EZMultiPli™

Z-Wave Wireless Plug-In Multi Sensor:

- Motion Sensor
- Light Sensor
- Temperature Sensor
- Color Indicator/Night Light
- Wall Powered
- Z-Wave Range Extender

Features

Motion Sensor
- Passive Infrared Sensor (PIR)
- 12’ range
- 90° coverage
- Programmable timeout
- Direct control of up to 4 associated devices

Temperature Sensor
- 0° - 170°F range
- 0.2°F resolution

Light Sensor
- light level 0-10,000 lux

Color Indicator Night Light
- Eight colors
- White, red, green, blue, aqua, yellow, pink, black

Wall Powered
- 120VAC 60Hz 1Watt
- No wires - just plug it in
- Never needs batteries

Z-Wave® Wireless RF Communication
- Advanced mesh-network protocol
- Range extender improving network for all nodes
- 300’ RF range line-of-sight
- 100,000 bits/sec
- Up to 4 associated Z-Wave nodes
- Network wide inclusion
- Over the air firmware update
- Fifth generation radio technology
- Pushbutton to factory reset or join network

Designed and assembled in USA

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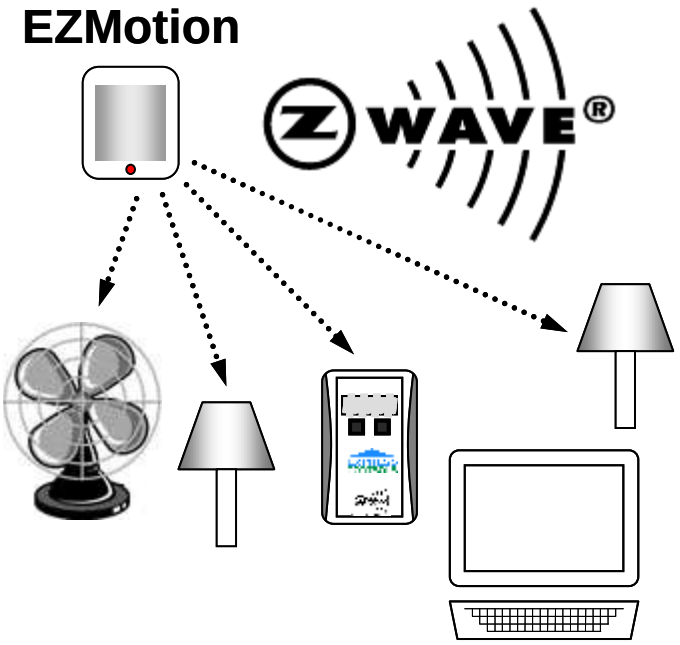
Introduction

EZMultiPli™ enables fully automated lighting that turns on the lights when you enter a room and turns them off shortly after you leave. Sophisticated lighting, Audio, Video and heating/cooling are enabled with the EZMultiPli™ three-sensors-in-one Z-Wave® device.



EZMultiPli is primarily intended as a motion sensor that will detect motion and send a command to up to 4 associated Z-Wave devices as well as the system controller. The other Z-Wave devices can directly control lights in a room or the motion indication can be sent to a computer for complex scene control of lighting, audio, video and heating/cooling. When motion is not detected within a pre-set amount of time, EZMultiPli will send an "off" command to the Z-Wave nodes to turn the lights off.

In addition to the motion sensor, EZMultiPli also senses the amount of light in the room as well as the current temperature. The color LED light within EZMultiPli is a convenient night light or can be used as an indicator light to let you know if the weather forecast is predicting rain, your garage doors are open or any other indicator supported by your home control application.

EZMultiPli is wall powered and needs no wires or batteries. Simply plug EZMultiPli into the wall, join the Z-Wave network and you're ready to go.

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 ensure reliable communication regardless of the manufacturer or type of device. This product can be included and operated in any Z-Wave network with other Z-Wave certified devices from any other manufacturers. 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 Sigma Designs and more details on the technology can be found at www.z-wave.com.

