

L6006A Aquastat® Controller

INSTALLATION INSTRUCTIONS

APPLICATION

The Honeywell SUPER TRADELINE® L6006A Controller operates in response to temperature changes in hydronic heating systems. It provides spdt switching for high limit, low limit or circulator control.

The L6006A is designed for horizontal or vertical insertion/mounting using an immersion well (not included). Refer to Wells and Fittings for Temperature Controllers, form 68-0040, for part numbers and ordering information.

A package of heat-conductive compound is included for use when the sensing bulb is inserted into a well designed for a larger bulb.

NOTE: See form 69-0955, 107408, 120650 Heat Conductive Compounds Material Safety Data Sheet (MSDS) when used with this Aquastat® Controller.

A 124904 Well Adapter, for use on old wells that do not fit the L6006A Immersion Well Clamp, can be ordered separately, see form 68-0040. A setting stop is factory-installed to prevent setting above 240°F (116°C) limit. Adjustable differential range is 5°F to 30°F (3°C to 17°C).

Table 1. Electrical Ratings (Amperes):

Type	120 Vac	240 Vac
Full Load	8	5.1
Locked Rotor	48	30.6
Millivoltage	0.25 to 0.25 to 12 Vdc	

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.

WARNING

Electrical Shock Hazard.

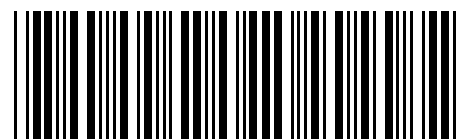
Can cause serious injury, death or equipment damage.

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

Follow instructions furnished by the system manufacturer, if available. Otherwise, refer to the following procedure.

To install this L6006A as a replacement for other L6006A models:

1. Shut off the power and remove the old control in the existing application. If the old immersion well appears suitable and if the adapter clamp on the L6006A Aquastat Controller fits the old immersion well spud, this immersion well does not need to be replaced.
2. If the immersion well is to be replaced and if the system is filled, drain the system to a point below the boiler tapping.
3. Remove plug (or old immersion well) from boiler tapping.
4. Install new immersion well (not included). When a boiler tapping is greater than 1/2 in. or 3/4 in. NPT, use a reduction fitting to adapt the boiler opening to the 1/2 in. or 3/4 in. NPT threads that are standard with the well or fitting. Use thread seal compound or equivalent on the fitting.



NOTE: Some models have an adjustable tubing length to 3 in. (76 mm). In these models, pull out extra tubing inside the case if needed.

- 5. Fill the system. Make sure that the well is screwed in tightly enough to prevent leakage. Do not tighten after controller is secured to the well, applying force to the case.
- 6. Loosen the screw (at the top of the case, above the scale setting), and remove the cover. Loosen the two screws that secure the adapter clamp (See Fig. 1).
- 7. Determine whether vertical or horizontal mounting method is desired; see Fig. 2 for mounting bracket placement.
- 8. Insert the sensing element into the immersion well.
- 9. Fasten the case of the Aquastat Controller to the well with the adapter clamp. Make certain that the clamp is properly positioned over the groove of the well spud. Also be sure the flange at the opening of the well fits snugly into the opening of the case. Be sure the sensing element bulb bottoms in the well.

Wiring

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage. Make sure all wiring complies with local electrical codes and ordinances. The case has a knockout for 1/2 in. conduit.

Fig. 3 and 4 show typical wiring diagrams of Aquastat® Controllers used in heating systems.

