

Microprocessor Burner Controls

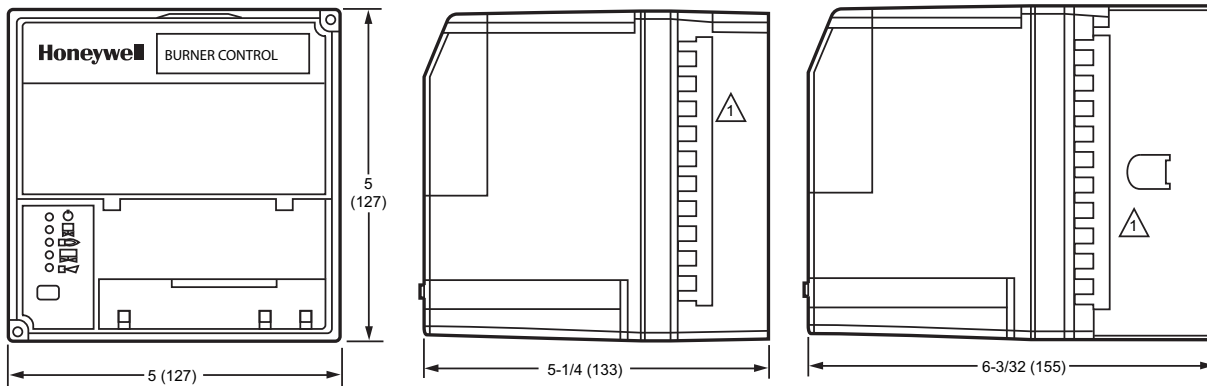
EC7830; EC7850; RM7830; RM7850 Programming Control Meeting European Community Timings



Microprocessor-based integrated burner control for full modulation applications. Provides automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics, and troubleshooting.

- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Dimensions in inches (millimeters)



REMOVE ONLY FOR TERMINAL TEST ACCESS.

M15532A

Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted or Intermittent
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Lockout
AirFlow Check: User selectable

Flame Establishing Period
Main: 3 sec, or 5 sec, or Intermittent
Pilot: 3 sec or 5 sec
Second Stage Pilot Valve: Intermittent
Weight: 1 lb 10 oz (0.7 kg)

Approvals:
Factory Mutual: Report No. 1V9AO.AF.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7849, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Voltage	PostPurge	Comments	Gastec/European
EC7830A1033	220 to 240 Vac (+10, -15%)	2 sec	On/Off Power Burner	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7830A1041	220 to 240 Vac (+10, -15%)	30 sec	On/Off Power Burner	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7830A1066	220 to 240 Vac (+10, -15%)	15 sec	On/Off Power Burner	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7850A1064	220 to 240 Vac (+10, -15%)	30 sec, dynamic damper check	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7850A1072	220 to 240 Vac (+10, -15%)	2 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7850A1080	220 to 240 Vac (+10, -15%)	30 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7850A1122	220 to 240 Vac (+10, -15%)	15 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
RM7830A1003	120 Vac (+10, -15%)	2 sec	—	—
RM7830A1011	120 Vac (+10, -15%)	15 sec	—	—
RM7830A1029	120 Vac (+10, -15%)	30 sec	—	—
RM7850A1001	120 Vac (+10, -15%)	2 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
RM7850A1019	120 Vac (+10, -15%)	15 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.
RM7850A1027	120 Vac (+10, -15%)	30 sec	LHL-LF&HF Proven	GASTEC: CE-63AP3070/1, Approved to EN298.

