

7800 SERIES and R7140 Flame Signal Amplifiers



Dynamic Self Check



Standard

Solid state plug-in amplifiers that respond to flame detector inputs to indicate the presence of flame when used with 7800 SERIES relay modules.

- Flame failure response time of 0.8 or 3.0 seconds.
- Flame signal strength ranges from 0.0 to 5.0 Vdc.
- Plug into 7800 relay module through printed circuit board edge connector keyed for proper orientation.
- Flame signal test jacks to measure amplifier flame signal voltage.
- Color-coded labels identify flame detection type. Dynamic Self-Check Amplifier test the detectors and all electronic components in the flame detection system 7800 SERIES relay module locks out on safety shutdown with flame detection system failure.
- Compatible with existing Honeywell flame detectors (order separately).

Use With Primary Safety Control: RM7824
R7824C1002 only

Use With Primary Safety Control: 7800 SERIES Relay Modules
All other Amplifiers

Approvals:

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

Factory Mutual: Approved: Report No. J.I.1V9A0.AF

Underwriters Laboratories Inc. Listed: File No. MP268, Guide No. MCCZ

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Comments
R7824C1002	3.0 sec	Dynamic Self-Check	C7024E, F Flame Detector	Color: Green
R7847A1025	0.8 sec or 1.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179	Color: Green
R7847A1033	2.0 sec or 3.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179 Gas, oil, coal: Ultraviolet Flame Sensor C7012A,C	Color: Green
R7847A1074	0.8 sec or 1.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A,C	Color: Green
R7847A1082	2.0 sec or 3.0 sec	None (standard)	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A,C	Color: Green
R7847B1023	0.8 sec or 1.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179	Color: Green
R7847B1031	2.0 sec or 3.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179 Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C	Color: Green
R7847B1064	0.8 sec or 1.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A,C	Color: Green
R7847B1072	2.0 sec or 3.0 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004,5,7,8, or 9, Q179 for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A,C	Color: Green
R7847C1005	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E, F	Color: Green
R7848A1008	2.0 sec or 3.0 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7015	Color: Red
R7848B1006	2.0 sec or 3.0 sec	Ampli-Check	Gas, oil, coal: Infrared (lead sulfide) C7015	Color: Red
R7849A1015	0.8 sec or 1.0 sec	None (standard)	Gas, Oil: Minipeeper C7027A, C7035A, C7044	Color: Purple
R7849A1023	2.0 sec or 3.0 sec	None (standard)	Gas, Oil: Minipeeper C7027A, C7035A, C7044	Color: Purple
R7849B1013	0.8 sec or 1.0 sec	Ampli-Check	Gas, Oil: Minipeeper C7027A, C7035A, C7044	Color: Purple
R7849B1021	2.0 sec or 3.0 sec	Ampli-Check	Gas, Oil: Minipeeper C7027A, C7035A, C7044	Color: Purple
R7851B1000	2.0 sec or 3.0 sec	Ampli-Check	Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962	Color: White
R7851B1018	0.8 sec or 1.0 sec	Ampli-Check	Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962	Color: White
R7851C1008	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: optical (UV only) C7961E,F	Color: White
R7852A1001	2.0 sec or 3.0 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7915	Color: Red/White
R7852B1009	2.0 sec or 3.0 sec	Ampli-Check	Gas, oil, coal: Infrared (lead sulfide) C7915	Color: Red/White
R7861A1026	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7061	Color: Purple
R7861A1034	0.8 sec or 1.0 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7061	Color: Purple
R7886A1001	2.0 sec or 3.0 sec	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	Color: Blue

Flame Amplifiers

R7247; R7248; R7249; R7476 Flame Amplifiers



Solid state plug-in units respond to flame detector signal and indicate presence of flame.

- Use with BC7000; R4140; R4075C,D,E; R4138C,D Flame Safeguard controls and appropriate flame detector and FSP5075A1, FSP5075A3 Flame Amplifier Modules.

