



# Operating instructions for motorhomes



from model year 2017

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Edition I



**Dear FRANKIA customer,**

Congratulations on your new FRANKIA motorhome.

By acquiring a FRANKIA, you have chosen a motorhome offering unequalled technology, comfort and equipment. Soon you will appreciate how much joy it is to travel with a FRANKIA. You will be independent and free to choose your destinations and stopovers. We thank you for the confidence that you have placed in us.

Your FRANKIA is built on a FIAT or MERCEDES chassis. For detailed technical information you have separate operating instructions for the following appliances: Chassis, refrigerator, hob, heating, control panel, radio, TV, telephone, generator, etc.

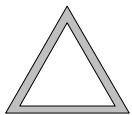
Before starting your journey we kindly ask you to read these operating instructions. You will get important information for the use of your motorhome, as well as practical advice about service and care of your FRANKIA.

To make reading easier we have used the following symbols:



**Warning**

Here you will find safety regulations that will help avoid personal injury.



**Attention**

Here you will find safety regulations that will prevent material damage.



**Info**

Here you will find general information and references.

Our goal is continuous development and improvement.

This operating manual is subject to change due to technical progress or any amended regulations. Although this manual has been carefully composed. All information is supplied without liability.

On behalf of all the FRANKIA-staff we wish you pleasant journeys and restful holidays.

**Your FRANKIA-Team**

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# 1. BEFORE DEPARTURE AND DURING THE JOURNEY

## 1.1 Payload

Your motorhome has plenty of loading space. Please pay attention to the distribution of all objects and items in your motorhome to ensure no movement whilst travelling.

The FRANKIA double floor offers additional loading space. You can gain access both internally and externally.

We recommend when travelling to carry additional tools, replacement bulbs & fuses, etc. which could prove helpful during your journey.

### Loading of the motorhome

Please note the following points:



**Warning**

- ! **Heavy objects should be loaded at the lowest position available.** Directly beside or between the axles. Try and distribute heavy loads equally to the left and right-hand sides of your motorhome. This will stabilize the vehicle handling, plus loading near the axles will reduce rolling and pitching of the vehicle body.
  - ! Please only store light objects in upper storage spaces.
  - ! Due to a high center of gravity, a heavy roof load could have unfavorable effects on vehicle handling. Make sure to secure any roof load with securing straps.
  - ! Secure all luggage tightly in order to stop any movement. Loose objects could damage the motorhome body.  
Please secure objects from moving freely in lockers.
  - ! Please refrain from placing heavy objects in cupboards that may open in or against the driving direction. All cupboard doors must be locked during travel.
  - ! Make sure all loose objects are secured in lockers, drawers and other storage spaces. In the event of heavy braking or accident loose objects can become dangerous missiles and serious injury could occur to passengers.
- 
- The maximum authorized weight and the maximum authorized axle weights (weight of front axle and rear axle) must not be exceeded.
  - Please note the installation of additional equipment will reduce the standard payloads.
- 
- Before using your motorhome for the first time we recommend the motorhome be weighed with full tanks on a calibrated vehicle scale to establish the personal payload of your motorhome.

The maximum authorized weight, plus any maximum authorized axle weights can be found in the vehicle documentation as well as on the type plate.



**Info**

***Overloading your motorhome can result in a fine.  
Overloading can also damage axles and wheels.***

Please note the following points when loading:

- The inside of your motorhome should be in good order and carefully packed to ensure maximum safety in the event of sudden / heavy braking.
- Please pay special attention to:
  - \* sliding doors
  - \* contents inside cupboards
  - \* working / chopping boards located on kitchen sink unit
  - \* loose objects on tables and shelves
  - \* utensils in the bathroom
  - \* table / table top
  - \* TV-cupboard
- Secure loose objects with towels / soft packaging if possible. This will prevent any rattling noise.

## **1.2 Before the departure**

- \* Adjust exterior mirrors
- \* Open any blackout roller blinds (windscreen, driver and passenger windows) completely and secure them
- \* Check all external locker doors, especially the rear lockers, that they are securely locked and not ajar
- \* Lock entrance / body door
- \* Manually check that steps have retracted correctly. (Should the steps not retract automatically a warning light will illuminate on dashboard)
- \* Remove the 230V cable from exterior socket
- \* Close all doors, lockers and drawers
- \* Turn off all gas appliances, gas hob, refrigerator, boiler and close gas bottles (except Germany)
- \* Lock TV cupboard
- \* Fasten table / table top
- \* Wind up rear supports
- \* Secure soap dispenser, toothbrush cup / mugs in bathroom cupboard

Please re-check everything thoroughly before starting your journey to ensure a safe trip.

### 1.3 Driving

Motorhomes as with any other car must be driven with caution and at the appropriate speed. Please always pay attention to the dimensions of your vehicle.

