INSTALLATION AND USER MANUAL

EvenAir® T32

THERMOSTAT WITH AIRFLOW CONTROL



The EvenAir thermostat controls heating, cooling and AIRFLOW to the sleeping and living areas in a home. The thermostat is installed in the downstairs living area, a wiring hub is installed at the equipment, one or two wired or wireless temperature sensors are installed in the upstairs sleeping area and modulating dampers are installed to control the airflow to the living and sleeping areas. The wiring hub is connected to the thermostat using the existing thermostat wiring. The EvenAir thermostat can also be used to control humidification and de-humidification, fresh air intake per ASHRAE 62.2, ERVs or HRVs, whole house fans and economizers.

The EvenAir thermostat monitors the temperature at the sensor and the temperature at the thermostat every 2 minutes during heating and cooling calls. If the temperatures are different, the EvenAir thermostat automatically adjusts the modulating dampers 2% to allow additional airflow directed to the area that needs it for a uniformly comfortable home.

COMPONENTS:

T32 Thermostat
H32 Wiring Hub (sold separately)
AMJ Type Dampers (sold separately)
1 TS51 or 2 TS52 Wired Sensors (sold separately)

For Wireless Temperature Sensors 1 or 2 TSER Wireless Sensors (sold separately) 1 ER1 Electronic Receiver Module (sold separately)

READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION.

This device MUST be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC applicances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By:	Phone:	Installation Date:



Thank you for purchasing the EvenAir System from Field Controls. The EvenAir products are compatible with any HVAC system having accessible 24VAC terminals.

FEATURES

SYSTEM MODES

Off, Heat, Cool, Auto. EHeat or emergency heat is available when heat pumps are used. ECool is available to control a whole house fan or economizer when installed.

FAN MODES

Auto, On (Continuous) or Vent

THERMOSTAT MODES

Hold, Schedule or Vacant

HUMIDITY

Monitors and displays indoor relative humidity from 10 to 80%.

PROGRAMS PER DAY

Morning, Daytime, Evening and Night

PROGRAM FORMAT

Weekdays and weekend - 5/2

TEMPERATURE OVERRIDE

Temperature is held for 3 hours when adjusted in Schedule mode.

AIRFLOW OVERRIDE

The airflow to the living area or sleeping area can be adjusted. After 3 hours, the thermostat returns to automatic airflow control.

AIRFLOW CONTROL

Airflow control can be turned off and the thermostat will operate as a typical thermostat.

AIRFLOW LIMITS

Maximum airflow limits can be set for heating and cooling modes during installation.

NIGHTTIME OPERATION

At night, the EvenAir thermostat uses the temperature sensor in the sleeping area to control heating and cooling calls and directs more airflow to the sleeping area.

COMPATIBLE EQUIPMENT

Gas/electric equipment with 2-stage heating and 2-stage cooling or conventional or dual fuel heat pumps with 2 compressor stages and 1 auxiliary heating stage.

TEMPERATURE SENSOR

Wired or wireless temperature sensors can be used in the sleeping area. For wired sensors, use one TS51 sensor or two TS52 temperature sensors. For wireless sensors, use one or two TSER wireless sensors. Wireless sensors require the ER1 electronic receiver module to be installed in the wiring hub.

MODULATING DAMPERS

Round or rectangular dampers using the AMJ actuator and up to 1 inch static pressure.

FRESH AIR CONTROL PER ASHRAE 62.2

Controls a fresh air damper. Set minutes per hour of fresh air operation. Set temperature limits for fresh air operation.

WHOLE HOUSE FAN/ECONOMIZER CONTROL

Controls different whole house fan/economizer configurations for eCooling using a timer or true temperature control.

HUMIDIFIER CONTROL

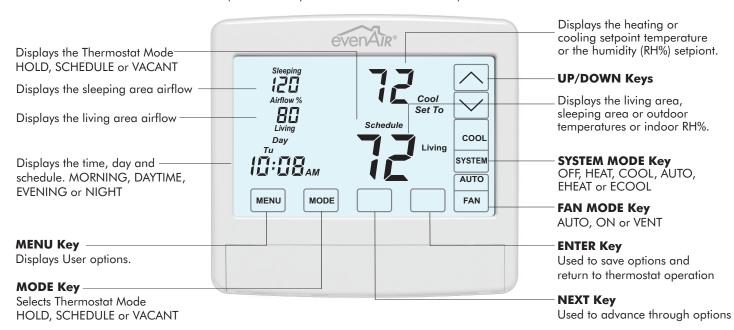
Controls a humidifier during heating using relay contacts.

POWER

Thermostat is powered by the wiring hub that operates on 24VAC from the HVAC equipment using the R and C wires.

THERMOSTAT OVERVIEW

Press the touchscreen with your fingertip only, using a firm touch. Do not use a sharp object such as a pen or pencil. The touchscreen is a resistive touch and responds differently than touchscreens found in smart phones/devices.



HOMEOWNER

This manual is separated into two different sections: one for the Homeowner and one for the System Installer.

The Homeowner section contains information on features and operation of the thermostat along with optional user settings available to the homeowner.

THERMOSTAT OPERATION AND USER SETTINGS

- Features
- EvenAir Thermostat Operation
 - 1 Set Time and Day
 - 2 Set System Mode
 - 3 Set Fan Mode
 - 4 Set Thermostat Mode
 - **5** Changing Setpoint Temperatures or Humidity (RH%) setpoint
 - **6** Temperature Override
 - **7** Displaying Living and Sleeping area temperature, Outdoor temperature or indoor Humidity (RH%)
 - 8 Overriding Automatic Airflow
 - **9** Terminating Automatic Airflow

- User Options
 - 1 Set Schedule
 - 2 Turn Automatic Airflow Control On/Off
 - 3 Turn Nighttime Airflow Control On/Off
 - **4** Set Nighttime Airflow in Heating
 - 5 Set Nighttime Airflow in Cooling
 - 6 Set eCool Timer
 - **7** Clean the Touchscreen
- Changing Batteries

