

WV4262E Powered Damper Water Heater Controls

INSTALLATION INSTRUCTIONS

APPLICATION

The WV4262E Water Heater Control System is designed for powered damper water heater applications.

The WV4262E provides these features:

- **Gas regulation and manual valve features**
- **Intermittent spark-to-pilot ignition**
- **Flame supervision using flame rectification sensing through the spark rod. This flame sense circuit uses patented technology to create a robust sensing signal that is independent of AC line polarity and appliance earth grounding.**
- **Water temperature sensing using solid state sensors potted in a submersion well assembly**
- **Manually resettable High Temperature Cutout (TCO)**
- **Damper motor control with position sensing**
- **Variable resistance flammable vapor sensor with a sensing and control algorithm to provide automatic shutdown when hydrocarbon vapors such as gasoline are detected**
- **Retains up to 10 fault code histories in non-volatile memory (available through the EnviraCOM™ communication port)**
- **Solid state setpoint adjustment over a factory preset temperature range using a linear potentiometer to provide high resolution adjustment**

Special control features are available to address items such as stacking. See a Honeywell Product Specialist for more information.

The specific application of the WV4262E System is the responsibility of the appliance manufacturer. See the Specifications below for temperature ranges and regulator types. The WV4262E system refers to the combination of the valve and the electronic control module.

SPECIFICATIONS

IMPORTANT

WV4262E Controls provide direct replacement only; do not substitute other models.

Body Pattern: 90 degree with 1/2 in. inlet and 1/2 in. inverted flare outlet.
 Natural gas model has right-hand threaded inverted outlet.
 LP gas model has left-hand threaded inverted outlet.

Mounting: Mounting in upright position only.

Electrical Tolerances:
 Voltage Minimum: 18 VAC RMS, 60 Hz.
 Voltage Maximum: 30 VAC RMS, 60 Hz.
 Current in Running Mode: 0.3 Amps Max @ 24 VAC (plus inducer motor draw)
 Current in Idle Mode: 0.3 Amps Max @ 24 VAC
 Damper Relay: 24 VAC RMS, 1 Amp Switching Current.
 75,000 cycle life @ max load.

Capacity: See Table 1.

Conversion: Use conversion factors in Table 2 to convert capacities for other gases.

Regulation Range (Btuh):
 With 1/2 in. NPT inlet and 1/2 in. Inverted Flare Outlet:
 Natural Gas:
 Minimum: 30,000
 Maximum: 100,000
 LP Gas:
 Minimum: 40,000.
 Maximum: 100,000

Inlet Pressure Range:
 See appliance rating plate for Inlet Pressure range recommendation
 1/2 PSI (14.0" w. c.) maximum inlet pressure allowed for proper operation.

Operational Environment:
 Operating Ambient Temperature Range:
 32 °F to 150 °F (0 °C to 65 °C)*
 Shipping and Storage Temperature Range
 -20 °F to 120 °F (-29 °C to 49 °C)
 * Gas valve regulation range is guaranteed from 32 °F to 150 °F (0°C to 66 °C)

Humidity:
 95% Relative Humidity at 104 °F (40 °C).



Approvals:
This device is certified by CSA International to the following ANSI Standards (see report 158158-1701693): Z21.20, Z21.23, Z21.35, Z21.78, Z21.87, and Z21.94

Dimensions
See Fig. 2.

Accessory Parts (Order Separately)

— Well Assemblies:
P/N 50013231-001: 3/4" NPT, 1" insulation, 2" insertion. Limit Rated Sensor for use with WV4262E water heater gas valves.

P/N 50013231-002: 3/4" NPT, 2" insulation, 3" insertion. Limit Rated Sensor for use with WV4262E water heater gas valves

— Pilot Assembly: P/N Q3451J (See a Honeywell Product Specialist for other options)

— TOD FVS (Therm-O-Disc) Flammable Vapor Sensor or equivalent. Refer to specific OEM Water Heater Service Manual for correct selection of sensor.

— See Honeywell product specialist for other available accessories.

Table 1. Capacity of WV4262E.

