

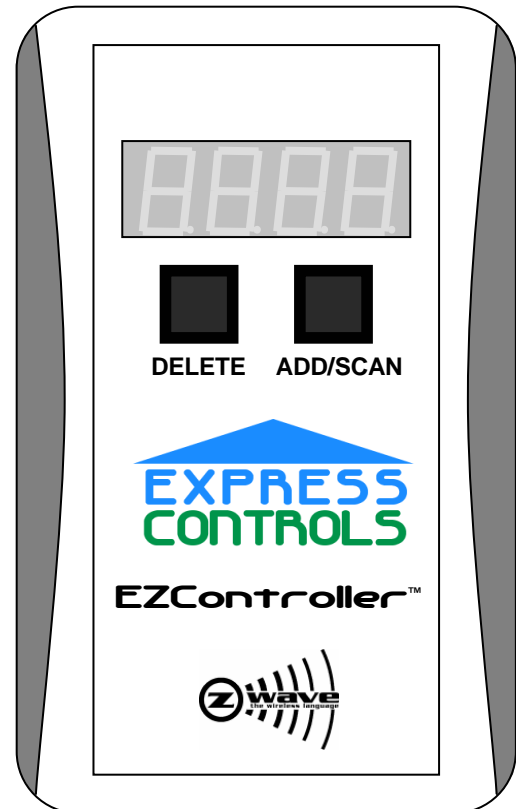


EZController™

Z-Wave Serial (RS232) Computer Interface

Features

- Z-Wave Wireless RF Communication
 - Advanced Mesh Network Protocol
 - 100 ft Range
 - 40,000 bits/sec
 - Battery Powered Portable Controller
- Z-Wave Class Support
 - SerialAPI
 - Primary Controller
 - Installer Controller
- User Interface
 - 4 Digit Status LED
 - Add/Delete any Z-Wave Device
 - Scan for ZWave NodeID
- Serial Communication
 - 115.2K BAUD
 - RS232 Compatible
 - 9-pin DSUB cable
- Power Supply
 - 110V Power Supply
 - 2 AA batteries
- Made in USA



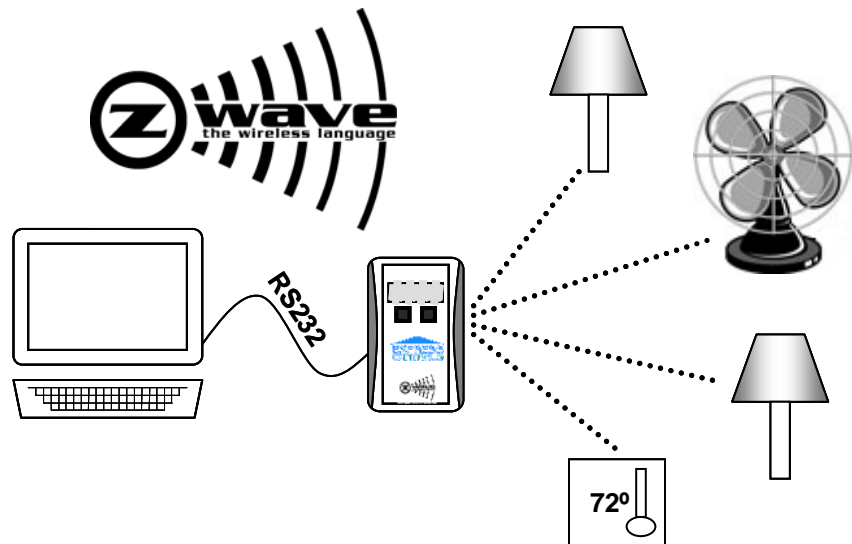
March 2008

The Quick and Easy Way to Control Your Home



Introduction

The EZController™ from Express Controls provides the interface between a computer and a Z-Wave® network of intelligent home control devices. The Z-Wave network is built using the EZController and new nodes can be added to the network at anytime. Z-Wave enabled devices can be controlled wirelessly from any computer with a standard RS232 serial port.



