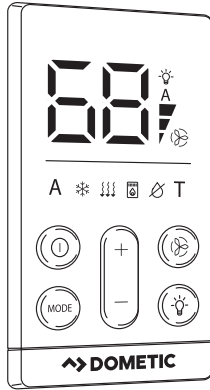


↗ DOMETIC

POWER & CONTROL CONNECT CONTROLLER



INCILED

EN

Connect Essential Thermostat

Operating manual 2



WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Service center and dealer locations

Visit: www.dometic.com
 Please read these instructions carefully and follow all instructions, guidelines, and warnings included in this product manual in order to ensure that you install, use, and maintain the product properly at all times. These instructions MUST stay with this product. By using the product, you hereby confirm that you have read all instructions, guidelines, and warnings carefully and that you understand and agree to abide by the terms and conditions as set forth herein. You agree to use this product only for the intended purpose and application and in accordance with the instructions, guidelines, and warnings as set forth in this product manual as well as in accordance with all applicable laws and regulations. A failure to read and follow the instructions and warnings set forth herein may result in an injury to yourself and others, damage to your product, or damage to other property in the vicinity. This product manual, including the instructions, guidelines, and warnings, and related documentation, may be subject to changes and updates. For up-to-date product information, please visit www.dometic.com.



Find the operation manual on-line in Spanish at <http://qr.dometic.com/bekZja>.

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1 Related documents



Find the operation manual on-line in French at <http://qr.dometic.com/bekZhY>.

2 Explanation of symbols and safety instructions

This manual has safety information and instructions to help you eliminate or reduce the risk of accidents and injuries.

2.1 Recognize safety information



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

2.2 Understand signal words

A signal word will identify safety messages and property damage messages, and also will indicate the degree or level of hazard seriousness.



WARNING
 Indicates a hazardous situation that, if **not** avoided, could result in death or serious injury.

NOTICE: Used to address practices **not** related to physical injury.



Indicates additional information that is not related to physical injury.

2.3 Supplemental Directives

To reduce the risk of accidents and injuries, please observe the following directives before proceeding to operate this appliance:

- Read and follow all safety information and instructions.
- Read and understand these instructions before operating this product.
- The installation must comply with all applicable local or national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code

Canada

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

2.4 General safety messages

WARNING: Electrical shock and/or fire hazard. Failure to obey the following warnings could result in death or serious injury.

- Use care when diagnosing and/or adjusting components on a powered unit.
- Use only Dometic replacement parts and components that are specifically approved for use with the appliance.
- Avoid improper installation, adjustment, alterations, service, or maintenance of the appliance. Service and maintenance **must** be done by a qualified service person only.
- Do **not** modify this product in any way. Modification can be extremely hazardous.

3 Intended use

The Connect Essential Thermostat (hereinafter referred to as “thermostat”), provides a central control display and monitor to manage the climate in your recreational vehicle, hereinafter referred to as the “RV”. The thermostat will operate with an air conditioner equipped with a heat pump and/or a furnace, but will not provide or allow direct control over the heat source. This thermostat is only suitable for the intended purpose and application in accordance with these instructions.

This manual provides information that is necessary for the proper operation of the thermostat. Poor installation and/or improper operating or maintenance will result in unsatisfactory performance and a possible failure. The manufacturer accepts no liability for any injury or damage to the product resulting from:

- Incorrect assembly or connection, including excess voltage
- Incorrect maintenance or use of spare parts other than original spare parts provided by the manufacturer
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in this manual

Dometic reserves the right to change product appearance and product specifications.

4 Technical data

This section provides technical information about the thermostat and its components.

4.1 Compatibility

This product is compatible with the following models or series. Additional models may be added at future dates.

