WATTS BMS Sensor Connection Kit and Retrofit Connection Kit Installation Guide

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Contents

Installation Instructions

BMS Sensor Connection Kit and Retrofit Connection Kit

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.

Connection Kit

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.

NOTICE
Use of the Sentry Plus Alert® technology does not replace the need to comply with all required instructions, codes, and regulations related to the installation, operation, and maintenance of the backflow preventer to which it is attached, including the need to provide proper drainage in the event of a discharge.

Watts is not responsible for the failure of alerts due to connectivity issues, power outages, or improper installation.

Retrofit Connection Kit

Monitor relief valve discharge with smart and connected technology for flood protection. The BMS Sensor Connection Kit activates the flood sensor to enable functions that detect flood conditions. The BMS Sensor Retrofit Connection Kit upgrades existing installations by integrating and activating the flood sensor to enable functions for flood detection. When excessive relief valve discharge occurs, the flood sensor energizes a relay signaling flood detection and triggers real-time notification of potential flood conditions through the building management system.

Kit Components

The upgrade kit includes the activation module, ground wire, and power adapter (ordering code 88003050). The retrofit kit includes the flood sensor and related components, activation module, ground wire, and power adapter (ordering code 88003051, sizes 2½” to 3″; ordering code 88003054, sizes 4″ to 10″).

A. Activation module with an 8′ 4-conductor cable

B. 24V DC power adapter (requires a 120VAC, 60Hz, GFI-protected electrical outlet)

C. Included in the retrofit kit only: Flood Sensor, size 2½” to 3″ or size 4″ to 10″ Sensor mounting bolts Sensor O-ring

D. Ground wire

Requirements

- 1/2″ Wrench for flood sensor size 2½” to 3″ or 9⁄16″ wrench for flood sensor size 4″ to 10″ (retrofit installation only)
- Power source, ranging from 12V to 24V
- #2 Phillips screwdriver
- Wire stripper

Installing the Flood Sensor

NOTICE

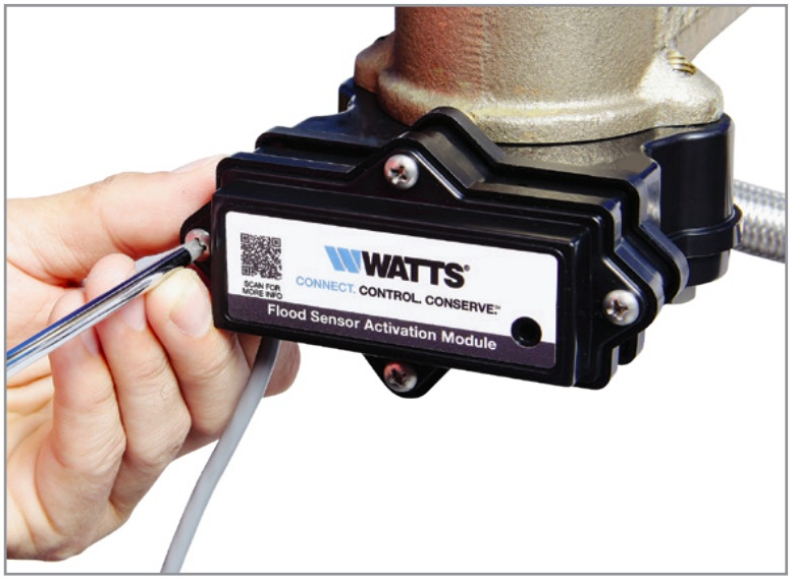
Only for existing installations of the backflow preventer without the flood sensor.

Lay out the flood sensor, O-ring, mounting bolts, and wrench for this segment of the installation.

1. Insert the O-ring into the groove on the top of the flood sensor.
2. Use the two mounting bolts to attach the flood sensor to the relief valve.
   If an air gap is attached, use the mounting bolts to install the flood sensor between the relief port of the backflow valve and the air gap.
3. Use the wrench to tighten the bolts up to 120 in-lb (10 ft-lb). Do not overtighten.

Mounting the Activation Module

The activation module receives a signal from the flood sensor when a discharge is detected. If the discharge meets the conditions of a qualifying event, the normally open contact is closed to provide a signal to the BMS input terminal.



1. Use the Phillips screwdriver to remove the dust cover from the flood sensor.
2. Remove the O-ring from the cover and place it on the activation module to create a seal between the module and the flood sensor.
3. Attach the activation module to the flood sensor with the four attachment screws.

Custom Flood Sensor Settings

DIP switches on the activation module can be used to specify the wet threshold (sensitivity to water discharge) through SW1 and the timer delay (duration before alarm) through SW2. Scan the QR code for more information.

Connecting the Module Cable to the BMS Controller

The 4-lead conductor module cable should be attached to the BMS controller to transmit a normally open contact signal and provide power to the activation module. The contact signal closes when a discharge is detected. Follow the procedures below to connect the cable, ground wire, and power adapter (optional) to the controller. (See the wiring diagram for visual reference.)

To wire the cable to the controller

1. Use the wire stripper to cut away enough insulation to expose 1 to 2 inches of the conductor wires.
2. Insert the white and green wires into the input terminal. Insert the red wire in the power terminal. (A power source ranging from 12V to 24V is required.)

