

Meazon B-Plug



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Features & Technical Specifications

Meazon has developed “B-Plug”, a smart meter plug capable of **remote monitoring and controlling** energy consumption of a household and/or an industrial building.

It is a **wireless metering system** based on ZigBee Mesh network technology, featuring a unique design that combines low cost and high accuracy measurements.

Every metering device on the ZigBee network is associated with a ZigBee gateway. The role of the gateway is to periodically collect all measurements, gathered by the devices, in order to forward them to the **Meazon Cloud** for storage and further analysis.

Meazon Cloud gives users the ability to monitor the current energy consumption, set alarm rules, control their devices (on/off switching) and schedule them to operate in a desired pattern.

B-Plug is a high accuracy measuring and control device. It enables new features in your existing appliances or other devices. By placing the Type B plug between an outlet and any appliance in your home, you are adding automation features. Someone can switch on and off the device remotely, or we can upload a weekly schedule of on and off events. The device can act as a power analyzer by reporting all the electrical characteristics (voltage, active and reactive power and frequency).

With NB-IoT the device can become a powerful tool for the collection of data from the house without using the broadband connection of the home.

Communication Specifications

Communication protocol	ZigBee NB-IoT (Optional)
Frequency band	2.4GHz
Data communication interval	1 second (default 5 minutes)
Response in case of communication loss	Rerouting through Zigbee
Security - Communication Encryption	AES encryption 128 bits
Data Storage	Up to 25 days

Electrical Specifications

Operating Voltage / Frequency	100-240 Vac, 0,2A/ 50-60 Hz
Power loss Response	Automatic resumption of operation after power loss

Electrical measurements

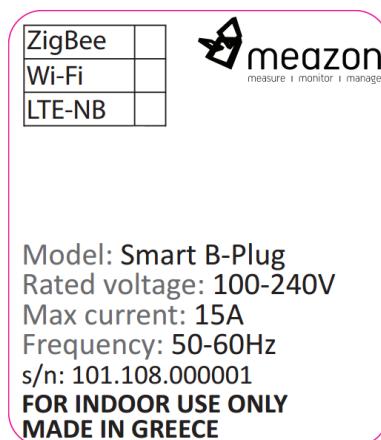
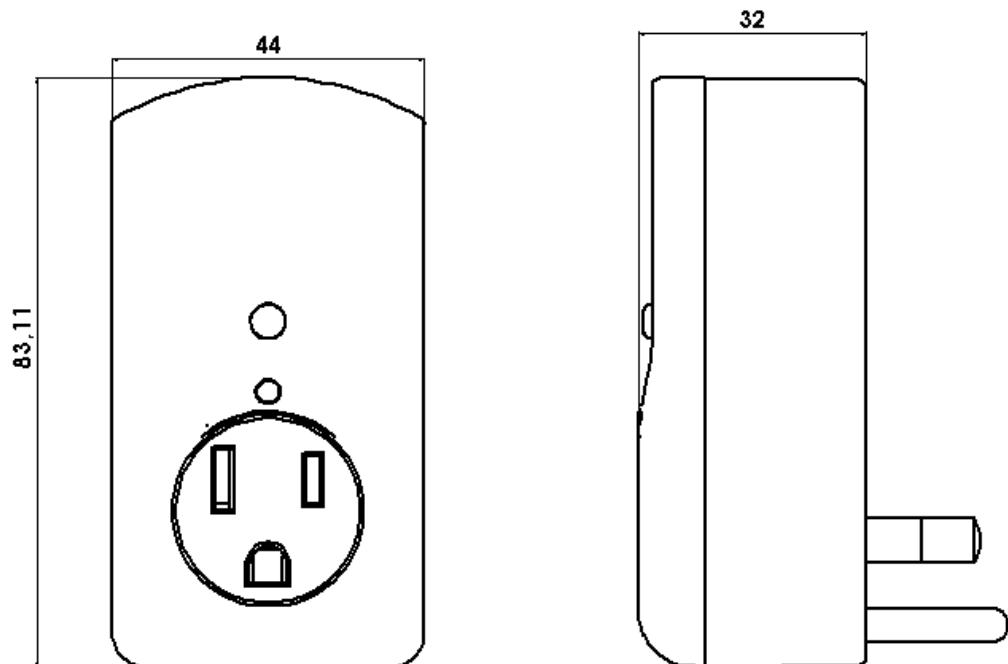
Electrical parameters measured	I _{rms} , V _{rms} , Active Power & Energy, Reactive Power & Energy
Ranges of measured parameters	Voltage: 100 to 240 Vac between phase and Neutral (**) Current: up to 15 Amps
Tolerance	+10% of nominal load (I _{ov})
Accuracy of measurements	<1% of reading measurement error (*)

