

Installer's Guide

Supply Duct Air Temperature Sensor

Model: BAYSENSC360

Used with Link Air Handlers and Furnaces (included with TSYS2C60A2VVU* System Controller) Link Communicating or 24V modes.



CNTR-SVN005A-EN

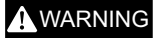
⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians **MUST** put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). **ALWAYS** refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, **ALWAYS** refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.
- If there is a risk of energized electrical contact, arc, or flash, technicians **MUST** put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, **PRIOR** to servicing the unit. **NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Safety Hazard!

Failure to follow instructions below could result in death or serious injury or property damage.

This unit is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Do not allow children to play or climb on the unit or to clean or maintain the unit without supervision.

⚠ WARNING

Hazardous Voltage!

Failure to disconnect power before servicing could result in death or serious injury.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.

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General

Inspection

1. Unpack all components of the kit.
2. Check carefully for any shipping damage. If any damage is found, this must be reported immediately and a claim must be made against the transportation company.
3. Check to confirm all components are in the package. Any missing components should be reported to the supplier at once and replaced with authorized components only.

Overview

The supply duct air temperature sensor can only be seen using the mobile diagnostics app.

Table 1. Specifications

Operating Temperature Range	-40°F – 150°F (-40°C – 65°C)
Sensor Accuracy	± 2%

Table 2. Dimensions

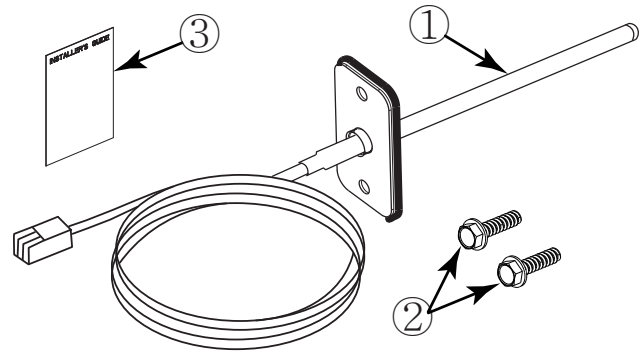
Probe	6.5 inches x 0.25 inches (16.5 cm x 0.635 cm)
Harness	96 inches (243.8 cm)

Each kit contains the following:

Table 3. Kit contents

Item	Quantity	Description
1	1	Supply Duct Air Temperature Sensor
2	2	#10 x 16 Hex Screws
3	1	Installer's Guide

Figure 1. Kit reference



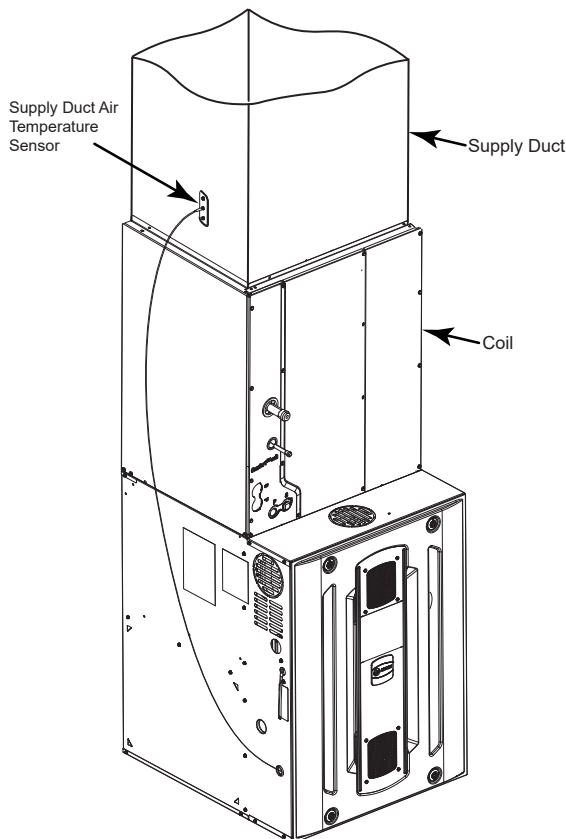
Installation

Furnace and Coil Applications

Note: For heating only applications, locate the sensor as far from the furnace as the sensor harness length will allow.

1. The recommended location of the sensor is on the left side of the duct above the cooling coil.
2. If the left side is not available, it is recommended to take several temperature readings to find the best "average" location to mount the sensor.
3. Drill a 5/16-inch hole in the supply duct and insert the sensor and secure with the supplied screws. See [Figure 2, p. 5](#).
4. Plug the sensor into the IFC connector, E22 (SUP_T).
5. Power on the unit and enable "Supply Air Sensor" using the mobile diagnostics app.

