

R8182D,E,F,H,J Combination Protectorelay™ and Hydronic Heating Controls

PRODUCT DATA



FEATURES

- Depending on model, these single unit devices provide combinations of high limit, low limit, and circulator control.
- All models use a 24V thermostat and C554A Cadmium Sulfide Flame Detector.
- R8182D,E,H and J have auxiliary terminals ZC and ZR for circulator zone control. Additional zones require a separate 24V thermostat and R845 Relay.
- All models have capability for zone control with zone valves. Each additional zone requires a separate 24V thermostat and a V8043 or V8044 Zone Valve.
- Ideal for packaged boiler systems requiring compact, multipurpose controls.
- R8182D,E,F mode
- R8182H,J models mount on a 4 x 4 inch junction box, and have a 5 ft (1.5m) armored capillary for remote sensor location.
- Aquastat® Controller section is field replaceable.
- Oil burner circuit includes an improved safety shutoff in the event the burner fails to start.
- Flame failure during the running cycle results in a 45 second attempt to restart. If unsuccessful, safety shutoff occurs, requiring manual reset before burner can be restarted.

GENERAL

The R8182 is a combination Protectorelay™ intermittent ignition oil burner primary and immersion type Aquastat® controller for oil-fired, hydronic heating systems.

Contents

General	1
Features	1
Specifications	2
Ordering Information	2
Installation	5
Wiring	7
Operation	12
Startup and Checkout	14



SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

TRADELINER® Models: TRADELINE® models are selected and packaged for ease of handling, ease of stocking, and maximum replacement value. TRADELINE® model specifications are the same as those of standard models except as noted below.

TRADELINER® Models Available:

R8182D Combination Protectorelay™ Primary Control and Aquastat® Controller.

R8182H Combination Protectorelay™ Primary Control and Aquastat® Controller.

Additional Features:

- Well not included. To order wells or well adapters, refer to form 68-0040, Wells and Fittings for Temperature Controllers, for part numbers and descriptions.
- Heat-conductive compound supplied for better bulb response in oversized well.
- Field addable stops for Aquastat® Controller.
- Conversion to R8182E or F.
- TRADELINE® pack with special instructions.
- Wire nut.

Mounting Means:

R8182D,E,F: Case clamps to horizontal immersion well installed through boiler wall.

R8182H,J: Mounts on standard 4 x 4 inch junction box.

Dimensions: Refer to Fig. 1 and 2.

Table 1. Standard Models:

Model	Switching	Adjustable Control Range		Differential	
		°F	°C	°F	°C
R8182D ^a	High Limit, Spst	130 to 240	54 to 116	10 Fixed	6 Fixed
	High Limit/Circulator, Spdt	110 to 220	43 to 104	10 to 25 Adj	6 to 14 Adj
R8182E ^a	High Limit, Spst	180 to 240	82 to 116	15 Fixed	8 Fixed
R8182F	High Limit, Spst	130 to 240	54 to 116	10 Fixed	6 Fixed
	Circulator, Spst	110 to 220	43 to 104	10 Fixed	6 Fixed
R8182H ^a Remote Bulb	High Limit, Spst	130 to 240	54 to 116	10 Fixed	6 Fixed
	Low Limit/Circulator, Spdt	110 to 220	43 to 104	10 to 25 Adj	6 to 14 Adj
R8182J ^a Remote Bulb	High Limit, Spst	180 to 240	82 to 116	15 Fixed	8 Fixed

^a Auxiliary ZC and ZR terminals can be used to provide circulator zone control through an R845A Switching Relay.

Electrical Ratings:

Power Supply: 120 Vac, 60 Hz.

Ignition: 360 VA in addition to motor load rating.

Maximum Power Consumption:

R8182D,E,H and J: 9W.

R89182F: 5.5W.

Burner Circulator Contact Rating: 4.4A full load; 26.4A locked rotor at 120 Vac.

Safety Switch Timing: Approximately 45 seconds.

Flame Detector Required: C554A Cadmium Sulfide Flame Detector (ordered separately).

Thermostat Required: 24V, 2-wire thermostat such as the T87F.

