



Installation Instructions

Installing the Programmable Zone Sensor

for more information:
<https://www.trane.com/PZS>

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.

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1

Power off!

2

Power on!

(refer to the wiring diagram below to determine proper connections for specific equipment)

3

Configuration screen

Press or to change the option value.

Press , or , or to change the option number.

0 = Constant Volume (CV)*
1 = Heat Pump (HP)
2 = Variable Air Volume (VAV)

*To access option number 0, with the configuration screen showing, press the up and down arrows simultaneously for two seconds. Option number 0 will appear on the display.

Press the Test/Configuration button to view the home screen (shown at right). If no buttons are pressed, the home screen will appear after 90 seconds.

To return to the configuration screen, press the Test/Configuration button for 2 seconds.

Refer to the tables in panels 5 and 6 for configuration options.

Home screen

Programmable Zone Sensor Wiring Diagram

Sensor		UCP control LTB and LTB1(a)	ReliaTel Control J6	IntelliPak 1TB4 (20-130 ton RTUs)	IntelliPak 1TB4 (90-162 ton RTUs)	IntelliPak (Commercial Self-Contained)
Remote Sensor Input(b)	S2	Optional remote sensor				
Remote Sensor Input(b)	S1	Optional remote sensor				
24 VAC Input(c)	14	14(d)	14	14	1	1TB11-4
Communications(e)	12	12	12	12	12	1TB8-12
Common(c)	11	11	11	6	7	1TB8-11
Service Status (UCM Input)	10	10	10	10	11	1TB8-10
System Status (On/Off Input)	9	9	9	9	10	1TB8-9
Cool Status (UCM Input)	8	8	8	8	9	1TB8-8
Heat Status (UCM Input)	7	7	7	7	8	1TB8-7
Aux Relay (Closed—Unoccupied)	A3	The auxiliary relay on the sensor is form C, rated for 1.25 A at 30 Vac. It is energized during occupied periods.				
Aux Relay (Common)	A2					
Aux Relay (Closed—Occupied)	A1					

- (a) LTB and LTB1 refer to low-voltage terminal boards with numbers 1–20 and two test terminals.
- (b) Connect an optional remote sensor (p/n BAYSENS017) to terminals S1 and S2. Connect the shield wire (drain wire) from the shielded cable to terminal 11.
- (c) Connect the 24 Vac power supply from the unit controller to terminals 11 and 14. (IntelliPak power supply voltage is 12–15 Vac.)
- (d) Use terminal 15 on older 3–25 ton Voyager units with low-voltage terminal boards numbered 1–18 with two test terminals.
- (e) Data communication between the unit controller and the sensor is accomplished by a serial link connected at terminal 12.