(*) Accuracy refers to Electric Power Measurements

Mechanical and Environmental Specifications

Power Consumption	5VA
Dimensions (WxHxD)	44 x 83 x 32 (X,Y,Z in mm)
Operating Environment	Temperature: -20°C to 50°C Relative Humidity: 10% to 90% RH
Max. Altitude	2000m
Pollution degree	2

Meazon Smart B-Plug Dimensions and Labels

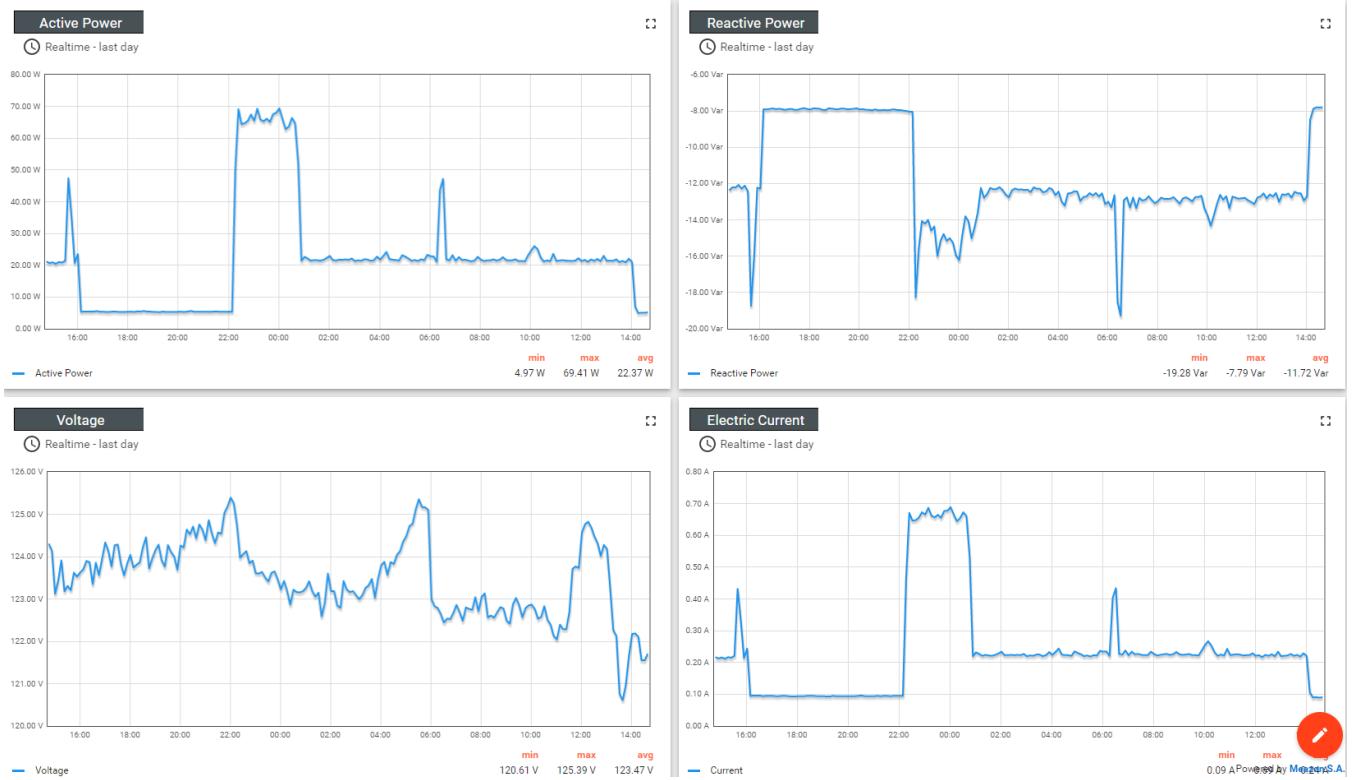


Installation and Usage

Insert the Bizy Plug into the socket, the LED will start blinking slowly (state of the LEDs will be further analyzed in the next chapters).



If we join the plug in a ZigBee Network (as described in the next chapter), it will transmit the data to our cloud platform. Then we will be able to see the metrics of our plug as following

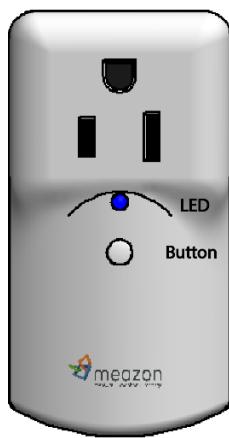


Join the ZigBee Network

When the LED of Bizy Plug is blinking slowly, it means that the Bizy Plug is currently not joined in any Zigbee network. After you press the button next the led once, the led will start flashing faster and the device is going to start searching for a network to join. If the Bizy Plug is near a Zigbee coordinator or router whose permit-join feature is enabled then the plug shall join that network. After joining a network the Bizy Plug LED will stop blinking and settle down to on or off.

During normal operation (after the Bizy Plug has joined a network) the LED indicates the state of its internal relay switch. If the LED is stable on, then the relay switch is also on and if the LED is off then the relay switch is off.

For extra LED functionality consider reading the next subchapter.



Bizy Plug Man – Machine Interface

While the plug is connected to a network, the bellow rules apply.

Meazon Bizy Plug offers a button next to the LED.

Tap instantly the button in the specified location of the Bizy Plug and the Bizy Plug will toggle its relay switch.

Hold the button of the Bizy Plug until the LED flashes once. If you stop pressing the button at that point, the Bizy Plug will get into identifying mode. During identify mode the LED will be flashing.

