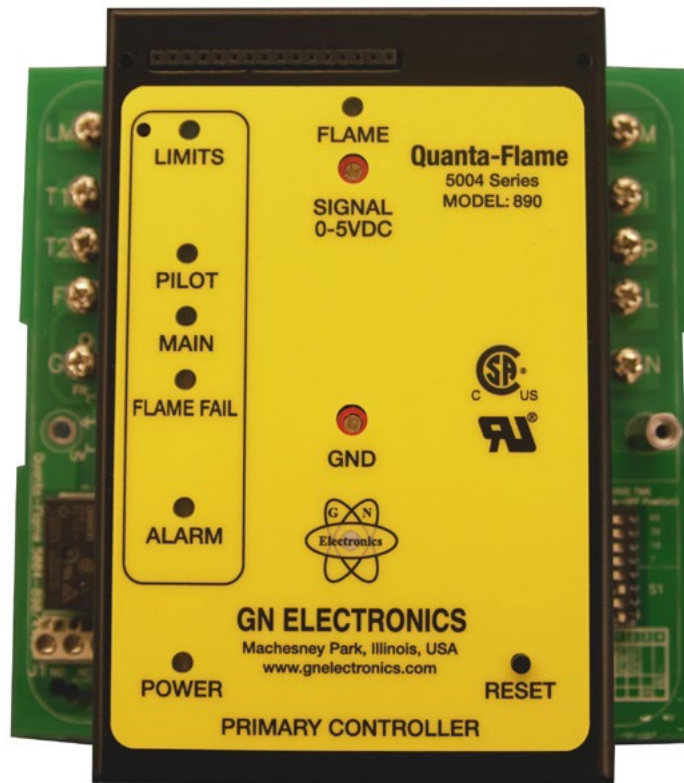


Quanta-Flame 5004-890 Quick Start Guide



For complete instruction manual, go to www.preferred-mfg.com

GN Electronics, a division of Preferred Utilities since 2007



DESCRIPTION

The Preferred Utilities 5004-890 controller is a direct replacement for the following Honeywell flame safeguard controllers:

RA890F-1031	RA890G-1047
RA890F-1056	RA890G-1062
RA890F-1072	RA890G-1112
RA890F-1262	RA890G-1120
RA890F-1288*	RA890G-1179
RA890F-1346	RA890G-1197
RA890F-1437	RA890G-1187
RA890F-1510	RA890G-1260*

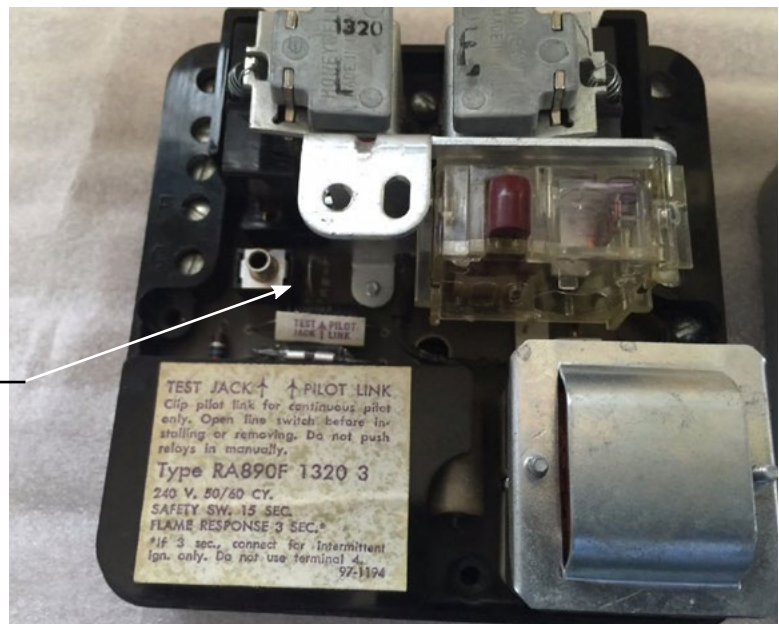
*For Standing Pilot applications, contact Preferred for availability.

This quick start guide will describe how to remove the existing RA890 controller, configure, install, and test the new Preferred 5004-890 flame safeguard controller. Before starting work, de-energize power to the existing flame safeguard controller. Close any fuel valves to the burner. Use lock out/tag out procedures appropriate to the facility.

STEP 1. REMOVE THE EXISTING RA890 CONTROLLER

- Remove the cover from the existing RA890 exposing the ten (10) captive mounting screws.
- Unscrew the ten mounting screws and pull the RA890 controller away from the Q270A subbase.
- Inspect the pilot link jumper wire to determine if it is intact or if it has been cut. (Note only the RA890F controllers have a pilot link jumper.

PILOT LINK JUMPER



The equipment covered in this manual is capable of causing property damage, severe injury, or death. It is the responsibility of the owner or user to ensure that the equipment described herein is installed and com-

5004-890 Quick Start Guide



STEP 2. CONFIGURE THE 5004-890 CONTROLLER

- Using the part number for the existing controller, set the four DIP switches and J2 according to the following table. The DIP switches are located under the right side cover below the mounting screws. J2 is under the left side cover below the mounting screws on the left side.

