STE-8001 and STE-8201 sensors

Installation Guide

Important notices

Printed in U.S.A.

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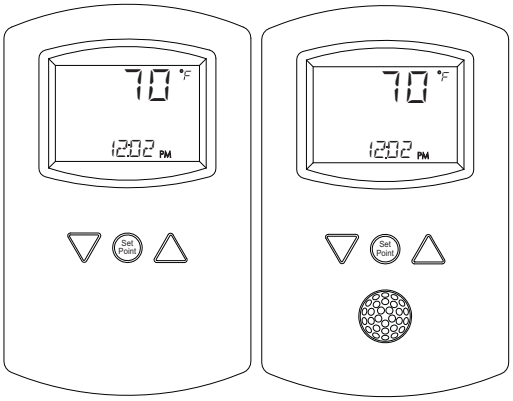
SECTION 1

Introduction to STE-8000 sensors

This section provides a description of the KMC Controls STE-8001 and STE-8201 wall sensors. It also introduces safety information. Review this material before installing or operating the sensors.

Models STE-8001 and STE-8201 are wall-mounted, temperature sensor for use with KMC BAC-8000 series VAV controllers. Key features include the following:

- Integrated operator interface ready to use with BAC-8000 series VAV controllers
- Large LCD display
- Simple three-button interface
- Continuously displays temperature and time
- Separate password protection for user and commissioning functions
- Use as a service tool to set up BAC-8000 series VAV controllers
- Optional motion sensor to detect space occupancy



STE-8001 STE-8201

Illustration 1-1 STE-8001 and STE-8201

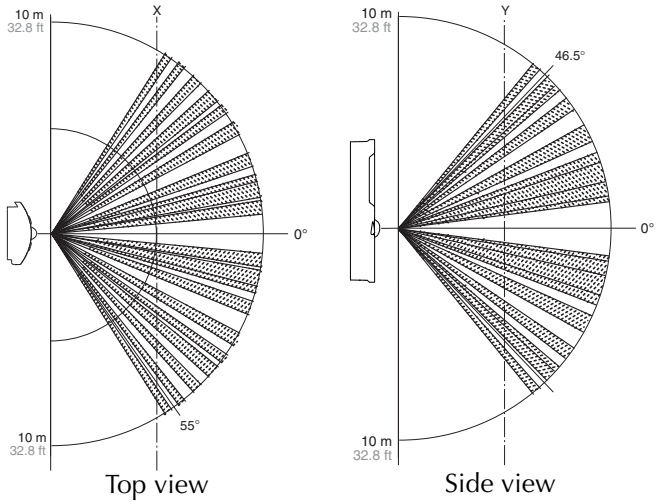
Note

An STE-8000 series sensor will display time if the controller to which it is attached has been synchronized with system time within the previous 24 hours.

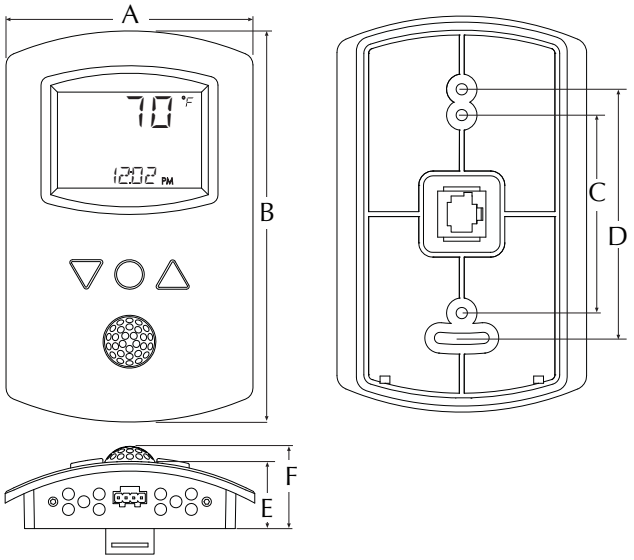
Specifications

Display	Multifunctional LCD 1.88 x 1.25 in. (48 x 32 mm)
Compatibility	BAC-8000 series VAV controllers
Controller Connection	
Connector type	Eight-wire RJ-45 modular jack
Cable type and length	Standard Ethernet cable up to 75 feet (22.9 meters)
Power	Supplied by connected controller
Mounting	Surface mount directly to any flat surface or to a 2 x 4 inch or 4 x 4 inch handy-box. Mounting on a 4 x 4 inch box requires a mounting backplate.
Weight	2.8 ounces (80 grams)
Material	Flame retardant plastic
Accessories	
Mounting backplate	HMO-1161W
Gasket	HPO-116
Replacement Allen screws	HPO-0044 (package of 10)
Environmental Limits	
Operating Temperature	34° to 125° F (1.1 to 51.6° C)
Shipping	–40° to 140° F (–40°C to 60° C)
Humidity	0 to 95% relative humidity non-condensing