Model	Size (Inlet x Outlet), in.	Capacity (at 1.47 in. wc pressure drop ^{a,b})	Minimum Regulated Capacity	Maximum Regulated Capacity
WV4262E	1/2 NPT x 1/2 inverted flare	50 ft ³ /hr (3.7 m ³ /hr)	30 ft ³ /hr (0.6 m ³ /hr)	100 ft ³ /hr (5.1 m ³ /hr)

^a Capacity based on 1000 Btu/ft³, 0.64 specific gravity natural gas at 1.47 in. wc pressure drop (37.3 MJ/meter³, 0.64 specific gravity natural gas at 0.37 kPa pressure drop).

^b Valves are guaranteed at only 77 percent of the rating.

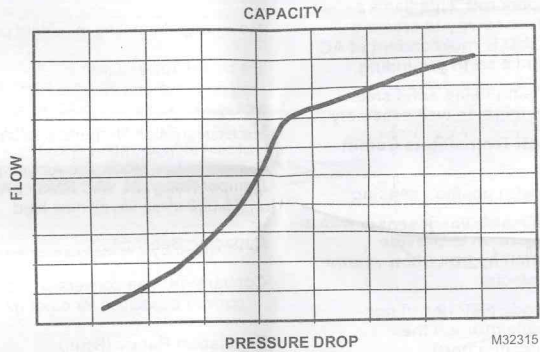


Fig. 1. Typical capacity curve for WV4262E Family Water Heater Control System.

Table 2. Gas Capacity.

Gas Type	Flow (kBTU/hr)	Pressure Drop (in. w.c.)
NG	30	1.43
	50	1.47
	75	1.54
LP	30	0.91
	50	0.94
	75	0.97

PLANNING THE INSTALLATION

WARNING

Fire or Explosion Hazard.
Can cause severe injury, death, or property damage.

Follow these warnings exactly:

1. Plan the installation as outlined below.
2. Plan for frequent maintenance as described in the Maintenance section (see page 8).
3. Review the following conditions that can apply to your specific installation and take the precautionary steps suggested.

Frequent Cycling

This control is designed for use on appliances that typically cycle three to five times a day. In year-around applications with cycling rates greater than 3,000 cycles annually, the control can wear out more quickly. Perform a monthly checkout.

Water or Steam Cleaning

If a control gets wet, replace it. If the appliance is likely to be cleaned with water or steam, protect (cover) the control and wiring from water or steam flow. Mount the control high enough above the bottom of the tank so it does not get wet during normal cleaning procedures.

High Humidity or Dripping Water

Dripping water can cause the control to fail. Never install an appliance where water can drip on the control. In addition, high ambient humidity can cause the control to corrode and fail. If the appliance is in a humid atmosphere, make sure air circulation around the control is adequate to prevent condensation. Also, regularly check out the system.

Corrosive Chemicals

Corrosive chemicals can attack the control, eventually causing a failure. If chemicals are used for routine cleaning, avoid contact with the control. Where chemicals are suspended in air, as in some industrial or agricultural applications, protect the control with an enclosure.

Dust or Grease Accumulation

Heavy accumulations of dust or grease can cause the control to malfunction. Where dust or grease can be a problem, provide covers for the control to limit contamination.

Heat

Excessively high temperatures can damage the control. Make sure the maximum ambient temperature at the control does not exceed the rating of the control. If the appliance operates at very high temperatures, use insulation, shielding, and air circulation, as necessary to protect the control. Proper insulation or shielding should be provided by the appliance manufacturer. Verify proper air circulation is maintained when the appliance is installed.

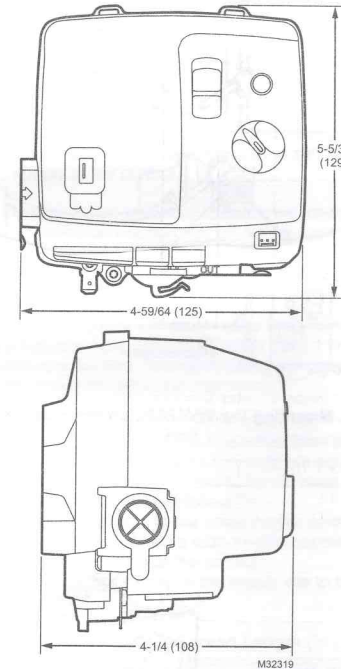


Fig. 2. WV4262E dimensions in inches (mm).

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

WARNING

Fire or Explosion Hazard
Can cause severe injury, death, or property damage.