Approvals:

Canadian Standards Association: Certified: File No. LR1620, Guide No. 140-A-2

Control Safety Devices: Acceptable (CSD-1)

Factory Mutual: Approved: Report No. 24181.01

Underwriters Laboratories Inc. Listed: File No. MP268, Guide No. MCCZ2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7247A1005	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet Flame Sensor C7012A,C	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Green
R7247B1003	2 to 4 sec	Ampli-Check	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C7009, Q179Gas, oil, coal: Ultraviolet Flame Sensor C7012A,C	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Green
R7247C1001	2 to 4 sec	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E,F	R4140, BC7000, R4075C,D,E, R4138C, D, FSP5075	Color: Green
R7247C1019	2 sec max.	Dynamic Self-Check	Gas, oil, coal: Ultraviolet Flame Sensor C7012E,F	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Green
R7248A1004	2 to 4 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7015	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Red
R7248B1028	2 to 4 sec	Ampli-Check	Gas, oil, coal: Infrared (lead sulfide) C7015	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Red
R7249A1003	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Purple
R7476A1007	2 to 4 sec	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	R4140;BC7000;R4075C,D,E; R4138C,D;FSP5075	Color: Blue
R7476A1015	2 sec max.	Dynamic Self-Check	Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076	R4140, BC7000, R4075C,D,E, R4138C, D, FSP5075	Color: Blue

R7257; R7258; R7259 Flame Safeguard Amplifiers

Solid state, plug-in units allow use of rectification, infrared and ultraviolet flame detections.

- Use with Q518, Q519 and W688A Flame Safeguard multi-burner modules and appropriate flame detector.

Approvals:

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

Underwriters Laboratories Inc. Listed: File No. MP268, Guide No. MCCZ2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7258A1001	2 to 4 sec	None (standard)	Gas, oil, coal: Infrared (lead sulfide) C7015	Q518, Q519, W688A	Color: Red
R7259A1000	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	Q518, Q519, W688A	Color: Purple

R7289, R7290 Flame Safeguard Amplifiers (for R4795)

Solid state, plug-in units allow use of rectification or ultraviolet flame detection.

- Use with R4795A,D Flame Safeguard primary controls and appropriate flame detector.

Approvals:

Canadian Standards Association: Certified: File No. LR1620-305

Factory Mutual: Approved: Report No. 19608.1

Underwriters Laboratories Inc. Listed: File No. MP268, Vol. 7, Sec. 2

Product Number	Flame Failure Response Time (sec)	Self Checking	Use With Flame Sensor	Use With Primary Safety Control	Comments
R7290A1001	2 to 4 sec	None (standard)	Gas, oil, coal: Ultraviolet (Minipeeper) C7027, C7035	R4795A, D	Color: Purple
R7289A1004	2 to 4 sec	None (standard)	Gas: Rectifying Flame Rods C7004, C7005, C7007, C7008, C	R4795A, D	Color: Green

FSP5075A1; FSP5075A3 Flame Amplifier Modules



The FSP5075A Flame Amplifier Module is designed to accept a variety of Honeywell plug-in flame signal amplifiers. Depending on the plug-in amplifier model installed, the flame amplifier module can be used with ultraviolet flame detectors, infrared flame detectors, rectifying flame rods or rectifying photocells to provide

Application: Flame Amplifier

Dimensions, Approximate: 4 7/8 in. high x 8 1/2 in. wide x 4 in. deep.
(124 mm high x 216 mm wide x 102 mm deep)

Frequency: 60 Hz

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

continuous flame supervision from lightoff to shutdown. Certain flame amplifier models feature **Dynamic Self-Check** or **Dynamic Ampli-Check**® capability. The flame amplifier module also features plug-in load and flame relays as well as an integral terminal strip mounted on its chassis.

- The flame amplifier module amplifier and relay circuitry combine to provide such safety features as safe-start check, safety shutdown and rapid flame failure response time.
- Approval body certifications include Underwriters Laboratories Inc. component recognized, Factory Mutual approved.
- The zinc dichromate finish resists corrosive effects of most industrial atmospheres.
- A hermetically sealed relay model is also available.
- The FSP5075A Flame Amplifier Module is a standard building block in a burner management system.
- It allows the system to meet flame safeguard requirements while adding versatility to the flame detection system.

Approvals:

Factory Mutual: Approved: Report No. 26098

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

Product Number	Voltage	Power Consumption	Flame Failure Response Time (sec)	Description	Comments	Used With
FSP5075A1	120 Vac	5.0 W running (max); 2.4 W standby.	Reference flame signal amplifier	Flame Amplifier Module, Plastic Encapsulated Relays	Relays Plastic Encapsulated	R7247, R7248, R7249, or R7476 Flame Amplifier
FSP5075A3	120 Vac	5.0 W running (max); 2.4 W standby.	Reference flame signal amplifier	Flame Amplifier Module, Hermetically Sealed Relays	Relays Hermetically Sealed	R7247, R7248, R7249, or R7476 Flame Amplifier

Flame Amplifier Accessories

Product Number	Description	Used With
32005301-001	T Filter for Rectification Amplifiers	R7847, R7247