FEATURES

- **DISPLAYING THE LIVING AND SLEEPING AREA TEMPERATURE** The living area temperature is normally displayed. Touch in this area to display the Sleeping area temperature, outdoor temperature (if outdoor temperature sensor installed) or the indoor humidity (RH%).
- **NIGHTTIME AIRFLOW CONTROL** The Nighttime Airflow Control option is an energy saving feature where the thermostat uses the temperature sensor in the sleeping area to control heating and cooling calls and directs more airflow to the sleeping area at night and less airflow to the unoccupied living area. Nighttime Airflow Control begins at 10:00pm but can be changed by accessing the schedule in the User Options. The airflow to the sleeping area defaults to 130% but can be adjusted for both heating and cooling in the User Options. Nighttime Airflow Control is defaulted to On but can be turned Off in the User Options. The homeowner should consider turning this option off if bedrooms are located on the same floor as the living area and using the same airflow trunk as the living area.
- **AUTOMATIC OR MANUAL AIRFLOW CONTROL** Automatic Airflow Control is the thermostat default and is typically used by homeowners to maintain uniform comfort throughout the home. However, homeowners with unusual work schedules, home offices, etc. may want to use the manual airflow control feature. This feature allows the homeowner to change the airflow level as desired and hold that level indefinitely. This feature needs to be enabled using Installer Option 19. The homeowner then needs to turn automatic airflow control OFF using the User Options. The Nighttime Airflow Control option is still enabled but can be turned off, if desired, using the User Options.
- **AIRFLOW OVERRIDE** On occasion, homeowners may want to direct more airflow to an area. For example, during a party, more airflow may be desired in the living area. The homeowner sets the airflow level to the area and the thermostat will hold the airflow for 3 hours. After 3 hours, the thermostat returns to automatic airflow control.
- **AIRFLOW CONTROL TURNED OFF** In some installations, the EvenAir thermostat has been installed to control the system only. The thermostat operates just like any other thermostat. The airflow control options are disabled and airflow is no longer displayed on the thermostat.
- **WHOLE HOUSE FAN / ECONOMIZER CONTROL** The EvenAir thermostat includes an eCool feature that can control a whole house fan or economizer, if installed, to bring in cool outdoor air, reducing energy costs and enhancing indoor air quality. The thermostat controls eCooling either manually using a 1 to 12 hour timer set at the thermostat or by true temperature control for total comfort and convenience. Check with your installer regarding your specific installation.
- **HUMIDITY or DE-HUMIDIFICATION CONTROL** The EvenAir thermostat includes a humidity sensor that can control a humidifier, if installed, or de-humidification, if enabled. The thermostat can display the humidity and the humidity level can be changed by the user for a more comfortable home during the heating and cooling season.
- **EASY UPGRADE TO WIFI** The EvenAir WiFi thermostat provides remote access to your home's heating and cooling system and simply plugs into the same subbase and requires no additional wiring. Contact Field Controls technical support for technical information and Field Controls customer support to purchase additional components.

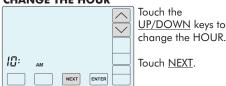
THERMOSTAT OPERATION

1 Set Time and Day

Touch here to change the time and day of the week.



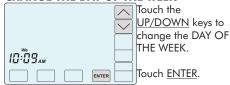
CHANGE THE HOUR



CHANGE THE MINUTE

		Touch the
		<u>UP/DOWN</u> keys to
		change the MINUTE.
10.00		
IU:USAM		Touch <u>NEXT</u> .
NEXT	ENTER	
	10:09 _{am}	

CHANGE THE DAY OF THE WEEK



Depending on the mode, setting the time may reset the setpoint temperature to the factory default heating or cooling setpoint.

2 Set System Mode

Touch the <u>SYSTEM</u> key to display the SYSTEM MODES: OFF, HEAT, COOL, AUTO, EHEAT or ECOOL. In AUTO or OFF, the setpoint for the last system call is displayed.



OFF

Heating and cooling systems are off.



ΗΕΔΤ

Only heating calls are enabled and heating setpoint is displayed. "HEAT" will blink in an active heating call.



COOL

Only cooling calls are enabled and cooling setpoint is displayed. "COOL" will blink in an active cooling call.



AUTO

Heating or Cooling calls are enabled. "HEAT" will blink in an active heating call or "COOL" will blink in an active cooling call.

2 Set System Mode (Continued)



EHEAT

Emergency Heating for heat pumps. "EHEAT" will blink in an active heating call. Only displayed if heat pump equipment.

- ECOOL will only be displayed if a whole house fan or economizer has been installed.
- Some installations require a window to be open before operating in the ECOOL mode. Check with your installer.



ECOOL

Econo Cooling brings in cooler outdoor air when a whole house fan or economizer is installed. "ECOOL" will blink in an active

3 Set Fan Mode

Touch the $\overline{\text{FAN}}$ key to change the FAN MODES - AUTO, ON or VENT.



AUTO

Fan is activated only during heating or cooling calls. This is the most commonly used setting.



ON

Fan is continuously on.

VENT mode must be enabled in the installer options.



VENT

The fan will be activated for 15 minutes if no cooling or heating calls have occurred in the last 120 minutes.

4 Set Thermostat Mode

Touch the <u>MODE</u> key to display the THERMOSTAT MODES: HOLD, VACANT and SCHEDULE.



HOLD MODE

Setpoint temperatures are set by the user.
No schedule is used.



VACANT MODE

Setpoint temperatures are kept at the vacant temperatures set by the installer.

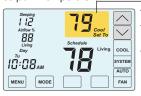


SCHEDULE MODE

Setpoint temperatures are changed at scheduled times defined by the user.

5 Changing the Setpoint Temperature or RH% Setpoint

The <u>UP/DOWN</u> keys are used to change the setpoint temperature.



Touch here to display the Cooling setpoint, Heating setpoint and the Humidity setpoint (only displayed if Humidity options have been set by the installer).

Touch the <u>UP or DOWN</u> key to raise or lower the Cooling setpoint, Heating setpoint or Humidity setpoint.

The thermostat will return to displaying the active setpoint temperature after about 30 seconds.

6 Temperature Override

To override the Schedule setpoint temperature:



Touch the <u>UP/DOWN</u> keys to adjust the setpoint temperature. After 3 hours, the thermostat returns to the Schedule temperature.

7 Displaying the Living, Sleeping or Outdoor Temperature or Indoor RH%

The thermostat displays the temperature in the downstairs living area and is indicated by Living. The thermostat also displays the Sleeping area temperature, the Outdoor temperature (if sensor is installed) and the humidity in the living area.



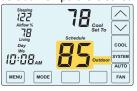
<u>Living</u> area temperature is displayed.

Press this area to display the upstairs Sleeping area temperature.



The <u>Sleeping</u> area temperature is displayed. Press the area again to display the Outdoor temperature.