#### **ALWAYS PAY ATTENTION TO THE DIMENSIONS (LENGTH - WIDTH - HEIGHT) OF YOUR MOTORHOME!**



**!! Pay attention to service station roofs, rock overhangs & branches, etc.**

#### **Warning**

Please respect any regulations in foreign countries.  
When driving a fully laden motorhome, it is important to note the difference in handling compared to driving an empty motorhome.

Please respect the following points:

- \* longer braking distances
- \* different handling on gradients and slopes
- \* headwinds can have an influence on speed
- \* higher crosswind-sensitivity on bridges, when leaving a tunnel or when overtaking large sided vehicles
- \* different vehicle handling on bends due to height and weight
- \* larger vehicle-dimensions: length, width, height (approx. 3 m)
- \* small bridges, narrow streets, low passages, low service station roofs, etc.
- \* limited visibility when reversing
- \* correct adjustment of the mirror



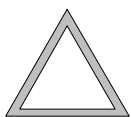
#### **Warning**

The driver is responsible that all passengers use available seat belts.  
Seats without seat belts must not be used during driving.  
It is forbidden to stay in the alcove during the journey.



#### **Warning**

Driver and passenger seats can be turned to face direction of the living area.  
This is only allowed while the motorhome is stationary and in a secured position.



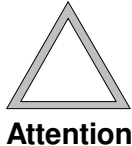
#### **Attention**

Please turn off all gas appliances when attending service stations.





- Please adapt travelling speed when driving on bad roads.
- Compared to a standard car your vehicle has a long rear overhang (distance between rear axle and rear end), which is liable to swing wide in narrow bends. Contact or any touching of the road is possible when the road surface condition is bad (e.g. deep bumps). Therefore please drive with caution in narrow bends (e.g. when entering or leaving parking spaces) or on rough & uneven roads (speed restriction bumps).
- Because of its height a motorhome is very sensitive to cross winds. Please drive with caution when cross winds are obvious.



Low tyre pressures can cause excessive tyre wear or could lead to possible bursting if the motorhome is fully loaded.  
Therefore, please check tyre pressures regularly.  
For Fiat motorhome tyre pressure information please refer to the enclosed ALKO manual. For Mercedes motorhomes please refer to Mercedes manual.

Destination	Road charges for motorhomes	Environmental area
Denmark	Charge for bridge between Fünen and Sealand	Miljøzone in Aalborg, Aarhus, Copenhagen/Frederiksberg, Odense
France	Charge depending on route for motorways, depending on total weight, vehicle height and number of axles. Toll for some bridges and tunnels.	Zone d'actions prioritaires pour l'air (ZAPA) in Aix-en-Provence, Bordeaux, Clermont-Ferrand, Grenoble, Lyon, Nice, Paris from July 2012
GB	Toll for the A6 north of Birmingham, City toll in London, toll for some bridges and tunnels.	Low Emission Zone (LEZ) in London.
Italy	Charge depending on route Motorway toll depending on gross vehicle weight and vehicle height, city charge in Bologna and Mailand.	Zona a Traffico Limitato (ZTL) in more than 10 big cities, especially in north Italy.
Norway	City tolls in big cities as well as charges for some highways, bridges and tunnels, depending on the gross vehicle weight.	Environmental areas in Bergen, Oslo and Trondheim planned.
Austria	Vignette for expressways and motorways from 3,5t (GVWR): Charge depending on route with electrical recording, depending on emission class and number of the axles, charge for some passes and tunnels.	Environmental area in Graz planned for 2013

Sweden	Charge for the Öresund bridge to Denmark, depending on vehicle length.	Miljözon in Göteborg, Helsingborg, Lund, Malmö, Mölndal, Stockholm for lorries and buses.
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Source: Promobil  
From : May 2012

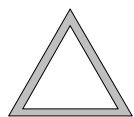
## 1.4 Parking

Select a gear (if vehicle has automatic transmission, please place gear shift in "P" position) and apply hand brake in the on position.

Your motorhome should be parked horizontally, or as level as possible to allow sewage to flow unhindered from shower or sink unit. Wheel chocks can assist.

When using awnings for your motorhome, you are recommended to secure the awning to the ground with additional fastening. Should strong winds capture your awning without additional fastening the possibility of expensive damage may occur. (Please use awnings with discretion)

Your motorhome has rear supports, please note these must not be used for wheel change.



### Attention

For motorhomes with rear axle air suspension:

Always lower motorhome completely with the air suspension before using rear supports. Otherwise the supports and motorhome undersection are liable to damaged.

For more information regarding air suspension please refer to the operating instructions of respective manufacturer.

### Please note the following advice:

If rear supports are in use we advise the crank handle to be stored by your steering wheel. This will prompt you to retract the supports before starting your journey.



