Digital control panel

**WARNING**

**FIRE OR EXPLOSION HAZARD**

Failure to follow safety warnings exactly could result in serious injury, death or property damage.

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

**WHAT TO DO IF YOU SMELL GAS**

- Evacuate all persons from the vehicle.
- Shut off the gas supply at the gas container or source.
- Do not touch any electrical switch or use any phone or radio in the vehicle.
- Do not start the vehicle’s engine or electric generator.
- Contact the nearest gas supplier or certified service technician for repairs.
- If you cannot reach a gas supplier or certified service technician, contact the nearest fire department.
- Do not turn on the gas supply until gas leaks have been repaired.

Installation and service must be performed by a certified service technician, service agency, or the gas supplier.
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<td>Installation</td>
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</tbody>
</table>

**California Proposition 65** lists chemical substances known to the state to cause cancer, birth defects, death, serious illness or other reproductive harm. This product may contain such substances.

**Trademark information**

Truma CP plus VarioHeat reffered to as CP plus VarioHeat below.

Truma AquaGo reffered to as AquaGo below.

Truma VarioHeat comfort US reffered to as VarioHeat below.

**Intended use**

The CP plus VarioHeat control panel is suitable only for installation in RVs used for recreation, travel, or camping.

- The CP plus VarioHeat control panel controls and monitors a VarioHeat and/or AquaGo.
Consumer Safety Information

Safety Definitions

⚠️ This is the safety alert symbol. This symbol alerts you to potential hazards that can kill or hurt you and others.

⚠️ WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE is used to address practices not related to physical injury.

Other important information or tips.

Safety Behavior and Practices

⚠️ WARNING

- Use the CP plus VarioHeat control panel only when it is in a technically sound condition.

- Have a specialist immediately remedy any malfunctions. Remedy the malfunction yourself only if a remedy is specified in the troubleshooting chart in these operating instructions.

- Have a defective CP plus VarioHeat control panel repaired only by the manufacturer or its service department.

- Any alteration to the appliance or its controls can be dangerous and will void the warranty.

- Switch OFF the VarioHeat furnace and/or AquaGo when refueling, pumping gas or when the recreational vehicle (RV) is in a parking garage, on a ferry, or in enclosed spaces (such as a garage, repair shop). Make absolutely sure that the VarioHeat furnace and/or AquaGo cannot be switched on via the time switch. To do this, you have to switch the CP plus VarioHeat control panel off or interrupt the power supply to the control panel.
Operating Instructions

Display and Operating Elements

Rotary push button

The rotary push button (8) is used to select and change setpoints and parameters; it is then tapped to save the values. Selected menu items flash.

- **Turn clockwise**
  - The menu is scrolled through from left to right
  - Increase values (+)

- **Turn counterclockwise**
  - The menu is scrolled through from right to left
  - Reduce values (-)

- **Tap**
  - Save a selected value
  - Select a menu item, go to the setting level

- **Press and hold**
  - Main switching function – control panel on/off.

Back button

Press the Back button (9) to go back to a previous menu and cancel settings. This means that the previous values remain unchanged.

Instructions for use

- If there is an interruption to the power supply, the clock has to be reset.

- If a new furnace is connected to the bus system of the control panel, repeat the procedure described in “Initial start-up”.

Fig. 1

1 Display
2 Status line
3 Menu line (top)
4 Menu line (bottom)
5 Power supply display
   120 VAC (mains supply)
6 Time switch display
7 Settings/Values
8 Rotary push button
9 Back button

Description

- A rotary push button (8) is used to select menu items in the menu lines (3 + 4) and to adjust settings.

- Information is shown on a backlit display (1).

- The Back button (9) is used to go back to a previous menu.
Initial start-up
Perform the following steps for initial start-up:
1. Switch on the power supply.
   - 12 V DC for the CP plus VarioHeat control panel and VarioHeat heater
2. Start searching for the appliances in the menu item “Service menu” –> “RESET” –> “PR SET”.

When you have confirmed the selection, the CP plus VarioHeat control panel is initialized. “INIT ..” appears on the display while this is in progress. This stores the devices that have been found in the control panel.

Start-up
Start / Stand-by screen
When the Truma CP plus VarioHeat control panel is connected to the power supply, a start screen is displayed after a few seconds.

