Harmony

Utility Management System

User Instructional Handbook

Harmony

Utility Management System

Easy Access Controls >>

Relax knowing that your Auto-Sleeper is fitted with the Harmony Utility Management System. The Harmony UMS combines the latest electrical systems from innovative UK electrical manufacturer Sargent and renowned German manufacturer Truma. The UMS allows for straightforward control of your on-board leisure facilities from one, easily accessible location. Plus, for even greater peace of mind, your UMS features Sargent's CAT6 vehicle tracker, which can be monitored remotely using 'Auto-Sleepers LOCATE.'

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Auto-Sleepers MOTORHOMES OF EXCELLENCE

truma SARGENT

www.auto-sleepers.co.uk/harmony

Lighting, Water and Power

You're in Control >>

An integral part of the Harmony UMS; Auto-Sleepers motorhomes are fitted with Sargent's EC700 LCD touch-screen control panel allowing you to easily monitor and control your motorhome's on-board systems. This functional all-in-one panel makes it simple to manage your lighting, battery and water so that you can spend more time enjoying your trips away.

This section of the handbook will guide you through the operation of the electrical system. Please also see the online brochure and how-to-videos which will include any later updates or amendments at www.auto-sleepers.co.uk/harmony

Further technical details are contained in the supporting technical manual available from www.sargentltd.co.uk

Safety First >>

For the safe operation of all electrical equipment within your motorhome it is important that you read and fully understand these instructions. If you are unsure of any point please contact your dealer / distributor for advice before use.

The system has a number of key components that you will need to be familiar with before attempting to use the system, these are:

- The EC700 Power Supply Unit (PSU) - a combined mains consumer unit and 12V controller generally located within a habitation area seat base.
- The EC700 Control Panel (CP) - a remotely located user control panel used to turn circuits on and off and to display battery, water tank and other system information. This panel uses simple straightforward controls and reliable data communication to the PSU.
- The PX300 Intelligent Battery charger 300W - A separate, air cooled 300 Watt multi-stage power converter unit that charges the batteries and provides 12V DC power.
- The EM40 Vehicle Interface Unit - This small unit is are generally located within a habitation area seat base. The unit houses fuses for the fridge, vehicle battery and other systems. It also provides connections for the optional tow bar harness.

The Power Supply Unit

Power Supply Unit - Component Layout

The Sargent EC700 PSU is located in the front offside upper locker and similar locations

Activating The System

The EC700 system has a shut-down feature that can be used when the vehicle is in storage. This allows the leisure electronics to be turned off when not required to save battery power. When in the off state the alarm and tracking system supplies are still active, all other supplies are turned off.

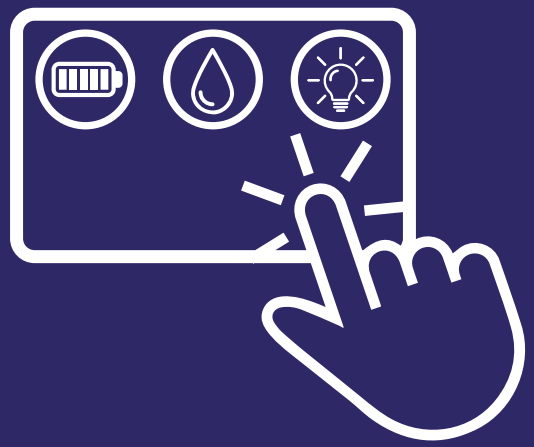
Before using the system please ensure the system shut-down switch is in the on position (button in) the system is now active.

Note: if you plan to use the Auto-Sleepers LOCATE remote features the system needs to be active.

Connecting to the Mains 230V supply and Safety checks

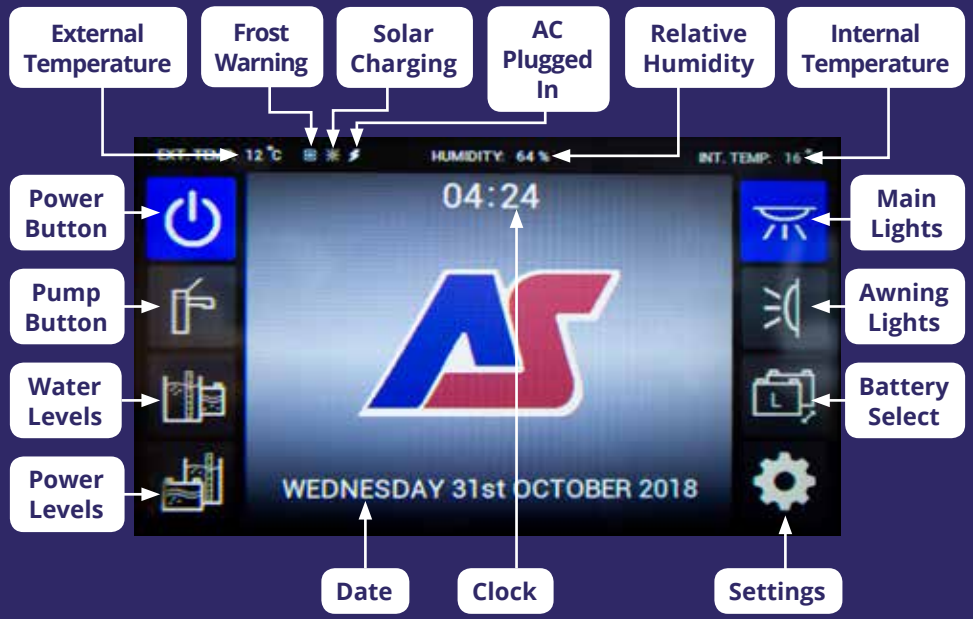
For your safety it is IMPORTANT that you follow these connection instructions each time your Leisure Vehicle is connected to a mains supply. This section assumes that the system is complete and that a Leisure battery has been installed (see page 18).

A. Ensure suitability of the Mains Supply. Your motorhome should only be connected to an approved supply that meets the requirements of BS7671 or relevant harmonised standards. In most cases the site warden will hold information regarding suitability of supply. If using a generator you also need to comply with the requirements / instructions supplied with the generator. Please note that some electronic generators may not be compatible with your leisure system. Further generator operational information is contained elsewhere in this manual.
B. Switch the PSU internal Power Converter OFF. Locate the green 'Charger' power switch on the PSU and ensure the switch is in the off position (button out) before connection to the mains supply.
C. Connect the Hook-up Lead. Firstly connect the supplied hook-up lead (orange cable with blue connectors) to the Leisure Vehicle and then connect to the mains supply.
D. Check Residual Current Device operation. Locate the RCD within the PSU and ensure the RCD is switched on (lever in up position). Press the 'Test' button and confirm that the RCD turns off (lever in down position). Switch the RCD back to the on position (lever in up position). If the test button failed to operate the RCD see page 17.
E. Check Miniature Circuit Breakers. Locate the MCB's within the PSU (adjacent to the RCD) and ensure they are all in the on (up) position. If any MCB's fail to 'latch' in the on position see page 17.
F. Turn the PSU ON. Locate the black 'Shut-down' button and ensure it is in the on position (press button in). Locate the green 'Charger' switch on the PSU and turn to the on position (press button in). The charger switch will illuminate when turned on.
G. Check correct Polarity. Locate the 'Reverse polarity' indicator on the PSU and ensure that the indicator is NOT illuminated. If the indicator is illuminated see page 17.
H. Check operation of equipment. It is now safe to operate the 12V and 230V equipment.



The Control Panel

Your control panel will have an appearance as below, but depending on your vehicle specification the control panel features will vary. Not all features are present in all vehicles



Control Panel Operation

Power Button – Pressing this button switches on power at the PSU and enables the water pump(s) and lights to be switched on and off. When turned on the button will be back lit blue. The power button can also automatically turn some of the lights on when it is switched from off to on.

Pump Button – Pressing this button switches the pumps on and off. When on the button will be back lit blue.

Water Levels – Pressing this button takes you to the water levels screen, allowing you to view the water levels in the fresh and waste tanks.

Power Levels – Pressing this button takes you to the power levels screen, allowing you to view: battery voltages, active battery current, AC current and solar current.

Main Lights – Pressing this button toggles the main lighting system on and off, When on the button will be back lit blue.

Awning lights – Pressing this button toggles the awning / entry lights on and off, When on the button will be back lit blue.

Battery Select – Pressing this button changes the source of battery power between the vehicle battery and leisure battery. This will also prioritise charging from the on board charger or solar panel depending on setting.

