

LN Series Sensors

Application Requirements

The LN Series Sensor analog wall sensor family is specifically designed to interface with fan coil, heat pump, rooftop and other terminal unit building automation controls. The units provide precise indoor local temperature sensing. Local setpoint adjustment with various scales is available.

The modern, attractive, low profile enclosure is suitable for classrooms, hotels, executive areas, office spaces, and other commercial areas.

Mounting

Location Consideration

Install the sensor away from any heat source.

Do not install the sensor:

- on an outside wall
- near an air discharge grill
- in a location affected by direct sun radiation
- in a location that restrains vertical air circulation to the thermostat

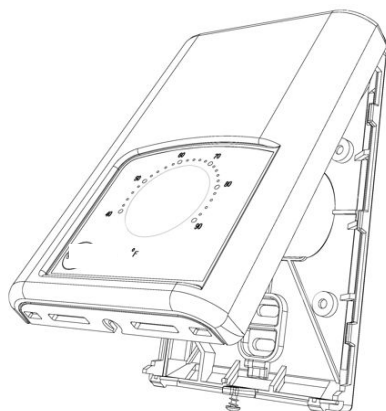


Figure 1: LN Series Sensor

Installation

Note: Wall surface must be flat and clean.

1. Remove security screw on the bottom of thermostat cover.
2. Pull the bottom side of thermostat to open (Figure 1).
3. Pull cables 6 inches out of the wall.
4. Insert cable in the central hole of the base.
5. Align the base and mark the location of the two mounting holes on the wall. Install proper side of base up.
6. Install anchors in the wall.
7. Insert screws in mounting holes on each side of the base. **Do not overtighten.**
8. Strip each wire 1/4 inch.
9. Insert each wire according to wiring diagram.
10. Gently push excess wiring back into the hole in wall.
11. Press printed circuit board into place.
12. Install the cover, top side.
13. Install security screw.

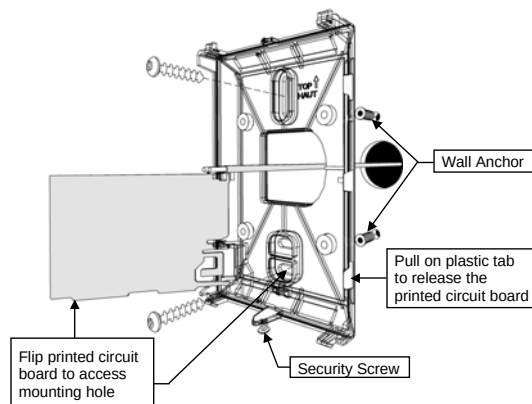


Figure 2: Sensor Installation

Wiring

Figure 3 shows the terminals. Generic Sensor wiring is in Figure 4; please check Table 1 and Table 2 to verify models.

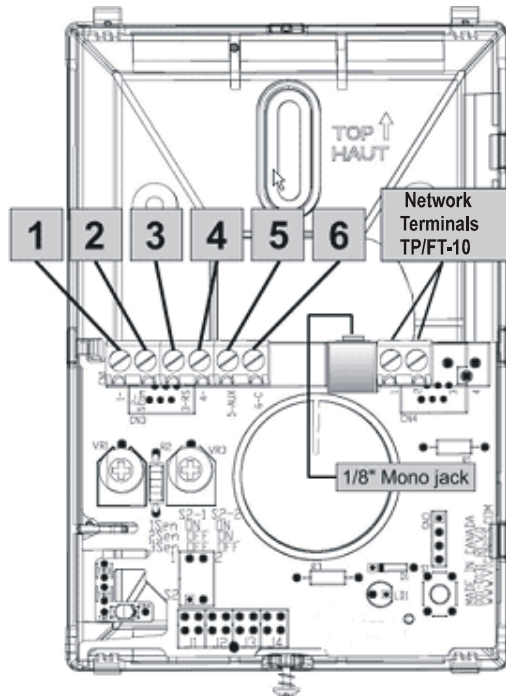
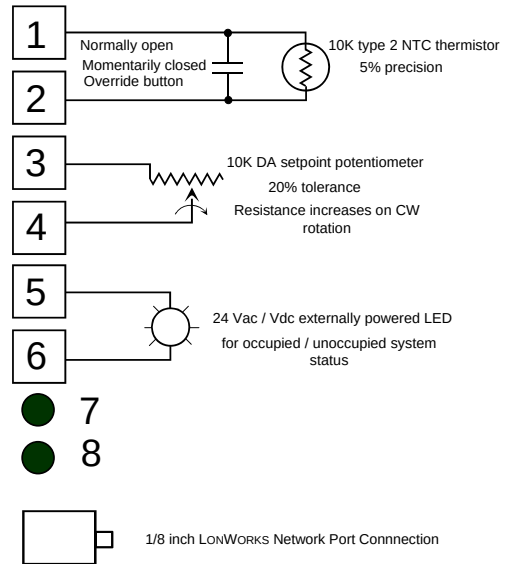