   NOTICE

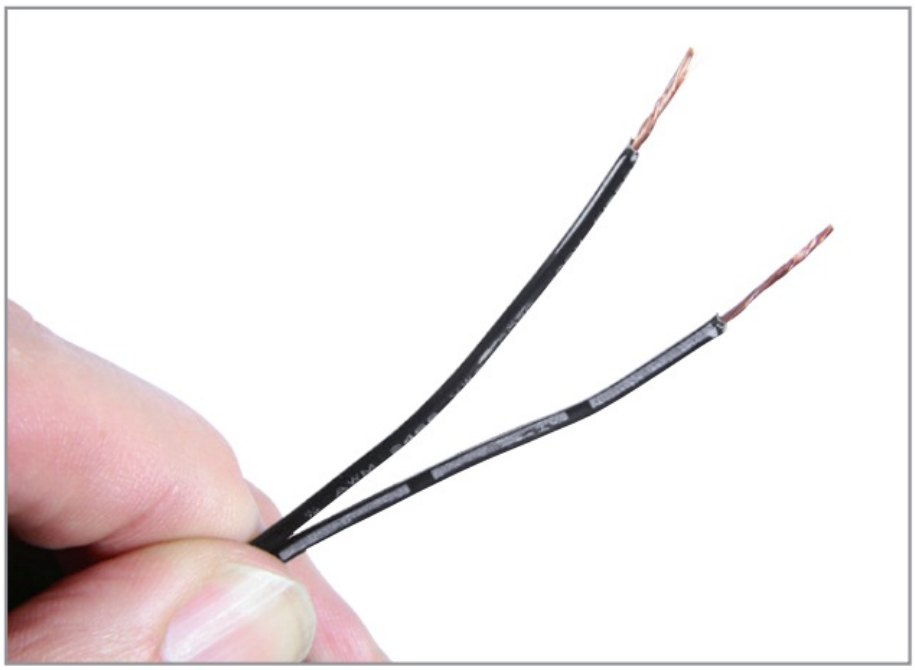
Either the BMS power source (ranging from 12V to 24V) or the 24V DC power adapter provided can be used. With each power source, an earth ground connection is required.

If using the optional power adapter, skip to the next set of instructions. Be sure to use the ground wire provided if there is no other earth ground on the BMS controller.

3. Insert the red wire in the power terminal. (A power source ranging from 12V to 24V is required.)
4. Insert the black wire in the ground terminal.

WARNING
The earth ground must be connected to the BMS controller before the flood sensor is put in operation.

To use the optional 24V DC power adapter
Distinguish the positive wire from the negative one.
The positive wire has white stripes and must be inserted into the power terminal; the negative wire, into the ground terminal.

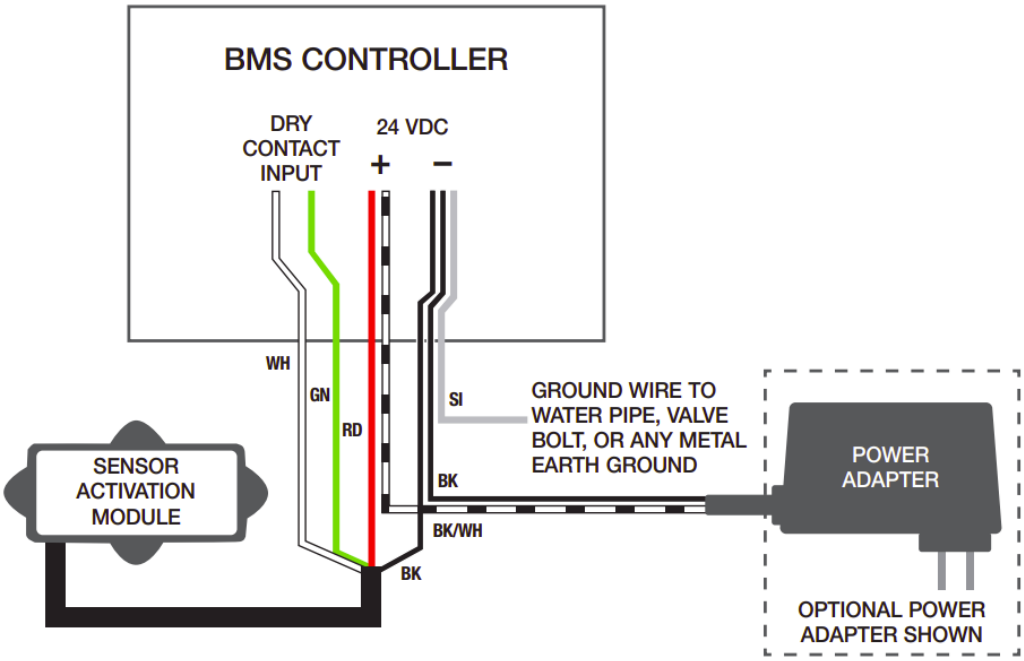


1. Connect the positive power adapter wire (black with white stripe) to the red wire of the activation module cable and insert the wires into the power terminal.
2. Connect the negative power adapter wire (black with no stripe) to both the black wire of the activation module cable and the ground wire (if needed) then insert the wires into the ground terminal.
3. Plug the power adapter into a 120VAC, 60Hz, GFI-protected electrical outlet.

   The flood sensor LED is steady green when the unit is ready

LETTER CODE	WIRE COLOR	FUNCTION
WH	White	Normally open dry contact input
GN	Green	
RD	Red	Positive voltage
BK	Black	Positive voltage
BK/WH	Black with white stripe	
SI	Silver	Earth ground

CONNECTION



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.

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LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL SHIPMENT.

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Documents / Resources

	WATTS BMS Sensor Connection Kit and Retrofit Connection Kit [pdf] Installation Guide IS-FS-909L-BMS, Series 909, LF909, 909RPDA, BMS Sensor Connection Kit and Retrofit Connection Kit, BMS Sensor Connection Kit, Sensor Connection Kit, BMS Retrofit Connection Kit, Retrofit Connection Kit

References

- Watts | Plumbing, Heating and Water Quality Solutions
- User Manual