Settings – Pressing this button takes you to the first settings screen (power settings), from there the other settings screens can be accessed (power settings, lighting settings, screen settings, time & date)

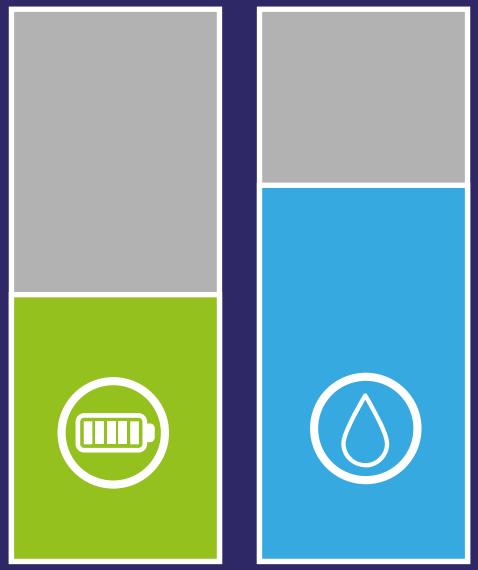
Screen Wake – after a period of inactivity (the default time is five minutes) the screen will power down and the back-light will switch off to help conserve power. Simply touch the screen in any place to wake the screen. The screen time out time can be changed on the screen settings screen (see page 14 for full details)

Top Bar – the top bar displays the external temperature, relative humidity, internal temperature, AC plugging status, solar charging status, and frost warning status. On other screens humidity is replaced by the clock.

The lightning symbol is displayed when AC mains power is connected to the system.

The solar active symbol is displayed when enough current is being generated by the solar panel to put charge into the battery (i.e. solar current greater than 100mA)

The frost warning symbol is displayed when the external temperature is below 2°C



Monitoring Power and Water Levels

Power and Water Level Monitoring

Power and water levels can be monitored from the power and water level menu screens. The lower navigation arrows can be used to easily switch between water and power level menu screens. Pressing the home button will return you back to the main control panel.

Left Arrow
Switches between the water and power levels screen.

Home
Returns you to the home screen.

Right Arrow
Switches between the water and power levels screen.

Water Levels Screen

The fresh water level is shown on the left of the screen, whilst the waste water level is shown on the right. Please Note: that the levels on the screen will update more frequently if the pumps are switched on.

An audible warning will sound for up to 60 seconds and a warning message will display on screen, if the fresh water level falls below 25% or if the waste is full. Pressing the ok button on the warning message will snooze the warning until power is switched off and back on again. The water level warnings can be disabled on the screen settings screen, see page 14 for details

Power Levels Screen

The power levels screen shows the voltage of leisure and vehicle batteries, the current of on the active battery, the mains current draw and the solar current.

The active battery is selected on the power settings screen (p13). The active battery current shows if the battery is being charged or discharged. On the screen shown above the battery is being charged as the current is on the positive scale. If the battery was being discharged the current would be shown on the negative scale.

Control Panel Settings

Setting Control Panel Options

Pressing the setting button takes you to the first settings screen (power settings), from there the other settings screens can be accessed (power settings, lighting settings, screen settings, time & date) The lower navigation arrows can be used to easily switch between settings screens. Pressing the home button will return you back to the main control panel.

Left Arrow
Switches between the settings screens.

Home
Returns you to the home screen.

Right Arrow
Switches between the settings screens..

Power Settings Screen

Leisure battery – when selected the button is back lit blue, when not selected the buttons back lit grey.

Vehicle battery – when selected the button is back lit blue, when not selected the button is back lit grey.

Smart battery charging – smart charging monitors the leisure and vehicle battery voltages and automatically changes the battery being charged to ensure both batteries are optimally charged. When selected the button is back lit blue, when not selected the button is back lit grey.

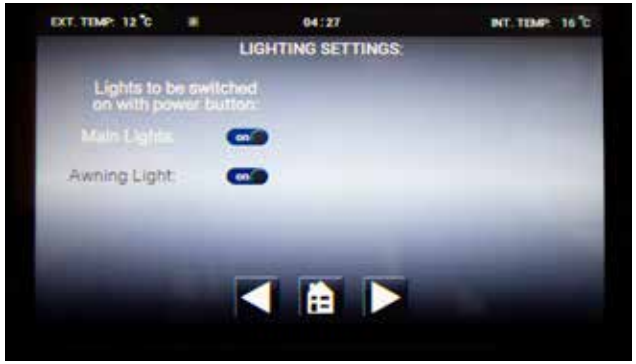
Tank Fill – This setting will be active by default. Pressing this will start or stop the automatic filling of the fresh water tank. The filling process will automatically stop when the tank sensors detect it is full or after 7 minutes of filling whichever occurs sooner. The button will be back lit blue while filling.

Tank Heaters – This button will be back lit blue when active. This doesn't mean that the tank heaters will be switched on. The tank heaters will only be on while the external temperature is below 2^{O}C and if there is over 25% of water in the tank.

Active battery select – The battery highlighted in blue is the active battery, this is the battery being charged by mains (when plugged in) and the battery that is being used by the system. Pressing the while on.

Solar battery select – the battery highlighted in blue is the battery that the solar charging is being directed too. Pressing the smart battery charging button switches the solar smart charging on and off, the button is lit blue while on.

Lighting Settings Screen



On the left side of the screen the lights to be switched on with the power button are shown. Pressing the toggle button next to each other selects which lights will be switched on when the power button is pressed from off to on.

Screen Settings Screen

Software version information - The screen displays all of the software version information for each part of the system: control panel, power supply unit, EC365 communication module. As well as the unique EC635 IMEI number.

Key beep – pressing the key beep toggle button switches the key press beep off and on.
Water level alarms – pressing the water level alarm toggle button switches the water level alarms on and off.

Screen back light level – pressing the '–' button decreases the back light brightness, while pressing the '+' button increases the brightness

Screen time out – pressing the '–' button decreases the screen time out time, while pressing the '+' button increases the screen time out time.

Time & Date Settings

The time and date can be changed using the plus '+' and minus '–' keys, the changes to the time and date are saved when the screen is exited using the navigations keys.

Heating Settings

The EC700 control panel can be used to set parameters for the Truma heating system, however we advise using the Truma CP Plus digital display (p28) to set your on-board heating.

Operation While Driving

The EC700 system is designed to shutdown parts of the system while the engine is running. This is to meet Electromagnetic Compatibility (EMC) regulations and to ensure the safe operation of the motorhome.

Please ensure the system shutdown switch on the PSU is in the on (button in) position before driving (page 7). This will ensure the electronic system is active and will therefore be able to control the charging process, supply the refrigerator and monitor other system circuits.

Where fitted; designated 12V sockets, en-route reading lights and en-route heating will remain operational while the engine is running.

Technical Data

Important Reference Information

Important technical information for your Sargent EC700 touch-screen control panel can be found here.

Sargent EC700 System Technical Information

The following section provides further technical information relating to the electrical system. You can also access the supporting technical manual from www.sargentltd.co.uk

Residual Current Device & Miniature Circuit Breakers

The Residual Current Device (RCD) is basically provided to protect the user from lethal electric shock. The RCD will turn off (trip) if the current flowing in the live conductor does not fully return down the neutral conductor, i.e. some current is passing through a person down to earth or through a faulty appliance.

To ensure the RCD is working correctly, the test button should be operated each time the vehicle is connected to the mains supply (page 7)

The Miniature Circuit Breakers (MCB's) operate in a similar way to traditional fuses and are provided to protect the wiring installation from overload or short circuit. If an overload occurs the MCB will switch off the supply. If this occurs you should investigate the cause of the fault before switching the MCB back on.

MCB	Rating	Output	Description
1	10 Amps	White	230V Sockets
2	10 Amps	Yellow	Heating System
3	10 Amps	Black (Fridge / Water heater/charger) blue (Aircon)	Fridge / Separate Water Heater / Charger / Aircon

Generator Usage

Caution should be used before connecting a generator to your motorhome.

WARNING
Never start or stop the generator while electrical loads are connected and switched on. Start the engine, let it stabilise and then connect the electrical load. When stopping the generator, disconnect the electrical load and let engine stabilise before switching off.

Whilst some generators use electronic inverter technology, others use a more basic principle to generate the 230V supply. Preference should be to choose a generator which produces a consistent sinusoidal wave form with accurate voltage control.

The Reverse Polarity warning light on the PSU may illuminate when using a Generator. This is a normal side effect when using some types of generator. Instead of connecting the neutral conductor to earth, some generators centre tap the earth connection making both neutral and live conductors 110V above earth. This 110V difference causes the neon polarity indicator to illuminate.

In most cases it is safe to use a generator, but please consult the generator handbook for further information.