The outdoor temp will only be displayed if an outdoor temperature sensor is installed.



The <u>Outdoor</u> temperature is displayed. Press the area again to display the Humidity (RH%).



The indoor <u>Humidity</u> (RH%) is displayed. Press again to display the Living area temperature.

THERMOSTAT OPERATION (Continued)

8 Overriding Automatic Airflow



Touch the Airflow % area to override **AUTOMATIC** AIRFLOW to the living area or the upstairs sleeping area.



Touch the <u>UP</u> key to increase the airflow to the sleeping area or touch the DOWN key to increase airflow to the living area.

Airflow % will blink to indicate airflow override. After 3 hours, the thermostat returns to automatic operation. The override range is defined by the installer during set up.

9 Terminating Airflow Override



To terminate Airflow Override, touch the AIRFLOW% area.



Then touch the MODE key.

The thermostat returns to automatic airflow control. The AIRFLOW % returns to the airflow prior to the override.

USER OPTIONS

Factory Set Schedule

The thermostat comes pre-set with the following energy-saving schedule for weekdays (Mon-Fri) and weekends (Sat-Sun). Using these settings can reduce your heating and cooling expenses.

Monday - Friday	Time	Heat	Cool
Morn	6:00 AM	70	75
Day	8:00 AM	62	83
Even	6:00 PM	70	75
Nite	10:00 PM	62	78
Saturday & Sunday	Time	Heat	Cool
Saturday & Sunday Morn	Time 6:00 AM	Heat 70	Cool 75
Morn	6:00 AM	70	75

1 Change Factory Set Schedule



Touch the MENU key to display SCHEDULE. If no key is touched, the thermostat returns to normal operation after about 30 seconds.

SELECTING THE WEEKDAY OR WEEKEND SCHEDULE



Touch the <u>UP</u> key to select the weekday schedule (MoTuWeThFr) or touch the DOWN key to select the weekend schedule (SaSu). Touch NEXT.

Factory Set Schedule (Continued) 2 Automatic Airflow Control On or Off

SETTING THE MORNING SCHEDULE START TIME.



Touch the UP/DOWN keys to change the Morning Start Time. Touch NEXT.

SETTING THE MORNING HEATING TEMPERATURE



Touch the UP/DOWN keys to change the Morning Heating Setpoint. Touch NEXT.

SETTING THE MORNING COOLING TEMPERATURE.



Touch the UP/DOWN keys to change Morning Cooling Setpoint. Touch NEXT.

Continue setting the start times, heating setpoints, cooling setpoints for the Day, Evening and Night schedules.

Touch ENTER to save the schedule.

- This option is only displayed if User Airflow Control has been turned On by the installer in the Installer Options.
- Homeowners with an unusual schedule, home office, etc. may want to use this option.
- With Automatic Airflow Control Off, the Nighttime Airflow Control option is still enabled. If desired, the homeowner can turn the Nighttime Airflow Control option off using User Options.

Touch the MENU key until the following thermostat screen is displayed.



Thermostat defaults to Automatic Airflow Control On and automatically directs more airflow to where it's needed.



To turn Automatic Airflow Control OFF, touch the DOWN key. The user must set the airflow when airflow control is off.

Touch the MENU key to save and go to next option or touch the ENTER key to save the options and return to normal thermostat operation.

USER OPTIONS (Continued)

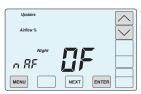
3 Nighttime Airflow Control On or Off 4 Set the Nighttime Airflow in Heating

- This option is not displayed if Airflow Control has been turned off by the installer using the Installer Options.
- If bedrooms are located downstairs, consider turning the Nighttime Airflow Control OFF.

NIGHTTIME AIRFLOW CONTROL defaults to On and is used to save energy. The thermostat uses the temperature sensor in the sleeping area for controlling heating and cooling calls. The airflow is increased to 130% to the sleeping area and the airflow is reduced to 70% to the unused living area. The thermostat displays the sleeping area temperature.



Touch the MENU key to display **NIGHTTIME** AIRFLOW indicated by nAF On or Off.



Touch the UP key to turn the option ON. Touch the **DOWN** key to turn the option OFF.

Touch the MENU key to save and go to next option or touch the ENTER key to save the options.

- Default start time for Nighttime Airflow is 10:00pm but can be changed using User Option 1 to change the Night Schedule Start Time.
- Default airflow level upstairs is 130%. If a different airflow level is desired, use User Option 4 to change the airflow level in heating and User Option 5 to change the airflow level in cooling.

This option is not displayed if Airflow Control has been turned off.

This option is used to change the default nighttime airflow in heating of 130% to a user desired airflow level, not to exceed installer limits.



Touch the MENU key to display NIGHTTIME, UPSTAIRS AIRFLOW IN HEATING indicated by nAF Heat.

Use the <u>UP/DOWN</u> keys to adjust the airflow. Touch the MENU key to save and go to next option or touch the ENTER key to save the option.

5 Set the Nighttime Airflow in Cooling

This option is not displayed if Airflow Control has been turned off.

This option is used to change the default nighttime airflow in cooling of 130% to a user desired airflow level, not to exceed installer limits.



Touch the MENU key to display NIGHTTIME, UPSTAIRS AIRFLOW IN COOLING indicated by nAF Cool.

Use the <u>UP/DOWN</u> keys to adjust the airflow. Touch the MENU key to save and go to next option or touch the ENTER key to save the option.

6 Set eCool Timer

This option is only displayed if a whole house fan or economizer is installed and controlled using the timer in the thermostat.

Use this option to set the number of hours (1 -12) you would like eCool to run before turning Off.



Touch the MENU key to display eCOOL TIMER option indicated by ETc. Touch the UP/DOWN keys to set the hours.

Touch the MENU key to save and go to next option or touch the ENTER key to save the option.

Clean the Touch Screen

This option disables the touch screen for 30 seconds to enable the user to clean the touch screen by wiping down with a soft, damp cloth.



Touch the MENU key to display CLEAN **DISPLAY** option indicated by CL. To exit this option, press NEXT.



Press ENTER to start the 30 second count down. The touch screen is disabled during this time.

INSTALL / REPLACE AA BATTERIES

Two AA batteries power the clock when 24VAC power is lost. Slide the battery cover downward and install the two AA batteries, paying attention to the polarity.