Figure 3: Terminals

CN1



CN2

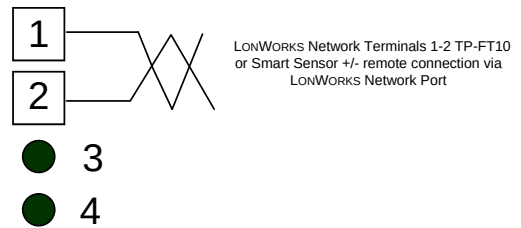


Figure 4: Sensor Wiring

Table 1: Sensor Functions

Part Number	Sensor	Temperature Override	± Scale	C. Scale	F. Scale	Terminals
LN-SENSOR-0	X					1, 2, 7, 8
LN-SENSLO-0	X	X				1, 2, 5, 6, 7, 8
LN-SENOCW-0	X	X	X			1, 2, 3, 4, 5, 6, 7, 8
LN-SENOSC-0	X	X		X		1, 2, 3, 4, 5, 6, 7, 8
LN-SENOSF-0	X	X			X	1, 2, 3, 4, 5, 6, 7, 8

Table 2: Sensor Models

Part Number	Description
LN-SENSOR-0	Room sensor – no setpoint
LN-SENSLO-0	Room sensor with LED, override push button
LN-SENOCW-0	Room sensor with LED, override push button, and setpoint adjustment (cool/warm)
LN-SENOSC-0	Room sensor with LED, override push button, and setpoint adjustment (°C)
LN-SENOSF-0	Room sensor with LED, override push button, and setpoint adjustment (°F)
LN-SENAV1-0	Room sensor containing four thermistors. Jumper configurable for averaging up to maximum of for sensors connected in parallel. No setpoint.
LN-SENAV2-0	Room sensor containing four thermistors. Jumper configurable for averaging up to a maximum of four sensors connected in parallel. With LED and Override push button. No setpoint.

