

**Small Rooftop Units
Large Rooftop Units
3 to 27.5 Tons
Accessory Temperature Sensor
For EconoMi\$er 2**

Installation Instructions

Part Number: CRTEMPSN001A00

IMPORTANT: Read these instructions completely before attempting to install the accessory temperature sensor.

The CRTEMPSN001A00 temperature sensor is used on EconoMi\$er 2 economizer models with separately purchased controller like PremierLink.

The accessory temperature sensor can be used on all 3 to 25 ton rooftop units with DDC controls and the EconoMi\$er 2 economizer either factory or field-installed.

Package Contents

QTY	CONTENTS
1	Temperature Sensor
1	6-20, 3/4-in. Sheet Metal Screw

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions of replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags, and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Installation must be in compliance with local and national building codes. Wear safety glasses, protective clothing, and work gloves. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. In Canada, refer to current editions of the Canadian electrical code CSA 22.1 and current editions of the National Electrical Code (NEC) NFPA 70.

Recognize safety information. This is the safety-alert symbol 

! WARNING

ELECTRIC SHOCK HAZARD

Failure to follow this warning could result in personal injury or death. Turn off all power to unit and install lockout tag. Power can come to unit from multiple sources. Verify power is off with a meter or probe.

When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words; DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation. Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available.

GENERAL

An outdoor air temperature sensor (HH79NZ039) is standard and is provided with the EconoMi\$er 2 package. The sensor is used for outdoor temperature control. In addition, some factory-installed EconoMi\$er 2 economizer may have an outdoor enthalpy sensor installed. See Table 1 for sensor requirements.

INSTALLATION

For differential temperature or differential enthalpy control mount the return air temperature sensor on the EconoMi\$er 2 through pre-punched holes. See Fig. 1 and 2. The return air temperature (RAT) sensor is wired to a 2-wire harness. The wiring harness should be routed from the EconoMi\$er 2 controller to sensor. On size 3 to 12 1/2 ton units, the wiring will be routed through a grommet on the side on the EconoMi\$er 2. The separate controller compares the temperatures of the 2 airstreams, chooses the best, and modulates the EconoMi\$er 2 actuator accordingly.

Table 1 - Sensor Usage

APPLICATION	STANDARD OUTDOOR AIR TEMPERATURE SENSOR	ACCESSORY RETURN AIR TEMPERATURE SENSOR	* OUTDOOR AIR ENTHALPY SENSOR	INDOOR AIR ENTHALPY SENSOR
Standard Unit	Included – HH79NZ039	–	–	–
Differential Temperature (Dry Bulb)	Included – HH79NZ039	Required – CRTEMPSN001A00	–	–
Outdoor Air Enthalpy	Included – HH79NZ039	–	Required – HH57ZC003	–
Differential Enthalpy	Included – HH79NZ039	Required – CRTEMPSN001A00	Required – HH57ZC003	Required – HH57ZC003

NOTE: All units include the following Standard Sensors:

Outdoor-Air Sensor – set point adjustable from 45°F to 70°F. Factory set at 65°F.

Mixed-Air Sensor – set point adjustable from 40°F to 65°F. Factory set 55°F

All temperature adjustments are made at the PremierLink controller.

*Some factory installed economizers include a standard dry bulb sensor and enthalpy sensor.

