

*ZigBee*TM-Power Socket with Energy Consumption Monitoring

Power Outlet User Manual

Model:

Z805PE for Power & Energy

Z805UI for Voltage & Current

Energy Consumption Monitoring Series

Power Outlet

Power & Energy -Z805PE

Voltage & Current -Z805UI

Other Netvox related devices Switch controller

- Simple controller Z501 series
- Multiple/Scene controller Z503
- Wall switch ZB02 series
- Light sensor Z301B
- Full application software ZiG-Butler



Figure: Z805PE & Z805UI

Z805 is a power socket device with power consumption monitoring feature. In the network, Z805 functions as a router device in the network which permit join other devices to the network. The device can be bind with a ZigBee enabled on/off remote device to control. It can be switch on or off the appliance attached to it upon receipt of a control command. It can also be done manually from the switch. Netvox has its proprietary energy management system such as ZiG-BUTLER software to view power or current consumption.

ZigBee is a short range wireless transmission technology which defined for a minimum complexity, low power consumption, low data rate, cost effective wireless solution. ZigBee lies in between wireless markup technology and Bluetooth. ZigBee is based on IEEE802.15.4 standard, the mutual co-ordination between thousands of sensors to exchange data. Sensor to sensor or node-to-node communication is achieved through relays of control data between devices with only a fraction of energy use which denoted for highly transmission efficiency.

Note: Wireless communication, in some real use cases, can be limited by the signal blockage. Please consult your service provider or place of purchase.

Setting up the Z805 and network

Here are the summarized steps

- (1) Powering on the device.
- (2) Join it into the existed network. Note: when successfully joined, we strongly suggest you to allow 1 minute performing self calibration on the meter before it is ready to take load. This is particular important for correct reading.
- (3) Bind the device with other device where applicable (i.e. bind it with a ZigBee switch for wireless control).
- (4) When it is bind with a controlling device it is then ready to be used.
- (5) Power/current consumption monitoring

Step 1: Power on the device

To connect the device to the power source, wire the live wire labeled L (IN) and the neutral N to the 100-240V AC. To control your unit connect your appliances or machine to the L (OUT) and N.

Step 2: Join the network

When Z805 is powered, it will search for an existed network and will ask to join the network of the same channel automatically. If it is within a coordinator or other router coverage area, it is permitted to join. The LED indicator on the Z805 will flash. A non-flashing solid light indicates success join otherwise the indicator stays dark.

Step 3: Binding

Z805 can be bound with a ZigBee enabled Home Automation on/off switch -Netvox Z501, for wirelessly control within the network coverage area.

Binding operation: (*note: make sure the cable near S1 should not be connected*) To send out the binding request, press the bind key for 3 seconds -the indicator light flashes once. Now quickly do the same to the other device you wish to bind with. If binding failed the light indicator on Z805 will blink 10 times. The light is normal when binding is successful.

Step 4: How Z805 is controlled

A switch control device that is bound to Z805 may sent on or off command when you press a on or off button, the contact of the relay in the Z805 would either closed or open the circuit.

Z805 can also be controlled by a manual switch attached on the S1 cable.

Step 5: Match

Connect S1 cable, hold and press the binding key for 3 seconds -the indicator flashes once, to send out Match request to the air. The indicator flashes 6 times if successful.

Step 6: Power/Current consumption monitoring

When the load is attached to Z805 and is up running, the embedded meter monitors the supplied voltage and current consumption for Z805UI (or load power and overall power consumption over time for Z805 PE). Z805 reports the readings to the **matched** display device periodically and the user can watch the readings on the application software on the host computer.

Permit to join

Z805 is featured to be a router in the network. It permits join other devices to the network. This is particularly useful when coordinator is not within the coverage area. By default the router does not allow permit-to-join function in normal operation. You would need to enable this feature by simply hold press the binding key on Z805 the indicator light will blink the permit join is enabled and the device is joined. Please note that the maximum waiting to join period is 60 seconds -blinks 60 times. Repeat the process if you missed the 60 seconds period.