Quick Start

1. Unpack EZMultiPli
2. Plug EZMultiPli in - the LED should blink aqua indicating it is not currently joined to a Z-Wave network
3. Include the EZMultiPli to the Z-Wave network:
    a. Follow the instructions of your Z-Wave primary controller to include EZMultiPli
    b. Press and release the push button on the EZMultiPli
    c. The LED will blink blue indicating it is attempting to join the Z-Wave network
    d. Once joined to the network, the LED will be white whenever it detects motion
    e. The Z-Wave controller should provide the Z-Wave NodeID that was assigned to EZMultiPli
4. Write down the NodeID for EZMultiPli
5. Typically you'll want to configure EZMultiPli and "Associate" certain NodeIDs and other parameters of EZMultiPli. See your home control software user manual for more details.
6. Each time you press the push button on EZMultiPli it enters a test mode. During this time LED will illuminate when motion is detected. Use this mode to check that the motion sensor will detect motion in the areas you want.
7. Enjoy your new hands-free lighting controls!

Detailed Instructions

Exclusion

When EZMultiPli is first plugged into the wall outlet, the LED should blink an aqua color. This indicates that it is not currently joined (or paired) to a Z-Wave network. If the LED is blinking white each time motion is detected, then it is already joined to a Z-Wave network. If the LED is blinking white you will need to exclude it from the other Z-Wave network before attempting to join a new one.

Follow the procedure of the Z-Wave primary controller to begin the exclusion process. Once the primary controller is ready to receive the exclusion command, press and release the push button on the side of EZMultiPli. The primary controller should give an indication that the reset process has completed. EZMultiPlis LED will blink aqua when it is ready to be added to a Z-Wave network.

Always ensure a device is not already joined to a Z-Wave device before trying to add it to a Z-Wave network.

Factory Reset

If the exclusion process above is not working or the controller EZMultiPli was originally joined to is lost or not available, the following process can be used to factory reset EZMultiPli.

Press and continue to hold the push button in for about 60 seconds. The LED will blink blue faster and faster and then shift to yellow and continue to blink faster and faster. Once the LED goes out, EZMultiPli is reset to the factory defaults and will blink aqua indicating it is ready to be added to a Z-Wave network.

Inclusion

Before attempting to include (pair) EZMultiPli to a Z-Wave network, be sure the LED is blinking an aqua color. If it is not blinking aqua, follow the exclusion instructions above.

Follow the procedure of the Z-Wave primary controller to begin the inclusion process. Then press and release the push button on the side of EZMultiPli. Once EZMultiPli has been added to the Z-Wave network, the LED will stop blinking blue and instead will blink white each time it detects motion. EZMultiPli remains in this mode for 5 minutes. Once the 5 minutes has expired, EZMultiPli will enter normal operating mode and the LED will remain off. Pressing the push button will restart the 5 minute motion detector test mode. The primary controller should provide a Z-Wave NodeID which has been assigned to EZMultiPli. The NodeID is a unique identifier and is used by many home control applications to identify this particular EZMultiPli. Write down the NodeID and location for later entry into your home control application.

Motion Report

EZMultiPli is a Notification Class motion sensor and will send a report to the Z-Wave system controller when motion is detected. When motion has not been detected for the OnTime number of minutes, another report will be sent to the system controller informing it that there has not been any motion for that amount of time.

Motion Timeout

The OnTime parameter is the number of minutes the lights will be on from the last time motion was detected. OnTime is programmable from 1 minute to 127 minutes. Z-Wave Configuration Class commands are used to program the OnTime setting. See the home control application documentation for the procedure for adjusting the OnTime parameter.

Setting OnTime to zero will cause EZMultiPli to not send a Z-Wave OFF command. An ON command will be sent each time motion is detected at a maximum rate of once every 60 seconds.

Note that EZMultiPli detects motion and not people. EZMultiPli cannot detect the presence of a person sitting still in a room reading, watching TV or working at a computer. EZMultiPli can only detect when the person moves. Set the OnTime to be one hour or more in applications where the person will be sitting still for a long time to prevent the lights from turning off while the person is still in the room. In hallways, where people are actively moving the OnTime can be set to 5 minutes to turn the lights off as shortly after they have left the hallway.

Light Report

EZMultiPli sends a report of the relative amount of light currently in the room to the Z-Wave system controller. The value is from 0 to 100% and is relative to the maximum and minimum amount of light EZMultiPli has measured since it was plugged in. The reports are automatically sent every LiteMin number of minutes.

