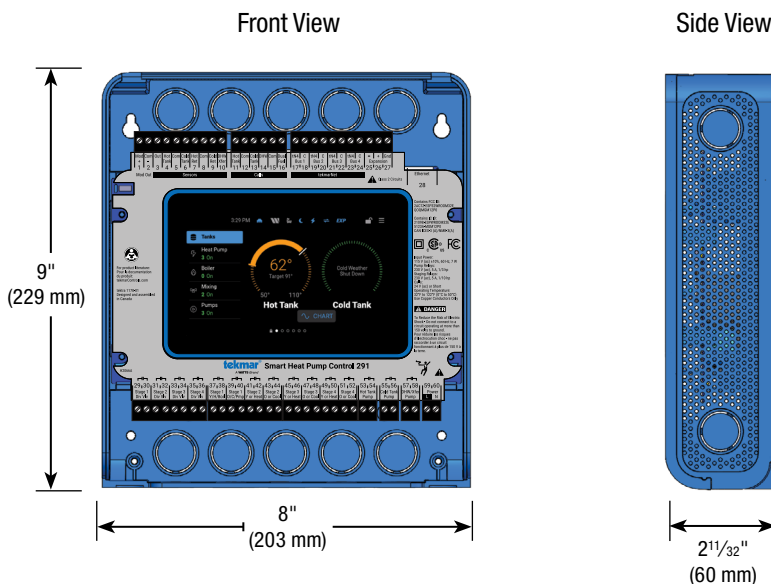


# Submittal

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

## Smart Heat Pump Control 291

The Smart Heat Pump Control 291 operates up to 4 Heat Pumps in a 2-pipe or 4-pipe configuration. The system can be built out with expansions to customize systems for maximum home comfort. The system can deliver heating and cooling of buffer tanks simultaneously (in 4-pipe configuration) and be expanded to support up to 16 Heat Pumps, up to 3 Mix Temperatures, and support a dedicated boiler loop. The Nexa™ by Watts® web and mobile applications provide real-time remote monitoring, setting adjustments, and notifications.



### Features

- 4-pipe or 2-pipe configurations
- Y+0, Y+B or Heat+Cool logic
- Simultaneous heating and cooling of buffer tanks
- Operates up to 4 heat pumps and supports 1 backup modulating boiler
- Expandable up to 16 heat pumps, 3 mix temperatures, and a backup boiler loop
- Central heating and cooling with outdoor reset
- Domestic hot water heating
- Programmable schedule
- External relay for dual fuel switching
- Warm weather shutdown
- Cold weather shut down
- Setup Wizard
- Commissioning Wizard



### Specifications

#### Smart Heat Pump Control 291

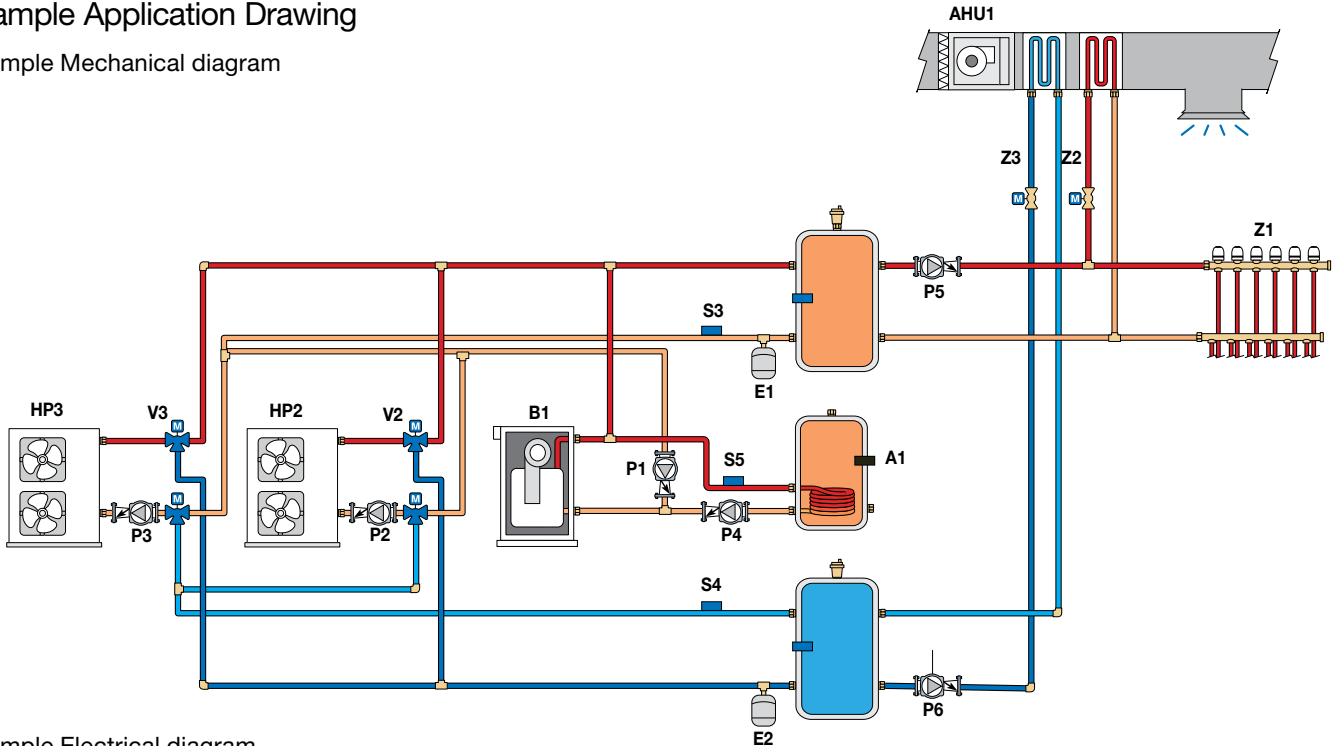
Call customer support if you need assistance with technical details.