Fig. 2
- The display alternates between the current time and the room temperature that you set.
- Special displays on command via CI-BUS (refer to “Special displays” on page ).
- After repairs or upgrades, “initial start-up” has to be repeated.

Functions
The functions of menu lines (Fig. 1 – 3, 4) of the Truma CP plus VarioHeat control panel can be selected in any sequence. The operating parameters are shown in the status line (Fig. 1 – 2) or in the display (Fig. 1 – 6).

Selecting the setting level
- Tap the rotary push button.

The display shows the setting level. The first icon flashes.

Fig. 3

Switching on / off
Switching on
- Tap the rotary push button.

Previously set values and operating parameters are active again when the panel is switched on.

Switching off
- Press the rotary push button for more than 4 seconds.

The switching off process of the Truma CP plus VarioHeat control panel may take a few minutes due to internal time lags of the VarioHeat or the Truma AquaGo (“OFF” is displayed during this time).

Changing the room temperature
1. Use the rotary push button to select the icon in the menu line (Fig. 4 – 3).
2. Tap the rotary push button to go to the setting level.
3. Use the rotary push button to select the heater (HEATER).
4. Tap the rotary push button to confirm the selection.
5. Select the desired temperature with the rotary push button.
6. Tap the rotary push button to confirm the value.
Heater (HEATER)
Adjustable temperature range 40 – 86 °F (1 °F increments) or 5 – 30 °C (1 °C increments)
a = Heater on – icon is lit; the icon flashes until the room temperature is reached.

Selecting the fan speed

With a heater connected

1. Use the rotary push button to select the icon in the menu line (Fig. 5 – 3).
2. Tap the rotary push button to go to the setting level.
3. Select the desired fan speed with the rotary push button.
4. Tap the rotary push button to confirm the value.

Fig. 5

The temperature range below 41 °F (5 °C; OFF) must be selected in order to switch off the heater.

Heater (HEATER)

<table>
<thead>
<tr>
<th>Icon</th>
<th>Operating mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>OFF</td>
<td>Fan is switched off. (Can be selected only if no appliance is running.)</td>
</tr>
<tr>
<td>a</td>
<td>VENT¹</td>
<td>Circulating air, if no appliance is running. Speed can be selected in 10 increments.</td>
</tr>
<tr>
<td>b</td>
<td>AUTO</td>
<td>Automatic fan control depending on the heating output / optimized to the current heating requirements</td>
</tr>
<tr>
<td>c</td>
<td>BOOST²</td>
<td>Fast room heating Available if the difference between the selected and the current room temperature is greater than 50 °F(10 °C).</td>
</tr>
<tr>
<td>d</td>
<td>NIGHT</td>
<td>Ultra-quiet fan operation. Heater runs only on part load; the set room temperature may not be reached (depending on the size of the vehicle and the outdoor temperature).</td>
</tr>
</tbody>
</table>

¹ Can increase wear and tear on the motor, depending on how often it is used.
² “BOOST” fan speed uses more electricity, is louder, and increases wear and tear on the motor.

When the heater is switched on (room temperature set), the fan speed selected in the previous heating process is shown in the status line (Fig. 1 – 2). The default setting is “AUTO”.

Fig. 4
Change hot water mode

1. Use the rotary push button to select the icon in the menu line (Fig. 6 – 3).
2. Tap the rotary push button to go to the setting level.

3. Select the desired hot water mode with the rotary push button.
4. Tap the rotary push button to confirm the selection.
5. Select the desired hot water temperature with the rotary push button 95 - 120 °F (35 - 49 °C).
6. Tap the rotary push button to confirm the value.

Hot water mode

<table>
<thead>
<tr>
<th>Icon</th>
<th>Operating mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>OFF</td>
<td>AquaGo is switched off.</td>
</tr>
<tr>
<td>a</td>
<td>ECO</td>
<td>The AquaGo is now running in energy-saving mode.</td>
</tr>
<tr>
<td>b</td>
<td>COMFOR</td>
<td>The AquaGo is now running in a mode that provides rapid availability of hot water.</td>
</tr>
<tr>
<td>c</td>
<td>ANTIFR</td>
<td>Prevention of freezing using 12 VDC electricity:</td>
</tr>
</tbody>
</table>

Fig. 6

If the warning “CLEAN” is displayed, the AquaGo must be decalcified (see “2.2 CLEAN” page 9).

