

Quanta-Flame 5004-795

Quick Start Guide



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



DESCRIPTION

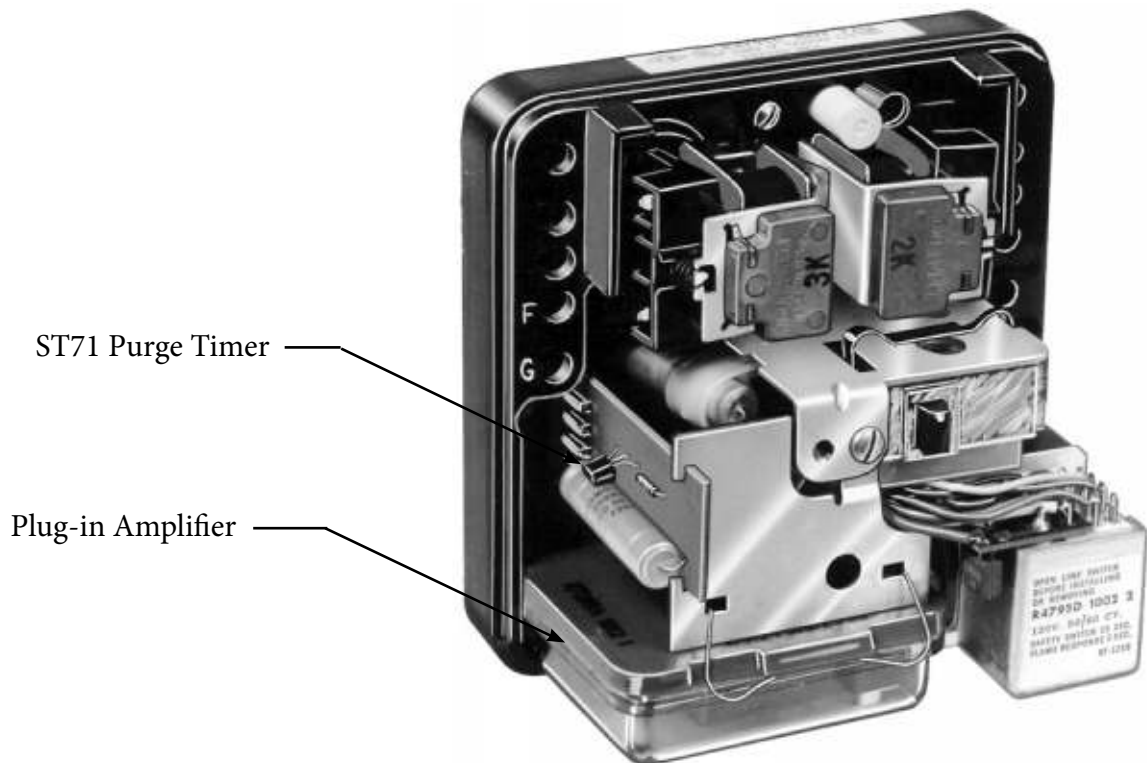
The Preferred Utilities 5004-795 controller is a direct replacement for the following Honeywell flame safeguard controllers:

R4795A1016	R4795A1081
R4795A1008	R4795C1004
R4795A1024	R4795D1002
R4795A1032	R4795D1010
R4795A1065	R4795D1051
R4795A1073	

This quick start guide will describe how to remove the existing R4795 controller, configure, install, and test the new Preferred 5004-795 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 R4795 CONTROLLER

- Remove the cover from the existing R4795 exposing the ten (10) captive mounting screws.
- Unscrew the ten mounting screws and pull the R4795 controller away from the Q270A subbase.
- Remove and retain the plug-in flame amplifier from the bottom of the R4795 control module.
- Remove and retain the ST71 purge timer from the left side of the R4795 control module.



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 commissioned in compliance with the requirements of all national and local codes, whichever may prevail.

5004-795 Quick Start Guide



STEP 2. CONFIGURE THE 5004-795 CONTROLLER

- Using the part number for the existing controller, set DIP switches 1-4 according to the following table. The DIP switches are located under the right side cover below the mounting screws.

	Pilot Trial for Ignition Timing		Recycle or Non-Recycle Mode	Intermittent or Continuous Pilot
Honeywell Part Number	DIP Switch 1	DIP Switch 2	DIP Switch 3	DIP Switch 4
R4795A1016	OFF	ON	OFF ¹	ON
R4795A1008	OFF	ON	OFF ¹	ON
R4795A1024	OFF	ON	OFF ¹	ON
R4795A1032	OFF	ON	OFF ¹	ON
R4795A1065	OFF	ON	OFF ¹	ON
R4795A1073	OFF	ON	OFF ¹	ON
R4795A1081	OFF	ON	OFF ¹	ON
R4795C1004	OFF	ON	OFF ¹	OFF
R4795D1002	OFF	ON	OFF ¹	ON
R4795D1010	OFF	ON	OFF ¹	ON
R4795D1051	OFF	ON	OFF ¹	ON

¹ Existing Honeywell R4795 controllers will shut down when a boiler safety interlock switch opens and automatically recycle when the limit switch makes again. Current NFPA boiler code requires an operator to inspect the boiler and manually restart the boiler for most boiler trips. Both controllers lockout on a flame failure and require manual reset.

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 commissioned in compliance with the requirements of all national and local codes, whichever may prevail.

- Using the part number for the existing purge timer, set DIP switches 5-8 according to the following table.



Honeywell Part Number	Purge Timing	DIP Switch 5	DIP Switch 6	DIP Switch 7	DIP Switch 8
ST71A1000	7 seconds	OFF	ON	ON	ON
ST71A1042	10 seconds	ON	OFF	ON	ON
ST71A1018	30 seconds	ON	ON	OFF	ON
ST71A1026	60 seconds	ON	ON	ON	OFF
ST71A1034	90 seconds	ON	ON	OFF	OFF

- Using the part number for the existing plug-in flame amplifier, set J2 according to the following table. J2 is located on the left side of the 5004-890 controller.

Honeywell Part Number	Flame Proving Type	J2 Position
R7289A1004	Rectification	Flame Rod
R7289A1020	Rectification	Flame Rod
R7289A1001	UV Scanner	UV Scanner
R7289A1027	UV Scanner	UV Scanner



Note: the 5004-795 does not support the Honeywell R7289A1012 or R72901027 flame amplifiers. Consult the burner manufacturer or a technician certified by the burner manufacturer to determine if the 3 second flame failure response time of the 5004-795 is acceptable for your burner.

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 commissioned in compliance with the requirements of all national and local codes, whichever may prevail.

5004-795 Quick Start Guide



STEP 3. INSTALL THE 5004-795 CONTROLLER

- Set the 5004-795 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 ensures 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.

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 commissioned in compliance with the requirements of all national and local codes, whichever may prevail.

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.

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 commissioned in compliance with the requirements of all national and local codes, whichever may prevail.

Since 1920.

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.

For more about Preferred, please visit www.preferred-mfg.com.



PREFERRED
UTILITIES MFG CORPORATION



"People. Products. Results."

31-35 South Street | 203-743-6741
Danbury, CT 06810
www.PREFERRED-MFG.com