Z-Wave is a wireless mesh-networking protocol for reliable, intelligent home control of all Z-Wave compatible devices. Z-

Wave devices can act as repeaters to create a mesh-network to insure reliable communication regardless of the manufacturer or type of device. Z-Wave devices such as lamp modules, fan controllers, thermostats, dimmer switches and many other types of home control devices are available from a wide range of manufacturers The Z-Wave Alliance (www.z-wavealliance.com) provides a list of manufacturers of Z-Wave compliant devices. Z-Wave was created by Zensys Inc (www.zen-sys.com).

The EZController provides the *interface* between a computer and the Z-Wave network. Typically a home control software package such as HomeSeer (www.homeseer.com) is used to *control* the devices. HomeSeer supports EZController directly so no drivers, scripts or complex interfaces are required. Just plug EZController into your computer and HomeSeer will identify EZController and all of the devices in your Z-Wave network.

Quick Start

1. Unpack the EZController
2. Install batteries in the back of EZController
3. Reset the device:
 - a. Press and HOLD the DELETE button of EZController.
 - b. Press the button on the Z-Wave device
 - c. The LED will display DONE when the device has finished resetting
4. Add the device:
 - a. Press and HOLD the ADD/SCAN button of EZController
 - b. Press the button on the Z-Wave device
 - c. The LED will display the NodeID
5. Write down the NodeID displayed on EZController
6. Repeat steps 3-5 for each Z-Wave device
7. Connect the power supply to EZController
8. Connect the computer cable from EZController to the home control computer
9. Enjoy your new Z-Wave networked home!



Detailed Instructions

Installation of the EZController begins with unpacking the contents of the box. The EZController consists of the following components:

1. EZController
2. Power supply
3. Computer cable

Connect the round end of the computer cable to the EZController and the other end to a serial port on the computer that is running your home control software.

Connect the power supply to the wall outlet and the other end to the EZController .

The EZController should display a sequence of digits on the LED display:

The first value is **INIT** which indicates that the unit is initializing.

The second value displayed is the revision number of the software in the EZController.

The third value displayed is the last four digits of the Z-Wave HomeID. The first four digits are always 0x003D (hexadecimal).

You are now ready to begin building your Z-Wave network. The EZController is intended to be the primary controller and the interface to the computer running home control software such as HomeSeer Technologies HS2. As a Z-Wave primary controller, the EZController is used to build the Z-Wave network in your home.

Adding Devices

When adding Z-Wave devices to a network, the EZController must be within three feet of the Z-Wave device. To allow the EZController to be close to the Z-Wave device, the EZController is battery powered. Insert two AA batteries into the battery compartment on the back of the EZController. Be sure the polarity of the batteries matches the diagram inside the battery compartment.

Unplug the power supply from the EZController. The LED will display **b 12** to indicate that the unit is now operating on batteries. The EZController will also display a brief message of **b 12** where the 12 digits will display how much battery power is left (12% in this case). When the battery value goes down to 0, the EZController will turn off. The batteries should be removed after building the Z-Wave network. When the EZController is connected to its power supply, it will display **AC** indicating that unit is connected to the 110V Alternating Current (AC) power from the wall.

You need at least one Z-Wave compatible device such as a lamp dimmer, motion sensor, handheld remote control or any other Z-Wave device to build the Z-Wave network. The first step is to be sure the Z-Wave device to be added to the Z-Wave network is properly "RESET". To Reset a Z-Wave device, simply press the left button (DELETE) on the EZController and HOLD it down. While holding the DELETE button down, press the button on the Z-Wave device. When the device is properly reset, EZController will display **done**. Release the DELETE button once DONE is displayed.

To add a Z-Wave device to the network ("Add" is referred to as "Inclusion" in Zensys terminology), press the right button (ADD/SCAN) on the EZController and HOLD it down. While holding the ADD/SCAN button down, press the button on the Z-Wave device. When the device has been added, the NodeID for the device will be displayed. Write down the NodeID and the type and location of the Z-Wave device for later identification in your home control software. Note that after adding a number of nodes, the EZController may display **hold** after pressing the button on the Z-Wave device. This indicates that you should continue to HOLD the ADD/SCAN button down and that the Z-Wave device is busy being added to the network. Each time a node is added to the network, it checks to see what other nodes are neighbors and this can take a progressively longer amount of time (up to a few seconds).