Motion sensor range	Model STE-8201 only
Detector type	Passive infrared
Range	33 feet (10 meters). See diagrams



Dimensions



A	B	C	D	E	F
3.25 in.	5.16 in.	2.58 in.	3.25 in.	0.87 in.	1.07 in.
83 mm	116 mm	66 mm	83 mm	22 mm	27 mm

Models

Temperature sensor only	STE-8001
Temperature and motion	STE-8201

Safety considerations

KMC Controls assumes the responsibility for providing you a safe product and safety guidelines during its use. Safety means protection to all individuals who install, operate, and service the equipment as well as protection of the equipment itself. To promote safety, we use hazard alert labeling in this manual. Follow the associated guidelines to avoid hazards.

Danger

Danger represents the most severe hazard alert. Bodily harm or death will occur if danger guidelines are not followed.

Warning

Warning represents hazards that could result in severe injury or death.

Caution

Caution indicates potential personal injury or equipment or property damage if instructions are not followed.

Note

Notes provide additional information that is important.

Detail

Provides programing tips and shortcuts that may save time.

SECTION 2

Installing STE-8000 sensors

This section provides important instructions and guidelines for installing the STE-8000 series sensors. Carefully review this information before installing the controllers.

Installing the sensors includes the following topics that are covered in this section.

Planning for motion sensing

For STE-8201 only—Mount the STE-8201 sensor on a wall that will have an unobstructed view of the typical traffic in the coverage area. When choosing a location, do not install the sensor in the following areas.

- Behind curtains or other obstructions
- In locations that will expose it to sunlight or heat sources
- Near a heating/cooling duct.

For details on the coverage pattern, see *Specifications* on page 4.

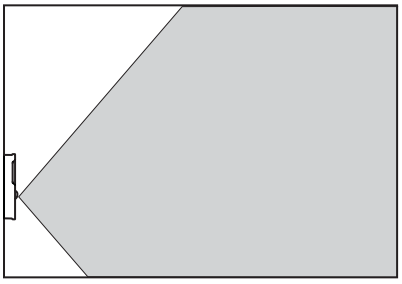


Illustration 2-1 Typical motion sensing coverage area

The effective detection range is approximately 10 meters or 33 feet. Factors that may reduce the range include:

- The difference between the surface temperature of the object and the background temperature of the room is too small.
- Object movement in a direct line toward the sensor.
- Very slow or very fast object movement.
- Obstructions as shown in the illustration *Typical motion sensing coverage area* on page 7.

False detections may be triggered by:

- The temperature inside the detection range suddenly changes because of the entry of cold or warm air from an air-conditioning or heating unit.
- The sensor being directly exposed to sunlight, an incandescent light, or other source of far-infrared rays.
- Small animal movement.

Rough-in preparation

Complete rough-in wiring at each sensor location prior to sensor installation. This includes the following.

- Routing the connecting cable from the sensor to a controller.
- If required, install the appropriate backplate. See *Accessories* on page 4 for model numbers.

Connect the STE-8000 series sensor to a controller with a standard Ethernet cable with RJ-45 connectors on each end. Maximum cable length is 75 feet (22.9 meters). Plenum-rated preassembled cables are recommended.

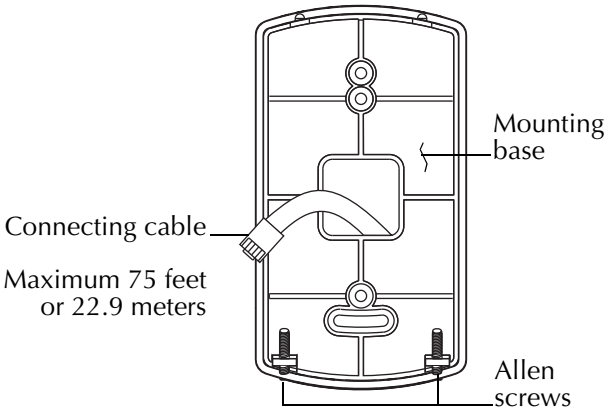


Illustration 2-2 Sensor mounting details

Installing the sensors

To install the sensor on a backplate, do the following:

1. Turn the Allen screws in the base of the NetSensor clockwise until they clear the cover. Swing the sensor away from the mounting base to remove it.