User	Options (Homeowner)						
01	Factory Set Schedule	Schedule Default Settings			Record User Selection if Changed from Default Setting		
	Monday through Friday	Time	Heat	Cool	Time	Heat	Cool
	Morn	6:00 AM	70	75			
	Day	MA 00:8	62	83			
	Even	6:00 PM	70	75			
	Nite	10:00 PM	62	78			
	Saturday and Sunday	Time	Heat	Cool	Time	Heat	Cool
	Morn	6:00 AM	70	75			
	Day	8:00 AM	62	83			
	Even	6:00 PM	70	75			
	Nite	10:00 PM	62	78			
NA		Display	Range	Default	Record User Selection if Changed from Default Setting		•
02	Automatic Airflow Control (requires Installer Option 18 enabled or will not show up as a User Option	A Ac	On or Off	On	-		
03	Nighttime Airflow Control	n AF	On or Off	On			
04	Set the Nighttime Airflow in Heating (will only show if Nighttime Airflow Control is ON)	nAF + Heat	%	130%			
05	Set the Nighttime Airflow in Cooling (will only show if Nighttime Airflow Control is ON)	nAF + Cool	%	130%			
06	Clean the Touch Screen (in seconds)	CL	N/A	30	N/A		

This manual is separated into two different sections: one for the Homeowner and one for the System Installer.

The Installer section contains setup and installation information of the thermostat with optional user settings available for the homeowner.

INSTALLATION

Homes with plaster walls with steel lathe may experience wireless communication interference when using wireless sensors. Wired sensors are recommended.

A CAUTIONS

- Before installing the EvenAir comfort system, turn off all power to your HVAC system.
- Read and follow all instructions carefully.
- Read entire manual before installing EvenAir products.
- Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes.
- Use cautions when mounting components to surfaces that may have concealed wiring beneath the surface.
- When servicing EvenAir system or accessing products, turn off all power to these items.

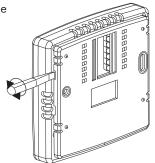
O ATTENTION INSTALLER

- 1) Install and wire components to the wiring hub. (See H32 Wiring Hub manual for wiring detail)
- If wireless sensors are used, install the ER1 electronic receiver module in the wiring hub and set the sensor number and home number as necessary. (see H32 Wiring Hub manual).
- 3) Place the thermostat on the subbase. Do not install batteries.

- 4) Turn power to the HVAC equipment On.
- 5) Check for Start Up Messages/Errors.
- 6) Set equipment options 1-6 if different than factory default settings. (see Installer Options section).
- 7) Test the installation by initiating a heating call, cooling call and fan call.
- 8) Install batteries and set the time and day (see Installing Batteries and Set Time and Day section)
- <u>Airflow Control Off</u> Option 50 turns off Airflow Control.
 The thermostat controls the system, dampers fully open, nighttime airflow control is disabled and airflow is no longer displayed on the thermostat.
- <u>User Airflow Control</u> can be enabled using Option 52
 User turns off automatic airflow control in the User Options.
- <u>Nighttime Airflow Control</u> is defaulted to ON. If bedrooms are located downstairs, consider turning this option Off using the User Options if bedrooms are not on the same trunk.
- <u>Fresh Air Control</u> is defaulted to Off and controlled by Options 20 thru 25.
- Whole House Fan or Economizer Control is defaulted to Off and controlled by Options 30 thru 34.
- <u>Humidifier and De-Humidification Control</u> is defaulted to Off and controlled by Options 40 thru 42.
- <u>Airflow Control</u> is defaulted to On and controlled by Options 50 thru 57.

REMOVE SUBBASE

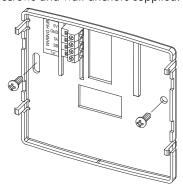
Place a slotted screwdriver in the slots as shown and rotate to remove subbase from the thermostat housing.



ATTACH SUBBASE TO WALL

Attach the subbase to an interior wall and about 5-feet above the floor as shown using the screws and wall anchors supplied.

The wires to the wiring hub pass through the opening.



WIRING

The T32 thermostat is connected to the wiring hub using the existing thermostat cable in the home and eliminates having to install any new wires within the living area of the home when wireless sensors are used.

A Warning!

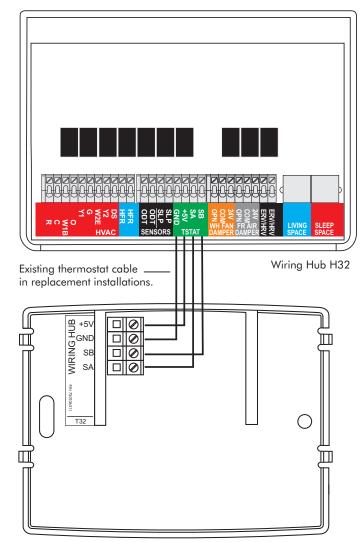
Turn the power to the HVAC equipment off before wiring.

See H32 Wiring Hub Installation Manual (Document p/n: 780101720) for detailed wiring instructions.

Thermostat to Wiring Hub

Use 5-conductor (1 spare), 18 or 20 gage, thermostat cable to wire the T32 thermostat to an H32 wiring hub.

T32	Wire Color	Wiring Hub	Function
Terminal		Terminal	
5V	Red	5V	24VAC Power
GND	White	GND	Common
SA	Blue	SA	Signal A
SB	Yellow	SB	Signal B



Thermostat Model T32

After wiring all components, place the thermostat on the subbase. Do not install batteries. Turn power to the HVAC equipment On and check for startup messages. Set Installer Options and then test the installation using the Installer Test Menu.

Startup Messages:

When the wiring hub and thermostat are powered, a blank LCD indicates that there is no power to the thermostat. Check the power indicator on the wiring hub. If the power indicator is on , turn off the



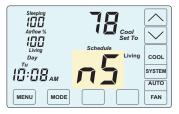
power and check the wiring from the thermostat to the wiring hub for errors. If the power indicator is off, turn off the power and check the wiring from the wiring hub to the system for errors.

When the H32 Wiring Hub and Thermostat are powered, nC will appear in the LCD display to indicate the thermostat has not established communication with the Hub. After a few seconds the message disappears indicating the thermostat and wiring hub are now communicating.