### Info

During summer usage please park motorhome in order to stop direct sun from affecting the ventilation slots of your refrigerator. This will assist the refrigerator to work more efficiently.

Before departure from a campsite please check no damage has been caused or refuse left behind. Important characteristics of a camper are discretion and environmental awareness.

### 1.5 Spending the night in your motorhome

In the following table please find the regulations of some European countries:  
(subject to change)

Country	
Belgium	Camp sites in all regions, especially near the coast, few motorhome parking spaces, outside of campsites and motorhome parking spaces only at motorway rest areas (max. one night).
Denmark	Dense network of campsites, no motorhome parking spaces, quick-stop spaces in front of many campsites, overnight stay prohibited outside campsites
Germany	Dense network of campsites and motorhome parking spaces, one overnight stay outside of campsites and motorhome parking spaces is permitted in order to recreate driving fitness, pay attention to regional and local restrictions.
France	Dense network of campsites and motorhome parking spaces, pay attention to local restrictions regarding overnight stay outside of campsites and motorhome parking spaces.
Greece	Numerous campsites, especially near the coast, very few motorhome parking spaces. Overnight stay prohibited outside campsites.
GB	Dense network of campsites, no motorhome parking spaces. Pay attention to local restrictions regarding overnight stay outside of campsites.
Italy	Dense network of campsites and motorhome parking spaces, especially in the north and centre of Italy. One overnight stay outside of campsites and motorhome parking spaces is permitted, pay attention to regional and local restrictions.
Croatia	Dense network of campsites near the coast, few motorhome parking spaces, Overnight stay outside of campsites and motorhome parking spaces prohibited, also on private property.
Luxemburg	Dense network of campsites, no motorhome parking spaces, overnight stay outside of campsites and motorhome parking spaces prohibited.
Netherlands	Dense network of campsites, many camping possibilities on farms, few motorhome parking spaces. Overnight stay outside of campsites and motorhome parking spaces prohibited.
Norway	Dense network of campsites, especially in the south, very few motorhome parking spaces, pay attention to local restrictions regarding overnight stay outside of campsites and motorhome parking spaces.
Austria	Widespread network of campsites in all regions, motorhome parking spaces in all regions, overnight stay outside of campsites and motorhome parking spaces prohibited.
Sweden	Dense network of campsites in the south and centre, very few motorhome parking spaces, pay attention to local restrictions regarding overnight stay outside of campsites and motorhome parking spaces.
Switzerland	Widespread network of campsites, motorhome parking spaces in all regions, overnight stay outside of campsites and motorhome parking spaces prohibited.
Spain	Dense network of campsites, few motorhome parking spaces, pay attention to local restrictions regarding overnight stay outside of campsites and motorhome parking spaces.

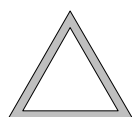
On private property please always ask for permission from landlord.

## 1.6 Sleeping

The **alcove bed** can be used immediately. You are able to fold up the alcove bed to gain easier access to driver's cab. This will provide greater visibility. Please note you are able to leave the alcove bed folded while travelling.

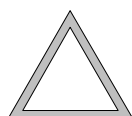
The **front bed in A-class models** can be folded down. Position seat backrests to the front to gain maximum height for the lifting bed. Swivel driver's seat slightly to an outside position so seat does not touch the steering wheel.

Please note that bed linen can be stored on bed, remember to secure bed with fastening straps when bed is in the fold up position!!!



### Attention

Do not use the fold up front bed to store any other items, only bed linen for two persons may be stowed.



### Attention

It is not necessary to completely raise the bed while stationary, but always ensure the bed has been secured with fastening straps when travelling.

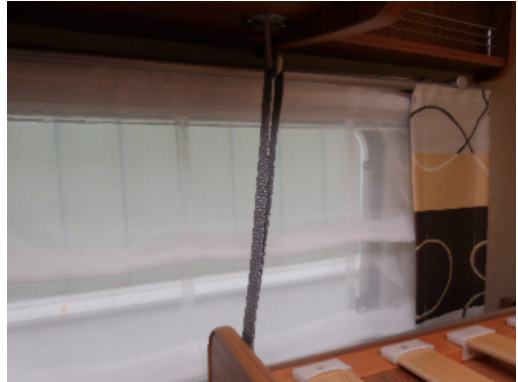
## Duo Bed (option)

Frankia Duo Beds for Coachbuilt & A-Class motorhomes can be used in two ways: They are used either length ways or as a large crosswise double bed of approx. 2m x 2m.