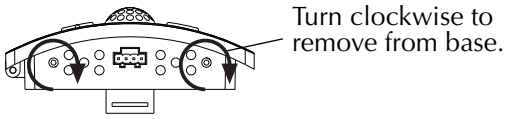


Illustration 2-3 Mounting screws

2. Route the Ethernet cable through the mounting base.
3. Fasten the mounting base directly to a 2 x 4 inch outlet box or a backplate with the Allen screws toward the floor.

4. Insert the Ethernet cable coming from the base into the sensor.
5. Place the top of the sensor over the top of the mounting base and swing it down over the Allen screw brackets. Be careful not to pinch any wiring.
6. Back the Allen screws out of the brackets until they engage the sensor cover and hold it in place.

Maintenance

Remove dust as necessary from holes in top and bottom. Clean the display with soft, damp cloth and mild soap.

SECTION 3

User functions

This section covers topics for the end user in a facility.

User functions are limited to changing the occupied temperature setpoints from the STE-8000.

Operating the STE-8000

The functions are accessible through an STE-8000 series sensor. The functions are entered or changed using the buttons and display on the front of the STE-8000.

- Pressing either the up button △ or down button ▽ changes a selection, setting, or value.
- Pressing the setpoint button ◎ saves the setting or value. Typically saving an entry also advances to the next display.

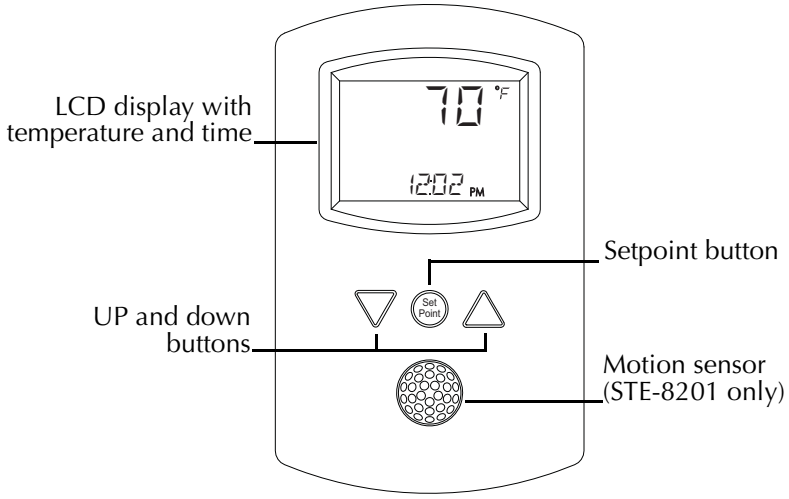


Illustration 3-1 The STE-8000 series display and buttons

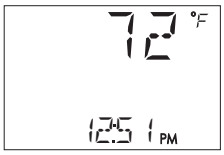
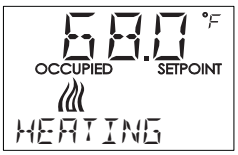
Note

An STE-8000 series sensor will display time if the controller to which it is attached has been synchronized with system time within the previous 24 hours.

Changing setpoints

To enter or change the occupied setpoints you will need a Level 1 password.

Enter occupied setpoints

Procedure	Steps	STE display
Starting display	Start from the temperature display.	
Enter the level one password	1. Press the Set Point button. 2. Press the △ or ▽ buttons to change the first digit. 3. Press the Set Point button to select the next digit. Repeat for all four digits. 4. **Note:** If a Level 1 password has not previously been entered, the display will change to the occupied cooling setpoint display after Step 1.	
Set the occupied cooling setpoint	1. Press the △ or ▽ buttons to change the cooling setpoint temperature. The setpoint changes in increments of 0.5 degrees. 2. Press the Set Point button to save the value. The display advances to set the heating setpoint.	
Set the occupied heating setpoint	1. Press the △ or ▽ buttons to change the heating setpoint temperature. The setpoint changes in increments of 0.5 degrees. 2. Press the Set Point button to save the value. The display returns to the temperature display.	

SECTION 4

Commissioning functions

This topics in this section are advanced topics for control technicians and engineers.

The commissioning functions that are accessible through an STE-8000 series sensor are values and settings that are entered during the installation and commissioning of a VAV terminal unit. Typically these functions do not change after the installation and commissioning process.

To set up the commissioning functions, you will need the following:

- Information about the VAV terminal unit including the configuration for fans and reheat
- The installation and operation manual supplied with the controller to which the STE-8000 series sensor is connected.
- The building automation system plans.

Users may change the occupied heating and cooling setpoints without accessing the commissioning functions. This procedure is covered in *User functions* on page 11.