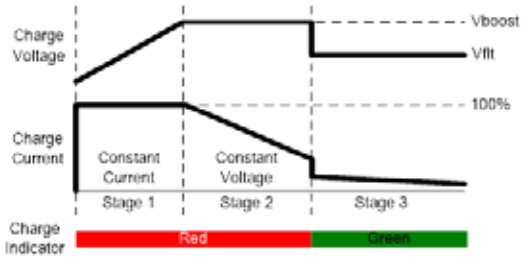
Battery Charger

The system incorporates an intelligent three-stage battery charger.

During stage 1 the battery voltage is increased gradually while the current is limited to start the charging process and protect the battery. At stage 2 the voltage rises to 14.4V to deliver the bulk charge to the battery. When the battery is charged, the voltage is decreased at stage 3 to 13.6V to deliver a float charge to maintain the battery in the fully charged state. The charger can be left switched on continuously as required.

The battery charger / power converter also provides power to the leisure equipment when the mains supply is connected. This module supplies DC to the leisure equipment up to a maximum of 25 Amps (300 Watts), therefore the available power is distributed between the leisure load and the battery, with the leisure load taking priority as per the following example:

Leisure load	Available power for battery charging
5A	20A
10A	15A
15A	10A
20A	5A



WARNING
Under heavy loads the Battery Charger case may become hot. ALWAYS ensure the ventilation slotshave a clear flow of air. Do not place combustible materials against / adjacent to the charger.

Leisure Battery

A) Type / Selection
For optimum performance and safety it is essential that only a proprietary brand LEISURE battery is used and it is suggested to select a battery from the NCC Verified Battery Scheme with a typical capacity of 75 to 120 Ah (Ampere / hours). Depending on the prospective use of the vehicle the correct type should be selected (A, B or C). A normal car battery is NOT suitable. This battery should always be connected when the system is in use.

The PSU is configured to work with standard lead acid leisure batteries, and in most cases is also compatible with the latest range of Absorbed Glass Matt (AGM) batteries. The system is also suitable for Lithium batteries with built-in Battery Management Systems BMS). Before fitting non-standard batteries please check that the charging profile described in 3.3 is suitable for the type of battery by referring to the battery documentation or battery manufacturer.

Some vehicle installations can cater for two leisure batteries connected in parallel. In these cases it is recommended that two identical batteries are used.

The battery feed is fitted with an in-line fuse between the battery and the electrical harness, and is usually located immediately outside the battery compartment or within 500mm of the battery. The maximum rating of this fuse is 20A per battery. If a single battery is fitted to a motorhome, this fuse could be up to 40A, however if two batteries are fitted each battery should be fused at a maximum of 20A.

B) Installation & Removal
Always disconnect the 230V mains supply and turn the PSU green charger switch to the off position (button out) before removing or installing the battery.

When connecting the battery, ensure that the correct polarity is observed (black is negative [-] and red is positive [+]) and that the terminals are securely fastened. Crocodile clips must not be used.

WARNING
Explosive gases may be present at the battery. Take care to prevent flames and sparks in the vicinity of the battery and do not smoke.

C) Operation / Servicing
Under normal circumstances it should not be necessary to remove the battery other than for routine inspection of the terminals and "topping up" of the battery fluid where applicable. Please see instructions supplied with the battery.

Note: Do not over discharge the battery. One of the most common causes of battery failure is when the battery is discharged below the recommended level of approximately 10V. Discharging a battery below this figure can cause permanent damage to one or more of the cells within the battery.

To prevent over discharge, the EC700 system incorporates a battery protect circuit that warns the users and then disconnects the batteries when they fall below set values. If a warning is active a beep will be emitted by the control panel and information will be shown on the screen. To cancel the warning, press the ok button on the pop up window. These warnings will not be repeated unless the power switch is turned off and on again. This is to ensure the warning does not become a nuisance.

Battery	Voltage cut off	Action after cut off	Notes
Vehicle	10.9V	Battery selection is changed from Vehicle battery to Leisure battery. If the leisure battery is below 9V then a further warning will occur (see below).	This cut off level is designed to protect the vehicle battery from over discharge. The 10.9V level ensures there is sufficient power in the battery to run the vehicle electronics and start the vehicle. This cut off only applies to power drawn from the battery by the leisure equipment; it will not protect the battery if you leave vehicle circuits switched on, such as the road lights.
Leisure	9V	Power is turned off	This is an emergency cut off level to protect the battery from severe damage. You should not rely on this cut off level during normal operation, but manage your power consumption to a discharge level of about 11.5V. This cut off only applies to power drawn from the battery by the leisure equipment that is controlled by the control panel power switch; it will not protect the battery from discharge by permanently connected equipment.

12 Volt DC Fuses

WARNING
When replacing fuses always replace a fuse with the correct value. NEVER replace with a higher value / rating as this could damage the wiring harness. If a replacement fuse 'blows' do not keep replacing the fuse as you could damage the wiring harness. Please investigate the fault and contact your dealer.

The following table shows the fuse allocation for the 13 fuses fitted to the PSU. Please note that fuses are dependent on PSU versions, so not all fuses may be present.

Fuse	Rating	Fuse Colour	Description
1	25 Amps	White	Charger
2	7.5 Amps	Brown	Permanent 12V
3	10 Amps	Red	12V Sockets
4	10 Amps	Red	Fans
5	5 Amps	Tan	Appliances
6	10 Amps	Red	Pumps
7	7.5 Amps	Brown	Lights Main & Dimmer 1
8	7.5 Amps	Brown	Lights Main & Dimmer 2
9	5 Amps	Tan	Awning / Entry light
10	10 Amps	Red	En Route / Entry Light
11	10 Amps	Red	Spare
12	7.5 Amps	Brown	Spare
13	5 Amps	Tan	Spare
14	10 Amps	Red	Solar Fuse / Polyfuse (Rear Fitting)

Note: Fuses (2-10) have a Red LED below them which provides indication that the fuse has blown. The charger fuse has a green LED which Indicates that the charger is working.

The following table shows details of the fuse(s) located at the Leisure battery. See also page 19

Fuse	Rating	Fuse Colour	Description
Battery 1	20 Amps	Yellow	Fuse remotely located near battery
Battery 2	20 Amps	Yellow	Fuse remotely located near battery 2 (where fitted)

The following table shows details of the fuse(s) located at the EM40 Interface Unit

Fuse	Rating	Fuse Colour	Description
1			Spare Location
2	5 Amps	Tan	Marker Lights
3	20 Amps	Yellow	Tow Bar +
4	20 Amps	Yellow	Vehicle Battery
5			Spare location
6	20 Amps	Yellow	Fridge +
7	20 Amps	Yellow	Tow Bar D+
8	20 Amps	Yellow	Fridge D+

Solar Charge Management

The EC700 PSU incorporates a built-in solar charge management feature, which will monitor the input from a separate solar panel and regulator. The Solar Active symbol will be displayed on the control panel when there is an amount of energy available to charge the battery. In a motorhome, depending on the charge state of the batteries, the solar power will be directed to the required battery and continuously monitored to ensure optimum operation.

Mains Charging

The EC700 PSU incorporates a smart charge feature, which monitors both leisure and vehicle batteries and automatically adjusts and directs the charger power (and solar power if a solar panel is installed) to maintain the leisure and vehicle batteries at an optimal level.

Water Pump Operation

The EC700 control panel pump button operates the internal water pump drawing water from an internal tank if fitted, or an external container when no internal tank is fitted.

The water tanks (fresh & waste) incorporate a level warning feature to warn the user when the fresh water level drops below 25% or when the waste water level reaches 100%.

If the water pump power is turned on and the fresh water level drops to below 25% a warning beep will be heard and a message will be displayed on the control panel. To cancel the warning, press the ok button.

If the water pump power is turned on and the waste water level rises to full (100%) a warning beep will be heard and a message will be displayed on the control panel. To cancel the warning, press the ok button.

These warnings will not be repeated unless the water pump power switch is turned off and on again. This is to ensure the warning does not become a nuisance.

Water Tank Heaters (frost protection) Operation

The EC700 features the ability to switch on water tank heater to provide frost protection for the fresh and waste tanks. The tank heater symbol on the power settings screen of control panel is lit up blue when this feature is enabled. The tank heaters will only operate if there is over 25% in the relevant water tank and the external temperature sensor detects that the temperature falls below 2 degrees C. If the temperature rises above this level the heaters will be switched off but the feature will remain on.

If the tank heaters are turned on before starting a journey, when the engine is started the tank heaters will remain on for the duration of the journey. When the engine is stopped the tank heaters will remain on for a further 15 minutes. If the engine is restarted within this 15 minute period the tank heaters will remain on, again for the duration of the journey.