Microprocessor Burner Controls

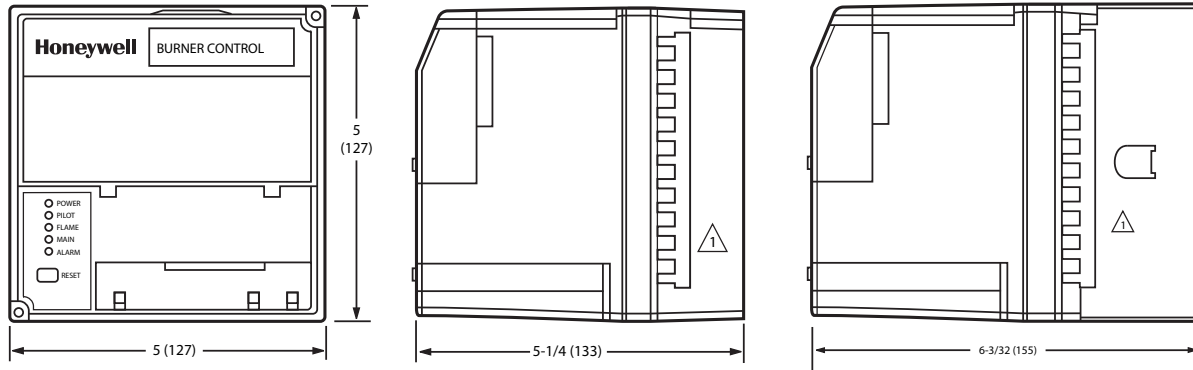
RM7800 Programmings



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- Includes Keyboard Display Module.

Dimensions in inches (millimeters)



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MODULE WITH SUBBASE

M15518A

Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
AirFlow Check: User selectable
Weight: 1 lb 10 oz (0.7 kg)

Approvals:
Canadian Standards Association: Certified, File No. LR95329-3.
Federal Communications Commission: FCC Part 15, Class B, Emissions.
Factory Mutual: Report No. 1V9AO.AF.
Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Flame Establishing Period		Second Stage Pilot Valve	Interlocks	Comments
	Main	Pilot			
RM7800E1010	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800G1018	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	selectable	Running	Includes S7800 Display, LHL-LF Proven
RM7800L1012	10 sec or 15 sec	4 sec or 10 sec	Interrupted	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800L1053	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Lockout	Includes S7800 Display, LHL-LF&HF Proven
RM7800M1011	10 sec or Intermittent	4 sec or 10 sec	Intermittent	Running	Includes S7800 Display, On/Off-LF proven

Microprocessor Burner Controls

RM7800 Programmings with VPS



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls. With Valve Proving Feature. RM7800L comes standard with S7800A1142 Keyboard Display.

Application: Programming Control w/VPS
Dimensions, Approximate: See diagram on page 23
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
AirFlow Check: User selectable

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information. Power LED blinks fault code on Lockout.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- RM7800 comes with S7800A1142 Keyboard Display Module.
- Keyboard required to setup Valve Proving Feature and change post purge time.

Flame Establishing Period

Pilot: 4 sec or 10 sec
Weight: 1 lb 10 oz (0.7 kg)

Approvals:

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. 1V9AO.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Voltage	Interlocks	Comments
RM7800L1087	120 Vac (+10, -15%)	Lockout	Includes S7800A1142 Display, LHL-LF&HF Proven

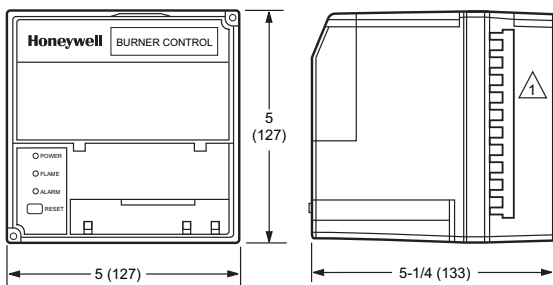
RM7823; EC7823 Flame Switch



Microprocessor-based integrated flame switch for detecting a flame using rectification, ultraviolet (UV) or infrared (IR) source. Provides level of safety, functional capability and features beyond conventional controls.

- Can be fitted with any 7800 Series Amplifier to provide relay action from two single pole, double throw (SPDT) relays when flame is present or not present. RM7823A and EC7823 are a flame detector relays only.
- Suitable primary control must be used to provide safe-start check, safety lockout, load switching and other functions required in flame safeguard systems.
- Three LEDs to indicate power, flame and alarm.
- Access for external electrical voltage checks.
- Nonvolatile memory.
- Shutter drive output.
- Compatible with existing Honeywell flame detectors.

