

# tekmar® - Application Brochure

Thermostats 507, 508, 509 and Programmable Thermostats 510, 511, 512

A 500

09/02



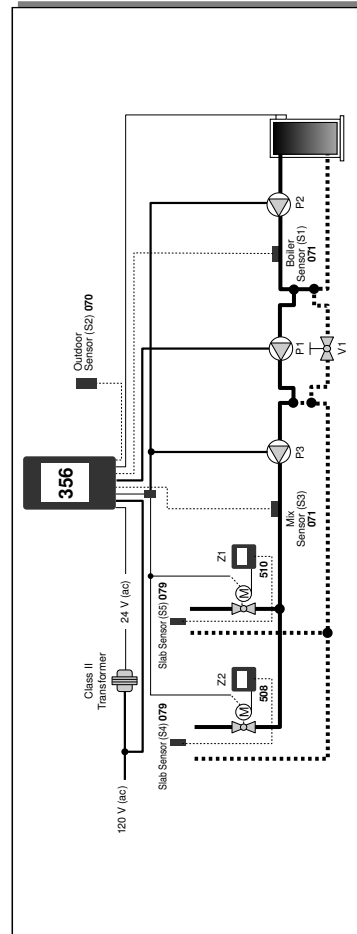
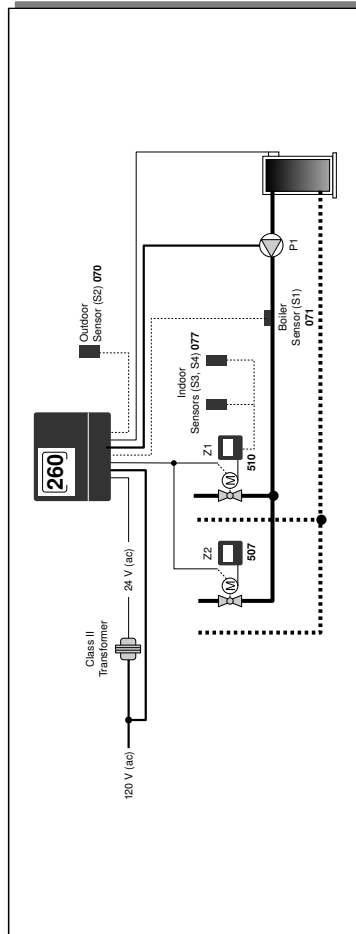
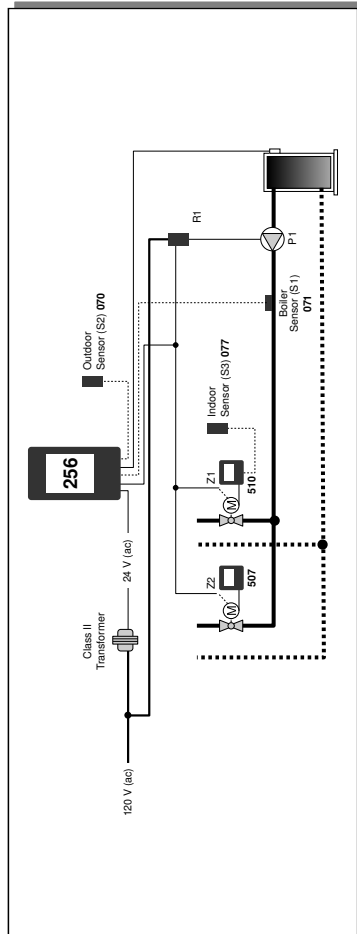
## Features

- 1 Stage Heat
- 2 Stage Heat, 1 Stage Heat / 1 Stage Cool
- Air and / or Slab Temperature Control
- Slab Minimum for Floor Warming
- Slab Maximum to Help Protect Surface Coverings
- Heat / Cool / Auto Change Over
- One or Two Remote Sensor Inputs for Indoor, Outdoor and / or Slab Temperature
- 7 Day or 24 Hour Schedules
- 2 to 4 Temperatures per Day
- Permanent or Temporary Overrides
- 3 Hour Hold Feature
- Away Override for Periods of Extended Absence
- Programs Do Not Need to be Reset After Power Outages
- Four Hour Clock Back-up (*No Battery Required*)
- Early Start Feature for Recovery From Setback
- Backlighting of the Display
- User and Installer Access Levels
- 24 V (ac) Power Supply
- 24 V (ac) 2 Amp Relays
- Adjustable Heating Cycles per Hour
- Adjustable Cooling Cycles per Hour
- Adjustable Heating / Cooling Interlock Time for Auto Change Over
- Adjustable Minimum On Times for Cooling
- Adjustable Minimum Off Times for Cooling

## Application

Thermostat models are available for One-Stage Heat, Two-Stage Heat or One-Stage Heat / One-Stage Cool. A slab sensor can be added to specific models for floor warming applications or to help limit floor temperatures. Proper two stage logic ensures that the first stage of heat is running at its maximum allowed output before bringing on the secondary heat. An Early Start feature in some models allows the thermostats to provide intelligent recoveries from setback. In addition to the air sensor built into the thermostat, certain models allow for up to two auxiliary sensors. These sensors can be used to display the outdoor temperature or a temperature at a remote location. These same thermostats can be set up to control a temperature in a remote location or to read an average air temperature for large spaces.

