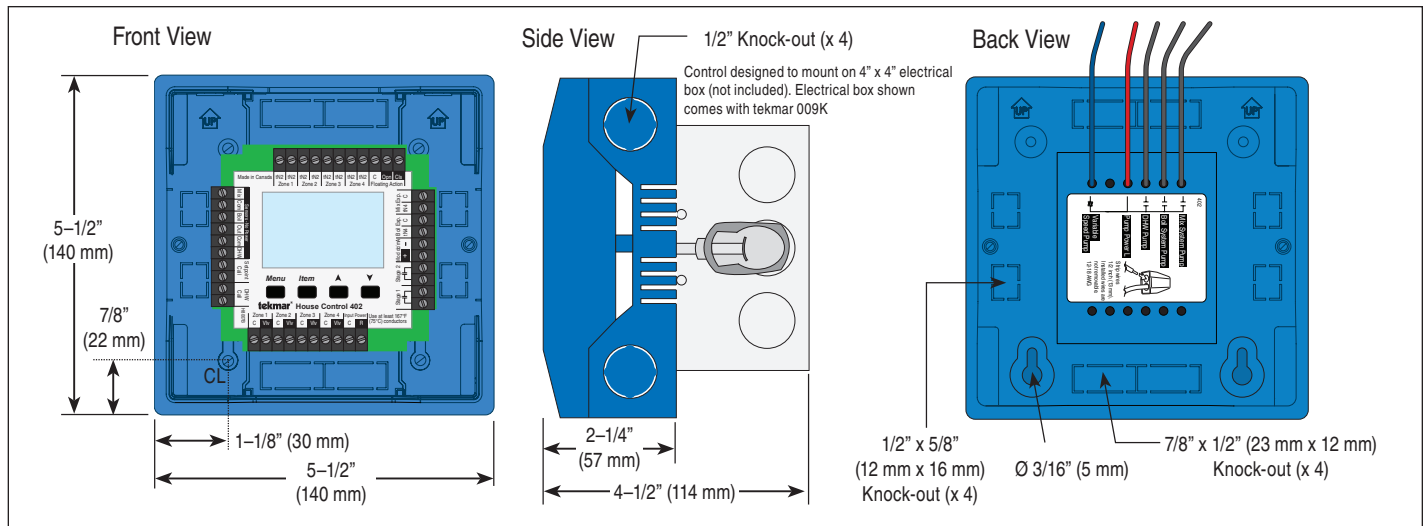


Job _____ Designer _____ Contact _____

The tekmarNet® 2 House Control 402 is designed to operate all the mechanical equipment in a residential hydronic heating system, coordinating their operation through network communication. It can be used in applications ranging from a single zone of baseboard with an on/off boiler to multiple fan coils, mixed radiant floor heating zones, and a modulating/condensing boiler. This control regulates up to two heating water temperatures through Outdoor Temperature Reset and Indoor Temperature Feedback. It is capable of controlling a single on/off, dual stage, or modulating boiler, a mixing device, Domestic Hot Water, setpoint loads, 4 on-board zone valves, and can connect up to 24 zones in total for each space heating water temperature.



Specifications

tN2 House Control 402 Boiler, DHW & Setpoint, Mixing Four Zone Valves	
Literature	D402, Q402, SB057
Control	Microprocessor control. This is not a safety (limit) control
Packaged weight	1.4 lb. (640 g)
Dimensions	5.5" H x 5.5" W x 2.25" D (140 x 140 x 57 mm)
Enclosure	Blue PC+ABS plastic, NEMA type 1
Approvals	CSA C US, meets class B: ICES & FCC Part 15
Ambient conditions	Indoor use only, 32 to 104°F (0 to 40°C), RH ≤90% Non-condensing
Power supply	24 V (ac) ±10%, 60 Hz, 100 VA max, Class 2
Control load	2 VA
Zone valve/floating action load	89 VA, 24 V (ac), 3.7 A for zones 1 to 4 plus floating action output
Boiler stage 1, 2 relays	24 V (ac) 5 A
Boiler system pump relay	115 V (ac) 5 A, 1/6 hp
Mix system pump relay	115 V (ac) 5 A, 1/6 hp
DHW pump relay	115 V (ac) 5 A, 1/6 hp
Variable speed pump relay	115 V (ac) 2.4 A
Pump power	115 V (ac) 12 A max
Setpoint and DHW calls	Short, 0 - 32 V (ac)
Boil/Mix modulation output	0 - 10 V (dc) 500 Ω min load impedance, 4 - 20 mA 1 kΩ max load impedance
Sensors	NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
-Included	Outdoor Sensor 070 and 2 of Universal Sensors 082
Warranty	Limited 3 Year (See D402 for full warranty)

Energy Saving Features

- Outdoor Temperature Reset
- Indoor Temperature Feedback up to 48 zones
- Warm Weather Shut Down
- Zone Synchronization
- DHW Post Purge
- System setback (with optional timer)
- One touch overrides (with optional User Switch)

Additional Features

- Expandable up to 48 zones
- Single on/off, two stage, or modulating boiler control
- Variable speed, floating action, or proportional mixing control
- DHW control
- DHW priority
- Automatic Boiler Differential
- Equipment Exercising
- Boiler Protection
- Powered pump outputs