Configuration options for sensors used with **variable-air-volume (VAV)** units

Option number	Function	Option Value	Default	Description
0 (See Note)	Operation mode	0 = Constant-volume (CV) 1 = Heat pump (HP) 2 = Variable-air-volume (VAV)	0	Configures the operation mode of the sensor. Note: To access option number 0, with the configuration screen showing, press the up and down arrows simultaneously for 2 seconds. Option number 0 will appear on the display.
1	Morning warm-up	0 = Disabled 1 = Enabled	0	If enabled, the heat turns on when the program switches from unoccupied to occupied and the zone temperature is 1.5°F (0.8°C) below the warm-up setpoint temperature.
2	Economizer minimum position override during unoccupied period	0 = Disabled 1 = Enabled	1	If enabled, the minimum position of the economizer damper is overridden during the unoccupied period.
3	Temperature scale	0 = °F 1 = °F + 0.5 2 = °F + 0.1 3 = °C 4 = °C + 0.5 5 = °C + 0.1	0	Displays the temperature in the selected format.
4	Heat installed	0 = No 1 = Yes	0	Allows the warm-up setpoint to be programmed during occupied periods.
5	Time Clock	0 = 12 hour 1 = 24 hour	0	0 sets clock to 12-hour format with AM and PM. 1 sets clock to 24-hour military time.
6	Modulated heat	0 = No 1 = Yes	0	The modulated heat is controlled to the supply air heating setpoint.
7	Daytime warm-up	0 = Disabled 1 = Enabled	0	If enabled, this setting allows the system to automatically switch between supply air cooling and constant-volume heating operation during an occupied period.
8	Programmable days per week	0 = 7 days (M, T, W, Th, F, S, S) 1 = 5 +1 days (M-F, S, S) 2 = 5 + 2 days (M-F, S-S) 3 = 1 day	0	If 0 is selected, all 7 days to be programmed differently. If 1 is selected, week days, Sat, and Sun can be programmed differently from one another. If 2 is selected, week days can be programmed one way and Sat-Sun can be programmed another way. If 3 is selected, all seven days are limited to being programmed the same way.
9	Programmable periods per day	2 = Day and Night 3 = Morning, Day, Night 4 = Morning, Day, Evening, Night	4	If 2 is selected, only Day and Night periods can be programmed. If 3 is selected, only Morning, Day, and Night periods can be programmed. If 4 is selected, Morning, Day, Evening, and Night periods can be programmed.
10	Remote sensor installed	0 = No 1 = Yes	0	If yes is selected, the space temperature of the remote sensor will appear on the display and will be communicated to the unit controller.
11	Check filter interval	0 = Disabled 1-199 = Number of 1-day increments	30	Adjustable in 1-day increments. The check filter symbol flashes when the accumulated run time is greater than the programmed setting.
12	Display zone temperature	0 = No 1 = Yes	1	If sensor is in a normal running state or in temporary occupancy (timed override), the zone temperature appears.
13	Keypad lockout	0 = Disabled 1 = Enabled	1	If enabled, the keypad can be locked out.
14	Default temporary override timer setting	1, 2, 3, 4, 5 (hours)	3	Sets the default temporary override time in hours.
15	Zone temperature calibration	Displays current temperature reading with any offsets: 1 = -9.9°F (-5.5°C) 100 = 0.0°F (0.0°C) 199 = 9.9°F (9.9°C)	100 (0 offset)	Allows for field calibration in 0.1°F (0.6°C) increments of either the internal sensor on the sensor, or the remote sensor if used. Apply power to the sensor for 60 minutes before calibrating.
16	Default cooling setpoint	45-98°F (7.2-36.7°C)	74	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
17	Default heating setpoint	43-96°F (6.1-35.6°C)	68	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
18	Default supply air cool	40-80°F (4.4-26.7°C)	55	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
19	Default supply air heat	60-100°F (15.6-37.8°C)	100	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
20	Default warm-up	50-90°F (10-32.2°)	68	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
21	Minimum cooling setpoint	45-98°F (7.2-36.7°C)	45	Sets the minimum programmable cooling temperature setpoint.
22	Maximum heating setpoint	43-96°F (6.1-35.6°C)	96	Sets the maximum programmable heating temperature setpoint.
23	Minimum supply air cool	40-80°F (4.4-26.7°C)	40	Sets the minimum programmable cooling temperature setpoint.
24	Maximum supply air heat	60-160°F (15.6-71.1°C)	160	Sets the maximum programmable heating temperature setpoint.
25	Maximum warm-up time	50-90°F (10-32.2°)	90	Sets the maximum programmable heating temperature setpoint.
26	Minimum setpoint deadband	0 = 2°F (1°C) 1 = 4°F (2°C) 2 = 5°F (3°C) 3 = 7°F (4°C) 4 = 8°F (5°C) 5 = 10°F (6°C)	0	Sets the minimum difference between the heating and cooling setpoints.

Configuration options for sensors used with **constant-volume (CV) or heat pump (HP)** units

