

# User Manual



Low NOx certified to SCAQMD 1146.2

NSF/ANSI/CAN 372



## IONIC

WWH

WH 299W-399W-470W-500W

**WARNING:** If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

— Do not store or use gasoline or other flammable vapours and liquids in the vicinity of this or any other appliance.

— **WHAT TO DO IF YOU SMELL GAS**

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbour's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.

**AVERTISSEMENT.** Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

— Ne pas entreposer ni utiliser d'essence ou ni d'autres vapeurs ou liquides inflammables à proximité de cet appareil ou de tout autre appareil.

— **QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ :**

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones dans le bâtiment où vous vous trouvez.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

**California Proposition 65 Warning:** This product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



## TABLE OF CONTENTS

<b>1</b>	<b>SAFETY GUIDELINES .....</b>	<b>5</b>
<b>2</b>	<b>INTRODUCTION.....</b>	<b>9</b>
2.1	EXPLANATION OF TYPE/MODEL NUMBER.....	9
2.2	MAINTENANCE AND INSPECTION .....	9
2.2.1	<i>On a Continuous basis.....</i>	9
2.2.2	<i>On a Monthly basis.....</i>	9
2.2.3	<i>On an Annual basis (every 12 months) .....</i>	10
<b>3</b>	<b>Display and buttons .....</b>	<b>11</b>
3.1	EXPLANATION OF BUTTONS .....	11
3.2	DISPLAY CONFIGURATION.....	12
<b>4</b>	<b>Starting the water heater. ....</b>	<b>13</b>
4.1	CHANGING THE DHW SETPOINT.....	13
4.1.1	<i>Changing the DHW setpoint directly.....</i>	13
4.1.2	<i>Changing the DHW Setpoint by the menu (Button).....</i>	14
<b>5</b>	<b>Other menu items .....</b>	<b>14</b>
5.1	PROTECTED MENU ITEMS .....	14
5.2	LANGUAGE SETTING.....	15
5.2.1	<i>Change language via the menu.....</i>	15
5.2.2	<i>Change the language via the menu Icons .....</i>	15
5.3	ERROR LOGGING .....	16
5.4	SERVICE REMINDER .....	16
5.5	AVAILABLE MENU ITEMS.....	17
5.5.1	<i>Central Heating (CH), Do not use or change these settings .....</i>	17
5.5.2	<i>Domestic Hot Water (DHW).....</i>	17
5.5.3	<i>Information .....</i>	17
5.5.4	<i>Software Versions.....</i>	17
5.5.5	<i>Water heater Status.....</i>	17
5.5.6	<i>Water heater History.....</i>	18
5.5.7	<i>Error log .....</i>	18
5.5.8	<i>Service .....</i>	18
5.5.9	<i>Settings .....</i>	18
5.5.10	<i>General Settings .....</i>	18
5.5.11	<i>Language .....</i>	18
5.5.12	<i>Unit Type.....</i>	18
5.5.13	<i>Date &amp; Time .....</i>	18
5.5.14	<i>Time zone settings.....</i>	19
5.5.15	<i>Display settings.....</i>	19
5.5.16	<i>Cascade mode.....</i>	19
5.5.17	<i>Other Settings .....</i>	19
5.5.18	<i>Status overview settings .....</i>	19
5.5.19	<i>Boiler settings .....</i>	19

## **IMPORTANT**

READ ALL OF THE FOLLOWING WARNINGS AND STATEMENTS BEFORE READING THE INSTALLATION INSTRUCTIONS



### **DANGER**

Danger Sign: indicates the presence of an imminently hazardous situation that will cause death, serious personal injury or substantial property damage.



### **WARNING**

Warning Sign: indicates the presence of a hazardous situation which can cause death, serious personal injury or substantial property damage.



### **CAUTION**

Caution Sign plus Safety Alert Symbol: indicates a hazardous situation which will or can cause minor or moderate personal injury or property damage.



### **CAUTION**

Caution Sign plus a lightning bolt: indicates the risk of electric shock and the potential of hazards due to electric shock.



### **NOTICE**

Notice Sign: indicates special instructions on installation, operation or maintenance that are important but not related to personal injury or property damage.



### **WARNING**

This water heater must be installed by a licensed and trained Heating Technician or the Warranty is void. Failure to properly install this unit may result in property damage, serious injury to occupants, or possibly death.

# 1 SAFETY GUIDELINES

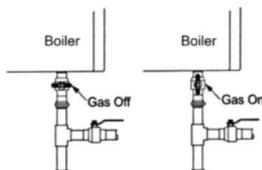
## FOR YOUR SAFETY READ BEFORE OPERATING

**WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.**

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS
- Do not try to light any appliance.
  - Do not touch any electric switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the manual gas shutoff valve. Never use tools. If the manual valve will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

## OPERATING INSTRUCTIONS

1. **STOP!** Read the safety information above on this label.
2. Set the thermostat to the lowest setting
3. Turn off all electric power to the appliance
4. This appliance does not have a pilot. it is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. The manual gas shut off is located beneath the appliance cabinet, in the gas piping.
6. The manual gas shutoff valve is located beneath the appliance cabinet; turn the handle clockwise  to the full OFF position (perpendicular to the gas piping).
7. Wait five (5) minutes to clear out any gas. Then smell for gas including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
8. Turn manual gas shutoff valve counterclockwise  to ON position (parallel to gas piping)
9. Turn on all electric power to the appliance.
10. Set the thermostat to the desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



## TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to the lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. The manual gas shutoff valve is located beneath the appliance cabinet; turn the handle clockwise  to the full OFF position (perpendicular to the gas piping).

