

RA889A Switching Relay

INSTALLATION INSTRUCTIONS

APPLICATION

The RA889A Switching Relay provides intermediate switching of line- and low-voltage devices from a line- or low-voltage controller and is typically applied in hydronic heating systems.

SPECIFICATIONS

Electrical Ratings:

Voltage: 120 Vac, 60 Hz.

Thermostat Heat Anticipator Setting: 0.12A.

Transformer Ratings:

Primary: 120 Vac, 60 Hz.

Secondary: 24 Vac, 12 VA maximum; 9 VA available for external loads. Secondary is protected by replaceable 1A automotive fuse.

Contact Ratings:

15 AFL, 30 ALR; maximum connected load 2000 VA.

Switching Action:

Spdt, plus extra low voltage Spst.

Electrical Connections:

No. 8 captivated wire clamp screw terminals.

Dimensions:

See Fig. 1.

Cross Reference:

The RA889A replaces many Honeywell models. See Table 1 for additional cross reference information.

Replacement Parts:

Replacement Fuse: Use a 1A automotive fuse.

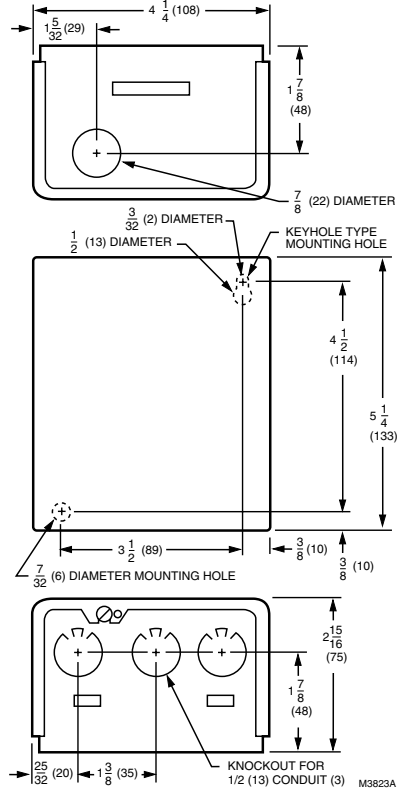


Fig. 1. RA889A dimensions in in. (mm).



Table 1. RA889A Replacement Cross Reference.

Manufacturer	Model	Connections											Comments
		Input Line Voltage		Power Relay			Low Voltage Relay		Thermostat				
		L1	L2	COM	N.O.	N.C.	X1	X2	W(T)	R(T)	C		
Honeywell	RA889A											—	
Honeywell	RA89A ^b	1	2	3	4	—	—	—	T	T	—	—	
Honeywell	R182A ^b	1	2	7	8	—	B	R	See Fig. 8 thermostat connections.			Jumper L1 to COM and between X1 and R(T) in RA889A.	
Honeywell	R182B	1	2	8	6	7	B	R					
Honeywell	R182C ^a	1	2	8	6	7	B	R	Jumper R(T) to W(T).			Requires jumper between X1 and R(T)	
Honeywell	R482B	1	2	8	6	7	—	—					
Honeywell	R482C ^a	1	2	8	6	7	—	—					
Honeywell	R482J ^a	1	2	6	8	7	—	—					
Honeywell	R882A ^b	—	—	8	7	—	—	—	W	—	B	Line voltage switched inputs go to L1 and L2. See Fig. 7B. Line voltage inputs go to L1 and L2. See Fig. 7B.	
Honeywell	R882B	—	—	8	6	7	—	—	W	—	B		
Honeywell	R882C ^a	—	—	8	6	7	—	—	W	—	B		
Honeywell	R882J ^a	—	—	6	8	7	—	—	1	—	2		

^a RA889A has one set of COM/N.O. relay contacts. Use R8845U if two sets are required.

^b RA889A has lower output load rating. Check load requirements.

INSTALLATION

When Installing this Product . . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.
5. Follow local codes for installation and application.

WARNING

Electrocution Hazard.
Power supply can cause severe injury, or death.

Transformer core not bonded.
 Disconnect power supply before wiring.

MOUNTING

In replacement applications, mount the new relay in the same location as the old relay. For new installations, locate the relay vertically on a solid wall or partition as close as possible to the device to be controlled. Select a location that is easily accessible for installation and service.

NOTE: To reduce the possible transformer hum and relay noise that is sometimes amplified by mounting surfaces such as sheetmetal, plasterboard, and similar materials, place rubber or felt washers between the case and the mounting surface.

1. Position the relay and mark the mounting holes. See Fig. 1.
2. Start a screw in the upper right corner for the keyhole type mounting hole. Screw it down within about 1/8 in. (3 mm) of the surface.
3. Hang the relay on the screw, position the case, and start the bottom screw.
4. Tighten both screws.

WIRING

CAUTION

Electrical Shock or Personal Injury Hazard.
Power supply can shock.
 Use only NEC Class 1 wire for all line voltage wiring connections. Class 1 wires must be rated for at least 167°F (75°C).

