

LD-100 User Guide



LD-100 Water Leak & Temperature Sensor

This product speaks with other Z-Wave certified devices



INTRODUCTION

ZLINK LD-100 is a Z-Wave Plus® certified device with S2 Security and SmartStart. LD-100 is a member of the Z-Wave family and communicates with other Z-Wave certified devices in a control network. LD-100 is designed to detect and alert any water leaks in residential or commercial buildings. LD-100 features an audible alarm in addition to a wireless alert to your controller providing early notification of water leaks before major damage occurs. For more information on this and other quality ZLINK Products please visit www.ZLINKProducts.com.

BENEFITS

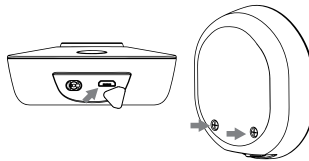
- Water sensing cable may be placed anywhere where there is a risk of a leak, horizontal (floor, attic) or vertical (wall, along pipes), providing 3D capability to sense the leak.
- Senses as little as couple of drops of water (0.25ml – 0.5ml)
- Provides hundreds of times more coverage vs. traditional single point sensors that only detect leaks in a very localized area.
- Quickly senses water leaks (every 400msec with micro USB power supply, every 60 sec. with battery) before expensive damage occurs.
- LD-100 reports local temperature once every 60 minutes on battery, when using micro USB power supply it can be set using configuration parameter 3.
- Built-in audible buzzer sounds when water is detected.
- Includes 4-foot-long sensing cable that senses water on any part of the cable.
- Water sensing cable extend-able up to 150 feet with available extensions.
- Powered by 3 x AAA batteries (not included) or standard 5V micro USB power supply (not included).

FEATURES

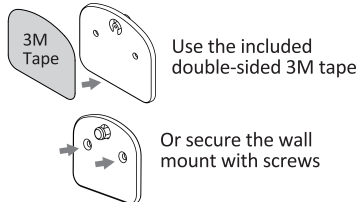
- If water is detected, unit will send a Z-Wave Notification command class type (Water Alarm V2 0x05), event type (Water Leak Detected V2 0x02)
- Includes wall mounting plate
- Meets IP44 splash proof rating (with battery operation)
- Flexible and can be placed anywhere horizontally as well as vertically
- Cable is reusable after leak is detected and cable dries
- For indoor use only

SETUP

Step 1 Remove the two screws in the rear panel, slide off the battery cover, and insert the 3 AAA batteries. Or remove the rubber plug from the micro USB port and plug in a standard 5V power supply with a micro USB connector to the power port.



Step 2 Place the wall mount adapter on a wall or an appliance near where the possible water leak can occur. Secure the wall mount adapter with included double sided 3M tape or via screws to the wall. Once the wall mount is secured, place LD-100 onto the hook with the 4' cable connected.



Note: Do not place LD-100 on the floor, to protect the electronics from water. Mount on a wall or on the side of the appliance.

Step 3 Please be sure the sensor module is powered off before plugging in the 3D water sensing cable and starting the inclusion process. When adding or removing optional extension cables, be sure to have LD-100 powered off.



Inclusion/Exclusion: Add or remove the device into your network by a Z-Wave certified controller. If the controller is SmartStart compatible, refer to the controller manufacturer app that allows the DSK code to be scanned, and scan the DSK code on the side of the unit or on the box. If your controller is not S2/ SmartStart compatible, the device can be added or removed using the traditional method for Z-Wave as follows:

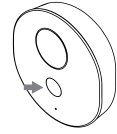
1. Place your controller into Inclusion/Exclusion (Add/Remove) mode by following the controller manufacturer's instructions.
2. When the controller is ready, single click the button of LD-100. The controller should indicate that the new device was added/ removed successfully. If the controller shows it failed, repeat the procedure.

Note: When on battery power, the unit will stay awake for 5 minutes after the button is pressed. Once the unit detects inclusion has completed, it will be able to start detecting every minute and will allow controllers to set any necessary configuration parameters.

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Manual Reset

If Inclusion still fails after the 2nd attempt, you need to first reset the LD-100 before repeating the above step. Press the button and hold for 10 seconds to manually reset. The LED will flash 5 times rapidly, if reset is successful.



Note: If LD-100 was previously Added (Included) in your network, resetting it locally does not mean it has been removed from your controller software. If you wish to remove LD-100 from your network you will need to remove (Exclude) the module from your network by your controller software. The DSK code is required to join or re-join a Z-Wave network using S2 level security. Therefore, please DO NOT REMOVE the DSK code on the product and store a copy of the full DSK printed on the package in a safe location.

Use the manual reset procedure only in the event that the network primary controller is lost or otherwise inoperable.

BASIC OPERATION

- The device will sense for water every 400 msec when plugged into a standard 5V micro USB external power supply (not included).
- LD-100 will sense for water every 60 seconds on battery power.
- The device will beep 5 times once water is detected and will send a notification report to controller; the device will stop beeping if the cable is restored to dry or when the cable is unplugged.
- Once water is detected, frequency of the buzz and notification to the controller can be set using configuration parameter 2, the default setting is every 10 minutes.
- When the cable dries, LD-100 will report a "no water detected" (0x00) notification to the controller, however it will not buzz.

