

INSTALLER'S GUIDE

18-HD94D1-1B-EN

ALL phases of this installation must comply with
NATIONAL, STATE AND LOCAL CODES

Integrated Dehumidification Solution (IDS)

Model specific programming for use with *ZON1050, *CONT824 comfort controls

IMPORTANT — This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

See the *ZON1050 or *CONT824 Installer's Guide FCC Notices, IC Notices, and all Safety information.

How Integrated Dehumidification Solution works:

IDS takes a practical approach to the excessive humidity problem, pairing a specialized thermostat with compatible air conditioning units, heat pumps, and variable speed air handlers. When needed, home occupants can set the thermostat control to one of three levels of dehumidification (low/medium/high), depending on the comfort level desired. When too much humidity is detected in the house, the IDS will run for a defined amount of time out of each hour. (Note: To adhere to Energy Code requirements, IDS is not available during heating calls. When indoor humidity is high, IDS will operate when the system mode is in COOL or in AUTO when the last system call was cooling. See Appendix for additional detail.)

With IDS, home temperature is maintained without over-cooling. IDS uses the dehumidification function of the cooling coils in conjunction with the warming function of electric heat in order to remove moisture while minimizing any difference between the supply air temperature and the temperature inside the home. IDS operates as an independent feature and operating mode for the installed equipment. The result is a more predictable lowering of humidity, all while maintaining home comfort levels.



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These instructions do not cover all variations in systems or provide for every possible contingency to be met in connection with the installation. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your installing dealer or local distributor.

1. System Configurations

Table 1 lists compatible model and system configurations to achieve expected performance. Electric heater kits are sized to match nominal cooling capacities.

Table 1. Integrated Dehumidification Solution Kit Matrix						
Thermostat	Inline Ventilator Fan Kit with Relay++	6" Motorized Damper Kit**	Air Handler Models	Electric Heater Kit Options (+ Extra Digit)		Outdoor Models
*CONT824 or *ZON1050	EVENQF130V1NAAA Additional Accessories: E1650024 - Heater Model EQH400 E1650025 - Heater Model EQH900 E1650123 - 2 Pack 10x10x2 Filter	E1650026 Additional Accessories: E1955001 - 6" Screened Wall Cap	TEM6A0B24H21SBA	BAYHTR1505BRK+	BAYHTR1508BRK+*	Compatible with all Trane/American Standard Outdoor Units
			TEM6A0B30H21SBA	BAYHTR1505BRK+	BAYHTR1508BRK+*	
			TEM6A0C36H31SBA	BAYHTR1508BRK+	BAYHTR1510BRK+	
			TEM6A0C42H41SBA	BAYHTR1508BRK+	BAYHTR1510BRK+	
			TEM6A0D48H41SBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM6A0D60H51SBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM6A0C48H41SBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM6A0C60H51SBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM8A0B24V21DBA	BAYHTR1505BRK+	BAYHTR1508BRK+	
			TEM8A0B30V31DBA	BAYHTR1505BRK+	BAYHTR1508BRK+	
			TEM8A0C36V31DBA	BAYHTR1508BRK+	BAYHTR1510BRK+	
			TEM8A0C42V41DBA	BAYHTR1508BRK+	BAYHTR1510BRK+	
			TEM8A0D48V41DBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM8A0D60V51DBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM8A0C48V41DBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TEM8A0C60V51DBA	BAYHTR1510BRK+	BAYHTR1517BRK+	
			TAM9A0A24V21DAA	BAYE AAC05BK1B+	BAYE AAC08BK1B+	
			TAM9A0B30V31DAA	BAYE AAC05BK1B+	BAYE AAC08BK1B+	
			TAM9A0C36V31DAA	BAYE AAC08BK1B+	BAYE AAC10BK1B+	
			TEM9A0C42V41DAA	BAYE AAC08BK1B+	BAYE AAC10BK1B+	
TEM9A0C48V41DAA	BAYE AAC10BK1B+	BAYE ABC15BK1B+				
TEM9A0C60V51DAA	BAYE AAC10BK1B+	BAYE ABC15BK1B+				