- Position table in driver's cab (see chapter "table").
- Depending on the floorplan you may have to fold up the seat cushions in order to hook in the ladder.
- Fold front backrest flat.
- Release bed extension by turning rotary knob A.
- Lower the electric bed until in the position below the upper cupboards. The operation switch can be located by the control panel above entry door.
- Take hold of handles positioned at base of bed, pull towards you until the stop. Lock bed by turning the rotary knob A.



- On both sides loop the belts around the hooks under the front cupboards.
- Now the bed can be lowered completely.
- Put the additional mattresses onto the bed.
- Attach ladder (option) between the two beds.
- To re-convert reverse this procedure.



- Place additional mattresses transversely on the bed and push as far forward as possible. Should bed linen be left on mattress, there is no necessity to raise bed completely. But always ensure the bed has been secured with fastening straps when travelling.
- After lifting bed always lock the bed extension.





**The lifting bed (Plus layout)**

Plus layout: Before folding down bed, position seat backrests to the front to gain maximum height for lifting bed. Swivel driver's seat slightly to an outside position so seat does not touch the steering wheel.

Should you wish to lie in the driving direction position, extend slatted frames on both driver & passenger side until the stop has been reached.

Then place additional cushions onto the frame.



To re-convert place additional mattresses transversely on bed and push as far forward as possible towards the front. Push bed extensions back to original position. If bed linen is to be left on mattress, it is not necessary to raise bed completely. Always ensure the bed has been secured with fastening straps before travelling.

**Bed conversion to round seating group (for FF2 and Plus models)**

For FF2 models the round seating group can easily be converted into two single beds. With the help of the strap (located in the middle) the backrests can be raised and the complete seating bench area can be used to lie on.



In addition, the gap between both single beds can be closed by lowering the table and securing with the pull-out aluminum profiles (please see also, conversion of seating group for a makeshift bed). After placing an auxiliary cushion, the facility of a large bed surface covering almost total motorhome width is available.



### **Folding step for height adjustable bed over seating group (depending on layout)**

The height adjustable bed above the seating group can easily be accessed with the folding step when it is in its lowest position.



Pull out and fold out the lower step.

To re-convert reverse this procedure. Please make sure that the lower step is completely folded to avoid damages on the furniture.

The space under the upper step can be used as storage.

## Conversion of seating group for a makeshift bed (option)

### **Makeshift bed**

- Move table into driver's cab or lower the table top respectively.
- Extend aluminum profiles to correct length and attach to supports provided on front of seat bench.
- Place the reinforced seat cushion of the L-shaped seating group and the additional cushion onto the aluminium profiles. Place the backrest cushion onto the seating surface.



For A-class motorhomes, swivel the driver's seat slightly to an outside position so backrest does not touch the steering wheel.

In this position even the larger table tops can be moved into drivers cab area and bed make up can be made without difficulties.





## 2. AIRING

### 2.1 Roof lids

Your motorhome has roof lids which can be used for airing and darkening. Press the release button and raise the bow to open the roof lid. You can select different positions to lock the roof lid into.

Should the motorhome be exposed to intense sunlight, we recommended to not close blackout blinds and plissé-curtains completely. Only two-thirds is recommended.

The glass should be placed in the position “continuous aeration” to avoid overheating damage.

A roof lid may be opened completely or partly as you wish.

Roof lids have flow-through ventilation, which is required by law.

While travelling roof lids must be closed.

Optimum airing can be gained when a kitchen roof lid is open together with the kitchen window.

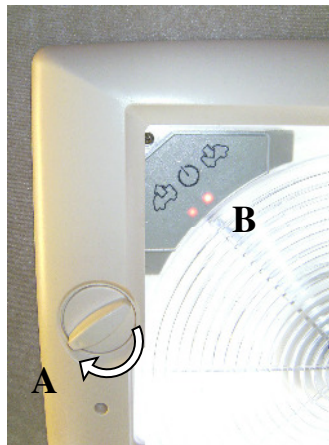
Opening a roof lid in the wash room will avoid mirrors steaming up.



### Roof lid with ventilator

“Omnivent” roof lids with ventilator can be opened by turning knob “A” in direction shown.

With control panel “B” you will be able to switch ventilator on & off, plus choose direction of air flow (blown in or out). Red LEDs indicate the current mode.



“Fiamma” roof lids with ventilator are opened by turning the knob. The ventilator sense of rotation can be controlled with the rocker switch.

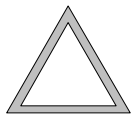


## 2.2 Midi-Heki, Heki III

Additional important information is available in the Seitz operating instructions.

### Heki III rooflight

The Heki 3 rooflight can be opened with the crank handle up to an angle of approximately 70°. To fully close (in lock position), turn handle 2-3 additional revolutions once glass touches the roof.



#### Attention

While travelling the Heki III rooflight must be closed and locked.

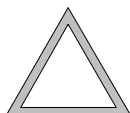
Additional important information regarding Heki III is available in the Seitz operating instructions.