Averaging Sensors Wiring Examples

Single Remote Room Sensor

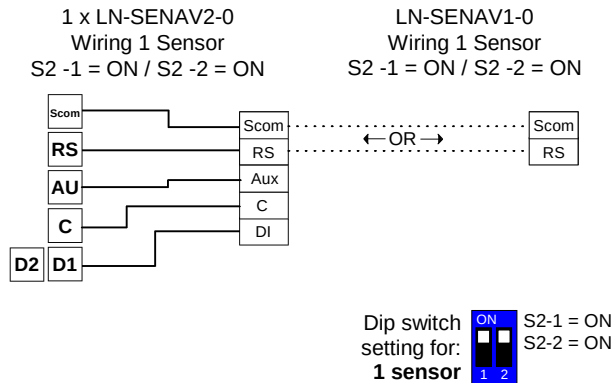


Figure 5: Single Remote Room Sensor Wiring Example

Two Room Sensors for Averaging Applications

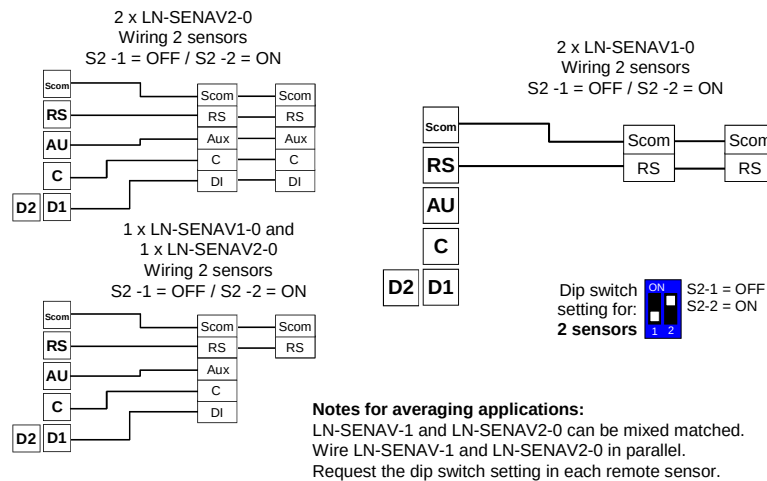


Figure 6: Two Remote Sensors for Averaging Applications Wiring Example

Three Room Sensors for Averaging Applications

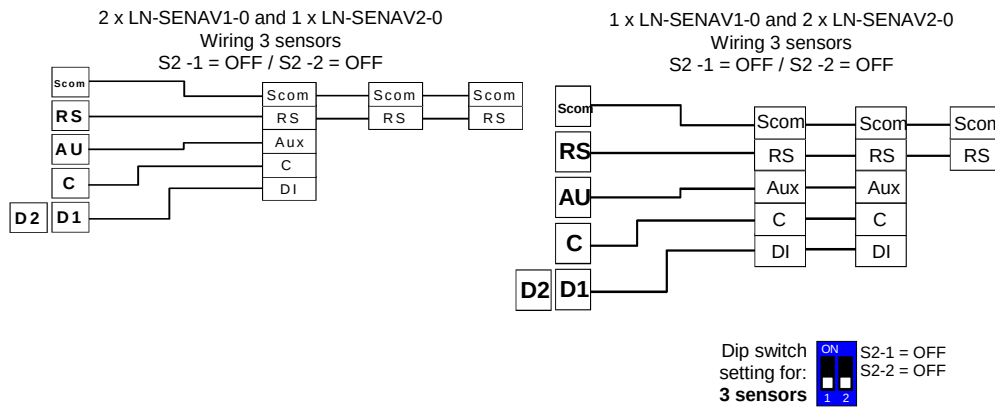


Figure 7: Three Room Sensors for Averaging Application Wiring Example

Temperature versus Resistance Chart for 10 K ohm NTC Thermistor

°C	°F	K ohm	°C	°F	K ohm	°C	°F	K ohm	°C	°F	K ohm	°C	°F	K ohm
-20	-4	87.1310	-10	14	51.3490	0	32	31.1410	10	50	19.4020	20	68	12.3980
-19	-2	82.5330	-9	16	48.7820	1	34	29.6670	11	52	18.5320	21	70	11.8710
-18	0	78.2010	-8	18	46.3570	2	36	28.2700	12	54	17.7050	22	72	11.3690
-17	1	74.1190	-7	19	44.0650	3	37	26.9460	13	55	16.9190	23	73	10.8900
-16	3	70.2710	-6	21	41.8990	4	39	25.6910	14	57	16.1720	24	75	10.4340
-15	5	66.6420	-5	23	39.8490	5	41	24.5000	15	59	15.4620	25	77	10.0000
-14	7	63.2200	-4	25	37.9110	6	43	23.3710	16	61	14.7870	26	79	9.5858
-13	9	59.9910	-3	27	36.0770	7	45	22.3000	17	63	14.1450	27	81	9.1909
-12	10	56.9430	-2	28	34.3410	8	46	21.2840	18	64	13.5330	28	82	8.8143
-11	12	54.0660	-1	30	32.6970	9	48	20.3190	19	66	12.9520	29	84	8.4549



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