When the engine is stopped the tank heaters will turn off after a 15 minute period. To turn them back on you will need to turn the control panel on and then tank heaters on.

Lighting Operation

The awning light can again be controlled by a number of items, the local switch adjacent to the entry door, the control panel awning light button and the lock and unlock system (dependant on system setting being set to do so). Each item can toggle the light on and off.

Temperature Readings

The EC700 Temperature sensor measures the 'core' temperature of the vehicle, and provides a figure for information only. The same sensor also measures humidity, providing a figure (also for information only) from within that area.

It is hoped that the temperature information is a particularly useful figure, for instance when checking on the vehicle remotely during cold weather.

Heat from other items in the vehicle (in particular components from the heating system itself) will have a bearing on the reading displayed by the Auto-Sleepers LOCATE system. Ventilation is also present, and air entering or passing through this area will also have an effect on the temperatures and humidity levels displayed.

System Warnings

The system incorporates a number of warnings that are active at specific times. These are summarised below, and also covered by relevant sections of this manual. When a warning is active a warning pop up will be displayed on the screen describing the problem(s).

Warning	When	Type
Fresh water level low	With pump turned on and fresh water level low (less than 25% full) Only available when an on-board tank is fitted	Message on screen and 60 second audible beep
Waste water level full	With pump turned on and waste water level full. Only available when an on-board tank is fitted	Message on screen and 60 second audible beep
Leisure battery voltage low	With control panel power on and leisure battery selected (as active battery) and the voltage level falls below 10V	Message on screen and 60 second audible beep
	With control panel power on and leisure battery selected (as active battery) and the voltage level is below 9V	Message on screen and 60 second audible beep. If no action taken after 30 seconds then the system will switch the power off to prevent severe discharge of the battery
	Note: This is an emergency cut off level to protect the battery from severe damage. You should not rely on this cut off level during normal operation, but manage your power consumption to a discharge level of 11.5V or above. This cut off only applies to power drawn from the battery by the leisure equipment that is controlled by the control panel power switch; it will not protect the battery from discharge by permanently connected equipment.	
Leisure battery voltage high	With control panel power on or off and leisure battery is selected (as active battery) and the voltage level rises above 15V	Message on screen and repeated beeps from the control panel. The power is automatically turned off. The beeping will not stop until the fault is cleared.
Vehicle battery warnings	If the vehicle battery is selected instead of the leisure battery, then similar warnings to those described above are applied to the vehicle battery. The vehicle battery low warning level is 10.9V	

Warning	When	Type
Engine running	When the engine is started the system power will be turned off	Message on screen, Leisure & Vehicle battery symbols indicating both batteries are connected for charging. The charging voltage is also shown on screen.
Step extended	Step extended and engine started	Message on screen and 60 second audible beep
	Step jammed or obstructed	Message on screen and warning buzzer
Mains lead (hook-up cable) still connected / plugged in	When the engine is started and the mains cable is still plugged in and the charger is switched on	Message on screen and repeated beeps from the control panel. The beeping will not stop until the hookup lead is removed.

Remote Features

Auto-Sleepers LOCATE

'Auto-Sleepers LOCATE' is an easy to use online portal where owners of a 2019 Auto-Sleeper can manage and monitor the status of their motorhome remotely. 'Auto-Sleepers LOCATE' gives you the ability to locate, monitor, and even see the historical data of your vehicle.

Location Tracking

Have even greater peace of mind knowing that your 2019 Auto-Sleeper motorhome is protected by a Thatcham Category 6 approved, proactive tracker. The tracker manufactured by Sargent is pre-installed on all 2019 Auto-Sleepers motorhomes.

Subscribe today for added peace of mind and benefit from discounts on your caravan or motorhome insurance.

Auto-Sleepers LOCATE Web Usage & Description

Here you can update and amend your details, look at location information and history, review system information and historical data as well as changing some system options and settings.

Auto-Sleepers LOCATE SIM Coverage & Usage information

The EC700 system contains a Mobile SIM with a 36 month contract which commences upon activation at the Dealership when your vehicle is linked to your account.
Below is a list of the countries covered by the SIM under a fair usage policy, a complete list is available at request.

Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Malta, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

For vehicles shipping direct to Australia or New Zealand a special world-wide SIM is fitted at the Auto-Sleepers factory. Please note that if a UK specification vehicle is shipped to these countries the remote features will not operate.

Auto-Sleepers LOCATE Thatcham Category 6 Tracking

The EC700 system has a built in tracking and communication unit that is Thatcham Category 6 approved, provides European coverage and is ready for use, all you need to do is purchase a tracking subscription by visiting the 'Auto-Sleepers LOCATE' section of the Auto-Sleepers website. The tracker may reduce your annual insurance premiums and provides extra peace of mind for just £95 per year.

Replacement Parts

The Control panel contains a small lithium battery to maintain the clock when no other energy supplies are available this will last in excess of 5 years under normal conditions. The battery is a CR2032 3.0V

The EC635 Communication module contains a special backup battery pack which should last in excess of 3 years under normal conditions. The pack part number is 16308 available from Sargent.

Updates

From time to time there may be updates to the system firmware; these updates will be done at service intervals by your dealership.

Temperature Control

Digital control panel for heaters and air conditioning systems >>

The digital Truma CP plus control panel allows you to set the temperature in your Auto-Sleeper Motorhome quickly and easily. Choose functions like fan speeds and night time economy mode instantly. The automatic climate control ensures a constant indoor temperature in all weathers.

Safety First >>

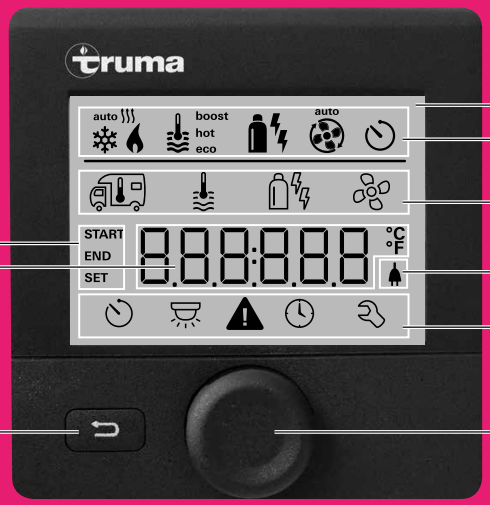
- Operate the Truma CP plus control panel only if it is in a technically perfect condition.
- Repairs must be carried out immediately. Only carry out repairs yourself if the solution is described in the troubleshooting guide of this manual.
- Do not carry out any repair work or modifications on the Truma CP plus control panel!
- A defective Truma CP plus control panel may only be repaired by the manufacturer or the manufacturer's service department.
- Never use LP gas appliances when refuelling, in multi-storey car parks, in garages, or on ferries. Switch off the LP gas appliance on the Truma CP plus control panel and make sure that the LP gas appliance definitely cannot be switched on via the Truma App

Important notes >>

- If the power supply to the system has been interrupted, the time / time switch must be reset.
- If a new or replacement appliance (heater, air conditioning system or iNet Box) is connected to the bus system, the procedure described in "Initial start-up" (p31) must be repeated.
- The ZUCB time switch can no longer be used when the Combi CP plus ready heater is connected to the Truma CP plus control panel.

The Digital Display

Display and control elements

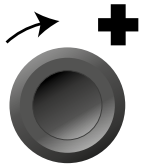


1 = Display
2 = Status bar
3 = Menu bar (upper)
4 = Menu bar (lower)
5 = 230 V mains supply indicator (power)
6 = Time switch display
7 = Settings / Values
8 = Rotary push button
9 = Back button

The menus can be selected in lines (3 + 4) and settings can be made using the rotary push button (8). The display (1) has an illuminated background. The Back button (9) can be used to return from a menu.

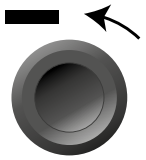
Rotary push button

Set-points and parameters can be selected, modified and saved by tapping on it using the rotary push button (8). Selected menu items flash.



Rotate clockwise
- Menu is run through from left to right.
- Increase values (+).

Tapping
- Accept (save) a selected value.
- Select a menu item, switch to setting level.



Rotate anticlockwise
- Menu is run through from right to left.
- Decrease values (-).

Long press
- Main switch function ON / OFF.
- If a iNet Box was recognised while searching for an appliance, the function of the rotary push button changes (see "APP mode in conjunction with an iNet Box" on page 33).

Back button

Pressing the Back button (9) returns you from a menu and discards settings. This means that the previous values are retained.