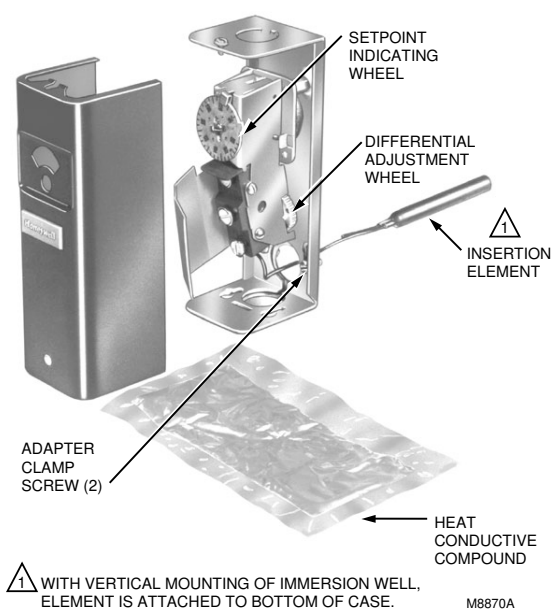


Fig. 1. Internal view of L6006A and accompanying components.

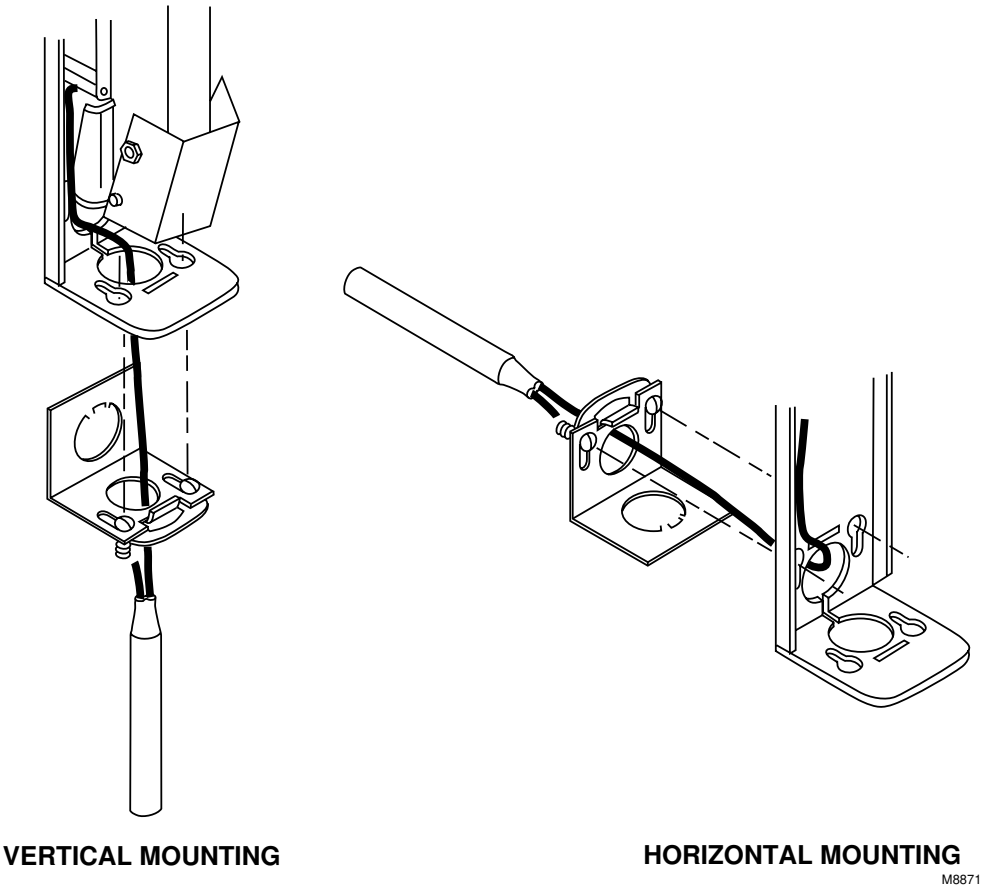


Fig. 2. Mounting bracket placement for vertical or horizontal mounting.

OPERATION

Select control settings according to the heating system manufacturer recommendations.

High-limit Controller—shuts off burner when water temperature exceeds high-limit setting. R-B contacts make, and burner restarts when temperature drops to high-limit setting minus the temperature differential.

