Steinel

L 810 LED iHF Z-Wave

SKU: STEEL810

Quickstart

This is a **Light Dimmer** for **Europe**. To run this device please connect it to your mains power supply. Add To start the light's inclusion mode, briefly press button SET.

What is Z-Wave?

Z-Wave is the international wireless protocol for communication in the Smart Home. This device is suited for use in the region mentioned in the Quickstart section. (For more information about frequency regulations please refer to the frequency coverage overview at Sigma Designs Website).

Z-Wave ensures a reliable communication by reconfirming every message (**two-way communication**) and every mains powered node can act as a repeater for other nodes (**meshed network**) in case the receiver is not in direct wireless range of the transmitter.

This device and every other certified Z-Wave device can be **used together with any other certified Z-Wave device regardless of brand and origin** as long as both are suited for the same frequency range.

If a device supports **secure communication** it will communicate with other devices secure as long as this device provides the same or a higher level of security. Otherwise it will automatically turn into a lower level of security to maintain backward compatibility.

For more information about Z-Wave technology, devices, white papers etc. please refer to www.z-wave.info.

Product Description

A high-quality product is cleverly thought through and made from materials that last. Its value also extends beyond today, it has permanency and constancy. The L 810 iHF outdoor SensorLight is an LED uplight and downlight that translates intelligent technology into form and function. For the first time, we have managed to make a light's sensor completely invisible without compromising on first-class design and technological perfection. For stunning upward and downward lighting. New: optional manual override for 4 hours. Smart home included.

Prepare for Installation / Reset

Please read the user manual before installing the product.

In order to include (add) a Z-Wave device to a network it **must be in factory default state.** Please make sure to reset the device into factory default. You can do this by performing an Exclusion operation as described below in the manual. Every Z-Wave controller is able to perform this operation however it is recommended to use the primary controller of the previous network to make sure the very device is excluded properly from this network.

Reset to factory default

This device also allows to be reset without any involvement of a Z-Wave controller. This procedure should only be used when the primary controller is inoperable.

1) Briefly press button SET and directly afterwards keep it pressed for 5 seconds.
2) Status LED briefly flashes to show that the light has been reset.
3) The device is now no longer included in the Z-Wave system and has been returned to factory settings.

Safety Warning for Mains Powered Devices

ATTENTION: only authorized technicians under consideration of the country-specific installation guidelines/norms may do works with mains power. Prior to the assembly of the product, the voltage network has to be switched off and ensured against re-switching.

Installation

To achieve the stated reach of 5 m, the light should be mounted at a height of approx. 2 m.

Connecting the mains supply lead (see illustration)

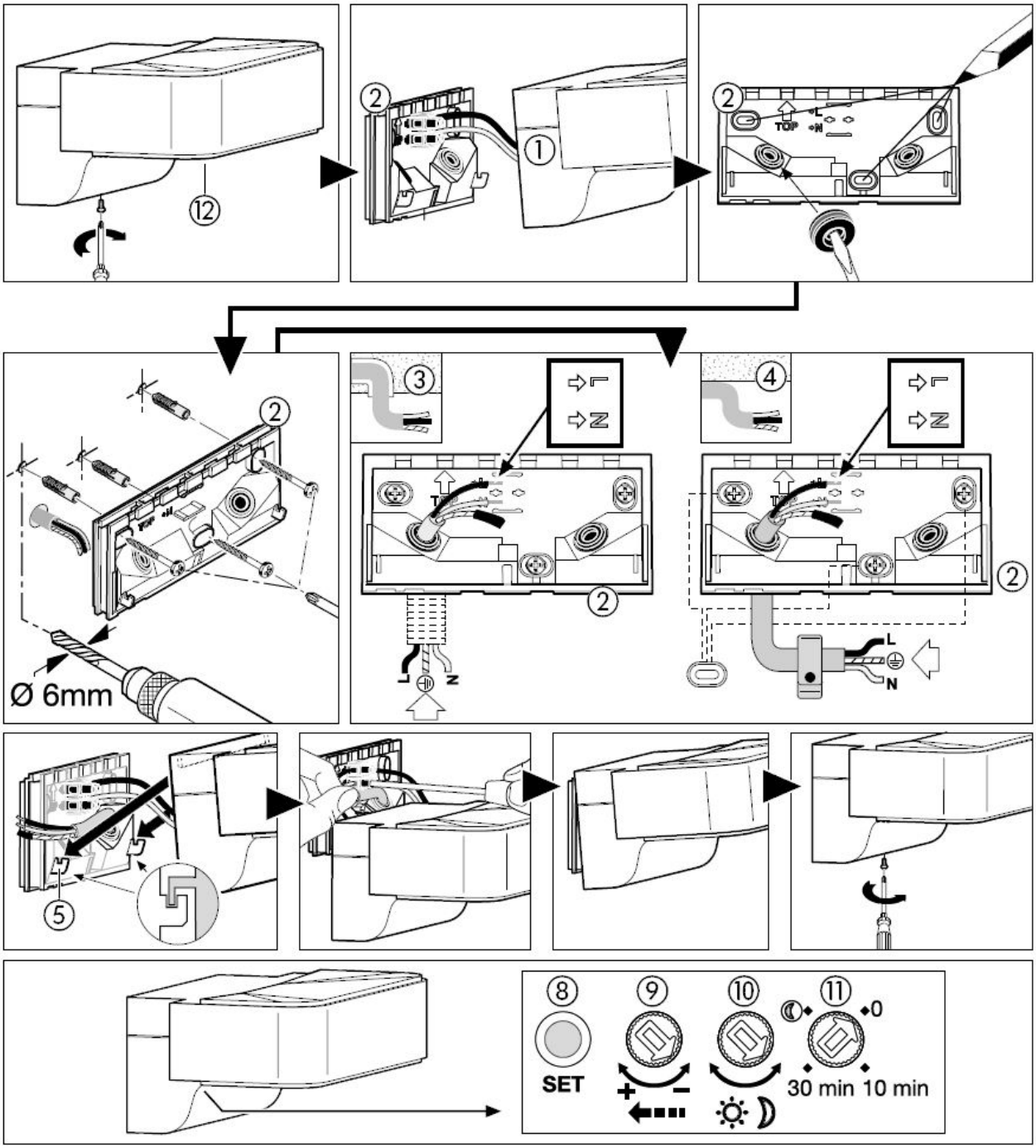
The supply lead consist of three wires:
L= Phase conductor (usually black, brown or grey)
N= Neutral conductor (usually blue)
PE = Protective-earth conductor (green/yellow)