Follow these warnings exactly:

1. To avoid dangerous accumulation of fuel gas, turn off gas supply at the appliance service valve before starting installation, and perform Gas Leak Test after completion of installation.
2. Always install a sediment trap in gas supply line to prevent contamination of ignition system control.
3. Follow the appliance manufacturer instructions if available; otherwise, use these instructions as a guide.

WARNING

Scalding Hazard.
Can cause burns, severe injury, or death. Always use a direct replacement sensor assembly when replacing the temperature sensor.

WARNING

Electrical Shock Hazard.
Can cause severe injury, death, or property damage.

Disconnect power supply before making wiring connections to prevent electrical shock or equipment damage.

Location

The WV4262E is mounted on the outside of the water heater tank. See Fig. 3.

Install Control to Water Tank

1. To install the water heater control, screw the sensor and well assembly into the spud until the bracket is square. Use a maximum torque of 31 ft. lb. plus one turn.
2. Ensure that the 3-wire lead from the well assembly is bent down into its channel (as indicated in Fig. 4), and then insert the 3-pin wire lead from the well assembly onto the connector of the Control and snap in place as indicated in Fig. 8.
3. Ensure that the 3-wire lead from the well assembly is properly in its channel, then position the valve bracket of the Control (with the inverted flare outlet facing down) over the sensor and well assembly

bracket, then push in and down. (Refer to Fig. 3 for proper orientation of the Control to the sensor and well assembly.)

4. Check to ensure that the 3-wire lead from the well assembly is not pinched between the Control and the well assembly.
5. Connect the burner fill tube and tighten to 30 ft. lb. torque.
6. Position compression fitting in pilot outlet and engage threads. Turn until finger tight, then tighten one more turn with a wrench. Do not overtighten.

Continue the installation with the steps in the Connect Gas Supply section on page 5.

NOTE: The remaining electrical and control connections are described in the Wiring section on page 6

IMPORTANT

These water heater system controls are shipped in protective enclosures to prevent dust and debris from entering the inlet and outlet tapings. Do not remove the protections until ready to connect the piping.

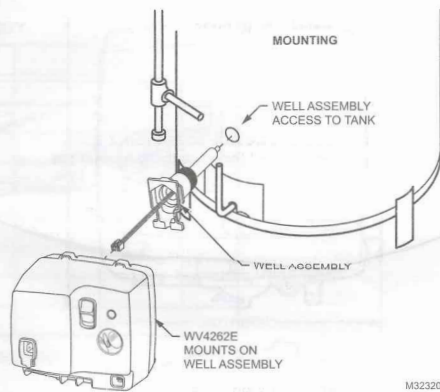


Fig. 3. Mounting the WV4262E on the water heater tank.

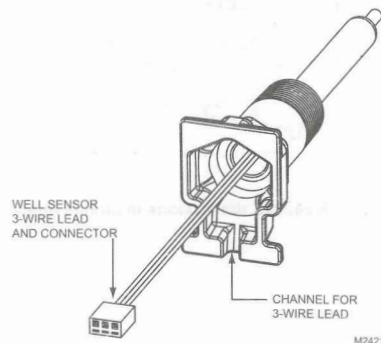


Fig. 4. Well Sensor showing 3-wire lead and channel (M21213).

Connect Gas Supply

WARNING

Fire or Explosion Hazard.
Can cause severe injury, death, or property damage.

Check for gas leaks with soap and water solution any time work is done on a gas system.

Follow these warnings exactly:

1. IF YOU SMELL GAS:
 - a. Turn off the gas supply at the appliance service valve. On LP gas systems, turn off the gas supply at the gas tank.
 - b. Do not light any appliances.
 - c. Do not touch electrical switches or use the phone in the building.
 - d. Leave the building and use a phone to call the gas supplier.
 - e. If you cannot reach the gas supplier, call the fire department.
2. The water heater control must be replaced in event of any physical damage, tampering, bent terminals, missing or broken parts, stripped threads, or evidence of exposure to heat.

CAUTION

Contamination Hazard.
Can cause the device to malfunction. Do not use thread tape sealants to seal the gas supply to the control.