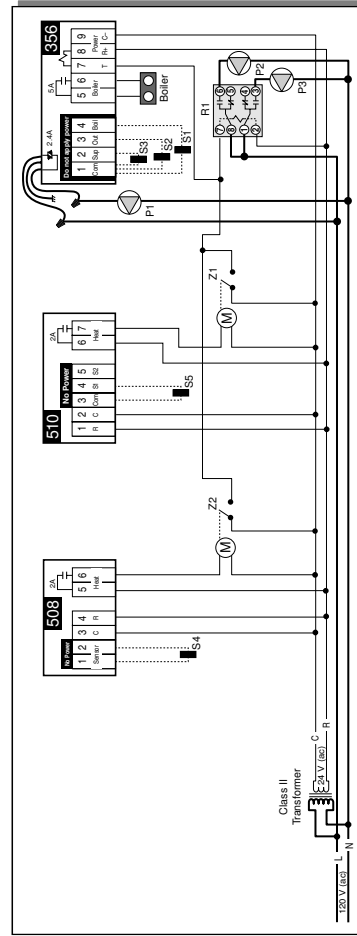
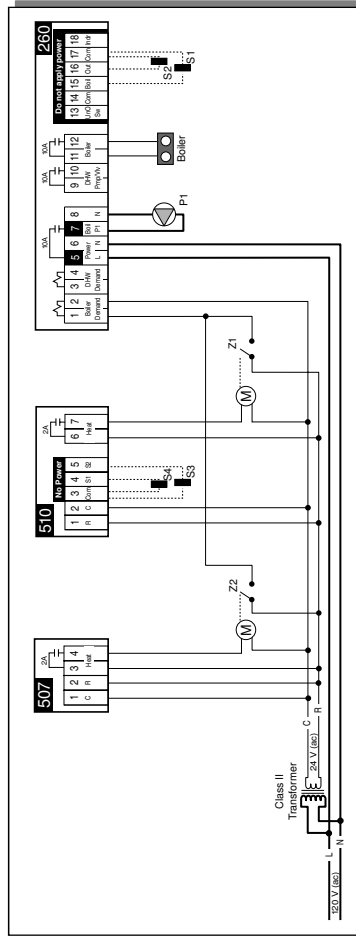
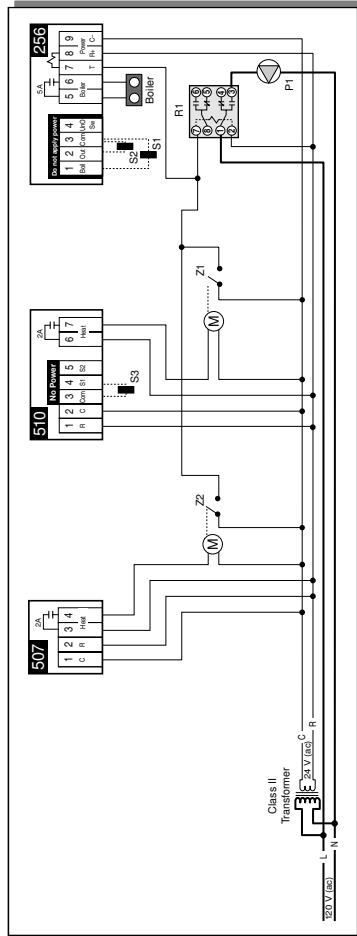
# tekmar® - Application Mechanical