# CONSIGNES DE SÉCURITÉ

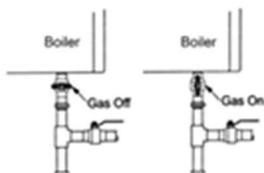
## POUR VOTRE SÉCURITÉ LISEZ AVANT DE METTRE EN MARCHÉ

**AVERTISSEMENT: Quiconque ne respecte pas à la lettre les instructions dans la présente notice risque de déclencher un incendie ou une explosion entraînant des dommages, des blessures ou la mort.**

- A. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brûleur. Ne tentez pas d'allumer le brûleur manuellement.
- B. **AVANT DE FAIRE FONCTIONNER**, renifllez tout autour de l'appareil pour déceler une odeur de gaz. Renifllez près du plancher, car certains gaz sont plus lourds que l'air et peuvent s'accumuler au niveau du sol.
- QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ**
- Ne pas tenter d'allumer d'appareil.
  - Ne touchez à aucun interrupteur ; ne pas vous servir des téléphones se trouvant dans le bâtiment.
  - Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- C. N'utilisez que votre main pour tourner la vanne d'arrêt manuelle. N'utilisez jamais d'outils. Si la vanne manuelle ne tourne pas à la main, n'essayez pas de la réparer, appelez un technicien service qualifié. La force ou la tentative de réparation peut entraîner un incendie ou une explosion.
- D. N'utilisez pas cet appareil s'il a été plongé dans l'eau, même partiellement. Faites inspecter l'appareil par un technicien qualifié et remplacez toute partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

## INSTRUCTIONS DE MISE EN MARCHÉ

1. **ARRÊTEZ!** Lisez les instructions de sécurité sur la portion supérieure (à gauche) de cette étiquette.
2. Réglez le thermostat à la température la plus basse
3. Coupez l'alimentation électrique de l'appareil
4. Cette appareil ne comporte pas de veilleuse. Il intègre un dispositif d'allumage automatique du brûleur. N'essayez pas d'allumer manuellement le brûleur.
5. L'interrupteur de gaz principal se trouve directement sous la chaudière, sur la conduit d'alimentation en gaz.
6. L'interrupteur de gaz principal se trouve directement sous la chaudière. Tournez l'interrupteur de gaz principal ↻ dans le sens horaire pour couper l'alimentation en gaz.
7. Attendre cinq (5) minutes pour laisser échapper tout le gaz. Renifllez tout autour de l'appareil, y compris près du plancher, pour déceler une odeur de gaz. Si vous sentez une odeur de gaz, **ARRÊTEZ!** Passez à l'étape B des instructions de sécurité sur la portion supérieure (à gauche) de cette étiquette. S'il n'y a pas d'odeur de gaz, passez à l'étape suivante.
8. Tournez la vanne d'arrêt manuelle du gaz ↻ dans le sens antihoraire en position ON (parallèle à la tuyauterie de gaz)
9. Mettez l'appareil sous tension.
10. Réglez le thermostat à la température désirée.
11. Si l'appareil ne se met pas en marche, suivez les instructions intitulées "Comment couper l'admission de gaz de l'appareil" et appelez un technicien qualifié ou le fournisseur de gaz.



## Comment couper l'admission de gaz de l'appareil.

1. Réglez le thermostat à la température la plus basse
2. Coupez l'alimentation électrique de l'appareil s'il faut procéder à l'entretien
3. L'interrupteur de gaz principal se trouve directement sous la chaudière. Tournez l'interrupteur de gaz principal ↻ dans le sens horaire pour couper l'alimentation en gaz.



This water heater is equipped with an air pressure switch. In the event of a blocked vent the water heater will lockout. No attempt by the user/owner should be made to put the water heater back into operation. A qualified service technician should be notified of the issue. The water heater should only be reset by a qualified service technician after they have diagnosed and corrected the issued that caused the safety lockout of the water heater.



“Should overheating occur or the gas supply fail to shut off, do not turn off or disconnect the electrical supply to the circulator. Instead, shut off the gas supply at a location external to the appliance.”



The installer must verify that at least one carbon monoxide alarm has been installed within a residential living space or home following the alarm manufacturer’s instructions and applicable local codes before putting the appliance into operation.

Triangle Tube requires the installation of a minimum of two (2) carbon monoxide detectors with an alarm and battery back-up if hard wired; one in the mechanical room where the water heater is located and another installed in the area outside each sleeping area for all installations.