When the wiring hub and thermostat are powered, <u>nS</u> is displayed when the thermostat has not detected a wired or wireless sensor. For wired sensors, turn off the power and check the wiring between the



sensor and wiring hub and ensure the wires are secured in the correct terminals. For wireless sensors, ensure that batteries are installed in the wireless sensor and that the wireless sensor is set to the correct number. To check the wireless sensor communication, place your finger over the thermistor on the right side of the sensor to increase the temperature detected. The wireless sensor sends a signal to the thermostat when a temperature change has occurred or every 15 minutes. The thermostat will clear the nS message once the thermostat detects the sensor.

INSTALLER OPTIONS

These set up features should only be accessed by a qualified installer during initial EvenAir thermostat installation set up. The homeowner would not normally access these product set up features.

Option	Description	Display	Range	Default	As Installed
01	Equipment Type		GE or HP	GE	
02	Heat Pump Type (HP Only)	HPt	Co(conv) or dF (dual fuel)	Со	
03	OBP Outdoor Balance Point (Dual fuel HP Only)	OBP	35 to 55F	40F	
04	Compressor Stages	CPr	0, 1 or 2	1	
05	Heating Stages	HtG	0, 1 or 2	1	
06	Fan Operation. (GE Only)	FAn	GA(Down) or EL(Up)	GA	
07	Compressor Minimum Off Time (minutes).	COt	0 to 9	2	
08	Gas Heating Minimum Off Time (minutes).	HOt	0 to 9	0	
09	Minimum Run Time (minutes).	rnt	0 to 9	2	
10	On-Off Temperature Differential 0 Cooling On 1° above setpoint, Off at setpoint. 1 Cooling On 1° above setpoint, Off .5° below setpoint, Off 1° below setpoint, Off 1° below setpoint, Off 1° below setpoint.	setpoint. Heating	On1° below setpoint, Off .	5° above se	
11	Smart Recovery.	Sr	On(Up) or Off(Down)	Off	
12	Upstaging Time	USt	5 to 30 minutes	10	
13	Vacant Heating Setpoint.	VAC + Heat	44 to 75F	65F	
14	Vacant Cooling Setpoint.	VAC + Cool	74 to 95F	80F	
15	Calibrate Living Area Sensor	CAL	+/- 5F	na	
16	Calibrate Sleeping Area Sensor.	CAL	+/- 5F	na	
17	Night Level LCD Backlight	BL + Night	On(Up) or Off(Down)	On	
20	Fresh Air Control per ASHRAE 62.2	FAC	On(Up) or Off(Down)	Off	
21	Minutes of Fresh Air per Hour	FAt	0 to 60 minutes	30	
22	Inhibit Fresh Air Using Temperature Limits	FAL	On(Up) or Off(Down)	Off	
23	Fresh Air High Temperature Limit	FtH	65 to 100F	95F	
24	Fresh Air Low Temperature Limit	FtL	0 to 65F	35F	
25	Enable Indoor Fan VENT Mode	FCt	On(Up) or Off(Down)	Off	
30	Whole House Fan Control	HFn	On(Up) or Off(Down)	Off	
31	Economizer using Dampers and Equipment Fan	EFn	On(Up) or Off(Down)	Off	
32	Economizer or WHFan controlled by temperature	EtL	On(Up) or Off(Down)	Off	
33	Economizer or WHFan OD temperature differential	EOd	0 to 10F	0F	
34	Economizer or WHFan controlled by Timer	Etr	On(Up) or Off(Down)	Off	
40	Humidifier Control	HFc	On(Up) or Off(Down)	Off	
41	Automatic Adjustment of Humidity Setpoint	HFA	On(Up) or Off(Down)	Off	
42	De-Humidification Control	dHF	On(Up) or Off(Down)	Off	
50	Airflow Control	AFC	On(Up) or Off(Down)	On	
51	Airflow Update Time	AFt	1 to 20 minutes	2	
52	Enable User Airflow Control	UAC	On(Up) or Off(Down)	Off	
53	Maximum Airflow in Heating to the Sleeping Area.	HAF+Heat	100 to 160%	150%	
54	Maximum Airflow in Cooling to the Sleeping Area.	CAF+Cool	100 to 160%	140%	
55	Maximum Airflow in Heating to the Living Area.	HAF+Heat	100 to 160%	150%	
56	Maximum Airflow in Cooling to the Living Area.	CAF+Cool	100 to 160%	140%	
57	Maximum Temperature Difference Between Sleeping and Living area.	diF	0 to 10F	2F	
58	Home Number	Home	1 to 8	1	
59	Thermostat Location	tLo	dS or uS	dS	
60	Factory Restore	Fr	No or Yes	No	

ACCESSING INSTALLER OPTIONS

To access the Installer Options, TOUCH and HOLD the hidden Enter key for 7 seconds until the first Option appears on the screen.



The hidden BACK key can be used to return to previous options.

TOUCH and HOLD this key for 7 seconds to access the Installer Options.

- Press the touchscreen with your fingertip only, using a firm touch. Do not use a sharp object such as a pen or pencil.
- The <u>NEXT</u> key is used to display the next option.
- The <u>ENTER</u> key is used to save options and return to normal thermostat operation.
- The hidden <u>BACK</u> key is used to return to previous options and is located to the left of the NEXT key.

01 Equipment Type

Factory Default: GE. Range: GE or HP

This option is used to select gas/electric or heat pump equipment.



Use the **UP/DOWN** keys to select

gas/electric (GE) or heat pump (HP).

Touch NEXT or ENTER.

02 Heat Pump Type

(Only displayed if Heat Pump equipment)

Factory Default: Co. Range: Co or dF

Select a conventional (Co) HP or a dual fuel (dF) HP with fossil fuel auxiliary heat.



Use the UP/DOWN

keys to select Co or dF type HP.

Touch NEXT or ENTER.

03 Outdoor Balance Point

(Only displayed if Heat Pump and Dual Fuel selected.)

Requires TS3 Outdoor Temperature Sensor to be installed. (see wiring hub, H32, installer manual)

Factory Default: 40F. Range: 35F to 55F

Use the **UP/DOWN** keys to select the outdoor temperature for switching to fossil fuel heating in a dual fuel heat pump.



Touch NEXT or ENTER.

04 Compressor Stages

Factory Default: 1 Stage. Range: 0,1 or 2

Use the **UP/DOWN** keys to set 0, 1 or 2 stages.

Touch NEXT or ENTER.



05 Heating Stages

Factory Default: 1 Stage. Range: 0,1 or 2

If GE equipment is selected, this option determines the number of heating stages - 0, 1 or 2 stages. If HP equipment is selected, this option determines the number of auxiliary heating stages - 1 or 1.

