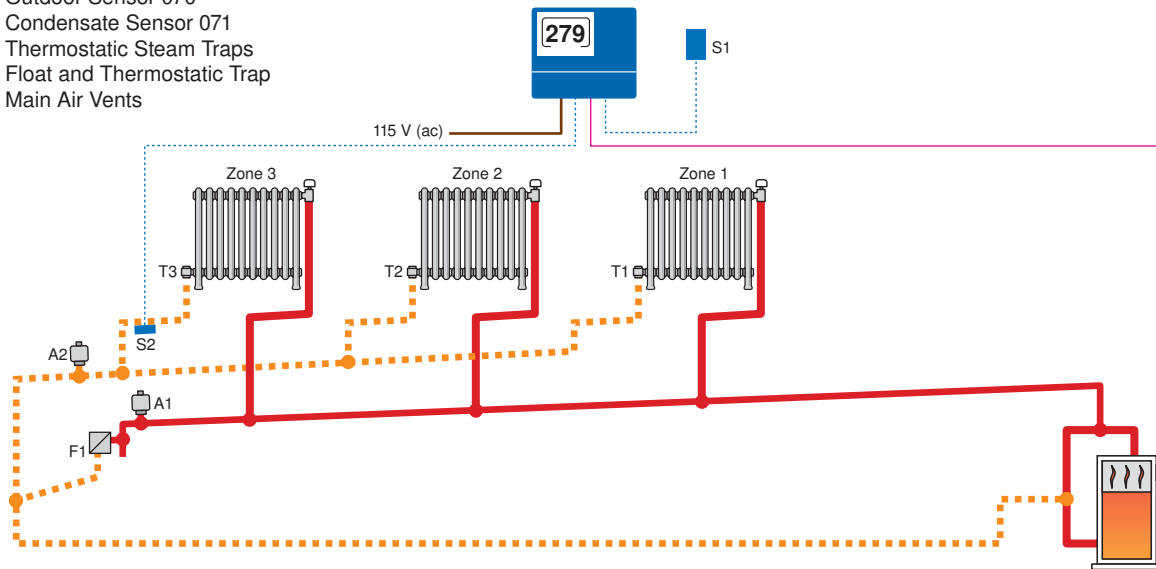


Application A 279-1

System Description: The Steam Control 279 regulates the indoor temperature based on firing time of the steam boiler. The firing time of the steam boiler is based on outdoor temperature, condensate return temperature and control settings. The condensate return sensor provides information to the control to determine when the boiler has produced enough steam to reach the furthest radiator and to start the percent boiler on time.

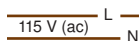
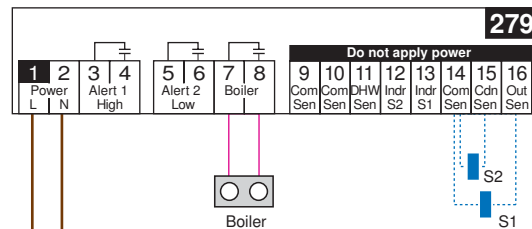
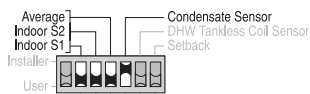
Mechanical

- S1 = Outdoor Sensor 070
- S2 = Condensate Sensor 071
- T1...T3 = Thermostatic Steam Traps
- F1 = Float and Thermostatic Trap
- A1, A2 = Main Air Vents