Temperature Report

EZMultiPli sends a report of the current temperature in tenths of a degree Fahrenheit or Celsius to the Z-Wave system controller every TempMin number of minutes.

LED Color

EZMultiPli has a color LED beneath the motion sensor dome. This LED is a convenient night light or an indicator light. The LED can be set to any of eight colors via the Z-Wave Color Switch Command Class:

1) BLACK (off)
2) WHITE
3) RED
4) GREEN
5) BLUE
6) AQUA
7) PINK
8) YELLOW

A Z-Wave BASIC SET ON/OFF also controls the LED but it only uses the white color. Use the Color Switch Command Class to control the color of the LED.

The LED blinks with different colors to indicate special operating modes:

- Blinking aqua (light blue) indicates the EZMultiPli is not currently joined to a Z-Wave network and is currently in a factory default state
- Blinking dark blue after pressing and releasing the button indicates the EZMultiPli is attempting to either include or exclude from a Z-Wave network. Inclusion mode expires after about 10 seconds and the LED should go off. During this time Firmware Update mode is enabled. If the Hub initiates a firmware download the LED will change to yellow when the download starts.
- Blinking yellow indicates a Firmware Update is in progress.

- Blinking white when motion is detected. When power is first applied and EZMultiPli is joined to a Z-Wave network it enters a motion sensor test mode for approximately 5 minutes. When motion is detected, the LED will blink white briefly then go out. This mode can be used to determine the best location for EZMultiPli to ensure it will detect motion where you need it to.
- When the button is pressed and held to Factory Reset the EZMultiPli it will initially blink dark blue but start blinking faster and faster as the button is held. After a few seconds the LED changes to yellow and continues to blink faster and faster. Once the LED goes out, then release the button and the LED should go back to blinking light blue indicating the unit has been reset to the factory defaults.
- The LED can be assigned any of the eight colors using the Z-Wave Color Command Class. If the LED changes due to any of the conditions above, the LED color set using the Z-Wave Color Command Class is lost. For example, if the LED is set to green and then there is a power failure, when power is restored the EZMultiPli will go into the motion test mode and the LED will blink white when motion is detected.

Z-Wave Range Extender

EZMultiPli utilizes a fifth generation Z-Wave radio transceiver and automatically improves the range and reliability of every node on the Z-Wave network. No configuration is required for EZMultiPli to enhance the speed and reliability of the Z-Wave mesh network. However, if EZMultiPli is added into an existing Z-Wave network, the entire network should perform a network rediscovery. The network rediscovery process will ensure that every node in the Z-Wave network can take advantage of EZMultiPli ability to forward messages across the Z-Wave mesh-network. Sometime the network discovery is called “healing” the network.

Configuration Parameters

All configuration parameters are set to their default when EZMultiPli is excluded from the Z-Wave network.

Parameter Number	Parameter Name	Default	Description	Valid Values
1	OnTime	10 Min	OnTime sets the number of minutes that the lights stay on when motion has **not** been detected. A value of 0 is a special mode where the lights are sent a command to turn them on whenever motion is detected. EZMultiPli will NOT turn the lights off in this mode. A motion detection event is sent at most once per minute. **Recommended values:** 5 min for hallways 20 min for an office environment 60 min for a library, office or other room where someone may be sitting still for a long time	0, 1-127
2	OnLevel	-1	OnLevel is the value sent by the Z-Wave BASIC_SET command to all Association Group 2 nodes when motion is detected. A value of 0 will turn the lights off (not recommended). A value between 1 and 99 will set the dim level to between 1% and 99% (99% is full on). A value of -1 will turn the light "on" which depends on the device but most will set the dim level to the last dim setting.	0* 1-99, -1
3	LiteMin	60	A Luminance report is sent to the system controller every LiteMin minutes. A value of zero turns this mode off. Luminance values can still be obtained at any time by the home control application in this mode.	0-127
4	TempMin	60	A Temperature report is sent to the controller every TempMin minutes. A value of zero turns this mode off. Temperature values can still be obtained at any time by polling the status of the temperature sensor.	0-127
5	TempAdj	Factory Default	TempAdj is a twos-complement number that is used to adjust the temperature reading to make it more accurate. The value is in tenths of degree Fahrenheit. The temperature reading can be adjusted by +12.7F to -12.8F. A value of 1 will adjust the temperature reading by +0.1F. A value of -1 will adjust the temperature by -0.1F. A value of 123 will adjust the temperature by +12.3F.	-127 - +128

Technical Information for Software Developers

This section is intended for home control software developers to support EZMultiPli in their home control software. Users of EZMultiPli do not need this information but it is provided here for serious DIYers who want to understand how the device works under the hood.