Note

The instructions for commissioning functions cover all of the functions that an STE-8000 sensor can set up in the BAC-8000 series of controllers. Not all functions are available on every model of controller. Consult the installation and operation manual supplied with the controller to verify the functions and options that are available.

The commissioning sequence

Set the commission functions in the following sequence.

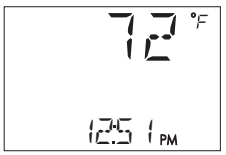
1. *Enter the commissioning mode* on page 14
2. *Setting up network communications* on page 15
3. *Box options* on page 16
4. *Setting commissioning setpoints* on page 20
5. *Setting the airflow setpoints* on page 23
6. *Balancing airflow* on page 27

Enter the commissioning mode

For access to the commissioning functions you will need a Level 2 password.

- If the controller has not been previously set up, no password is required.
- A new Level 2 password can be entered in the advanced commissioning functions. See the topic *Advanced options* on page 31.

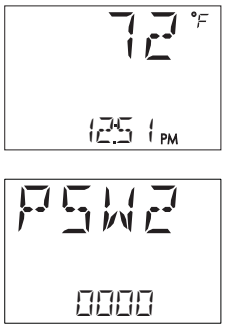
Enter the commissioning mode

Procedure	Steps	STE display
Starting display	Start from the temperature display.	
Enter the commissioning password	1. Press the △ and ▽ buttons together and hold them down until the display changes to PSW2. 2. Press the △ or ▽ button to change the first digit. 3. Press the ⊙ button to select the next digit. Repeat for all four digits. 4. When the ⊙ button is pushed for the fourth correct digit, the display changes to COMM. **Note:** If a Level 2 password has not previously been entered the display will change to the COMM display after Step 1.	
Select a commissioning function	Access to the commissioning functions always start at the COMM display.	

Setting up network communications

Set the network communication settings before placing a controller on the network. Setting network settings requires entering the Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

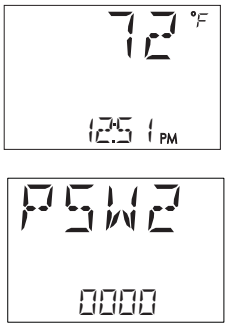
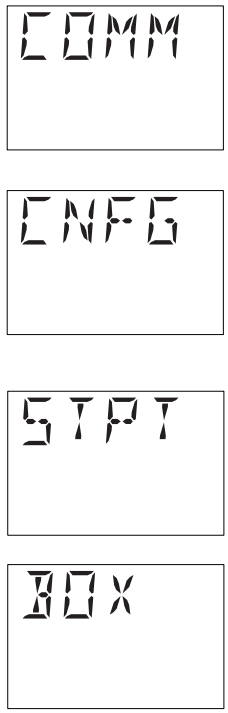
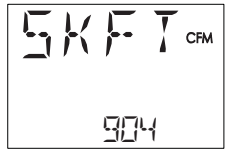
Procedure to set up network communications

Procedure	Steps	STE display
Starting display	1. Start at the temperature display. 2. Enter the Level 2 password. The display changes to the COMM.	
Select the COMM display	Press the Set Point button. The display changes to BID.	
Enter the device instance.	1. Press the △ or ▽ buttons to change the first digit. 2. Press the Set Point button to select the next digit. Repeat for all seven digits. 3. When the Set Point button is pressed for the last digit, the display changes to MAC.	
Enter the MAC address.	1. Press the △ or ▽ buttons to change the MAC address. 2. Press the Set Point button to save the selected MAC address. The display changes to BAUD.	
Enter the baud	1. Press the △ or ▽ buttons to select a new baud. 2. Press the Set Point button is save the selected baud. The display returns to COMM.	
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • BLNC or CNFG options • EXIT to return to the temperature display. 2. Press the Set Point button to select the next function.	

Box options

The box options set up the controller for the specific mechanical installation of the VAV terminal unit. Setting the box options requires entering the Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

Procedure to set the box functions

Procedure	Steps	STE display
Starting display	1. Start at the temperature display. 2. Enter the Level 2 password. The display changes to the COMM.	
Select the box settings display.	1. From the COMM display, press the △ or ▽ buttons to show the CNFG display. 2. Press the ⊙ button to select the CNFG options. The display changes to STPT. 3. Press the △ or ▽ buttons to change the display to BOX. 4. Press the ⊙ button to select BOX.	
Set the primary VAV terminal unit K-factor.	1. Press the △ or ▽ buttons to set the primary K-factor. 2. Press the ⊙ button to save the entry and advance to the next function.	
Set the secondary VAV terminal unit K-factor.	1. Press the △ or ▽ buttons to set the secondary K-factor. 2. Press the ⊙ button to save the entry and advance to the next function.	