Continue to add all of the Z-Wave devices in your network using the EZController. Once all devices are added, connect the EZController back to your home control computer, reconnect the power supply and remove the batteries. Refer to your home control software on how to load and configure your Z-Wave network. At this point you may want to do a “ReDiscovery” of the connectivity of your Z-Wave network. This will insure the most reliable operation of your Z-Wave network.

Deleting/Resetting Devices

Devices can be deleted (“Delete” is referred to as “Exclusion” in Zensys terminology) from the Z-Wave network in two ways:

1. Press and HOLD the DELETE button on EZController and press the button on the Z-Wave device; or
2. Use your home control software (see the software manual for details).

Deleting a device resets it back to its default state so that it can be added to any Z-Wave network. **It is recommended to always RESET a device before trying to add it to your Z-Wave network to insure that the Z-Wave device is in its default setup.**

Scanning Devices

You may need to determine the NodeID of a particular Z-Wave device so that it can be properly identified in your home control software. Pressing and releasing the ADD/SCAN button of the EZController will put it into SCAN mode. The LED will display a rolling series of “. . . .” indicating that EZController is currently scanning for NodeIDs. Press the button on the Z-Wave device while the dots are scrolling and the NodeID will be displayed. After about 5 seconds, EZController will stop scanning and go back into its normal mode.

Connecting to a computer

The computer connection requires an RS232 Serial Port. Some new computers do not come with a Serial Port but a low-cost USB to Serial port interface can be purchased separately to connect to the EZController. The serial port should be configured for:

- 115,200 Baud
- 8 Data Bits
- No Parity
- 1 Stop Bit
- No Flow Control

When connecting the EZController to the RS232 serial port of a computer, the display to read “Conn” indicating that the cable is good and the connection to the computer should be working. When the cable is unplugged, the display will read “disc” indicating that the computer is now disconnected.

Status Display

When the EZController is communicating with a Z-Wave device, the NodeID of the device is displayed on the LED. Only the most common commands are displayed on the LED so the EZController may be communicating with a Z-Wave device without displaying any status.

Replicating a controller

Creating a secondary controller is a simple task with EZController; however it requires support from the home control software running on the computer. Follow the instructions in your home control software to create secondary controllers. The EZController is normally the “primary” controller of a Z-Wave network and is not programmed to be a secondary controller, but it can be. The EZController can be included into an existing Z-Wave network as a secondary controller but it requires the use of the home control software and the SerialAPI to do this.



Rediscovery

Rediscovery is a key feature of the EZController. Rediscovery requires support in your home control software. When a Z-Wave network is having difficulties in reliably passing data, rediscovery will often repair the network and improve its performance. The rediscovery feature allows all the nodes in the network to determine who their neighbors are and update the routing tables so that reliable data transfer can take place.

Updating Software

The software running on the EZController (sometimes referred to as Firmware) can be updated to provide new features or fix bugs. Software updates require support from your home control software. Extreme care must be taken when updating the software in EZController. If the process is unable to complete without error, then the unit may no longer function and will have to be returned to the factory for reprogramming.

The key when updating the software is to be sure that the power is plugged in and the computer downloading the new software is not doing any other tasks. Updating the software takes about 2 minutes to download. When the software is being downloaded, the LED will dimly display all 4 dots indicating the update process has begun. As the software is being downloaded, one of the LED dots will blink on and off as each section of software is downloaded. When the process completes properly, the EZController should go through its normal initialization sequence. **It is recommended to remove the batteries and unplug EZController and then reapply power after updating the software to insure the unit is fully updated.**

Software Interface

EZController software interface is the standard “SerialAPI” provided by Zensys with some additional features that allow EZController to be battery operated. The SerialAPI includes commands to determine the capabilities of EZController. Details of the SerialAPI can be obtained directly from Zensys or from Express Controls under a Non-Disclosure Agreement.

