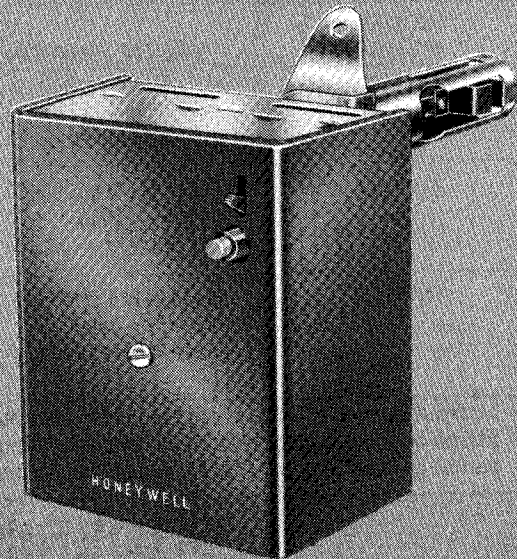


Honeywell

PROTECTORELAY OIL BURNER CONTROLS

THESE ONE-PIECE, STACK-MOUNTED OIL BURNER PRIMARY CONTROLS CYCLE THE BURNER ON THERMOSTAT DEMAND AND SHUT DOWN THE BURNER ON FLAME LOSS OR SYSTEM MALFUNCTION.

- ☐ Combine a Protectorelay unit for cycling the burner and a Pyrostat flame detector for sensing temperature changes of flue gases up to 1000° F [556° C].
- ☐ RA116A is used with intermittent ignition burners (formerly called constant ignition burners).
- ☐ RA117A and RA817A are used with interrupted ignition burners (formerly called intermittent ignition burners).
- ☐ Used with line voltage or 24V controllers.
- ☐ Safety switch may be manually tripped on all models.
- ☐ On RA116A, lockout occurs if flame is not re-established during safety switch timing.
- ☐ On RA117A and RA817A, flame or power failure is followed by a one minute (approximate) scavenging period and one attempt to re-establish flame. Lockout occurs if flame is not re-established.
- ☐ Manual reset of safety switch is required after ignition failure completely shuts off main burner.



**RA116A
RA117A
RA817A**

SPECIFICATIONS

IMPORTANT

THE SPECIFICATIONS GIVEN IN THIS PUBLICATION DO NOT INCLUDE NORMAL MANUFACTURING TOLERANCES. THEREFORE, UNITS MAY NOT MATCH THE LISTED SPECIFICATIONS EXACTLY. ALSO, PRODUCTS ARE TESTED AND CALIBRATED UNDER CLOSELY CONTROLLED CONDITIONS, AND SOME MINOR DIFFERENCES IN PERFORMANCE CAN BE EXPECTED IF THOSE CONDITIONS ARE CHANGED.

SUPER TRADELINE MODELS

SUPER TRADELINE controls offer features not available on TRADELINE or standard models, and are designed to replace a wide range of Honeywell and competitive controls.

SUPER TRADELINE MODELS AVAILABLE:

RA117A Stack Mounted Protectorelay
Special SUPER TRADELINE packaging with cross reference label and SUPER TRADELINE instruction sheet.

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TRADELINE MODELS:

RA116A Stack Mounted Protectorelay
Special TRADELINE packaging with cross reference label and TRADELINE instruction sheet.

STANDARD MODELS

MODEL NUMBER	TYPE OF IGNITION	24V THERMOSTAT	IGNITION RATING	INPUT VOLTAGE
RA116A	Intermittent ignition ^a (formerly called constant ignition)	2-wire 3-wire series 10	360 VA	120V/60Hz
RA117A	Interrupted ignition ^b (formerly called intermittent ignition)	2-wire 3-wire series 10	550 VA	120V/60 Hz
RA817A	Interrupted ignition ^b (formerly called intermittent ignition)	2-wire	550 VA	110V/50 Hz 120V/60 Hz 220V/50 Hz 240V/60 Hz

^a Lockout occurs if flame is not re-established during the safety switch timing.

^b Flame or power failure is followed by a one minute (approximate) scavenging period and one attempt to re-establish the flame. Lockout occurs if flame is not re-established.