Procedure to set the box functions (Continued)

Procedure	Steps	STE display
Set the mode of reheat for the terminal unit	1. Press the △ or ▽ buttons to choose one of the following reheat options. **None**—Reheat is not enabled. **Staged**—Enables two or three stage reheat. If lighting is enabled the staged reheat is set to two stages. If lighting is not enabled, three reheat stages are available. **Modulating**—The reheat output varies from 0-10 volts. **Floating**—The reheat outputs control a tristate actuator. **Time proportional**—Controls a thermal wax valve with a 24-volt triac output. 2. Press the ⊙ button to save the reheat option and advance to the next function.	
Set the fan option	1. Press the △ or ▽ buttons to choose one of the following fan options. **None**—No fan is connected to the controller. **Series**—The VAV unit includes a series fan. **Parallel**—The VAV unit includes a parallel fan. 2. Press the ⊙ button to save the fan option and advance to the next function.	

Procedure to set the box functions (Continued)

Procedure	Steps	STE display
Set the damper direction to close	1. Press the △ or ▽ buttons to which direction to damper moves to close. **CCW**—The actuator turns counterclockwise to close the damper. **CW**—The actuator turns clockwise to close the damper. 2. Press the ⊙ button to save the damper option and advance to the next function.	
Set the dual duct mode	1. Press the △ or ▽ buttons to choose the dual duct mode of operation. **VAV**—The system maintains space temperature with variable air volume control. **CAC**—The system maintains space temperature with constant air volume control. **Supply exhaust offset**—The system maintains space temperature with the primary VAV controller. The secondary controller controls the exhaust unit. Supply/exhaust tracking is controlled as an offset percentage. **Supply exhaust differential**—The system mantains space temperature with the primary VAV controller. The secondary controller controls the exhaust unit. Supply/exhaust tracking controlled by differential pressure. **Indoor air quality**—Room temperature is maintained with primary VAV unit and CO2 levels controlled by secondary VAV unit. 2. Press the ⊙ button to save the dual duct option and advance to the next function.	

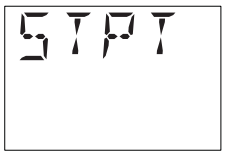
Procedure to set the box functions (Continued)

Procedure	Steps	STE display
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • STPT, FLOW, or ADJC options • BACK to choose another commissioning function • EXIT to return to the temperature display. 2. Press the ◎ button to select the next function.	

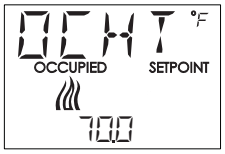
Setting commissioning setpoints

The commissioning setpoints set the operational parameters and limits for the VAV terminal unit. Setting configuration setpoints requires entering a Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

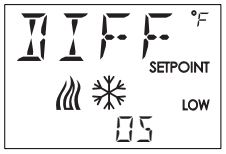
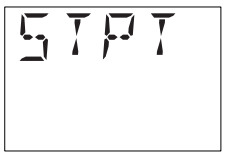
Procedure to set the commissioning setpoints

Procedure	Steps	STE display
Starting display	Enter the Level 2 password. The display changes to the COMM.	
Select the setpoint display.	1. From the COMM display, press the △ or ▽ buttons to show the CNFG display.	
	2. Press the ◎ button to select the CNFG options. The display changes to STPT.	
	3. Press the ◎ button to select the STPT options.	
Set the minimum cooling setpoint	1. Press the △ or ▽ buttons to set the minimum cooling setpoint. The setpoint will change in 0.5° increments. 2. Press the ◎ button to save the setpoint and advance to the next function.	
Set the maximum heating setpoint	1. Press the △ or ▽ buttons to set the maximum heating setpoint. The setpoint will change in 0.5° increments. 2. Press the ◎ button to save the setpoint and advance to the next function.	