Dimensions in inches (millimeters)



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M2649

Application: Flame Switch

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Weight: 1 lb 13 oz (0.8 kg)

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3
Federal Communications Commission: FCC Part 15, Class B, Emissions

Factory Mutual Approved: Report No. OY0A9.AF & Report No. OX4A5.AF

Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Product Number	Voltage	Comments
EC7823A1004	220 to 240 Vac (+10, -15%)	two SPDT outputs
RM7823A1016	120 Vac (+10, -15%)	two SPDT outputs

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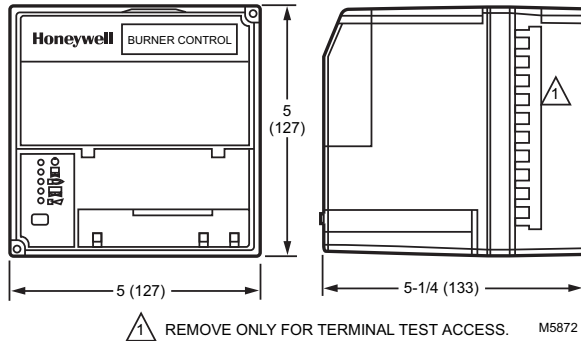
RM7824 On-Off Primary Control



24 Vdc microprocessor-based integrated burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond the capacity of conventional controls.

- For use with R7824C Amplifier with C7024E,F Flame Detectors and R7848A,B with C7015A Flame Detectors.
- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
- Five LEDs provide sequence information.
- Selectable recycle or lockout on loss of flame.
- Shutter drive output for use with dynamic self-check flame detectors.
- Access for external electrical voltage checks.
- Plug-in flame amplifier.
- Nonvolatile memory retains history files and lockout status after loss of power.

Dimensions in inches (millimeters)



Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Pilot Type: intermittent

Flame Establishing Period

Main: Intermittent

Pilot: 4 sec or 10 sec

Weight: 1 lb 13 oz (0.8 kg)

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7824 or R7848 Flame Signal Amplifier.

Product Number	Application	Voltage
RM7824A1006	Primary Control 24 Vdc	24 Vdc (+10, -15%)

Microprocessor Burner Controls

RM7838A Manual Start Industrial Primary Control with Purge



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Dimensions, Approximate: See diagram on page 23
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
PrePurge: Determined by ST7800A Purge Timer Card
Interlocks: Running
Flame Establishing Period
Main: Intermittent
Pilot: 4 sec or 10 sec
Weight: 1 lb 10 oz (0.7 kg)

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.

Approvals:
Canadian Standards Association: Certified, File No. LR95329-3.
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class B, Emissions.
Factory Mutual: Report No. OX4A5.AF.
Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Application	Voltage	Comments
RM7838A1014	Semi Automatic Primary Control with Purge	120 Vac (+10, -15%)	Includes S7800 Display

RM7838B,C Manual Start Industrial Programmers



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Dimensions, Approximate: See diagram on page 23
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by Purge Timer Card
Interlocks: Lockout
Weight: 1 lb 10 oz (0.7 kg)

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.

Approvals:
Canadian Standards Association: Certified, File No. LR95329-3.
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class B, Emissions.
Factory Mutual: Report No. OX4A5.AF.
Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Application	Voltage	Flame Establishing Period		Pre Purge	Comments
			Main	Pilot		
RM7838B1013	Semi Automatic Programming Control	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	ST7800A	Includes S7800 Display
RM7838C1004	Semi Automatic Programming Control	120 Vac (+10, -15%)	15 sec or Intermittent	4 sec or 10 sec	ST7800C	Includes S7800 Display

Microprocessor Burner Controls

RM7838B,C Manual Start Industrial Programmers with VPS



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Includes Valve Proving Feature.

Dimensions, Approximate: See diagram on page 23

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Pilot Type: interrupted

Early Spark Termination: Yes, 5 sec

Preignition: Yes

PrePurge: Determined by Purge Timer Card

PostPurge: programmed with S7800A1142 display

Interlocks: Lockout

Weight: 1 lb 10 oz (0.7 kg)

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes S7800A1142 Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.
- With Valve Proving Feature and Programmable Post Purge Time.
- Power LED blinks a fault code on system lockout.