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Relations
Honeywell, 1885 Douglas Drive North
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

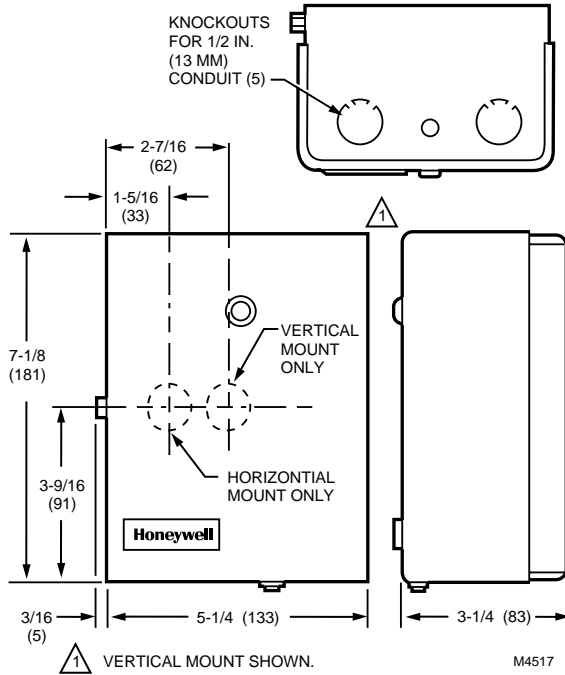


Fig. 1. R8182D,E,F installation dimensions in in. (mm).

Thermostat Anticipator Setting: 0.2A for R8182, 0.4A for each R845A Switching Relay used.

Maximum Ambient Temperature (at Element): 250°F (121°C).

Maximum Pressure Rating:
200 psi (1379 kPa) on immersion well.
100 psi (689.5 kPa) direct immersion.

Internal Views: Refer to Fig. 4 through 8.

Well Insertion Length: 3-3/8 in. (86 mm).

Immersion Well Dimensions (Order Well Separately):
Refer to Fig. 3.

Aquastat® Assembly Repair Parts: 125026AAE Aquastat® Assembly: Replaces R8182D,F Sensing Bulb.

Replacement Well Assemblies: Refer to form 68-0040, Wells and Fittings for Temperature Controllers, for part numbers and descriptions.

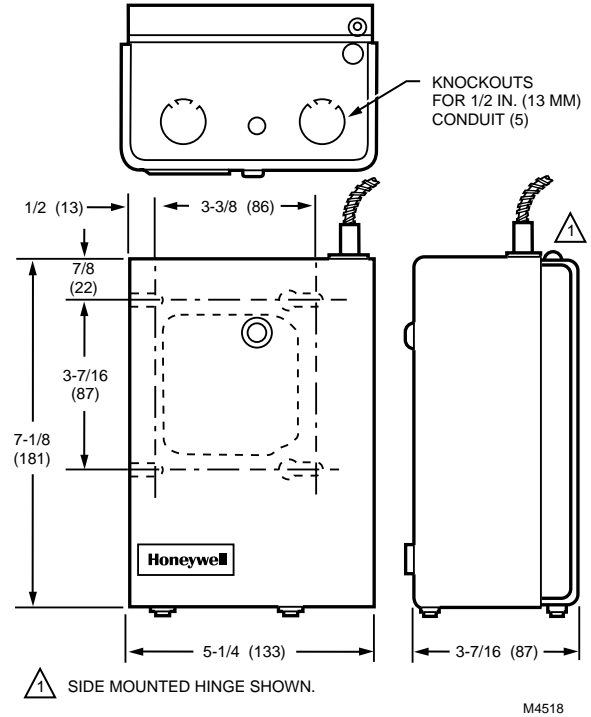
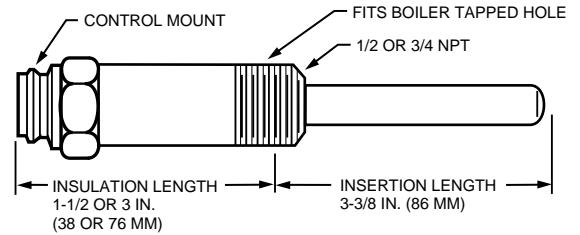


Fig. 2. R8182H,J installation dimensions in in. (mm).

R8182D,E,F



R8182H,J

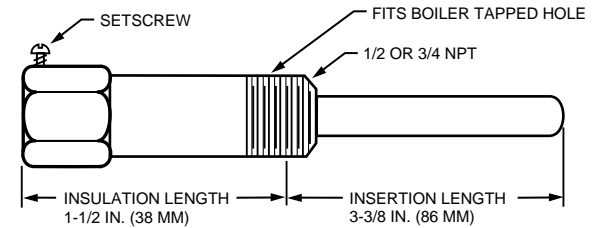


Fig. 3. Approximate immersion well dimensions.