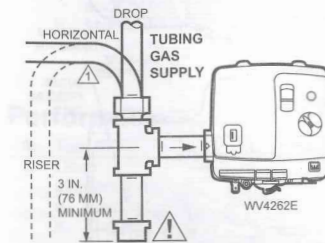
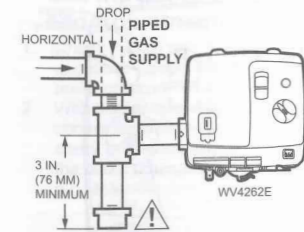
- a. Use a pipe compound to seal the inlet pipe thread connection. On LP installations, use a compound resistant to LP gas.
- b. Use only ANSI approved compounds.

All piping must comply with local codes and ordinances or with the National Fuel Gas Code (ANSI Z223.1 NFPA No. 54), whichever applies. Tubing installation must comply with approved standards and practices.

1. Ensure that the gas supply is turned off.
2. Use new, properly reamed pipe free from chips. If tubing is used, make sure the ends are square, deburred and clean. All tubing bends must be smooth and without deformation.
3. Run pipe or tubing to the water heater control. If tubing is used, obtain a tube-to-pipe coupling to connect the tubing to the control.
4. Install a sediment trap in the supply line to the water heater control. See Fig. 5.

Table 3. NPT Pipe Thread Length (in.).

Pipe Size	Thread Pipe This Amount	Maximum Depth Pipe can be inserted into Control
1/2	3/4	1/2

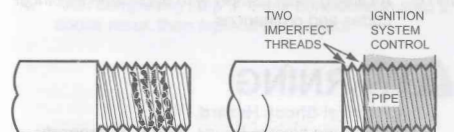


WARNING
EXPLOSION HAZARD. FAILURE TO FOLLOW PRECAUTIONS CAN RESULT IN A GAS-FILLED WORK AREA. SHUT OFF THE MAIN GAS SUPPLY BEFORE REMOVING END CAP. TEST FOR GAS LEAKAGE WHEN INSTALLATION IS COMPLETE.

ALL BENDS IN METALLIC TUBING SHOULD BE SMOOTH. M32321

Fig. 5. Install a sediment trap in the supply line.

5. Apply a moderate amount of good quality pipe compound, leaving two end threads bare. On LP installations, use a compound resistant to LP gas. See Fig. 6.



APPLY A MODERATE AMOUNT OF PIPE COMPOUND ONLY TO PIPE (LEAVE TWO END THREADS BARE).
THREAD PIPE THE AMOUNT SHOWN IN TABLE 3 FOR INSERTION INTO IGNITION SYSTEM CONTROL. M24210

Fig. 6. Use moderate amount of pipe compound.

6. Remove the seals over the water heater control inlet and outlet, if necessary.
7. Connect the pipe to the water heater control inlet to a maximum of 40 ft-lb of torque. Use a wrench on the square end of the water heater control. Refer to Fig. 7.
 - f. Natural gas model is right-hand threaded
 - g. LP gas model is left-hand threaded

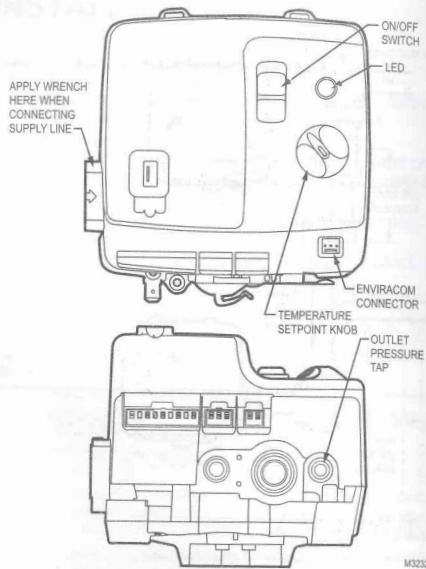


Fig. 7. Water heater controls.

Wiring

Follow the wiring instructions furnished by the appliance manufacturer, if available, or use the general instructions provided below. When these instructions differ from the appliance manufacturer, follow the appliance manufacturer instructions.

NOTE: All wiring must comply with applicable electrical codes and ordinances.

⚠ WARNING

Electrical Shock Hazard.
Can cause severe injury, death, or property damage.

Disconnect power supply before making wiring connections to prevent electrical shock or equipment damage.
Do NOT run the Control without the spark wire installed and in place.

1. Place the Control's ON/OFF switch in the OFF position.

NOTE: Use Fig. 8 as a reference for the following connections.