Approvals:

Control Safety Devices: Acceptable: CSD-1

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Application	Voltage	Flame Establishing Period		Pre Purge	Comments
			Main	Pilot		
RM7838B1021	Semi Automatic Programming Control w/VPS	120 Vac (+10, -15%)	10 sec or Intermittent	4 sec or 10 sec	ST7800A	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation
RM7838C1012	Semi Automatic Programming Control w/VPS	120 Vac (+10, -15%)	15 sec or Intermittent	4 sec or 10 sec	ST7800C	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation

Microprocessor Burner Controls

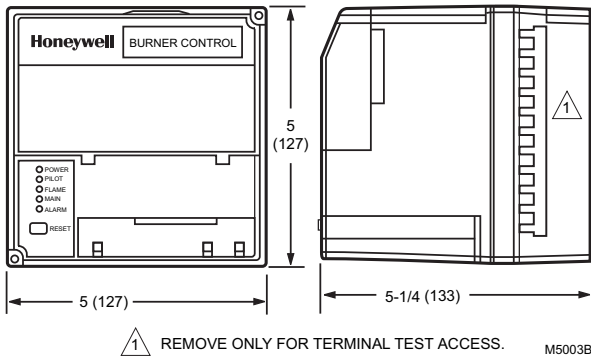
RM7840 Programmings



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of RM7840 operation and fault information.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Dimensions in inches (millimeters)



Application: Programming Control
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: 15 sec
AirFlow Check: User selectable

Approvals:
Canadian Standards Association: Certified, File No. LR95329-3.
Control Safety Devices: Acceptable: CSD-1
Federal Communications Commission: FCC Part 15, Class B, Emissions.
Factory Mutual: Report No. OX4A5.AF.
Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Flame Establishing Period			Interlocks	Comments
	Main	Pilot	Weight		
RM7840E1016	10 sec or 15 sec	4 sec or 10 sec	1 lb 13 oz (0.8 kg)	Lockout	LHL-LF&HF Proven
RM7840G1014	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	1 lb 13 oz (0.8 kg)	Running	LHL-LF Proven
RM7840L1018	10 sec or 15 sec	4 sec or 10 sec	1 lb 13 oz (0.8 kg)	Lockout	LHL-LF&HF Proven
RM7840L1026	10 sec, or 15 sec, or Intermittent	4 sec or 10 sec	1 lb 13 oz (0.8 kg)	Lockout	LHL-LF&HF Proven
RM7840M1017	10 sec or Intermittent	4 sec or 10 sec	1 lb 13 oz (0.8 kg)	Running	On/Off-LF Proven

Microprocessor Burner Controls

RM7840 Programmings with VPS



RM7840G



RM7840L

Application: Programming Control w/VPS
Dimensions, Approximate: See diagram on page 28
Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)
Vibration: 0.5 G environment
Voltage: 120 Vac (+10, -15%)
Frequency: 50 Hz; 60 Hz (±10%)
Pilot Type: interrupted
Early Spark Termination: Yes, 5 sec
Preignition: Yes
PrePurge: Determined by ST7800A Purge Timer Card
PostPurge: programmed with S7800A1142 display
AirFlow Check: User selectable

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls. With Valve Proving Feature. RM7800L comes standard with S7800A1142 Keyboard Display.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information. Power LED blinks fault code on Lockout.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- RM7800 comes with S7800A1142 Keyboard Display Module.
- Keyboard required to setup Valve Proving Feature and change post purge time.