Initial start-up

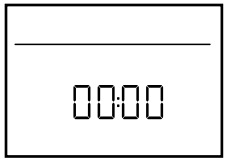
In order to perform the initial start-up, the following steps are required:
- Switch on power supply. 12V direct voltage for CP plus control panel and Combi and 230V mains voltage for air conditioning systems and Combi E.
- Start the search of the appliances under menu item "Service menu" –> "RESET" –> "PR SET".

Note: The initial start-up will have been undertaken prior to motorhome delivery

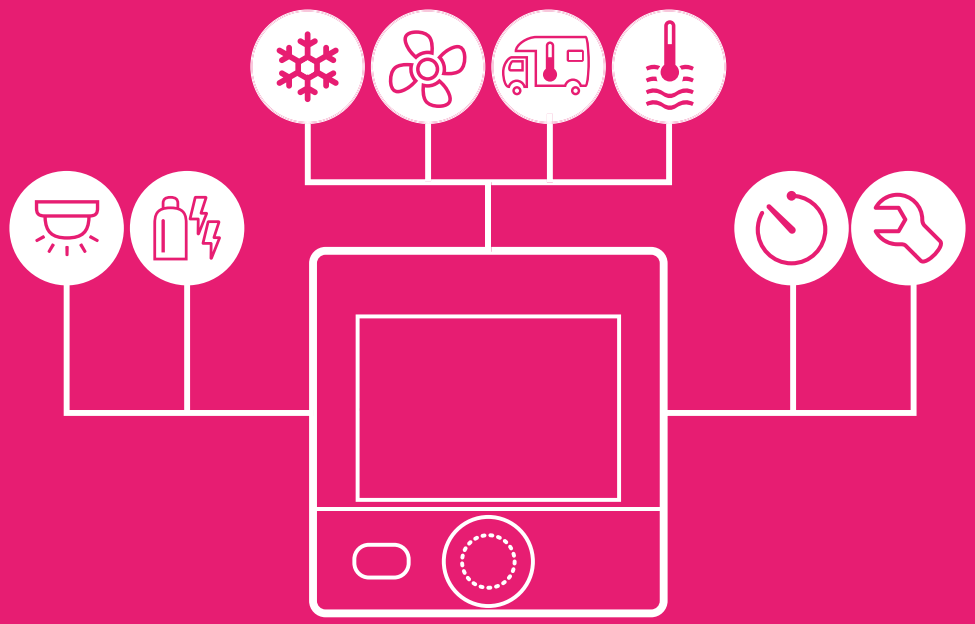
After confirmation, Truma CP plus control panel initialises itself. "INIT .." appears on the display while this is in progress. This stores in the Truma CP plus control panel the appliances that have been found.

Start-up

After connecting the Truma CP plus control panel to the power supply, a start screen is displayed after a few seconds.



Note:
- The display changes between the time and the set room temperature.
- Special displays on command via Truma App, IR remote control of the air conditioning system or CI-BUS (see "Special displays" on page 51).
- After a repair / retrofit, the procedure described under "Initial start-up" must be repeated.



Functions

Display Menu

The functions in the menu bars (3, 4) of the Truma CP plus control panel are selectable in any order. The operating parameters are shown on the status bar (2) and on the displays (5, 6). For more information on display elements please see page 30.

Select setting level

- Tap rotary push button.
- The display shows the setting level. The first icon flashes.

Switching on and off

Switching on

- Tap rotary push button.
- Previously set values / operating parameters are reactivated after switching on.

Switching off

- Press rotary push button for longer than 4 seconds.
- "APP"[1] appears in the display after 2 seconds.
- "OFF" appears after another 2 seconds.
- The Truma CP plus control panel deactivation procedure can be delayed by several minutes because of internal heating or air conditioning system after-runs.

APP mode in conjunction with an iNet Box

Operation

In APP mode, the connected appliances and the Truma CP plus control panel go into Stand-by.

- No heating function.
- No hot water heating.
- No operation of the air conditioning system.
- No time switch function in the Truma CP plus control panel.
- The CP plus control panel remains ready to receive commands via the Truma app or the infrared remote control of the air conditioning system. This means that the connected appliances remain operable via the Truma App or the air conditioning system's infrared remote control.

Activating APP mode

- Press the rotary push button for about 2 seconds until "APP" appears in the display.
- Release the rotary push button.
- The previously set values are saved.

Ending APP mode

- APP mode is ended
- When new values are determined via the Truma App or the air conditioning system's infrared remote control.
- When the Truma CP plus control panel is woken by pressing the rotary push button. The previously saved values are then accepted for renewed operation.

[1] *Only in conjunction with an iNet Box.*

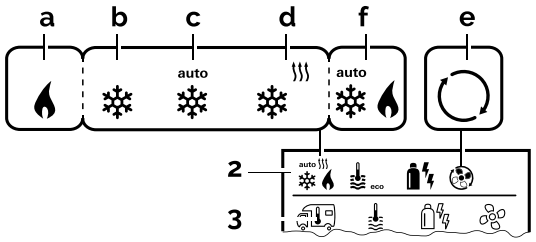
Changing Room Temperature

Interior Climate Control

The following menu options allow you to set the room temperature in your Auto-Sleeper motorhome simply and conviniently. If you have a Truma air conditioner and a Combi heater, the automatic climate control function controls the temperature in the vehicle – regardless of the outside temperature.

Change room temperature

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Depending on the appliance that is connected, select between heating system (HEATER) or air conditioning system (AC) or automatic air conditioning system[1] (AUTO) using the rotary push button.
- Tap rotary push button to confirm selection.
- Select desired temperature with rotary push button.
- Tap the rotary push button to confirm the value.



Heater (HEATER)
- settable temperature range 5 – 30 °C (1 °C steps)
- a = Heater[2] – Heater is switched on.

Air conditioning system (AC)
- settable temperature range 16 – 31 °C (1 °C steps)
- b = COOL * – Air conditioning system is switched on
- c = AUTO – Air conditioning system is set to automatic
- d = HOT – Air conditioning system is in heating mode.
- e = VENT – Air conditioning system is in air circulation mode

Note:
Quick temperature change using rotary push button possible (in Stand-by screen).

Automatic air-conditioning system (AUTO)
Settable temperature range 18 – 25 °C (1 °C steps)

Automatic switch-over between heater and air conditioning system for an approximately constant temperature on the inside.

f = AUTO – Automatic air-conditioning system is activated

Requirements for operation with automatic air-conditioning system:
- The heater and air conditioning system must be connected.
- Automatic air-conditioning system "ACC" must be activated in the service menu (see "Service menu" on page 13).

[1] Automatic air conditioning system (AUTO) only if "ACC" has been activated in the service menu (see "Service menu" on page 13). This is deactivated at the factory.
[2] Symbol flashes until the desired room temperature is reached.

Changing the hot water level

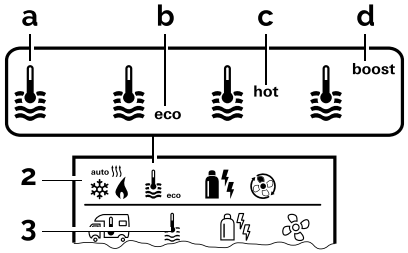
Hot water faster and longer

The following functions allow you to heat hot water faster and longer. Heat water for your specific requirements.

Change hot water level

Select icon in menu bar (3) with rotary push button.

- Change by tapping in the setting level.
- Select desired level with rotary push button.
- Tap the rotary push button to confirm the value.



OFF	•	Hot water generator is switched off.
a = Boiler[1]	•	Hot water generator is switched on
b = eco[2]	•	Hot water temperature 40 °C
c = hot	•	Hot water temperature 60 °C
d = boost[1,3]	•	Targeted, rapid heating of boiler contents (Boiler priority) for a maximum time window of 40 minutes. Then the water temperature is kept at the higher level for two post-heating cycles (about 62 °C) – not Combi Diesel. After reaching the water temperature, heating of the room continues.

[1] This symbol flashes until the required water temperature has been reached.
[2] A hot water temperature can only be maintained with combined room and water heating for a limited time at 40 °C. Not available for the Australian variants.
[3] Not available with Combi Diesel.

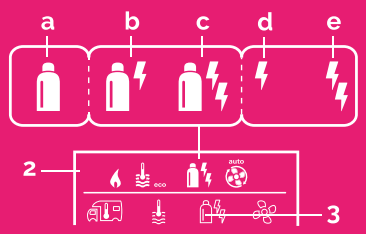
Selecting the energy source

Choosing the right energy source

Depending on where you're staying, you may want to conserve gas or use less electricity. The following icons on the display will allow you to easily select the right fuel or mix of fuels depending on your situation.

Select energy source

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Select desired energy source with rotary push button.
- Tap the rotary push button to confirm the value.