Electrical

- S1 = Outdoor Sensor 070
- S2 = Condensate Sensor 071



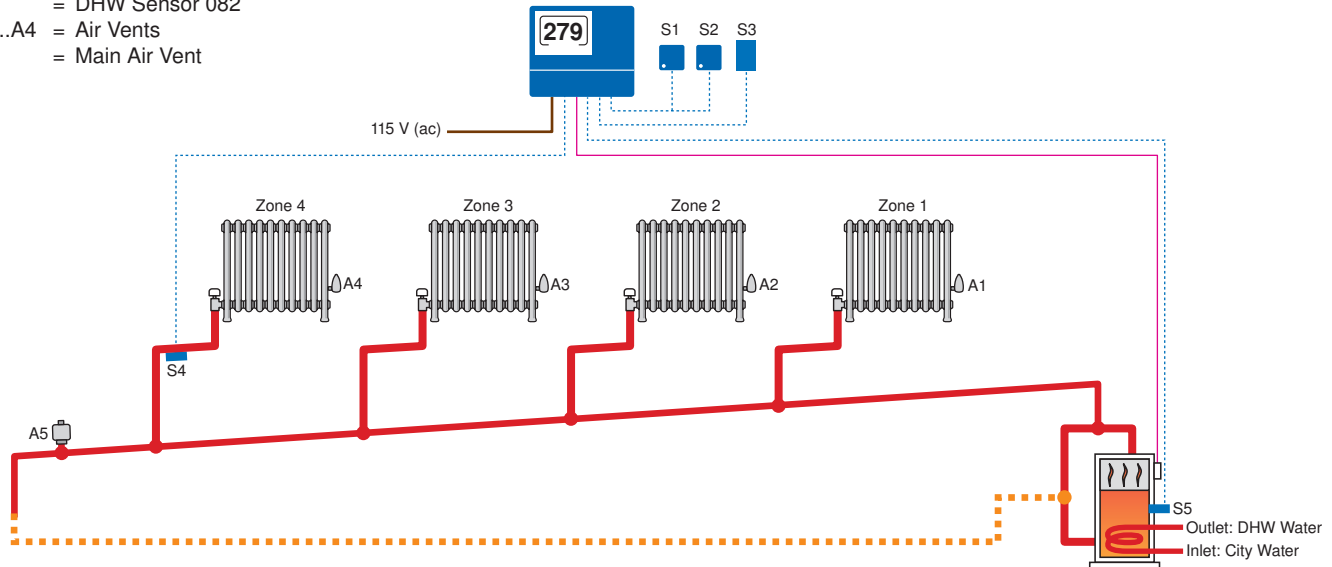
Concept Drawing: This is only a concept drawing, not an engineered drawing. It is not intended to describe a complete system, nor any particular system. It is up to the system designer to determine the necessary components and configuration of the particular system being designed, including additional equipment, isolation relays (for loads greater than the control's specified output ratings), and any safety devices which in the judgement of the designer are appropriate, in order to properly size, configure and design that system and to ensure compliance with building and safety code requirements.

Application A279-2

System Description: The Steam Control 279 regulates the indoor temperature based on firing time of the steam boiler. The firing time of the steam boiler is based on outdoor temperature, condensate return temperature, user control settings and indoor sensors. The condensate return sensor provides information to the control to determine when the boiler has produced enough steam to reach the furthest radiator to start the boiler percent on time. The indoor sensor provides indoor temperature feedback to prevent over and under heating of the building. The DHW tankless coil sensor replaces the mechanical aquastat for tankless coil heating. This allows the 279 to operate the tankless coil on a setback schedule.

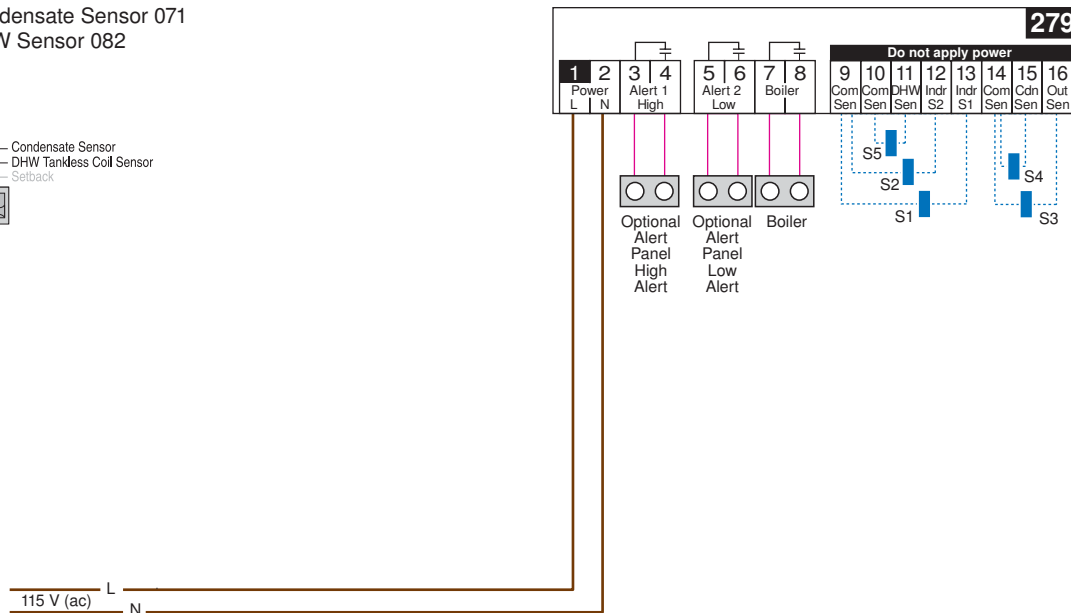
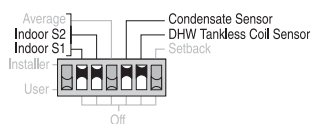
Mechanical

