zoOZ ZAC93 LR 800LR Z-Wave GPIO Module User Manual

**ZAC93 LR 800LR Z-Wave GPIO Module
User Manual**

800LR Z-WAVE GPIO MODULE ZAC93 LR
FCC ID: 2AZ2V-101222-ZAC93
www.getzooz.com

Contents

FEATURES

- Z-Wave Plus Static Controller to easily add Z-Wave communication to your smart home ecosystem
- Latest S2 security protocol for a truly private network
- 800 Series Long Range Z-Wave for fast, low-power direct communication
- Extended range up to a mile in open space when using Long Range
- Designed for Raspberry Pi and Home Assistant Yellow hardware

SPECIFICATIONS

- Model Number: ZAC93 LR
- Power: 3.3 VDC
- SDK: 7.18.3

- Operating Temperature: 32-104° F

- Operating Humidity: Up to 85%

- Installation and Use: Indoor only

- Dimensions: 1.1″ x 1.1″

Use this 800 Series Z-Wave Plus GPIO Module as a wireless radio for your host controller, such as Raspberry Pi. Follow the detailed instructions in the link below to connect the module. Please proceed with caution when installing the device.

https://www.support.getzooz.com/kb/article/1215-zac93-800-gpio-module-installation-guide/
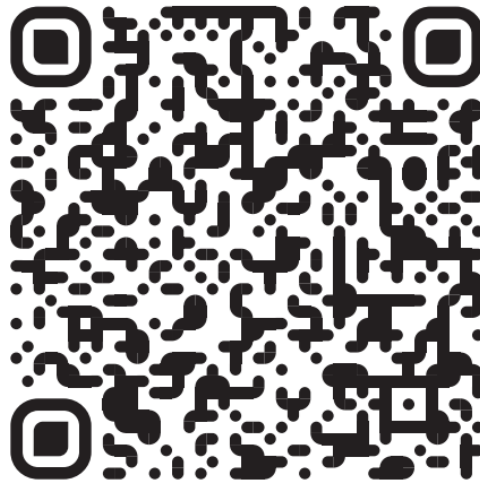
Scan the code with your phone's camera and click on the link to access detailed installation instructions for the GPIO module.

Once the controller is set up and connected to your home automation soared, you can enjoy a fully secure, private Z-Wave Plus mesh network. If the soared supports Z-Wave Long Range, enable direct communication between your devices and the controller for supreme range up to 1 mile and a larger network size up to 4000 nodes.

Questions? **ask@getzooz.com**

GPIO MODULE AS SECONDARY CONTROLLER

You can use the GPIO module as a secondary controller to your current Wave system if it accepts additional controllers.

To enroll the module in your current system, send the inclusion command and put the module into learning mode, using the Serialppon mode in the interface.

FACTORY RESET

The GPIO Module can only be reset by the host soared while it's in Serialppon mode. The device is reset once an appropriate command from the host soared is sent to reset the Z-Wave network.

There is no way to manually reset the module without a connection to the host soared.
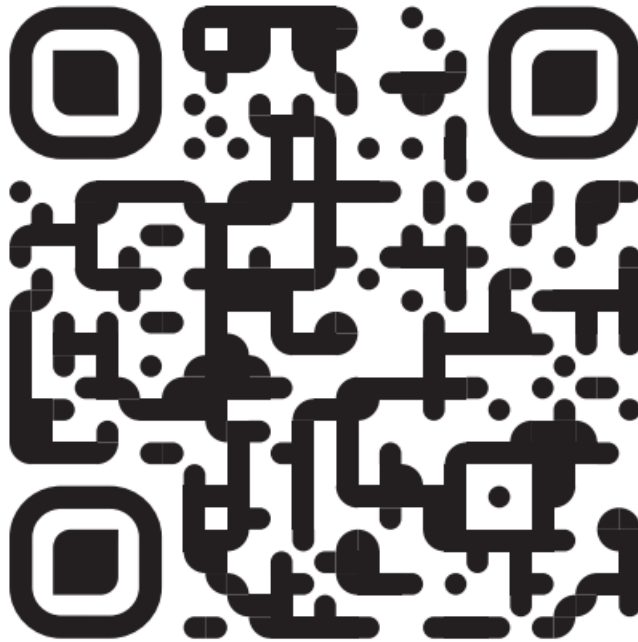
Scan to register your product for extended warranty, priority customer service, and more perks.