Low-limit Controller—maintains minimum water temperature for domestic hot water; e.g., tankless coil in heating boiler. Makes R-B contacts at temperature setting minus differential.

Circulator Controller—prevents circulation of water that is not hot enough. Breaks R-W contacts for circulator circuit at temperature setting minus differential; remakes the R-W contacts for circuit when the temperature setting is reached.

Switching action operates as follows:

When there is a drop in water temperature (to dial setting, less differential), the R to B contacts make and the R to W contacts break, preventing circulator operation. When there is a rise in water temperature (to dial setting), R to B contacts break and R to W circulator contacts make.

ADJUSTMENT

Set the differential according to the system manufacturer recommendations. Rotate the wheel on the back of the snap switch until the desired reading is aligned with the V notch in the frame. The wheel provides an adjustment from 5°F to 30°F (3°C to 17°C). Replace the cover on the Aquastat Controller.

Adjust the control point according to the system manufacturer recommendations. To adjust, insert a screwdriver in the slotted screw type head located beneath the window in the cover. Turn the scale to the desired control point. Move the factory-set stop if desired, as shown in Fig. 5.

TO CHANGE SETTING, INSERT BENT PAPER CLIP INTO SMALL HOLE IN DIAL AND PUSH ENOUGH TO ALLOW FOR MOVEMENT OF FACTORY-SET STOP.

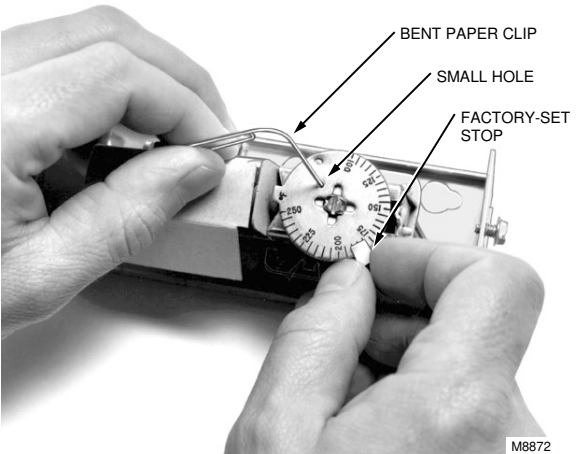


Fig. 5. Moving factory-set stop on L6006A.

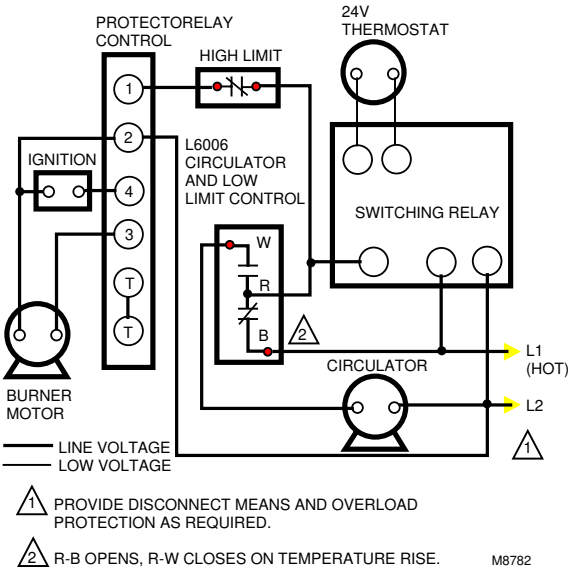


Fig. 3. Typical wiring hookup using L6006 for low limit and circulator control in oil-fired hydronic system.