Icon	Operating mode	Energy Mode
a	Gas / Fuel	Gas[2] / Diesel[2]
b	MIX 1[1]	Electric (900 W) + Gas[2] / Diesel[2]
c	MIX2[1]	Electric (1800 W) + Gas[2] / Diesel[2]
d	EL 1[1]	Electric (900 W)
e	EL 2[1]	Electric (1800 W)

As soon as the heater is switched on (room temperature, hot water level active), the status line shows the energy type selected in the previous heating procedure. The factory setting is gas / diesel.

Special features in mixed mode

- Interruption of the mains voltage 230V:

  The heating system switches automatically into gas and diesel mode. As soon as the 230V power supply has been restored, the heating system automatically switches back to mixed mode.

- Fault in combustion procedure (e.g. lack of fuel).

  Combi Gas - The heating system switches automatically into electrical mode. For the heater to operate in mixed mode again, the cause of the fault must be remedied and acknowledged on the Truma CP plus control panel. See "Fault" on page 16.

  Combi Diesel - The heating system goes to fault. For the heater to operate in mixed mode again, the cause of the fault must be remedied and acknowledged on the Truma CP plus control panel. Switch to "Electrical" energy type if the fault is persistent.

Special features in electric mode

- If the 230V power supply is interrupted and the 12V supply is switched on, an fault code is shown on the display.
- When the 230V power supply has been restored, the heater is automatically started with the existing settings. The fault code goes off.

[1] Mixed and electric mode. Only possible with heaters that have electric heating elements
[2] Power for gas / diesel, see operating instructions for the corresponding heater.

Selecting the fan level

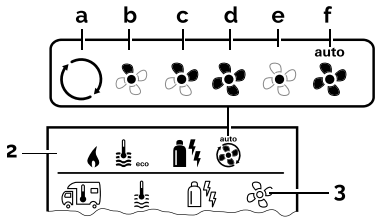
Choosing the right fan level

The speed of which hot and cool air is blown from your heater and air-conditioning units can be managed from the display panel by selecting the fan level. A higher fan speed will distribute hot and cool air around your vehicle faster, rising or dropping the temperature more quickly but will also use more energy and increase fan noise. The Truma display panel allows the fan speed for each device to be selected easily.

Select fan level

With connected heating / air conditioning system:

- Select icon in menu bar (3) with rotary push button.
- Change by tapping in the setting level.
- Select desired fan level with rotary push button.
- Tap the rotary push button to confirm the value.



Heater (HEATER)		
Icon	**Operating mode**	**Description**
-	OFF	Fan is switched off. (only selectable if no appliance is in operation).
a	VENT[1]	Circulated air, when no appliance is in operation and the hot water generator is switched off. 10 speed settings available.
b	ECO	Low fan level
c	HIGH[2]	High fan level
d	BOOST	Rapid room heating. Available if the difference between the selected and the actual room temperature is >10 °C

Note:
As soon as the heater is switched on (room temperature, hot water level selected) the status bar (2) displays the fan level that was selected during the previous heating procedure. The factory setting is "ECO".

Air conditioning system (AC)		
Icon	**Operating mode**	**Description**
-	OFF	Fan is switched off. (only selectable if no appliance is in operation).
a	-	-
b	LOW	Low fan level
c	MID	Medium fan level
d	HIGH	High fan level
e	NIGHT	Ultra-quiet fan operation
f	AUTO	Automatic fan level selection. Cannot be changed in AUTO mode.

Automatic air-conditioning system (AUTO)
Not possible to select the fan level with the automatic air conditioning system.

- The fan level of the air conditioning system is determined automatically.
- Only "ECO" is available for heaters.

[1] Can lead to additional motor wear depending on frequency of use.
[2] Fan level "HIGH" results in higher power consumption, higher noise level and increased motor wear.

Activating the time switch

Set time switch

WARNING! Danger of toxic exhaust fumes.
The activated time switch switches on the heater even when the vehicle is parked. The heater's exhaust can be toxic in closed spaces (e.g. garages, workshops).

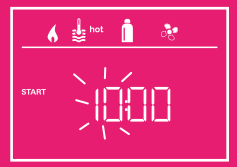
If the vehicle is parked in closed rooms:
- Shut off the fuel supply (gas or diesel) to the heater.
- Deactivate the time switch of the Truma CP plus control panel (OFF).
- Switch off the heater on the Truma CP plus control panel.

Note:
- When air conditioning systems are being operated, the time switch of the Truma CP plus control panel must only be used to clearly define the start and end time for a required period of time.
- If the time switch has been activated (ON), the deactivate time switch menu is displayed first (OFF).

- Select icon in menu bar (4) with rotary push button.
- Change by tapping in the setting level.

Enter start time
- Set the hours then the minutes with the rotary push button.

24 h mode



12 h mode

A = a. m.
P = p. m.

Entering the end time
- Set the hours then the minutes with the rotary push button.

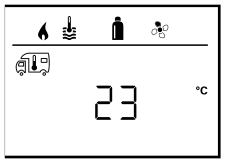
24 h mode

12 h mode

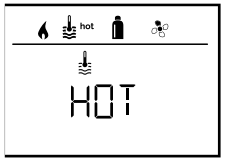
A = a. m.
P = p. m.

Note: If the start/end point was exceeded during entry, the operating parameters are not taken into consideration until the next start/end point has been reached. Until then, the operating parameters that have been set outside the time switch remain valid.

Set room temperature
- Select the heater, air conditioning system or AUTO using the rotary push button, depending on the appliance that is connected.
- Tap rotary push button to confirm selection.
- Select required room temperature with rotary push button.
- Tap the rotary push button to confirm the value.



Set hot water level
- Select required hot water level with rotary push button.
- Tap the rotary push button to confirm the value.

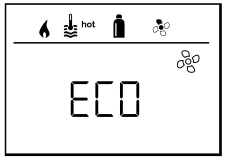


Select energy source
- Select required energy source with rotary push button.
- Tap the rotary push button to confirm the value.

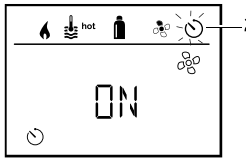
Note: The select energy type menu is displayed if a heating system with electric heating elements is connected.

Select fan level
- Select desired fan level with rotary push button.
- Tap the rotary push button to confirm the value.

Note: The Select fan level menu is only available if the heater / hot water level has been set. Not available with automatic air conditioning system AUTO.

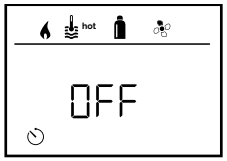


Activate time switch (ON)
- Activate time switch with rotary push button (ON).
- Tap the rotary push button to confirm the value.



Note:
- The time switch remains active until it is deactivated (OFF), even for several days.
- If the time switch is programmed and active, the time switch icon flashes.

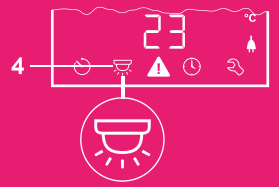
Deactivate time switch (OFF)
- Change by tapping in the setting level.
- Deactivate time switch with rotary push button (OFF).
- Tap the rotary push button to confirm the value.



Switching Lighting on and off

Switch lighting on/off

Available when Aventa comfort or Aventa eco air conditioning system is connected

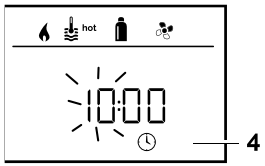


- Select icon in menu bar (4) with rotary push button.
- Change by tapping in the setting level.
- Select required function with rotary push button.
  1 – 5 – Switch lighting on. Brightness selectable in 5 levels.
  OFF – Switch lighting off.
- Tap the rotary push button to confirm the value.

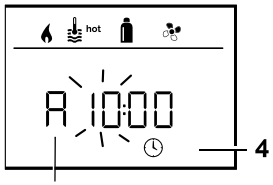
Setting the time

Set Time

Display, 24 h mode



Display, 12 h mode



A = a. m.
P = p. m.

- With the rotary push button (8), select the “Set time“ symbol in the menu bar (4).

The hour display flashes.

- Set the hours with rotary push button (8).
- The minutes display flashes when the rotary push button (8) is tapped again.
- Set the minutes with rotary push button (8).
- Tap the rotary push button (8) to confirm the value.

Service Menu

System Servicing Tools

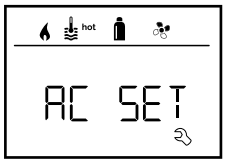
All of the tools required to set-up and calibrate your boiler and air conditioning unit can be found in the service menu.

Service menu

1. Calibrating the room temperature sensor of the heater (OFFSET)
The room temperature sensor of the heater can be individually adjusted to the sensor's installation situation. The setting can be made in increments of 0.5 °C within the range of 0 °C to -5 °C.