⚠️ **WARNING**

- This product should be installed indoors upon completion of any building renovations.
- Do not install the device in a place with direct sun exposure, high temperature, or humidity.
- Keep away from chemicals, water, and dust.
- Ensure the device is never close to any heat source or open flame to prevent fire.
- Ensure the device is connected to an electric power source that does not exceed the maximum load power.
- No part of the device may be replaced or repaired by the user.

This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers and/or other applications. All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. This product features the latest Security 2 (S2) framework to remove smart home network hacking risks. This de-vice is equipped with a unique authentication code for trusted wireless communication.

WARRANTY

This product is covered under a standard 12-month warranty and an extended 5-year limited warranty once registered. To read the full warranty policy or file a warranty claim, please go to: **www.getzooz.com/warranty**

FCC NOTE
THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT. STORE INDOORS WHEN NOT IN USE. SUITABLE FOR DRY LOCATIONS ONLY. DO NOT IMMERSE IN WATER. NOT FOR USE WHERE DIRECTLY EXPOSED TO WATER.
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following conditions:

1. This device may not cause harmful interference,

2. This device must accept any interference received, including interference that may cause undesired operation. 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 according to instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in any given installation. If this equipment causes harmful interference to radio or television reception, the user may try to correct the interference by taking one or more of the following measures:

   – Reorient or relocate receiving antenna

   – Increase the separation between equipment and receiver

   – Connect the equipment into an outlet or a circuit different from that to which receiver is connected.

   – Consult the dealer or an experienced radio/TV technician for help

3. Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

2.3 Specific operational use conditions
The module is an SRD module.
Operation Frequency: 908.40 – 916.00 MHz (DXX), 912 – 920 MHz (DTS)
Modulation: 2FSK, 2GFSK, OQPSK
Type: On-board PCB antenna Gain: -2.75 dBi
The module can be used for mobile or applications with a maximum -2.75 dBi antenna. The host manufacturer installing this module into their product must ensure that the final Composite product complies with the FCC requirements by a technical assessment or evaluation to the FCC rules, including the transmitter operation. The host manufacturer has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.
2.4 Limited module procedures
Applicable. The module is a Limited module and complies with the requirement of FCC Part 15.249 & 15.247.
According to FCC Part 15 Subpart C Section 15.212, The radio elements must have the radio frequency circuitry shielded. However, due to there is noshed for this Module, this module is granted as a Limited Modular Approval. When this Module is installed into the other host, a Class II Permissive Change or a New FCC ID submission is required to ensure the full compliance of FCC relevant requirements.
2.5 Trace antenna designs
Not applicable. The module has its own antenna, and doesn't need a host's printed board microstrip trace antenna etc.
2.6 RF exposure considerations
The module must be installed in the host equipment such that at least 5mm is maintained between the antenna and users' body; and if RF exposure statement or module layout is changed, then the host product manufacturer required to take responsibility of the module through a change in FCC ID or new application. The FCC ID of the module cannot be used on the final product. In these circumstances, the host manufacturer will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

2.7 Antenna Specification are as follows:

Type: On-board PCB antenna, MAX peak Gain: -2.75 dBi This device is intended only for host manufacturers under the following conditions:

The transmitter module may not be co-located with any other transmitter or antenna;

The module shall be only used with the internal antenna(s) that has been originally tested and certified with this module. The antenna must be either permanently attached or employ a 'unique' antenna coupler.

However, the host manufacturer is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

2.8 Label and compliance information

Host product manufacturers need to provide a physical or e-label stating "Contains FCC ID: 2AZ2V-101222-ZAC93" with their finished product.

2.9 Information on test modes and additional testing requirements Operation Frequency: 908.40 – 916.00 MHz (DXX), 912 – 920 MHz (DTS) Modulation: 2FSK, 2GFSK, OQPSK

Host manufacturer must perform test of radiated & conducted emission and spurious emission, etc according to the actual test modes for a stand-alone modular transmitter in a host, as well as for multiple simultaneously transmitting modules or other transmitters in a host product.

Only when all the test results of test modes comply with FCC requirements, then the end product can be sold legally.