## 2.3 Windows

Your FRANKIA motorhome has combination roller blinds. These providing darkening for night, plus aeration. Can be used with or without insect meshes.

Please note darkening roller blinds are not sun protection blinds. When the motorhome is exposed to intense sunlight, it is not recommended to have black out blinds closed for long periods of time. This may damage the material of the blinds.

When opening the window please press safety buttons and turn locks sideways. It is possible to connect the insect meshes to the darkening roller blind to raise and lower them together.



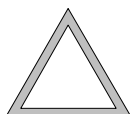
Do not drive with opened hinged windows!

**Attention**

## 2.4 Body door

Open the body door by turning key clockwise until it stop is reached. Pull on door handle to open. Before removing the key, turn anticlockwise until locking cylinder is in an upright position. To lock door from inside, turn locking lever to a horizontal position.

For your safety it is recommended to lock the body door while travelling when passengers are inside the living area.



Please maintain a clear exit to the body door when inside your motorhome, especially at night (escape route).

**Attention**

### Please note the following points regarding the airing:



**Warning**

A motorhome contains only a few cubic metres of air, isolated from the outside by the insulated walls and window rubber seals.

The air exchange through the flow-through ventilations of the roof lids and windows is not enough to cover the passengers' need for oxygen for a longer time. We recommend to let fresh air into the motorhome while using the gas hob to make sure to have a sufficient level of oxygen.

With insufficient fresh air available in the motorhome, there could be a risk of other problems: high humidity and condensation caused from body transpiration, wet clothes and condensed air from showering or cooking. To avoid these problems please pay attention to the following points:

- While living in your motorhome if the outside temperature is acceptable: Make sure of a permanent exchange of air. (opened windows and or roof lids).
- In winter seasons you should allow fresh air into the motorhome several times a day.
- Keep ventilation slots of the storage spaces clear.
- Make sure there is sufficient air exchange during the night (open roof lid). The more people sleeping in your motorhome, the more airing will be required.
- An immobilized or stored motorhome also requires airing from time to time to avoid condensation.

Please note that surplus humidity will condense on cold things first in your motorhome. Therefore, please remove any condensation from windows. If a coachbuilt model, then remove any condensation from the front section and corners of the alcove too.

## 3. GAS SYSTEM

### 3.1 General

The gas system in your motorhome supplies your refrigerator, heating via the boiler and cooker. These appliances are connected to the gas bottle supply which are installed in an outside locker.

The system should be run with propane gas. For use with butane gas the correct functioning of the installation cannot be guaranteed. This is due to a difference in quality of gas. For this reason service work required due to impurities, e.g. cleaning of burner nozzles, are not covered by warranty. The operating pressure is 30 mbar.

Before driving through a foreign country please always check if gas supply is possible there. In some countries it is not possible to exchange your gas bottles when empty. You are required to refill them. Therefore, remember you will require the correct adapter to do this. Additionally, before driving to a foreign country please check you will be able to travel with opened gas bottles as only some countries allow this, (for example Germany) however other countries may not allow this (for example France).

In Germany a recognized expert must check your gas system every two years.

If the optional available gas tank is installed in your motorhome, please respect the operating instructions of the respective manufacturer.



**Warning**

It is recommended to run the gas system exclusively with propane gas.

### 3.2 Gas bottles

Always secure gas bottles in the dedicated locker with securing straps.

Change a gas bottle as follows:

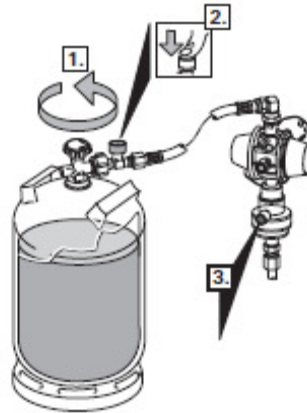
1. Switch off all gas appliances
2. Close the gas bottle valve
3. Remove the union nut from the pressure reducing valve  
ATTENTION ==> left-handed thread
4. Replace the empty gas bottle with the full gas bottle
5. Connect the gas system with the new gas bottle
6. Screw on the union nut of the pressure regulator by hand (without using tools)

Please note that the valve always has to be secured with the protecting cap when a gas bottle is not connected.

### Putting a new gas bottle into service

If necessary, please open the remote switch of the gas bottle.

- 1) Open the valve of the bottle
- 2) Depress the hose burst safety valve (green button) on high pressure hose.
- 3) Following an accident or faulty activation, push the green reset button on the MonoControl CS.  
(to reset the crash sensor trigger element)



### Opening and closing of the gas system

#### **Opening the gas system**

1. Open the connected gas bottle
2. Open the shutoff valve in the lower kitchen cupboard
3. Switch on the appliance

Do not open the shutoff valve of an appliance when not in use.

