

User Guide

Viega Indoor Sensor for Heating Controls



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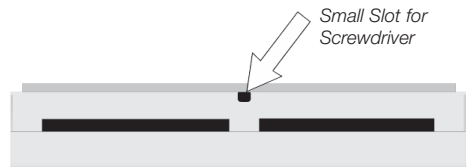
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Installation

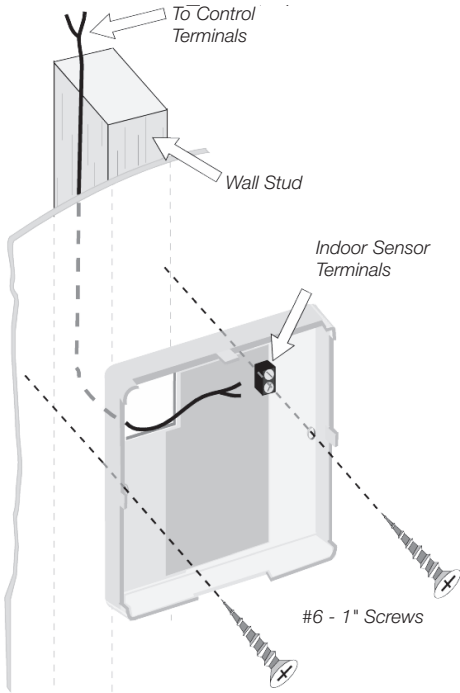


The temperature sensor (thermistor) is built into the sensor enclosure.

- 1 To remove the indoor sensor front cover, place a small screwdriver or similar object into the small hole located in the top of the sensor enclosure. Push the screwdriver against the plastic flap and pull the top of the front cover so that it pivots around the bottom edge of the mounting base.
- 2 The indoor sensor should be installed on an interior wall of the desired zone to be controlled. Do not mount the sensor in a location that may be affected by localized heat sources or cold drafts. It may be necessary to install a draft barrier and/or insulation behind the enclosure in order to prevent air from blowing through the wiring hole and affecting the sensor reading.
- 3 For surface mounting, attach the indoor sensor directly to the wall using two #6 - 1" screws. The screws are inserted through the mounting holes and must be securely fastened to the wall. If possible, at least one of the screws should enter a wall stud.



Top View of Indoor Sensor



- 4** Run two conductor 18 AWG or similar wire between the indoor sensor and the terminals on the heating control. Insert the wires through the hole provided in the back of the sensor enclosure and connect them to the indoor sensor terminal block.
- 5** Do not run the wires parallel to telephone or power lines. If the indoor sensor wires are located in an area with strong sources of electromagnetic noise, shielded cable or twisted pair should be used or the wires can be run in a grounded metal conduit. If using shielded cable, one end of the shield wire should be connected to the Com-Sen terminals on the control and the other end should remain free. The shield must not be connected to earth ground.
- 6** Follow the sensor testing instructions and connect the wires to the control.



Maximum wire length from control to sensor is 500 ft.

- 7** The indoor sensor front cover is installed by aligning the hinges on the bottom of the front cover with the bottom of the sensor mounting base. The front cover is then pivoted around the bottom hinge and pushed against the mounting base until it firmly snaps into place.



Testing

A good quality test meter capable of measuring up to 5,000 k Ω (1k Ω = 1000 Ω) is required to measure the sensor resistance. In addition to this, the actual temperature must be measured with either a good quality digital thermometer, or if one is not available, a second sensor may be placed alongside the one to be tested and the readings compared.

- 1** First measure the temperature using the thermometer and then measure the resistance of the sensor at the control. The wires from the sensor must not be connected to the control while the test is being performed.
- 2** Using the chart on the next page, estimate the temperature measured by the sensor. The sensor and the thermometer readings should be close.
- 3** If the test meter reads a very high resistance, there may be a broken wire, a poor wiring connection, or a defective sensor. If the resistance is very low, the wiring may be shorted, there may be moisture in the sensor, or the sensor may be defective.
- 4** To test for a defective sensor, measure the resistance directly at the sensor location with the wires disconnected.

Do not apply voltage to a sensor at any time as damage to the sensor may result.

Temperature		Resistance
°F	°C	Ω
-50	-46	490,813
-45	-43	405,710
-40	-40	336,606
-35	-37	280,279
-30	-34	234,196
-25	-32	196,358
-20	-29	165,180
-15	-26	139,402
-10	-23	118,018
-5	-21	100,221
0	-18	85,362
5	-15	72,918
10	-12	62,465
15	-9	53,658
20	-7	46,218
25	-4	39,913
30	-1	34,558
35	2	29,996
40	4	26,099
45	7	22,763
50	10	19,900
55	13	17,436
60	16	15,311
65	18	13,474
70	21	11,883
75	24	10,501
80	27	9,299
85	29	8,250

Temperature		Resistance
°F	°C	Ω
90	32	7,334
95	35	6,532
100	38	5,828
105	41	5,210
110	43	4,665
115	46	4,184
120	49	3,760
125	52	3,383
130	54	3,050
135	57	2,754
140	60	2,490
145	63	2,255
150	66	2,045
155	68	1,857
160	71	1,689
165	74	1,538
170	77	1,403
175	79	1,281
180	82	1,172
185	85	1,073
190	88	983
195	91	903
200	93	829
205	96	763
210	99	703
215	102	648
220	104	598
225	107	553



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