2. Connect the earth ground to the Control.
3. Connect the 9-wire electrical harness to the Control.
4. Connect the 3-wire temperature sensor harness to the Control.
5. Connect the 2-wire flammable vapor sensor (TOD FVS) to the Control.
6. Connect the Pilot Assembly lead to the Spark connector.

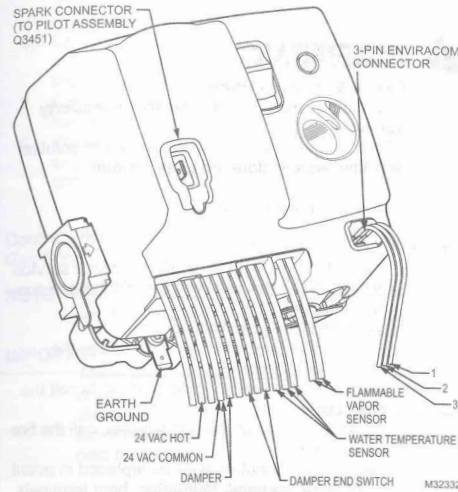


Fig. 8. Wiring connections.

Fill Tank

1. Refer to the appliance manufacturer instructions to fill the tank with water.

NOTE: Be sure to fill the tank before firing the burner.

Turn on Main Burner

⚠ CAUTION

Dry Tank Hazard.
Can cause the device to malfunction.
The tank must have water in it before turning on the control.

Follow the instructions provided by the appliance manufacturer or turn the Control's ON/OFF switch to the ON position then adjust the temperature using the setpoint knob.

⚠ WARNING

Scalding Hazard.
Can cause burns, severe injury, or death.
Never move setpoint knob past the B setting unless extremely hot water is desired. Always check water temperature at the faucet and readjust until comfortably warm to the touch. Consider the ages and health of all who will come into contact with heated water.

Perform Gas Leak Test

⚠ WARNING

Fire or Explosion Hazard
Can cause severe injury, death, or property damage.
Check for gas leaks with soap and water solution any time work is done on a gas system.

⚠ CAUTION

Water Damage Hazard.
Can damage electrical components in the WV4262E.
Do not spray soap and water solution on the housing. Do not use an excessive amount of soap and water to perform the gas leak test.

Gas Leak Test

1. Paint pipe connections upstream of the water heater control with rich soap and water solution. Bubbles indicate a gas leak.
2. If a leak is detected, tighten the pipe connections.
3. Stand clear of the burner while lighting to prevent injury caused from hidden leaks that could cause flashback in the appliance vestibule.
4. With the burner in operation, paint the pipe joints (including adapters) and the control inlet and outlet with rich soap and water solution.
5. If another leak is detected, tighten the adapter screws, joints, and pipe connections.
6. Replace the part if a leak cannot be stopped.

Perform Gas Input and Burner Ignition Check and Adjustment

⚠ WARNING

Fire or Explosion Hazard
Can cause severe injury, death, or property damage.
Follow these warnings exactly:

1. Do not exceed input rating stamped on appliance nameplate, or manufacturers recommended burner orifice pressure for size orifice(s) used. Follow instructions of appliance manufacturer.
2. IF CHECKING GAS INPUT BY CLOCKING GAS METER: Make certain there is no gas flow through the meter other than to the appliance being checked. Other appliances must remain off with the pilots extinguished (or that consumption must be deducted from the meter reading). Convert flow rate to Btuh as described in form 70-2602, Gas Controls Handbook, and compare to Btuh input rating on appliance nameplate.
3. IF CHECKING GAS INPUT WITH MANOMETER: Make sure the manual gas shutoff switch is in the OFF position before removing outlet pressure tap plug to connect manometer (pressure gauge). Also move the manual gas shutoff switch to the OFF position when removing the gauge and replacing the plug. Repeat Gas Leak Test at plug with main burner operating.
Refer to the OS label on the Control for the pressure reading, which should match the manometer reading.

Gas Input and Burner Ignition Check and Adjustment

1. Check the full rate manifold pressure listed on the appliance nameplate. Water heater control full rate outlet pressure should match this rating.
2. With burner operating, check the water heater control flow rate using the meter clocking method or check pressure using a manometer connected to the outlet pressure tap on the water heater control.
 - a. Meter Clocking: Convert flow rate to Btuh as described in form 70-2602, Gas Controls Handbook, and compare to Btuh input rating on appliance nameplate.
 - b. Manometer: Refer to the OS label on the Control for the pressure reading, which should match the manometer reading.