Use the **UP/DOWN** keys to set 0, 1 or 2 stage for a GE system or 0 or 1 stage for HP auxiliary heating



Touch NEXT or ENTER.

06 Fan Operation

(Only displayed if Gas/Electric equipment.)

Factory Default: Gas. Range: GA or EL

Use the UP key to select "EL" for electric operation where the thermostat activates the indoor fan (G terminal) during



heating calls or **DOWN** key to select GA for gas operation where the equipment plenum sensor activates the indoor fan in heating calls.

Touch NEXT or ENTER.

07 Compressor Minimum Off Time

Factory Default: 2 Minutes. Range: 0 to 9 Minutes Use the **UP/DOWN**

keys to change the minimum off time (minutes) before restarting the compressor.



Touch NEXT or ENTER.

08 Gas Heating Minimum Off Time

Factory Default: 0 Minutes. Range: 0 to 9 Minutes

Use the UP/DOWN keys to change the minimum off time (minutes) before restarting a gas furnace or electric strip heater.



Touch NEXT or ENTER.

09 Minimum Run Time

Factory Default: 2 Minutes. Range: 0 to 9 Minutes

Use the **UP/DOWN** keys to change the minimum run time (minutes) before turning a system off.



Touch NEXT or ENTER.

10 On-Off Temperature Differential

Factory Default: #1. Range: 0, 1 or 2.

Use the **UP/DOWN** keys to select 0, 1, 2. Touch NEXT or ENTER.



ModeO 1.0° On/Off Span Model 1.5° On/Off Span. Mode2 2.0° On/Off Span.

11 Smart Recovery

Factory Default: Off. Range: On or Off.

Smart recovery initiates a heating or cooling call so that the space is at temperature when the setback period ends.

Use the UP key to select ON to turn on smart recovery or the DOWN key to select OF to turn smart recovery off.



Touch NEXT or ENTER.

12 Upstaging Time

Factory Default: 10 minutes. Range: 5 to 30 minutes

Use the **UP/DOWN** keys to set the time at which second stage heating or cooling is activated.



Touch NEXT or ENTER.

13 Vacant Heating Setpoint

Factory Default: 65F. Range: 44F to 75F

Use the UP/DOWN keys to select the heating temperature when the space is



Touch NEXT or ENTER

14 Vacant Cooling Setpoint

Factory Default: 80F. Range: 74F to 95F

Use the **UP/DOWN** keys to select the cooling temperature when the space is vacant.



Touch NEXT or ENTER.

15 Calibrate Living Area **Temperature Sensor**

Factory Default: None. Range - +/-5°

Use the **UP/DOWN** keys to change the Living area temperature to the temperature that the user feels is correct.

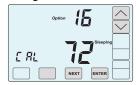


Touch NEXT or ENTER.

16 Calibrate Sleeping Area **Temperature Sensor**

Factory Default: None. Range - +/-5°

Use the UP/DOWN keys to change the Sleeping area temperature to the temperature that the user feels is correct.



Touch NEXT or ENTER

17 Night Level LCD Backlight

Factory Default: On. Range: On or Off.

The LCD has a low level backlight that can be used as a night light.



Use the UP key to turn the low level backlight ON or touch the DOWN key to turn OFF.

Touch NEXT or ENTER.

For Fresh Air Control wiring information, see the H32 Wiring Hub Installer Manual.

20 Fresh Air Control per ASHRAE 62.2

Factory Default: OFF. Range: On or Off.

Select ON to enable Fresh Air Control. Fresh air damper opens and an optional ERV or HRV is activated.

Use the UP key to select ON or touch the **DOWN** key to select OFF.

Touch NEXT or ENTER.

21 Minutes of Fresh Air per Hour

(Only displayed if Fresh Air Control is ON) Factory Default: 30 minutes. Range: 0 to 60.

Select the number of minutes the fresh air damper should open each hour based on ASHRAE 62.2 calculations and damper size.

Use the UP key to increase the fresh air minutes or the DOWN key to decrease the minutes.



Touch NEXT or ENTER.

22 Inhibit Fresh Air Using **Temperature Limits**

(Only displayed if Fresh Air Control is ON) Factory Default: OFF. Range: On or Off.

Select ON to inhibit fresh air control using outdoor temperature limits set in options 23 and 24.

Use the <u>UP</u> key to select ON or touch the $\mathsf{DO}\underline{\mathsf{WN}}$ key to select OFF Touch NEXT or ENTER



23 High Temperature Limit

(Only displayed if Temperature Limits is ON) Factory Default: 95F. Range: 65F to 100F.

Select the maximum outdoor temperature for fresh air damper operation.

Use the <u>UP</u> key to increase the temperature limit or the **DOWN** key to decrease the temperature limit. Touch NEXT or ENTER.



24 Low Temperature Limit

(Only displayed if Temperature Limits is ON) Factory Default: 35F. Range: 0F to 65F.

Select the minimum outdoor temperature for fresh air damper operation.

Use the UP key to increase the temperature limit or the **DOWN** key to decrease the temperature limit.



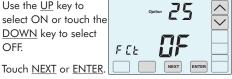
Touch NEXT or ENTER.

25 Enable Fan VENT Mode

(Not displayed if Fresh Air, Whole House Fan or Economizer Control is ON) Factory Default: OFF. Range: On or Off.

Select ON to enable Fan VENT mode. In VENT mode the indoor fan turns on to circulate air if a heating or cooling call has not occurred in 120 minutes.

Use the UP key to select ON or touch the DOWN key to select OFF





For Whole House Fan or Economizer wiring information, see the H32 Wiring Hub Installer Manual.

30 Whole House Fan Control

Factory Default: OFF. Range: On or Off.

Select ON if a whole house fan is controlled by the thermostat.

Use the **UP** key to select ON or touch the **DOWN** key to select OFF



Touch NEXT or ENTER.

31 Economizer Control

(Only displayed if Whole House Fan Control is OFF) Factory Default: OFF. Range: On or Off.

Select if dampers and the equipment fan is used to bring in cool outdoor air for cooling. See the Wiring Hub Installation for different economizer configurations.

Use the UP key to select ON or touch the DOWN key to select OFF.



Touch NEXT or ENTER

32 Economizer/Whole House Fan **Control by Temperature**

(Only displayed if Whole House Fan or **Economizer Control is ON)**

Factory Default: OFF. Range: On or Off.

