

BurnerPRO[®] to Honeywell RM7800/RM7840 Adapter



60-2991-1

Seamless conversion of Honeywell RM7800/ RM7840 to BurnerPRO with Fireeye 60-2991-1 adapter.

The easiest method available for converting a Honeywell RM7800/RM7840 types E, G, L or M control to a BurnerPRO is to use Fireeye part number 60-2991-1. This is an adapter that connects directly to the Honeywell 7800 SERIES wiring base and includes a tethered BurnerPRO wiring base. By default, this wiring base is attached to the adapter but has long enough wire connections to allow alternate placement beside the Honeywell wiring base adapter, as space permits.



Features

- Direct Adapter Connection – Connects directly to the existing Honeywell 7800 SERIES wiring base for a seamless retrofit.
- Pre-Wired BurnerPRO Base – Includes a tethered BurnerPRO wiring base with long enough wire connections for flexible placement.
- Wire-by-Wire Conversion Guide – Provides a detailed conversion process to ensure an accurate and straightforward installation.
- Built-in DPDT Line Voltage Relays – Converts actuator drive from the BurnerPRO to voltage-free relay connections, allowing compatibility with Honeywell Series 90 modulating motors.
- Timings Configuration – BurnerPRO models ending in M or MP allow ignition and pilot timing adjustments via the Config Wizard software.
Intermittent Pilot Option – Terminal connections allow easy setup for an intermittent pilot with software activation.
- UV Scanner Compatibility – Requires a Fireeye UV1AL scanner for flame detection, ensuring proper operation with the BurnerPRO system.
- Flame Rod Retention – Supports the use of an existing flame rod, simplifying the upgrade process.

Benefits

- Simplifies Conversion – Eliminates the need for complex rewiring by directly adapting to the existing Honeywell system.
- Reduces Installation Time – Pre-wired base and clear wiring guide streamline the process.
- Enhances Compatibility – Allows integration of a BurnerPRO controller with existing Honeywell components.
- Improves Safety – Built-in relays and clear wiring instructions minimize wiring errors and ensure proper function.
- Offers Flexible Placement – Tethered wiring base can be positioned conveniently within available space.
- Provides Software Configurability – Enables fine-tuning of ignition and pilot timing settings for optimal performance.
- Ensures Reliable Flame Detection – Supports Fireeye UV1AL scanner and existing flame rod, maintaining system efficiency.
- Minimizes Equipment Replacement Costs – Retains essential components like the Honeywell Series 90 modulating motor and flame rod, reducing the need for additional purchases.

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Wire-by-Wire Conversion for Honeywell to BurnerPRO

This guide details the conversion from a Honeywell wiring base to a BurnerPRO wiring base using a wire-by-wire approach. Two DPDT line voltage relays (included in the 60-2991-1 adapter) are required to convert the actuator drive for compatibility with the Honeywell Series 90 modulating motor.

The wiring diagram retains Honeywell terminal numbers for easy reference. When converting, label removed wires with their original terminal numbers before reconnecting them to the BurnerPRO base.

- Ignition & Pilot Timings:**

Honeywell Terminal 8 – Energized for 10 seconds into MFEP.

Honeywell Terminal 10 – Energized for the first 5 seconds of PFEP (early spark termination).

Honeywell Terminal 21 – Energized for 15 seconds into MFEP (or until end of run cycle on some models).

- BurnerPRO Equivalent Terminals:**

Terminal 16 – Energized for preignition + first safety time (default: 11s). Supports early spark termination.

Terminal 17 – Energized for pilot to main fuel transition (default: 5s).

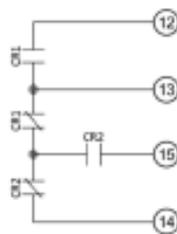
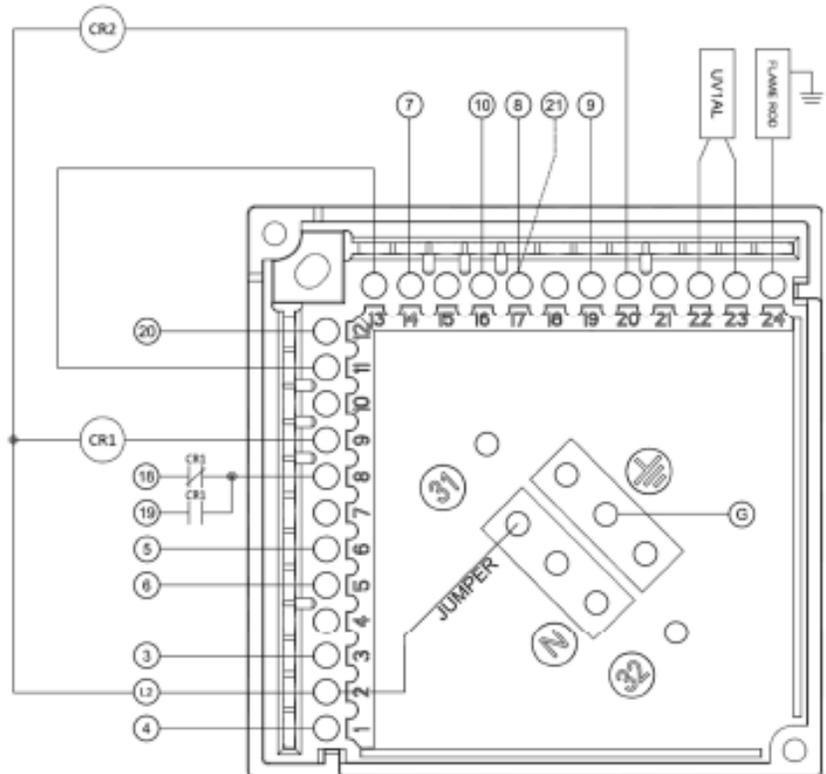
Terminal 18 – Connect to Terminal 17 for intermittent pilot, or activate via Config Wizard.

- Flame Detection:**

BurnerPRO is not compatible with Honeywell UV scanners. A Fireye UV1AL scanner must be installed.

The UV1AL should be directly connected to the BurnerPRO base using its shielded cable (do not extend).

If using a flame rod, the existing one can be retained by grounding it and connecting it to BurnerPRO Terminal 24. For a seamless retrofit, follow these guidelines and ensure safe handling of UV cabling to prevent injury.



| HONEYWELL RM7800/RM7840 E/G/L/M TERMINAL DESIGNATIONS | |
|-------------------------------------------------------|--------------------------------------------------|
| (G) EARTH GROUND | (10) 5 SECOND IGNITION (EARLY SPARK TERMINATION) |
| (L2) LINE VOLTAGE COMMON | (12) MOD MOTOR HIGH FIRE |
| (3) 120V ALARM | (13) MOD MOTOR COMMON |
| (4) LINE VOLTAGE SUPPLY | (14) MOD MOTOR LOW FIRE |
| (5) BURNER MOTOR (BLOWER) | (15) MOD MOTOR MODULATE |
| (6) BURNER CONTROLLER/LIMITS | (16) LOW FIRE SWITCH INPUT |
| (7) LOCKOUT INTERLOCKS (INC. AIR FLOW SWITCH) | (18) HIGH FIRE SWITCH INPUT |
| (8) 10 SEC. INTERRUPTED PILOT/IGNITION | (20) PREIGNITION INTERLOCK INPUT |
| (9) MAIN FUEL VALVE(S) | (21) 15 SEC. INTERRUPTED PILOT |

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