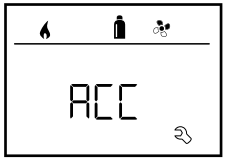
Example:
Set room temperature 23 °C;
OFFSET = -1 °C;
Setpoint value for heater = 22 °C
Presetting: 0 °C (Celsius).

2. AC SET[1,2]
The sensed room temperature can – during operation of the automatic air conditioning system – be perceived differently during cooling than during heating. "AC SET" is used to set an offset between cooling and heating. The setting can be made in increments of 0.5 °C within the range of 0 °C to +5 °C.



Example:
Set room temperature 23 °C;
AC SET = 2 °C
Setpoint value for air conditioning system = 25 °C
Presetting: +1 °C (Celsius).

3. ACC[1]
The automatic air conditioning system function AUTO is activated or blocked with "ACC".



ON
- The automatic air conditioning system function AUTO is activated. Automatic air conditioning system function AUTO can be selected in the Room temperature menu.
- "AC SET" appears in the Service menu.

OFF
- The automatic air conditioning system function AUTO is blocked..

Presetting: OFF

Note: The function of the Truma automatic air conditioning system depends on proper installation. Your Truma dealer/partner would be pleased to advise you whether your vehicle is suitable.

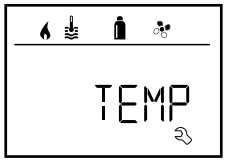
[1] Only available if the air conditioning system and heater are connected.
[2] Only available if ACC is set to "ON".

Requirements for the automatic air conditioning system functioning as expected:
1. The air conditioning system and heater cover the entire area of the vehicle that is supposed to be automatically air conditioned.
2. The room temperature sensor of the heater is the lead sensor of the automatic air conditioning system and must therefore be in a suitable location, i.e.

- in the area in which the required room temperature should be reached.
- if possible not influenced by the outside temperature and sunlight.
- not near to warm air ducts, cold air ducts or other sources of heat.
- warm or cold air from the air outlets must not flow against the room temperature sensor. Particular attention must be paid to this when adjusting the air throttles on Aventa air conditioning systems
- with good circulation and not on the vehicle ceiling

Truma dealers / Truma partners are trained in correctly installing the automatic air conditioning system. You can find our dealers / Truma partners at www.truma.com.

4. °C / °F temperature display
Select the temperature display °C (Celsius) or °F (Fahrenheit).
Presetting: °C (Celsius)



5. Changing the background lighting
Change the background lighting of the Truma CP plus control panel in 10 levels.

6 12h/24h mode
Display time in 12 h (a. m., p. m.) / 24 h mode.
Presetting: 24 h mode.

7. Change language
Select the desired language (German, English, French, Italian).
Presetting: English

8. Showing the version number
Display version number of heater, air conditioning system, Truma CP plus control panel or iNetBox.

Example:
H 1.20.01 –> H = appliance; 1.20.01 = version number

Appliance
C = Truma CP plus control panel
C = Truma CP plus control panel CI-BUS
A = Air conditioning system
H = Heater
T = Truma iNet Box

9. Presetting (RESET)
The reset function resets the Truma CP plus control panel back to the factory setting. All settings will be deleted. Newly connected appliances are recognised and saved in the Truma CP plus control panel.

- Switch on the power supply 12V direct voltage for CP plus control panel and Combi and 230 V mains voltage for air conditioning systems and Combi E.
-

Perform Reset

- Select “RESET” with the rotary push button (8).
- Tap on the rotary push button (8)
- “PR SET” appears in the display.
- Tap the rotary push button (8) to confirm.

After confirmation, the Truma CP plus control panel initialises itself.
“INIT..” appears on the display while this is in progress.

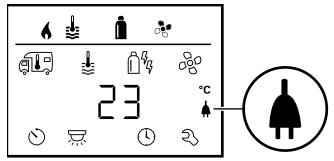
Special displays & warnings

Display indicators

Different symbols will appear on your display screen to indicate various system status conditions and warn you of any problems that require your attention.

Special displays

230 V mains voltage available
The icon signals that 230 V mains power supply is available. Symbol appears only in combination with a heater which contains electrical heating elements for electrical mode.



Truma App with iNet Box
When a command is sent via the Truma APP of a mobile terminal device, “APP” appears in the display.

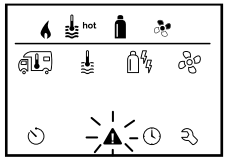
Infrared (IR) remote control (air conditioning system)
When a command is sent via the infrared remote control of the air conditioning system, “IR” appears in the display.

External control panel (CI-BUS)
When a command is sent via an external control panel with CI-BUS, “CI” appears in the display.

Note: The Truma CP plus control panel CI-BUS is the company’s own variant that is configured only at the factory.

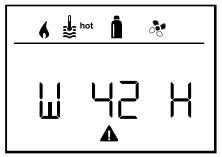
Warning

This symbol indicates that an operating parameter has reached an undefined state. In this case the appliance concerned continues to operate. As soon as the operating parameter is within the target range again, this symbol goes off again automatically.



Read out code of warning

- Select icon with rotary push button.
- Tap the rotary push button. The current warning code will be displayed. The cause of the warning can be determined and remedied with the aid of the troubleshooting guide (from page 59-61).



W = Warning
42 = Fault code
H = Device
H = Heater
A = Air conditioning system

Cause eliminated / return to setting level

- Tap the rotary push button.

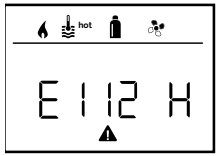
Cause not eliminated / return to the setting level

- Press the Back button.

Note: In this case, the warning in the Truma CP plus control panel has not been acknowledged and the warning symbol remains. The affected appliance remains in warning status. Other connected appliances can be operated.

Fault

In the event of a fault, the Truma CP plus control panel immediately jumps to the “Fault” menu level and displays the fault code of the fault. The cause of the fault can be determined and remedied with the aid of the troubleshooting guide (from page 59-61).



E = Fault
112 = Fault code
H = Device
H = Heater
A = Air conditioning system

Cause eliminated / return to setting level

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

Note: This can take several minutes because of internal after-runs of connected appliances.

If the cause has not been remedied, the fault will occur again and the control panel will jump to the “Fault” menu level again.

Cause not eliminated / return to the setting level

- Press the Back button.

Note: In this case, the warning in the Truma CP plus control panel has not been acknowledged and the warning symbol remains. The appliance remains in fault state. Other connected appliances can be operated.

Technical Data

Important Reference Information

Important technical information for your Truma CP Plus control panel can be found here.

Technical Information

Display	LCD, monochrome, with background lighting
Dimensions (L x W x H)	92 x 103 x 40 mm
Operating temperature range	-25 °C to +60 °C
Storage temperature range	-25 °C to +70 °C
Interfaces	
CP plus	TIN-Bus
CP plus CI-BUS TIN-Bus, CI-BUS	TIN-Bus, CI-BUS
Power supply	8 V – 16.5 V
Power consumption	max. 65 mA (100 % background lighting) 6.5 mA – 10 mA (Stand-by)
Standby current	3 mA (Off)
Weight	approx. 100g

CE

Subject to technical changes.

Maintenance

The Truma CP plus control panel is maintenance-free. In order to clean the front panel, use a damp, non-scouring cloth. If this is not sufficient, use a neutral soap solution.

Disposal

The Truma CP plus control panel must be disposed of in accordance with the administrative regulations of the respective country in which it is used. National regulations and laws (in Germany, for example, the End-of-life Vehicle Regulation) must be observed.

Troubleshooting Guide

Display indicators

Different symbols will appear on your display screen to indicate various system status conditions and warn you of any problems that require your attention.

If these measures do not remedy the fault or if fault codes are displayed that you cannot find in the troubleshooting guide, please contact the appliance manufacturer.

Sargent EC700 Control Panel

Fault	Possible Cause	Proposed Fix
No 230 volt output from PSU	Connecting lead between the site and Leisure Vehicle not connected	Fan is switched off. (only selectable if no appliance is in operation).
	RCD switched off	Reset RCD as per page 07
	RCD not operating correctly	Check supply polarity; if the RCD continues to fail contact your Dealer as there is probably an equipment or wiring fault.
	MCB switched off	Reset MCB by switching OFF (down position) then back ON (up position), if the MCB continues to fail contact your Dealer as there is probably an equipment or wiring fault.
	No or deficient supply from site	Contact site Warden for assistance.
	Other fault	Contact your Dealer.
Reverse Polarity light is illuminated on PSU	Mains Supply reversed?	The reverse polarity light is designed to illuminate when the Live and Neutral supply has been reversed / crossed over. If the light illuminates there is a problem with the site supply or the cable connecting the supply to your vehicle. The light is designed to work on UK electrical supplies (where the neutral conductor is connected to earth at the substation). If you are using your vehicle outside the UK this light may illuminate when no fault exists. In these cases consult the site warden for advice.
	Generator being used	'The Reverse Polarity warning light is on when using my Generator'. This is a normal side effect when using some types of generator. Instead of connecting the neutral conductor to earth, some generators centre tap the earth connection making both neutral and live conductors 110V above earth. This 110V difference causes the neon polarity indicator to illuminate. In most cases it is still safe to use the generator, but please consult the generator handbook for further information.

