



RADIANT HEATING AND
COOLING SYSTEMS

SLAB SENSOR FOR
AERIAL SNOW SENSOR

INSTRUCTION SHEET

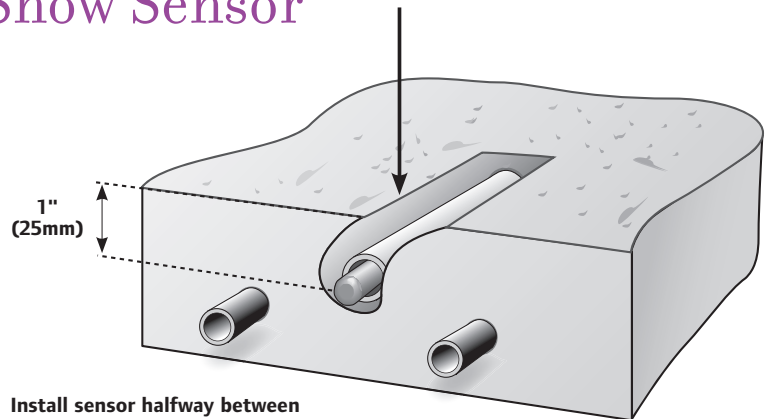


Slab Sensor for Aerial Snow Sensor

The Uponor Slab Sensor for Aerial Snow Sensor (A3040073) features a black, high-density polyethylene head and is ideal for use in soil or concrete. The sensor comes with 40 ft. (12m) of 2-conductor cable.

Installing the Sensor

Note: Proper sensor placement is critical for correct control operation. Though sensors are designed for direct embedding in slab material, Uponor recommends installing them in a metal or plastic sleeve. This allows for easy replacement if the sensor should ever fail or have to be relocated. The sensor should be placed 1" (25mm) below the slab surface and halfway between the pipes or electric cables.



Install sensor halfway between the pipes or cables inside conduit.

Sensor Wiring

Caution: Do not run sensor wires parallel to telephone or power cables. If sensor wires are located in an area with strong sources of electromagnetic interference, use shielded cable or twisted pair. Alternately, the wires can be run in a metal conduit that is grounded to the common sensor terminal on the control and not to earth ground. Sensor wiring can extend up to 500 ft. using 18 AWG wire. Wire splices should be properly soldered and protected in an accessible, waterproof junction box.

Sensor Testing Instructions

A good quality test meter capable of measuring up to 5,000 kΩ (1 kΩ = 1000Ω) 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 a thermometer is not available, a second sensor can be placed alongside the one to be tested and the readings compared.

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 performed. Using the chart below, estimate the temperature measured by the sensor. The sensor and thermometer readings should be close. 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. To test for a defective sensor, measure the resistance directly at the sensor location. **Important:** Do not apply voltage to a sensor at any time as damage to the sensor may result.

Temperature vs. Resistance Table

Temperature		Resistance	Temperature		Resistance	Temperature		Resistance
°F	°C	Ω	°F	°C	Ω	°F	°C	Ω
-50	-46	490,813	45	7	22,763	140	60	2,490
-45	-43	405,710	50	10	19,900	145	63	2,255
-40	-40	336,606	55	13	17,436	150	66	2,045
-35	-37	280,279	60	16	15,311	155	68	1,857
-30	-34	234,196	65	18	13,474	160	71	1,689
-25	-32	196,358	70	21	11,883	165	74	1,538
-20	-29	165,180	75	24	10,501	170	77	1,403
-15	-26	139,402	80	27	9,299	175	79	1,281
-10	-23	118,018	85	29	8,250	180	82	1,172
-5	-21	100,221	90	32	7,334	185	85	1,073
0	-18	85,362	95	35	6,532	190	88	983
5	-15	72,918	100	38	5,828	195	91	903
10	-12	62,465	105	41	5,210	200	93	829
15	-9	53,658	110	43	4,665	205	96	763
20	-7	46,218	115	46	4,184	210	99	703
25	-4	39,913	120	49	3,760	215	102	648
30	-1	34,558	125	52	3,383	220	104	598
35	2	29,996	130	54	3,050	225	107	553
40	4	26,099	135	57	2,754			

Technical Data

Slab Sensor for Aerial Snow Sensor	
Approvals	CSA C US
Operating Range	-60 to 140°F (-51 to 60°C)
Dimensions	3/8" OD x 1.5" (10 OD x 38mm), 40 ft. (12m) 18 AWG wire.
Sensor	NTC thermistor, 10 kΩ @ 77°F (25°C ± 0.2°C), β = 3892
Materials	Black, high-density polyethylene (HDPE) sleeve and jacket, solid PVC insulated wire
Packaged Weight	0.7 lb. (320 g)

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