EZMultiPli is a complex Z-Wave device with multiple sensors. Proper support of all of these devices requires an accurate interview of the device and it's capabilities via the NodeInfo command and the appropriate version support of each of the command classes. The sections that follow give additional details on how the device works to ensure reliable operation.

Inclusion Interview

When EZMultiPli is first included into the Z-Wave network, the system controller must interview EZMultiPli to determine the type of device that is being included. The NodeInfo frame is returned which must then be parsed and further interviews of the command class versions and command support within some command classes is required. The interview process should be common for all Z-Wave Plus devices resulting in a fairly complete description of the device without requiring specialized coding for EZMultiPli.

The most important part of the interview process is to associate the system controller interface NodeID to association group 1 (LIFELINE). EZMultiPli will send all notifications to this node. Assign a Return Route to the group 1 NodeID to ensure proper routing without unnecessary delays.

Notification Command Class

Notification Command Class is an extended version of the original Alarm Command Class. Notification Command Class has support for many types of sensors and devices. The capabilities of the sensors can be interviewed to determine the sensor type and commands supported. EZMultiPli is a Home Security (Burglar) type device and sends event types of Motion Detection. When motion is detected or motion has not been detected for OnTime minutes, EZMultiPli will send:

Name	Value (HEX)	Description
Command Class	71	COMMAND_CLASS_NOTIFICATION
Command	05	NOTIFICATION_REPORT
V1 Alarm Type	00	Not used
V1 Alarm Level	00	Not used
Reserved	00	Reserved
Notification Status	00 or FF	00=DISARMED, FF=ARMED
Notification Type	07	Motion
Event	00 or 07	0=NoMotion, 7=Motion detected
Event Parameters		Encapsulated Node Naming Location. Generally this field can be ignored.

Note that by default the motion sensor is ARMed, meaning it will send reports when motion is detected. The motion sensor can be DISARMED via the NOTIFICATION_SET command with a value of 0.

When motion is detected (or no motion for OnTime minutes), EZMultiPli first sends a BASIC_SET to all association group 2 NodeIDs. These commands are sent WITHOUT ROUTING so EZMultiPli must be within direct range (30 feet) of any nodes in group 2. If the commands were sent with routing it could take many seconds for all nodes to receive the commands due to routing especially if one of the nodes is unreachable or has failed. This delay would result in a poor user experience. By sending the commands without routing, the commands are sent to all 4 nodes within a fraction of a second. Once the commands have been sent to group 2, then a Notification Report is sent to association group 1 which is typically the system controller node. The Notification Report is sent with full routing including explorer frames if necessary. Note that assigning Return Routes is the key to avoiding delays in the Z-Wave protocol trying to find a working route back to the system controller. If the user wishes to control nodes that are beyond direct range, they should be controlled by the system controller and not use EZMultiPli association group 2. The Power Level Command Class can be used to determine if the desired node is within reliable direct range or not.
To poll the current status of the motion sensor, use the version 1 Alarm Command Class ALARM_GET command. The ALARM_REPORT command returns an Alarm Level value of 00 if no motion is detected and FF if motion has been detected within the last OnTime minutes.

Association

EZMultiPli has two association groups:
Group 1: LIFELINE

This group is normally automatically assigned to the Z-Wave system controller when EZMultiPli is added to the Z-Wave network. All Notification command class reports (motion detection) are sent to the node assigned to this group. Advanced lighting control should be handled by a home control application based on these reports.