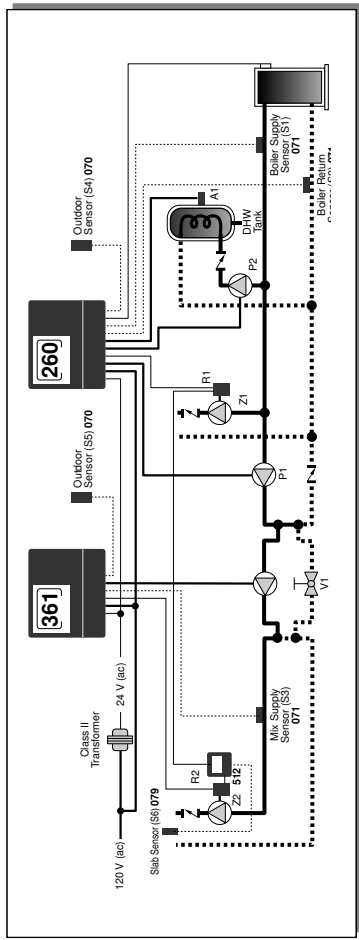
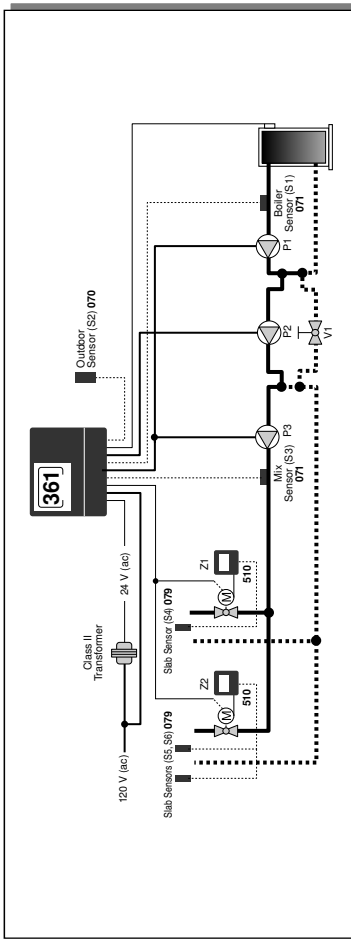
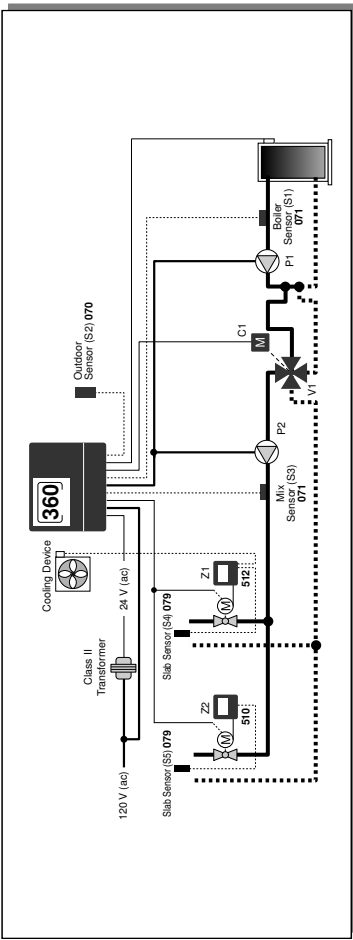
## Concept Drawing

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.

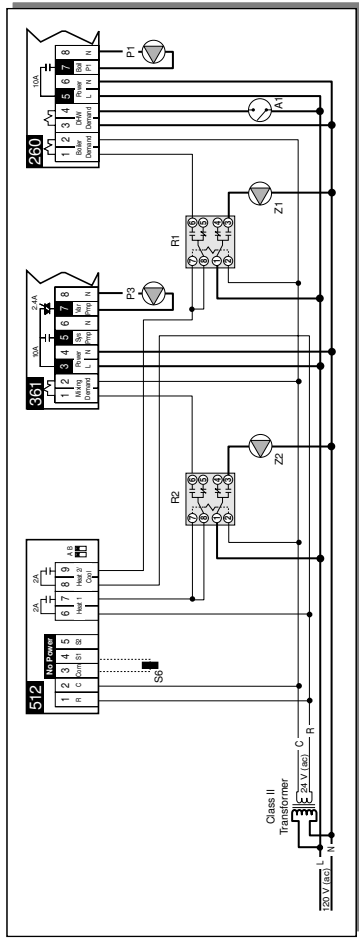
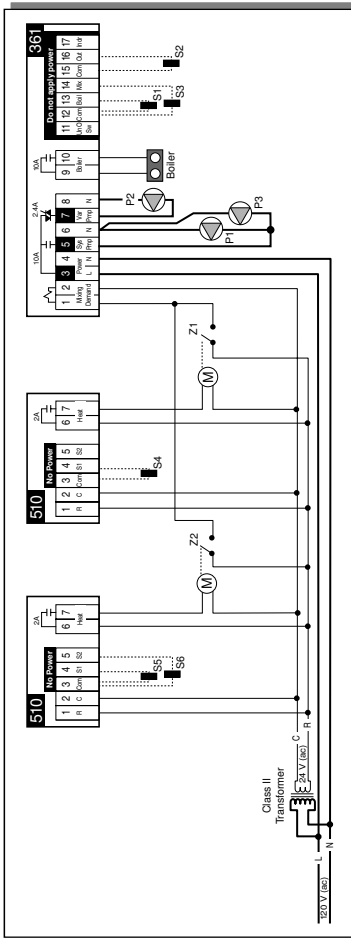
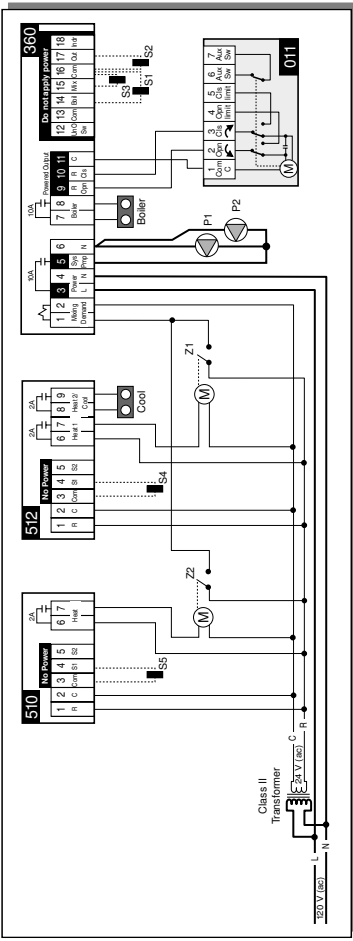
# tekmar® - Application Electrical