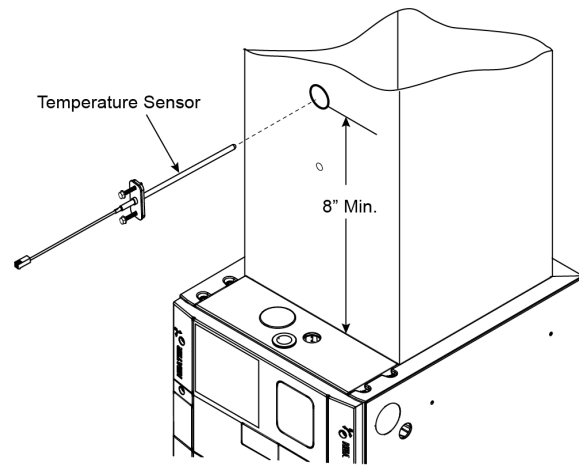
Figure 2. Sensor installation for furnace/coil applications



Air Handler Applications

1. The recommended location of the sensor is on the front of the supply duct, with a minimum distance of 8 inches above the top of the air handler. See [Figure 3, p. 5](#). Additional distance is preferred and will yield a more accurate temperature.
2. If the front side is not available, it is recommended to take several temperature readings to find the best "average" location to mount the sensor.
3. Drill a 5/16-inch hole in the supply duct and insert the sensor and secure with the supplied screws.
4. Plug the sensor into the AHC connector, J11 (SUP_T).
5. Power on the unit and the air handler control board will auto-detect and enable the sensor.

Figure 3. Sensor installation on air handler applications



Electrical Data

Table 4. Resistance and voltage

T (°F)	T (°C)	Thermistor Resist.	VDC
40	4.4	25452	1.64
41	5.0	24761	1.62
42	5.6	24090	1.60
43	6.1	23440	1.58
44	6.7	22810	1.57
45	7.2	22198	1.55
46	7.8	21605	1.53
47	8.3	21030	1.51
48	8.9	20472	1.49
49	9.4	19931	1.47
50	10.0	19405	1.45
51	10.6	18896	1.43
52	11.1	18401	1.41
53	11.7	17921	1.39
54	12.2	17455	1.37
55	12.8	17002	1.35
56	13.3	16563	1.33
57	13.9	16137	1.31
58	14.4	15723	1.29
59	15.0	15320	1.27
60	15.6	14930	1.25
61	16.1	14550	1.23
62	16.7	14182	1.21
63	17.2	13824	1.19
64	17.8	13476	1.17
65	18.3	13138	1.15
66	18.9	12810	1.13
67	19.4	12491	1.11
68	20.0	12181	1.09
69	20.6	11879	1.07
70	21.1	11586	1.06
71	21.7	11301	1.04
72	22.2	11024	1.02
73	22.8	10754	1.00
74	23.3	10492	0.98
75	23.9	10238	0.96
76	24.4	9990	0.95

Table 4. Resistance and voltage (continued)

T (°F)	T (°C)	Thermistor Resist.	VDC
77	25.0	9749	0.93
78	25.6	9515	0.91
79	26.1	9287	0.89
80	26.7	9065	0.88
81	27.2	8849	0.86
82	27.8	8639	0.84
83	28.3	8435	0.83
84	28.9	8236	0.81
85	29.4	8043	0.80
86	30.0	7855	0.78
87	30.6	7671	0.77
88	31.1	7493	0.75
89	31.7	7319	0.74
90	32.2	7150	0.72
91	32.8	6985	0.71
92	33.3	6825	0.69
93	33.9	6669	0.68
94	34.4	6516	0.67
95	35.0	6368	0.65
96	35.6	6224	0.64
97	36.1	6083	0.63
98	36.7	5946	0.61
99	37.2	5812	0.60
100	37.8	5682	0.59
102	38.9	5432	0.56
104	40.0	5194	0.54
106	41.1	4968	0.52
108	42.2	4753	0.50
110	43.3	4548	0.48
112	44.4	4354	0.46
114	45.6	4169	0.44
116	46.7	3992	0.42
118	47.8	3825	0.40
120	48.9	3665	0.39
122	50.0	3513	0.37
124	51.1	3368	0.36
126	52.2	3230	0.34

Table 4. Resistance and voltage (continued)

T (°F)	T (°C)	Thermistor Resist.	VDC
128	53.3	3098	0.33
130	54.4	2972	0.31
132	55.6	2853	0.30
134	56.7	2738	0.29
136	57.8	2629	0.28
138	58.9	2525	0.27

Table 4. Resistance and voltage (continued)

T (°F)	T (°C)	Thermistor Resist.	VDC
140	60.0	2425	0.26
142	61.1	2330	0.25
144	62.2	2239	0.24
146	63.3	2153	0.23
148	64.4	2070	0.22
150	65.6	1990	

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