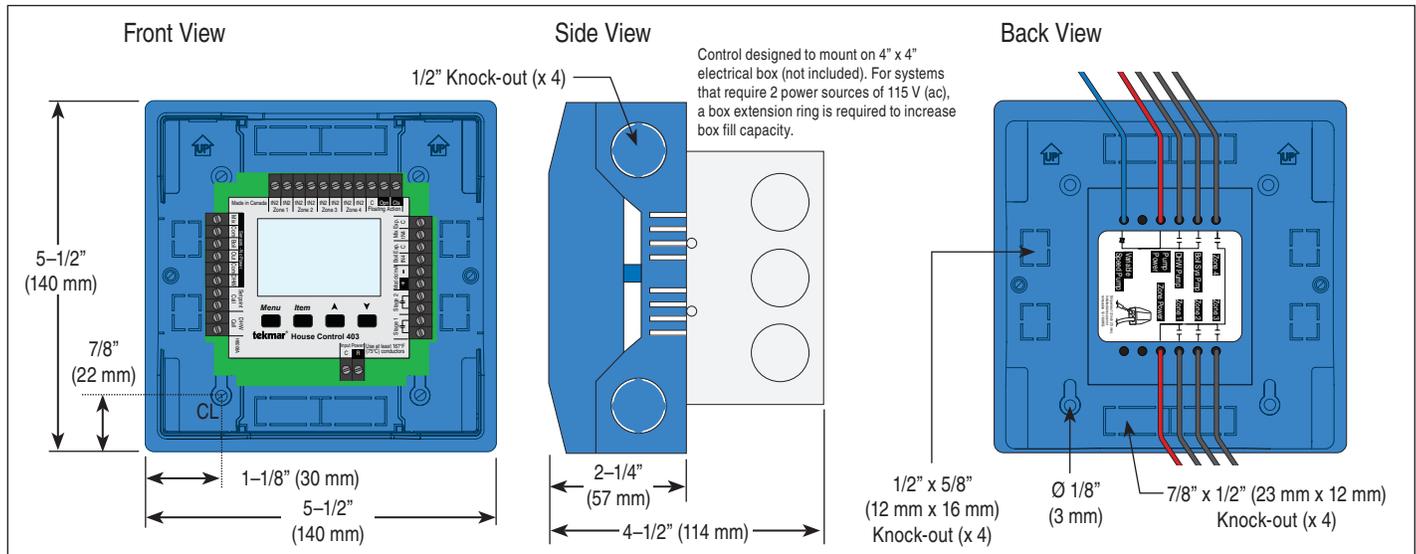


Job _____ Designer _____ Contact _____

The tekmarNet® 2 House Control 403 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 fan coils, mixed radiant floor heating zones, and a modulating/condensing boiler. This control regulates up to two heating water temperatures through Outdoor 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 pumps, and can connect up to 24 zones in total for each space heating water temperature.



Specifications

tN2 House Control 403 Boiler, DHW & Setpoint, Mixing, Four Zone Pumps	
Literature	D403, Q403, SB057
Control	Microprocessor control. This is not a safety (limit) control.
Packaged weight	1.4 lbs (640 g)
Dimensions	5.5" H x 5.5" W x 2.25" D (140 x 140 x 57 mm)
Enclosure	NEMA 1 rated, blue PC+ABS plastic
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
Floating action load	89 VA, 24 V (ac), 3.7 A
Boiler stage 1, 2 relays	24 V (ac) 5 A
Boiler system pump relay	115 V (ac) 5 A, 1/6 hp
Zone 1 to 4 pump relays	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 modulating output	0 - 10 V (dc) 500 Ω min load impedance, 4 - 20 mA 1 kΩ max load impedance
Sensors	NTC thermistor, 10k Ω @ 77°F (25°C ± 0.2°C) β=3892
- Included	Outdoor Sensor 070 and 2 of Universal Sensors 082
Warranty	Limited 3 Year (see D403 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

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
- System Setback (with optional Timer)
- One touch overrides (with optional User Switch)

