

AN188

Z-Wave Metering Mini Plug

The Metering Plug is a Z-Wave Plus enabled device which is fully compatible with any Z-Wave enabled network. Inclusion of this unit on other manufacturer's Z-Wave Wireless Controller menu allows remote operation of the unit and the connected load.

This product supports the S2 security protocol that uses encrypted Z-Wave Plus messages to communicate to other security-enabled Z-Wave Plus products. A security-enabled Z-Wave Plus Controller must be used in order to fully utilize the security features of this product.

The Metering Plug is designed to control the on/off status appliances load in your house. For metering the unit can detect up to 10485.75kW*h and can support wattage, voltage, ampere, and PF detection. The unit can also detect overload upon which the unit will switch off relay and keep LED flashing until power is off and re-applied. At 220-240V voltage, this Plug can support up to 3000W resistive load.



WARNING:



CAUTION



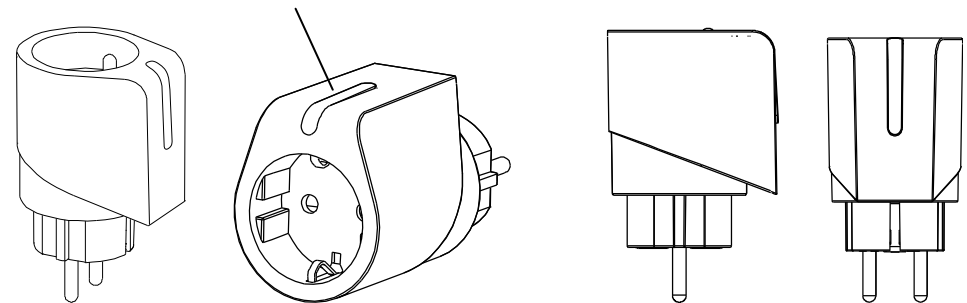
Read operator's manual

For safety concerns:

- Do not connect appliances to this remote controlled socket-outlet if the instruction manual of the appliances prohibits to be remote controlled (for example appliances according to EN 60335-2-9 like grills, toasters and similar portable cooking appliances, or portable kitchen appliances, or appliances with heating elements like ovens or heaters, etc).
- Do not connect any appliances to this remote controlled socket-outlet which are radiating heat and may cause ignition or burning of surrounding materials (for example radiation heaters, portable heaters, portable floodlights, desk lamps, etc).
- Take into consideration that connected appliances might be moved by pets, cleaning staff or other persons who are not aware of the remote control functions.
- Do not connect any appliances with potential hazards by moving parts (for example drills, table saws, blender, etc).
- The connection/installation of this product should be in a suitable area with the remote controlled socket-outlet easily readable and accessible for disconnection actions.
- Connected equipment should not cause any hazard to the environment, personnel, other equipment and property when left unattended.
- The socket outlet on equipment forbids to insert to other equipment of wall plug (Direct Plug-in) or Power bar.
- The socket outlet only can insert power cord, The direction of power cord is drooping naturally, Power Cord length needs < 2M.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.

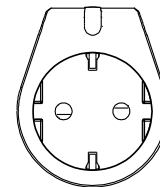
Product Overview

On/Off button
& LED Indicator

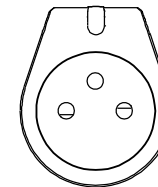


Plug Type

AN188 comes in German plug and French plug versions.



AN188-2
German plug



AN188-6
French plug

Adding to Z-Wave™ Network

On the unit you can find a link key which is used to carry out the function of inclusion, exclusion, and reset. When power is applied for the first time, the LED will flash on and off alternately and repeatedly, implying that it has not been assigned a node ID and cannot work with other Z-Wave devices yet. This unit supports the Auto Inclusion function when power is applied and no node ID is stored in the memory.

Auto Inclusion

The module may automatically execute the function of inclusion when ;

1. The power is applied for the first time and no node ID has been stored in the module.
2. The execution of reset is successful where the stored node ID is cleared.

Note: The duration for Auto Inclusion is 25 seconds. Unlike the "inclusion" procedure shown in the table below, the execution of Auto Inclusion is automatic without the necessity of pressing the link key.

Action/Status	Description	LED indication
No node ID	The Controller does not allocate a node ID to the unit.	2-second on, 2-second off
Auto Inclusion	The power is applied for the first time and no node ID has been stored in the module, or after executing reset.	
Inclusion	1. Put the Z-Wave Controller into inclusion mode.	
	2. Press the link key three times within 1.5 seconds to put the unit into inclusion mode.	
Exclusion	1. Put the Z-Wave Controller into exclusion mode.	
	2. Press the link key three times within 1.5 seconds to put the unit into exclusion mode.	
Reset (Use this procedure only in the event that the network primary controller is missing, or otherwise inoperable.)	1. Press the link key three times within 1.5 seconds to put the unit into exclusion mode.	
	2. Within 1 second of step 1, press link key again and hold it until LED is off (about 5 seconds).	
	3. Node ID is excluded. The device reverts to factory default state and will be in auto-inclusion mode for 25 secs	
× Failed or successful results in including/excluding the node ID can be viewed on the Controller.		

Note: If you are connecting this unit to a Z-wave Controller that utilizes the S2 security protocol, you may be asked to enter a 5 digit Device Specific Key (DSK) that is unique to each unit by your controller. This can be found in one of two places:

- on the QR code label on the back of the unit
- on the insert card inside the packaging

Operation

Under normal operation mode, press the on/off button on the unit to control the on/off status of the connected load. When power is on, the LED indicator will turn on for 5 seconds and then turn off (or slow flash if no node ID is stored). The unit can also be controlled by receiving command signals from the Z-Wave Controller.