All wiring must comply with all applicable electrical codes, ordinances, and regulations. Follow all instructions furnished with the controlled equipment.

IMPORTANT

The switching relay terminals are approved only for use with copper wires.

When two or more line-voltage load devices are to be controlled in parallel, the total current must not exceed the rating for the relay load. Never connect load terminals to a load that uses more current than the amount listed in the electrical ratings on the relay. See Table 2 for wiring length specifications. See the schematic and typical hookups in Fig. 2 through 7.

Table 2. Wire Lengths.

Wire Size (AWG)	Total Wire Length		Wire Length of Run to Thermostat	
	Ft	M	Ft	M
22	120	38.0	60	18.0
20	200	61.0	100	30.5
18	300	91.5	150	45.5
16	500	152.5	250	76.0
14	800	244.0	400	122.0

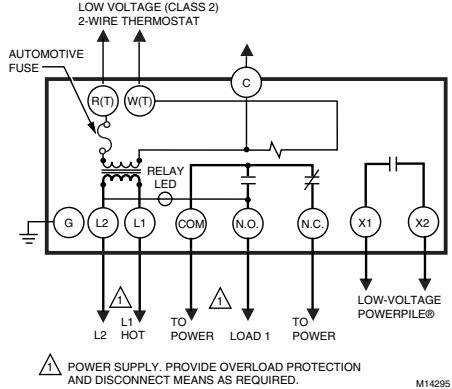
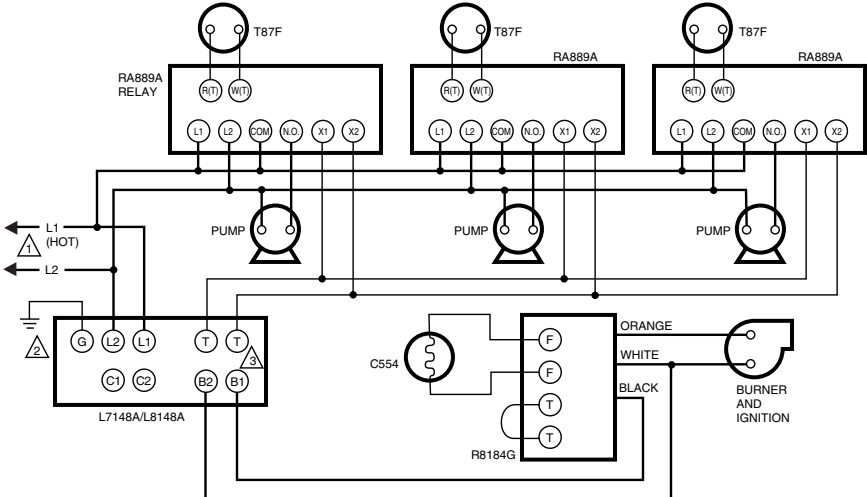


Fig. 2. RA889A internal schematic and typical hookup.



- ⚠ POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.
- ⚠ CONTROL CASE MUST BE CONNECTED TO EARTH GROUND. USE GROUNDING SCREW PROVIDED.
- ⚠ B1 IS 1/4 IN. TAB TERMINAL.

Fig. 3. RA889A hookup for L7148A/L8148A in an oil-fired, tankless hot water, zoned, pump system.

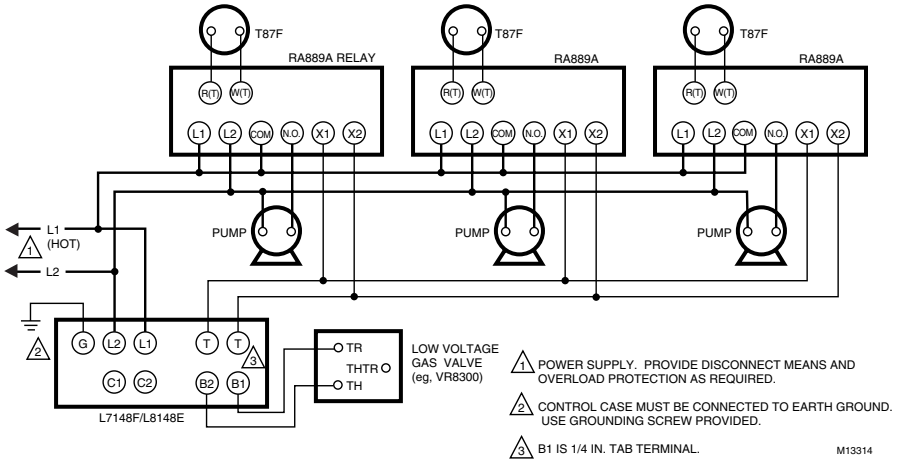


Fig. 4. RA889A hookup for L7148F/L8148E in a gas-fired, 24V, zoned, pump system.