***AH/HEATER COMBINATION CAN NOT BE MATCHED WITH A HP OUTDOOR UNIT**

++VENTILATION SOLUTIONS ARE RECOMMENDED WHEN YOU HAVE THE FOLLOWING SITUATIONS: SPRAY FOAM INSULATED HOME OR HOME WAS BUILT AFTER 2013, AS ASHRAE 62.2 WOULD APPLY

** 6" Motorized Damper Kit is an optional accessory

2. Application Notes

2.1 IDS cannot be enabled if:

- A whole house Dehumidifier is configured
- A Furnace or Hydronic heating is configured
- Ventilate with blower is enabled
- A Variable Speed blower is not configured

Additionally:

- IDS requires Electric indoor heat installed per Table 1.
- 24 volt systems need BK (PWM) wiring installed for indoor blower control. On some air handlers a BK jumper must be cut on the indoor control board to enable BK operation. Refer to the air handler Installer's Guide to configure BK variable speed blower operation properly. There must be a control wire connected from the thermostat "BK" terminal to the "BK" terminal or wire at the air handler. This connection allows the thermostat to control the blower speeds.

- IDS will not be configurable if a Variable Speed blower is not configured in the thermostat in 24 volt mode.
- These application notes are repeated in the Installers Guide for reference.

3. Installation

3.1 Installer's Menu - IDS

To enable the IDS feature, select Integrated from the Comfort>> Dehumidification screen found in Group 5 of the Installer's Setup. See illustration to the right.

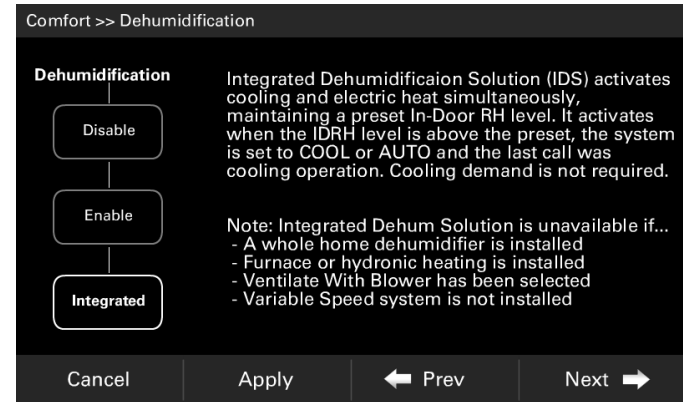
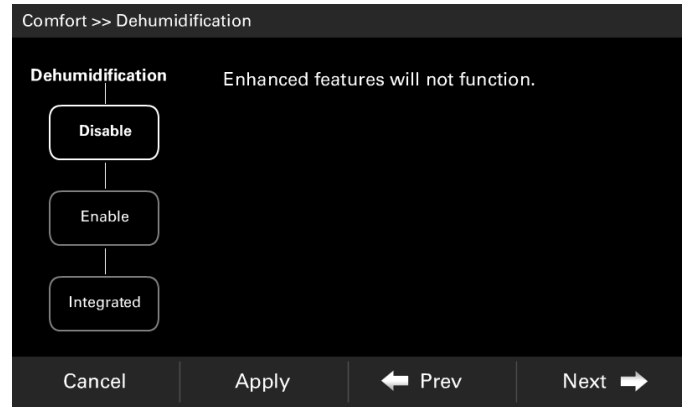
3.2 Recommended Settings for Humid Climates

Air Handler settings:

- Air Handler cooling airflow setting is recommended to be 400 CFM/ton or lower. Optimal airflow selections are 350 – 370 CFM/ton.
- Set fan off delays to [None]. Fan delays can be managed by the thermostat using CLII or BK wiring (PWM control for 24-V systems).
- Disable the Comfort-R feature when installing an IDS enabled thermostat. IDS requires the thermostat to manage indoor blower airflow profiles. Using CLII or BK (PWM control for 24-Volt wiring), the IDS enabled thermostat will control the indoor blower airflow to manage indoor humidity by adjusting indoor airflow and fan delays as necessary.