3. Select the desired hot water mode with the rotary push button.
4. Tap the rotary push button to confirm the selection.
5. Select the desired hot water temperature with the rotary push button 95 - 120 °F (35 - 49 °C).
6. Tap the rotary push button to confirm the value.

Hot water mode

<table>
<thead>
<tr>
<th>Icon</th>
<th>Operating mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–</td>
<td>OFF</td>
<td>AquaGo is switched off.</td>
</tr>
<tr>
<td>a</td>
<td>ECO</td>
<td>The AquaGo is now running in energy-saving mode.</td>
</tr>
<tr>
<td>b</td>
<td>COMFOR</td>
<td>The AquaGo is now running in a mode that provides rapid availability of hot water.</td>
</tr>
<tr>
<td>c</td>
<td>ANTIFR</td>
<td>Prevention of freezing using 12 VDC electricity:</td>
</tr>
</tbody>
</table>

Operating mode with installed electric anti-freeze kit (available as an accessory) and appliance switched on. The temperature in the appliance is automatically kept above 41 °F (5 °C).

During operation, the icon is flashing.

Setting the time switch

| DANGER |

Risk of carbon monoxide poisoning. The enabled time switch switches the heater on, even when the recreational vehicle (RV) is parked. The exhaust gas from the heater can cause poisoning in enclosed spaces (e.g. garages, repair shops).

If you park the RV in an enclosed space:

1. Block the fuel supply (gas) to the heater.
2. Disable the time switch of the CP plus VarioHeat control panel (OFF).
3. Switch off the heater on the CP plus VarioHeat control panel.

If the time switch is ON, the “Disable time switch (OFF)” menu is displayed.

1. Use the rotary push button to select the icon in the menu line (Fig. 1 – 4).
2. Tap the rotary push button to go to the setting level.

Enter the start time

Use the rotary push button to set the hours and then the minutes.

<table>
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<th>24 h mode</th>
<th>12 h mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>![24 h mode diagram]</td>
<td>![12 h mode diagram]</td>
</tr>
</tbody>
</table>

Fig. 7  Fig. 8
Enter the end time
Use the rotary push button to set the hours and then the minutes.

- 24 h mode
- 12 h mode

Fig. 9  Fig. 10

If the start/end time is earlier than the time when you entered the settings, the operating parameters are not active until the next start/end time is reached. Until then, the operating parameters set outside the time switch remain valid.

Set the room temperature
1. Depending on the connected appliance, use the rotary push button to choose between heater or Truma AquaGo.
2. Tap the rotary push button to confirm the selection.
3. Select the desired room temperature with the rotary push button.
4. Tap the rotary push button to confirm the value.

Fig. 11

Select fan speed
1. Select the desired fan speed with the rotary push button.
2. Tap the rotary push button to confirm the value.

Fig. 12

Selecting the hot water temperature
1. Select the desired hot water mode with the rotary push button.
2. Tap the rotary push button to confirm the selection.
3. Select the desired hot water temperature with the rotary push button 95 - 120 °F (1 °F increments) or 35-49 °C (1 °C increments).
4. Tap the rotary push button to confirm the value.

Enable the time switch (ON)
1. Enable the time switch (ON) with the rotary push button
2. Tap the rotary push button to confirm the value.

Fig. 13

The time switch remains enabled, even for several days, until it is disabled (OFF). If the time switch is programmed and enabled, the time switch icon flashes.

Disable time switch (OFF)
1. Tap the rotary push button to go to the setting level.
2. Disable the time switch (OFF) with the rotary push button
3. Tap the rotary push button to confirm the value.

Fig. 14
Set clock

Display 24 h mode

Display 12 h mode

Fig. 15

Fig. 16

Use the rotary push button (Fig. 1 – 8) to select the “Set clock” icon in the menu line (Fig. 1 - 4).

The hour display flashes.

1. Use the rotary push button (Fig. 1 – 8) to set the hours.
2. Tap the rotary push button again and the minute display flashes.
3. Use the rotary push button to set the minutes.
4. Tap the rotary push button to confirm the value.

Service menu

1. Calibrating the room temperature sensor of the heater (OFFSET)
   The room temperature sensor of the connected heater can be adjusted individually to suit the location of the sensor. Settings can be made in the range from 41 °F to 23 °F (5 °C to -5 °C) in 1 °F (0.5 °C) increments.

   Example:
   Set room temperature 75 °F; OFFSET = -1 °F; Setpoint for heater = 74 °F

   Fig. 17

   Default setting: 0 °F (0 °C).

