CH-WWA-02-W
Wireless Water & Freeze/ Temperature Alarm

User Guide

Clare Controls™ makes no warranties with respect to this document and disclaims any implied warranties of merchantability, quality, or fitness for any particular purpose. The information in this document is subject to change without notice. Clare Controls reserves the right to make revisions to this publication without obligation to notify any person or entity of any such changes.

Trademarks or brand names mentioned herein are trademarks or registered trademarks of their respective owners. CAVU Pro is a trademark of videoNEXT Network Solutions, Inc.

THE INFORMATION IN THIS PUBLICATION IS PROVIDED ON AN AS-IS BASIS.

CLARE CONTROLS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS DEVICE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

IN NO EVENT SHALL CLARE CONTROLS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTUOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS DEVICE.

TABLE OF CONTENTS

Chapter 1: Introduction

Clare Controls is proud to present the Wireless Water & Freeze / Temperature Alarm Sensor. This product will help to provide you with peace of mind and the protection you expect. Leaking pipes, corroded water heaters, fixturesin bathrooms and laundry rooms, refrigerator drip pans, etc., can all cause water damage.

The CH-WWA-02-W is a Z-wave™ enabled device that will send a water alert on your Z-wave™ network. Devices performing other functions and from other manufacturers can also be part of your Z-WaveTM network and can at as repeaters to extend your network range.

1.1 Definitions

The following terms are commonly used throughout this guide.

- **Exclusion** - removing from a Z-wave network
- **Inclusion** - adding to a Z-wave network
- **Associations -** a devices relationship with other devices in the Z-Wave network

Chapter 2: Functionality

The CH-WWA-02W alarms when water is detected and will also provide a Z-Wave™ alarm signal when the temperature drops below a low temperature setpoint or rises above a high temperature setpoint.

The CH-WWA-02W functionality is based on wireless (RF) transmissions. Any wireless transmission can be subject to RF interference and, although unlikely, this interference may cause the unit to not operate as intended.

Information provided in this guide is for your convenience and may be superceded by updates. The specifications and this guide are subject to change without notice. It is your responsibility to ensure that the CH-WWA-02W meets your specifications.

> **i** **Important** The CH-WWA-02W must not be used in life support and/or safety applications.

2.1 Specifications

Name	Definition
Power	Two AA alkaline batteries
Battery Life	Calculated to be 1 to 2 years with no alarms and default Z-Wave™ network settings
Frequency Range	908.4MHz (US); 868.4 MHz (EU)
Distance Range	Max 100 ft. line of sight in unobstructed environment
Size (LxWxD)	3" (76mm) x 2.1" (53mm) x 1.1" (30mm)
Product Weight	0.24 lb (109 g)
Operating Temperature	-10°C (14F) to +70°C (158F)
Reported Temperature	Reported temperature is at the unit and has a +/- 2 degC accuracy
System Requirement	Any Z-Wave™ enabled network and controller

Chapter 3: Using the CH-WWA-02W in a Z-Wave™ Network

The Program Switch is used for Inclusion (including) or Exclusion (excluding) of the CH-WWA-02W in a Z-Wave™ network. Refer to your controller's User Manual for specific details on network inclusion, exclusion and association.

Inclusion in (adding to) a network:

      a.   Set up the inclusion mode at the controller.

      b.   Briefly press the switch once and the controller will indicate the unit has been included in the network.
          Also, the LED will blink when the inclusion completes.

      NOTE: Inclusion and exclusion are always done at normal transmit power mode.

Exclusion from (removing from) a network:

      a.   Set up the exclusion mode at the controller.

      b.   Press and hold the switch for approximately 2 seconds until the controller indicates the unit has been removed from the network.
          The LED will blink when the exclusion completes.

Associations:

Once in a network, a controller can be used to associate the CH-WWA-02W with other devices in the Z-Wave**™** network, such as a light or another remote audible alarm. Refer to your controller's documentation on how to associate CH-WWA-02W with another device in your network.

The CH-WWA-02W supports three association groups with a maximum of 5 devices in each group. Basic Set commands are sent at 30-minute intervals to the associated groups while alarms are active.

   - A Basic Set Command is sent to the associated nodes, if any, assigned to Group1 to indicate that EITHER a Water Alarm OR Heat Alarm (under or over temperature) is active.

   - A Basic set Command with value = 0xFF is sent to the associated nodes, if any, assigned to Group 2 to indicate that a Water Alarm is active.

    When the water alarm is cleared by drying the contacts, one additional report with value = 0x00 is sent.

