

## North American Sentry 8880 Flame Supervisor

### Family of Single Burner Flame Supervision Panels

- Single burner flame supervision
- Low cost compact package with easy flip latch access
- Meets NFPA 86
- NEMA 4X enclosure
- Stand alone or with master panel
- Supports DSI, piloted or manually lit systems
- Located at burner
- Lockout tag-out standard
- Optional KBD with fault history diagnostic & flame strength



The 8880 family of single burner flame supervision panels is designed to start and stop individual burners located at the furnace or oven. Used in conjunction with a master panel in multi-burner systems or as a stand alone control when purge is not required, the 8880 family of burner boxes is a convenient, inexpensive and NFPA compliant control for numerous burner applications.

The 8880 family can accommodate direct spark (with or without a low-fire valve), piloted and manually ignited systems. Flame rods, standard UVs and self-check UVs are

all compatible. Designed around the Honeywell RM7890 Control, the 8880 family can accommodate remote or local burner start/stop and remote or local flame relay reset. Housed in a NEMA 4X enclosure, the clear front permits direct viewing of the flame relay and its status LED's without the loss of the weatherproof integrity. A quick glance reveals burner status. The panel is available with UL or Canadian UL label.

## Application/Typical Sequence of Operation

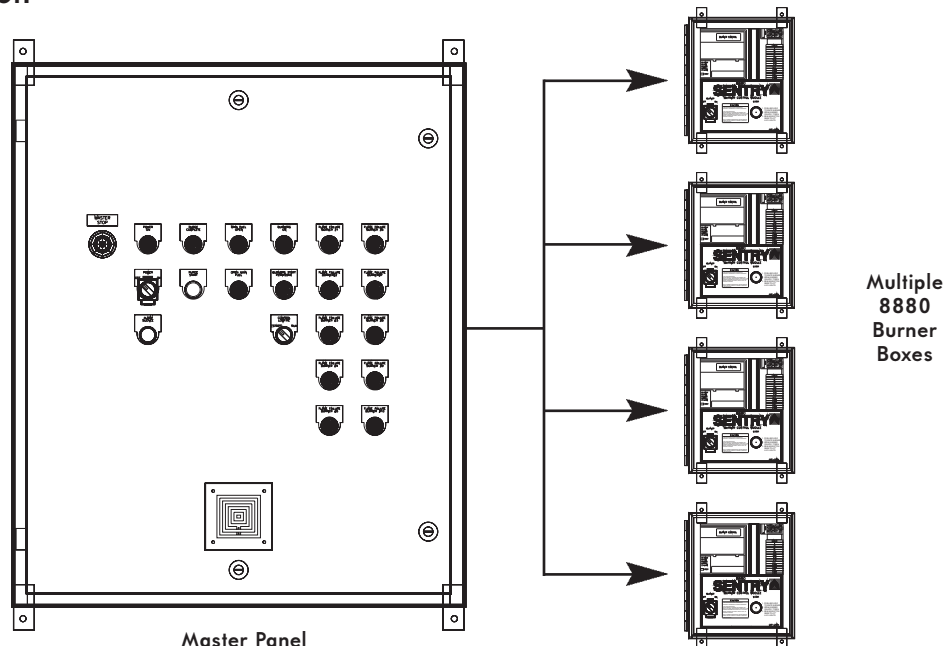
In multi-burner applications where a master panel is used, the master panel (ordered separately) performs the purging and motor drive functions for multiple burner boxes. Through contact closures to the individual burner boxes the master panel confirms that a purge has been completed and the motor circuit has been driven to a light-off position. The master panel can also start the burner light-off sequence remotely or have the burner light-off be controlled at the burner box.