Second Stage Pilot Valve: selectable
Weight: 1 lb 10 oz (0.7 kg)

Approvals:
Federal Communications Commission: FCC Part 15, Class B, Emissions.
Factory Mutual: Report No. 1V9AO.AF.
Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.
Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Flame Establishing Period		Interlocks	Comments
	Main	Pilot		
RM7840G1022	10 sec, or 15 sec, or 30 sec, or Intermittent	4 sec or 10 sec	Running	Requires S7800A1142 Display, LHL-LF Proven
RM7840L1075	10 sec or 15 sec	4 sec or 10 sec	Lockout	Requires S7800A1142 Display, LHL-LF&HF Proven

Microprocessor Burner Controls

RM7845 Programmers



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of RM7840 operation and fault information.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Pilot Type: interrupted

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: 15 sec

Interlocks: Lockout

AirFlow Check: User selectable

Flame Establishing Period

Main: 10 sec

Pilot: 4 sec or 10 sec

Weight: 1 lb 13 oz (0.8 kg)

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

Control Safety Devices: Acceptable: CSD-1

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. 1V9AO.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Application	Voltage	Frequency	Comments
RM7845A1001	Programming Control	120 Vac (+10, -15%)	50 Hz; 60 Hz (±10%)	LHL-LF&HF Proven

RM7885; EC7885 Manual Start Industrial Primary Control



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Pilot Type: intermittent

Flame Establishing Period

Main: Intermittent

Pilot: 15 min

Weight: 1 lb 13 oz (0.8 kg)

- Functions include flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Adaptable to continuous firing, high-low or modulating firing rate for semi-automatic burner sequencing.
- Operates with the following: Torch-ignited main burner or torch-ignited pilot using S445A Start-Stop Station, or conventional knee or foot operated station.
- Direct-ignition oil burner or electrically ignited pilot, using S445A Start-Stop Station.
- Five LEDs provide sequence information.
- Nonvolatile memory.
- Flame signal check during standby.
- Shutter drive output.
- Compatible with existing Honeywell flame detectors.
- Terminal provided for external alarm to sound on flame failure.

Approvals:

Factory Mutual: Report No. OX4A5.AF.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Canadian Standards Association: Certified, File No. LR95329-3.

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ

Product Number	Application	Voltage	Frequency
EC7885A1011	Semi Automatic Primary Control	220 to 240 Vac (+10, -15%)	50 Hz; 60 Hz (±10%)
RM7885A1015	Semi Automatic Primary Control	120 Vac (+10, -15%)	50 Hz; 60 Hz (±10%)

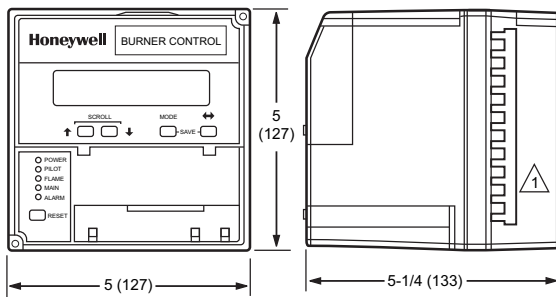
Microprocessor Burner Controls

RM7888 PLC Adaptable Primary Control



Microprocessor-based integrated burner control for industrial process semi-automatically fired gas, oil, coal, or combination fuels for single and multiple burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Dimensions in inches (millimeters)



1 REMOVE ONLY FOR TERMINAL TEST ACCESS.

M9494

- Functions include automatic burner startup sequencing, five user selectable run sequences, four line-voltage sequence control inputs, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Requires a relay module, subbase, and amplifier for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display mounting, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Use with master system control which determines purge timing and confirms air supply and air flow.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.

Application: Primary Control - PLC Adaptable

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Pilot Type: selectable

Weight: 1 lb 10 oz (0.7 kg)

Approvals:

Canadian Standards Association: Certified

Factory Mutual: Approved

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Product Number	Flame Establishing Period		Voltage	Comments
	Main	Pilot		
RM7888A1019	15 sec	4 sec	120 Vac (+10, -15%)	Selectable sequences
RM7888A1027	15 sec	10 sec	120 Vac (+10, -15%)	For 10 sec DSI applications, selectable sequences

Microprocessor Burner Controls

RM7890 On-Off Primary Control with VPS



Microprocessor-based integrated primary burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Application: On-Off Primary Control w/VPS

Dimensions, Approximate: See diagram on page 28

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Pilot Type: intermittent

Preignition: Yes

Flame Establishing Period

Main: Intermittent

Pilot: 4 sec or 10 sec

Weight: 1 lb 13 oz (0.8 kg)

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
- Subbase and amplifier are required for operation.
- Power LED blinks Fault Code on lockout.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable relight or lockout on loss of flame.
- Contains Valve Proving Feature - require S7800A1142 Keyboard Display (not provided) to set up.