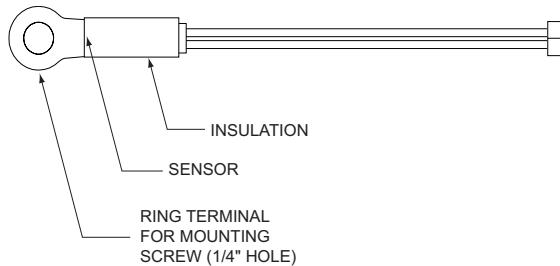
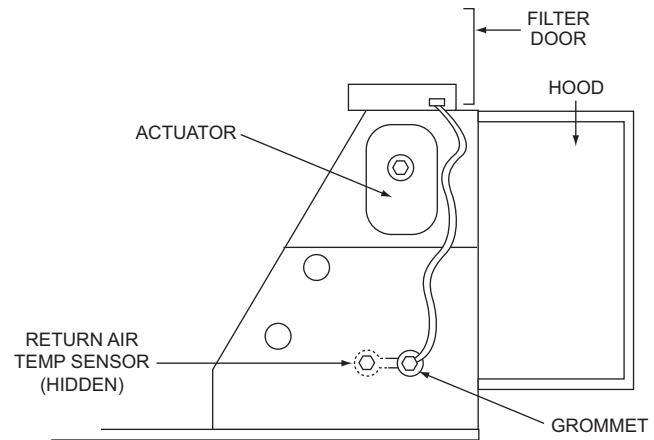
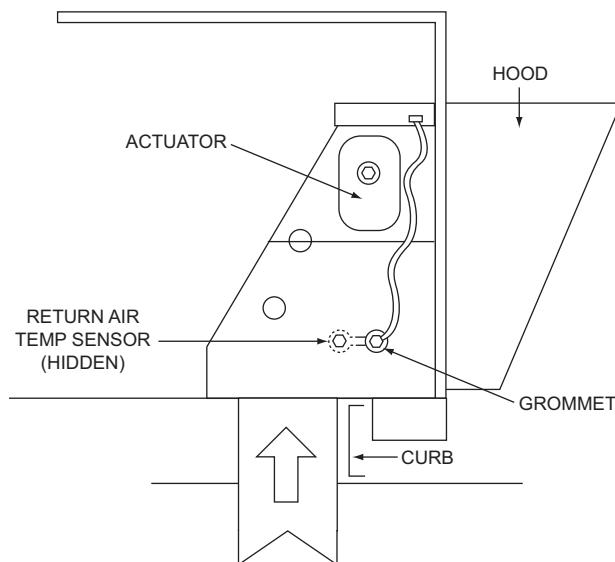


Fig. 1 - Accessory Temperature Sensor



HORIZONTAL ECONOMI\$ER 2
(3 TO 12 1/2 TON UNITS)
(TOP VIEW)



VERTICAL ECONOMI\$ER 2
(3 TO 12 1/2 TON UNITS)
(SIDE VIEW)

Fig. 2 - Sensor Installation

Table 2 - Outside Air Temperature Sensor (CRTEMPSON1A00) - 10K Thermistor Curve

TEMPERATURE		RESISTANCE	TEMPERATURE		RESISTANCE	TEMPERATURE		RESISTANCE
C	F	ohms	C	F	ohms	C	F	ohms
49	120.2	3,743.0	32	89.6	7,401.0	15	59.0	15,714.0
48	118.4	3,889.0	31	87.8	7,720.0	14	57.2	16,464.0
47	116.6	4,042.0	30	86.0	8,056.0	13	55.4	17,255.0
46	114.8	4,203.0	29	84.2	8,407.0	12	53.6	18,090.0
45	113.0	4,370.0	28	82.4	8,776.0	11	51.8	18,972.0
44	111.2	4,544.0	27	80.6	9,164.0	10	50.0	19,903.0
43	109.4	4,727.0	26	78.8	9,571.0	9	48.2	20,883.0
42	107.6	4,918.0	25	77.0	10,000.0	8	46.4	21,918.0
41	105.8	5,117.0	24	75.2	10,449.0	7	44.6	23,013.0
40	104.0	5,327.0	23	73.4	10,921.0	6	42.8	24,117.0
39	102.2	5,546.0	22	71.6	11,418.0	5	41.0	25,396.0
38	100.4	5,774.0	21	69.8	11,942.0	4	39.2	26,686.0
37	98.6	6,014.0	20	68.0	12,493.0	3	37.4	28,052.0
36	96.8	6,266.0	19	66.2	13,071.0	2	35.6	29,498.0
35	95.0	6,530.0	18	64.4	13,681.0	1	33.8	31,030.0
34	93.2	6,806.0	17	62.6	14,323.0			
33	91.4	7,096.0	16	60.8	15,000.0			