**WARNING:** There are no user serviceable parts on this water heater. Warranty does not cover defects caused by attempts to service this water heater by someone other than a qualified gas service technician. These attempts could cause property damage, personal injury or loss of life.



**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury (exposure to hazardous materials) \* or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier (who must read and follow the supplied instructions before installing, servicing, or removing this water heater. This water heater contains materials that have been identified as carcinogenic, or possibly carcinogenic, to humans)



**AVERTISSEMENT:** Une installation, un réglage, une modification, une réparation ou un entretien non conforme aux normes peut entraîner des dommages matériels, des blessures (exposition à des matières dangereuses) ou la mort. L'installation et l'entretien doivent être effectués par un installateur ou un service d'entretien qualifié ou le fournisseur de gaz (qui doivent avoir lu les instructions fournies avant de faire l'installation, l'entretien ou l'enlèvement de la chaudière et les respecter. Cette chaudière contient des matériaux qui ont été identifiés comme étant cancérigènes ou pouvant l'être).



Do not use this water heater if any part has been under water. Immediately call a qualified service technician to inspect the water heater and to replace any part of the control system and any gas control which has been under water



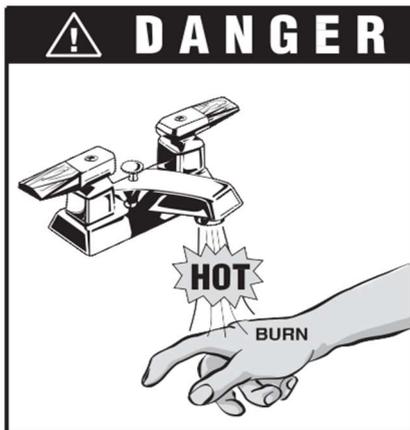
**WARNING: Crystalline Silica** - Certain components in the combustion chamber may contain this potential carcinogen. Improper installation, adjustment, alteration, service or maintenance can cause property damage, serious injury (exposure to hazardous materials) or death. Refer to Section 19 of the Installation, Operation and Service manual for information on handling instructions and recommended personal protective equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier (who must read and follow the supplied instructions before installing, servicing, or removing this water heater. This water heater contains materials that have been identified as carcinogenic, or possibly carcinogenic, to humans).



**WARNING:** Water temperatures over 125 °F (52 °C) can cause severe burns instantly or death from scalding. The water temperature is factory set at 140 °F (60 °C) to minimize legionella risk. Before bathing or showering always check the water temperature.

To meet commercial hot water requirements, the water heater setpoint is adjustable up to 190°F. However, water temperatures over 125°F can cause severe burns instantly or death from scalds. This is the preferred starting point for setting the control for supplying general purpose hot water.

Safety and energy conservation are factors to be considered when setting the water temperature on the water heater. The most energy efficient operation will result when the temperature setting is the lowest that satisfies the needs consistent with the application. The table below details the relationship of water temperature and time with regard to scald injury and may be used as a guide in determining the safest water temperature for your applications.



Water temperature over 125°F can cause instant severe burns or death from scalds.

Children, disabled, and elderly are at highest risk of being scalded.

See instruction manual before setting temperature at water heater.

Feel water before bathing or showering.

Use temperature limiting valves.

Temperature	Time to Produce Serious Burn
120°F	More than 5 minutes
125°F	1-1/2 to 2 minutes
130°F	About 30 seconds
135°F	About 10 seconds
140°F	Less than 5 seconds
145°F	Less than 3 seconds
150°F	About 1-1/2 seconds
155°F	About 1 second

Table courtesy of Shriners Burn Institute.

Maximum water temperatures occur just after burner has shut off. To find hot water temperature being delivered, turn on a hot water faucet and place a thermometer in the hot water stream and read the thermometer.

### Time/Temperature Relationships in Scalds

The temperature of the water in the storage tank can be regulated by setting the temperature at the water heater. To comply with safety regulations, the setpoint was set at its lowest setting before shipment from the factory.



There is a Hot Water SCALD Potential if the water heater setpoint is set too high.



Hotter water increases the risk of SCALDING!



When this heater is supplying general purpose hot water requirements for use by individuals, a thermostatically controlled mixing valve for reducing point of use water temperature is recommended to reduce the risk of scald injury. Contact a licensed plumber or the local plumbing authority for further information.

## 2 INTRODUCTION

This manual is written for the user.

Triangle Tube is not accountable for any damage caused by failure to correctly follow these instructions. For service and repair purposes use only original Triangle Tube spare parts.

All documentation produced by the manufacturer is subject to copyright law. This manual is subject to change without notice.

### 2.1 Explanation of type/model number

CB = Condensing Boiler

HW = For Direct Hot Water (drinking water) usage only.

BCU = burner control unit

PB = display board/ control panel (Pixel Button)

299/399/499 = Model number of the water heater

### 2.2 Maintenance and inspection

Maintenance and inspection of the water heater should be carried out at the following occasions:

- When a number of similar error codes and/or lock-outs appear.
- At least every 12 months maintenance must be done to ensure safe and efficient operation.