Procedure to set the commissioning setpoints (Continued)

Procedure	Steps	STE display
Set the occupied cooling setpoint	1. Press the △ or ▽ buttons to set the occupied cooling setpoint. The setpoint will change in 0.5° increments. 2. Press the Set Point button to save the setpoint and advance to the next function. **Note:** This setpoint can also be changed as described in the section *User functions* on page 11.	
Set the occupied heating setpoint	1. Press the △ or ▽ buttons to set the occupied heating setpoint. The setpoint will change in 0.5° increments. 2. Press the Set Point button to save the setpoint and advance to the next function. **Note:** This setpoint can also be changed as described in the section *User functions* on page 11.	
Set the unoccupied cooling setpoint	1. Press the △ or ▽ buttons to set the unoccupied cooling setpoint. The setpoint will change in 0.5° increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the unoccupied heating setpoint	1. Press the △ or ▽ buttons to set the unoccupied heating setpoint. The setpoint will change in 0.5° increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the supply air temperature changeover setpoint	1. Press the △ or ▽ buttons to set the changeover setpoint. The setpoint will change in 1° increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	

Procedure to set the commissioning setpoints (Continued)

Procedure	Steps	STE display
Set the minimum temperature differential setpoint	1. Press the △ or ▽ buttons to set the differential setpoint. The setpoint will change in 1° increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the standby differential setpoint	1. Press the △ or ▽ buttons to set the standby differential setpoint. The setpoint will change in 1° increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the supply exhaust offset	1. Press the △ or ▽ buttons to set the supply exhaust offset setpoint. The setpoint will change in 1% increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the supply exhaust differential pressure setpoint	1. Press the △ or ▽ buttons to set the supply exhaust differential pressure setpoint.The setpoint will change in increments of 0.01 inches of water. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the CO2 setpoint.	1. Press the △ or ▽ buttons to change CO2 setpoint. The setpoint changes increments for 1 part per million. 2. Press the Set Point button to save the setpoint and complete the setpoint changes. The display returns to STAT.	
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • FLOW, 30%, or ADJC options • BACK to choose another commissioning function • EXIT to return to the temperature display. 2. Press the Set Point button to select the next function.	

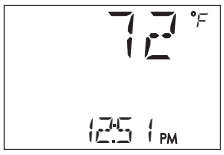
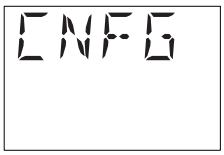
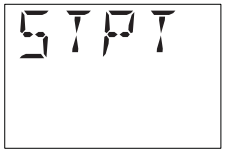
Setting the airflow setpoints

The airflow setpoints configure the airflow limits for the VAV terminal unit. Setting the airflow setpoints requires entering a Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

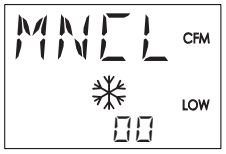
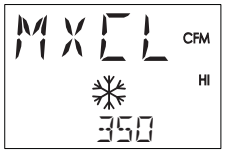
Note

If the VAV unit is a heat only or cooling only unit, the airflow setpoints for the unused mode must be set within the range of the mode in use. Failure to set the unused setpoints correctly will result in unpredictable or erroneous air balancing settings.

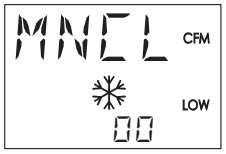
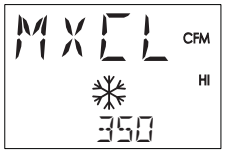
Procedure to set the airflow setpoints

Procedure	Steps	STE display
Starting display	1. Start at the temperature display.	
	2. Enter the Level 2 password. The display changes to the COMM.	
Select the flow setpoint display.	1. From the COMM display, press the △ or ▽ buttons to show the CNFG display.	
	2. Press the ◎ button to select the CNFG options. The display changes to STPT.	
	3. Press the △ or ▽ buttons to change the display to FLOW.	
	4. Press the ◎ button to select FLOW.	

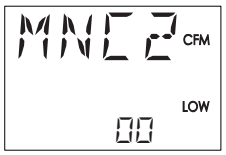
Procedure to set the airflow setpoints (Continued)

Procedure	Steps	STE display
Set the cooling minimum airflow limit	1. Press the △ or ▽ buttons to set the minimum limit for cooling airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the cooling maximum airflow limit	1. Press the △ or ▽ buttons to set the maximum limit for cooling airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the heating minimum airflow limit	1. Press the △ or ▽ buttons to set the minimum limit for heating airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the heating maximum airflow limit	1. Press the △ or ▽ buttons to set the maximum limit for heating airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the minimum limit for fan speed	1. Press the △ or ▽ buttons to set the minimum limit for the fan speed. The setpoint will change in 1% increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the maximum limit for fan speed	1. Press the △ or ▽ buttons to set the maximum limit for the fan speed. The setpoint will change in 1% increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	

Procedure to set the airflow setpoints (Continued)