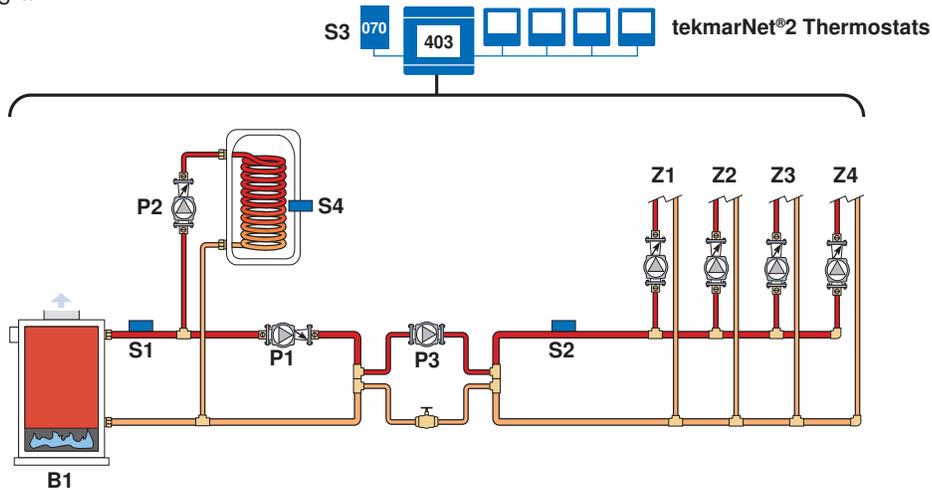
SPECIAL REQUIREMENTS

This control is designed to be used with a tekmarNet® Zone or Power Manager and thermostats. Mounting enclosure provided with zone manager.

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.

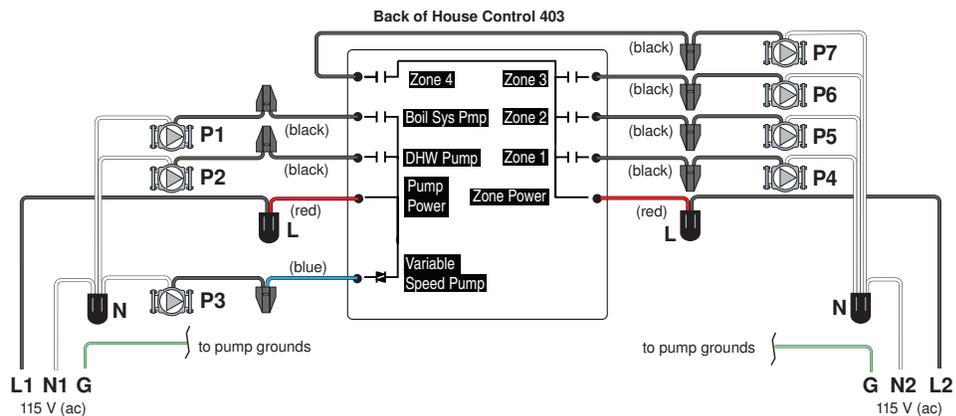
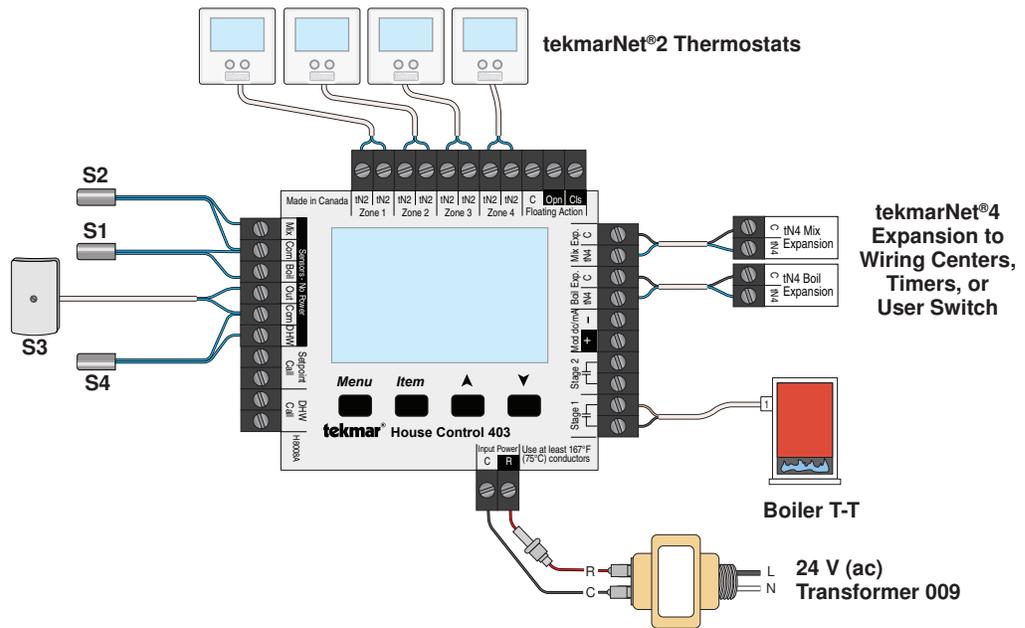
Sample Mechanical diagram



Sample Electrical diagram

Legend

- B1 = Boiler 1
- P1 = Boiler System Pump
- P2 = DHW Pump
- P3 = Variable Speed Pump
- P4 = Zone 1 Pump
- P5 = Zone 2 Pump
- P6 = Zone 3 Pump
- P7 = Zone 4 Pump
- S1 = Boiler Sensor
- S2 = Mix Sensor
- S3 = Outdoor Sensor
- S4 = DHW Sensor



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