Fault	Possible Cause	Proposed Fix
Control Panel Problems	Control Panel has no display	• Check batteries and fuses, turn PSU isolate switch and charger switch on and ensure mains supply is connected. • Check control panel connecting lead at PSU and behind Control Panel. • Contact your Dealer.
	12V Power turns off	• Battery protect feature has operated to protect the Vehicle battery and or the Leisure battery. See page 20 • Over voltage protection has been activated, the control panel will display a warning. A number of things can cause this but the most common is the solar panel, it is worth checking the regulator is connected correctly and operating within the correct parameters. • Engine has been started, all equipment has been disconnected to meet EMC requirements. See page 15
	Control Panel locked / erratic function	Observe control panel handling instructions. Control panel software may have crashed. Reboot control panel by turning off the PSU isolate switch. Wait 30 seconds then turn the switch back on. Check with your dealer that your system has the latest software installed, as an update may be available.
No 12 volt output from PSU	No 230V supply	Check all above.
	Charger not Switched on	Turn charger switch on, switch will illuminate.
	Battery not connected and / or charged	Install charged battery as per page 19
	Power button on control panel not switched to on	Turn power on at control panel.
	Battery flat / Battery fuse blown	Recharge battery, check fuses, check charging voltage is present at battery.
	Fuse blown	Check all fuses are intact and the correct value fuse is installed as per fuse table.
	Equipment switched off / unplugged	Check equipment is switched on and connected to the 12V supply.
	Other fault	Contact your Dealer.

Fault	Possible Cause	Proposed Fix
Pump not working	Fuse blown	Replace fuse with correct value as per fuse table.
	Pump turned off	Turn pump on by pressing the pump button at the control panel.
Lights not working	Fuse/s blown	Replace fuse with correct value as per fuse table.
	Lights turned off	Turn Lights on by pressing the lights button, use dimmer at the control panel.

Truma Air Conditioning System

Fault Code	Possible Cause	Remedy
# 1	Failure (short circuit or broken cable), room temperature sensor	Contact Truma Service
# 2	Ice sensor failure – internal	Inspect the filter and replace it if necessary
# 4	Ice sensor failure – external (if present)	Keep the air inlets / outlets on the roof free of obstructions such as leaves
# 24	IR receiver unplugged or cable broken	Contact Truma Service

Truma Combi Heating System (Gas)

Fault Code	Possible Cause	Remedy
# 17	Summer mode with empty water container	Switch heater off and allow to cool. Fill boiler with water
# 18	Warm air outlets blocked	Check the individual outlet apertures
	Circulated air intake blocked	Remove the circulated air intake blockage
# 21	Room temperature sensor or cable faulty	Inspect the room temperature sensor cable, replace if faulty
		Check the resistance of the room temperature sensor. 15 °C – 16.2 kOhm / 20 °C – 12.6 kOhm / 25 °C – 10.0 kOhm Replace the room temperature sensor if faulty
# 24	Risk of low voltage. Battery voltage is too low < 10.4 V	Charge battery
# 29	Frost Control heating element has a short circuit	Disconnect heating element plug from electronic control unit. Replace heating element
# 42	Open window above cowl (window switch)	Close window
# 43	Overvoltage > 16.4V	Check battery voltage / voltage sources such as the charger
# 44	Low voltage. Battery voltage is too low < 10.0V	Charge battery. If necessary replace old battery
# 45	No 230 V operating voltage	Restore 230 V operating voltage
	230 V fuse defective	Replace 230 V fuse
	Overheating protection has been triggered	Please contact Truma Service
# 112, # 202, # 121, # 211,	Gas cylinder or quick-acting valve in the gas supply line closed	Check gas supply and open valves
	Gas pressure regulation system iced up	Gas pressure regulation system iced up Use regulator heater (EisEx)
	Butane content in the gas cylinder too high	Use propane. Butane is unsuitable for heating, particularly at temperatures lower than 10 °C.
# 122, # 212	Combustion air infeed or exhaust outlet is sealed	Inspect openings for obstructions (slush, ice, leaves, etc.) and remove any obstructions
	Gas pressure regulation system faulty	Inspect / replace gas pressure regulation system
	Electronic system faulty	Please contact Truma Service
# 255	Heater has no 12 V power supply	Ensure that the 12V power supply is available
	No connection between heater and control panel	Make connection between heater and control panel
	Control panel cable faulty	Contact Truma Service

Truma Combi Heating System (Diesel)

Fault Code	Possible Cause	Remedy
# 111	Room temperature sensor or cable faulty	Inspect the room temperature sensor cable, replace if faulty
		Check the resistance of the room temperature sensor. 15 °C – 16.2 kOhm / 20 °C – 12.6 kOhm / 25 °C – 10.0kOhm Replace the room temperature sensor if faulty
# 122	Lack of fuel due to insufficient fuel tank filling, tank has run empty and / or vehicle is on a slope	Fill tank with fuel. Then fill the fuel line as described in "Initial start-up" (see Combi Diesel operating instructions).
# 131	No connection between heater and control panel	Make connection between heater and control panel
	Control panel cable faulty	Contact Truma Service
# 132	Frost Control heating element has a short circuit	Disconnect heating element plug from electronic control unit. Replace heating element
# 150	Warm air temperature exceeded:	
	Not all warm air ducts are connected	Check whether the 4 warm air ducts are connected
	Warm air outlets blocked	Check the individual outlet apertures
	Circulated air intake blocked	Remove the circulated air intake blockage
# 151	Water temperature exceeded:	
	Summer mode with empty water container	Switch appliance off and allow to cool. Fill boiler with water
# 152	Water temperature exceeded in summer mode	Switch appliance off and allow to cool. Fill boiler with water
# 160	Undervoltage < 10.2V	Check battery voltage, charge if necessary.
		Short-term immediate measure. Switch off major consumers or start up the vehicle engine until the heater starts to operate (approx. 4 minutes).
		Battery capacity inadequate, if necessary exchange old battery
# 161	Overvoltage > 16.4V	Check battery voltage / voltage sources such as the charger
# 162	Open window above cowl (window switch)	Close Window
# 164	No 230V operating voltage	Restore 230 V operating voltage
	230V fuse defective	Replace 230 V fuse
	Overheating protection has been triggered	Contact Truma Service
# 170	Risk of low voltage < 11.5V	Use the electrical power from the battery sparingly, e.g. restrict lighting
		Charge battery

Contact Details

Get in touch

Should problems occur or you need to find your local approved dealer for motorhome servicing, you'll find all of the required contact information here.

Sargent Electrical Support

Sargent Electrical Services Limited provide a technical help line during office hours. If you require technical help please contact:

01482 678981

Lines Are Open:
9:00am to 5:00pm Monday to Thursday
9:00am to 12:00pm Friday
Weekends and bank holidays: Closed

For out of hours support please refer to the support section of the Sargent web site **www.sargentltd.co.uk** or email **support@sargentltd.co.uk**

Truma Service Centre

Should problems occur, please contact the Truma Service Centre or an authorised service partner:

01283 587960

Lines Are Open:
8.30am to 5:30pm Monday to Friday
Weekends and bank holidays: Closed

If you have a question about an appliance, always have information about the appliance type, year of manufacture and factory number at hand. You'll find this on the type plate on the appliance.

For further information please visit **www.truma.com**

Auto-Sleepers Aftercare & Service Centre

The Auto-Sleepers Service Centre in Willersey caters specifically for the needs of the motorhome and caravan owner. Contact the NCC approved Workshop on:

Service
01386 853511

Parts
01386 842630

Lines Are Open:
9:00am to 5:00pm Monday to Thursday
9:00am to 12:00pm Friday
Weekends and bank holidays: Closed

To find out more about motorhome servicing please visit:
www.auto-sleepers.com

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All details are correct at the time of going to press. Please also see the online handbook and how-to videos which will include any later updates or amendments. Auto-Sleepers reserves the right to alter specifications and prices at any time as materials and conditions demand.

Effective 1st November 2018. This literature supersedes all others.