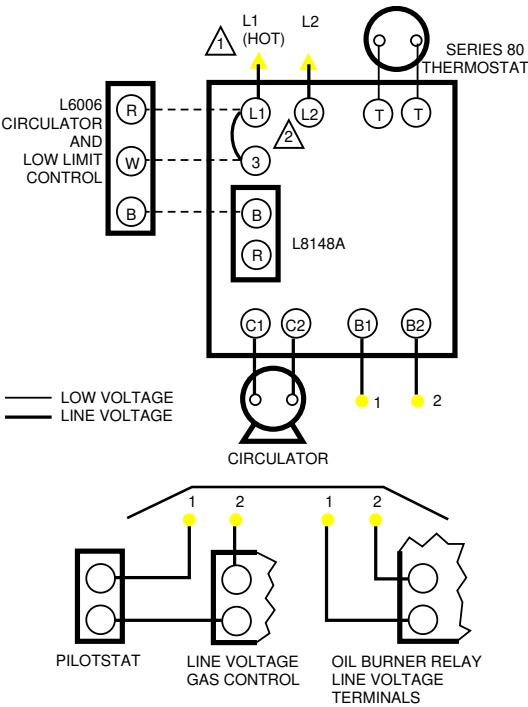


Fig. 4. Typical wiring hookup using L6006 with L8148A Aquastat Relay.

CHECKOUT

Check to make certain that the Aquastat Controller was installed and adjusted properly. Put the system into operation and observe the action of the device through several cycles to make certain that it provides proper limit and circulator control.



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Honeywell

AUTOMATION AND CONTROL PRODUCTS

WARRANTY POLICY

Honeywell warrants the products in this catalog (except those parts designated on Honeywell's price lists as not covered by this warranty) to be free from defects due to workmanship or materials, under normal use and service, for the following warranty periods. Honeywell VisionPRO®, Commercial VisionPRO™, FocusPRO®, PRO 4000, PRO 3000, LineVolt™ PRO, Digital Round™, and Modern Round™ (T87K, N) Series Thermostats with a date code of 0501 or later: sixty (60) months from date of installation. CommercialPRO, PRO 2000 and PRO 1000 thermostats: twenty-four (24) months from date of installation. All other Honeywell thermostats and thermostats with a date code of 0452 or earlier: twelve (12) months from date of installation, unless specified otherwise. Honeywell Air Cleaners, Humidifiers, Ventilators, Ultraviolet Treatment and Zoning Products with a date code of 0501 or later, excluding replacement maintenance parts: sixty (60) months from date of installation. Indoor air quality parts F50, F52, F300, F200, F150, UV100E, HE225, HE265, HE365, with date codes of 0452 or earlier, excluding replacement maintenance parts: sixty (60) months from date of installation. All other Honeywell indoor air quality and zoning products with a date code of 0452 or earlier: twenty-four (24) months from date of installation, unless specified otherwise. Variable frequency drive devices (VFD) and accessories: new products for thirty-six (36) months and factory refurbished drives for twelve (12) months from date of installation when start-up and commissioning is performed by Honeywell VFD Authorized and trained personnel. All VFD warranty return products must have prior authorization (Form No. 87-0284) and be returned only to the VFD Service Center in Chattanooga, TN. MS, MN and Fact Acting 2-position Direct Coupled Actuators: sixty (60) months from date of installation. The warranty period for all other products is twelve (12) months from date of installation.

If a product is defective due to workmanship or materials, is removed within the applicable warranty period, and is returned to Honeywell in accordance with the procedure described below, Honeywell will, at its option, either repair, replace or credit the customer for the purchase price of the product, in accordance with the procedure described below. This warranty extends only to persons or organizations who purchase products in this catalog for resale.

The expressed warranty above constitutes the entire warranty of Honeywell with respect to the products in this catalog and IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL HONEYWELL BE RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

INSTRUCTIONS—INSTALLING OR SERVICING CONTRACTOR OR DEALER

When replacing a Honeywell product under warranty, including those products furnished on original heating and/or cooling equipment, you should rely on your local Honeywell Wholesaler or Distributor for prompt and efficient product replacement service.

A Honeywell Returned Goods Identification Tag (form 87-0030) or an electronic data notification system must be completed and approved by the servicing dealer/contractor prior to submitting the product to the Honeywell Wholesaler or Distributor. (Tags may be obtained from the Wholesaler or Distributor in advance.) No warranty claim for product replacement or credit will be honored by the Wholesaler/Distributor without a completed warranty tag attached or electronic notification.