ORDERING INFORMATION

FOR ORDERING INFORMATION WHEN PURCHASING REPLACEMENT AND MODERNIZATION PRODUCTS FROM YOUR TRADELINE WHOLESALER OR YOUR DISTRIBUTOR, REFER TO THE TRADELINE CATALOG OR PRICE SHEETS FOR COMPLETE ORDERING NUMBER, OR SPECIFY:

1. Order number. TRADELINE or SUPER TRADELINE.
2. Input voltage and frequency.

IF YOU HAVE ADDITIONAL QUESTIONS, NEED FURTHER INFORMATION, OR WANT TO COMMENT ON OUR PRODUCTS OR SERVICES, PLEASE WRITE OR PHONE:

1. YOUR LOCAL HONEYWELL RESIDENTIAL AND BUILDING CONTROLS DIVISION SALES OFFICE (CHECK WHITE PAGES OF PHONE DIRECTORY).
2. RESIDENTIAL AND BUILDING CONTROLS CUSTOMER SATISFACTION
HONEYWELL INC., 1885 DOUGLAS DRIVE NORTH
MINNEAPOLIS, MINNESOTA 55422-4386
(612) 542-7500

IN CANADA: HONEYWELL CONTROLS LIMITED

740 ELLESMERE ROAD

SCARBOROUGH, ONTARIO M1P 2V9

INTERNATIONAL SALES AND SERVICE OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD.

AMBIENT TEMPERATURE:

Operating: 0° F to 104° F [-18° C to 40° C].

Shipping: -40° F to 150° F [-40° C to 66° C].

DIMENSIONS: Refer to Fig. 1.**ELECTRICAL RATINGS (amperes):**

	Motor Ratings	
	110V/50 Hz 120V/60 Hz	220V/50 Hz 240V/60 Hz
Full Load	7.4	3.7
Locked Rotor	44.4	22.2

ELEMENT INSERTION LENGTH:

Adjustable from 3-1/2 to 5-1/2 inches [89 to 140 millimeters].

MOUNTING FLANGE:

Available for 6 inch [152 millimeter] diameter pipe (refer to Fig. 2). Can also be flattened for flat-mounting applications.

24V THERMOSTAT HEAT ANTICIPATOR CURRENT: 0.4A.**LINE VOLTAGE THERMOSTAT OR CONTROLLER (RA116A, RA117A):** 2 wire, 8A. Requires jumper across W and B terminals. Refer to Fig. 5 or 7.**SAFETY SWITCH TIMING:** 75 Seconds (nominal).**APPROVALS:****UNDERWRITERS LABORATORIES INCORPORATED LISTED (RA116A, RA117A ONLY):** File Number MP268, Guide Number MCCZ.

COMPETITIVE CROSS-REFERENCE

The RA116A replaces the following competitive devices:

HONEYWELL	WHITE RODGERS	GENERAL ELECTRIC	GENERAL PERFEX
R116A,B	603	A101B2	5200
R124A,B	611-1	CR7865	5300
R134A	611-31		
R168A	611-33		
R494A	615		
RA116A,B	6L18		
RA416A			
RA816A,D ^b			

PENN	ITT GENERAL	MERCOID	DETROIT
664	5200	JM	CA701 ^a
670	R96A102A		CA702 ^a
680	R96G102DC		

^a A Detroit 3-wire thermostat must be replaced by a 2-wire thermostat with a suitable heat anticipator.^b When replacing a model having an F or O terminal to power a clogged filter indicator light, provide a separate transformer for the light.

The RA117A replaces the following competitive devices:

HONEYWELL	WHITE RODGERS	GENERAL ELECTRIC	GENERAL PERFEX
R116A,B	602	A101A2	5200
R117A	603	A101B2	5230
R123A,B	610-2	CR7856	5520
R124A,B	610-32		5525 ^c
R134A	611-1		
R168A	611-31		
R494A	615		
RA116A,B	6L18		
RA117A			
RA416A			
RA816A			
RA817A,C			
RA817A,C ^{b,c}			

DELCO	PENN	ITT GENERAL	MERCOID	DETROIT
COA	664	5200	JM	CA701 ^a
COA-1	670	R96A102A	JM1	CA702 ^a
	672	R96G102DC		
	680			
	682			

^a A Detroit 3-wire thermostat must be replaced by a 2-wire thermostat with a suitable heat anticipator.^b When replacing a model having an F or O terminal to power a clogged filter indicator light, provide a separate transformer for the light.^c Do not use RA117A to replace this control where timed ignition is required for a wall-flame burner.

