primary controller is turned into exclusion or inclusion mode. Inclusion and Exclusion is then performed by doing a special manual action right on the device.

Inclusion

Press the Service button S 3 times within 3 seconds

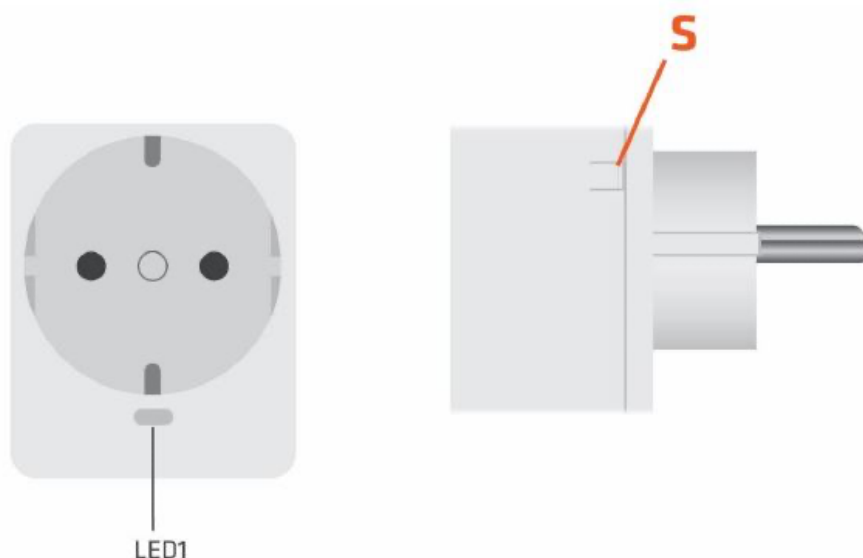
Exclusion

Press the Service button S 3 times within 3 seconds

Auto-Inclusion

Besides the standard inclusion this device supports the so called **auto inclusion**. Right after powering up the device remains in inclusion state and can be (any) gateway without further actions on the device itself. The auto inclusion mode will time out after some time.

Product Usage



S

Service button (used to add or remove the Smart Plug 16A from the Z-Wave network and for turning the internal relay ON/OFF)

LED

When the Smart Plug 16A is excluded:

When the relay is turned OFF:

? blue LED is blinking (1 sec ON, 1 sec OFF)

When the relay is turned ON:

? blue LED is ON

? red LED is blinking (0.3 sec ON, 0.3 sec OFF) when the current exceeds 14,4A

? red LED is ON after the overload occurred

When the Smart Plug 16A is included:

When the relay is turned OFF:

? LED is OFF

When the relay is turned ON:

? blue LED is ON

? red LED is blinking (0.3 sec ON, 0.3 sec OFF) when the current exceeds 14,4A

? red LED is ON after the overload occurred

MEASUREMENTS:

V = Voltage

A = Current

W = Power ? Active

kWh = Energy ? Active power accumulated

Overcurrent protection

When load is for 5 sec over 16.1A, relay is automatically turned off and ?Overcurrent detected? notification is sent.

To reactivate the device, it has to be pulled out of the power socket and put in again.

Overcurrent warning

When load is near overcurrent state (over 14.4 A), Unsolicited Meter Report is sent and the red LED starts blinking. When the current returns below 14.4 A, LED starts blinking automatically.

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 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 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 same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group Number	Maximum Nodes	Description
1	1	Lifeline
2	5	This group is assigned to Plug status ? On/Off. Allows for sending control command BASIC_0x00/0xFF to associated devices whenever the Plug is turned On or Off.
3	5	This group allows for sending control commands BASIC_SET 0x00/0xFF to associated devices depending on the current load. This association group is configured through the advanced parameter no. 50, 51 and 52
4	5	This group is equivalent to the association group no. 2. The difference is, that this group sends commands Secure Encapsulated.
5	5	This group is equivalent to the association group no. 3. The difference is, that this group sends commands Secure Encapsulated.

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 value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same applies: Values greater than 32768 may be needed to be given as negative values too.

Parameter 10: Activate / deactivate ALL ON / ALL OFF Functionality

Smart Plug 16A device responds to commands ALL ON / ALL OFF that may be sent by the primary or secondary gateway (hub) within the Z-Wave network
Size: 2 Byte, Default Value: 255

Setting	Description
0	ALL ON not active, ALL OFF not active
1	ALL ON not active, ALL OFF active
2	ALL ON active, ALL OFF not active
255	ALL ON active, ALL OFF active

Parameter 11: Turn Smart plug 16A Off Automatically with Timer

If Smart plug 16A is ON, you can schedule it to turn OFF automatically after a period of time defined in this parameter. The timer is reset to zero each time it receives an ON command, either remotely (from the gateway (hub) or associated device) or locally from the switch.

Size: 2 Byte, Default Value: 0

Setting	Description
0	Auto OFF Disabled
1 - 32535	seconds (or milliseconds ? see Parameter no. 15) Auto OFF timer enabled for a given amount of seconds (milliseconds)

Parameter 12: Turn Smart plug 16A On Automatically with Timer

If Smart plug 16A is OFF, you can schedule it to turn ON automatically after a period of time defined in this parameter. The timer is reset to zero each time it receives an OFF command, either remotely (from the gateway (hub) or associated device) or locally from the switch.

