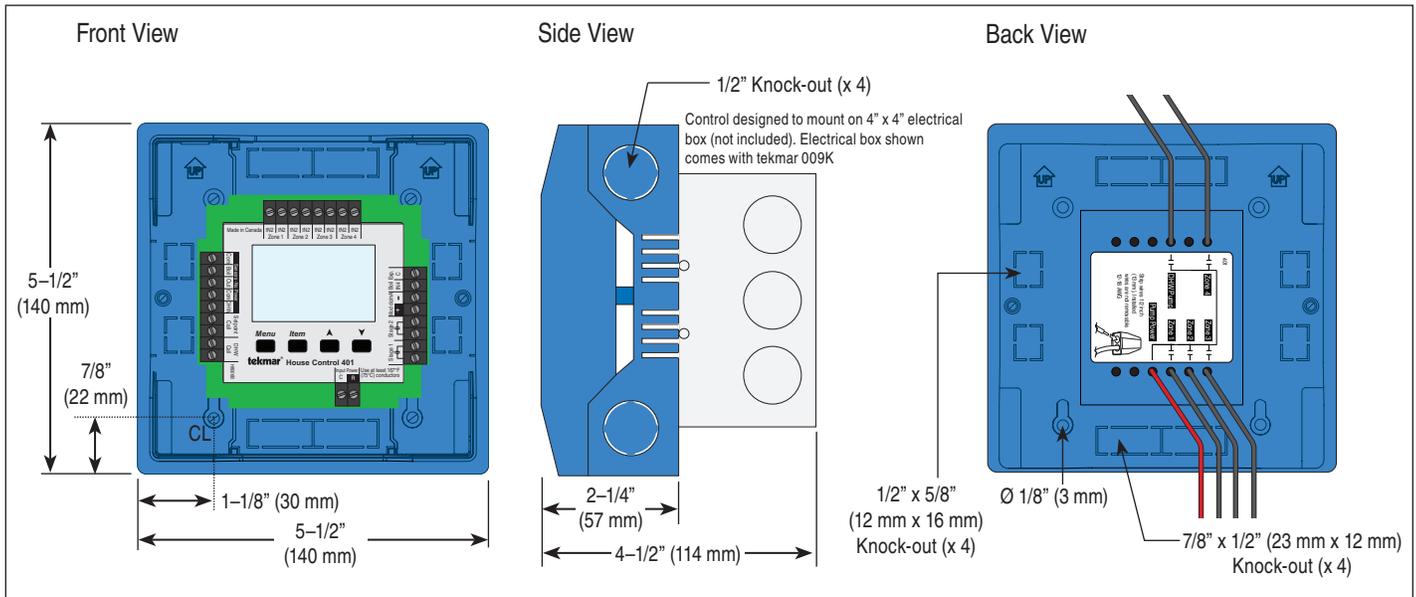




Job \_\_\_\_\_ Designer \_\_\_\_\_ Contact \_\_\_\_\_

The tekmarNet® 2 House Control 401 is designed to operate all of 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 radiant floor zones with a modulating/condensing boiler. This control regulates one space heating water temperature through Outdoor Reset and Indoor Temperature Feedback. It is capable of controlling a single on/off, dual stage, or modulating boiler, Domestic Hot Water, setpoint loads, 4 on-board zone pumps, and can connect up to 24 zones in total.



### Specifications

tN2 House Control 401 Boiler, DHW & Setpoint, Four Zone Pumps	
Literature	D401, Q401, 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 pump relays	115 V (ac) 5 A, 1/6 hp
Boiler stage 1, 2 relays	24 V (ac) 5 A
DHW pump relay	115 V (ac) 5 A, 1/6 hp
Pump power	115 V (ac) 12 A max
Setpoint and DHW calls	Short, 0 - 32 V (ac)
Boiler 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 Universal Sensor 082
Warranty	Limited 3 Year (See D401 for full warranty)

### Energy Saving Features

- Outdoor Temperature Reset
- Indoor Temperature Feedback up to 24 zones
- Warm Weather Shut Down
- Zone Synchronization
- DHW Post Purge

### Additional Features

- Expandable up to 24 zones
- Single on/off, two stage, or modulating boiler control
- DHW control
- DHW Priority
- Automatic Boiler Differential
- Pump Exercising
- Boiler Protection
- Powered pump outputs
- System Setback (with optional Timer)
- One touch overrides (with optional User Switch)