2.10 Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is only FCC authorized for FCC Part 15 Subpart C 15.215 & 15.205 & 15.207 & 15.209 & 15.249 & 15.247 and that the host product manufacturer is responsible for compliance to any other FCC rules that apply to the host not covered by the modular transmitter grants of certification. If the grantee markets their product as being Part 15 Subpart B compliant (when it also contains unintentional-radiator digital circuitry), then the grantee shall provide a notice stating that the final host product still requires Part 15 Subpart B compliance testing with the modular transmitter installed.

© Zoos 2023

ZAC93 800 GPIO Module Installation Guide

Here are some tips for installing your GPIO module on the host hardware of your choice and for setting it up with your home automation software. Please remember that this device is for expert users only and we're not able to provide troubleshooting or support for the smart home software you're using. Please refer to the support channels of the software for any questions with Z-Wave installation and device management.

Home Assistant Yellow Installation

Connect the ZAC93 GPIO module to the "Wireless smart home" pins located in the bottom left corner of the HA Yellow board, right next to the Zigbee chip.

Just like in the images below:
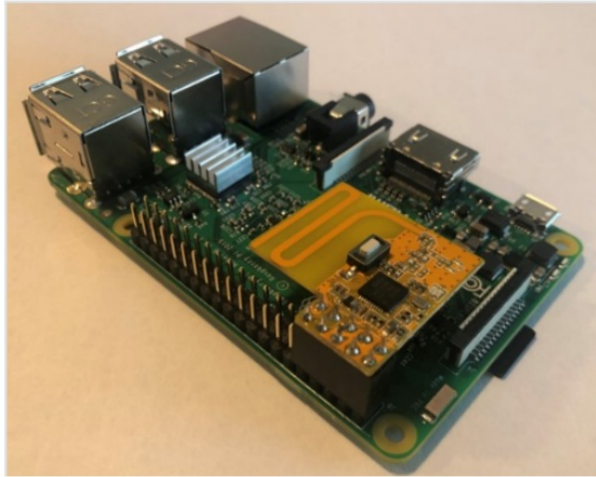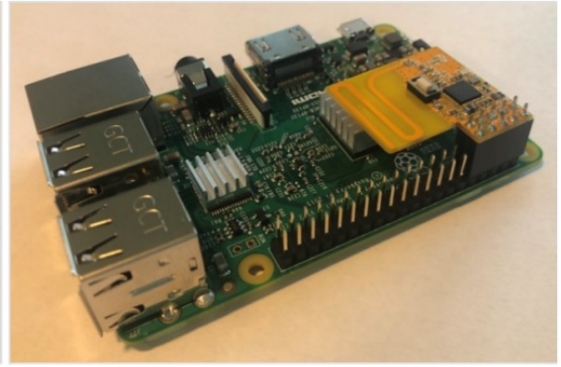
Never force any connections as these are fragile electronic components.

Once the GPIO module is connected, you can access it on the Home Assistant software through the dev/ttyAMA0 port. It may show as an unknown manufacturer device but this will not affect performance or functionality in any way. Proceed with installing Z-Wave JS on your Home Assistant software according to the instructions here.

If you need any assistance with your Home Assistant set-up, please refer to the available platform resources such as the community forums for general help and report any issues on GitHub or Discord.

About Raspberry Pi

PI motherboard (Raspberry PI) is a microcomputer based on ARM processor. By carrying our ZAC93 GPIO module, the motherboard can realize the function of Z-Wave micro gateway.

ZAC93 GPIO module can be installed on Raspberry Pi series models (e.g. Raspberry Pi 4, etc.).

Connect the ZAC93 GPIO module to pins 1-10.

– Professional installation requirements:

1. These are the same pins reserved for Bluetooth so please make sure you disable Bluetooth first.

2. Reserve enough space on the PI motherboard to prevent physical space interference with the ZAC93 GPIO module.

3. The module is installed with the corresponding interface (see Figure 1), and is one-to-one connected with the standard interface (pin 1-10) on the PI motherboard (see Figure 2).

4. The ZAC93 GPIO module is powered by the standard 3.3V power supply on the PI motherboard, as shown in Figure 3 after installation.

5. The ZAC93 GPIO module with PCB antenna. Do not use metal or conductive material to cover the product during use, otherwise the wireless performance will be seriously affected.