Select ON to control the Whole House Fan or Economizer using the outdoor, room and cooling setpoint temperatures. See Option 34 to control using a timer

Use the UP key to select ON or touch the DOWN key to select



Touch NEXT or ENTER

33 Economizer or Whole House Fan Outdoor Temperature Differential

(Only displayed if Economizer/Whole House Fan Control by Temperature set to ON) Factory Default: 0. Range: 0-10 degrees.

Select the number of degrees the outdoor temperature must be below the room temperature to activate the Economizer or Whole House Fan.

Use the UP and DOWN key to change the temperature differential.



Touch NEXT or ENTER

34 Economizer/Whole House **Fan Control by Timer**

(Only displayed if Whole House Fan or **Economizer Control is ON and Economizer/ Whole House Fan Control by Temperature**

Factory Default: OFF. Range: On or Off.

Select ON to control Whole House Fan or Economizer using a 1 to 12 hour timer set in the thermostat by the user using the User Menu. The timer starts when the System is switched to ECool. When the timer expires, the System is set to Off.

Use the UP key to select ON or touch the **DOWN** key to select OFF.



Touch NEXT or ENTER.



For Humidity and De-humidification wiring information, see the H32 Wiring Hub Installer Manual.

40 Humidifier Control

Factory Default: OFF. Range: On or Off.

Select ON if a Humidifier is installed.

Use the UP key to select ON or touch the **DOWN** key to select OFF.



Touch NEXT or ENTER.

41 Automatic Adjustment of Humidity (RH) Setpoint at Low Outdoor **Temperatures**

(Only displayed if Humidity Control is ON)

Factory Default: OFF. Range: On or Off.

Select if automatic adjustment of RH setpoint is made at low outdoor temperatures.

If automatic adjustment is selected, the RH setpoint will decrease at outdoor temperatures below 35F. The RH Setpoint is reduced 1% for each 2F below 35F.

Use the UP key to select ON or touch the **DOWN** key to select OFF.





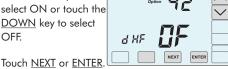
42 De-Humidication Control

Factory Default: OFF. Range: On or Off.

Select if de-humification is used during cooling calls.

If de-humidification is On and the humidity is above the setpoint, the DSBK terminal on the Wiring Hub will be set to 0VAC to force the indoor fan to operate at low speed to remove moisture.

Use the **UP** key to select ON or touch the **DOWN** key to select OFF.



50 Airflow Control

Factory Default: On. Range: On or Off.

This option turns the automatic airflow control on or off. If off, the dampers fully open, nighttime airflow options are disabled and airflow is no longer displayed on the thermostat.

Use the UP key to select ON for airflow control or touch the **DOWN** key to select OFF to disable airflow control.



Touch NEXT or ENTER.

If Airflow Control was off and is now being turned on, the Nighttime Airflow option needs to be turned on using the User Options.

51 Airflow Update Time

Factory Default: 2 minutes. Range: 1 to 20.

Sets the number of minute between updating the damper positions during a heating or cooling call.

Use the UP/DOWN keys to set time(minutes) between updating the dampers.



Touch NEXT or ENTER

52 Enable USER Airflow Control Factory Default: Off. Range: On or Off.

Homeowners with an unusual work schedule, home office, etc. may want to use this option. When turned On, this option enables the user to turn off automatic airflow control in the User Options. Airflow is adjusted by the homeowner. Nighttime Airflow option is still enabled but can be turned off using the User Options.

Use the **UP** key to select ON to enable the user to turn off automatic airflow control in the user options.

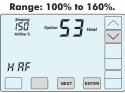


Touch NEXT or ENTER.

53 Maximum Airflow in Heating to the Sleeping Area

Factory Default: 150%.

Use the UP/DOWN keys to select the maximum allowable airflow in heating to the sleeping area.



Touch NEXT or ENTER.

54 Maximum Airflow in Cooling to the Sleeping Area

Factory Default: 140%.

Use the UP/DOWN keys to select the maximum allowable airflow in cooling to the sleeping area.



Range: 100% to 160%

Touch NEXT or ENTER

55 Maximum Airflow in Heating to the Living Area

Range: 100% to 160%. Factory Default: 150%.

Use the UP/DOWN keys to select the maximum allowable airflow in heating to the living area.



Touch NEXT or ENTER.

56 Maximum Airflow in Cooling to the Living Area

Range: 100% to 160% Factory Default: 140%.

Use the UP/DOWN keys to select the maximum allowable airflow in cooling to the living area.



Touch NEXT or ENTER.

57 Maximum Temperature Differential

Factory Default: 2F. Range: 0F to 10F

This is the maximum allowable temperature difference between the sleeping and living area temperatures. When the temperature difference is equal to or greater than the allowed differential, the airflow is adjusted.

Use the **UP/DOWN** keys to select the maximum allowable temperature difference between the sleeping and living area



Touch NEXT or ENTER.

58 Home Number for Wireless Sensors

Factory Default: 1. Range: 1 to 8.

The Home number is used in wireless communications with the wireless sensors and used to distinguish homes when they are within 300 feet of one another. If the homes are within 300 feet and both are using wireless temperature sensors, one of the homes needs to be changed to a different Home number. The wireless sensor home number also has to be changed and is described in the Wiring Hub Installation manual.

Use the <u>UP/DOWN</u> keys to select a new Home number.





59 Thermostat Location

Factory Default: dS. Range: dS or uS

The thermostat is normally located downstairs in the living area. If the thermostat is located upstairs in the sleeping area, this option can be used to change the location to upstairs.

Use the <u>Up</u> key to select uS, upstairs in the sleeping area or use the <u>Down</u> key to select dS, downstairs in the living area.



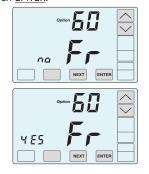
Touch $\underline{\mathsf{NEXT}}$ or $\underline{\mathsf{ENTER}}$.

60 Factory Restore

WARNING! Factory Restore resets ALL settings.

To exit this option, touch $\underline{\text{NEXT}}$ or $\underline{\text{ENTER}}$, or the hidden Back key.

To restore factory settings, touch the $\underline{\sf UP}$ key to display YES then touch $\underline{\sf ENTER}$.



Install batteries only after successfully testing the installation by initiating a heating call, cooling call and fan call.

INSTALL BATTERIES

The batteries power the clock when 24VAC power is lost. Slide the battery cover downward and install the two AA batteries as shown.