Restore to factory setting

Z805 is capable of storing and saving includes network routing information. If you wish to remove Z805 from an exited network, you would need to clear the saved routing information to join to a new network by simply reset the device to restore to the factory setting.

Remove Z805 from the power socket, use a pin and hold on to the binding key. While doing so, plug Z805 back to the power socket to give power then release the pin. Now the device is restored to the factory setting and is ready to join to a new network.

End-user specification

At the time of power recovery from power outage, by default the device remains turned off at the output. This may sometimes cause inconvenience to the user finding the fridge isn't functioning after the power recovery. Netvox offers End-User requirement before shipment that means we can change the default output position to which you want it; whether power stays **on, off or remember you previous status** in the time of power recovery, we can make it to suit different home appliance for you. Just let us know in the time of your order.

Device attributes description

Z805 uses attribute of current, voltage or power and is presented by their Cluster ID and Attribute ID. These are Netvox defined parameters. There are four attributes under Cluster ID 0x0702 namely the current attribute 0xE000, the voltage attribute 0xE001, the power attribute 0xE002 and the energy attribute 0xE003. The realization of on or off control commands are basically the On/Off/Toggle commands specified in Home Automation Profile. The attribute format is given bellow.

Cluster ID 0x0702

Current Attribute

Attribute ID: 0xE000Name : MainsCurrentType:Unsigned 16-bits IntegerRange:0x0000-0xFFFFAccess: Read OnlyDefault: 0x0000

Voltage Attribute

Attribute ID: 0xE001	Name : Ma	ainsVoltage	Type:Ur	signed 16-bits Integer
Range:0x000	0-0xFFFF	Access: Read	Only	Default: 0x0000

Power Attribute

Attribute ID: 0xE002	Name : Ma	ainsPower	Type:U	nsigned 16-bits Integer
Range:0x000	00-0xFFFF	Access: Read	l Only	Default: 0x0000

Energy Attribute

Attribute ID: 0xE003	Name: MainsEnergy	Type:Unsigned 32	-bits Integer
Range:0x00	000000-0xFFFFFFFF	Access: Read Only	Default: 0x00000000

Units

Current unit	mA
Voltage unit	V
Power unit	W
Energy unit	wh

Something you want to know

1. For monitoring accuracy, please allow Z805 to do one minute of self calibration. Self calibration is performed immediately it is joined into a new network. Remember to perform factory restore when join into a new network.

2. While performing binding or **matching**, make sure no loads are attached to Z805.

3. This device involved high AC voltage and may cause hazard to the user. We strongly suggest you to use a non-conductive pin to do reset. Any conductive material such as paper clipper is strongly not encouraged.

Important Maintenance Instructions

As the device is not water proof it is recommended to keep the device in a dry place. Liquid and heavy moisture contains minerals that may oxidize the electronic circuitry. In case of liquid spill, please leave the device to completely dry before storing or using.

• Do not use or store the device in a dusty area. Dust may cause electronic parts to destroy.

• Do not use or store the device in an over heated place. Store in a hotter temperature than the suggested maximum temperature may shorten the life span of the device; and may damage the battery and causing the housing to deform.

• Do not use or store the device in a very cold place than the suggested minimum temperature. The water can be condensed inside the device when moving to an area that is higher in temperature. This can severely damage the PCB board and circuitry. This may shorten the life span of the device; damage the battery and cause the housing to deform.

• Do not throw or strongly vibrate the device. This may damage connectivity of the electronic parts and other sensitive components on the PCB board.

- Do not use any strong chemical or washing to cleanse the device.
- Do not use any coloring materials on any removable parts which my cause poor connections and may keep the device from function properly.

All the above applies to the purchased products, battery and other packaged items. If any unusable or damaged items are found please return the product to your nearest authorized repairing center.

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