6. The device is only for indoor use.

9.GND	7.IO2	5.SCL	3.SDA	1.3V3
10.TXD	8.RXD	6.GND	4.NC	2.NC
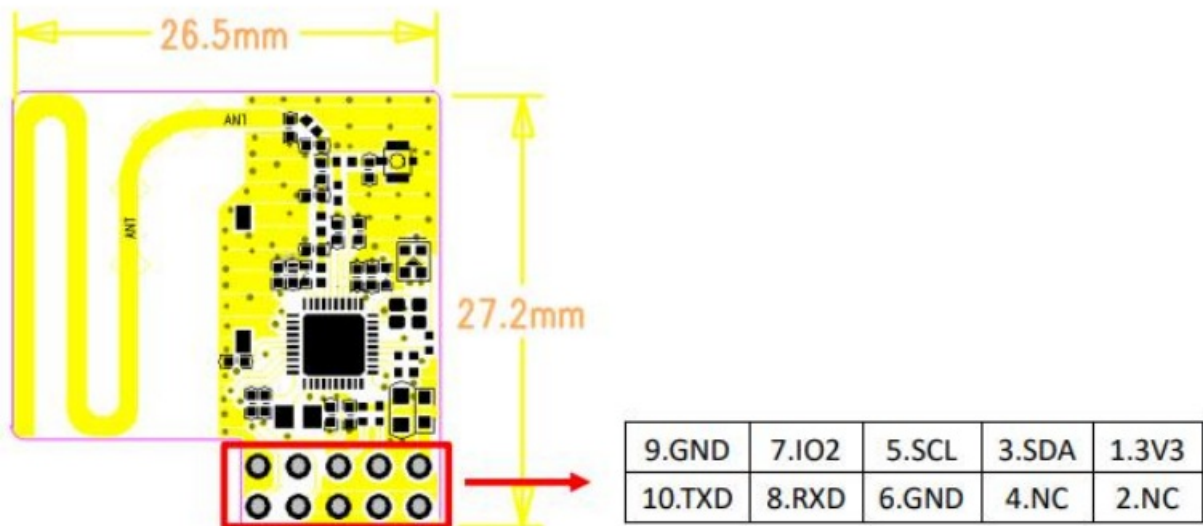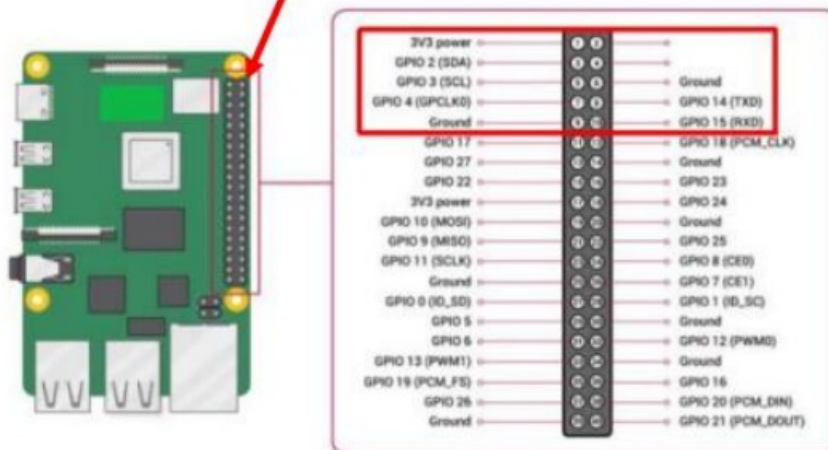
Figure 1

Figure 2

Figure 3

Once the GPIO module is installed on the Pi, proceed with your software installation according to the set-up instructions for your smart home interface. Use the dev/ttyAMA0 port to access your GPIO module.

If there is a hardware problem with your ZAC93 module, please get in touch with our team 7 days a week and we'll assist you with getting the device serviced. Please register your product to unlock an extended 5-year warranty.

zooz™
bright ideas

Documents / Resources

zooZ ZAC93 LR 800LR Z-Wave GPIO Module [pdf] User Manual
101222-ZAC93, 2AZ2V-101222-ZAC93, 2AZ2V101222ZAC93, ZAC93 LR 800LR Z-Wave GPIO Module, 800LR Z-Wave GPIO Module, Z-Wave GPIO Module, GPIO Module

Manuals+,