SET TIME and DAY

Touch here to change the time and day of the week. See page 4



• ERROR MESSAGES

No Communication Message

nC is displayed briefly when the wiring hub and thermostat are powered up and the thermostat is establishing communication with the wiring hub. Or, nC will be displayed if the thermostat has lost communication with the wiring hub.

If the message continues to be displayed after about 10 seconds, turn off the power and check the wiring between the thermostat and wiring hub and ensure the wires are secured in the correct terminals at the thermostat and wiring hub.



No Power

If the the LCD is blank there is no power from the wiring hub. Check the red LED power indicator on the Wiring Hub. If it is On check the wiring from the thermostat to the wiring hub.

If the Red LED on the wiring hub is off, check the 24VAC at the equipment R and C and the wiring between the wiring hub and the equipment.

Sensor Error Message

nS is displayed when there is an error with the temperature sensor(s). For wired sensors, turn off the power and check the wiring between the sensor and wiring hub and that the wires are secured in the correct terminals on the sensor and wiring hub.

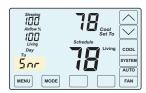
For wireless sensors, ensure that batteries are installed in the wireless sensor and that the wireless sensor is set to the correct number.



When the nS message is displayed, the thermostat will continue to control the system and automatically fully opens both dampers and disables airflow control until the sensor error is corrected.

Wireless Sensor Error Message

The thermostat displays the Snr 01 or Snr 02 message when communication with a wireless sensor has been lost for over 15 minutes. Check the batteries in the sensor and ensure the sensors are set to the correct sensor number. To check sensor communication, place your finger over the thermistor on the right side of the sensor to increase the temperature detected. The wireless sensor sends a signal to the thermostat when a change in temperature occurs or every 15 minutes. The thermostat should clear the message. If the error persists, turn off power to the wiring hub. When power is restored, the wiring hub automatically detects which sensors are being used and clears the error message.



Indicates an error with sensor #1.

Indicates an error with sensor #2.

MAINTENANCE AND TROUBLESHOOTING

THERMOSTAT OPERATION

Problem - nC is displayed on thermostat.

nC is displayed on the thermostat when the thermostat loses communication with the wiring hub. If the message continues to be displayed, turn the system off and check the wiring between the thermostat and wiring hub.

DAMPER OPERATION

Problem - No airflow to the sleeping area AND living area registers

Turn system off immediately. Both dampers may be connected backwards at the wiring hub or at the damper actuator (causing dampers to close rather than open).

Problem - No airflow to the sleeping area OR living area registers

Turn system off. One of the dampers may be connected backwards at the wiring hub or at the damper actuator (causing a damper to close rather than open).

Problem - Limited airflow to the sleeping area OR living area registers

Turn system off. The damper blade movement may be inhibited. To verify a damper blade moves freely, remove the two mounting screws on the actuator. Do not disconnect the plug and play cables. Verify the damper blade spins 360°. If the blade spins freely, reattach the actuator to the damper by aligning the keyed shaft. If the blade does not spin freely, examine the damper for obstruction or damage and replace the damper if necessary.

Problem - When directing airflow to the sleeping area, the airflow is actually directed to the living area, and when directing the airflow to the living area, the airflow is actually directed to the sleeping area.

Turn system off. Check if the dampers are switched (sleeping area damper is connected to the living area connector and the living area damper is connected to the sleeping area connector.)

SENSOR INSTALLATION

Problem - nS message on thermostat.

For wired sensors, check that the sensor is wired correctly. Check for a short in the sensor wiring. For wireless sensors, check that batteries are installed in the sensor and that the sensor numbers are set correctly.

Problem - Err 01 or Err 02 message on thermostat.

Check the batteries in the wireless sensor and that the sensor numbers are set correctly.

Problem - Sleeping area temperature reading very high or very low.

Check that the correct sensor(s) have been used. One wired TS51 sensor is used in a single sensor installation. Two TS52 sensors are used in a dual sensor installation.

COMFORT CONCERNS

Problem - Downstairs bedroom is too cold or too hot at night.

The Nighttime Airflow Control option directs more airflow to the sleeping area and less airflow to the unoccupied living area. If the downstairs bedroom is on the same HVAC trunk as the living area, the downstairs bedroom may become uncomfortable at night. Turn off the Nighttime Airflow Control option using the User Options.

Problem - The room temperature on the thermostat seems too high or too low.

The thermostat is factory calibrated within 1 degree. However, if a homeowner finds the temperature "feels" too high or too low, the thermostat can be calibrated to what the homeowner feels is the correct temperature using Installer option 15 for the living area and option 16 for the sleeping area.

		SPARE PARTS AND ACCESSORY LIST
Field Controls Part Number	Model Number	Description
580011106	T32	Programmable, communicating thermostat w/ airflow control, for all equipment.
580011107	T32WF	Programmable, communicating thermostat w/ airflow control for all equipment. WiFi enabled.
580011201	H32	Wiring Hub for gas/electric, conventional or dual fuel heat pump equipment with 3 Heat/2 Cool
580011301	TS51	Wired temperature sensor for the sleep area. Single sensor installation.
580011302	TS52	Wired temperature sensor for the sleep area. Dual sensor installation.
580011305	TSER	Wireless temperature sensor for the sleep area. Single or Dual sensor installation. Requires ER1.
580011205	ER1	Electronic receiver module. Required when using wireless sensors.
580011306	TS3	Outdoor temperature sensor. Required for dual fuel heat pumps.
580011410	TSRC	Wireless remote control/temperature sensor. Requires ER1.
580011402	AMJ	Replacement modulating actuator control, plug and play connectors.
580011510	PNP25	Replacement 25 ft. RJ cable.
580011525	PNP25C	Additional 25 ft. RJ cable and connector.
580011405	IS	Replacement idler shaft for AMT and AMJ actuators.
580011406	DS	Replacement drive shaft for AMT and AMJ actuators.
	MDP-#	EvenAir Round Balance Damper, Plug and Play. Sizes - 4" - 20" diameter.
	MDP-LxH	EvenAir Rectangular Balance Damper, Plug and Play. Sizes - 8", 10" and 12" Heights, up to 24" Length.

This manual may be downloaded and printed from the Field Controls website (www.fieldcontrols.com)

WARRANTY

For warranty information about this or any Field Controls product, visit: www.fieldcontrols.com

Field Controls Technical Support 1.800.742.8368 fieldtec@fieldcontrols.com

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