2. AquaGo
   Available only when AquaGo is connected.

   2.1 CALCI
   Indicates the relative level of calcification of the AquaGo as a percentage.

   With 100% calcification, the warning “CLEAN” is displayed in the Hot water mode menu (see “Change hot water mode” page 7) and the AquaGo must be decalcified.

2.2 CLEAN
   (Only AquaGo comfort / AquaGo comfort plus.)

   ▶️ WARNING Irritation of skin and eyes in case of contact with decalcification agent
   Wear protective gloves, eye protection and face protection to avoid contact.

   ▶️ WARNING The directions in the AquaGo operating instructions must be followed.

   Starts or stops the decalcification process.

   The AquaGo operating instructions contain a complete description of the decalcification process (see “Decalcification”).

   Start = starting decalcification
   Stop = interrupting decalcification

   When the decalcification process is interrupted, the AquaGo is automatically rinsed and can be used only after this.

2.3 HARDN
   The appliance must be decalcified regularly depending on water hardness and hot water consumption.

   Specify the hardness of the water that is used. Is needed to display the relative calcification of the AquaGo (see “2.1 CALCI”).

   Default = 1

<table>
<thead>
<tr>
<th>Level</th>
<th>Water hardness (mg/l CaCO₃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Soft 0 - 60</td>
</tr>
<tr>
<td>2</td>
<td>Moderately hard 61 - 120</td>
</tr>
<tr>
<td>3</td>
<td>Hard 121 - 180</td>
</tr>
<tr>
<td>4</td>
<td>Very hard &gt; 180</td>
</tr>
</tbody>
</table>
3. °C / °F temperature display
Select temperature display °C (Celsius) or °F (Fahrenheit).

Fig. 18
Default setting: °C (Celsius).

4. Change backlighting
Change the backlighting of the CP plus VarioHeat control panel in 10 increments.

Fig. 19

5. 12 h / 24 h Mode
Display in 12 h (a. m., p. m.) / 24 h mode.

Fig. 20
Default setting: 24 h mode

6. Change language
Select the desired language (German, English, French, Italian).

Fig. 21
Default setting: English

7. Show the version number
Display the version number of the heater, Truma AquaGo, CP plus VarioHeat control panel.

Example:
H 1.20.01 -> H = appliance; 1.20.01 = Version number

Appliance
P = CP plus VarioHeat control panel
H = VarioHeat
W = AquaGo

Fig. 22

8. RESET
The reset function resets the CP plus VarioHeat control panel to the factory settings. All your settings are deleted. Newly connected devices are recognized and recorded in the control panel.

- Switch on the power supply
  – 12 V DC for the CP plus VarioHeat control panel and VarioHeat heater

Reset
1. Select “RESET” with the rotary push button (Fig. 1 – 8).
2. Tap the rotary push button.
3. “PR SET” is shown in the display.
4. Tap the rotary push button to confirm.

Fig. 23
When you have confirmed the selection, the CP plus VarioHeat control panel is initialized.

“INIT ..” appears on the display while this is in progress.

Special displays

External control panel (CI-BUS)
If a command is sent from an external control panel with CI-BUS, “CI” is displayed.

The CP plus VarioHeat control panel CI-BUS is a separate variant that is fitted only in the factory.
Display energy type

In heating mode, gas (a) is shown as the energy type.

Fig. 24

⚠️ Warning / Error

Warning

If an operating parameter is outside the target range, the Truma CP plus VarioHeat control panel immediately jumps to the “Warning / Error” menu level and displays the respective fault code. The cause of the warning can be determined and remedied with the aid of the troubleshooting guide (from page 13 and ff).

Return to setting level

- Tap the rotary push button or press the back button. If the display is in stand-by mode, tap to activate the background lighting and tap again to acknowledge the warning.

If possible, the appliance concerned continues to operate. When the operating parameter is within the target range again, this icon extinguishes again automatically.

Display warning code

1. Select the icon (“Fig. 25”) with the rotary push button.
2. Tap the rotary push button.
   - The code of the current warning is displayed. The troubleshooting chart (refer to “Troubleshooting” on page 13 and ff) can be used to determine the cause of the warning and remedy the error.

Fig. 25

Malfunction

In the event of an error, the Truma CP plus VarioHeat control panel immediately jumps to the “Warning / Error” menu level and displays the respective fault code. The cause of the error can be determined and remedied with the aid of the troubleshooting guide (from page 37 and ff).