Troubleshooting

Problem	Solution
LED does not come on when plugged in to the power supply	Double check the connections between the power supply and EZController and be sure there is power in the outlet that the power supply is connected to. Disconnect the power supply, remove the batteries and install fresh batteries. If it still doesn't work, return the unit to the factory for repair/replacement if still under warranty
Cannot get a Z-Wave device to ADD to EZController	Reset the device by following the DELETE procedure – Press and HOLD the DELETE button on EZController and press the button on the Z-Wave device. Then try to ADD it.
Cannot get a Z-Wave device to reset when EZController is running on batteries	Carry the power supply to the device to be reset and connect EZController to the power supply. Even when the batteries are brand new, EZController is running at a lower voltage than it is when it is plugged in. This lower voltage can result in less reliable communication.
LED displays FAIL during DELETE or ADD	Typically this is caused by the device not being reset. Reset the device again and then try to add it. You can also try to reset it with another hand-held controller and then try to add it with the EZController.

Regulatory Information

Z-Wave

Z-Wave Certified under Version 8 of the Z-Wave certification program.
 Certificate #ZC08-08020001.

Products that speak Z-Wave work together better™

Z-Wave is a registered trademark of Zensys Inc. and/or its subsidiaries.



Warranty Information

LIMITED 2 YEAR WARRANTY

If within two (2) years from the date of purchase, this product fails due to a defect in material or workmanship, Express Controls will repair or replace it, as its sole option, free of charge. This warranty is extended to the original household purchaser only and is not transferable. This warranty does not apply to: (a) damage to units caused by accident, dropping or abuse in handling, acts of God or any negligent use; (b) units which have been subject to unauthorized repair, opened or otherwise modified; (c) units not used in accordance with instructions; (d) damages exceeding the cost of the product; (e) batteries or damage caused by leaking batteries; (f) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (g) transit damage, initial installation costs, removal costs, or reinstallation costs.

EXPRESS CONTROLS WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY MODIFIED TO EXIST ONLY AS CONTAINED IN THIS LIMITED WARRANTY, AND SHALL BE OF THE SAME DURATION AS THE WARRANTY PERIOD STATED ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON THE DURATIONS OF AN IMPLIED WARRANTY, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

This warranty service is available by either (a) returning the product to the dealer from whom the unit was purchased, or (b) mailing the product, along with proof of purchase, postage prepaid to the authorized service center listed below. This warranty is made by: Express Controls – www.ExpressControls.com. Please, be sure to package the product securely to avoid shipping damages.

Technical Specification

For Indoor Use Only

Operating Temperature Range: 0°C to 40°C

RF Range: 100 feet line of sight

RF Data Rate: 9600Baud, 40KBaud

RF Frequency: 908Mhz (US), 868Mhz(EU)

RF Interface: ZW0301

Power Supply: 110VAC - +5VDC 100mA

2 AA Batteries (not included)

Serial Port Interface:

- 115,200 Baud
- 8 Data Bits
- No Parity
- 1 Stop Bit
- No Flow Control

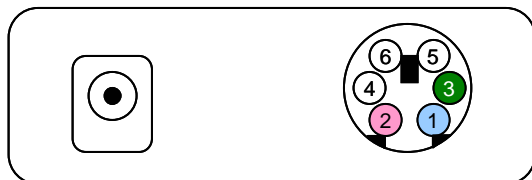
Z-Wave Class Support:

Primary Controller

Installer Controller

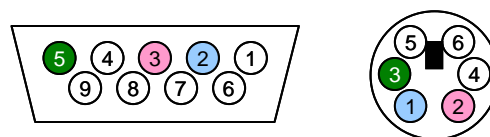
SerialAPI

Connector Diagram



Female MiniDIN6	PC Signal	EZctr Signal
1	RX	TX
2	TX	RX
3	Ground	Ground

RS232 DB9 to MiniDIN6 Adaptor



Female DB9	Male MiniDIN6	Signal (PC)
2	1	RX
3	2	TX
5	3	Ground