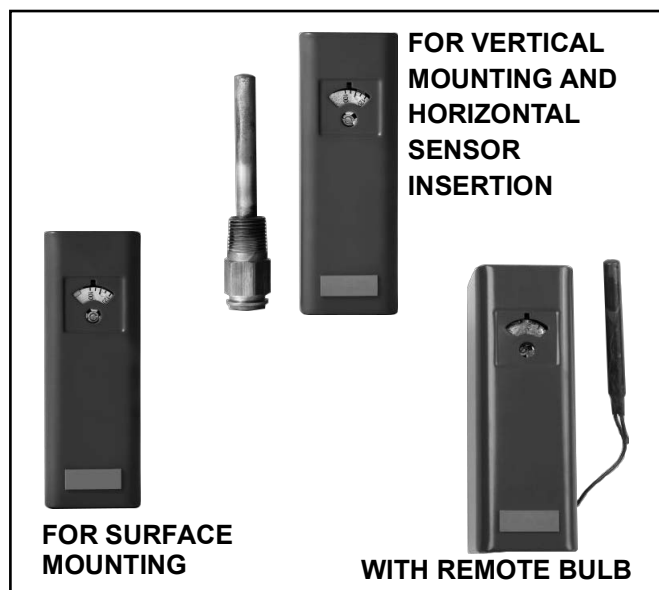


L4006,7,8; L6006,7,8 Aquastat® Controllers

PRODUCT DATA



FEATURES

- L4006,7 and 8 provide SPST switching for high or low limit or circulator control.
- L4006G includes two SPST switches that provide high limit and circulator control.
- L4006,7; L6006,7 models are available for insertion in vertical or horizontal immersion well, vertical or horizontal direct immersion, and surface mounting.
- L4008, L6008 include remote bulb for mounting controller at a location away from the sensing element.
- Totally enclosed Micro Switch™ snap-acting switches operate on temperature rise to set point.
- Models calibrated for high limit use are also suitable for low limit control if a separate high limit controller is used.
- Visible control point scale and external adjustment screw permit easy setting.
- Remote bulb models may be used to sense air temperature in ducts and in outside air sensing applications.

GENERAL

Aquastat® Controllers are immersion type devices for limiting or regulating the temperature of liquids in boilers, storage tanks, and other applications where temperature control is required.

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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.

NOTE: The following specifications are standard. Variances, available as options, are listed in Tables 1 and 2.

Electrical Ratings (A):

Models with 2°F (1°C) fixed differential:

	120 Vac	240 Vac
Full Load	2.6	1.3
Locked Rotor	15.6	7.8

Models with 5°F (3°C) fixed differential or 5°F to 30°F (3°C to 17°C) adjustable differential:

	110/120 Vac	200/240 Vac	277 Vac ^a
Full Load	8.0	5.1	4.2
Locked Rotor	48.0	30.6	25.2
Millivoltage	0.25 at 0.25 to 12 Vdc		

^a L6008G only.

Switching:

L4006, L4007, L4008: SPST.

L6006, L6007, L6008: SPDT (breaks R-B and makes R-W on temperature rise at setpoint).

Pressure Rating:

Capillary Bulb (Direct Immersion): 200 psi (1379 kPa).

Immersion Well: 255 psi (1758 kPa).

Sensing Bulb Material: Copper.

Sensing Bulb Fill: Liquid—toluene or silicone oil.

Sensing Bulb Dimensions: 2-7/8 in. (73 mm) long, 3/8 in. (10 mm) diameter.

Wiring: Screw terminals.

Maximum Ambient Temperature: 150°F (66°C).

Approvals:

Underwriters Laboratories Inc:

Remote bulb devices and well-mounted devices shipped without well are component recognized:
File No. MP466, Guide No. MBPR2.

L4006A shipped with well, L4006G, L4007A,B; L6006C for surface mounting, L6006B for direct immersion mounting, and L6007A are listed: File No. MP466, Guide No. MBPR.

L6008G is listed: File No. E4436, Guide No. XAPX.

Canadian Standards Association: File No. LR1620, Guide No. 400-E-O.

ANSI Miswiring: Models with 1/4 in. tab terminal meet ANSI Appliance Miswiring Standard.