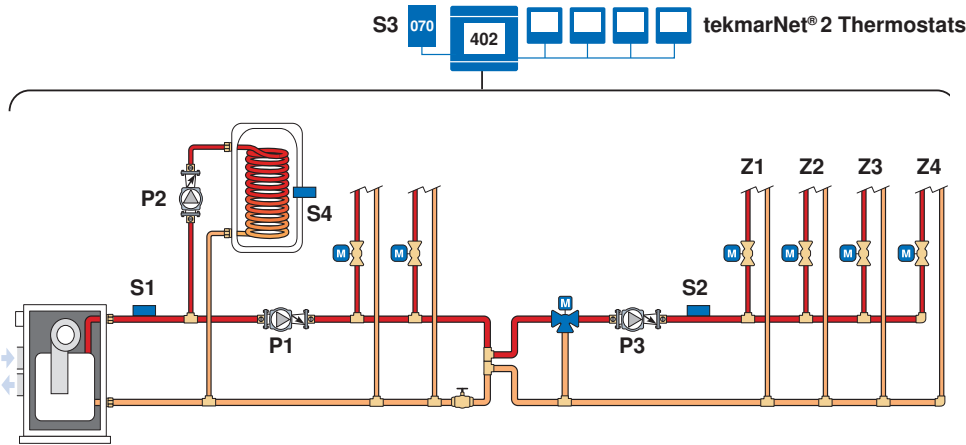
SPECIAL REQUIREMENTS

This control is designed to mount on a 4x4 Electrical box, and must be used with tekmarNet® thermostats for communicated heat demands.

Sample Application Drawing

Below is a sample application drawing for this product. This application may include other tekmar products that are required for installation. More sample applications can be found at www.tekmarcontrols.com.

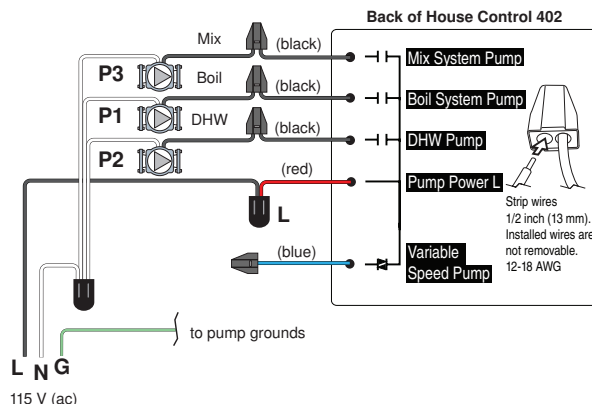
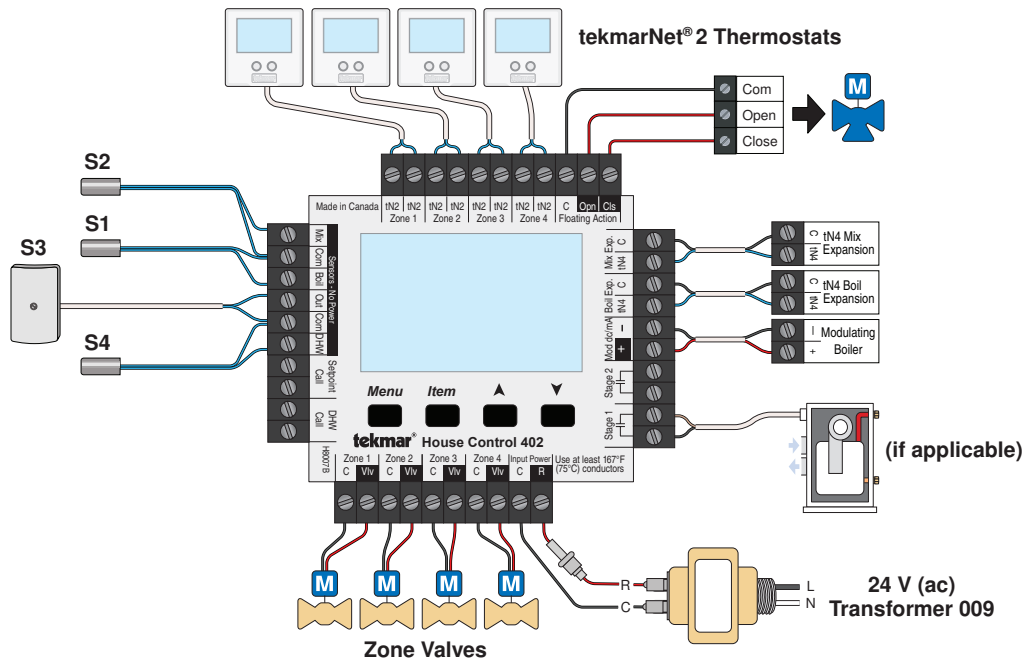
Sample Mechanical diagram



Sample Electrical diagram

Legend

- B1 = Modulating Boiler
- S1 = Boiler Sensor
- S2 = Mix Sensor
- S3 = Outdoor Sensor
- S4 = DHW Sensor
- Z1 = Zone 1
- Z2 = Zone 2
- Z3 = Zone 3
- Z4 = Zone 4
- P1 = Boiler System Pump
- P2 = DHW Pump
- P3 = Mix System Pump



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