- S1, S2 = Indoor Sensors 076, 077 or 084
- S3 = Outdoor Sensor 070
- S4 = Condensate Sensor 071
- S5 = DHW Sensor 082
- A1...A4 = Air Vents
- A5 = Main Air Vent



Electrical

- S1, S2 = Indoor Sensors 076, 077 or 084
- S3 = Outdoor Sensor 070
- S4 = Condensate Sensor 071
- S5 = DHW Sensor 082



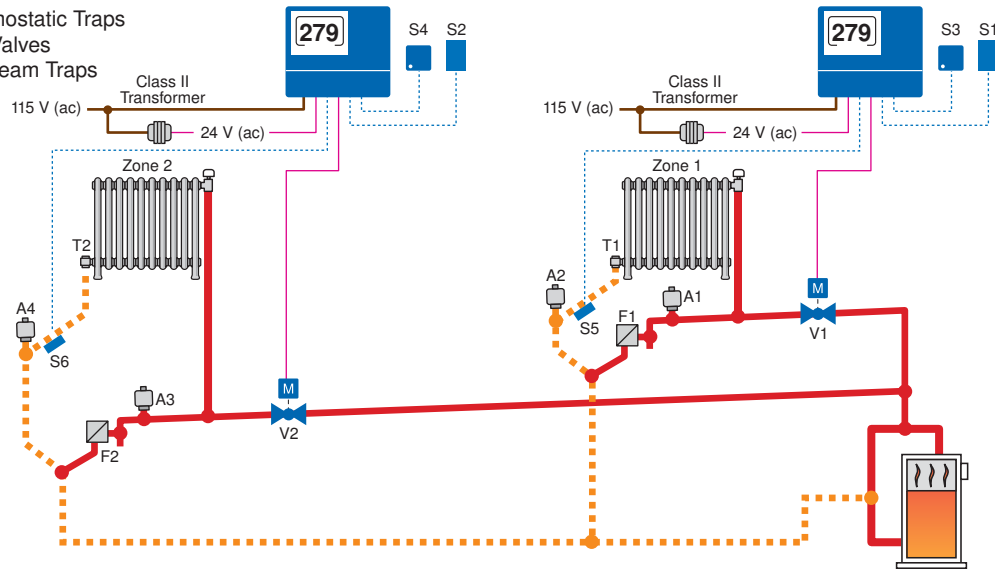
Concept Drawing: This is only a concept drawing, not an engineered drawing. It is not intended to describe a complete system, nor any particular system. It is up to the system designer to determine the necessary components for and configuration of the particular system being designed, including additional equipment, isolation relays (for loads greater than the control's specified output ratings), and any safety devices which in the judgement of the designer are appropriate, in order to properly size, configure and design that system and to ensure compliance with building and safety code requirements.

Application A 279-3

System Description: The Steam System includes two on/off steam valves, each of which are operated by a Steam Control 279. The steam can be supplied from either a steam boiler or a district steam system. The on time of the valve is based on outdoor temperature, condensate return temperatures, control settings, and indoor temperature settings. The condensate return sensor provides information to the control to determine when the boiler has produced enough steam to reach the furthest radiator to start the percent on time. The indoor sensor provides indoor temperature feedback to prevent over and under heating of the building.