Mounting:

Horizontal and vertical models mount directly to an immersion well installed in a boiler fitting. L4006H and L6006C contain bracket and clamp for surface mounting on pipe or tank. Remote bulb models have three mounting holes in rear of case for screw mounting to a vertical surface. The L6006B direct immersion model also mounts directly to a boiler fitting.

Finish: Gray.

Dimensions:

Installation: See Fig. 1, 2, and 3.

Immersion Well: See Fig. 4.

Boiler Fitting and Bulb: See Fig. 5.

Accessories and Parts:

137536A Scale Lock Assembly: Includes one 137536-767

Scale Lock and one 80844C-767 Screw, No. 3-48 x 3/16.

Q615A1004 Weatherproof Enclosure (for remote bulb devices only).

107408 Heat-Conductive Compound (4-oz. can).

104488 Spring Clip (stainless steel).

124904 Well Adapter.

Immersion Well Assemblies and Compression Fittings:

See form 68-0040, Wells and Fittings for Temperature Controllers, for list and ordering information.

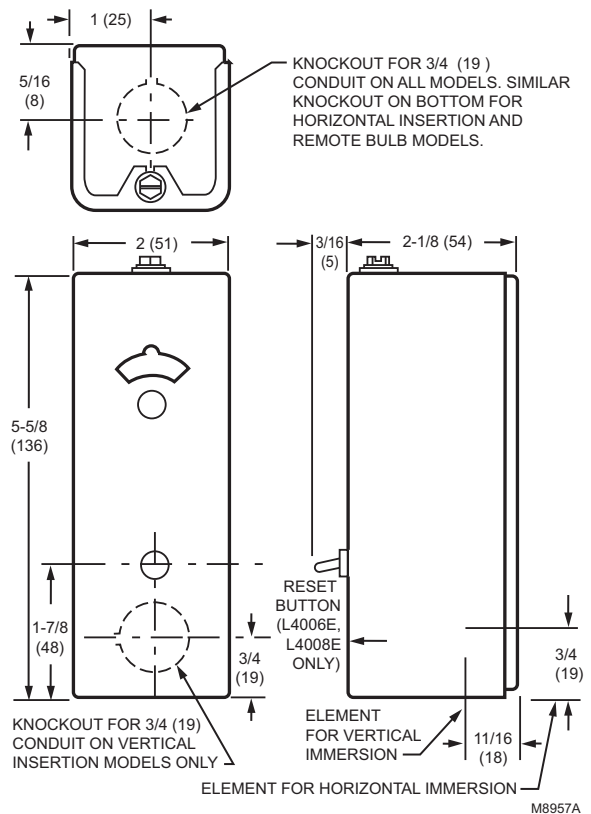


Fig. 1. Approximate case installation dimensions in in. (mm) for direct insertion models.

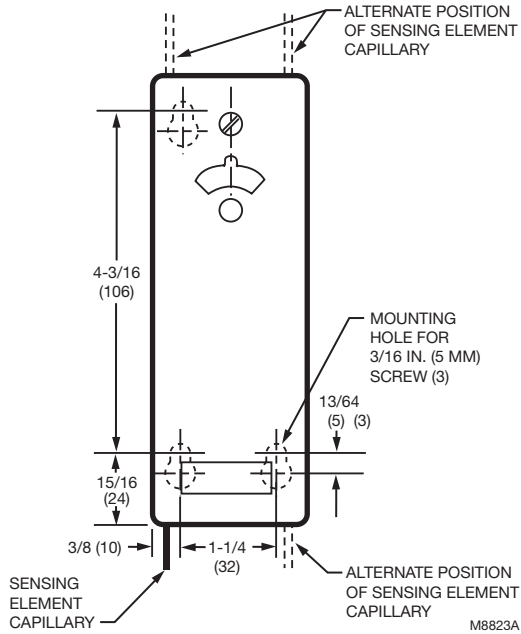


Fig. 2. Approximate installation dimensions in in. (mm) for remote bulb models. Other dimensions are the same as Fig. 1.

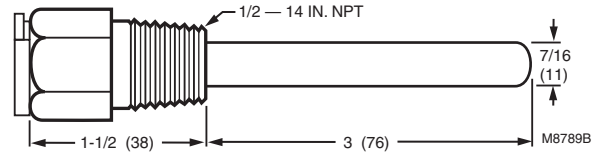


Fig. 4. Approximate immersion well dimensions in in. (mm) for all models except L4006C and L6006B.

