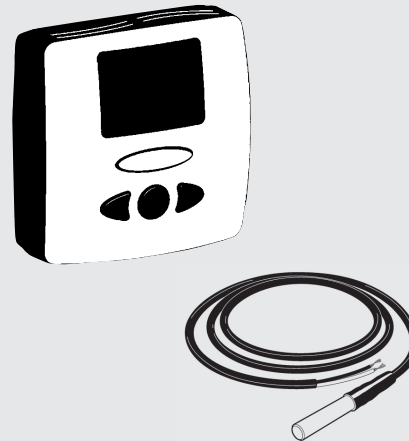


## Product Instructions

### Digital Thermostat

#### Applications

The Digital Thermostat is ideal for individual room temperature control. A user-friendly, three-button design allows for easy change of settings. Thermostat can sense either room temperature, floor temperature or both. Adjustable temperature setback function allows for energy savings. Thermostat can control up to four powerheads directly or can be connected to a zone / circulator control box. With optional floor sensor, thermostat provides floor high or low limit function for floor protection or floor warming.

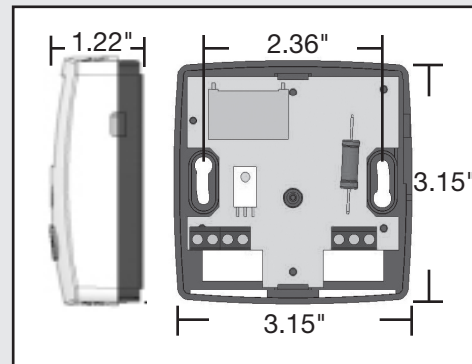


#### Features

- Compact design
- Digital LCD display
- Regulates floor or room temperature or both
- Optional Floor Sensor
- Setback function

#### Specifications

Control:	Microprocessor control
Accuracy:	0.2°F
Set temperature range:	41°F - 99°F, 0.5°F increments
Environment range:	32°F - 122°F
Power supply:	24 V +/- 10% 60Hz 15 W max
Output:	TRIAC output 24 VAC, 15 W max
Optional floor sensor:	NTC thermistor (10K Ohms), 10' cable
Floor limiting range:	50°F - 104°F
Electrical Protection:	Class II - IP30



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## Product Instructions

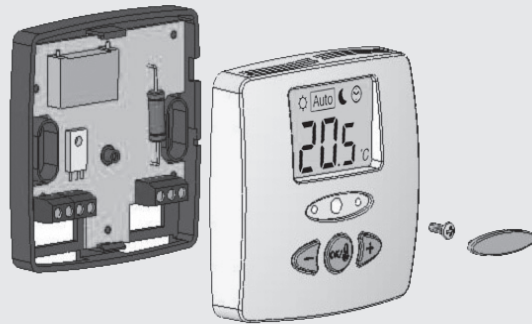
### Digital Thermostat

#### Mounting

Thermostats are typically mounted 48" to 60" from the subfloor. Thermostats should not be located in direct sunlight or in areas where solar gain can occur. Other potential heat emitters are large electrical gang boxes and dimmer switches. These give off heat inside the wall and can cause a false reading. Thermostats should always be located on an interior wall.

Remove white oval screw cover, located in the middle of the thermostat. Then remove the #1 phillips screw. Pull the front cover off the black back plate.

Thermostats have slotted mounting holes, simplifying leveling of the thermostat. Thermostats should be installed with sleeves and anchors when mounting into drywall.



#### Wiring Thermostat to Zone Control

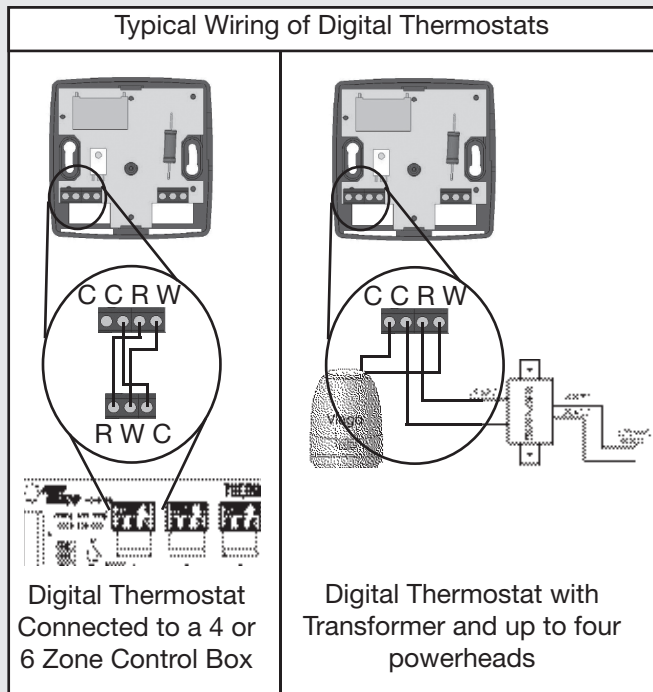
1. Connect the "R" terminal of the thermostat to the "R" terminal of the Zone Control. "R" supplies power to the thermostat.
2. Connect the "W" terminal of the thermostat to the "W" terminal of the Zone Control. "W" is the switching signal.
3. Connect the "C" terminal of the thermostat to the "C" terminal of the Zone Control. "C" is common.

(See diagram to right)

#### Wiring Thermostat to Powerhead

1. Connect the "C" and "R" terminals of the thermostat to transformer.
2. Connect the other "C" terminal and "W" terminal of the thermostat to Viega powerhead.
3. Up to four powerheads per thermostat may be connected.