If an appliance does not work, repeat the process again in the above order.

#### **Closing the gas system**

Please shut off all appliances, the shutoff valve and your gas bottles.

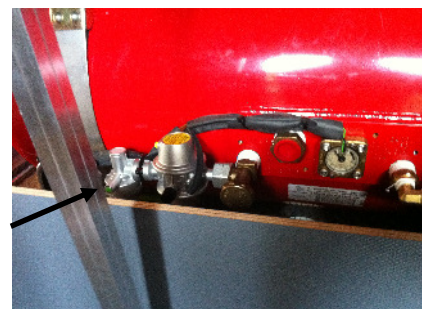


#### **Warning**

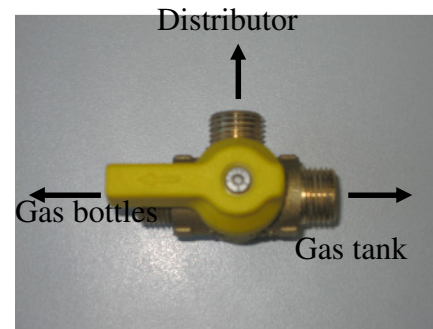
- The gas bottle space is to be used only for the gas bottles. Please do not use it as additional storage space for other objects.
- Always keep clear the flow-through ventilation in the bottom!

### Operating the gas tank (option)

1. Open the tank valve.
2. Depress the hose burst safety valve (green button)
3. Following an accident or faulty activation, push the green reset button on the MonoControl CS (to reset the crash sensor trigger element).

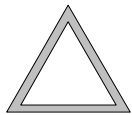


If there are gas bottles installed in addition to the gas tank, choose the gas source with the 3-way valve. The 3-way valve is installed near the gas distributor in the kitchen



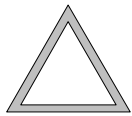
### 3.3 Gas hob

Turn the gas valve anticlockwise and press button. Hold button depressed until the gas ignites. After 10 seconds you can release the button. An opened roof lid in kitchen, plus slightly opened kitchen window provide optimum airing.



#### **Attention**

Do not use your gas hob as heating. If you are using pots and pans with long handles, please ensure they do not obstruct your way.



#### **Attention**

Important! Make sure that pots used are of a suitable size. If too small, flames could be exposed each side of the pots. When using the hob integrated in the working surface make sure that no pots project onto the working surface. The heat would transfer onto the surface and damage it.

### 3.4 Heating - warm water

Your liquid gas heating is equipped with an electronically controlled blower and an integrated warm water boiler. The same appliance enables warm air to disperse through the entire motorhome-body while maintaining 12L of warm water.

There is only one appliance for heating and warm water.

For further information about heating and warm water please refer to chapter 6.

Please thoroughly read the operating instructions from TRUMA before use or maintenance.



### 3.5 Gas supply

Below information regarding gas supply in some of the European countries (without liability):

Country	Propane	BP Gas light	Autogas
Belgium	Belgian gas bottles are the same as German bottles. Bottles can be refilled or exchanged. No adapter required.	Gas bottle change at BP service stations.	Country-wide service with 397 LPG filling stations (at service stations), Europe-adapter (bayonet fitting) required.
Denmark	The exchange of German 5 kg and 11 kg gas bottles is possible at many camping sites. Gas bottles can be refilled at Kosan Gas As in Norresundborg near Alborg, Koge and Nekso. Sometimes German bottles are available from BP Gas.	Gas bottle exchange at BP service stations, adapter required. 13 Bilgas filling stations at service stations, Europe,-adapter (Italian system) required.	
France	Only French gas bottles can be refilled and exchanged. At service stations and camping sites it is possible to rent French gas bottles (mostly 13 kg) against a deposit (approx. 35 €), which can be connected with a Euro-Set adapter. Golden bottles should fit without an adapter.		Country-wide service with LPG filling stations at more than 1800 service stations, Europe-adapter (Italian system) required.
Greece	Exchange and refilling of gas bottles mostly only in big cities as Athens, Thessaloniki, Patras and Monernvassia. It is recommended to take a Euro filling set. Information in Greece from the ADAC (German automobile club) hotline (01) 960 1266.		No refilling of gas tanks of tourist vehicles at the 34 LPG gas service stations. Connection: Italian system.
Great Britain	British Calor gas bottles can be connected with an adapter (Europe set). For German bottles you can find filling stations at Bury St. Edmunds/Suffolk, Ellesmere Port/Cheshire, Grangemouth/Stirlingshire, Ivybridge/Devon, Liverpool/Merseyside, Middlesbrough/Cleveland, Neath/West Glamorgan, Southampton/Hampshire, Stanfordsle-Hope/Essex, Stoney Stanton/Leicestershire. In Scotland: Gleaner Oils in Milnfield, Elgin.		Country-wide service with LPG filling stations at more than 1000 service stations, especially in urban agglomerations, adapter (bayonet) required.