The unit is able to remember the status of the relay when power is cut off (such as power black-out). When power is supplied again, the unit will resume the last status of the relay (on or off) automatically.

Note: When overload occurs, the unit will stop controlling the relay. When command to control relay is received, the unit will respond with an "Application Rejected Request Command". The LED on the unit will flash at 0.5-second intervals until power is off and re-applied.

Programming

Z-Wave Group Support

The unit supports two association groups with 1 node support for Grouping 1 and 4 nodes support for Grouping 2. This has the effect that when the unit is operating, all devices associated with the unit will receive the relevant reports.

- When the unit is powered for the first time, the unit will send a Notification Report to the node of Group 1 (Notification Type=0x08, Event=0x01).
- When setting the unit or changing the unit's status, the unit will send a Binary Switch Report to the node of Group 1.
- When performing Reset the unit will send Device Reset Locally Notification to the node of Group 1.
- The unit can be configured to periodically report the value of W and/or kW*h to the node of Group 1 (refer to Configuration parameter 4 & 5). The interval time between two reports is at least 30 seconds.
- The unit can be configured to report the status of wattage to the node of Group 1 on special occasions (refer to Configuration parameter 6 & 7).

- The minimum interval time between two reports sent from this unit to the node of Group 1 is 3 seconds. Refer to **Configuration** parameter 2 for more information.
- When the button on the unit or the wall switch is pressed, the unit will send a Basic Set command to the nodes of Group 2. When the unit is OFF, Basic Set Value = 0x00. When the unit is ON, Basic Set Value = 0xFF.
- When the unit detect an overload condition, it will send a Notification Report to the node of Group 1 (Notification Type=0x08, Event=0x08)

Z-Wave Plus Info

Role Type	Node Type	Installer Icon	User Icon
Slave Always On	Z-Wave Plus node	On/Off Power Switch	On/Off Power Switch
0x05	0x00	0x0701	0x0701

Version

Protocol Library	3 (Slave_Enhance_232_Library)
Protocol Version	5.03 (hex:0x05 0x03)

Manufacturer Specific Get

Manufacturer ID	Product Type	Product ID
0x0060	0x0004	0x000D

Association Command Class

Group	Max Node
1	1
2	4

Basic

- Basic Get: Inquire about the status of the device.
- Basic Report: Report the status of the device.
- Basic Set: Set the status of the device.

Notification

When powered on, the device will send (Notification Type = 0x08, Event = 0x01) to the node of Group 1. When overload occurs, the device will send (Notification Type = 0x08, Event = 0x08) to the node of Group 1.

Configuration

The configurable values are as following:

Parameter Number	Parameter Function	Size	Range	Default
1	Set Basic Set Command value	2	0~99, 255(0xFF)	255 (0xFF)
2	Set the delaying time to report to Group 1	1	3 - 25 (seconds)	3
3	Set whether to remember the last status	1	1/0	1: remember (0: do not remember)
4	Set the interval for wattage auto report	2	1-32767 (minutes)	1
5	Set the interval for kW*h auto report	2	1-32767 (minutes)	60
6	Auto report when load surpasses the set value of wattage	2	0-3500 (W)	0 (0: does not report automatically)

7	Auto report when the change of wattage surpasses the set percentage	1	0-100 (%)	0 (0: does not report automatically)
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Metering

Supports kW*h, W, V, A, and PF:

Meter Type	Scale	Size	Precision
Electric Meter	0 (kW*h)	4	2
	2 (W)	4	2
	4 (V)	2	2
	5 (A)	2	2
	6 (PF)	1	2

Command Classes

The module supports Command Classes including...

- COMMAND_CLASS_ZWAVEPLUS_INFO_V2
- COMMAND_CLASS_SWITCH_BINARY
- COMMAND_CLASS_ASSOCIATION_V2
- COMMAND_CLASS_ASSOCIATION_GRP_INFO_V1
- COMMAND_CLASS_TRANSPORT_SERVICE_V2
- COMMAND_CLASS_VERSION_V2
- COMMAND_CLASS_MANUFACTURER_SPECIFIC_V2
- COMMAND_CLASS_DEVICE_RESET_LOCALLY_V1
- COMMAND_CLASS_POWERLEVEL_V1
- COMMAND_CLASS_SECURITY
- COMMAND_CLASS_SECURITY_2
- COMMAND_CLASS_NOTIFICATION_V4
- COMMAND_CLASS_CONFIGURATION
- COMMAND_CLASS_FIRMWARE_UPDATE_MD_V4
- COMMAND_CLASS_SUPERVISION
- COMMAND_CLASS_METER_V3
- COMMAND_CLASS_APPLICATION_STATUS_V1

Additional Command Classes Supported

- Firmware Update: For OTA function.

Troubleshooting

Symptom	Cause of Failure	Recommendation
Device not responding and LED not displaying	The device is not connected to the mains power correctly	Check if connection is correct, or voltage is too high or too low
	Device malfunction	Send the device to be repaired
LED displaying, but cannot control On/Off status of connected load	The connected load has its own on/off switch	Turn the switch of the connected load to On.
Can press button to control, but cannot control by RF	RF interference is occurring. Someone nearby might be emitting RF signal of the same frequency	Wait for a while and retry the operation

Specification

Power Input	220-240V/50Hz
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Maximum Load	Resistive load Max.3000W
Transmission Range	100 meters (Open space)
Working Temperature	-10°C - 40°C

***Specifications are subject to change without notice**



Warning:

Do not dispose of electrical appliances as unsorted municipal waste. Please use separate collection facilities instead.

Contact your local government for information regarding the available collection systems.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get in to the food chain, damaging your health and well-being.

When replacing old appliances, the retailer is legally obligated to take back your old appliances for disposal free of charge.

Caution :

For continued protection against risk of electric, replace only with same type and rating of fuse



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