Procedure	Steps	STE display
Set the cooling minimum airflow limit	1. Press the △ or ▽ buttons to set the minimum limit for cooling airflow. The setpoint will change in 1 CFM increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	
Set the cooling maximum airflow limit	1. Press the △ or ▽ buttons to set the maximum limit for cooling airflow. The setpoint will change in 1 CFM increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	
Set the heating minimum airflow limit	1. Press the △ or ▽ buttons to set the minimum limit for heating airflow. The setpoint will change in 1 CFM increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	
Set the heating maximum airflow limit	1. Press the △ or ▽ buttons to set the maximum limit for heating airflow. The setpoint will change in 1 CFM increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	
Set the minimum limit for fan speed	1. Press the △ or ▽ buttons to set the minimum limit for the fan speed. The setpoint will change in 1% increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	
Set the maximum limit for fan speed	1. Press the △ or ▽ buttons to set the maximum limit for the fan speed. The setpoint will change in 1% increments. 2. Press the ⊙ button to save the setpoint and advance to the next function.	

Procedure to set the airflow setpoints (Continued)

Procedure	Steps	STE display
Set the minimum limit for indoor air quality ventilation	1. Press the △ or ▽ buttons to set the minimum limit for ventilation airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the maximum limit for indoor air quality ventilation	1. Press the △ or ▽ buttons to set the maximum limit for ventilation airflow. The setpoint will change in 1 CFM increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • STPT, 30%, or ADVC options • BACK to choose another commissioning function • EXIT to return to the temperature display. 2. Press the Set Point button to select the next function.	

Balancing airflow

The airflow balancing method described in this section requires a flow hood or other accurate method to measure airflow. The airflow balancing procedure requires entering the Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

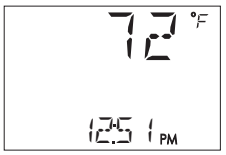
Note

If the VAV unit is a heat only or cooling only unit, the airflow setpoints for the unused mode must be set within the range of the mode in use. Failure to set the unused setpoints correctly will result in unpredictable or erroneous air balancing settings. See *Setting the airflow setpoints* on page 23 for the procedure to adjust the setpoints.

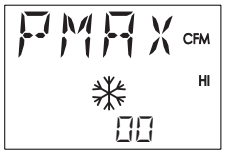
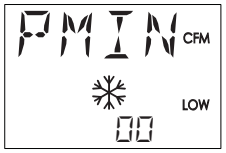
Note

Starting the balancing procedure erases all previous airflow correction factors. The airflow readings displayed by the STE-8000 are the actual uncorrected airflow readings as measured by the controller.

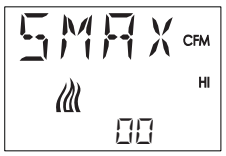
The airflow balancing procedure

Procedure	Steps	STE display
Starting display	1. Start at the temperature display.	
	2. Enter the Level 2 password. The display changes to the COMM.	
Select the COMM display	1. From the COMM display, press the △ or ▽ buttons to show the BLNC display.	
	2. Press the ◎ button to select BLNC. The display advances to PR 1.	
	3. Press the ◎ button to select PR 1.	

The airflow balancing procedure (Continued)

Procedure	Steps	STE display
Measure and enter the actual maximum primary airflow	The display begins flashing PMAX and also displays the actual airflow at the bottom. **Note:** The airflow will attempt to stabilize on the highest value for either the cooling or heating maximum airflow even if only one mode is operational. **Note:** The airflow displayed by the STE-8000 in this step is the actual, uncorrected airflow. 1. Wait for the maximum airflow value to stabilize. 2. With a flow hood, measure the actual airflow. 3. Press the ⊙ button to advance to the entry display. PMAX stops flashing. 4. Press the △ or ▽ buttons to enter the measured airflow. 5. Press the ⊙ button to save the measured airflow. The display changes to PM IN.	
Measure and enter the actual minimum primary airflow	The display begins flashing PM IN and also displays the actual airflow at the bottom. **Note:** The airflow will attempt to stabilize on the lowest value for either the cooling or heating minimum airflow even if only one mode is operational. **Note:** The airflow displayed by the STE-8000 in this step is the actual, uncorrected airflow. 1. Wait for the minimum airflow value to stabilize. 2. With a flow hood, measure the actual airflow. 3. Press the ⊙ button to advance to the entry display. PM IN stops flashing. 4. Press the △ or ▽ buttons to enter the measured airflow. 5. Press the ⊙ button to save the measured airflow. The display advances to PR 1.	