**Damage caused by lack of maintenance will not be covered under warranty**

Ce manuel est écrit pour l'utilisateur

Triangle Tube n'est pas responsable de tout dommage causé par ne pas suivre correctement de ces instructions. Pour service et réparation, utiliser seulement pièces de rechange de Triangle Tube. Tout documentation produit par le fabricant est sous réserve de la loi sur le droit d'auteur. Ce manuel est sujet à changement sans préavis.

### Explication de type/ modèle numéro.

CB = Chaudière à condensation

HW = Pour eau chaude sanitaire (ECS).

BCU = commande (burner control unit)

PB = écran (Pixel Button)

299/399/499 = Modèle numéro de chaudière.

### Entretien et inspection

L'entretien et l'inspection de la chaudière doivent être effectués aux occasions suivantes :

- Lorsqu'un certain nombre de codes d'erreur et/ou de verrouillage semblables apparaissent.
- Au moins tous les 12 mois, l'entretien doit être fait pour assurer un fonctionnement sûr et efficace.

**Les dommages causés par le manque d'entretien ne seront pas couverts par la garantie**

#### 2.2.1 ON A CONTINUOUS BASIS

- Do not store or use flammable vapors or liquids, such as gasoline, in the vicinity of the water heater.
- Do not expose the water heater to dust from construction or woodworking
- Do not store or use in the water heater room and keep the water heater area free from the following items
  - Spray cans containing chloro-/fluorocarbons
  - Ammonium and/or ammonium solutions
  - Permanent wave solutions (hair product)
  - Chlorinated waxes and/or cleaners
  - Swimming pool chemicals based on chlorine
  - Calcium chloride used for thawing
  - Sodium chloride used for water softening
  - Refrigerant leaks
  - Paint or varnish removers
  - Hydrochloric acid/muriatic acid
  - Cements and glues
  - Antistatic fabric softeners used in clothes dryers
  - Chlorine-type bleaches, detergents, and cleaning solvents
  - found in household laundry rooms
  - Adhesives used to fasten building products and other similar products

#### 2.2.2 ON A MONTHLY BASIS

- Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
- Inspect around the exhaust vent and air inlet terminations outside the home for obstructions. Keep area clear of snow and debris. Inspect also for any gaps at the wall penetration(s) which could allow vented gasses to re-enter the building.
- Visually inspect water and gas pipes for leaks.
- Visually inspect to see that the condensate trap not blocked and is filled with water.
- If there is a condensate neutralizer installed check to see if it has neutralizing media in it.
- Inspect the pressure relief valve for signs of leakage
- If any problems are found during inspection notify a qualified service technician

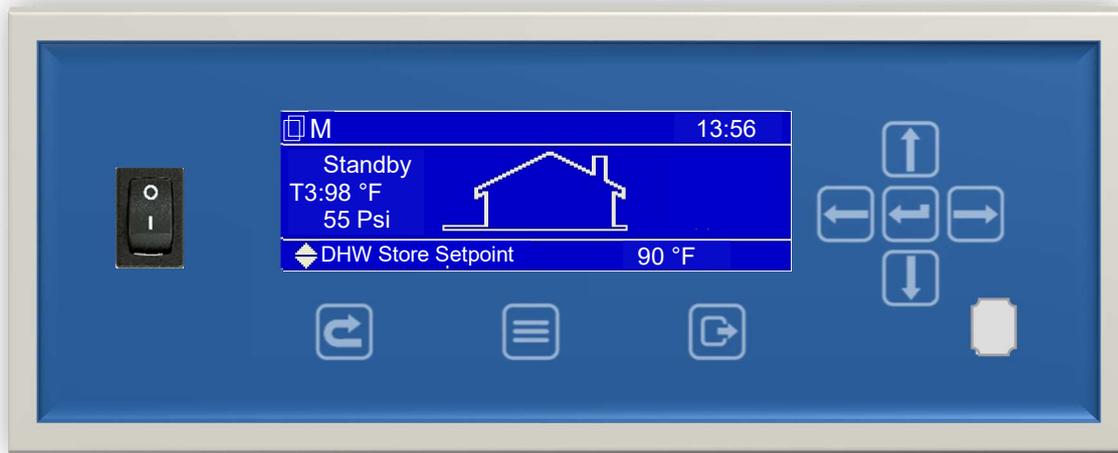
2.2.3 ON AN ANNUAL BASIS (EVERY 12 MONTHS)

- Have a qualified service technician perform a complete service and maintenance of the water heater in accordance with the Installation, Operation, and Service manual.