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.
Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Product Number	Voltage	Frequency	Comments
RM7890A1056	120 Vac (+10, -15%)	50 Hz; 60 Hz (±10%)	Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation
RM7890B1048	120 Vac (+10, -15%)	50 Hz; 60 Hz (±10%)	Includes Shutter Drive Capability, VPS (Valve Proving Switch) check and blinking LED fault annunciation

Microprocessor Burner Controls

RM7890; EC7890 On-Off Primary Controls



Microprocessor-based integrated primary burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Application: On-Off Primary Control

Dimensions, Approximate: See diagram on page 28

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Weight: 1 lb 13 oz (0.8 kg)

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
- Subbase and amplifier are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable relight or lockout on loss of flame.

Factory Mutual: Report No. OX4A5.AF

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Product Number	Voltage	Pilot Type	Flame Establishing Period		Comments	Gastec/European
			Main	Pilot		
EC7890A1011	220 to 240 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	—	—
EC7890A1029	220 to 240 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	—	GASTEC: CE-63AP3070/1, Approved to EN298.
EC7890B1010	220 to 240 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	—
RM7890A1015	120 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	—	—
RM7890A1031	120 Vac (+10, -15%)	Intermittent	Intermittent	30 sec	—	—
RM7890A1064	120 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	—	GASTEC: CE-63AP3070/1, Approved to EN298.
RM7890B1014	120 Vac (+10, -15%)	Intermittent	Intermittent	4 sec or 10 sec	Includes Shutter Drive Capability	—
RM7890B1030	120 Vac (+10, -15%)	Intermittent	Intermittent	Fixed 4 sec or 10 sec PFEP	Includes Shutter Drive Capability, Alarm sounds when Reset pushed.	—
RM7890C1005	120 Vac (+10, -15%)	—	—	—	Standing Pilot Applications	—
RM7890D1004	120 Vac (+10, -15%)	Intermittent	Intermittent	15 sec or 30 sec	Higher Flame Sensor Voltage for Infrared Heater Applications	—

Microprocessor Burner Controls

RM7895; EC7895 On-Off Primary Control with Pre-Purge



Microprocessor-based integrated primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Application: On-Off Primary Control with Prepurge

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Frequency: 50 Hz; 60 Hz (±10%)

PrePurge: Determined by ST7800A Purge Timer Card

Interlocks: Selectable

Weight: 1 lb 15 oz (0.9 kg)

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier, and prepurge timer are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable relight or lockout on loss of flame.
- Airflow switch check.

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

Control Safety Devices: Acceptable: CSD-1

Factory Mutual: Report No. OX4A5.AF

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases.

R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Voltage	Pilot Type	AirFlow Check	Flame Establishing Period		Delayed Main Valve	Comments
				Main	Pilot		
EC7895A1010	220 to 240 Vac (+10, -15%)	Intermittent	—	Intermittent	4 sec or 10 sec	No	—
EC7895C1000	220 to 240 Vac (+10, -15%)	Interrupted	—	10 sec	4 sec or 10 sec	Yes	—
RM7895A1014	120 Vac (+10, -15%)	Intermittent	—	Intermittent	4 sec or 10 sec	No	—
RM7895A1048	120 Vac (+10, -15%)	Intermittent	—	Intermittent	4 sec or 10 sec	No	Includes ignition cut-out during PFEP
RM7895B1013	120 Vac (+10, -15%)	Intermittent	Dynamic	Intermittent	4 sec to 10 sec	No	—
RM7895C1012	120 Vac (+10, -15%)	Interrupted	—	10 sec	4 sec or 10 sec	Yes	—
RM7895C1020	120 Vac (+10, -15%)	Interrupted	—	10 sec	10 sec	Yes	Includes ignition cut-out during PFEP
RM7895D1011	120 Vac (+10, -15%)	Interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	—
RM7895E1002	120 Vac (+10, -15%)	Intermittent	—	Intermittent	15 sec or 30 sec	No	Higher Flame Sensor Voltage for Infrared Heater Applications
RM7895F1001	120 Vac (+10, -15%)	Interrupted	Dynamic	10 sec	15 sec or 30 sec	Yes	Higher Flame Sensor Voltage for Infrared Red Heater Applications