The airflow balancing procedure (Continued)

Procedure	Steps	STE display
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • SEC to balance the secondary VAV for dual duct systems • BACK to choose another commissioning function • EXIT to return to the temperature display. 2. Press the ◎ button to select the next function.	 
Measure and enter the actual maximum secondary airflow	The display begins flashing SMAX and also displays the actual airflow at the bottom. **Note:** The airflow displayed by the STE-8000 in this step is the actual, uncorrected airflow. 1. Wait for the maximum airflow value to stabilize. 2. With a flow hood, measure the actual airflow. 3. Press the ◎ button to advance to the entry display. SMAX stops flashing. 4. Press the △ or ▽ buttons to enter the measured airflow. 5. Press the ◎ button to save the measured airflow. The display advances to SM IN.	

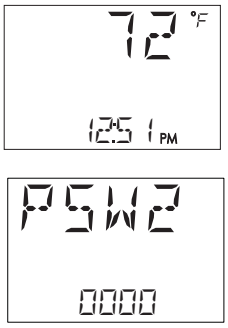
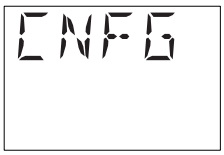
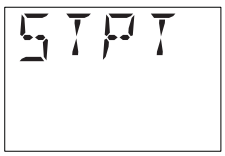
The airflow balancing procedure (Continued)

Procedure	Steps	STE display
Measure and enter the actual minimum secondary airflow	The display begins flashing SM IN and also displays the actual airflow at the bottom. **Note:** The airflow displayed by the STE-8000 in this step is the actual, uncorrected airflow. 1. Wait for the minimum airflow value to stabilize. 2. With a flow hood, measure the actual airflow. 3. Press the Set Point button to advance to the entry display. SM IN stops flashing. 4. Press the △ or ▽ buttons to enter the measured airflow. 5. Press the Set Point button to save the measured airflow. The display advances to SEC.	
Advance or exit	1. Press the △ or ▽ buttons to select one of the following • PR I to balance the primary VAV for dual duct systems • BACK to choose another commissioning function • EXIT to return to the temperature display. 2. Press the Set Point button to select the next function.	

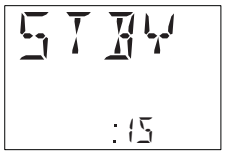
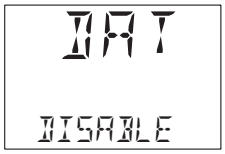
Advanced options

The advanced options set up passwords and special features in the controller. Setting the advance options requires entering the Level 2 password which is described in the topic *Enter the commissioning mode* on page 14.

Procedure to set the advanced options

Procedure	Steps	STE display
Starting display	1. Start at the temperature display. 2. Enter the Level 2 password. The display changes to the COMM.	
Select the advanced display.	1. From the COMM display, press the △ or ▽ buttons to show the CNFG display. 2. Press the ◎ button to select the CNFG options. The display changes to STPT. 3. Press the △ or ▽ buttons to change the display to ADVC. 4. Press the ◎ button to select ADVC.	   
Enter a new Level 1 password	**Note:** Entering four zeros (0000) removes the password. 1. Press the △ or ▽ buttons to change the first digit. 2. Press the ◎ button to select the next digit. Repeat for all four digits. 3. When the ◎ button is pressed for the last digit, the new password is saved and the display advances.	

Procedure to set the advanced options (Continued)

Procedure	Steps	STE display
Enter a new Level 2 password password	**Note:** Entering four zeros (0000) removes the password. 1. Press the △ or ▽ buttons to change the first digit. 2. Press the Set Point button to select the next digit. Repeat for all four digits. 3. When the Set Point button is pressed for the last digit, the new password is saved and the display advances.	
Set the local unoccupied override timer	**Note:** This function applies only to controllers that will use an STE-6017 sensor. 1. Press the △ or ▽ buttons to set the local unoccupied override timer. The value will change in 1 minute increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the standby time	**Note:** This function applies only to controllers that will use an STE-8201 sensor. 3. Press the △ or ▽ buttons to set the time for the standby time. The value will change in 1 minute increments. 4. Press the Set Point button to save the setpoint and advance to the next function.	
Set discharge air temperature limiting	1. Press the △ or ▽ buttons to enable or disable discharge air temperature limiting. 2. Press the Set Point button to save the setpoint and advance to the next function.	
Set the STE-8000 temperature sensor calibration constant	1. Press the △ or ▽ buttons to set the calibration constant. The setpoint will change in 0.1 minute increments. 2. Press the Set Point button to save the setpoint and advance to the next function.	

Procedure to set the advanced options (Continued)

Procedure	Steps	STE display
Advance or exit	1. Press the △ or ▽ buttons to select one of the following: • STPT, FLOW, or 3D options • BACK to choose another commissioning function • EXIT to return to the temperature display. Press the ◎ button to select the next function.