 <b>WARNING</b>	WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury (exposure to hazardous materials) * or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier (who must read and follow the supplied instructions before installing, servicing, or removing this water heater. This water heater contains materials that have been identified as carcinogenic, or possibly carcinogenic, to humans)
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 <b>WARNING</b>	WARNING: <b>Crystalline Silica</b> - Certain components in the combustion chamber may contain this potential carcinogen. Improper installation, adjustment, alteration, service or maintenance can cause property damage, serious injury (exposure to hazardous materials) or death. Refer to Section 19 for information on handling instructions and recommended personal protective equipment. Installation and service must be performed by a qualified installer, service agency or the gas supplier (who must read and follow the supplied instructions before installing, servicing, or removing this water heater. This water heater contains materials that have been identified as carcinogenic, or possibly carcinogenic, to humans).
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### 3 Display and buttons

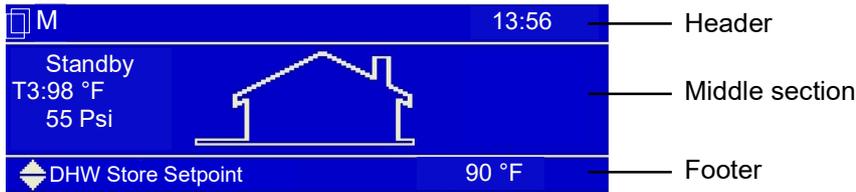


#### 3.1 Explanation of buttons

	ON/OFF. On/off switch. Switches electrical power to the boiler
	COMPUTER. Connector for computer cable
	RESET. Reset lockout error
	MENU. Enter the main menu
	ESCAPE. Escape / Return to the status overview
	RIGHT. Enter a menu item or confirm selection in Status overview (when directly setting Actual setpoint or DHW setpoint)
	LEFT. Return to previous menu item or Status overview
	UP. Directly select Actual setpoint of DHW setpoint in the Status overview, push RIGHT to confirm and use UP or DOWN to adjust value.
	DOWN. Directly select Actual setpoint of DHW setpoint in the Status overview, push RIGHT to confirm and use UP or DOWN to adjust value.
	ENTER. Confirm a setting or enter a menu item

### 3.2 Display configuration.

The Status overview has three different sections that show specific information:



#### Header

- Left: For single and cascade systems the cascade icon is shown, with the cascade manager indication (M) or the dependent number.
- Center: Shows the CH and/or DHW disabled icons when CH and/or DHW is disabled
- Right: Shows the time (only if the real-time clock is available).

Icon	Description
	Cascade icon
	CH Disabled
	DHW Disabled

#### Middle section

- Left: Shows user-configured information (by default only the outside temperature):

Line	Info
Top	Burner state (when enabled)
Middle	Configured/selected temperature (one of the following): <ul style="list-style-type: none"> <li>▪ Demand based (Flow or DHW temperature based on active demand)</li> <li>▪ Flow temperature</li> <li>▪ DHW temperature</li> <li>▪ System temperature (module cascade flow/supply temperature)</li> </ul>
Bottom	Water pressure (when enabled)

- Center: The house icon is always displayed.
- Right side: Shows several status icons:

Icon	Description
	CH demand
	DHW demand
	Emergency mode is active (for cascade systems only)
	Burner is on (and flame is detected)
	Frost protection is active
	Anti-legionella program is active.
	Error is set in the Main Control (see footer for error description)

#### Footer

- Shows Error/Warning messages when an Error or Warning is set in the Main Control, otherwise a quick menu is displayed where the user can quickly edit setpoints and enable/disable DHW.

Quick Menu / Parameter	Description	Value / Unit	User level
Calculated Setpoint	Show the calculated setpoint (when available)		0: User
DHW Control	Enable/disable Domestic Hot Water		0: User
DHW (Store) Setpoint	Edit the DHW (Store) setpoint (when available).		0: User

*Note: Cascade dependents will only have the 'Calculated Setpoint' available.*

## 4 Starting the water heater.

If the water heater is not on make sure the gas switch beneath the water heater is open and the power cord is connected to the mains, use the on/off button to switch the water heater on. The following screen will occur:

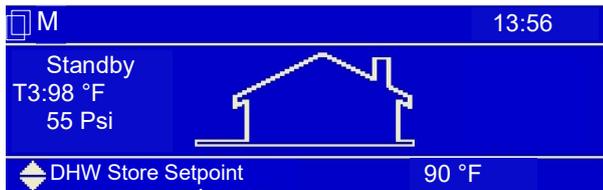


This screen is active during power up until communication with the main Control has been established. After communication has been established the Dair mode is running and the following screen appears:



The “De-Air” sequence is a safety function that starts at every power-up and is used to remove the air from the heat exchanger. The De-Air sequence takes around 14 minutes to complete.

After completion or manual ending the “De-Air” sequence the following Status overview screens appears:



A single water heater is set as a cascaded  water heater also, and set as Managing (M)

### 4.1 Changing the DHW Setpoint.

This can be done directly via the Status overview (as shown above) or via the MENU. You can adjust the DHW setpoint directly on the bottom of the Status overview.

#### 4.1.1 CHANGING THE DHW SETPOINT DIRECTLY.

Only applicable if this function is available.