Perform Flame Current Check

1. Turn the temperature control knob to call for heat.
2. Observe the pilot burner during the ignition sequence and see if:
 - a. Ignition spark continues after the pilot is lit.
 - b. The pilot lights and the spark stops, but main burner does not light
 - c. The pilot lights, the spark stops, and main burner light, but the system locks out.
3. If so, ensure adequate flame current as follows:
 - a. Turn off water heater at circuit breaker or fuse box.
 - b. Clean the flame rod with emery cloth.
 - c. Make sure electrical connections are clean and tight.
 - d. Check for cracked ceramic Insulator, which can cause short to ground, and replace igniter-sensor if necessary.
 - e. Check the pilot flame. Make sure it is blue, steady, and envelops 3/8 to 1/2 in. (10 to 13 mm) of the flame rod.
4. After completing step 3, if any conditions in step 2 above recur, then replace the Control.

MAINTENANCE

⚠ WARNING

Fire or Explosion Hazard
Can cause severe injury, death, or property damage.

Do not attempt to take the control apart or clean it. Improper cleaning or reassembly can cause gas leakage.

The maintenance program should include regular checkout of the control as outlined in the Installation section, and the control system as described in the appliance manufacturer literature.

Maintenance frequency must be determined individually for each application. Some considerations are:

1. Cycling frequency. Appliances that may cycle 3,000 times annually should be checked monthly.
2. Intermittent use. Appliances that are used seasonally should be checked before shutdown and again before the next use.
3. Consequence of unexpected shutdown. Where the cost of an unexpected shutdown would be high, the system should be checked more often.
4. Dusty, wet, or corrosive environment. Since these environments can cause the control to deteriorate more rapidly, the system should be checked more often.

The system should be replaced if:

- a. It does not perform properly on checkout or troubleshooting.
- b. The control is likely to have operated for more than 100,000 cycles.
- c. The control has been flooded.

Table 4. WV4262E Sequence of Operation.

Sequence	Mode	Description
Power Up		
1	Start-up	Upon Power up, the control runs a safe-start check of RAM, ROM, and I/O with a typical start-up delay of 1-2 seconds.
2	Flammable Vapor Check	To insure no outputs are energized if flammable vapors are present, the control pre-loads a condition indicating flammable vapors are present. If no vapors are really present, then the control resumes normal operation with no perceptible delays. If vapors are present, the control will immediately perform the flammable vapor lockout.
Heating Sequence		
0	Idle	Normal operation
1	Heat demand	The control receives a demand for heat (the temperature is less than set point minus differential).
2	Check damper end switch	The control checks the damper end switch to insure the damper is closed.
3	Energize damper motor	The damper motor is energized.
4	Monitor damper end switch	The control monitors the damper end switch until the damper is open.
5	Energize pilot and spark igniter	The pilot valve and spark igniter are energized (after the Prepurge time).
6	De-energize spark igniter	The igniter is de-energized (when flame is proved above the "Igniter Off" level).
7	Energize main gas valve	The main valve is energized (when flame is proved above the "RUN" level).

SERVICE

⚠ WARNING

Fire or Explosion Hazard
Can cause severe injury, death, or property damage.

Do not disassemble the water heater control; it contains no replaceable components. Attempted disassembly or repair can damage the control.

Sequence of Operations

1. Follow the sequence of operation as shown in Table 4.

Sequence	Mode	Description
8	Wait 3 seconds to stabilize flame	Flame and Pressure Switch signals are ignored for 3 seconds after the main valve is energized (Flame Stabilization Period).
9	Temperature reaches setpoint	The demand for heat is satisfied (temperature reaches set point).
10	De-energize the main and pilot gas valves	The gas valves are de-energized.
11	Monitor Flame	Flame is monitored until flame signal drops below Flame Lost level.
12	De-energize the damper motor	The damper motor is de-energized.

TROUBLESHOOTING

Troubleshooting with LED Indicator Assistance

1. Observe LED indicator on control; check and repair the system as noted in Table 5. Error flash codes are displayed with a 3 second pause before repeating.
2. After LED flash code analysis and appliance repair are complete, turn system switch to ON and perform lighting procedure.
3. Observe the ignition sequence, comparing it to the Sequence of Operations shown in Table 4. Allow the new ignition sequence to proceed until appliance lights or an abnormal or unexpected event is observed.
4. If an unexpected event is observed, use the Troubleshooting Guide, Fig. 9.