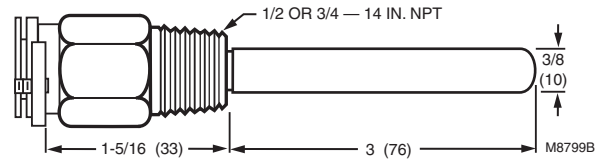


Fig. 5. Approximate boiler fitting and bulb dimensions in in. (mm) for L4006C and L6006B.

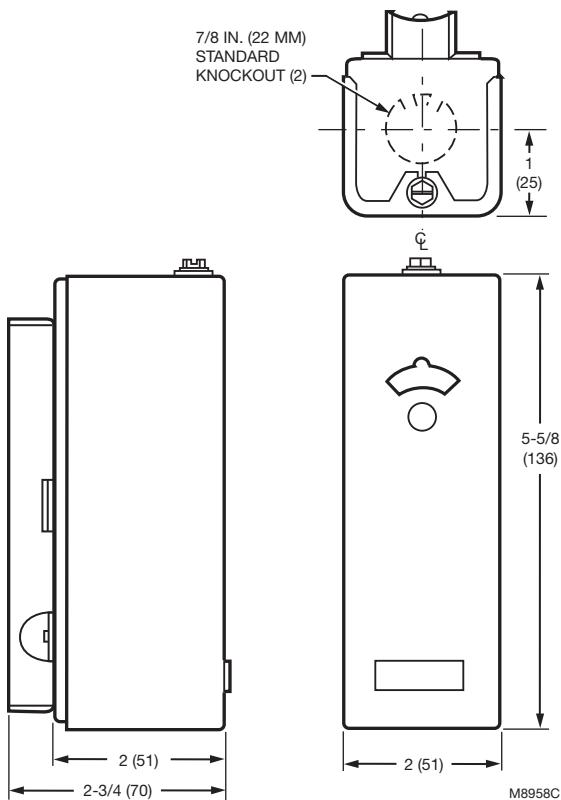


Fig. 3. Approximate installation dimensions in in. (mm) for surface mount models.

Standard Models:

Table 1. L4006, L4007, L4008 Controller (SPST Switching) Specifications.

Model	Application	Range °F (°C)	Midscale Differential °F (°C)	Insertion ^a	Switching On Temperature Rise	Available Options
L4006A	High or low limit	40° to 180°F (4° to 82°C) or 100° to 240°R (38° to 116°C)	2° or 5°F fixed (1° or 3°C) or 5° to 30°F adjustable (3° to 17°C)	Horizontal	Breaks	— NPT brass spud 1/2 or 3/4 in. — Special capillary assembly. — Insertion 3-3/8 or 5 in. (86 or 127 mm) — Celsius scale markings. — Factory-set stops at 160°, 180°, 185°, 200°, 220°, or 230°F (71°, 82°, 85°, 93°, 104°, or 110°C). — Insulation depths of 1-1/2, 3 or 4 in. (38, 76, or 102 mm). — Screw and mounting brackets. — Plastic tubing over well. — Modified dial with stop. — Special cover and knobs. — With ground screw.
L4006B	Circulator	100° to 240°F (38° to 116°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Horizontal	Makes	— Insulation depth 1-1/2 or 3 in. (38 or 76 mm). — NPT brass spud 3/4 in. — Screw in front of case on dial suitable for Powerpile® control. — Factory-set stop at 240°F (116°C).
L4006C	High or low limit	65° to 200°F (18° to 93°C)	3-1/2°F (2°C) fixed	Horizontal direct immersion	Breaks	— Less cover. — Capillary 10 in. (254 mm). — NPT brass spud 3/4 in.
L4006E ^b	High limit	100° to 270°F (38° to 132°C)	Manual reset	Horizontal or vertical	Breaks	— Insulation depth 1-1/2 or 3 in. (38 or 76 mm). — NPT brass spud 1/2 in. — Factory-set stop at 250°F (121°C). — Capillary 8 in. (203 mm).
L4006G	High limit and circulator control	100° to 200°F (38° to 93°C)	10°F (6°C) fixed	Horizontal	Two switches break simultaneously	— External adjustment knob. — Insulation depth 4 in. (102 mm). — Factory-set stop at 160°F (71°C). — Celsius scale markings. — Without well.
L4007A	High or low limit	100° to 240°F (38° to 116°C)	2° or 5°F (1° or 3°C) fixed, 5° to 30°F (3° to 17°C) adjustable	Horizontal or vertical	Breaks	— Insulation depth 1-1/2 or 3 in. (38 or 76 mm).