Group 2: BASIC

This group is used to directly turn lights on or off when motion is detected. Up to four (4) Z-Wave devices can be associated in this group. EZMultiPli will send a BASIC ON command to all devices that are associated in this group. Note that the Z-Wave devices in this group must be within direct range (about 30') of EZMultiPli. Control of nodes that are further away or blocked by metal or concrete walls should rely on the Z-Wave system controller and the home-control application for reliable operation. Note that including the NodeID of EZMultiPli in this group

will control the LED which will come on when motion is detected and goes off when no motion has been detected for OnTime minutes.

Return Routes should be assigned to the Group 1 NodeIDs to minimize Z-Wave routing delays.

Multilevel Sensor Reports

The sensors should be interviewed to determine their capabilities and supported scales using the SENSOR_MULTILEVEL_SUPPORTED_GET_SENSOR and SENSOR_MULTILEVEL_SUPPORTED_GET_SCALE commands. The sensors can be polled at any time to determine their current reading.

The sensors will send the following reports unsolicited every 60 minutes by default. Configuration parameters can be used to change the interval between sensor updates.

Revision H boards can only report luminance in the Percent scale. The hardware revision can be determined using the Version Command Class Version 2 Get command. The Hardware Version field of the Version Report command will be 0x01 for Rev H boards (percent only) and will be 0x02 for Rev J and later units that support the Lux scale. The default scale is percent. The scale used for the unsolicited reports is the scale last requested via a GET command.

Light Level Sensor

Name	Value (HEX)	Description
Command Class	31	COMMAND_CLASS_SENSOR_MULTILEVEL
Command	05	SENSOR_MULTILEVEL_REPORT
Sensor Type	03	Luminance
Sensor Scale	01	Percentage value, single byte
Sensor Value	0-63	Relative luminance level 0-100%

Hardware Version 0x02 (Rev J boards) support the Lux scale as well.

Name	Value (HEX)	Description
Command Class	31	COMMAND_CLASS_SENSOR_MULTILEVEL
Command	05	SENSOR_MULTILEVEL_REPORT
Sensor Type	03	Luminance
Sensor Scale	0A	Lux, two bytes (Scale is in bits 3&4)
Sensor Value	0-10,000	Light level in Lux

Temperature Sensor

The scale of the temperature sensor can be either Celsius or Fahrenheit depending on the scale sent using a SENSOR_MULTILEVEL_GET command. By default the scale is Celsius. The application software should convert the report to the users desired temperature scale.

Name	Value (HEX)	Description
Command Class	31	COMMAND_CLASS_SENSOR_MULTILEVEL
Command	05	SENSOR_MULTILEVEL_REPORT
Sensor Type	01	Temperature
Sensor Scale	22 or 2A	22=Celsius, 2A=Fahrenheit One digit of fractional precision
Sensor Value MSB		Signed 16-bit value includes 1 digit of fractional data. A value of 320 is 32.0 and -555 is -55.5.
Sensor Value LSB		

Configuration Command Class

See the Configuration Parameters section for details on the configuration parameters. The default values yield a usable device and only advanced users will want to change the configuration values. The most common configuration item to change is OnTime which determines the number of minutes of No-Motion to be detected before a Notification event of 0 is sent to the controller. If all timing is performed by the system controller, then this value may want to be changed to 2 minutes so that the controller is made aware of the lack of motion as soon as possible. An OnTime of zero is generally not recommended as there is no "off" notification in this mode.

If the user assigns NodeIDs to Association Group 2 then OnTime becomes very important and they should set the OnTime parameter.

Color Switch Command Class

The color of the LED is controlled with the Color Switch Command Class.

Name	Value (HEX)	Description
Command Class	33	COMMAND_CLASS_COLOR_CONTROL
Command	05	STATE_SET
Length	3	Number of ID/State pairs in this command
Capability ID	02	RED
State	00 or FF	00=OFF, 01-FF=ON
Capability ID	03	GREEN
State	00 or FF	00=OFF, 01-FF=ON
Capability ID	04	BLUE
State	00 or FF	00=OFF, 01-FF=ON
Dimming Duration		Not used

There are 3 LEDs inside the PIR sensor dome, RED, GREEN and BLUE. Each of the LEDs can be turned either ON or OFF to yield eight different colors. Dimming is not supported. A single command can set the value of all three LEDs or each LED can be controlled in a separate command. Recommendation is to always set all 3 colors to the desired value or else you may get unexpected results. Any channel not specified in the command will remain at its current value.