Table 5. Troubleshooting with the LED.

Green LED Status	Indicates	Check/Repair
Short flash once every four seconds	Idle (no call for heat and no faults)	Not Applicable.
"Heartbeat", alternates bright/dim	Call For Heat (no faults)	Not Applicable
Short flash once per second (Idle mode)	Low Flame Signal on last call for heat	<ul style="list-style-type: none"> • Check spark/flame sense rod for build up of silicone-dioxide. • Check spark/flame sense wire insulation.
Two Flash, three second pause	Damper End Switch Failed Closed	<ul style="list-style-type: none"> • Check Damper End Switch for welded contacts and shorted wiring.
Three Flash, three second pause	Damper End Switch Failed Open	<ul style="list-style-type: none"> • Check Damper End Switch for contact closure. • Check wiring to Damper End Switch. • Check damper motor is opening damper. • Check damper for blockage.
Four Flash, three second pause	TCO Limit Lockout (water temperature in excess of TCO)	<ul style="list-style-type: none"> • Wait until water temperature decreases below 120 °F, then reset the control by cycling power to the appliance or cycling the ON/OFF switch. • TCO Limit should not be reached under normal operating conditions. Check installation to insure all manufacturer recommendations were followed. • Reduce the setpoint temperature to keep max. water temperature further away from TCO trip point.
Five Flash, three second pause	Flame Out Of Sequence	<ul style="list-style-type: none"> • Check for pilot flame. • Replace control if pilot flame is present when gas valve should be off.
Six-One Flash, three second pause	Soft Lockout - Failed Trial For Ignition	<ul style="list-style-type: none"> • Check gas supply. • Verify air is purged from gas lines if appliance has not run for an extended period of time. • If pilot flame lights, but control still enters 6-1 flash lockout, check flame rod for silicone-dioxide build-up. • Check flame signal strength (if proper tools are available). • If pilot lights but flame sense can not be repaired, replace control.
Six-Two Flash, three second pause	Soft Lockout - Recycle Limit - Flame Lost, End Switch Failure	<ul style="list-style-type: none"> • Check damper and end switch wiring.
Six-Three Flash, three second pause	Soft Lockout - Recycle Limit - Flame Lost	<ul style="list-style-type: none"> • Check pilot flame to insure main flame is not lifting pilot flame away from flame sense rod. • Check gas supply to insure pressure is maintained when main burner lights.
Six-Four Flash, three second pause	Soft Lockout - Flame out of Sequence Sensed	<ul style="list-style-type: none"> • Check that pilot flame does not linger after valves close.

Green LED Status	Indicates	Check/Repair
Seven Flash, three second pause	Flammable Vapor Sensor Lockout	<p>WARNING: EXPOSITION HAZARD</p> <ul style="list-style-type: none"> • Indicates gasoline vapors were detected at potentially explosive levels • Verify no gasoline vapors are still present. • Reset the control by cycling power to the appliance or by cycling the ON/OFF switch. • Replace the Flammable Vapor Sensor element if a gasoline spill event occurred.
Eight-One Flash, three second pause	FVS Fault Detected	<ul style="list-style-type: none"> • Verify Flammable Vapor Sensor (FVS) resistance is not below 7 KΩ. • Check wiring to FVS and insure it is not shorted. • Replace control if everything above checks out OK.
Eight-Two Flash, three second pause	Temperature Sensor Fault Detected	<ul style="list-style-type: none"> • Verify wiring to Thermal Well is not damaged or broken. • Verify both sensors in the Thermal Well measure within 500 Ω's of each other (center terminal is common) and that their values are in the range of 3 KΩ to 30 KΩ.
Eight-Three Flash, three second pause	Electronics Fault Detected	<ul style="list-style-type: none"> • Verify control is not wet or physically damaged. • Reset control with ON/OFF switch. • Replace electronics module if 8-3 error persists.
Eight-Four Flash, three second pause	Valve Fault Detected	<ul style="list-style-type: none"> • Verify valve is not wet or physically damaged. • Reset control with ON/OFF switch. • Replace gas control if 8-4 error persists.