If you continue pressing the button after the double flash, after a while the LED will flash 3 times. If you stop pressing the button at that point the Bizy Plug will leave the network. This will restart the Bizy Plug and it will be ready to join a fresh network.

Device Status Based on LED Indications

Blue slow Blink	Orphan, scanning for net
Cyan/Green fast blink	Joined, relay ON
Blue fast Blink	Joined, relay OFF
Green fast Blink	Identifying

Button Usage

Button (when joined):

Pressed Once	Toggle relay
Pressed & Blink Once	Identify mode
Pressed & Blink Twice	EZ-Mode
Pressed & Blink Thrice	Leave network

FCC Information

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, and
(2) this device must accept any interference received, including interference that may cause undesired operation."

NOTE: 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:

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support@meazon.com +30 2610 430000 www.meazon.com

- 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
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF exposure warning :

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 20cm between the radiator & body.



Safety Information

Use this product only in the manner described in this manual. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Product may be cleaned with a clean soft towel. Do not use liquids to clean.

Product is not water resistant. If the unit gets wet, do not touch it. Power off and allow it to dry thoroughly before further operation.

Do not disassemble the product. There are no spare parts for this, it is not repairable. If physical damage to the product occurs, do not use. Replace with a new one.

About Meazon

Meazon acts as a catalyst to the energy efficiency market. We design and manufacture revolutionary small size energy meters and integrate them with cloud technology. We build on open standards and provide insights in energy consumption of commercial and residential buildings. This way we drive significant energy efficiencies. For more information visit www.meazon.com.



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