Note that if the pushbutton is pressed, the color setting is lost because the sensor will enter motion testing mode where the LED turns on white anytime motion is detected for 5 minutes. Setting the color however cancels motion testing mode and the color will remain.

A BASIC_SET command turns the LED on white or off.

Firmware Update Command Class

The firmware of EZMultiPli can be updated in the field by the customer using the Firmware Update Command Class. An Intel Hex file of the Over-The-Air firmware can be obtained from the Express Controls web site.

It is strongly recommended to bring EZMultiPli within a few feet of the system controller. This ensures reliable radio transfer of the firmware and minimizes the duration of the process. The firmware update takes about five minutes of continuous radio traffic so the update should only be done when the rest of the system is not required to be operational.

The following procedure should be used to update the firmware:

Step	System Controller	Device that needs updated firmware
	All commands use the COMMAND_CLASS_FIRMWARE_UPDATE_MD (0x7A)	
1	System controller decides to check for updates: Send **FIRMWARE_MD_GET(0x01)**	

Step	System Controller	Device that needs updated firmware
2		Responds with **FIRMWARE_MD_REPORT(0x02)**
	Check the Manufacturer ID and FirmwareID fields. These values are assigned by the device Mfg and may or may not be the revision of the firmware. The two fields must uniquely identify the image. Checksum is optional and may be 0. If a newer firmware image is available continue, if not, exit.	
3		User must push the button to initiate the update (manual authentication is recommended) The also goes into LEARN mode and the LED blinks BLUE
4	Send **FIRMWARE_UPDATE_MD_REQUEST_GET(0x03)**	
5		Responds with **FIRMWARE_UPDATE_MD_REQUEST_REPORT**(0x04) LED changes to blinking YELLOW
6		If the Update request is good and the user has pushed the button, Send **FIRMWARE_UPDATE_MD_GET** (0x05) with a report number of 1
7	Responds with **FIRMWARE_UPDATE_MD_REPORT** (0x06) with data (typically 40 bytes)	
8		Device validates the checksum of the received data and stores it in NVM increments the report number and sends **FIRMWARE_UPDATE_MD_GET**.
	Repeat steps 7-8 for each block of data. Both sides must have timeouts and retry blocks that failed to reach the other side. Either side may get duplicates so the report number must be checked and if the sequence is incorrect the command should be discarded.	
9	When the last block of data to be downloaded is ready to be sent, set the LAST bit and send FIRMWARE_UPDATE_MD_REPORT.	

Step	System Controller	Device that needs updated firmware
10		Device sees the LAST bit is set, writes the remaining bytes from this smaller block to the NVM, call ZW_FirmwareUpdate_NVM_isValidCRC16 to check the CRC within the downloaded file is good, compares the CRC sent in step 3 with the computed CRC match, calls ZW_FirmwareUpdate_NVM_Set_NEWIMAGE(TRUE) if image is OK. This takes a few seconds. Sends **FIRMWARE_UPDATE_MD_STATUS_REPORT**
11		Wait for the SEND of the REPORT to complete and the callback to acknowledge that the report was sent. Enable the watchdog with ZW_WatchdogEnable() then execute a WHILE(1) and wait for the watchdog to reset the chip. The bootloader will identify the new firmware and copy it to flash. This process takes several seconds. The device then reboots again and should now be running the updated firmware.