   - A Basic Set Command is sent to the associated nodes, if any, assigned to Group 3 to indicate that a Temperature Alarm (over or under temperature) is active.

    When the temperature alarm is cleared due to temperature change, one additional report with value = 0x00 is sent.

Node Info / Keep Alive:

While <u>not in a network</u>, the CH-WWA-02W will send the Z-Wave^{TM} Node information frame when the switch is briefly pressed. This is primarily used for inclusion as described above. The node information frame will also be sent <u>while in network</u> when the switch is pressed and held for 2 seconds.

In either case, the CH-WWA-02W will 'stay awake' for approximately 30 seconds after this to allow time for configuration commands from the controller. Refer to the following Status indications for LED feedback.

Wakeup Notification
The CH-WWA-02W will wakeup and send a notification every 4 hours (default) to allow a controller to query and update the status of the unit. A brief switch press <u>while in network</u> will also cause the CH-WWA-02W to wakeup and send a notification. The device stays awake for 5 seconds during this time or longer if communicating with the controller.

Status LED Indications**:

Number of Blinks	Meaning
Fast Blinks, Normal Operation	
1	Wakeup notification sent (after quick switch press while in Network)
2	Water Alarm
3	Temperature Alarm (either high or low set point triggered)
4	An active alarm has been cleared (when a water alarm or a temperature alarm is no longer active)
5	Low Battery (repeated approx. every 40 seconds)
Slow Blinks After Battery Replacement or Inclusion / Exclusion	
1	In-Network (also, after button held while in-Network)
3	Out of Network (also given if inclusion was not completed)

**If the LED remains continually on after inserting a battery, remove the battery and contact Clare Controls customer service.

3.1 Choosing a Mounting Location

The CH-WWA-02-W is suitable for use in dry, interior locations only.
   a. Avoid placing unit close to a metal frame, or other metal enclosures that may affect RF range.
   b. Place the unit so that any leaks that may occur will not drip directly on the unit.

Recommended CH-WWA-02W uses include: Under sinks, next to Sump pumps, Water Heaters, Laundry Room, Bathroom Floor, Storage Area, Garage, Utility Sink, Vacation/Recreation homes, Boats, etc.

3.2 D uring an Alarm

If the unit detects water at the monitoring location or detects an over/under-temperature condition, the unit will send an alert message(s) to the Z-Wave™ network (if included in the network).
The type of alert message sent depends on how you configured the CH-WWA-02W.
   - If you configured associations, the system will send Basic set messages as described above under Associations.
   - If you configured Water or Heat Alarms (via alarm Command Class V2 set commands), then the CH-WWA-02W will send alert message to the Node ID that configured the alarm.

You may configure and send both Association alert messages and Alarm alert messages. Drying the sensor contacts will clear the Water Alarm. If an over/under temperature Alarm occurred and the temperature alarm conditions are no longer present, the system sends an 'alarm clear' message to the Z-Wave™ network (if included in the network).

Additionally, depending on your Z-Wave™ controller, it is possible to receive a remote alert. For example, with some gateway controllers, you can receive an email or cell phone text message when an alarm is activated. Also, depending on your specific controller's capabilities, you will be able to remotely check the status of any C_WWA-02W in your network.

3.3 Testing the CH-WWA-02W

a. Moisten a paper towel and place it over both of the sensor metal pads on the water sensor until you observe two quick LED blinks. The water alarm indication may take up to 4 or 5 seconds. Continue to hold moisture to the contacts for several seconds after LED blinks to cause the water valves to close.

b. If the LED fails to blink, your battery may be old, dead or incorrectly installed, the sensor may not be moist enough, or the water sensor may be damaged. If you see the LED blink, remove the moistened paper towel and clean the small metal pads of any water residue and the LED should blink four times. You can then add the CH-WWA-02W to your Z-Wave™ network using your controller.

3.4 Battery/No Battery

The CH-WWA-02W will send an alert on the Z-Wave™ network at regular intervals when it detects a low battery condition. In addition, it will periodically blink the LED. Your controller may be able to be configured to monitor the unit's wake up notifications. If these stop, then this might also be an indication that the battery has died or that transmissions from the CH-WWA-02W are no longer being received.

After a water leak, ensure there is no moisture in the unit and around the battery. Do not install batteries that appear damaged or unsealed. When replacing batteries, the water seal may be broken around the screws. We recommend after screwing the parts back together, to use some sealant, such as silicone caulk, around the screws.