Rooftop unit

FreshJet 3, 4, 5, 6 Series Electronic

FreshJet 3, 4,5, 6 Series

Air distribution box (ADB)

FRESHJET, ADB-PLAIN PREM, WHT - 9600049572

FRESHJET, ADB-PLAIN PREM, WHT, LED - 9600049573

Return air grille (RAG)

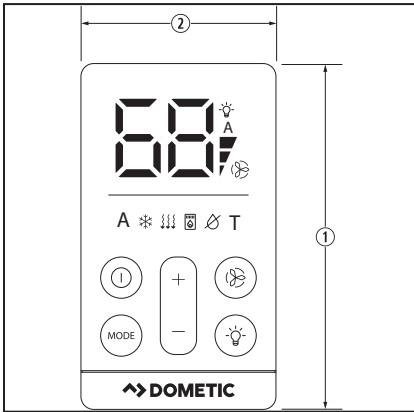
FRESHJET, RAG-PLAIN PREM, WHT - 9610003699

FRESHJET, RAG-PLAIN PREM, WHT, LED - 9610003700

GRILLE, AIR PW QUICKCOOL - 9610000926

4.2 Model dimensions

This section provides the dimensions of the thermostat.



9 INCLLED dimensions

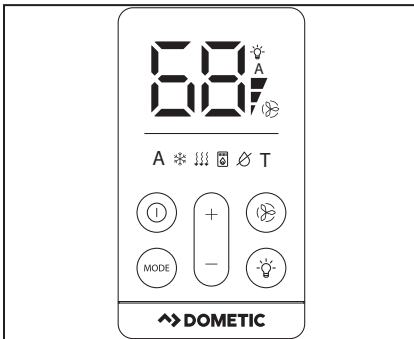
1	4.8 in. (12 cm)	2	2.9 in. (7 cm)
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5 Operation

This section describes the activities required to operate the thermostat.

5.1 Understanding the control panel

This section explains the controls on the control panel.



10 Control panel buttons and icons





5.1.1 Control buttons

i Leaving the exterior AC light on when the RV is in motion on a public road is against the law in some jurisdictions and may result in a traffic ticket.

Button	Name	Function
	On/Off	Turns the AC on or off, or puts the thermostat in Low Power
	+ / -	Raises or lowers the temperature setpoint. Select desired zone, if present
	Light	Operates the light on the exterior of the rooftop unit (if equipped) and the light on the interior of the air distribution box (ADB) or return air grille (RAG) (if equipped).
	Mode	Toggles between the available mode settings: Auto, Cool, Ventilation (Fan Only), Heat, Dry or Turbo. Changes between zones, if present
	Fan	Toggles between the available fan speed settings

5.1.2 Display indicators

Icon	Name	Function
	Temperature display	Displays the setpoint, any active error codes, configuration parameters, zone indicator, or room temperature
	Light	Indicates the interior lights are on when illuminated (if equipped)
	Fan speed	Indicates the active fan speed setting
	Auto mode	Indicates the Auto mode is active when illuminated

Icon	Name	Function
	Cool mode	Indicates the Cool mode is active when illuminated
	Ventilation (fan only) mode	Indicates the Ventilation (Fan Only) mode is active when illuminated
	Heat mode	Indicates the Heat mode is active when illuminated
	Dry mode	Indicates the Dry mode is active when illuminated
T	Turbo mode	Indicates the Turbo mode is active when illuminated

5.2 Using the control panel

This section explains how to use the control panel.

5.2.1 Powering on, off, and low power

- To turn the thermostat on, press the On/Off button.
- To change the thermostat to Low Power mode, press the On/Off button once and the LED display will turn off.
- To turn the AC off, press and hold the On/Off button for three seconds. The LED display will initiate a three second countdown and then power off.
- To turn off multiple zones, you must enter that zone first, then press and hold the On/Off button for three seconds.

i In the event power to the AC or the control is interrupted, the system will restart at the previous setpoints once power is restored.

5.2.5 Reading the temperature display

To display the inside temperature, press the (+) or (-) button when the thermostat is in Low Power mode. Refer to "Powering on, off, and low power" on page 5.

5.2.6 Selecting the mode

- Press and release the Mode button to cycle through and select one of the following modes: Auto, Cool, Ventilation (Fan Only), Heat, Dry, or Turbo.
- To specify the temperature, press the (+) or (-) button to set a desired temperature.

Refer to "Understanding the mode options" on page 6.

5.2.3 Selecting the fan speed

Press and release the Fan button to cycle through and select one of the following fan speeds: Low, High, Turbo, or Auto.

5.2.4 Setting the temperature

The temperature setpoint is indicated by the two digits on the LED display.

To adjust the temperature setting, press the (+) button to increase or the (-) button to decrease.

The maximum setpoint for the system is 90 °F (32 °C). The minimum setpoint is determined by the active operating mode.