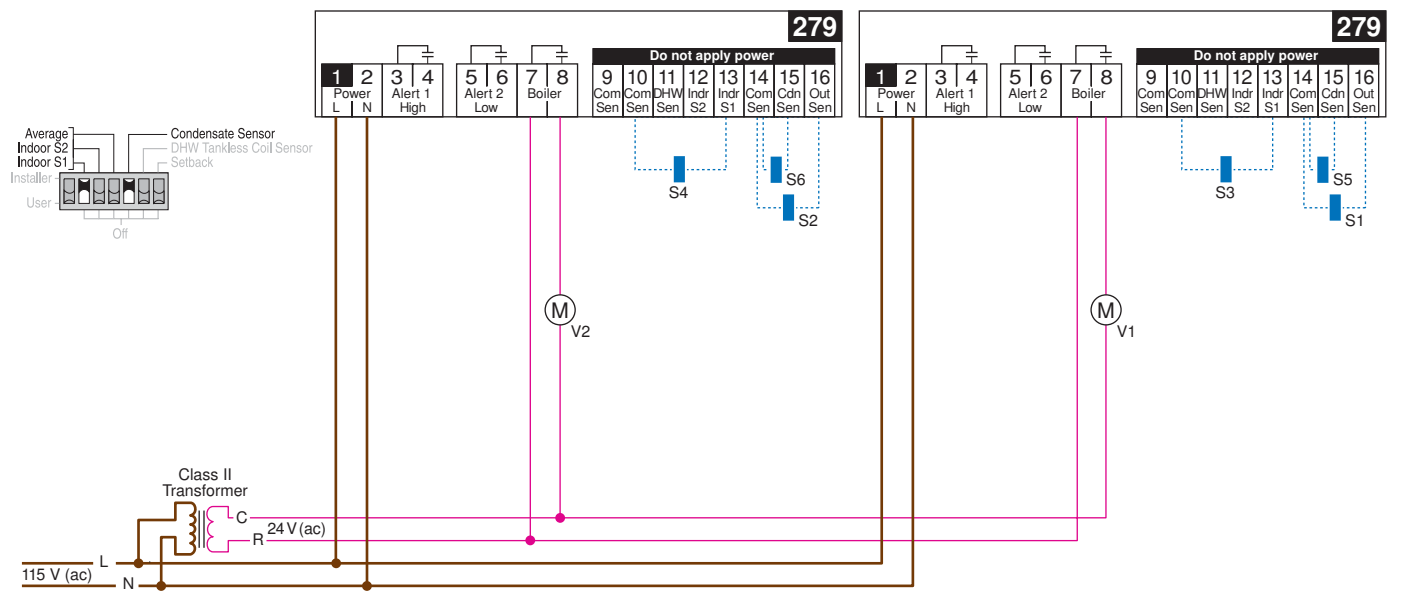
Mechanical

- S1, S2 = Outdoor Sensors 070
- S3, S4 = Indoor Sensors 076, 077 or 084
- S5, S6 = Condensate Sensors 071
- A1...A4 = Main Air Vents
- F1, F2 = Float and Thermostatic Traps
- V1, V2 = On/Off Steam Valves
- T1, T2 = Thermostatic Steam Traps



Electrical

- S1, S2 = Outdoor Sensors 070
- S3, S4 = Indoor Sensors 076, 077 or 084
- S5, S6 = Condensate Sensors 071



Concept Drawing: This is only a concept drawing, not an engineered drawing. It is not intended to describe a complete system, nor any particular system. It is up to the system designer to determine the necessary components for and configuration of the particular system being designed, including additional equipment, isolation relays (for loads greater than the control's specified output ratings), and any safety devices which in the judgement of the designer are appropriate, in order to properly size, configure and design that system and to ensure compliance with building and safety code requirements.

Specifications:

The following are the recommended specifications for the Steam Control 279

- The control shall be able to operate a single steam boiler or an on-off steam valve.
- The control shall use an outdoor reset algorithm to determine the steam heating system on time during a heating cycle.
- The control shall measure the outdoor air temperature using a sensor and display the measured outdoor air temperature on the display.
- The control shall turn on the steam heating system once the measured outdoor temperature exceeds the control's adjustable warm weather shut down setting.
- The control shall have the option to measure the condensate return temperature.
- The control shall have an adjustable steam established setting that is based upon the condensate return temperature.
- The control shall have an adjustable lockout differential setting that is based upon the condensate return temperature.
- The control shall have the option of measuring the indoor air temperature using either one or two indoor sensors.
- The control shall have the option to display the measured indoor temperature.
- The control shall have the option to operate the steam heating system based upon the average of two indoor sensor temperature readings.
- The control shall have the option to operate the steam heating system based upon the lowest of the two indoor sensor temperature readings.
- The control shall have the option to display the measured condensate return temperature.
- The control shall have a test button that activates a pre-programmed test sequence.
- The control shall have a low level alert output that closes a contact should a sensor fault occur.
- The control shall have a high level alert output that closes a contact should one of the indoor sensors fall below a preset temperature or should a memory error occur.
- The control shall continually monitor its temperature sensors and provide an error message should a sensor fault be detected.
- The control shall record and display the running hours of the steam heating system.
- The control shall have a time clock that includes a four-hour backup in the event of a power loss.
- The control shall have a seven-day, four-event programmable schedule stored in non-volatile memory.
- The control shall have temperature settings that follow a programmable schedule.
- The control shall have an optimum start feature to quickly recover when switching from the setback temperature to the regular operating temperature.
- The control shall have the option to measure the temperature of a domestic hot water tankless coil for the purpose to turn on the steam boiler to maintain temperature.
- The control shall have a manual override.



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