Chapter 4: Configuring the CH_WWA-02W

You can configure the high and low temperature set points in the CH-WWA-02W.
The low temperature set point:
- must always be set at least two degrees below the high temperature set point, and
- cannot be set less than -10 degrees C.
The high temperature set point cannot be set greater than 70 degrees C.
You can configure the temperature set points via a 'smart' controller after inclusion (details are provided in the technical appendix).

4.1 Temperature Reports

If your controller sends the wakeup interval set command, the controller will also become the Wakeup Master node. The CH-WWA-02W will automatically send temperature reports to the Wakeup Master node within a half hour of a 1 degree C change in temperature.

4.2 FCC Compliance Statement

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. Contains Transmitter Module FCC ID: XCT-Z3US.

FCC Warning (Part 15.21). Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Interference Statement (Part 15.105 (b)). 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 communication.
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 of the following measures:

- Reorient or relocate the receiving antenna,
- Increase the separation between the equipment and server,
- 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.

4.3 Industry Canada Statement per Section 4.0 of RSP-100

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met. **Section 7.1.5 of RSS-GEN**. Operations 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.

From section 5.2, RSS-Gen, Issue 2, June 2007 Equipment LabelsL Contains IC: 8156A-Z3X

From Section 7.1.1 Rss-Gen, Issue 2, June 2007

a) The host device , as a stand-alone unit without any separately certified modules, complies with all applicable Radio standards Specifications.

b) The host device and all the separately certified modules it contains jointly meet the RF exposure compliance requirements of RSS-102AA, if applicable.

c) the host device complies with the certification labeling requirements of each of the modules it contains.

4.4 Europe

The CH-WWA-02W module has been certified for us in European countries. Test standard: ETSI EN 300 328 V1.7.1 (2006-10)

> The Waste Electrical and Electronic Equipment (WEEE) directive (2002AA/96/EC) was approved by the European Parliament and the Council of the European Union in 2003. This symbol indicates that this product contains electrical and electronic equipment that may include batteries, printed circuit boards, liquid crystal displays or other components that may be subject to local disposal regulations at your location. Please understand these regulations and dispose of this product in a responsible manner.

4.5 Limited Warranty

THE PRODUCT IS PROVIDED WITH ONE YEAR LIMITED MANUFACTURER WARRANTY.   CLARE CONTROLS warrants its products to be free from defects in material and workmanship under normal use for one year, and is not responsible for consequential damages or installation costs of any nature. CLARE CONTROLS expressly disclaims all implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.   CLARE CONTROLS does not warrant, guarantee, or make any representations regarding the use or the results of the use of the products or any accompanying materials in terms of their correctness, accuracy, reliability or otherwise. In no event shall CLARE CONTROLS be liable to Purchaser hereunder or in respect of any products ordered or delivered to Purchaser, whether in contract, tort including negligence or otherwise for a loss of profits or loss of use or for any incidental, consequential, special or indirect damages howsoever caused whether or not CLARE CONTROLS has been advised of the possibility of such loss or damage. CLARE CONTROLS maximum liability to Purchaser under these conditions shall in no event exceed the amount paid by Purchaser for the products that are the subject of the claim and in respect of all claims for products ordered from CLARE CONTROLS to which these conditions apply to the amount paid by Purchaser for the products which are the subject of the claims. If you are not comfortable with your limited warranty, or not completely satisfied with the CH-WWA-02W, or the CH-WWA-02W does not perform as expected we encourage you to return the CH-WWA-02W to your DISTRIBUTOR for an exchange or for a full refund within 30 days of purchase. Or, you can return the CH-WWA-02W to CLARE CONTROLS with an RMA number. All products to be returned to CLARE CONTROLS must have a valid Returned Material Authorization (RMA). Send the returned unit to: **CLARE CONTROLS Warranty Replacement, 7519 Pennsylvania Ave., Suite 104, Sarasota, FL 34243, postage prepaid**. You must use the original packaging and include a proof of purchase (photocopy of receipt) along with the RMA# and the returned Wireless Water and Freeze Alarm.

-

4.5 Customer Support Information

If you are experiencing problems with your system, you should first contact your system administrator. Your system administrator will help you with technical issues and troubleshooting.

For questions about Clare Controls products, please contact us at the following:

Clare Controls Inc.

7519 Pennsylvania Avenue, Suite 104

Sarasota, FL 34243

Support: 941.404.1072

Fax: 941.870.9646

http://support.clarecontrols.com

Revisions

Doc. ID	Date	Comments
2013-03-262-1	03/29/2013	Original.