WATTS BMS-IMS Freeze Sensor Connection Kit Instruction Manual

WATTS BMS-IMS Freeze Sensor Connection Kit

Contents

1 Installation Instructions
2 Kit Components
3 Requirements
4 How It Works
5 Set Up the Valve
6 Connect Wiring to the Activation Module
7 CUSTOMER SUPPORT
8 Documents / Resources

Installation Instructions

⚠ WARNING

Read this Manual BEFORE using this equipment. Failure to read and follow all safety and use information can result in death, serious personal injury, property damage, or damage to the equipment Keep this Manual for future reference.

⚠ WARNING You are required to consult the local building and plumbing codes prior to installation. If the information in this manual is not consistent with local building or plumbing codes, the local codes should be followed. Inquire with governing authorities for additional local requirements.

⚠ WARNING Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

Use smart and connected sensor technology on new and existing installations to monitor temperature nearing the freezing point. With the BMS/IMS Freeze Sensor Connection Kit, the activated sensor relays a signal to a building or an irrigation management system, helping facility personnel take preventive action to reduce or eliminate equipment replacement and repair. Freeze alerts are distributed according to the BMS/IMS application.

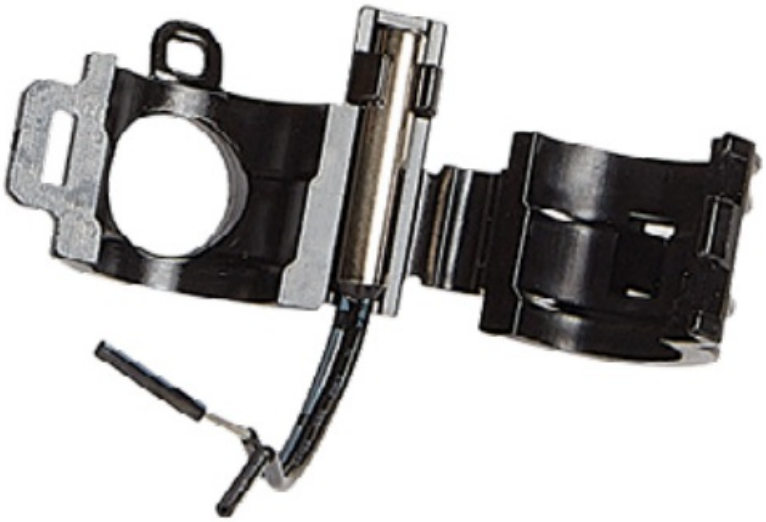
NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide protection against a freeze event.
Watts is not responsible for the failure of alerts due to connectivity or power issues.

Kit Components

The connection kit for installing and activating the freeze sensor includes the items shown below. If any item is missing, speak with your account representative about ordering code 88009429.