Press the UP or DOWN button to select the mode:



Press CONFIRM  or RIGHT  to confirm the mode and the Actual/DHW setpoint becomes directly settable.

157.0 °F is just an example of a possible temperature value.

Use the left/right buttons to move the  sign to the front of the temperature digits.



Use UP/DOWN buttons to increase/decrease the setpoint.

Press the ENTER or RIGHT button to confirm your alteration or press the BACK or LEFT button to cancel.

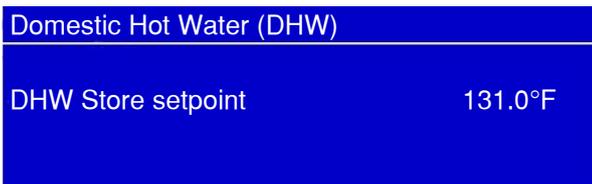
A setpoint is only visible on the main screen when no error or alert is active. In case of an active error or alert, the bottom right part of the PB screen is used to display the error or alert

#### 4.1.2 CHANGING THE DHW SETPOINT BY THE MENU (BUTTON).

Enter the menu by pressing the MENU button once. The header in the screen shows you are inside the main menu. Whilst scrolling through the menu you will see that the selected menu item is shown in a white rectangle. At the right, there will be an icon shown, depending on the selected item. The number of items depends on the selected/programmed options by the installer.



Enter a menu item by pressing ENTER or RIGHT. The header shows your location inside the menu, as seen in the following image on the next screen:



Use "DHW Store Setpoint" to set the hot water temperature

Change the setpoint by pressing CONFIRM  or RIGHT→, then change the setpoint using  and press CONFIRM  again.

If you are inside the menu (or a menu item) and want to go back one step in the menu press BACK/LEFT or ESC  or MENU .

## 5 Other menu items

### 5.1 Protected menu items

The display supports 3 different access levels; each with its own set of available menu items/parameters:

Level	Description
0: User	Basic info and settings only that are accessible for everyone.
1: Installer	Advanced information and settings; only to be accessed by an experienced installer/person.
2: Factory	Highest level information and settings, only available/relevant for factory Engineers.

If a certain menu item has been selected, the following password screen will appear where a specific password has to be entered:



*Users are only allowed to change parameters not needing a password. Installers have to contact their supplier for the password because of safety.*

 <b>WARNING</b>	Changing protected/safety parameters should only be conducted by experienced, licensed water heater operators and mechanics. Hazardous burner conditions can happen with improper operations.
---	---

## 5.2 Language setting

The display supports the following languages:

- |            |              |            |
|------------|--------------|------------|
| ▪ Chinese  | ▪ German     | ▪ Romanian |
| ▪ Croatian | ▪ Greek      | ▪ Russian  |
| ▪ Czech    | ▪ Hungarian  | ▪ Slovak   |
| ▪ Dutch    | ▪ Italian    | ▪ Slovene  |
| ▪ English  | ▪ Polish     | ▪ Spanish  |
| ▪ French   | ▪ Portuguese | ▪ Turkish  |

### 5.2.1 CHANGE LANGUAGE VIA THE MENU

1. From the Status Overview, press the MENU  button once
2. Select "Settings" (press UP/DOWN ↑↓ to highlight/select) and press the CONFIRM  button
3. Select "General Settings" (press UP/DOWN ↑↓ to highlight/select) and press the CONFIRM  button
4. Select "Language" (press UP/DOWN ↑↓ to highlight/select) and press the CONFIRM  button
5. Select the desired language (press UP/DOWN ↑↓ to highlight/select) and press the CONFIRM  button
  - For Chinese select '中文'.
  - For Croatian select 'Hrvatski'.
  - For Czech select 'Česky'.
  - For Dutch select 'Nederlands'.
  - For English select 'English'.
  - For French select 'Français'.
  - For German select 'Deutsch'.
  - For Greek select 'Ελληνικά'.
  - For Hungarian select 'Magyar'.
  - For Italian select 'Italiano'.
  - For Polish select 'Polski'.
  - For Portuguese select 'Português'.
  - For Romanian select 'Românesc'.
  - For Russian select 'Русский'.
  - For Slovak select 'Slovenský'.
  - For Slovene select 'Slovenščina'.
  - For Spanish select 'Español'.
  - For Turkish select 'Türkçe'.

Press ESC  or MENU  a few times until you have reached the Status Overview again

### 5.2.2 CHANGE THE LANGUAGE VIA THE MENU ICONS

The next steps describe how to change the display language via the icons displayed inside the menu, which can be useful if a foreign language is set, causing the user not able to understand the menu.

1. From the Status overview, press the MENU  button once.  
Scroll down until the SETTINGS  icon appears on the right-side of the display (and press ENTER):
2. In the following menu, press the SETTINGS icon  again (and press ENTER):
3. In the following menu screen, select the LANGUAGE icon  (and press ENTER to access the Language menu):
4. Select the desired language by scrolling through the list of available languages.  
Press ENTER/CONFIRM  to set the desired language, after you will automatically return to the General settings menu. Press ESC  or MENU  a few times until you have reached the Status Overview again..