Device	Description	Part Number
R8182D	1-1/2 in. (38 mm) insulation, horizontal or vertical; 3 in. (76 mm) insulation horizontal.	125026AAD
	3 in. (76 mm) insulation, vertical.	125026AAE
R8182E	1-1/2 in. (38 mm) insulation, horizontal or vertical; 3 in. (76 mm) insulation horizontal.	123726AV
	3 in. (76 mm) insulation, vertical.	123726AW

Device	Description	Part Number
R8182F	1-1/2 in. (38 mm) insulation, horizontal or vertical; 3 in. (76 mm) insulation horizontal.	125017AAB
	3 in. (76 mm) insulation, vertical.	125017AAC
R8182H	1-1/2 in. (38 mm) insulation.	125026AAJ
R8182J		123726AT

Dial Stop: For restricting range, part no. 4074BRR for R8182D,F,H.

Optional Specifications:

R8182D,E,F: Case with long dimension horizontal.
 R8182H,J: End mounted hinge.

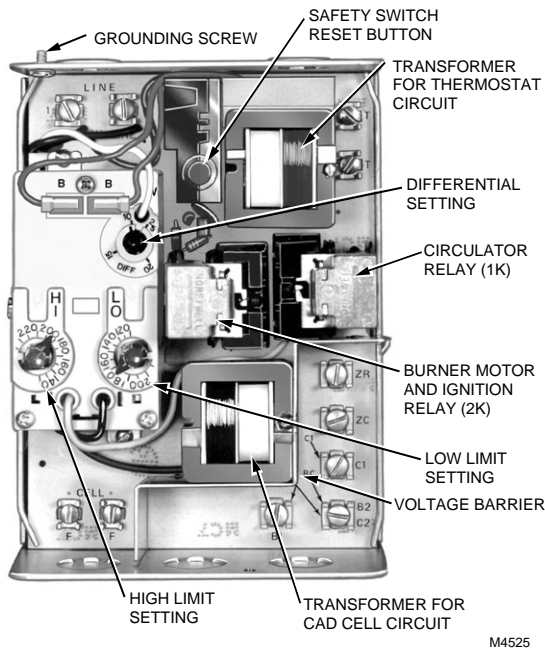


Fig. 4. Internal view of R8182D.

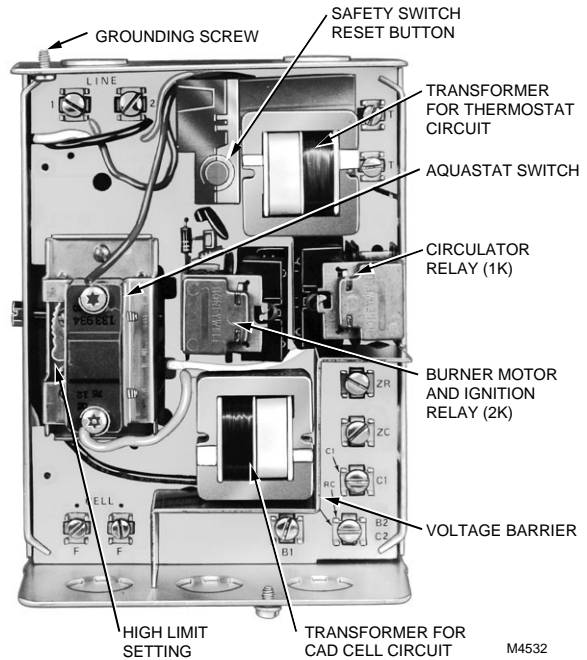


Fig. 5. Internal view of R8182E.

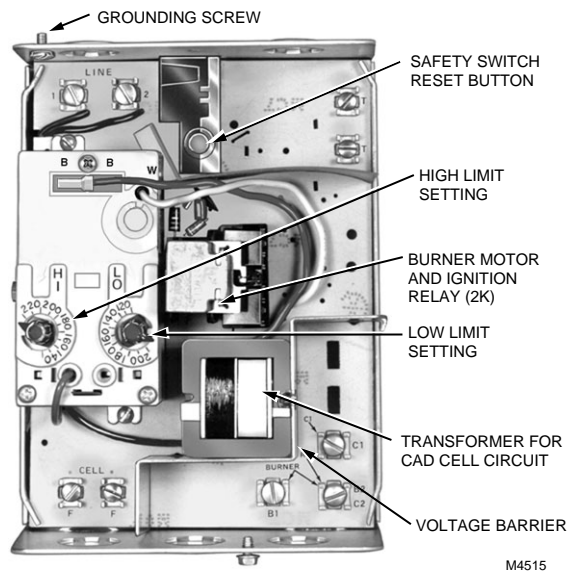


Fig. 6. Internal view of R8182F.