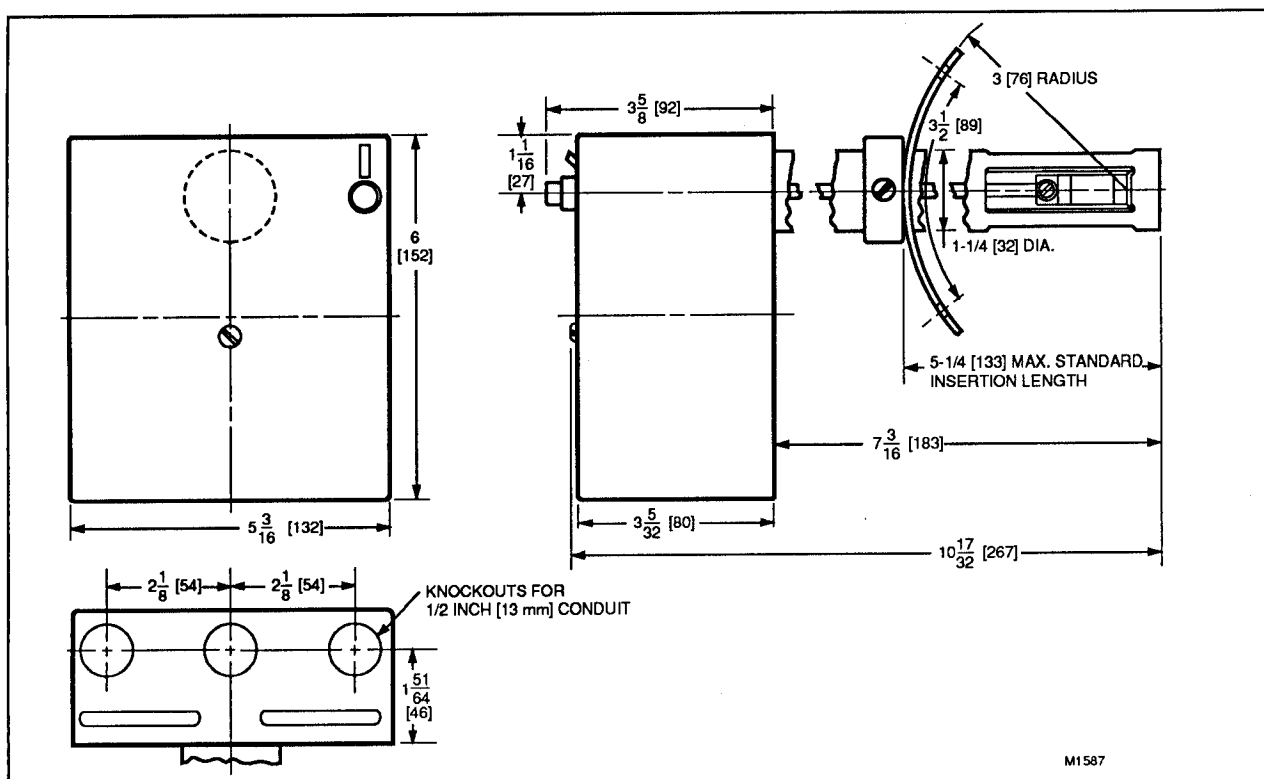


FIG. 1—INSTALLATION DIMENSIONS IN INCHES AND [MILLIMETERS].

INSTALLATION

WHEN INSTALLING THIS PRODUCT...

1. Read these instructions carefully. Failure to follow them could damage the product or cause hazardous condition.
2. Check the ratings given in these instructions and on the product to ensure the product is suitable for your application.
3. Ensure the installer is a trained, experienced service technician.
4. After completing installation, use these instructions to check product operation.

CAUTION

1. Do not bend contact arms or stops on the Pyrostat detector mechanism or make any adjustments other than those given in the instructions.
2. Remove the cardboard packing behind the drive shaft lever by pushing the packing up and pulling it straight out over the top of the lever. Do not remove packing by pulling sideways.
3. Ensure all wiring complies with applicable codes and ordinances.

MOUNTING (Refer to Fig. 2)

Follow the mounting instructions supplied by the furnace, boiler, or burner manufacturer, if available. Otherwise, use the instructions provided below.

When replacing one of the controls listed on page 3, identify each leadwire as it is removed from the old control by marking the wire with the number of the RA116A or RA117A terminal to which it will be connected. Refer to Table 1 and 2 to translate the old terminal identifications to the new RA116A or RA117A terminal identifications.

TABLE 1—IDENTIFYING TERMINALS FOR RA116A REPLACEMENT.

TERMINAL IDENTIFICATION ON OLD CONTROL	TERMINAL IDENTIFICATION ON NEW RA116A
1, LH, or HOT LINE	1
2, LG, or LINE	2
3, 4, M, or MOTOR	3

TABLE 2—IDENTIFYING TERMINALS FOR RA117A REPLACEMENT.

TERMINAL IDENTIFICATION ON OLD CONTROL	TERMINAL IDENTIFICATION ON NEW RA117A
1, LH, or HOT LINE	1
2, LG, or LINE	2
3, M, or MOTOR	3
4, I, or IGNITION	4

If the position of the old control was satisfactory, install the new RA116A or RA117A in the same location as the old one, making sure to insert the bimetal element the same distance into the stack as the old element. If the old element was inserted more than 5-1/2 inches [140 millimeters], insert the new control 5-1/2 inches [140 millimeters] into the stack.

If the position of the old control was not satisfactory, close the old holes tightly with a metal plate and follow these instructions.

1. Follow these location considerations.