Italy	It is possible to exchange German bottles on some Northern Italian camping sites. Refilling of German bottles is possible with an adapter, country-wide net of exchange and refilling stations.		Country-wide service of LPG/autogas stations at 350 service stations, especially in Northern Italy, adapter (Italian system) required.
Luxembourg	Bottles are the same as German bottles. Refilling and exchange possible, no adapter required.		5 LPG filling stations at service stations in Southern Luxembourg.
Netherlands	Bottles are the same as German bottles. Refilling and exchange possible all over the country.	Exchange of gas bottles at BP service stations.	Country-wide service of LPG stations at service stations, adapter (Spanish system) required.
Norway	It is not possible to refill foreign gas bottles. At 900 AGA branches you can rent gas bottles against a deposit (5 and 11 kg). These bottles are compatible with Swedish and Finnish bottles and have to be returned within 6 months. AGA adapter required. Information: <a href="http://www.aga.no">www.aga.no</a> .	Exchange of gas bottles at BP service stations, adapter required.	Country-wide service of LPG stations at 39 service stations, especially in the South, adapter (Italian system) required.
Austria	Exchange and refilling of German gas bottles possible (Austrian bottles are the same as German bottles).	Exchange of gas bottles at BP service stations.	10 autogas filling stations at service stations on motorways, adapter (Italian system) required.
Sweden	Refilling foreign gas bottles is not possible. It is possible to rent gas bottles from AGA against a deposit (5 and 11 kg). These bottles are compatible with Norwegian and Finnish bottles. AGA adapter required. Information: <a href="http://www.aga.se">www.aga.se</a> .	Exchange of gas bottles at BP service stations, adapter required.	10 LPG filling stations at service stations, adapter (Italian system) required.
Switzerland	Exchange of gas bottles is not possible, refilling of German bottles only exceptionally, adapter required. It is possible to rent Swiss bottles with pressure regulator. Information: Shell Gas, phone: 0041/327/587555.		7 autogas filling stations at service stations, adapter (Italian system) could be required.
Spain	Sale of liquid gas only in gas tanks, no refilling of gas bottles. Possibility to rent 6 and 12,5 kg gas bottles against a deposit from Repsol. List of gas stations under <a href="http://www.cepsa.es">www.cepsa.es</a> .		Country-wide net is being set up, with 33 LPG filling stations at service stations especially in Western Spain. Adapter (Spanish system) required.

Source: Promobil from January 2007



### 3.6 Refrigerator

#### General

Your FRANKIA motorhome has a Dometic refrigerator (Thetford in some Selection models), which operates with gas, 230 V or 12 V battery. The supply to your refrigerator using 12 V is only available when travelling. 230 V or gas supply will be used when the vehicle is parked. AES refrigerators select the energy source automatically.

Please note air will accumulate in the gas pipe after long periods of non-use, or following a gas-bottle change. You can ventilate the pipe by switching the gas hob on for a short period of time and selecting the thermostat to the highest position. After this the refrigerator should ignite without any long delay.

Your appliance has all classic functions of a refrigerator:

- \* conserving foodstuff
- \* producing ice cubes
- \* conserving frozen foodstuff

The Dometic (Thetford) operating instruction includes all information and recommendations for your appliance. Please study and respect these instructions carefully.

#### *Some advice for the optimum use of your refrigerator:*



**Info**

- \* **Ice cubes:** The best time to make ice cubes is at night because then you will have ice cubes during the day, even if the refrigerator is working only with 12V.
- \* **Defrosting:** When the cooling element is iced, your refrigerator works less efficiently. Therefore, we recommend you to defrost your refrigerator regularly.

## Security advice



### Warning

- Changes and repairs of the gas system have to be carried out only by authorized experts! If there are any changes carried out, the test certificate will lose its validity!
- The gas appliances are designed only for the use with propane, butane or a mixture of these two gases.
- While you are working with gas (for example filling the tank or changing the gas bottles) make sure there is no fire or open flame near your motorhome. Danger of explosion!
- If you have parked your motorhome in a garage, make sure there is no fire or open flame near the motorhome, because leaking gas can enrich to a combustible mixture in a closed space!
- The operating pressure of the gas system is 30 mbar. If you use a pressure regulator with a higher operating pressure, the conical valves will be damaged.
- Each gas appliance has its own shut-off valve (quick fastening valve). Please always keep this valve closed when the appliance is not used.
- If none of the gas appliances is in use, please shut all the shut-off valves, the gas bottle remote-control switch and the gas bottle valves (in case you do not use the gas appliances for a long time).
- Never use the gas hob as heating!
- Carefully read and respect the operating instructions of the gas appliances. Keep these operating instructions in your motorhome so that you can look something up when you are in doubt.
- Please check regularly if the ventilation and exhaust gas vents of your gas appliances (heating, refrigerator) are clear of dirt, leaves and snow.