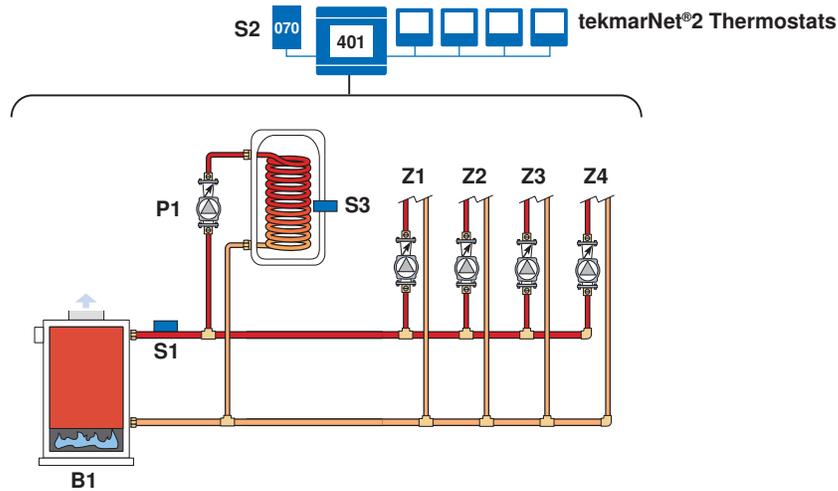
### SPECIAL REQUIREMENTS

This control is designed to mount on a 4" x 4" 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](http://www.tekmarcontrols.com).

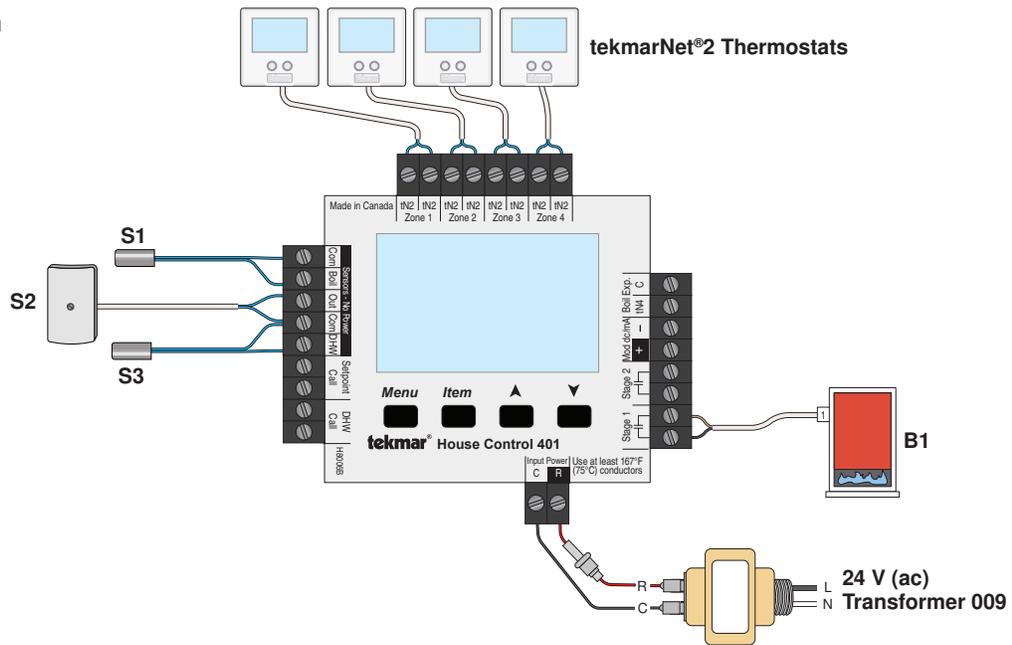
Sample Mechanical diagram



Sample Electrical diagram

### Legend

- A1 = DHW Aquastat
- B1 = Boiler 1
- S1 = Boiler Sensor
- S2 = Outdoor Sensor
- S3 = DHW Sensor
- P1 = DHW Pump
- P2 = Zone 1 Pump
- P3 = Zone 2 Pump
- P4 = Zone 3 Pump
- P5 = Zone 4 Pump



Back of House Control 401