### Typical Sequence:

- 1) With power supplied to the burner box, cycle the **(RESET/OFF/ON)** to the **ON** position. This powers the flame relay and the green **POWER** LED on the flame relay comes on.
- 2) When the common operating limits and the purge complete permissive from master panel are made, the process control motor is at the low-fire or light-off position (indicated by a switch closure), the burner can be started.
- 3) Depress and hold the **START** pushbutton until the amber **PILOT** LED on the flame relay comes on.
- 4) The flame relay/control box then sequences through a burner start with status LEDs on the flame relay giving indication of the steps of the lighting sequence until the burner is lit. Once the burner is lit, a dry contact closes to indicate that the burner is on. This contact can be used by the master panel.
- 5) If the burner does not complete its light-off sequence or if the burner goes out after being lit, the red **ALARM** LED on the flame relay comes on, and a 120 VAC signal indicates an alarm condition that can be used by the master panel.
- 6) To reset the flame relay after an Alarm condition, turn the **RESET/OFF/ON** selector to the **OFF** position, and depress the blue reset button on the front of the flame relay inside the burner box. If the reset module or keyboard display module options are present, turning the **RESET/OFF/ON** selector to the **RESET** position (which will spring return to the **OFF** position) can also be used to reset the flame relay.

As is the case with any Flame Supervision equipment, this product is designed to be applied to specific applications. All applicable requirements and codes should be adhered to when installing and operating this equipment

### Multi-Burner Application



## BURNER BOX APPLICATION

### Signals Required:

- 120 VAC Supply
- Common Operating Limits (contact closure)
- Confirmation of purge complete (contact closure)
- Confirmation of light-off position (contact closure)
- Flame detector signal (UV or Flame rod)
- Burner block valve auxiliary switch if required (contact closure)
- (Optional) Remote Reset contact

### Outputs available:

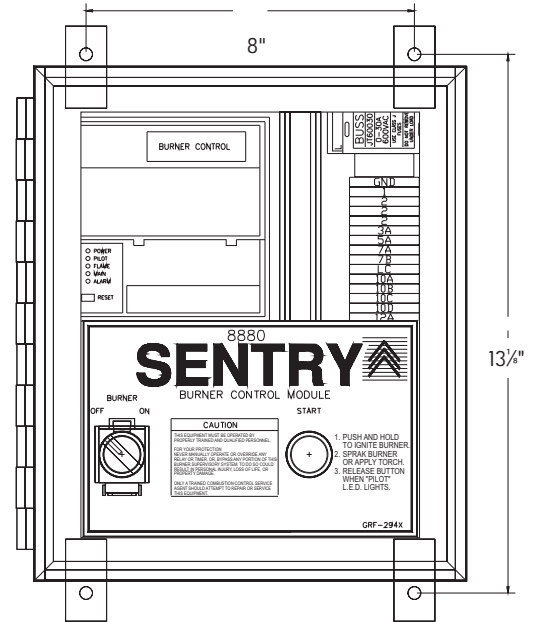
- 120 VAC for pilot, main and burner SSOVs
- 120 VAC for ignition transformer
- FUEL ON signal (contact closure)
- ALARM signal (120 VAC)

### Functions performed:

- Safe Start Check
- Monitor common operating limits
- Burner light-off sequence
- Local burner Start/Stop
- Local flame relay reset
- Local Annunciation/Alarm
- Powers SSOVs and ignition transformer