- For heating, the minimum setpoint is 40 °F (4 °C).
- For cooling, the minimum setpoint is 60 °F (16 °C).
- For Auto fan speed ventilation, the minimum setpoint is 60 °F (15 °C).
- The temperature setpoint is not adjustable in Turbo or Dry modes.

5.2.5 Multizone selection

For single zone operation, see "Understanding the mode options" on page 6.

- On power up, the display will momentarily show the active zone. To change the active zone:
 - Press the On/Off button for three seconds to turn off the AC, or
 - Press the On/Off button for one second to turn on in Low Power mode.
- Press the Mode button three seconds to enter zone selection.
- Press the (+) or (-) button to select the desired zone.

Five seconds after the last zone change, the new zone will blink in the display. Once the new zone is active, normal operation is in effect.

5.3 Understanding the mode options

This section explains the available mode options.

5.3.1 Auto mode

i For Auto mode to operate effectively, a heating source must be installed. The Auto button will not illuminate if a furnace heating source is not installed. Refer to “Configuring the furnace” on page 7.

In Auto mode, the system changes the mode of operation from cool to heat or from heat to cool automatically.

The Auto mode indicator illuminates on the LED display underneath the temperature setpoint.

When the Auto mode is active, one of the following operations can occur. When in Auto mode, all operations for the heat pump and furnace will apply.

- Auto Change Over Cooling: If the room temperature rises above the setpoint by two degrees, the cooling cycle is initiated. The cooling cycle runs until the room temperature drops to the setpoint, and then turns off.
- Auto Change Over Heating: If the room temperature drops below the setpoint by two degrees, the heating is cycled on and off based on the measured room temperature and setpoint temperature. If more than one heat source is available in a zone, the priority for selecting the heat source is: heat pump (first) then auxiliary heat (second).

5.3.2 Cool mode

In Cool mode, the system cycles the compressor on and off based on room air temperature and the temperature setpoint.

i The fan will turn on first, and then there is approximately a two minute compressor delay before the cooling begins.

The mode indicator illuminates on the LED display underneath the temperature setpoint.

Four fan speed selections are available: Low, High, Turbo, and Auto.

- Low: the fan operates continuously at low speed. The compressor cycles on and off.
- High: the fan operates continuously at high speed. The compressor cycles on and off.

- Turbo: the fan operates continuously at maximum speed. The compressor cycles on and off.
- Auto: the compressor and the fan cycle on and off. The fan speed changes automatically based on the difference between the room temperature and the setpoint temperature.

5.3.3 Ventilation (fan only) mode

The Ventilation mode uses only the fan to maintain air circulation within the vehicle.

The mode indicator illuminates on the LED display underneath the temperature setpoint.

Four fan speed selections are available: Low, High, Turbo, and Auto.

- Low: the fan operates continuously at low speed.
- High: the fan operates continuously at high speed.
- Turbo: the fan operates continuously at maximum speed.
- Auto: the fan cycles on and off based on the temperature setpoint.

Auto fan feature

i In the Auto fan speed setting of Ventilation mode, the fan speeds up or slows down to help maintain the desired setpoint temperature. For Auto fan settings in other modes, the fan works in conjunction with the heating or cooling system, speeding up or slowing down to help maintain the setpoint temperature.

In the Auto Fan Speed setting, the fan cycles on and off. The fan speed changes automatically based on the difference between the room temperature and the setpoint temperature. In this setting, there is a one minute fan switching delay, therefore the fan will operate for a minimum of one minute at any speed.

- The fan will operate at low speed when the room temperature is above the setpoint temperature by less than 4 °F ± 0.5 °F (2 °C ± 0.3 °C).
- The fan will operate at high speed when the room temperature is above the setpoint temperature by 5 °F to 7 °F ± 0.5 °F (3 °C to 4 °C ± 0.3 °C).

- The fan will operate at maximum speed when the room temperature is above the setpoint temperature by more than $8\text{ }^{\circ}\text{F} \pm 0.5\text{ }^{\circ}\text{F}$ ($5\text{ }^{\circ}\text{C} \pm 0.3\text{ }^{\circ}\text{C}$).

5.3.4 Heat mode

During heat mode, the heat source (heat pump or furnace) cycles on and off based on the difference between room air temperature and the temperature setpoint.

