AquaSmart

Product Sheet - Model 7610 Boiler Control

Features & Benefits

- Up to 20% fuel savings while maintaining homeowner comfort
- Programmable circulator on/off delays for added energy savings
- Priority override available for domestic hot water applications
- Fully adjustable setpoints and differentials
- Freeze resistance function helps prevent frozen pipes
- Temperature Only or Temperature/LWCO sensors available
- Stores recent history to aid troubleshooting
- Expanded wiring box for easier installation
- Backlit LCD always displays water temperature and LWCO status
- Easy to install Wireless Outdoor Temperature Reset (optional)
- Oil and gas models can be configured for cold start boilers

7610 AquaSmart Boiler Control

Description

The Beckett AquaSmart is an advanced microprocessor-based boiler control designed to save energy without sacrificing homeowner comfort. The backlit LCD digital display and touch pad allow flexible programming of temperature limits, differentials, circulator control and other options. Recent cycle history is stored in the display to help technicians with diagnostics and troubleshooting. The display also shows the economized water temperature setting to confirm HeatManager™ is working. The ability to adjust the high and low limit differentials separately, as well as the temperature setpoints, means technicians can customize the settings to achieve optimal operation. In addition to precise temperature control, the 7610 can provide required low water cutoff protection when used with a Temperature/LWCO sensor. The 7610 AquaSmart is compatible with existing Beckett Temperature Only and combination Temperature/LWCO sensors.

HeatManager™ Functionality

HeatManager™ is an energy saving load-matching algorithm that meets Department of Energy (DOE) 2012 requirements. HeatManager™ saves fuel by dynamically changing the high limit operating temperature to the minimum temperature needed to meet the heating demand. In milder weather, when the full heating capacity of the boiler is not needed, the high limit setting is adjusted down to save fuel. Qualified service technicians can select the best HeatManager™ setting to align comfort and energy savings.

Example of LCD display screen

Wireless Outdoor Temperature Reset Module

The optional Wireless Outdoor Temperature Reset Module replaces the HeatManager™ function with true outdoor reset control. The outdoor sensor can be placed up to 200 feet from the boiler. The module includes warm weather shutdown, adjustable boost and can provide improved performance in high mass and infloor radiant heat applications.
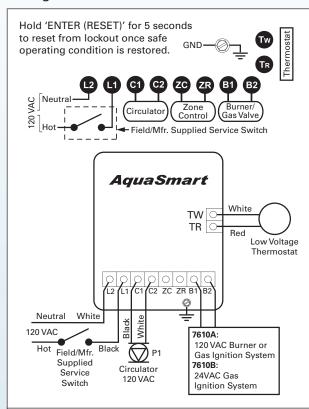
Beckett.
PARTS & ACCESSORIES

Product Sheet - Model 7610 Boiler Control

Ordering Information: Contact Customer Service at 1-800-645-2876

Part Number	Description
7610A0001U	AquaSmart Boiler Temperature Control - 120Vac - Oil with Temperature ONLY Sensor (120 Vac burner circuit)
7610B0001U	AquaSmart Boiler Temperature Control - 120Vac - Gas with Temperature ONLY Sensor (24 Vac burner circuit)
7610A000LU	AquaSmart Boiler Temperature Control - 120Vac - Oil LESS Sensor (120 Vac burner circuit)
7610B000LU	AquaSmart Boiler Temperature Control - 120Vac - Gas LESS Sensor (24 Vac burner circuit)
7600TSU	Replacement Temperature Only Sensor Unit Pack
7600P01U	Replacement Temperature/LWCO Sensor Unit Pack
7622TW01U	Brass Immersion Well - 2-3/16" Insulation Depth and 7/8" Insertion Depth, 3/4" NPT Thread
7622TW02U	Brass Immersion Well - 2-3/16" Insulation Depth and 1-5/8" Insertion Depth, 3/4" NPT Thread
7622TW03U	Brass Immersion Well - 3-1/2" Insulation Depth and 1-5/8" Insertion Depth, 3/4" NPT Thread
7622TW04U	Brass Immersion Well - 4-3/4" Insulation Depth and 1-5/8" Insertion Depth, 3/4" NPT Thread
7600RMU	48" AquaSmart Remote Mount Kit
7600WTMU	Wireless Temperature Module for Outdoor Reset

Wiring

Hold 'ENTER (RESET)' for 5 seconds to reset from lockout once safe operating condition is restored.

Refer to the installation instructions for additional grounding and wiring procedures.

Product Specifications

Electrical Ratings

- Input Voltage: 120 Vac - 60 Hz.
- Input Current: 0.1 A + B1 + C1 + ZC
- MAX Input Current: 20A (Reduce to 15A if optional power switch is used)
- 24 Vac thermostat anticipator current: 0.1 Amp.
- Burner Current Rating (B1):
    —7610A: 7.4 A at 120 Vac FLA; 44.4 A inrush LRA.
    —7610B: 1.25 A at 24 Vac; 30 VA (total load).
- Circulator Current Rating (C1): 7.4 A at 120 Vac FLA; 44.4 A inrush LRA.
- Zone Control Current Rating (ZC): 7.4 A at 120 Vac FLA; 44.4 A inrush LRA.

Temperature Ranges and Differentials

- High Limit Setting Range: 100 to 220°F (37 to 104°C)
- High Limit Differential Range: 5 to 45°F (2 to 25°C)
- Low Limit Setting Range: 100 to 205°F (37 to 96°C)
- Low Limit Differential Range: 10 to 45°F (5 to 25°C)
- Factory Range Stops available—consult factory
- Environmental Ratings
- Storage Temperature: -40 to +150 °F (-40 to +65 °C)
- Operating Temperature: -4 to +150 °F (-20 to +65 °C)
- Relative Humidity: 5 to 85% RH, non-condensing and non-crystallizing

Cross Reference

- Cross References are available at www.beckettcorp.com

Approvals: Underwriters Laboratories Listed to UL353, UL1998 for U.S. and Canada, CSA C22.2 No. 24