Cause remedied / return to setting level

- Tap the rotary push button.
   - The respective appliance is restarted.

This may take a few minutes due to internal time lags of connected appliances. If the cause was not remedied, the malfunction will occur again and the control panel will again go to the “Warning / Error” menu level.

Cause not remedied / return to setting level

- Press the back button.

In this case, the error is not acknowledged in the CP plus VarioHeat control panel and the warning icon (“Fig. 25”) remains. The appliance remains in error status. Other connected appliances can be operated.

Reading out the error fault code

When the error has been acknowledged, the fault code can be opened again:

1. Select the warning symbol (“Fig. 25”) with the rotary push button.
2. Tap the rotary push button. The current error fault code is displayed.
## Technical data

<table>
<thead>
<tr>
<th>Display</th>
<th>LCD, monochrome, with backlighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagonal</td>
<td>3.3 in. (84 mm)</td>
</tr>
</tbody>
</table>

| Dimensions (L x W x H)        | 3.62 x 4.06 x 1.58 in. (92 x 103 x 40 mm) |

| Operating temperature range   | 13 °F to 140 °F (-25 °C to +60 °C) |

| Storage temperature range     | 13 °F to 158 °F (-25 °C to +70 °C) |

| Interface                     | TIN bus                           |

| Power supply                  | 8 – 16.5 VDC                      |

| Power consumption             | max. 65 mA (100% backlighting)    |
|                               | 10 mA (stand-by)                  |

| Quiescent current             | 3 mA (Off)                        |

| Weight                        | approx. 0.22 lb (approx. 100 g)   |

| Protection class              | Class III                         |

| Protection type               | IP00                               |

Subject to change without notice.

## Maintenance

This control panel is maintenance-free.

To clean the front, you can use a non-abrasive cloth moistened with water (and a neutral soap solution).
### Troubleshooting chart VarioHeat (H)

<table>
<thead>
<tr>
<th>Error code</th>
<th>Potential cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| E 2 H      | Flame not detected:  
- Gas cylinder empty  
- Gas cylinder or quick-acting valve in the gas supply line closed  
- Butane concentration in the gas cylinder too high  
- Combustion air infeed or exhaust gas outlet closed |  
- Replace gas cylinder  
- Check the gas infeed and open the valves  
- Use propane (butane is not suitable for heating, especially at temperatures below 10 °C)  
- Check openings for dirt (slush, ice or leaves) and remove |
| E 16 H     |                |          |
| W 25 H     | Excess voltage > 16.4 VDC |  
- Check battery voltage and power sources, such as battery charger |
| W 26 H     | Undervoltage, battery voltage too low < 10 VDC |  
- Charge the battery, replace old battery |
| W 27 H     | Warm air outlets blocked  
- Circulated air intake blocked  
- EN end outlet closed |  
- Remove blockage  
- Remove blockage  
- Open EN end outlet |
| W 29 H     | Imminent undervoltage, battery voltage too low < 10.4 VDC |  
- Charge battery |
| W 255 H    | Heater has no 12 VDC power supply  
- No connection between heater and control panel |  
- Ensure 12 VDC power supply  
- Connect heater and control panel |