A. Freeze sensor with mounting clip



B. Activation module with vent and mounting hardware

C. Wire nuts

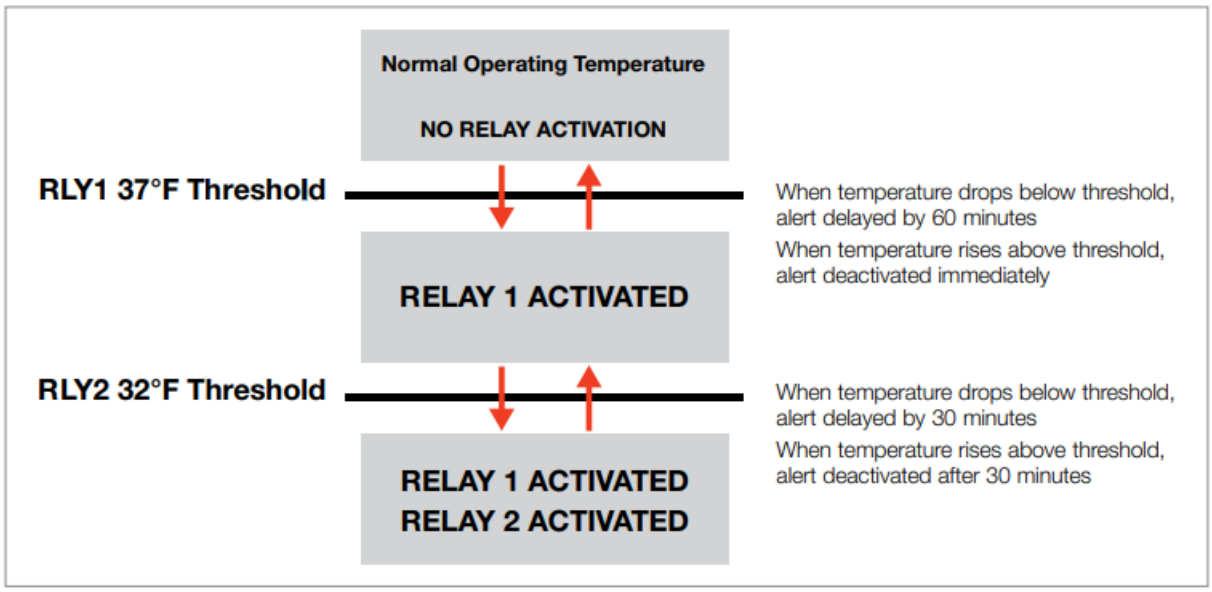
D. 5V DC power adapter

Requirements

- #2 Phillips screwdriver
- Wire stripper
- Tie, to hold the conductor cable to the valve
- 120VAC, 60Hz, GFI-protected electrical outlet (for kit power adapter), or 5V power source
- Two (2) custom lengths of 2-conductor cable (sprinkler wire)
    - One length to connect the freeze sensor to the activation module
    - The other length to connect the activation module to the building or irrigation management system (The activation module is designed with two preset alerts. To receive both alerts, prepare an additional length of wire to connect each relay terminal to the BMS/IMS input, or use one4-conductor cable.)

How It Works

The activation module is designed with two relay switches, each with a fixed threshold. RLY1 temperature threshold is 37°F; RLY2 temperature threshold, 32°F.
Before either RLY1 and RLY2 is activated, decreasing temperature must drop below the fixed threshold for the preset time period. For RLY2 only, increasing temperature must rise above the fixed threshold for the preset time period before the relay is deactivated.
Either relay or both relays can be used according to user preference.



Set Up the Valve

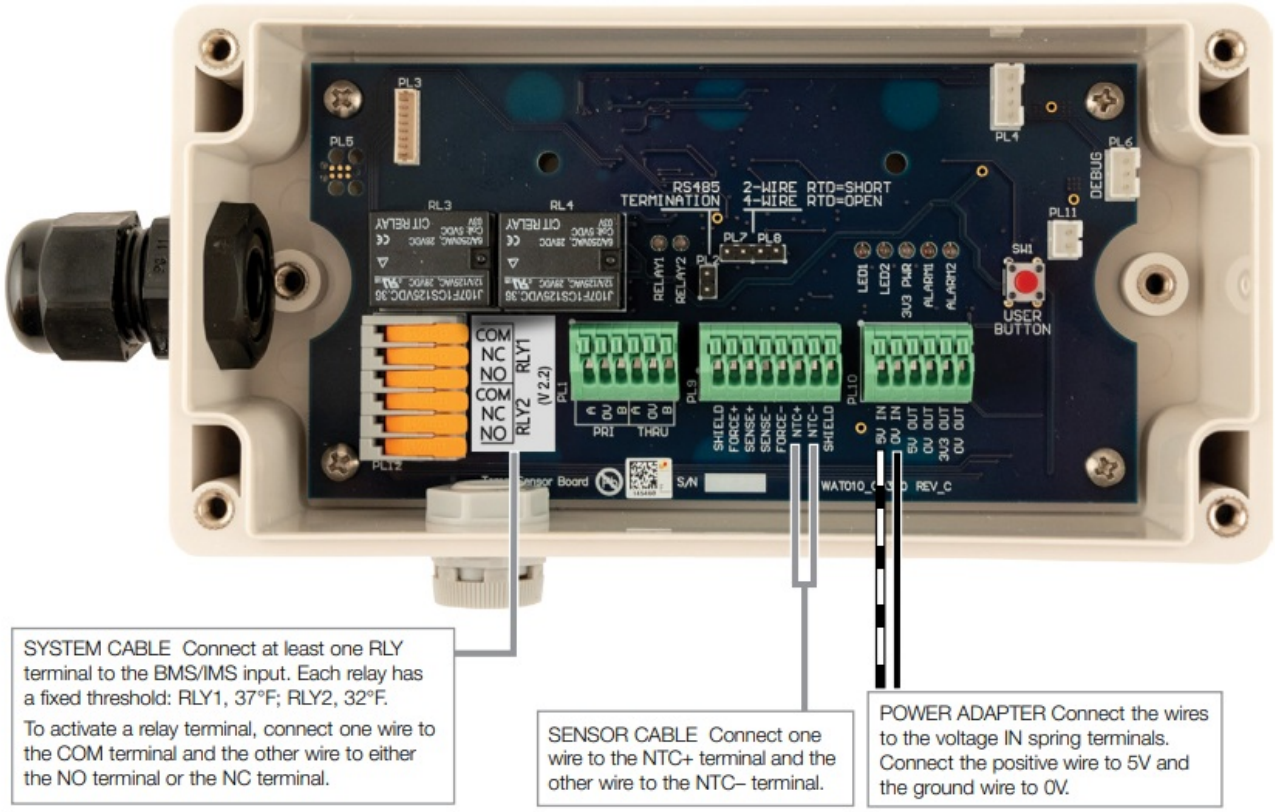
The freeze sensor shown here is installed on a Watts 800M4 PVB. The installation steps are the same for any Watts valve that has a freeze sensor.

