

AQ250 Electronic Relay Boiler Control Panel for Hydronic Zoning System



The AQ250 family of AQUATROL Boiler Controls provides simplified, energy-efficient control of single temperature, residential hydronic heating systems. The AQ250 easily converts a single zone heating system into a room-by-room comfort control system, or upgrades a basic, relay-logic zoning system to intelligent Zone of Greatest Demand control for increased energy efficiency with reduced boiler cycling. AQ250 boiler controls can

Application: Boiler control for zoned hydronic systems

Dimensions, Approximate: 13 in wide x 8 in. high x 3 3/8 in deep (33 cm wide x 20.3 cm high x 8.5 cm deep)

Power Supply: 120V/60Hz

User Interface (Setting, Programming): (DIP Switches)

Electrical Connections (Line Voltage): Wire-clamp screw terminals, Maximum 2 x 14 AWG each on line voltage terminals

Control and Zoning Panel Temperature Rating: 32 F to 130 F (0 C to 55 C)

Thermostat Compatibility: AQ1000 Series 2-wire communicating thermostats and most digital thermostats

Zone Module Thermostat input: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating with power link to AQ1000 series thermostat.

Boiler Heat Post Purge: 30 seconds (sent to DHW tank or Zone of Greatest Demand - selectable)

Boiler (T-T) Output Rating: 24 Vac, 0.5A, 12VA

DHW Pump/Valve Output Rating: 120 Vac/250 Vac 5A, 1/3HP

DHW Demand Input: External dry contacts connection only

Pump/Valve exercise: 30 seconds per 2 weeks of space heating inactivity

ensure ample supply of hot water for both space heating and priority generation of domestic hot water for bathing, dishes and laundry.

- Controls up to 2 stages of heat from a single thermostat.
- Use with AQ1000 2-wire communicating thermostats, or most dry contact digital thermostats.
- Zoning Control for up to 4 zones as shipped; can be expanded to a total of 16 zones with AQ255 or AQ257 expansion zoning panels and up to 64 zones when used with AQ254 Add-A-Temp panels.
- Line or low-voltage output for zoning equipment (pumps or valves).
- Zone synchronization through Zone or Greatest Demand control.
- Domestic hot water priority and priority override protection.
- Boiler short cycling protection.
- Boiler post purge.
- Freeze protection.
- Pump/valve exercise.
- Boiler shock prevention from cold water returning to boiler.
- Automated test feature for quick start-up and simplified troubleshooting.
- Integral 38 VA transformer with self-resetting electronic fuse.

Auxiliary Pump Output Rating: Dry contact output, 120 Vac/250 Vac 5A, 1/3 HP

Zone Output Contact Rating: Pumps: 120 Vac/250 Vac, 5A, 1/3 HP
Valves: 24 Vac, 0.5 A, 12 VA

ZR-ZC Contact Rating: 120 to 240 Vac, 1/3 HP

Sensor Temperature Rating: -58 F to +230 F (-50 C to +110 C)

Supply/Return Sensor: Lead Length: 10 ft. (3050 mm). 10 kilohm NTC thermistor at 25 C (77 F) $\pm 0.5F$ ($\pm 0.3C$) up to 500 ft (150 M) using 18 AWG or larger wire

Heat Demand (Thermostat R-W) Input: External dry contacts connection only

B-B Communication Bus Terminals: Low voltage, Class II, 2-wire polarity-insensitive, digital communicating link to other Control or Zoning modules.

R-C Input (on Control and Zoning Modules): 24 Vac Class II

R-C Output (on transformer): 38 VA, 24 Vac Class II

Operating Humidity Range (% RH): 5 to 90% RH, non-condensing

Weight: 4.9 lbs (2.3 kg)

Approvals

Canadian Standards Association: CSA C/US Certified to CSA and UL Standards, File No. LR76030

	Product Number	Type of Zoning Devices Controlled	Number of Zones Controlled	Boiler Pump Output Rating	Replacement Parts
*	AQ25042B/U	Zone pumps or 2-wire valves (line voltage)	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer; AQ15540B 4-zone pump expansion module
*	AQ25044B/U	Zone valves with end switches	4	120 Vac/250 Vac 5A, 1/3HP	AQ15000B boiler control module; AQ15740B 4-zone valve with end switch expansion module; AQ12C11 supply/return/mixed loop sensor; AQ10X38 24 Vac 38 VA transformer

* TRADELINE models • SUPER TRADELINE models