### 5.3 Error logging

Errors will be logged for a stand-alone system or for a complete cascade system (based on the cascade settings). The display will monitor the error number(s) it receives from the water heater(s): new errors will be stored in the error log.

An error will be logged with a (Real Time Clock) time stamp (date and time) when the error was detected and a water heater ID of the water heater on which the error was detected.

Note: the error log is a completely different error logging mechanism than the one used by the burner control itself. Therefore, the error log is different from the (internal) error history of the burner control.

The error log can be seen from the error log menu, which is located in the Information menu. In the Error log menu the following options can be selected:

(Sub) Menu item	Description
Error Log	Show the error log (based on the selected filter options)
Filter Error Type	Filter errors based on the Error type (lockout/blocking)
Filter Boiler ID (Cascade System only)	Filter errors based on Boiler ID (Managing, Dep 1, Dep2, etc.)
Clear Error Log	Clear the error log (protected by password)

When no filtering option is selected (disabled) the error log will show all errors for that category. So, if both filters are disabled, the error log will show all the errors in the log.

The following table describes what is displayed inside the Error log:

Error Log content	Description
First line	- Boiler ID (for which boiler the error was detected – cascade system only) - Error code (internal) - Error number - Error type (lockout/blocking)
Second line	- Error description
Bottom line	- Time Stamp (date and time) when the error was detected (in the format configured in the Date & Time settings menu) - The selected error index from the total numbers of errors in the (filtered) error log

### 5.4 Service reminder

The Service reminder will remind the owner/user of the appliance to service the appliance every 2000 burn hours. When service is not done within this time, a message will be shown on the screen: "Service is required!", alternating with the normal status display.

NOTE: with the message "Service is required" the water heater keeps running, but maintenance must be done before resetting this message.

When the Service reminder has become active, the time it takes before service is actually done is being logged (in hours). This time is called the Service Overdue Time.

The Service reminder can be reset by the installer who services the appliance.

Service status information can be viewed at: Menu/ Information/ Service:

(Sub) Menu item	Description
Service history	View the Service history (log). For each service moment the Service overdue counter is stored. When the overdue counter is 0 hrs., it means service was done before the Service reminder was active. The log is ordered so the most recent service moment is shown first (on top of the list).
Hours since last service	Shows the number of hours (or burn hours) since the last service moment
Burn hours since last service	Shows the number of burn hours since the last service moment.
Hours till service	Shows the number of hours (or burn hours) until service is required
Burn hours till service	Shows the number of burn hours until service is required.
Hours till shutdown	When the Service shutdown function is enabled and the Service reminder is active, the number of hours until the appliance is shut down will be shown
Reset service reminder	Reset the Service reminder (and store Service overdue counter in the service history). Installer must enter the installer password first before it can be reset.

## 5.5 Available Menu items

Depending on the installed and programmed options (by the installer) following menu items could be visible.

Menu / Parameter	Description	Value / Unit
Central Heating (CH)	Enter the Central Heating (CH) menu	
Domestic Hot Water (DHW)	Enter the Domestic Hot Water (DHW) menu	
Information	Enter the Information menu	
Settings	Enter the Settings menu	
System Test	Enter the System Test menu	

### 5.5.1 CENTRAL HEATING (CH), DO NOT USE OR CHANGE THESE SETTINGS

Menu / Parameter	Description	Value / Unit
CH Setpoint	Set the CH setpoint	°F/°C
Outdoor reset	Enter the Outdoor Reset menu	

### 5.5.2 DOMESTIC HOT WATER (DHW)

Menu / Parameter	Description	Value / Unit
DHW Setpoint	Set the DHW setpoint	°F/°C
DHW Store Setpoint	Set the DHW store setpoint for DHW mode 1 and 2	°F/°C

Only DHW mode 1 is available, so use “DHW Store Setpoint” only.

### 5.5.3 INFORMATION

Menu / Parameter	Description	Value / Unit
Software versions	Enter the Software Versions menu	
Boiler Status	Enter the Boiler Status menu	
Boiler History	Enter the Boiler History menu	
Error Log	Enter the Error Log menu	
Service	Enter the Service menu	

### 5.5.4 SOFTWARE VERSIONS

Menu / Parameter	Description	Value / Unit
Display	Display the software checksum	[xxxx xxxx]
Boiler	Display the boiler software checksum	[xxxx xxxx]
Device Group	Display the boiler group ID	xxxMN