(See diagram to right)



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## Product Instructions





### Digital Thermostat

#### Programming

To program the Viega Digital Thermostat, press the "OK" button for five continuous seconds until the END screen appears. Use the "+" or "-" buttons to scroll through the settings. The programming codes are in the upper right corner of the LCD screen. To adjust any of the default settings, press the "OK" button. The screen will blink. Then use the "+" or "-" buttons to make desired changes. If there are only two options for the programming code, pressing the "OK" button will cycle through them. If there are multiple programming options, like high limit floor temp (FH), press "OK" button to select, then "+" or "-" buttons to adjust. Once changes are made, press the "OK" button then continue using the "+" or "-" to scroll through additional programming options. See chart below.

#### Operating Mode

Use the "OK" button to scroll through the four Operating Modes

-  OFF Mode - No power for thermostat. Screen is blank.
-  Reduced Temperature Mode - Thermostat automatically sets back room temperature by 7°
-  Comfort Mode - Standard, adjust using "+" or "-" buttons for desired room temperature
-  External Clock Mode - Thermostat will follow external clock signal

Program Codes	Defaults and Options
JO	°F or °C temperature display setting
J1	"Hot" or "Cold." Select "Hot" for heating system
Cy*	Proportional integral regulation time cycle value in minutes (default: 15 min. for radiant heat)
bp*	Value of the proportional band (default: 3.6°F differential from setpoint)
J4	Normally Closed (NC) or Normally Open (NO). Viega Actuators (powerheads) are NC type.
J5	Select "No" or "Pmp," "Pmp" to perform a one-minute system exercise every day if system is inactive in previous 24 hours.
J6	"Air" senses room air temperature, or room temperature & floor limitation if sensor is connected. "FLR" floor temperature without limitation. "AF" room sensor & floor sensor without limitation.
J7*	"rEG" (Proportional band)* or "HYS" (0.3°K Hysteresis) regulation type setting
Cp*	Compensation value in ° C or ° F (default: 2.0°C, 3.6°F)
Ao	Calibrate thermostat, adjust value to match thermostat to actual room (default: no offset)*
Fo	Calibrate floor sensor (default: no offset)*
FL	Floor temperature LOW limitation (default: 41°F) effective only if floor sensor is connected
FH	Floor temperature HIGH limitation (default: 83°F) effective only if floor sensor is connected
CLr	Press "OK" button for five continuous seconds to restore default settings
End	Press "OK" button to exit the programming mode and return to user display

\* Leave as factory defaults

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## Product Instructions

### Digital Thermostat




#### Wiring Floor Sensor

The Digital Thermostat Floor Sensor is a two-wire, water-sealed probe that can be used to accurately measure slab or floor temperatures. Floor sensor should be placed in conduit for protection and repair. 1/2" PEX (capped or plugged) is commonly used as conduit for the slab sensor. Sensor should be 18" from line voltage (110V). If crossing line voltage wire, cross at 90° angle. Line voltage interference can result in inaccurate readings of the sensor.

1. Connect one wire of the floor sensor to one "NTC" terminal of the Digital Thermostat.
2. Connect the other wire of the floor sensor to the other "NTC" terminal of the Digital Thermostat.

(See diagram to right)

#### Wiring External Clock

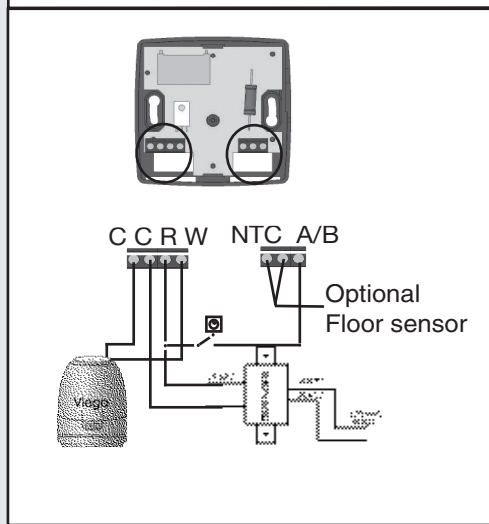
The Digital Thermostat is compatible with an external clock for timed set-back. Press the "OK" button to select the  External Clock Mode. The thermostat display indicates whether it's in Comfort Mode or Reduced Temperature Mode by blinking the  or  symbols.

#### Powerhead(s) and Transformer

1. Connect "R" terminal of the thermostat to the transformer.
2. Splice into the "R" terminal wire and connect that to inlet side of an external clock.
3. Connect the outlet side of the external clock to A/B terminal on right side of thermostat.
4. Connect the "W" terminal of the thermostat to powerhead(s).
5. Connect a "C" terminal of the thermostat to the powerhead(s).
6. Connect a "C" terminal of the thermostat to the transformer.

(See diagram top right)

Advanced Wiring of Digital Thermostats



Resistance Chart

Temperature	Resistance (kΩ)
50°F	~ 19.5kΩ
59°F	~ 15.5kΩ
68°F	~ 12.5kΩ
77°F	~ 10kΩ
86°F	~ 8kΩ

#### Zone Control

1. Connect "R" terminal of the thermostat to the "R" of Zone Control.
2. Splice into the "R" terminal wire and connect that to inlet side of an external clock.
3. Connect the outlet side of the external clock to A/B terminal on right side of thermostat.
4. Connect the "W" terminal of the thermostat to "W" of the Zone Control.
5. Connect a "C" terminal of the thermostat to the "C" of the Zone Control.

(Not shown)

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