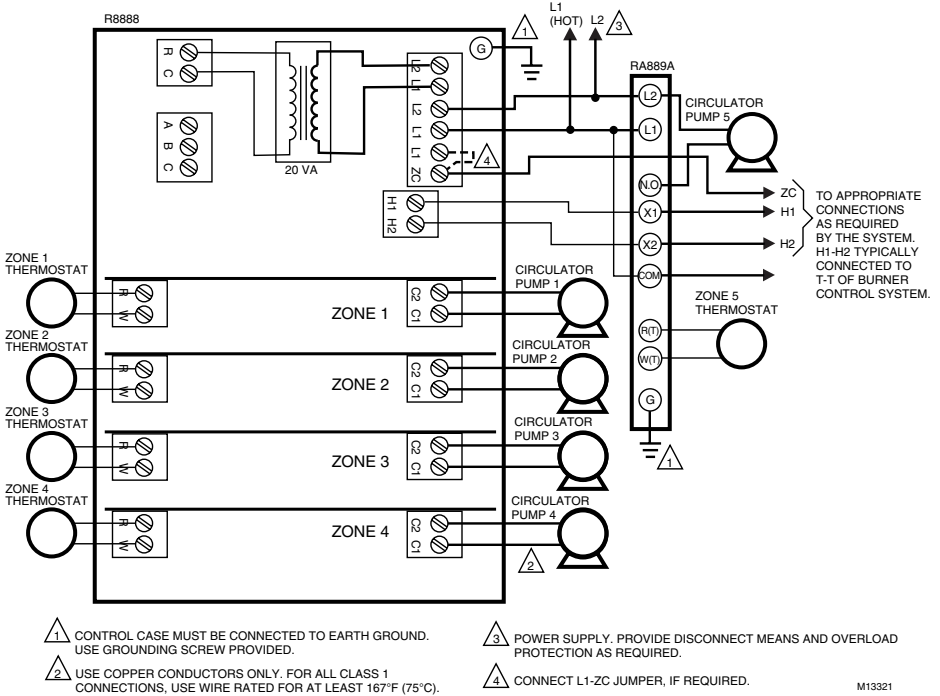


Fig. 5. R8888 zone expansion using additional RA889A Switching Relays.

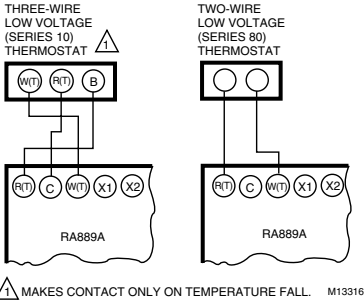


Fig. 6. RA889A thermostat connections.

CHECKOUT

1. Keep the cover on the relay during normal operation and remove only for service and checkout.
2. Relay contacts require no cleaning; they are arranged to close with a wiping action and are self-cleaning. The contacts may turn black after being in service for some time; this discoloration does not prevent proper operation.
3. After installation is complete, operate system through at least one cycle from the controller to make certain the relay controls the equipment as intended.

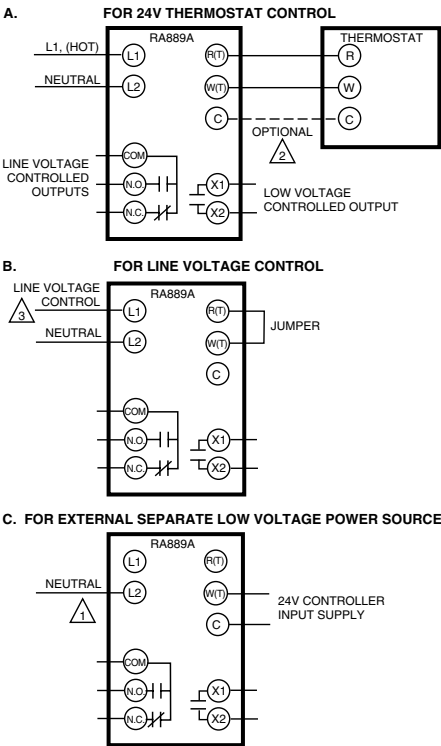
TROUBLESHOOTING

Test Button

- This connection is the same as a call for heat connection between the R(T) and W(T) terminals.

Relay LED

- This LED lights whenever there is 120 Vac (L1) on the N.O. terminal (when COM/N.O. relay contacts are closed).



- ▲1 REQUIRED FOR OUTPUT LED OPERATION.
- ▲2 FOR SERIES 10 OR OTHER HARDWIRED ELECTRONIC 3-WIRE THERMOSTATS.
- ▲3 **WARNING!** ELECTROCUTION HAZARD. POWER SUPPLY CAN CAUSE SEVERE INJURY OR DEATH. DISCONNECT POWER BEFORE WIRING OR SERVICING L1. POWERED RELAYS MUST BE WIRED AS DRY CONTACTS. M13317

Fig. 7. RA889A control options.

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