If these measures do not remedy the malfunction or if error codes are displayed that you cannot find in the troubleshooting chart, contact your dealership, Truma Service 1-855-558-7862 or one of our authorized Service Partners.
<table>
<thead>
<tr>
<th>Error code</th>
<th>Potential cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 1 W</td>
<td>Flame not detected</td>
<td>There is a flame-detection error at the burner because the flame was not detected after release of gas and ignition. <strong>Important:</strong> The system indicates this error only after three attempts at intervals of approximately 30 seconds.</td>
</tr>
<tr>
<td>E 2 W</td>
<td>Error at over temperature switches (EOS, BOS)</td>
<td>The exhaust over temperature switch (EOS) or burner over temperature switch (BOS) is open/unplugged.</td>
</tr>
<tr>
<td>E 3 W</td>
<td>Error at exhaust pressure switch (EPS)</td>
<td>The EPS did not close when the flue fan was actuated because the fan did not push enough air through the exhaust channel. A cause could be, e.g., blocking of the exhaust channel or a faulty switch. OR The EPS is closed even though the flue fan is not running. Cause is a defective EPS or flue fan.</td>
</tr>
<tr>
<td>E 4 W</td>
<td>Error at water over temperature switch (WOS)</td>
<td>The WOS opened at a water temperature of over 185 °F (85 °C).</td>
</tr>
<tr>
<td>E 5 W</td>
<td>Flame detected at incorrect time</td>
<td>There is an error in flame detection of the burner because the flame was detected: • before ignition or • before the release of gas or • after the gas was switched off.</td>
</tr>
<tr>
<td>E 6 W</td>
<td>Error in the safety circuit for gas valve</td>
<td>There is a heating request but gas cannot be released. One of the switches WOS, EOS, BOS, EPS is open/unplugged.</td>
</tr>
<tr>
<td>E 7 W</td>
<td>Error of burner MCU internal RAM</td>
<td>Error detected in the burner MCU’s internal safety monitoring feature (safety variables are no longer correct or RAM/STACK was overwritten by mistake).</td>
</tr>
<tr>
<td>E 9 W</td>
<td>Malfunction of water outlet temperature sensor WOT</td>
<td>Water outlet temperature sensor WOT • has a short circuit or • is open/unplugged. • the temperature of the sensor is colder than 14 °F (-10 °C).</td>
</tr>
<tr>
<td>E 10 W</td>
<td>Error in the safety circuit</td>
<td>There is a heating request but gas is not released because a valve-actuation signal was not activated.</td>
</tr>
<tr>
<td>E 11 W</td>
<td>Error of MCU watchdog gas release</td>
<td>There is a heating request but the MCU watchdog does not release the gas path.</td>
</tr>
<tr>
<td>W 12 W</td>
<td>Internal error</td>
<td></td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Details</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>W 13 W</td>
<td>Short circuit shut-off valve</td>
<td>Short circuit detection in the gas valve (shut-off part) detected a current &gt; 1000 mA and shut off.</td>
</tr>
<tr>
<td>W 16 W</td>
<td>Malfunction of the MCU</td>
<td>Internal error of the control unit.</td>
</tr>
<tr>
<td>W 20 W</td>
<td>Malfunction of water inlet temperature sensor WIT</td>
<td>Water inlet temperature sensor WIT</td>
</tr>
<tr>
<td></td>
<td>• has a short circuit or</td>
<td>• is open/unplugged or</td>
</tr>
<tr>
<td></td>
<td>• the temperature of the sensor is colder than 14 °F (-10 °C).</td>
<td></td>
</tr>
<tr>
<td>W 21 W</td>
<td>Malfunction of circulation line temperature sensor WCT</td>
<td>Circulation line temperature sensor WCT</td>
</tr>
<tr>
<td></td>
<td>• has a short circuit or</td>
<td>• is open/unplugged or</td>
</tr>
<tr>
<td></td>
<td>• the temperature of the sensor is colder than 14 °F (-10 °C).</td>
<td></td>
</tr>
<tr>
<td>E 22 W</td>
<td>Malfunction of gas valve, modulation section</td>
<td>Error at gas valve, modulation level, because</td>
</tr>
<tr>
<td></td>
<td>• the modulator has a short circuit or</td>
<td>• is open/unplugged.</td>
</tr>
<tr>
<td>W 23 W</td>
<td>Voltage is too high</td>
<td>The main power supply’s voltage detector measured a voltage level of &gt;16.4 V.</td>
</tr>
<tr>
<td>W 24 W</td>
<td>Voltage is too low</td>
<td>The main power supply’s voltage detector measured a voltage level of &lt;10 V.</td>
</tr>
<tr>
<td>E 25 W</td>
<td>Flue fan current consumption error</td>
<td>The current detector for the flue fan has measured a current outside the permitted limits.</td>
</tr>
<tr>
<td>W 26 W</td>
<td>Circulation pump current consumption error</td>
<td>The current detector at the circulation pump has measured a current outside the permitted limits.</td>
</tr>
<tr>
<td>W 27 W</td>
<td>Water circulation pump is running dry.</td>
<td>• The circulation pump does not generate water flow. The water system may not be filled or not sufficienty vented.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• The circulation pump tries (20 times) to generate a water flow every 30 s (if successful, the error is reset).</td>
</tr>
<tr>
<td>W 28 W</td>
<td>Too low gas pressure.</td>
<td>Gas supply (in vehicle) to the appliance insufficient.</td>
</tr>
<tr>
<td>W 29 W</td>
<td>Too high heat power required.</td>
<td>You are trying to use more hot water than the appliance can supply.</td>
</tr>
<tr>
<td>W 30 W</td>
<td>Risk of freezing.</td>
<td>Temperature in the appliance below 27 °F (3 °C).</td>
</tr>
<tr>
<td>W 31 W</td>
<td>Decalcification finished.</td>
<td></td>
</tr>
<tr>
<td>W 32 W</td>
<td>Current too low.</td>
<td>Current in the antifreeze kit too low (e.g. cable break).</td>
</tr>
<tr>
<td>W 33 W</td>
<td>Current too high.</td>
<td>Current in the antifreeze kit too high (e.g. short circuit).</td>
</tr>
</tbody>
</table>