If you are in any doubt, identify the conductors using a voltage tester; then disconnect from the power supply again. Phase (L) and neutral (N) conductor are connected to the terminal block.

Important: incorrectly wired connections will produce a short circuit later on in the product or your fuse box. In this case, you must identify the individual conductors once again and reconnect them. A mains switch for switching the light ON and

OFF can of course be fitted in the mains lead.

Note: to connect the light, the light enclosure must be fitted on the mounting hooks to prevent the internal wiring from being exposed to strain.



Inclusion/Exclusion

On factory default the device does not belong to any Z-Wave network. The device needs to be **added to an existing wireless network** to communicate with the devices of this network. This process is called **Inclusion**.

Devices can also be removed from a network. This process is called **Exclusion**. Both processes are initiated by the primary controller of the Z-Wave network. This controller is turned into exclusion respective inclusion mode. Inclusion and Exclusion is then performed doing a special manual action right on the device.

Inclusion

Add To start the light‘s inclusion mode, briefly press button SET

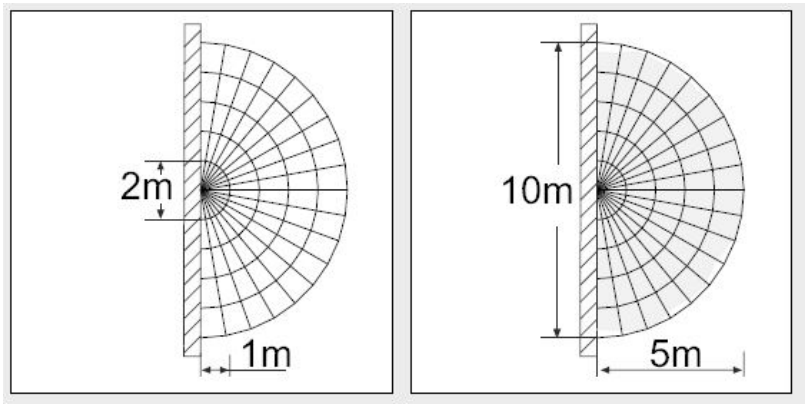
Exclusion

Remove To start the light‘s exclusion mode, briefly press button SET

Product Usage

Detection zones for wall mounting:

1) Minimum reach (1 m)
2) Maximum reach (5 m)



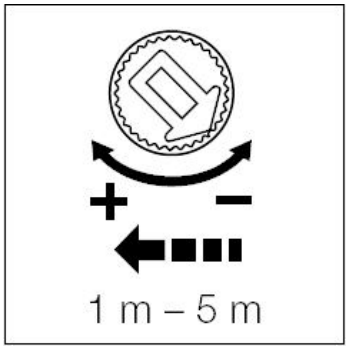
The sensor-switched light can be put into service after mounting the enclosure and connecting to the mains power supply. The light will also work without being integrated into a Z-Wave network. In this case, the time setting is permanently set to 3 minutes. When putting the light into operation, the light will switch OFF after the 10-second calibration phase and is then activated for sensor mode. This light can now be integrated into the Z-Wave network.