Four fan speed selections are available: Low, High, Turbo, and Auto.

- Low: the fan operates continuously at low speed.
- High: the fan operates continuously at high speed.
- Turbo: the fan operates continuously at maximum speed.
- Auto (furnace): the fan is off.
- Auto (heat pump): The compressor and the fan cycle on and off changing speed automatically based on the difference between the room temperature and the setpoint temperature.

If Low, High, or Turbo is selected, the fan will continue to operate at the selected speed. Refer to “Selecting the fan speed” on page 5.

If additional indoor air circulation is not desired during furnace operation, select the Auto fan speed setting to turn off the fan.

The thermostat can be configured to operate using an on/off differential of either one to nine degrees (for furnace). To access this feature or set the temperature differential in the system configuration options, refer to “Configuring the furnace” on page 7.

Priority is given to heat pump operation (if equipped) until the outdoor ambient temperature reaches near freezing, then the system automatically switches over to furnace operation (if equipped).

5.3.5 Dry mode

The Dry mode provides mild dehumidification for room temperatures above the setpoint and when additional cooling is not required.

In Dry mode, the fan speed is set to Low by default, regardless of the fan setting.

- The compressor cycles on and off at approximate intervals of six minutes to extract moisture from the air while not changing the room temperature per the setpoint. Dry mode is not a substitute for a standalone dehumidifier.
- The rooftop unit will not dehumidify if the room temperature is below $64\text{ }^{\circ}\text{F}$ ($18\text{ }^{\circ}\text{C}$). The minimum setpoint is $65\text{ }^{\circ}\text{F}$ ($18\text{ }^{\circ}\text{C}$).

5.3.6 Turbo mode

The Turbo mode provides maximum cooling for rapid cool down and/or spot cooling when room temperatures exceed the setpoint.

In Turbo mode, the fan speed is set to Turbo by default, regardless of the fan setting.

- The temperature setpoint will be set to the lowest setting of $55\text{ }^{\circ}\text{F}$ ($13\text{ }^{\circ}\text{C}$) regardless of the setpoint selection.
- The compressor will operate continuously to attempt to reach the lowest set point.



There is approximately a two minute compressor delay before the cooling or heat pump cycle begins.

6 System configuration

This section describes how to configure the temperature unit of measurement and furnace differential.

6.1 Changing the temperature unit of measurement



The default temperature measurement is Fahrenheit (F). Changing the temperature measurement indicator will not affect the current operation mode.

In Low Power mode, simultaneously press the (+) and (-) buttons to toggle between Fahrenheit and Centigrade.

6.2 Configuring the furnace

This section describes the three system configuration options for the furnace: one-degree differential (d1) to nine-degree differential (d9).

Each zone has its own furnace configuration based on the electronic control box dip switches.

6.2.1 Checking the current configuration

1. Confirm the thermostat and AC are off.
2. Simultaneously press and hold the Mode button and the (–) button for three seconds.

The LED display will show the 'd1', 'd9' selection that is stored in memory.

After five seconds, the LED display will revert to the Low Power state with the display off.

6.2.3 Setting the configuration

1. Confirm the thermostat and AC is off.
2. Simultaneously press and hold the Mode button and the (–) button for three seconds.
3. The LED display will show the d1 to d9 selection that is stored in memory.
4. Press the (+) or (–) button to cycle to the desired configuration.

The selection shown on the LED display will be stored in the main control memory when the LED reverts to the Low Power state after a five second delay.

7 Maintenance



WARNING: Electrical shock, fire and/or explosion hazard.

Always disconnect the unit from power before cleaning and/or servicing. Maintenance must be done by a qualified service person only. Failure to obey this warning could result in death or serious injury.

The maintenance and cleaning instructions provided in this section should be performed at the intervals indicated, or as needed, depending on the use of the appliance. Failure to properly maintain the product may void the warranty and could result in unsafe operation. Preventive maintenance is not covered under the warranty.

7.1 Cleaning the thermostat display

NOTICE: Do **not** spray water directly on the display. Do **not** use solvents for cleaning.

Clean display with a dry soft cloth, as needed.

8 Error codes

The following table describes error codes that may display under certain conditions for the active zone.