Option number	Function	Option value	Default	Description
0 (See Note)	Operation mode	0 = Constant-volume (CV) 1 = Heat pump (HP) 2 = Variable-air-volume (VAV)	0	Configures the operation mode of the sensor. Note: To access option number 0, with the configuration screen showing, press the up and down arrows simultaneously for 2 seconds. Option number 0 will appear on the display.
1	Morning warm-up	0 = Disabled 1 = Enabled	0	If enabled, the heat turns on when the program switches from unoccupied to occupied and the zone temperature is 2°F (1.1°C) below the heating setpoint temperature. The heat terminates after 60 minutes regardless of whether the setpoint has been reached.
2	Economizer minimum position override during unoccupied period	0 = Disabled 1 = Enabled	1	If enabled, the minimum position of the economizer damper is overridden during the unoccupied period.
3	Temperature scale	0 = °F 1 = °F + 0.5 2 = °F + 0.1 3 = °C 4 = °C + 0.5 5 = °C + 0.1	0	Displays the temperature in the selected format.
4	Supply air tempering	0 = Disabled 1 = Enabled	0	If enabled, this setting sends the tempering signal to the UCP.
5	Time clock	0 = 12 hour 1 = 24 hour	0	0 sets clock to 12-hour format with AM and PM. 1 sets clock to 24-hour military time.
6	Smart fan	0 = Disabled 1 = Enabled	1	If enabled, the supply fan operates in the Auto mode during unoccupied periods, regardless of the fan setting.
7	Computed recovery	0 = Disabled 1 = Enabled	0	If enabled, this option offsets the setpoint temperature and starts the system before the scheduled occupied period to efficiently reach the occupied temperature setpoint. The time is calculated based on a recovery rate of 6°F (3.3°C) per hour. If configured for an HP unit, option 7 is disabled for emergency heat operation.
8	Programmable days per week	0 = 7 days (M, T, W, Th, F, S, S) 1 = 5 +1 days (M-F, S, S) 2 = 5 + 2 days (M-F, S-S) 3 = 1 day	0	If 0 is selected, all 7 days to be programmed differently. If 1 is selected, week days, Sat, and Sun can be programmed differently from one another. If 2 is selected, week days can be programmed one way and Sat-Sun can be programmed another way. If 3 is selected, all seven days are limited to being programmed the same way.
9	Programmable periods per day	2 = Day and Night 3 = Morning, Day, Night 4 = Morning, Day, Evening, Night	4	If 2 is selected, only Day and Night periods can be programmed. If 3 is selected, only Morning, Day, and Night periods can be programmed. If 4 is selected, Morning, Day, Evening, and Night periods can be programmed.
10	Programmable fan operation	0 = Disabled 1 = Enabled	0	If enabled, the supply fan operation can be programmed for On or Auto operation for each programmed period.
11	Remote sensor installed	0 = No 1 = Yes	0	If Yes is selected, the space temperature of the remote sensor will appear on the display and will be communicated to the unit controller.
12	Check filter interval	0 = Disabled 1-199 = Number of 1-day increments	30	Adjustable in 1-day increments. The check filter symbol flashes when the accumulated run time is greater than the programmed setting.
13	Display zone temperature	0 = No 1 = Yes	1	If the sensor is in a normal running state or in temporary occupancy (timed override), the zone temperature appears.
14	Keypad lockout	0 = Disabled 1 = Enabled	1	If enabled, the keypad can be locked out.
15	Default temporary override timer setting	1, 2, 3, 4, 5 (hours)	3	Sets the default temporary override time in hours.
16	Zone temperature calibration	Displays current temperature reading with any offsets: 1 = -9.9°F (-5.5°C) 100 = 0.0°F (0.0°C) 199 = 9.9°F (9.9°C)	100 (0 offset)	Allows for field calibration in 0.1°F (0.6°C) increments of either the internal sensor on the sensor, or the remote sensor if used. Apply power to the sensor for 60 minutes before calibrating.
17	Baud rate	0 = 1024 baud 1=1200 baud	1	Set to 0 for 3-25 ton Voyager units built before January 1, 1996, that have the original UCP.
18	Default cooling setpoint	45-98°F (7.2-36.7°C)	74	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
19	Default heating setpoint	43-96°F (6.1-35.6°C)	68	If no setpoint has been programmed or the program is lost, the value that is set becomes the operation setpoint.
20	Minimum cooling setpoint	45-98°F (7.2-36.7°C)	45	Sets the minimum programmable cooling temperature setpoint.
21	Maximum heating setpoint	43-96°F (6.1-35.6°C))	96	Sets the maximum programmable heating temperature setpoint.
22	Minimum setpoint deadband	0 = 2°F (1°C) 1 = 4°F (2°C) 2 = 5°F (3°C) 3 = 7°F (4°C) 4 = 8°F (5°C) 5 = 10°F (6°C)	0	Sets the minimum difference between the heating and cooling setpoints.

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