Building 36 Temperature Sensor B36-S10 Manual

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Building 36

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SKU: B36-S10

Quickstart

This is a

Multilevel Sensor
for
U.S. / **Canada** / **Mexico**.

To run this device please connect it to your mains power supply.

To add this device to your network execute the following action:
Put the Z-Wave controller into add mode (refer to controller documentation for more information).Press the button on the sensor to add to the Z-Wave network. The LED on the sensor will go solid white when the sensor has been successfully added.

Please refer to the
Manufacturers Manual for more information.

Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law.
The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material.
Use this equipment only for its intended purpose. Follow the disposal instructions.

Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

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.

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

Battery powered indoor Z-Wave temperature sensor.Sense temperature in any room in the home.

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.

NOTE: Only reset the sensor to factory default when the primary controller is missing or inoperable.Press and

hold the button for 15 seconds.Release the button after 15 seconds and the LED will blink rapidly when the sensor has been reset to factory default.

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.

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

Put the Z-Wave controller into add mode (refer to controller documentation for more information).Press the button on the sensor to add to the Z-Wave network. The LED on the sensor will go solid white when the sensor has been successfully added.

Exclusion

Put the Z-Wave controller into remove mode (refer to the controller documentation for more information).Press the button on the sensor to remove from the Z-Wave network.The LED on the sensor will blink white when the sensor has been successfully removed.

Communication to a Sleeping device (Wakeup)

This device is battery operated and turned into deep sleep state most of the time to save battery life time. Communication with the device is limited. In order to communicate with the device, a static controller **C** is needed in the network. This controller will maintain a mailbox for the battery operated devices and store commands that can not be received during deep sleep state. Without such a controller, communication may become impossible and/or the battery life time is significantly decreased.

This device will wakeup regularly and announce the wakeup state by sending out a so called Wakeup Notification. The controller can then empty the mailbox. Therefore, the device needs to be configured with the desired wakeup interval and the node ID of the controller. If the device was included by a static controller this controller will usually perform all necessary configurations. The wakeup interval is a tradeoff between maximal battery life time and the desired responses of the device. To wakeup the device please perform the following action:

The temperature sensor will send wake up notifications when the button is pressed and the temperature sensor is already included in a Z-Wave network.It also sends wake up notifications based at time intervals specified in the wake up set command.

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 NumberMaximum NodesDescription

1	5	Z-Wave Plus Lifeline.
2	5	Sensor Multilevel Temperature 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 200â€ˆit 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: Wake Up Period

Number of seconds the sensor will stay in the Wake up state following a button press. The sensor will go to sleep if it receives a wake up no more information frame.
Size: 2 Byte, Default Value: 600

SettingDescription

10 – 32768	Seconds to stay awake following button press

Parameter 2: Low Battery Level

Low Battery Report threshold.
Size: 2 Byte, Default Value: 1755

SettingDescription

1000 – 2500	Battery level

Parameter 3: Temperature Reporting Threshold

The minimum temperature difference required to send a new ambient temperature report.
Size: 2 Byte, Default Value: 10

SettingDescription

0 – 100	Tenths of a degree Fahrenheit.A value of 10 would be 1.0F.

Parameter 4: Configuration Bitmask

Configuration bitmask for various device configuration settings. Bit 0 – reserved.Bit 1 – If set to 1, sensor will send unsolicited temperature reports.Bits 2 to 15 – reserved
Size: 2 Byte, Default Value: 2

SettingDescription

0	If zero, sensor will not send unsolicted temperature reports
2	If Bit 1 is set, sensor will send unsolicited temperature reports when the temperature changes.

Parameter 5: Battery Reporting Interval

The number wakeup intervals between autonomous battery reports.
Size: 2 Byte, Default Value: 8

SettingDescription

0 – 255	Number of wake up intervals between autonomous battery reports.The wake up interval is set in the Wake Up Command Class.

Parameter 6: Temperature Checking Interval

The number of seconds between temperature readings.
Size: 2 Byte, Default Value: 60

SettingDescription

10 – 255	The number of seconds between temperature readings

Parameter 7: Temperature Reporting Interval

The number wakeup intervals between autonomous temperature reports. These interval reports should be sent regardless of the setting of the temperature reporting threshold.
Size: 2 Byte, Default Value: 0

SettingDescription

0 – 255	The number of wake up intervals between autonomous temperature reports.If this value is zero, autonomous temperature reporting based on wake up interval is disabled.

Parameter 8: Temperature Calibration Offset

Adjust reported temperature by +/- 10 degrees Fahrenheit for calibration.

Size: 2 Byte, Default Value: 0

SettingDescription

-100 – 100	Tenths of a degree Fahrenheit.A value of 10 would be 1.0F.

Parameter 9: Mandatory Temperature Reporting Interval

Temperature will be reported regardless of differential from threshold.
Size: 2 Byte, Default Value: 7200

SettingDescription

60 – 64800	The number of seconds between temperature reports.

Technical Data

Hardware Platform	ZM5202
Device Type	Multilevel Sensor
Network Operation	Reporting Sleeping Slave
Firmware Version	01
Z-Wave Version	6.51.06
Certification ID	ZC10-16010010
Z-Wave Product Id	0x0190.0x0003.0x0001
Frequency	XXfrequency
Maximum transmission power	XXantenna

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.