Size: 2 Byte, Default Value: 0

Setting	Description
0	Disable
1 - 32535	seconds (or milliseconds ? see Parameter no. 15) Auto ON timer enabled- for a given amount of seconds (milliseconds)

Parameter 15: Set Timer Units to Seconds or Milliseconds

Choose if you want to set the timer in seconds or milliseconds in parameters 11 and 12.

Size: 1 Byte, Default Value: 0

Setting	Description
0	timer set in seconds
1	timer set in milliseconds

Parameter 30: Restore on/off status for Smart plug 16A after power failure

This parameter determines if on/off status is saved and restored for the Smart plug 16A after power failure.

Size: 1 Byte, Default Value: 0

Setting	Description
0	Device saves last on/off status and restores it after a power failure.
1	Device does not save on/off status and does not restore it after a power failure, it remains off.

Parameter 14: Watt Power Consumption Reporting Threshold for Smart plug 16A

Choose by how much power consumption needs to increase or decrease to be reported. Values correspond to percentages so if 20 is set (by default), the device reports any power consumption changes of 20% or more compared to the last reading.

Size: 1 Byte, Default Value: 20

Setting	Description
0	Power consumption reporting disabled
1 - 100	% Power consumption reporting enabled. New value is reported only when Wattage in real time changes more than the percentage value set in this parameter compared to the previous Wattage reading, starting at 1 (lowest value possible).

Parameter 42: Watt Power Consumption Reporting Time Threshold for Smart plug 16A Load

Set value refers to the time interval with which power consumption in Watts is reported (0 ? 32535 seconds). The device is reporting the following values (if change): W, V and A.

NOTE: The energy consumption (kWh) is reported regardless of the values, set in the parameters 40 and 42. The energy consumption will be reported, when it increases for at least 0,1 kWh.

Size: 2 Byte, Default Value: 0

Setting	Description
0	Power consumption reporting on time interval disabled
30 - 32535	Seconds, Power consumption reporting enabled. Report is sent according to time interval (value) set here

Parameter 50: Down value

Lower power threshold used in parameter no. 52. Down value cannot be higher than a value specified in parameter no. 51 **NOTE:** if parameter no. 50 value measured power is lower than 100W, the association is send again if measured power will rise above 105W Power threshold step is 1W

Size: 2 Byte, Default Value: 30

Setting	Description
0 - 4000	Watt

Parameter 51: Up value

Upper power threshold used in parameter no. 52. Up value cannot be lower than a value specified in the parameter no. 50. **NOTE:** If parameter no. 51 value measured power is higher than 200W the association is sendAssociation is send again if measured power will fall below 190W Power threshold step is 1W
Size: 2 Byte, Default Value: 50

Setting	Description
0 - 4000	Watt

Parameter 52: Action in case of exceeding defined power values (parameters 50 and 51)

The parameter defines the way 3rd association group devices are controlled, depending on the current power load

Size: 1 Byte, Default Value: 6

Setting	Description
0	function inactive
1	turn the associated devices on, once the power drops below Down value (parameter no. 50)
2	turn the associated devices off, once the power drops below Down value (parameter no. 50)
3	turn the associated devices on, once the power rises above Up value (parameter no. 51)
4	turn the associated devices off, once the power rises above Up value (parameter no. 51)
5	1 and 4 combined. Turn the associated devices on, once the power drops below Down value (parameter no. 50). Turn the associated devices off, once the power rises above Up value (parameter no. 51).
6	2 and 3 combined. Turn the associated devices off, once the power drops below Down value (parameter no. 50). Turn the associated devices on, once the power rises above Up value (parameter no. 51).

Parameter 70: Overload safety switch

The function allows for turning off the controlled device in case of exceeding the defined power for more than 3.1s. Controlled device can be turned back on by button or sending a control frame. By default this function is inactive. **NOTE:** This functionality is not an overload safety protection, please check installation details.

Size: 2 Byte, Default Value: 0

Setting	Description
0	function not active
1 - 4000	Watt

Parameter 249: Enable/Disable Reporting on Set command

Using this parameter it is possible to enable/disable reporting after the set command (i.e. Basic set).

Size: 1 Byte, Default Value: 1

Setting	Description
0	disable reporting
1	enable reporting

Technical Data

Dimensions	43 x 52 x 75 mm
Weight	80 gr
Hardware Platform	ZM5101
EAN	3830062071505
IP Class	IP 20
Voltage	230 V
Load	16A
Device Type	On/Off Power Switch
Generic Device Class	Binary Switch
Specific Device Class	Binary Power Switch
Firmware Version	02.00
Z-Wave Version	04.21
Certification ID	ZC10-18116325
Z-Wave Product Id	0x0159.0x0002.0x0054
Frequency	Europe - 868,4 Mhz
Maximum transmission power	5 mW

Supported Command Classes

- Basic
- Switch Binary
- Switch All
- Meter
- Association Grp Info
- Device Reset Locally
- Zwaveplus Info
- Configuration
- Alarm
- Manufacturer Specific
- Powerlevel
- Firmware Update Md
- Association
- Version
- Security

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.

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