# tekmar® - Application Mechanical



# tekmar® - Application Electrical



## 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.

## Technical Data

### Thermostat 507 *One Stage Heat*

Literature	— D 507, U 507
Control	— Microprocessor PI control; This is <b>not a safety (limit) control</b> .
Packaged weight	— 0.46 lb. (210 g), Enclosure J, white PVC plastic
Dimensions	— 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, -22 to 131°F (-30 to 55°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 1 VA
Relay	— 24 V (ac) 2 A



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Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, -22 to 131°F (-30 to 55°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 1.5 VA
Relay	— 24 V (ac) 2 A
Sensors	— NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
Included	— None
Optional	— tekmar type #: 070, 071, 072, 073, 076, 077, 078, 079.

### Programmable Thermostat 511 (510 / 079)

Literature	— D 510A, D 510B, U 510, D 079
Control	— Microprocessor PI control; This is <b>not a safety (limit) control</b> .
Packaged weight	— 0.54 lb. (245 g), Enclosure J, white PVC plastic
Dimensions	— 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, 32 to 122°F (0 to 50°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 3 VA
Relays	— 24 V (ac) 2 A, Latching
Sensors	— NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
Included	— Slab Sensor 079
Optional	— tekmar type #: 070, 071, 072, 073, 076, 077, 078, 079.

### Thermostat 509 (508 / 079) *One Stage Heat*

Literature	— D 507, U 507, D 079
Control	— Microprocessor PI control; This is <b>not a safety (limit) control</b> .
Packaged weight	— 0.54 lb. (245 g), Enclosure J, white PVC plastic
Dimensions	— 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, -22 to 131°F (-30 to 55°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 1.5 VA
Relay	— 24 V (ac) 2 A
Sensors	— NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
Included	— Slab Sensor 079
Optional	— tekmar type #: 070, 071, 072, 073, 076, 077, 078, 079.

### Programmable Thermostat 512 *Two Stage Heat / Heat-Cool*

Literature	— D 510A, D 510B, U 510
Control	— Microprocessor PI control; This is <b>not a safety (limit) control</b> .
Packaged weight	— 0.46 lb. (210 g), Enclosure J, white PVC plastic
Dimensions	— 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, 32 to 122°F (0 to 50°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 3 VA
Relays	— 24 V (ac) 2 A, Latching
Sensors	— NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
Included	— None
Optional	— tekmar type #: 070, 071, 072, 073, 076, 077, 078, 079.

### Programmable Thermostat 510 *One Stage Heat*

Literature	— D 510A, D 510B, U 510
Control	— Microprocessor PI control; This is <b>not a safety (limit) control</b> .
Packaged weight	— 0.46 lb. (210 g), Enclosure J, white PVC plastic
Dimensions	— 2-7/8" H x 2-7/8" W x 13/16" D (73 x 73 x 21 mm)
Approvals	— CSA C US, meets ICES & FCC regulations for EMI/RFI.
Ambient conditions	— Indoor use only, 32 to 122°F (0 to 50°C), < 90% RH non-condensing.
Power supply	— 24 V ±10% 50/60 Hz 3 VA
Relays	— 24 V (ac) 2 A, Latching
Sensors	— NTC thermistor, 10 kΩ @ 77°F (25°C ±0.2°C) β=3892
Included	— None
Optional	— tekmar type #: 070, 071, 072, 073, 076, 077, 078, 079.



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