Table 1. L4006, L4007, L4008 Controller (SPST Switching) Specifications. (Continued)

Model	Application	Range °F (°C)	Midscale Differential °F (°C)	Insertion^a	Switching On Temperature Rise	Available Options
L4007B	Circulator	100° to 240°F (38° to 116°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Vertical	Makes	— Celsius scale markings.
L4008A	High or low limit	100° to 240°F (38° to 116°C) or 130° to 270°F (54° to 132°C)	5°F (3°C) fixed, 5° to 30°F (3° to 17°C) adjustable	Remote bulb direct immersion	Breaks	— Remote capillary 5-1/2 ft (1.7 m), 8-1/2 ft (2.6 m) or 10 ft (3.0 m). — Factory-set scale stops at 120°, 170°, or 200°F (49°, 77°, or 93°C) — Celsius scale markings. — Front cover screw.
L4008B	Circulator	100° to 240°F (38° to 116°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Remote bulb direct immersion	Makes	— Capillary 5-12 ft. (1.7 m).
L4008E ^b	High limit	40° to 180°F (4° to 82°C) or 100° to 270°F (38° to 132°C)	Manual reset	Remote bulb	Breaks	— Factory-set scale stops at 140°, 200°, or 250°F (60°, 93°, or 121°C). — Capillary 5-1/2 ft. or 20 ft. (1.7 m or 6.1 m).

^a Some models include copper well or fitting; specify when ordering. Also specify boiler tapping size 1/2 or 3/4 in. NPT and insulation depth.

^b Manual reset (trip-free) switch breaks circuit and locks out when controlled medium reaches setpoint. Controlled temperature must drop 20°F (11°C) below setpoint before contacts can be manually reset.

Table 2. L6006, L6007, L6008 Controller (SPDT Switching) Specifications.

Model	Application	Range °F (°C)	Midscale Differential °F (°C)	Insertion^a	Available Options
L6006A	Circulator and low limit or high limit	100° to 240°F (38° to 116°C) or 100° to 290° (38° to 143°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Horizontal	- Modified dial with stop. - NPT brass spud 1/2 in. or 3/4 in. 3-3/8 in. (86 mm) insertion. - Without well. - Adapater for horizontal or vertical mount. - Insulation depth 1-1/2 or 3 in. (38 or 76 mm).
L6006B	Circulator and low limit or high limit	100° to 240°F (38° to 116°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable, or 30°F (17°C) fixed.	Horizontal	- Direct immersion. - Insulation depth 1-1/2 in. (38 mm). 3/4 in. brass compression fitting.
L6006C	Circulator, low limit, and high limit	65° to 200°F (18° to 93°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Horizontal or vertical surface mounted	Strap-on, surface mount.
L6007A	Circulator and low limit or high limit	40° to 180°F (4° to 82°C)	Fixed	Horizontal or vertical	Insulation depth 1-1/2 or 3 in. (38 or 76 mm).
L6008A	Circulator and low limit cooling	100° to 240°F (38° to 116°C) or -30° to +70°F (-35° to +21°C)	5°F (3°C) fixed or 5° to 30°F (3° to 17°C) adjustable	Remote bulb	- Modified dial with stop. - Capillary 5-1/2 ft. (1.7 m).
L6008G	Two-stage Aquastat® Controller to cycle two-stage gas valve.	130° to 230°F (54° to 110°C) or 60° to 160°F (16° to 71°C)	3-1/2°F (2°C) fixed	Remote bulb	- Capillary 6 ft. (1.8 m). - Adjustable interstage differential; 5° to 10°F (2° to 6°C).
L6008H (maximum temperature of element 405°F [207°C])	Low fire Aquastat® Controller	150° to 200°F (66° to 93°C)	15°F (8°C) fixed	Remote bulb	Capillary 33 in. (0.8 m).

^a Some models include copper well or fitting; specify when ordering. Also specify boiler tapping size 1/2 or 3/4 in. NPT and insulation depth.