The settings can be made via the control dials or via Z-Wave network. The settings last selected will always be in effect regardless of whether they were made via the control dials or via Z-Wave network.

Reach setting (sensitivity)

Factory setting: 5 m

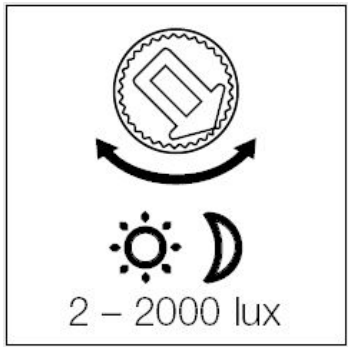
Reach can be infinitely varied from 1 m to 5 m



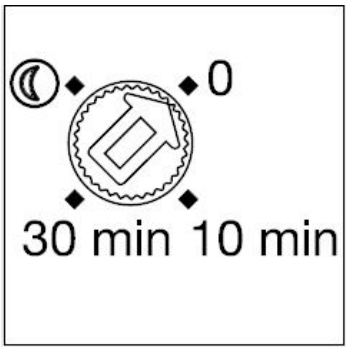
Reach is the term used to describe the radius of the detection zone produced on the ground when mounting the light at a height of 2 m.

Twilight setting (response threshold)

Factory setting: 2000 lux
The chosen response threshold can be infinitely varied from approx. 2–2000 lux.



Programme setting



0 = no basic light level ON from twilight setting selected
10 = basic light level 10 minutes
30 = basic light level 30 minutes
Moon = basic light level all night long

What is basic light level?

The basic light level provides continuous nighttime illumination at approx. 10% light output. The light only switches to maximum output (100%) for the time selected in response to movement in the detection zone. The light then returns to the basic
light level (approx. 10%).

Note: depending on the local power grid, the LEDs may flicker slightly when dimmed. This is not a product defect and no reason for complaint.

What is soft light start?
The sensor-switched light features a soft light start function. This means that when turned ON, the light is not switched directly to maximum output but gradually builds up brightness to 100% within the space of a second. Brightness is also gradually
reduced when the light is switched OFF.

Quick trouble shooting

Here are a few hints for network installation if things dont work as expected.

1. Make sure a device is in factory reset state before including. In doubt exclude before include.
2. If inclusion still fails, check if both devices use the same frequency.
3. Remove all dead devices from associations. Otherwise you will see severe delays.
4. Never use sleeping battery devices without a central controller.
5. Dont poll FLIRS devices.
6. Make sure to have enough mains powered device to benefit from the meshing

Association - one device controls an other device

Z-Wave devices control other Z-Wave devices. The relationship between one device controlling another device is called association. In order to control a different device, the controlling device needs to maintain a list of devices that will receive controlling commands. These lists are called association groups and they are always related to certain events (e.g. button pressed, sensor triggers, ...). In case the event happens all devices stored in the respective association group will receive the same wireless command wireless command, typically a 'Basic Set' Command.

Association Groups:

Group Number	Maximum Nodes	Description
1	1	Z-Wave Plus Lifeline
2	16	On/Off Control-Basic Set
3	16	Motion begin/end - Notifications
4	16	Ambient light- Multilevel Sensor Report

Configuration Parameters

Z-Wave products are supposed to work out of the box after inclusion, however certain configuration can adapt the function better to user needs or unlock further enhanced features.

IMPORTANT: Controllers may only allow configuring signed values. In order to set values in the range 128 ... 255 the value sent in the application shall be the desired value minus 256. For example: To set a parameter to 200 it may be needed to set a value of 200 minus 256 = minus 56. In case of a two byte value the same logic applies: Values greater than 32768 may needed to be given as negative values too.