## SPECIFICATIONS and FEATURES

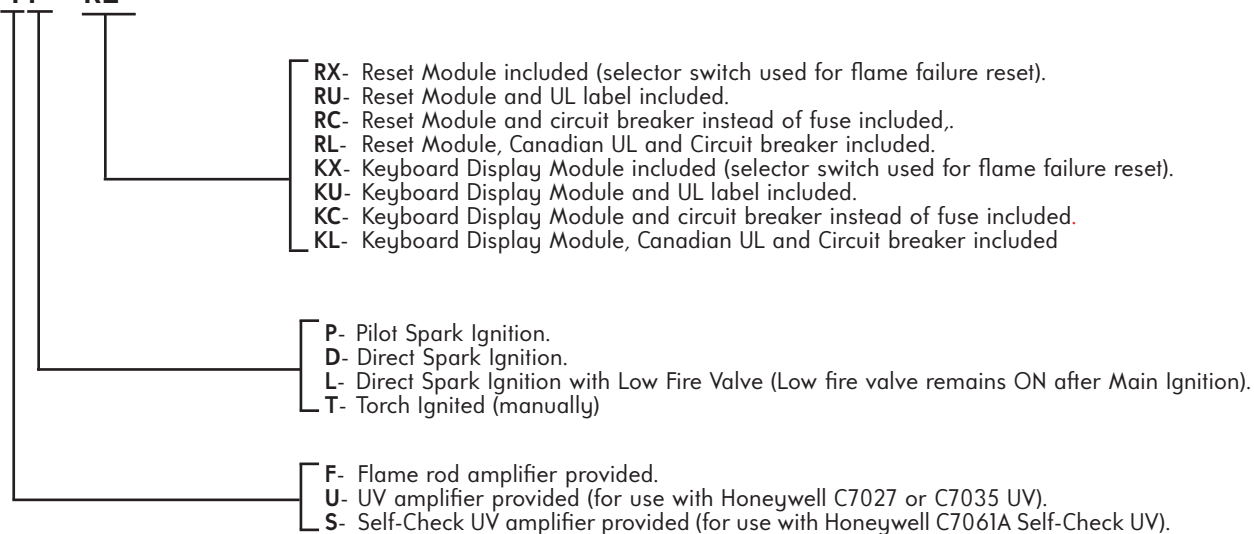
- Rugged Fiberglass Enclosure size: 12" H x 10" W x 6" D
- NEMA 4X and 12 rated enclosure
- Power required: Maximum 5 amps at 120/1/60 VAC
  - Burner can be started remotely or locally (depending on wiring)
  - Lockout Tag-out feature
  - Safe Start Check
  - Quick flip latches for easy access inside box
- Clear plexiglass door to view status LEDs
- Stand alone unit or used with Main Panel (ordered separately)
- Compatible with flame rod, standard Honeywell UV detector (C7027 or C7035) and self-check Honeywell UV detector (C7061A)
- Used on pilot ignited systems, direct spark systems (with or without low-fire valve) or manually ignited systems
  - Standard drawings (Custom drawings available at additional cost)
  - Flame Relay Reset Pushbutton on the front of the Flame relay
- Optional Flame Relay Reset on door
  - Local Burner On/Off Selector Switch
  - Local Burner Start Pushbutton
  - Visible indication on the Honeywell RM 7890 Flame Relay
    - "POWER" LED on Flame Relay- Lit whenever flame relay is powered
    - "PILOT" LED on flame relay - Lit whenever terminal "8" (ie, PILOT terminal) of flame relay is powered
    - "FLAME" LED on flame relay - Lit whenever the presence of flame is detected by the flame relay
    - "MAIN" LED on flame relay - Lit whenever terminal "9" (ie, MAIN terminal) of flame relay is powered
    - "ALARM" LED on flame relay - Lit whenever terminal "4" (ie, ALARM terminal) of flame relay is powered
  - Display unit that gives burner status, diagnostic, and flame strength information
- Optional Keyboard Display unit available for flame relay diagnostics
- UL or Canadian UL approvable
- Can be modified for customization.
- Flame Failure alarm output (120 VAC, 1 amp pilot duty).
- Contact available to indicate "burner on" status



Mounting dimensions  
(provide drawing)

## ORDERING INFORMATION

**8880 - FP - RL**



**Example:** **8880-UP-KU** is an 8880 burner box for use with a standard Honeywell C7027 or C7035 UV detector, with a pilot, has a Keyboard Display module and carries a UL label.

Generic Drawings are supplied with each 8880 Burner Box. If Custom drawings are required for any reason, the following P/N should be entered: 8880-DWG Custom drawings for 8880 Burner box (check Cleveland for pricing).

**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.



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