1. For retrofit installation only. Snap the mounting clip with freeze sensor over one of the test cocks.

2. Remove the insulation from the freeze sensor leads.
3. Use the wire stripper to cut ½" insulation off both ends of the 2-conductor cable connecting the sensor to the activation module.
4. Connect the freeze sensor leads to one end of the cable using the weather-proof wire nuts provided.
5. Use the tie to strap the first segment of the cable to the valve.

Connect Wiring to the Activation Module

1. Use a #2 Phillips screwdriver to remove the cover of activation module
2. Unscrew the 2-part vent and install the larger piece into the exterior side of the hole in the module housing, then attach the nut to the vent thread on the interior side.
3. Thread the sensor cable from the valve through the gland and insert one wire into the NTC+ terminal and the other wire into the NTC– terminal.
4. Thread the power adapter cable through the gland then connect the positive wire (black with white stripes) to the 5V IN spring terminal and the ground wire (all black) to the 0V IN spring terminal.
5. Use the wire stripper to cut ½” insulation off both ends of the conductor cable connecting the activation module to the building or irrigation management system. (If using both relay terminals, prepare two 2-conductor cables or one 4-conductor cable.)
6. Thread one end of the system cable through the gland to connect the RLY1 terminal for threshold 37°F or theRLY2 terminal for threshold 32°F. Open the levers of the selected terminal and connect one wire to the COM terminal and the other wire to either the NO (normally open) or the NC (normally closed) terminal, depending on the controller specification. Clamp the levers to secure the wires. (If using both relay terminals, repeat this step to connect the other terminal.)
7. Follow the manufacturer’s instructions to connect the other end of the cable to the building or irrigation management system.
8. Plug the power adapter into a 120VAC, 60Hz, GFI-protected electrical outlet.



SYSTEM CABLE Connect at least one RLY terminal to the BMS/IMS input. Each relay has a fixed threshold: RLY1, 37°F; RLY2, 32°F.

To activate a relay terminal, connect one wire to the COM terminal and the other wire to either the NO terminal or the NC terminal.

SENSOR CABLE Connect one wire to the NTC+ terminal and the other wire to the NTC– terminal.

POWER ADAPTER Connect the wires to the voltage IN spring terminals. Connect the positive wire to 5V and the ground wire to 0V.

Limited Warranty: Watts Regulator Co. (the “Company”) warrants each product to be free from defects in material and workmanship under normal usage for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge.

THE WARRANTY SET FORTH HEREIN IS GIVEN EXPRESSLY AND IS THE ONLY WARRANTY GIVEN BY THE COMPANY WITH RESPECT TO THE PRODUCT. THE COMPANY MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED. THE COMPANY HEREBY SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND\ FITNESS FOR A PARTICULAR PURPOSE.

The remedy described in the first paragraph of this warranty shall constitute the sole and exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental, special or consequential damages, including without limitation, lost profits or the cost of repairing or replacing other property which is damaged if this product does not work properly, other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemical, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, improper installation or improper maintenance or alteration of the product.

Some States do not allow limitations on how long an implied warranty lasts, and some States do not allow the exclusion or limitation of incidental or consequential damages. Therefore the above limitations may not apply to you. This Limited Warranty gives you specific legal rights, and you may have other rights that vary from State to State. You should consult applicable state laws to determine your rights. SO FAR AS IS CONSISTENT WITH APPLICABLE STATE LAW, ANY IMPLIED WARRANTIES THAT MAY NOT BE DISCLAIMED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL SHIPMENT.

CUSTOMER SUPPORT

USA: T: (978) 689-6066 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

Documents / Resources

	WATTS BMS-IMS Freeze Sensor Connection Kit [pdf] Instruction Manual BMS-IMS Freeze Sensor Connection Kit, Freeze Sensor Connection Kit, Sensor Connection Kit, Connection Kit, Kit

Manuals+,