Parameter 1: TIME

Duration of light after motion detection.
Size: 2 Byte, Default Value: 180

Setting	Description
5 - 900	seconds

Parameter 2: LIGHT

Light threshold [lx]Value can be controlled via potentiometer - potentiometer value isused as the default value and any potentiometer movement rewritesthe current setting.
Size: 2 Byte, Default Value: 2000

Setting	Description
0	run Learn ambient light sequence (the level is set automatically)
2 - 1999	lux
2000	2000 - is used as daylight (always night mode)

Parameter 3: DIM
Night dim mode and time [min]Dim mode is also disabled when local control is disabled (as well as in Slave mode)
Size: 1 Byte, Default Value: 0

Setting	Description
0	off (dim = basic light completely disabled)
1 - 60	time [minutes] (enabled in night mode, starts after lamp is switched off after motion detection)
-1	whole night (dim through the whole night when lamp is off)

Parameter 4: RANGE
Motion Radar Range [cm]Value can be controlled via potentiometer - potentiometer value isused as the default value and any potentiometer movement rewritesthe current setting
Size: 2 Byte, Default Value: 500

Setting	Description
100 - 500	cm

Parameter 6: BRIGHTNES MEAS INTERVAL
Brightness measuring interval [minutes]Interval for ambient light measuring when lamp is on (lamp switchesoff shortly and measures). 0=function is off
Size: 1 Byte, Default Value: 0

Setting	Description
0	function is off
5 - 120	minutes

Parameter 8: GLOBAL_LIGHT
Use External Ambient Light ValueWhen GLOBAL_LIGHT mode is ON - device overrides its own lightsensor values and uses Light report values from any Z-Wave lightsensor instead - this has to be configured appropriately to send lightautomatically.If the last remote light level value is older than 30 minutes, the internallight value is used again until the next external value is received.
Size: 1 Byte, Default Value: 1

Setting	Description
0	OFF function
1	ON function

Parameter 9: SLAVE_MODE
Can disable sensor controllu201cStupidu201d mode (bit 2 = 1): - has higher priority then slave mode. - lamp is permanently on (usefull for simple power wall switch controlling).Slave mode (bit 0 = 1):- only if included in Z-Wave network- usefull for controlling via third-party sensor- lamp is directly controlled via Z-Wave, internal sensors are not used for controlling it.Central unit checking (bit 1 = 1):(usefull especialy for controlling via gateway) When Slave bit is 0:- lamp signalises fail of lifeline connection (if this bit is zero fail of lifeline connection is not signalised) When slave bit is 1:- lamp checks presence of Z-Wave device in lifeline group (gateway). If it is not present for 2 minutes (testing repeatedly every 30 seconds) device switches to normal mode in the same way as after the end of local disabled mode (ON_BEHAVIOUR)- The device checks every 1 minute for recovery of Lifeline connection.- if no lifeline specified - it works in normal modeBe careful with this option, lamp stops using itu2019s own motion sensor in Slave and Stupid mode.
Size: 1 Byte, Default Value: 2

Setting	Description
0	Normal mode
1	Slave mode without gateway checking
2	Normal mode with lifeline error signalisation
3	Slave mode with gateway checking
4	Stupid mode - lamp permanetly on

Parameter 10: OFF_BEHAVIOUR
Behaviour after BASIC OFF (and similar commands).If a transition (even with zero change) with a non-default duration isto be processed, the transition cannot be interrupted by any motionevent in any case.for values 1-209 - Lamp is switched off and remains so until after a specified timeout once a new motion event (local or remote) is received.
Size: 2 Byte, Default Value: 10

Setting	Description
0	Lamp is switched off and remains so until any new motion event (local or remote) is received.
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	Lamp is switched off for TIME (cfg 1). It does not wait for a motion event and works normally via current motion evaluation

Parameter 11: ON_BEHAVIOUR

Behaviour after BASIC ON (and similar commands).If a transition (even with zero change) with a non-default duration is to be processed, the transition cannot be interrupted by any motion event in any case.for values 1-209 - Lamp is switched on and remains so until after a specified timeout once a new motion event (local or remote) is received. It then works normally via current motion evaluation.

Size: 2 Byte, Default Value: 255

Setting	Description
0	Lamp is switched on and remains so until any new motion event (local or remote) is received. It then works normally via current motion evaluation. Notice - during the day, this mode cannot be ended remotely due to motion events not being transmitted - only via local motion sensor if enabled.
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	Lamp is switched on for TIME (cfg 1). It does not wait for a motion event and works normally via current motion evaluation.

Parameter 12: ON_TIME_OVER

Time limit to stop waiting for motion after timeout of ON_BEHAVIOURor OFF_ON_BEHAVIOUR (0-209) to prevent staying ON forever whenis no motion.

Size: 2 Byte, Default Value: 204

Setting	Description
0	o additional waiting for motion.
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	Never stop waiting before motion.

Parameter 13: ON_OFF_BEHAVIOR

Behaviour after after a rapid sequence of BASIC ON and BASIC OFF commands.The intention is to use a much longer timeout value than the time after a single ON command which should then be followed by a short timeout value.The behaviour is almost the same as for parameter 10 (OFF_LOCAL_DISABLE) for values 1-209 - Lamp is switched off and remains so until after a specified timeout once a new motion event (local or remote) is received.