	Pilot Trial for Ig	Ignition Timing	Recycle or Non-Recycle Mode	Intermittent or Continuous Pilot	Flame Proving
Honeywell Part Number	DIP Switch 1	DIP Switch 2	DIP Switch 3	DIP Switch 4	J2 Position
RA890F-1288	OFF	ON	ON	For continuous pilot operation, the pilot link on the existing RA890F will be clipped. Set DIP switch 4 to OFF. If the pilot link on the existing con- troller is intact, set DIP switch 4 to ON	Flame Rod
RA890F-1031	OFF	ON	ON		Flame Rod
RA890F-1056	OFF	ON	ON		Flame Rod
RA890F-1072	OFF	ON	ON		Flame Rod
RA890F-1262	OFF	ON	ON		Flame Rod
RA890F-1346	OFF	ON	ON		Flame Rod
RA890F-1437	OFF	ON	ON		Flame Rod
RA890F-1510	OFF	ON	ON		Flame Rod
RA890G-1260	OFF	ON	ON	All RA890Gs are intended for intermittent or interrupted pilot only. DIP switch 4 to be set to ON	UV Scanner
RA890G-1047	OFF	ON	ON		UV Scanner
RA890G-1062	OFF	ON	ON		UV Scanner
RA890G-1112	OFF	ON	ON		UV Scanner
RA890G-1120	OFF	ON	ON		UV Scanner
RA890G-1179	OFF	ON	ON		UV Scanner
RA890G-1197	OFF	ON	ON		UV Scanner
RA890G-1187	OFF	ON	ON		UV Scanner

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STEP 3. INSTALL THE 5004-890 CONTROLLER

- Set the 5004-890 controller over the existing Q270A mounting base and tighten the ten mounting screws securely.
- Restore power to the flame safeguard enclosure.

STEP 4. MINIMUM PILOT TEST

This test requires a digital multimeter capable of reading volts DC to measure flame signal strength. The positive lead is plugged into the test jack labeled, "SIGNAL 0-5 VDC." The negative lead is plugged into the test jack labeled, "GND."

The following test procedures ensure the flame sensor will not detect a pilot flame too small to reliably light the main flame:

- 4.1 Manually shut off the fuel supply to the burner, but not to the pilot.
- 4.2 Start the system normally.
- 4.3 To enter the pilot test mode, press and hold the reset button for ten seconds on the front of the 5004 control.
- 4.4 The control will hold the operating sequence at the pilot flame step. Measure signal strength as described above.
- 4.5 Reduce pilot fuel until the flame relay drops out. Increase pilot fuel until the flame signal is greater than 1 VDC, and flame relay just manages to pull in. This is the minimum pilot. If you don't think this flame will be able to safely light the main burner, realign the sensor so that it requires a larger pilot flame and repeat steps 4.2 through 4.5.
- 4.6 Push the reset button located in the lower right corner on the front cover to reset the control into the normal and begin the normal start-up sequence again.
- 4.7 When the sequence reaches the main flame trial for ignition, smoothly restore the fuel supply to the burner. If the main burner does not light within five seconds, immediately shut off the burner supply to shut down the system. Re-align the sensor so that it requires a larger pilot flame. Repeat steps 4.1 through 4.6 until the main burner lights off smoothly and reliably.

STEP 5. PILOT FLAME FAILURE TEST

- Manually shut off the fuel supply to the pilot and the main burner.
- Place system in pilot test mode
- Start the system normally. The controller should lock out; if it doesn't, then the controller is detecting a false flame signal. Find the problem and correct it before resuming normal operation.

STEP 6. MAIN FLAME FAILURE TEST

- Manually shut off the fuel supply to the main burner but not to the pilot.
- Start the system normally. This should ignite the pilot and lock out after pilot interruption. If the system does not lock out, the controller is detecting a false flame signal. Find the problem and correct it before resuming normal operation.

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STEP 7. SPARK SIGHTING TEST

- **Manually shut off the fuel supply to the pilot and the main burner.**
- **Start the system normally.**
- **Measure the flame signal.**
- **If a flame signal greater than 1 VDC is measured for more than three seconds during the trial for ignition, then the sensor is picking up a signal from the spark plug.**

Note: Periodically check all interlock and limit switches by manually tripping them during burner operation to make sure they cause the system to shut down.

Warning: Never operate a system that is improperly adjusted or has faulty interlocks or limit switches. Always replace faulty equipment with new equipment before resuming operation. Operating a system with defective safety equipment can cause explosions, injuries, and property damage.

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Company Overview

Founded in 1920, Preferred is an engineering, manufacturing, technical, and mechanical services firm based in Danbury, Connecticut.

Preferred is a leader in many diversified markets with a focus on combustion, control, instrumentation, fuel handling, mission critical systems, steam/ power plant operations, and more. Preferred delivers design-build, program management, and other professional services packaged in innovative alternative delivery methods to government agencies as well as private industrial and commercial customers worldwide.

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31-35 South Street | 203-743-6741
Danbury, CT 06810