INSTRUCTIONS—WHOLESALE OR DISTRIBUTOR

The following will apply to the return of any product to Honeywell under this warranty:

Any products which are not variable frequency drives and are:

- (i) identified with Honeywell's Returned Goods Identification Tag (form 87-0030), or electronic notification system;
- (ii) are listed individually with Returned Goods ID Tag numbers and date codes

- listed on Honeywell's Returned Goods Order (form 71-96024) or a similar form;
 - (iii) packed separately from other returns and protected from shipping damage;
 - (iv) have certification by the installer or servicing dealer that the product was removed, due to failure, within the applicable warranty period;
 - (v) are received transportation pre-paid at: Honeywell Return Goods
Dock 4 MN10-3860
1885 Douglas Drive
Golden Valley, MN 55422
 - (vi) and are found by Honeywell's inspection to be defective in workmanship or materials under normal use and service
- will be handled in accordance with one of the two following procedures, as specified by the customer making the return:

All VFD warranty return products must have prior authorization (Form No. 87-0284) and be returned only to the VFD Service Center in Chattanooga, TN.

1. **CREDIT PROCEDURE.** Honeywell will issue credit, at Honeywell's lowest wholesaler net price in effect at the time of the return (as set forth on Honeywell's then current price sheet) or at the actual invoice amount if a copy of that invoice is attached to the packing list. (TRADELINE Replacement Exchange Products will be at Honeywell's lowest replacement exchange net price in effect at the time

of such return, as shown on Honeywell's then current price sheet.) Honeywell reserves the right to disallow this credit option in cases of warranty abuse.

2. **REPAIR OR REPLACEMENT PROCEDURE.** Honeywell will, at its option, either repair or replace the product free of charge and return it or its replacement lowest cost transportation prepaid. The replacement will be a functionally equivalent new TRADELINE product. Premium transportation will be used at customer's request and expense.

The warranty will not be honored if:

- (i) product is damaged or missing parts or accessory items including batteries.
- (ii) product exhibits evidence of field misapplications.

Final disposition of any warranty claim will be determined solely by Honeywell. If inspection by Honeywell does not disclose any defect covered by the warranty, the product will be returned or scrapped as instructed by the customer and Honeywell's regular service charges will apply. Products returned to the customer may be sent shipping charges collect.

If you have any questions relative to product returns to Honeywell, contact your Customer Care Representative:

Honeywell International Inc.
Customer Care MN10-1461
1885 Douglas Drive
Golden Valley, MN 55422
(763) 954-5720

SPECIAL MESSAGE TO INDUSTRIAL USERS AND BUILDING OWNERS

Thank you for using Honeywell products.

As a user, when you purchase a Honeywell product from this catalog you should expect performance from the product and, if it fails, replacement of the product by the installing dealer.

Typically, you will have purchased a Honeywell product under the following circumstances:

1. To modernize or refurbish your existing commercial and/or process control system.
2. You have purchased new commercial and/or process heating, cooling, air cleaning or humidification equipment that

is furnished with Honeywell controls or components (refer to your owner's manual furnished with the equipment).

3. A control has failed on your existing commercial and/or process heating and/or cooling equipment and is replaced by a Honeywell TRADELINE product.

With few exceptions, you utilize the services of a competent plumbing, heating and/or cooling dealer/contractor for new or replacement work performed.

Although our warranty does not extend to you, Honeywell does extend a warranty to your supplier.

Your supplier can rely on its local Honeywell Wholesaler/Distributor or Honeywell for prompt replacement.

If you have any questions, need additional information or would like to comment on Honeywell's products or services, please write or phone:

Honeywell International Inc.
Customer Care MN10-1461
1985 Douglas Drive North
Golden Valley, MN 55422-4386
(763) 954-5720

or check your telephone directory (white pages) for one of many Honeywell field sales offices.