Size: 2 Byte, Default Value: 204

Setting	Description
0	Lamp is switched off and remains so until any new motion event (local or remote) is received.
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	device ignores ON - OFF sequence and uses OFF behavior

Parameter 14: OFF_ON_BEHAVIOUR

Behaviour after after a rapid sequence of BASIC OFF and BASIC ONcommands.The intention is to use a much longer timeout value than the time aftera single OFF command which should then be followed by a shorttimeout value.The behaviour is amost the same as for parameter 11for values 1-209 - Lamp is switched on and remains so until after a specified timeout once a new motion event (local or remote) is received. It then works normally via current motion evaluation.

Size: 2 Byte, Default Value: 204

Setting	Description
0	Lamp is switched on and remains so until any new motion event (local or remote) is received. It then works normally via current motion evaluation. Notice - during the day, this mode cannot be ended remotely due to motion events not being transmitted - only via local motion sensor if enabled.
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution.
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	device ignores OFF - ON sequence and uses ON behaviour

Parameter 15: SEQUENCY_TIME

Time in [100 miliseconds] of maximum delay between BASIC ONand BASIC OFF (and vice versa) to consider this as a sequence. It istypically 1 second, but can be exceptionally longer due to retransmissionsand overload - in this case, a longer interval can be allowed (upto 5 seconds).
Size: 1 Byte, Default Value: 255

Setting	Description
10 - 50	tenth of second

Parameter 16: MOTION_DISABLE

Motion disable timeout after BASIC SET to motion endpoint when theinternal motion sensor is not used for evaluating the behaviour of thelamp and groups 2 and 3. Events are, however, still transmitted to theLifeline, and the lamp can be controlled via remote motion sensors.for values 1-209 - Internal motion sensor is disabled for specified timeout after BASIC SET 0x00 to Motion endpoint.
Size: 2 Byte, Default Value: 0

Setting	Description
0	BASIC SET to Motion endpoint ignored, Motion sensor still enabled
1 - 100	timeout: 1 second (1) to 100 seconds (100) in 1-second resolution
101 - 200	timeout: 1 minute (101) to 100 minutes (200) 1-minute resolution
201 - 209	timeout: 1 hour (201) to 9 hours (209) in 1-hour resolution
255	BASIC SET to Motion endpoint ignored, Motion sensor still disabled

Technical Data

Dimensions	91 x 230 x 145 mm
Weight	1092 gr
Hardware Platform	ZM5202
EAN	4007841029869
IP Class	IP 44
Voltage	230 V
Device Type	Light Dimmer Switch
Network Operation	Always On Slave
Z-Wave Version	6.51.09
Certification ID	ZC10-17045557
Z-Wave Product Id	0x0271.0x0001.0x1A75
Neutral Wire Required	ok
Sensors	LuminanceMotion/No Motion (Binary)
Z-Wave Scene Type	Scene
Firmware Updatable	Updatable by Consumer by RF
IP (Ingress Protection) Rated	ok
Outdoor Use	ok
Supported Notification Types	Home SecuritySystem
Electric Load Type	Dimmable LEDLED

Supported Command Classes

- Switch All
- Application Status
- Association Grp Info
- Association V2
- Basic
- Configuration
- Device Reset Locally
- Firmware Update Md V3
- Manufacturer Specific
- Multi Channel V4
- Multi Channel Association V2
- Node Naming
- Notification V4
- Powerlevel
- Scene Activation
- Scene Actuator Conf
- Sensor Multilevel V4
- Switch Multilevel V4
- Version V2
- Zwaveplus Info V2

Controlled Command Classes

- Basic

Explanation of Z-Wave specific terms

- **Controller** — is a Z-Wave device with capabilities to manage the network. Controllers are typically Gateways,Remote Controls or battery operated wall controllers.
- **Slave** — is a Z-Wave device without capabilities to manage the network. Slaves can be sensors, actuators and even remote controls.
- **Primary Controller** — is the central organizer of the network. It must be a controller. There can be only one primary controller in a Z-Wave network.
- **Inclusion** — is the process of adding new Z-Wave devices into a network.
- **Exclusion** — is the process of removing Z-Wave devices from the network.
- **Association** — is a control relationship between a controlling device and a controlled device.
- **Wakeup Notification** — is a special wireless message issued by a Z-Wave device to announces that is able to communicate.
- **Node Information Frame** — is a special wireless message issued by a Z-Wave device to announce its capabilities and functions.