Error code	Definition	Recommended solution
E1	There is a loss of communication between the thermostat and the module board.	Once the E1 error is displayed, no functions will be available except for the On/Off power button. Once the error is resolved, the E1 code will no longer show and the system will resume operation in the last mode of the AC.
E2	The Remote Temperature Sensor or Room air sensor (on board the thermostat) is open circuit or out-of-range.	The Cool, Ventilation, and Auto climate modes will not function. The Furnace and Turbo modes can be toggled manually. Simultaneously press the Mode and Fan button for one second and then release.
E3	The Remote Temperature Sensor or Room air sensor (on-board the thermostat) has shorted.	In this event, the display will show HI for heat override or LO for cool override.
E5	The Freeze Control Sensor is open circuit, short circuit, or out-of-range.	The Manual Fan operation is allowed to continue via the evaporator blower motor using the Fan button. In Furnace mode, the fan can be toggled off by selecting Auto Fan Speed. In Turbo mode, the fan will not toggle off.
E4	The Outdoor Ambient Sensor is open circuit, shorted, or out-of-range.	The heat pump will not function in Heat and Auto modes. The furnace, if equipped, will still take priority.
PF	There is a loss of 120 VAC to the rooftop unit's electronic control box.	The display toggles between PF and the current temperature until 120 VAC power is restored. Furnace mode will remain available and the Light button will remain active.

9 Troubleshooting

Problem	Possible cause	Recommended solution
The following table describes common occurrences that are not a result of defective workmanship or materials.	The circuit breaker has activated.	Set or reset the circuit breaker.
	A fuse has blown.	Replace the fuse.
	The zone is not configured properly.	Check the zone selected and configure according to the instructions in the manual. Verify that the dip switches on the electronic control box in the AC are set correctly.
The product does not operate (or operates poorly) and the RV is connected to the motor generator.	The RV is not receiving power from the motor generator.	Confirm the motor generator is running.
		Confirm the motor generator is producing power.
		Ensure the fuse is not blown, or the circuit breaker is on.
		Contact the local service center.
The product does not operate (or operates poorly) and the RV is connected to shore power.	The RV is not receiving power from the power supply.	Confirm the power supply is plugged into shore power.
		Confirm the shore power is properly-sized for the product's power load.
		Contact the local service center.
Frost forms on the evaporator coil, as visible through the air inlet hole with the filter removed.	The product is producing very cold output at a very low air speed.	Inspect and clean the filter.
		Open the air vents and remove any obstructions.
	The outside temperature is relatively low.	Adjust the thermostat to a warmer setting.
		Operate the product on any Fan Only setting until the coil is free of frost.
		Contact the local service center.
The product does not maintain the desired temperature.	The product is affected by the RV's heat gain from high outdoor temperatures or humidity.	Park the RV in a shaded area.
		Use window shades, blinds, or curtains. ¹
		Keep the windows and doors closed or minimize their use.
		Avoid using heat-producing appliances inside the RV.
		Operate the product in the Turbo Fan/Cooling mode.
		Start the product before the outside temperature increases.
Condensation forms on ceilings, windows, or other surfaces. ²	The air contains water vapor that is below the dew point of the surface.	Keep doors and windows closed when the unit is in operation to reduce the formation of condensation.

¹ For a more permanent solution to high heat gain, accessories like the Dometic outdoor patio or window awnings reduce the effects of direct sunlight.

² During normal operation, this product is designed to remove a certain amount of moisture from the air, depending on the size of the space being conditioned. The manufacturer of this unit will not be responsible for damage caused by condensation forming on ceilings, windows, or other surfaces.

10 Disposal



Place the packaging material in the appropriate recycling waste bins, whenever possible. Consult a local recycling center or specialist dealer for details about how to dispose of the product in accordance with all applicable national and local regulations.

11 Limited warranty

LIMITED WARRANTY AVAILABLE AT
[DOMETIC.COM/EN-US/TERMS-AND-CONDITIONS-CONSUMER/WARRANTY](https://www.dometic.com/en-us/terms-and-conditions-consumer/warranty).

IF YOU HAVE QUESTIONS, OR TO OBTAIN A COPY OF THE LIMITED WARRANTY FREE OF CHARGE, CONTACT:

DOMETIC CORPORATION
CUSTOMER SUPPORT CENTER
5155 VERDANT DRIVE
ELKHART, INDIANA 46516
1-800-544-4881 OPT 1

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