Microprocessor Burner Controls

RM7896 On-Off Primary Control with Pre- and Post-Purge



Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

Application: On-Off Primary Control with Pre and Post purge

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

PrePurge: Determined by ST7800A Purge Timer Card

Interlocks: Selectable

Weight: 1 lb 15 oz (0.9 kg)

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Delayed main valve.

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Pilot Type	AirFlow Check	Flame Establishing Period		Delayed Main Valve	PostPurge	Comments
			Main	Pilot			
RM7896A1012	Intermittent	—	Intermittent	4 sec or 10 sec	No	15 sec	Includes Pre- and Post -Purge.
RM7896B1011	Intermittent	Dynamic	Intermittent	4 sec or 10 sec	No	15 sec	Includes Pre- and Post -Purge.
RM7896C1010	Interrupted	—	10 sec	4 sec or 10 sec	Yes	15 sec	Includes Pre- and Post -Purge.
RM7896D1019	Interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	15 sec	Includes Pre- and Post -Purge.
RM7896D1027	Interrupted	Dynamic	10 sec	4 sec or 10 sec	Yes	60 sec	Blinking Fault code LED, early spark termination when flame sensed, pre and post purge

Microprocessor Burner Controls

RM7897 Automatic Primary Control with Programmable Post-Purge



Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Along with Programmable Post Purge.

Application: On-Off Primary Control with Pre and Programmable Post purge

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

Pilot Type: selectable

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Interlocks: Selectable

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Five LEDs provide sequence information. Power LED blinks fault code on Safety Shutdown.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Delayed main valve.
- Programmable post purge using S7800A1142 Keyboard Display (not provided).

Flame Establishing Period

Pilot: 4 sec or 10 sec

Weight: 1 lb 15 oz (0.9 kg)

Approvals:

Canadian Standards Association: Certified, File No. LR95329-3.

Control Safety Devices: Acceptable: CSD-1

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Delayed Main Valve	Comments	Used With
RM7897A1002	—	Includes blinking LED fault annunciation feature	7800 Series Amplifiers
RM7897C1000	Yes	Includes blinking LED fault annunciation feature	7800 Series Amplifiers

Microprocessor Burner Controls

RM7898 On-Off Primary Control with VPS



Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls. Include Programmable Post Purge and Valve Proving Feature.

Application: On-Off Primary Control w/VPS

Dimensions, Approximate: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Ambient Temperature Range: -40 F to +140 F (-40 C to +60 C)

Vibration: 0.5 G environment

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

Pilot Type: selectable

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Interlocks: Selectable

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS® MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER® software.
- Programmable postpurge.
- Five LEDs provide sequence information. Power LED Blinks Fault code on safety shutdown.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Program able post purge and Valve Proving feature with S7800A1142 Keyboard Display (not supplied).

Flame Establishing Period

Pilot: 4 sec or 10 sec

Weight: 1 lb 15 oz (0.9 kg)

Approvals:

Canadian Standards Association: Pending

Federal Communications Commission: FCC Part 15, Class B, Emissions.

Factory Mutual: Report No. OX4A5.AF.

Underwriters Laboratories Inc. Component Recognized, File No. MP268; Guide No. MCCZ.

Required Components: Q7800A,B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Product Number	Comments	Used With
RM7898A1000	Includes blinking LED fault annunciation feature	7800 Series Amplifiers
RM7898A1018	Includes blinking LED fault annunciation feature	7800 Series Amplifiers