



L7224A,C; L7248A,C,L Oil and Electric Boiler Electronic Aquastat® Controllers

INSTALLATION INSTRUCTIONS

APPLICATION

The L7224A,C and L7248A,C,L 2012 Compliant Electronic Aquastat® Controllers provide electronic temperature sensing in a UL limit-rated control with a single sensing probe. The L7224A,C and L7248A,C,L control the circulator, oil or electric burner or contactor, and boiler temperature. The L7224/L7248 is "Outdoor Temperature Reset" ready which is enabled when connected to the W8735Y1000 wireless or W8735S1000 wired Outdoor Reset Kit. Outdoor Reset with the L7224/L7248 is intended for all applications except for tankless coil systems for domestic hot water. Compliance to 2012 DOE regulation ensures efficiency is maximized without interfering with domestic hot water demand.

The L7224A,C and L7248A,C,L replace the L8124A, L8124C, L7124A,C, L7148A and L8148A Controllers. The L7224A,C and L7248A,C,L series controls provide status and diagnostic information through an LED display combined with LED lights as well as EnviraCOM™ communications enabled thermostats and diagnostic tools to enhance the diagnostic process.

L7224/L7248 Aquastat Controllers are intended for use in residential-type applications.

IMPORTANT

Use of Outdoor Temperature Reset on a tankless coil application requiring a Low Limit setting will result in reduced system effectiveness and efficiency.

SPECIFICATIONS

Electrical Ratings:

Voltage: 120 Vac, 60 Hz.

Power: 7 VA maximum at 120 Vac plus external loads.

Thermostat current: 100 mA nominal at 24 Vac.

Burner Relay:

7.4 A at 120 Vac Full Load Amperage (FLA);

44.4 A inrush Locked Rotor Amperage (LRA);

Less Ignition Load: 360 VA.

Circulator Relay:

7.4 A at 120 Vac FLA; 44.4 A inrush LRA.

Zone Controller (ZC): 7.4 A at 120 Vac FLA;

44.4 A inrush LRA.

NOTE: All loads combined cannot exceed 2000 VA.

Environmental Ratings:

Temperature: -30 °F to +150 °F (-34 °C to +66 °C).

Humidity: 0 to 95% relative humidity, noncondensing.

Approvals:

Underwriters Laboratories Inc. Component Recognized.

Canadian Underwriters Laboratories Inc. Component Recognized.

2012 DOE Compliance and Operation

Operation of this control may delay the burner operation while the residual heat is circulated out of the boiler.

NOTE: This operation may be different than earlier electronic Aquastat® revisions which did not implement thermal purge.



Accessories:

- W8735Y1000 Wireless Outdoor Reset Kit
- W8735ER1000 Wireless Outdoor Reset Module
- C7089R1013 Wireless Outdoor Temperature Sensor (requires W8735ER1000)
- W8735S1000 AquaReset™ Outdoor Reset Kit (includes 50022037-002 Outdoor Reset Module and C7089U1006 Outdoor Temperature Sensor)
- W8735S1008 AquaReset™ Domestic Hot Water Kit (includes 50022037-005 Domestic Hot Water Module and 32003971-003 Sensor)
- W8735S3000 EnviraCOM™ Alarm Module
- C7089U1006 Outdoor Temperature Sensor (used with the 50022037-002)
- 32003971-003 Temperature Sensor (used with 50022037-005)
- Sensor (See Table 2).
- 120650 Heat Conductive Compound.
- 121371AA Sensor Well Clamp.

Table 1. Wells for L7224A,C; L7248A,C,L Controllers.

Part Number	Spud Size in. (mm)	Insertion in. (mm)	Insulation in. (mm)
123869A	1/2 (12.7) NPT	3 (76.2)	1-1/2 (38.1)
123870A	3/4 (19.05) NPT	3 (76.2)	1-1/2 (38.1)

Table 2. Sensors for L7224A,C and L7248A,C,L Controllers.

Part Number	Length in. (mm)	Application
50001464-001	12 (304.8)	Well-mounted controls
50001464-003	24 (609.6)	Flush-mounted controls
50001464-004	36 (914.4)	
50001464-005	48 (1219.2)	

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. The installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.
5. Set High Limit, Low Limit and Low Limit Differential to the settings recommended by the boiler OEM.
6. Record the maximum High Limit setting from the replaced controller in the text box provided on the cover insert label.
7. Record the High Limit setting at time of installation in the text box provided on the cover insert label.



WARNING

Electrical Shock Hazard.
Can cause severe injury, death or property damage.

Disconnect power supply before beginning installation to prevent electrical shock or equipment damage.

Mounting

The L7224A,C and L7248A,C,L models are available in a well-mount, horizontal position, vertical position, or flush mounted remote from the well versions. Dimensions for the variety of mounting options are shown in Fig. 1. Note that each identity will have only a single mounting option.

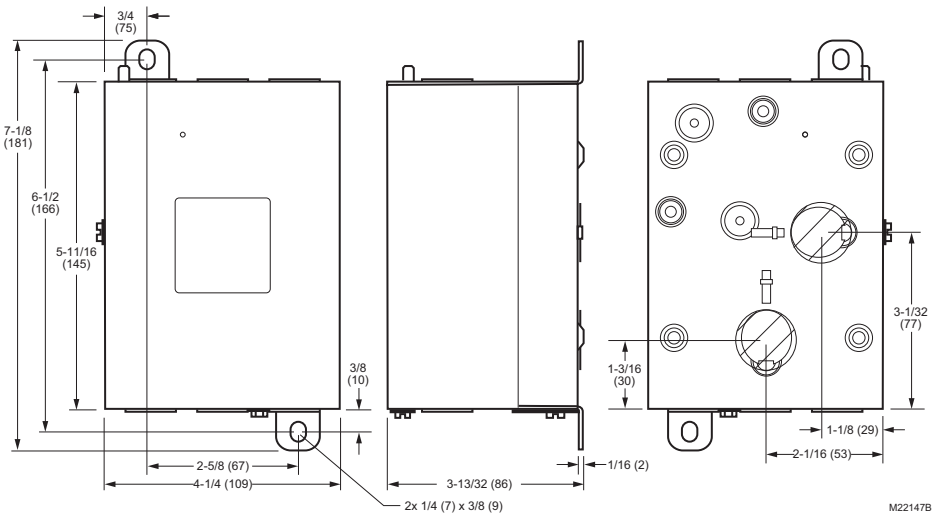


Fig. 1. L7224A,C; L7248A,C,L mounting dimensions in inches (mm).