Temperature Measurement

LD-100 reports local temperature (°F) using the Multi-level sensor command class on Association Group 1. On battery, the unit will report temperature to the controller once every 60 minutes. With external 5V micro USB power supply, the unit will report temperature based on the settings for configuration parameter 3, the default setting will report every minute.

Buzzer

When the device detects water on battery or micro USB power, it will buzz 5 times. The buzzer may be disabled using configuration parameter 4.

On micro USB power, LD-100 can be used as a notification buzzer when associated with another device. For example, if it is associated to a door window sensor and it gets triggered, LD-100 will beep one time. The associated controller may trigger the buzzer by sending a Switch Binary or Basic command class set command with a non zero value to the sensor.

Note: We recommend to put fresh batteries after every water leak detected.

ADVANCED CONFIGURATION

Configurable Parameter Settings: If your controller supports Z-Wave configurable parameters, the following settings can be modified.

Parameters				
#	Description	Values	Default	Bytes
2	Beep and notification frequency once water is detected	0= every 10 minutes 1= every 5 minutes 2= every 30 minutes	0	1
3	Temperature reporting interval on micro USB power	30-255 seconds	60	1
4	Notification buzzer	0= Disabled 1= Enabled	1	1

Association

Group 1: Lifeline communication, you can associate up to five Z-Wave devices to Group 1, it supports:

1. BATTERY_REPORT
2. NOTIFICATION_REPORT
3. SENSOR_MULTILEVEL_REPORT
4. DEVICE_RESET_LOCALLY_NOTIFICATION

Group 2: Basic Set, you can associate up to five Z-Wave devices to Group 2. LD-100 will send a Basic Set to the associated devices, for example, turning on lights or engaging the water auto shut-off valve, when water is detected.

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LD-100

Size: 5cm x 10 cm, total: 20cm x 30cm (H)

English

LD -100 User Guide

Supported Command Classes:

COMMAND_CLASS_ZWAVEPLUS_INFO,
COMMAND_CLASS_ASSOCIATION,
COMMAND_CLASS_ASSOCIATION_GRP_INFO,
COMMAND_CLASS_TRANSPORT_SERVICE_V2,
COMMAND_CLASS_VERSION,
COMMAND_CLASS_MANUFACTURER_SPECIFIC,
COMMAND_CLASS_DEVICE_RESET_LOCALLY,
COMMAND_CLASS_POWERLEVEL,
COMMAND_CLASS_BATTERY,
COMMAND_CLASS_SECURITY_2,
COMMAND_CLASS_NOTIFICATION_V3,
COMMAND_CLASS_WAKE_UP,
COMMAND_CLASS_CONFIGURATION,
COMMAND_CLASS_SENSOR_MULTILEVEL_V7,
COMMAND_CLASS_SUPERVISION,
COMMAND_CLASS_FIRMWARE_UPDATE_MD_V2,
COMMAND_CLASS_SENSOR_BINARY,
COMMAND_CLASS_BINARY_SWITCH_V1 (Only supported on micro USB power mode)

Supported Notification Types	Supported Event
Water Alarm	0x05
Water Leak Detected	0x02
No Water Detected	0x00

Cut out and save the important information below:



Z-Wave Device Specific Key (DSK)

IMPORTANT Your Z-Wave device has a unique Device Specific Key (DSK) on the side of the unit and packaging that is required to add or re-add the device to a network with a controller supporting Security 2 (S2). S2 Security is an advanced encryption technology. SmartStart is a pre-provisioning technology that provides easier inclusion with compatible controllers. Be sure to save the DSK code for each device and store in a safe place. Do not remove the DSK from the product. Take a photo of the full DSK code on the packaging or write the full code here:

Installation Date: _____

Device Location: _____

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SPECIFICATIONS

Model	ZL-LD-100
Input power	5 VDC or by 3 x AAA batteries
Radio frequency	908.4/916 MHz.
Wireless range	Up to 132 ft line of sight between the device and other available nodes.
Normal operating temperature	32°F- 122°F (0°C - 50°C)
FOR INDOOR USE ONLY	

Interoperability with Z-Wave devices

A Z-Wave network can integrate devices of various classes, and these devices can be made by different manufacturers. The ZLINK product introduced in this instruction manual has Z-Wave certification which guarantees such an interoperability.

FCC ID: 2AMY9MS100

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

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.
- 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

IC: 22968-MS100

This device complies with Part 15 of the FCC Rules and with RSS of Industry Canada. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Z-Wave is a registered trademark of Silicon Labs.

WARRANTY

ZLINK warrants to the original purchaser of this product that for the warranty period, this product will be free from material defects in materials and workmanship.

The foregoing warranty is subject to the proper installation, operation and maintenance of the product in accordance with installation instructions and the operating manual supplied to customer.

Warranty claims must be made by customer in writing within 30 days of the manifestation of a problem. ZLINK's sole obligation under the foregoing warranty is to repair, replace or correct any such defect that was present at the time of delivery or during the warranty period. The warranty does not extend to consequential or incidental damage to other products that may be used with this product. For inquiry and customer service, email to support@ZLINKproducts.com

Warranty period: limited 1 year from date of purchase.

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70 Commercial Ave. Warehouse A
Moonachie, NJ 07074

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LD-100

Size: 5cm x 10 cm, total: 20cm x 30cm (H)

English