### 5.5.5 WATER HEATER STATUS

Menu / Parameter	Description	Value / Unit
Flow Temperature	Actual supply flow temperature	°F/°C
Flow 2 Temperature	Actual supply 2 flow temperature	°F/°C
Return Temperature	Actual return temperature	°F/°C
DHW Temperature	Actual DHW temperature	°F/°C
DCW Temperature	Actual DCW temperature	°F/°C
Outside Temperature	Actual outside temperature	°F/°C
Flue Temp	Actual flue gas temperature	°F/°C
Flue 2 Temp	Actual flue gas 2 temperature	°F/°C
System Temperature	Actual system temperature	°F/°C
0-10 V Input	Actual 0-10 V input value	V
Flowrate	Actual DHW flowrate	l/min
RT Input	Actual RT input status	open/closed
Water Pressure	Actual CH water pressure	bar/psi
Fan Speed	Actual fan speed	RPM
Ionization	Actual ionization current	µA
State	Actual burner state	
Error	Actual internal error code	#
Calculated Setpoint	Actual CH setpoint	°F/°C

### 5.5.6 WATER HEATER HISTORY

Menu / Parameter	Description	Value / Unit
Successful Ignitions	Display the number of successful ignitions	#
Failed Ignitions	Display the number of failed ignitions	#
Flame Failures	Display the number of flame losses	#
Operation Days	Display the total time in operation	days
CH Burner Hours	Display the amount of burn hours for CH	hrs.
DHW Burner Hours	Display the amount of burn hours for DHW	hrs.

### 5.5.7 ERROR LOG

Menu / Parameter	Description	Value / Unit
Error Log	Display the complete error log	
Filter Error Type	Set the error log filter	
Clear Error Log	Clear the complete error log	

### 5.5.8 SERVICE

Menu / Parameter	Description	Value / Unit
Service history	Display the service history	
Burn hours since last service	Display the burn hours since last service	hrs.
Burn hours till service	Display the hours remaining until next service	hrs.
Reset Service Reminder	Reset the service reminder	

### 5.5.9 SETTINGS

Menu / Parameter	Description	Value / Unit
General Settings	Enter the General Settings menu	
Boiler Settings	Enter the Boiler Settings menu	

### 5.5.10 GENERAL SETTINGS

Menu / Parameter	Description	Value / Unit
Language	Enter the Language menu	
Unit Type	Enter the Unit Type menu	
Date & Time	Enter the Date & Time menu	
Cascade mode	Enter the Cascade Mode menu	
Other Settings	Enter the Other Settings menu	

### 5.5.11 LANGUAGE

Menu / Parameter	Description	Value / Unit
English	Select the English language	English
Français	Select the French language	Français
中文	Select the Chinese language	中文
Italiano	Select the Italian language	Italiano

### 5.5.12 UNIT TYPE

Menu / Parameter	Description	Value / Unit
Metric (°C, bar)	Select Metric units	°C, bar
Imperial (°F, psi)	Select Imperial units	°F, psi

### 5.5.13 DATE & TIME

Menu / Parameter	Description	Value / Unit
Date	Set the current date	dd-mm-yyyy
Time	Set the current time	hh:mm
Time Zone Settings	Enter the time zone settings menu	
Display Settings	Enter the display settings menu	

#### 5.5.14 TIME ZONE SETTINGS

Menu / Parameter	Description	Value / Unit
Time Zone Correction	Set the time zone correction	
Daylight Savings Time	Select the daylight savings time mode	

#### 5.5.15 DISPLAY SETTINGS

Menu / Parameter	Description	Value / Unit
Time Notation	Select 24h or 12h time notation	24h/12h
Date Order	Select the date-format	
Day of Month	Select how the day of month is displayed	1 or 2 digits
Month	Select how the month is displayed	
Year	Select how the year is displayed	2 or 4 digits
Date Separation Character	Select the date separation character	
Day of Week	Select how the day of week is displayed	
Seconds	Select if seconds are displayed	yes/no

#### 5.5.16 CASCADE MODE

Note: for proper functioning of the cascade system, some settings have to be changed, see § 15.4.2 "Emergency mode" in the installation manual.

Menu / Parameter	Description	Value / Unit
Full	Select full cascade mode	
Basic	Select basic cascade mode	

#### 5.5.17 OTHER SETTINGS

Menu / Parameter	Description	Value / Unit
Status overview settings	Enter the status overview settings menu	
Modbus Address	Select the Modbus communication address	0...255
Modbus Stop bits	Select the number of Modbus communication stop bits	1 – 2
Startup Settings	Select the start-up logo (if enabled)	

#### 5.5.18 STATUS OVERVIEW SETTINGS

Menu / Parameter	Description	Value / Unit
Water pressure	Enable/Disable the CH water pressure	On / Off
State	Enable/Disable the burner state	On / Off
Temperature Selection ID	Enable/Disable the temperature selection ID(Tx) where x is the number of the selection	On / Off
Temperature selection	Outside temperature (T0) Demand based (T1) (Flow or DHW temperature based on active demand) Flow temperature (T2) DHW temperature (T3) System temperature (T4) (cascade supply temperature)	

#### 5.5.19 BOILER SETTINGS

Menu / Parameter	Description	Value / Unit
Boiler Parameters	Enter the Boiler Parameters menu	
Module Cascade Settings	Enter the Module Cascade Settings menu	
Boiler Cascade Settings	Enter the Boiler Cascade Settings menu	
Service	Enter the Service menu	

End of user's manual





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