Literature	IOM-T-291, ES-T-291, A-T-291 Job Record 291
Packaged weight	4.1 lbs (1.87 kg)
Dimensions	9" H x 8" W x 2 <sup>11</sup> / <sub>16</sub> " D (229 x 203 x 60 mm)
Display	5" color touchscreen
Enclosure	Blue ABS plastic, NEMA type 1
Approvals	CSA C US, FCC Part 15B, CAN ICES-3 (B)/NMB-3(B)
Ambient conditions	Indoor use only, 32 to 122°F (0 to 50°C), < 90% RH non-condensing, Installation Category II, Pollution Degree 2
Power supply	115 V (ac) ±10%, 60 Hz, 7 W
Pump Relays	230 V (ac), 5 A, 1/3 hp
Staging Relays	230 V (ac), 5 A, 1/10 hp
Modulating Outputs	0-10 V (dc) 500 Ω minimum load impedance or 4-20 mA 1 kΩ max load impedance
Calls	24 V (ac) or Short
Sensors Included	1x Outdoor Sesor 070, 2x Universal Sensor 082
Communications	10/100 Ethernet, WiFi 802.11b/g/n, 2.4 GHz, WPA2 encryption
Mobile App	Apple* iOS 14 or higher, Android** 10 or higher
Warranty	Limited 3 Year (See IOM for full warranty)

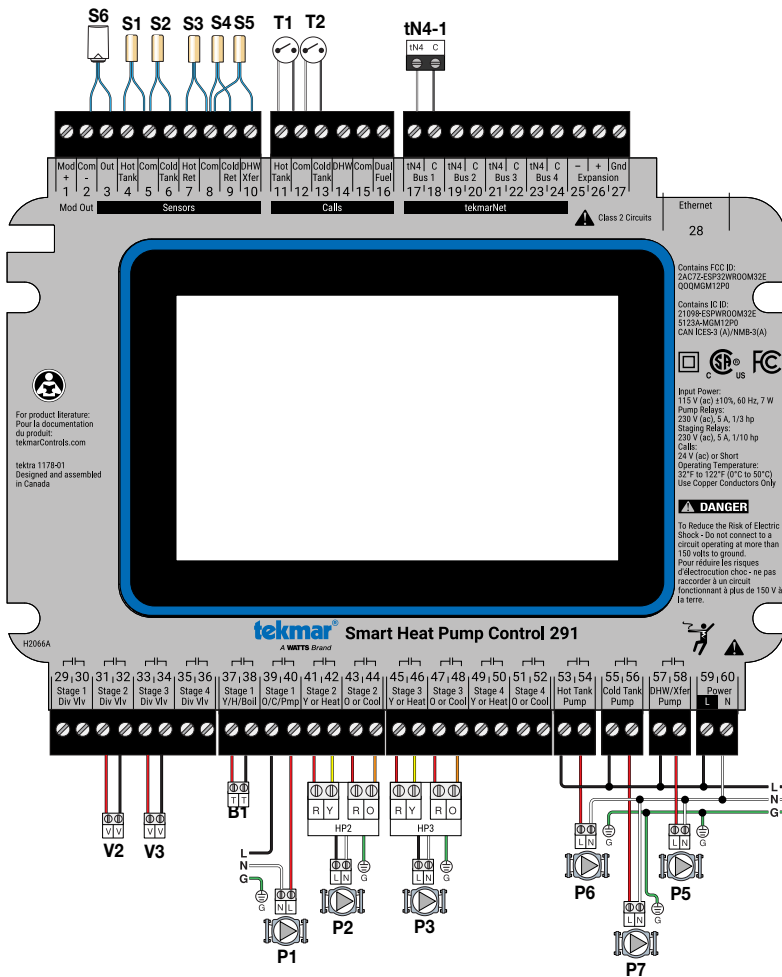
tekmar product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact tekmar Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on tekmar products previously or subsequently sold.

# Sample Application Drawing

Sample Mechanical diagram



Sample Electrical diagram



## LEGEND

- AHU1 = Low Temp Air Handling Unit 1
- HP2-HP3 = Heat Pumps 2-3
- V2-V3 = 6-Way Diverting Valve Panel 731 or 732
- P2-P3 = Heat Pump Pumps 2-3
- E1-E2 = Expansion Tanks
- B1 = Boiler 1
- P1 = Boiler Pump
- A1 = Aquastat 1
- P4 = DHW Pump
- P5 = Hot Loop Pump
- P6 = Cold Loop Pump
- S1 = Hot Tank Sensor 082
- S2 = Cold Tank Sensor 082
- S3 = Hot Tank Return Sensor 082
- S4 = Cold Tank Return Sensor 082
- S5 = Boiler Supply Sensor
- Z1 = Radiant Heating Zone Manifold
- Z2 = Air Heating Zone Valve
- Z3 = Air Cooling Zone Valve
- T1 = Optional Thermostat Heating Call
- T2 = Optional Thermostat Cooling Call
- tN4-1 = Optional tekmarNet® Call

## NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.



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