If these measures do not remedy the malfunction or if error codes are displayed that you cannot find in the troubleshooting chart, contact your dealership, Truma Service 1-855-558-7862 or one of our authorized Service Partners.
Installation instructions

Read and follow safety rules and instructions before operating this control panel Truma CP plus VarioHeat.

Safety Information

- Installation and Service must be performed by an authorized Truma recommended installer, service agency or OEM. Improper installation, alteration, service or maintenance can cause property damage, personal injury or loss of life.

- Do not attempt installation as a Do-it-Yourself project.

- Install in recreational vehicles (RVs) only. RVs are recreational vehicles designed as temporary living quarters for recreation, camping, or travel use; such vehicles have their own power or are towed by another vehicle.

- DO NOT modify the appliance in any way. This is dangerous and will void the warranty.

- DO NOT HI-POT appliance unless electronic (circuit board) has been disconnected.

- DO NOT use battery charger to supply power to appliance, even when testing.

- DO NOT connect the 12 Volt DC power to the appliance if the vehicle requires welding. Electrical welding will cause serious damage to the appliance.

- DO NOT shorten the electrical connection cable(s) or remove the sticker that indicates polarity.

- Switch off the vehicle’s on-board power supply during installation and when connecting the appliance.

- The appliance may be installed only in the specified position.

USA and CANADA
This appliance must be installed in accordance with local codes or, in the absence of local codes, the Standard for Recreational Vehicles, ANSI A119.2/NFPA 501C or CAN/CSA-Z240 RV.

Description
The CP plus VarioHeat control panel (with polarity protection) is supplied with voltage via a 12 V connector cable. The control panel is connected with a VarioHeat and/or AquaGo with a connector cable (TIN bus).

Dimensions

![Dimensions Diagram]

Fig. 28 – Image not to scale

Installation location
Install the control panel in a location that is protected from moisture and wetness.

Install the control panel at eye level so that it is easy to read the display.

- Prepare an installation opening for the control panel.
Wiring diagram

![Diagram showing wiring connections for VarioHeat and AquaGo](image)

**Fig. 30 – Rear view**

[NOTICE] If any of the original wire as supplied with the appliance must be replaced, it must be replaced with wire AWG# 18 - 105 °C - UL1015 or its equivalent.

**Connection**

[NOTICE] Danger from electrostatic charge. Electrostatic charges can destroy the electronics.

- Establish a connection to ground (potential equalization) before touching any electronics.
- Observe the ESD regulations.

Install the connector cable (TIN bus) in a loop so that it is not under tension. It must be possible to pull the control panel about 8 in. (20 cm) out of the installation opening with no tension on the connector. Do not pull on the connector cable (TIN bus) when it is plugged into the control panel.

**Fig. 31 – CP plus cover (contact safety device)**

- Plug the connector cable (TIN bus) into the control panel and run the cable to the VarioHeat and / or AquaGo.
- The plus cable must be protected with a 1 ampere fuse.
- Plug in the 12 V connector cable and connect to a 12 VDC power supply (permanent plus).
Installation

- Mount the control panel frame on to the wall with 4 screws.

Fig. 32 – Front view

- Hook the top of the control panel into the frame via 2 latches.
- Fix the top of the control panel in place with a screw (supplied).
- Slide the rotary push button on to the shaft.

Fig. 33 – Assemble top of control panel and rotary push button

Subject to change without notice.
In case you encounter any problems, please contact the Truma Service Center at 855-558-7862 or one of our authorized service partners. For details see www.truma.net.

Please have the model number and serial number (on furnace’s type plate) handy when you call.