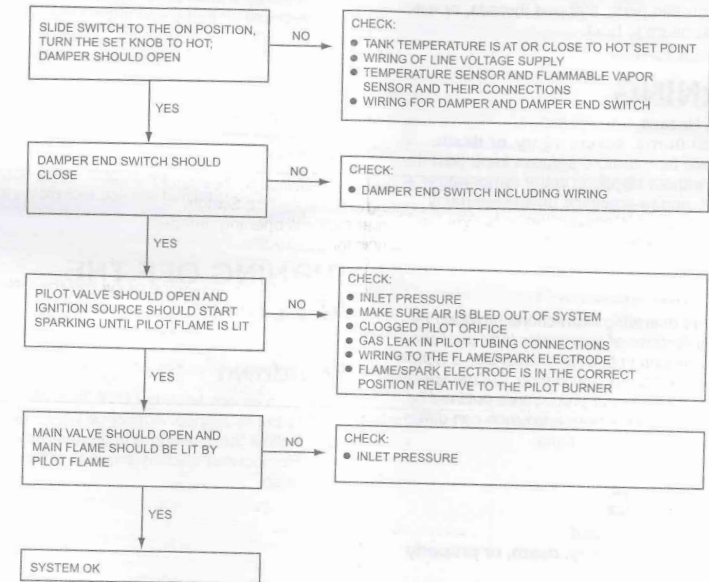


Fig. 9. Troubleshooting without status LED.

INSTRUCTIONS TO THE HOMEOWNER

WARNING

Fire or Explosion Hazard.
Can cause severe injury, death, or property damage.

Follow these warnings exactly:

1. IF YOU SMELL GAS:
 - a. Turn off the gas supply at the appliance service valve. On LP gas systems, turn off the gas supply at the gas tank.
 - b. Do not light any appliances in the house.
 - c. Do not touch electrical switches or use the phone.
 - d. Leave the building and use a neighbor's phone to call your gas supplier.
 - e. If you cannot reach your gas supplier, call the fire department.
2. The water heater control must be replaced in event of any physical damage, tampering, bent terminals, missing or broken parts, stripped threads, or evidence of exposure to heat.

WARNING

Scalding Hazard.
Can cause burns, severe injury, or death.
Never move temperature setpoint knob past the B setting without checking water temperature at the faucet, and re-adjusting until comfortably warm to the touch. Consider the ages and health of all who will come into contact with heated water.

IMPORTANT

Follow the operating instructions provided by the manufacturer of your water tank appliance. The information in this form describes a typical water heater control application, but the specific controls used and the procedures outlined by the manufacturer of your appliance can differ, requiring special instructions.

WARNING

Electrical Shock Hazard.
Can cause severe injury, death, or property damage.

Disconnect power supply before making wiring connections to prevent electrical shock or equipment damage.

Automation and Control Solutions

Honeywell International Inc.
1985 Douglas Drive North
Golden Valley, MN 55422

Honeywell Limited-Honeywell Limitée
35 Dynamic Drive
Toronto, Ontario M1V 4Z9
customer.honeywell.com

STOP: READ THE WARNINGS.

TURNING ON THE APPLIANCE

If the appliance does not turn on when the setpoint knob is set several degrees above the previous temperature, follow these instructions:

1. Set the temperature setpoint knob to its lowest setting to reset the safety control.
2. Disconnect all electric power to the appliance.
3. Turn off the main gas supply to the appliance.
4. Wait five minutes to clear out any unburned gas. If you then smell gas, STOP! Follow Step 1 in the Warning above. If you DO NOT smell gas, continue with the next step.
5. Turn on the main gas supply to the appliance.
6. Reconnect all electric power to the appliance.
7. Turn the setpoint knob to the desired setting.
8. If the appliance does not turn on, there may be residual air in the gas supply line.
 - a. Set the temperature setpoint knob to its lowest setting to reset the safety control.
 - b. Turn the setpoint knob to the desired setting.
 - c. Turn the Control's power switch to the OFF position, then turn it back ON to restart the 90 second air-purge cycle for the gas supply.
9. If the previous step does not turn on the appliance, turn off the main gas supply to the appliance and contact a qualified service technician for assistance.

TURNING OFF THE APPLIANCE

Shutdown

1. Turn device knob to LOW. Turn off the gas supply to the appliance. Appliance will completely shut off.
2. Follow the procedure in the Instructions To The Homeowner section above to resume normal operation.

Honeywell