Thermostat settings:

- In humid climates, we do not recommend enabling continuous fan and/or circulate fan functions when indoor humidity is high, and the home requires cooling. In non-zoning applications the Smart Continuous Fan feature will do this automatically for continuous fan operation.
- Set fan off delays to either (100% or 50% for 90 seconds). This will offer similar fan off delay behavior to what is also available on the indoor unit. By controlling the indoor blower from the thermostat, when indoor humidity is high the thermostat can choose to prioritize humidity comfort when necessary and ignore the fan off delay.
- For an 824 thermostat, connect BK wiring for thermostat control of the indoor blower airflow. The BK wire uses a PWM signal, which can vary the indoor blower from 35-100% airflow as demanded by the thermostat. This allows the thermostat to adjust and control indoor blower airflow remotely, control airflow profiles, and manage indoor airflow for enhanced dehumidification. BK allows customization and control of the indoor blower airflow from the thermostat, achieving many of the benefits of the Comfort-R selection found on the indoor unit.
- For an 824 thermostat, verification of correct BK wiring can be performed by testing blower operation in Service Menu>Test Modes>Test Blower. Test the blower at 50% and 100% airflow demands and verify the airflow changes.



3.3 Installation and Equipment Configuration Notes

TEM6 Indoor Air Handler Notes:

- Cut the BK jumper wire between R and BK in the control board harness to enable the PWM functionality.
- Configure dip switches 5 & 6 to the OFF position.
- See 18-GF74D1* TEM6 Installer's Guide for additional details.

TEM8/ TAM9 Indoor Air Handler Notes:

- Cut the BK jumper wire on the AFC board to enable PWM functionality if configured for 24 volt operation.
- See 18-GF09D1* (TEM8 Installers Guide) or 18-GJ82D1* (TAM9 Installers Guide) for additional installation details.

VSPD Communicating Outdoor Units:

- Software version must be 3.6 or later.
- See outdoor unit install guide for installation details.

824/1050

- Thermostat model number must be an IDS enabled model number (Table 1).
- See the 824 or 1050 Installers Guide for additional installation details.

3.4 Using an IDS Enabled Thermostat

An equipment demand based on the temperature set point is not required for IDS. If the System Mode is set to Cooling or Auto (and last call is cooling), IDS will function as an additional, independent operating mode for the system focusing on dehumidification. IDS can independently initiate a dehumidification equipment call when indoor humidity is higher than a set threshold. Delivering drier air to the space while minimizing any differences between the supply and home temperatures, IDS will operate as a duty cycle for each hour as needed to help reduce indoor humidity levels, or until Cooling or Heating demands require priority.



IDS is calling

3.5 IDS Comfort Settings

Comfort settings for IDS can be found in the Humidity screen and have been pre-configured for High / Medium / Low dehumidification. These settings have been pre-configured to assist homeowners in managing comfort and energy usage. Each setting corresponds to an indoor humidity comfort range.

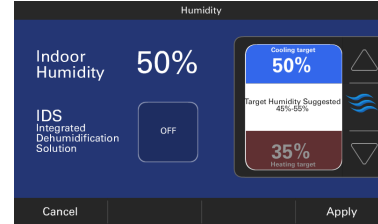
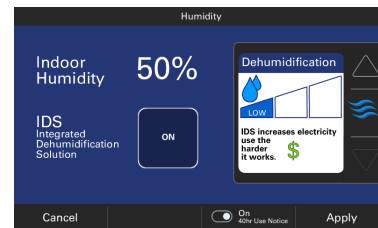


3.6 IDS Homeowner Settings

If IDS is enabled in the Installer's Setup, IDS messaging will appear as an option on the user's Humidity Screen as shown in the image. From the Humidity Screen, the user can select whether IDS is allowed to operate, by selecting ON/OFF from the selection on the screen. Note the appearance change of the humidity screen when IDS is selected ON.

When selected ON, IDS settings of High/Medium/Low are available for controlling dehumidification. At the bottom of the screen there is an optional selection for a notification when IDS operation for the month has exceeded a 40 hour threshold. This allows a user to make a decision about whether humidity set points should be adjusted, or if excessive ventilation is present (i.e. open windows) causing IDS run times longer than typical.

When IDS is selected OFF in the user's Humidity Screen, the thermostat displays a Humidity Target for both Cooling and Heating modes if accessories such as a whole house humidifier are installed.



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