Troubleshooting

Problem	Solution
Lights turn off when people are still in the room	Remember that EZMultiPli detects ***motion*** and cannot detect people. 1) Increase the OnTime so that the lights stay on long enough for someone to move before the lights turn off (>1 hour) 2) Move EZMultiPli closer to the people
Lights don't turn on when there is motion	EZMultiPli must be "Associated" with specific NodeIDs to control them directly. Associate EZMultiPli with the desired Z-Wave devices. The system controller must be associated in Group 1 so that the Notification events are sent to the controller.
Doesn't detect motion from a distance	Test the motion sensitivity by pressing the button then wait for the LED to stop blinking blue. The LED will then blink white briefly anytime motion is detected for about 5 minutes. Move around where you want motion to be detected and verify that the LED blinks when motion is present. The motion sensitivity approximately 12 feet so that it will cover a typical room without falsely reporting. Flipping EZMultiPli around will result in a slightly different motion detection pattern.
The LED doesn't come on when there is motion	This is normal. The LED illuminates when there is motion during the initial 5 minute period after pressing the push button. After this initial 5 minute testing period the LED goes off and stays off.
The temperature is off by several degrees	If EZMultiPli is plugged into an outlet on an exterior wall or close to the floor, the temperature may be off by a few degrees. The temperature reading can be adjusted using TempAdj Configuration Parameter.
Devices far away are not controlled by EZMultiPli	Devices in association group 2 must be less than 30 feet from EZMultiPli. For devices that are further away or are blocked by metal or concrete walls, use the Z-Wave system controller to control those devices.
Motion sensor doesn't work	Two things have to be setup for a system controller to receive motion events: 1) The system controllers NodeID must be added to Association Group 1 2) EZMultiPli must be ARMed The system controller should assign itself to group 1 when EZMultiPli is included into the Z-Wave network. Note that it may also need to reassign return routes if EZMultiPli is moved to a new location. A network rediscovery (aka "heal") may be required to correct routing issues. EZMultiPli is ARMed by default and generally remains that way. Some system controllers may DISARM it. See the documentation for your home control application on how to ARM/DISARM.
Can I use EZMultiPli outdoors?	EZMultiPli is not rated for outdoor use but if it is protected from rain/snow it is usable outdoors.
Other sources of technical help	There are a number of Z-Wave forums/blogs. Here are just a few: drzwave.wordpress.com board.homeseer.com www.z-wavealliance.org info@ExpressControls.com

Regulatory Information

Z-Wave Plus Certified

Certificate number: ZC10-14090018

Z-Wave is a registered trademark of Sigma Designs and/or its subsidiaries.

Federal Communications Commission (FCC)

FCCID: UTH-ZW1410

This device complies with part 15 of the FCC rules. Operation of this device is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference, 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:

- Reorient or relocate the receiving antenna or device.
- 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.

WARNING!
Changes or modifications not expressly approved by Express Controls could void the user's authority to operate the equipment.

ETL Certified

The ETL listed mark is proof that EZMultiPli was independently tested and meets the published safety standard. ETL listing is equivalent to the Underwriters Laboratory (UL) listed mark commonly found on many products sold in North America. The ETL listing service is managed by Intertek. The ETL control number for EZMultiPli is: 4010942.

Safety Standards:
UL 60950-1
Issued: 2007/03/27 Ed: 2 Rev: 2011/12/19 Information Technology Equipment Safety Part 1: General Requirements
CSA C22.2#60950-1
Issued: 2007/03/27 Ed: 2 (R2012) Information Technology Equipment Safety Part 1: General Requirements; Amendment 1: 2011

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 LLC 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) the finish on any portion of the product, such as surface and/or weathering, as this is considered normal wear and tear; (f) transit damage, initial installation costs, removal costs, or reinstallation costs.
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WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY MODIFIED TO EXIST ONLY AS CONTAINED IN THIE 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 damage.

Technical Specification

Operating Temperature Range: -20ºC to 80ºC
RF Range: 300 feet minimum line of sight
RF Data Rate: 9.6Kbps, 40Kbps, 100Kbps
RF Frequency: 908/916MHz (US)
RF Interface: ZW5202
Power Supply: 120VAC 60Hz 1Watt

Motion Sensor Range: 12ft
Motion Sensor Coverage: 90º
Temperate Accuracy: +/- 2.0C (-20C to 80C)
Temperature Resolution: 0.1C
Light Sensor: 0-10,000 lux
LED: 8 colors
Dimensions: 3.25”H x 1.9”W x 1.9”D
Weight: 50g

Z-Wave Command Class Support:
Routing Slave Enhanced 232
ZWavePlus
Notification (Alarm command class version 3)
Multilevel Sensor V6 (Luminance, Temperature)
Color Control
Manufacturer Specific
Version
Association Group Info
Association
Configuration
Node Naming
Device Reset Locally
Firmware Update
PowerLevel

Ordering information:
EZMultiPl-US 908/916MHz for North America
SKU (EAN13):0661799815048