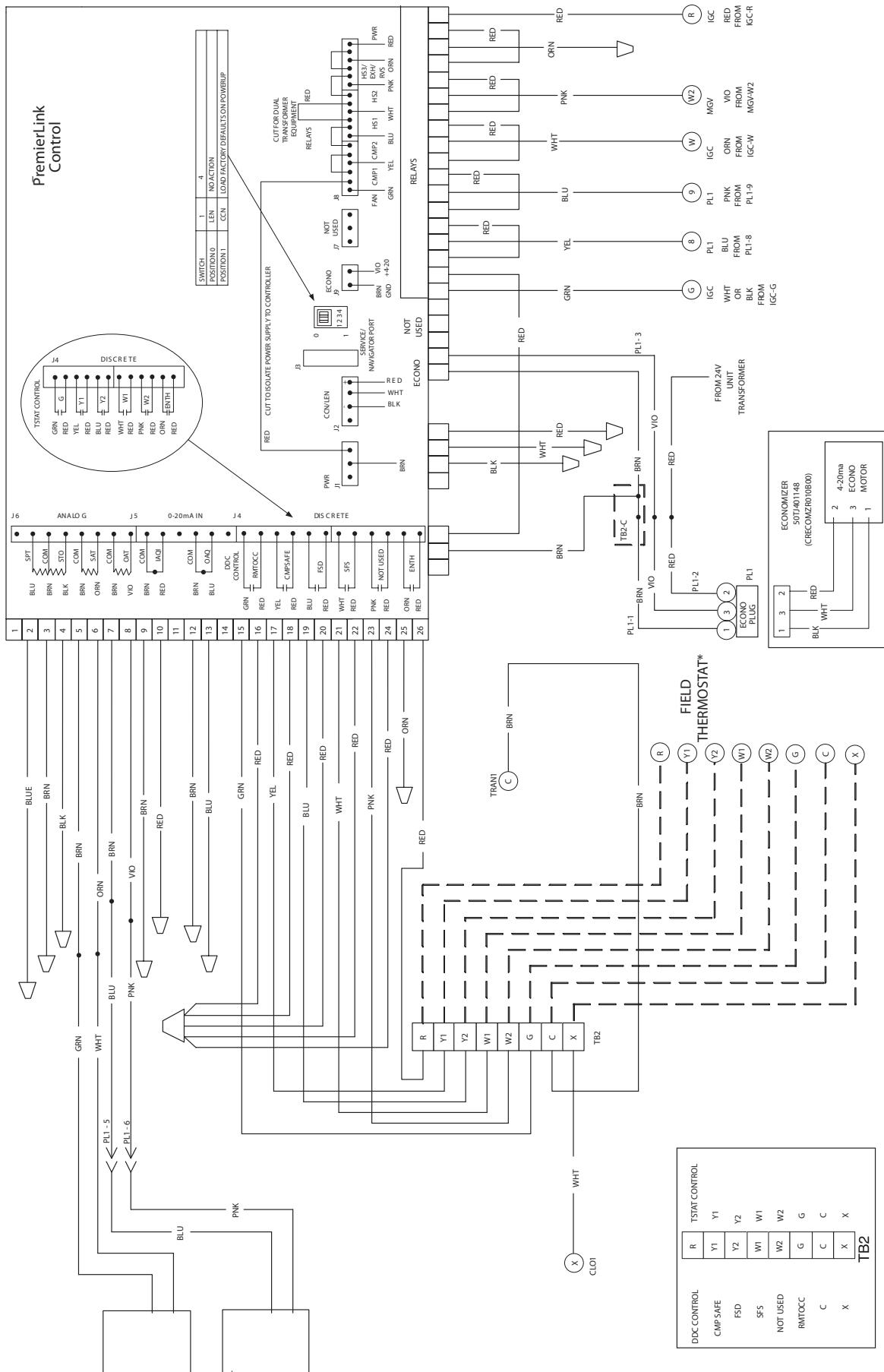


Fig. 3 - Typical Wiring Diagram