## Gas socket (option)

If your motorhome has a gas socket we recommend to close the corresponding shutoff valve when you leave your motorhome for a longer time, to avoid that gas could be taken out unnoticed.

## Properties of the used gases:

- They are heavier than the air: leaking gas will sink down to the bottom.
- Under pressure they can be liquefied relatively easily, like this it is possible to increase the amount of energy stored. One litre of liquid gas makes more than 200 litres of gaseous “fuel”.
- Mixtures of gas and air are explosive when the gas percentage is approx. 2-10 %.
- A gas leak can be recognized by its smell similar to garlic.
- If liquid gas is exposed to skin, it could cause frostbite due to the cooling effect.
- They have different boiling points:
  - - Propane      - 42° Celsius
  - - Butane        + 1° Celsius

- The boiling point is the temperature at which the liquid “gas” changes to its gaseous condition. If the ambient temperature is below this point, there will be no more vaporization.
- This means: If it is cold outside you should use propane because it can vaporize at temperatures up to approx. - 42° C.

**What should you do if there is gas smell?**

1. No fire, do not smoke
2. Do not use any electric switches
3. Shut off gas bottle valves
4. Let fresh air into the motorhome
5. Have gas system checked by a specialist

## 4. ELECTRIC SYSTEM

### 4.1 General

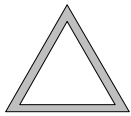
Your motorhome has a 230V alternating current system and a 12V direct current system.

For Selection models the connection for 230V mains is made with the plug socket in the central services compartment. All other motorhomes have the cable reel in the central services compartment with connection plug and cable.

You will find a 230V electric cutout as well as the residual current protective device on the central electrics unit (or in the wardrobe for Platin models).

The 12V supply operates with two batteries - vehicle battery and auxiliary battery. All electric appliances which are part of the chassis are supplied by the vehicle battery. The electric appliances in the living area as well as the radio are supplied by the body battery.

If the vehicle is parked and 230V supply is not used, please refrain from using the vehicle battery to make sure it maintains its charge and you do not encounter any problem starting your motorhome.



#### **Attention**

For your own safety, we recommend the 230/12V system be checked regularly by a trained electrician.

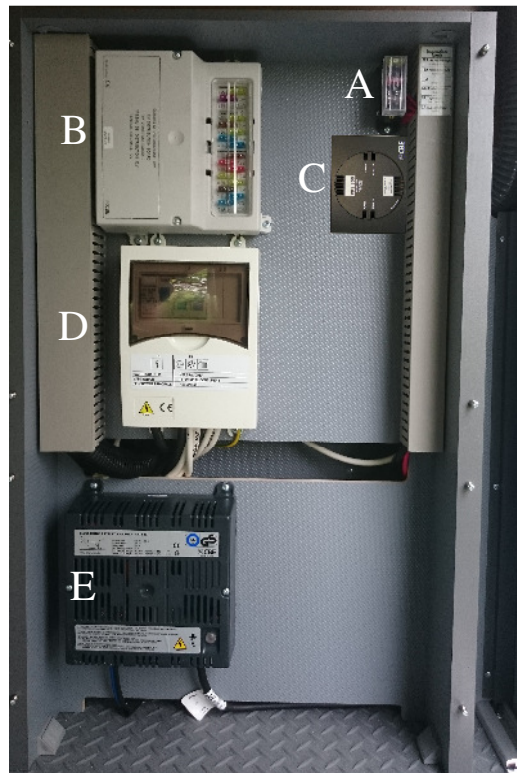


#### **Warning**

While travelling on ferries never connect your motorhome to 230V mains because any overload caused by voltage fluctuations on the ship could damage the electric system.

## Central electrics unit

The central electrics unit is located in the rear garage (depending on layout). All electric circuits relevant to the motorhome body are fused here.



- A) Additional distribution device for chassis (heated mirrors, electric windows, rear view camera etc.)
- B) 12 V distribution device DS 470
- C) Solar charger PRS 300 Bus (option) (for Power Pack and Platin Edition see points 4.6 and 4.7)
- D) 230 V distribution device with electric cutout and residual current protective device (2 x if option inverter)
- E) Charger CB 522 (2 x if 2 body batteries)

## 230 V electric system:

For every FRANKIA motorhome a qualified electricien does a initial operation check of the electric system according to DIN VDE 0100-600. This check has to be repeated in case of extension or modification of the system.

The test report as well as a wiring diagram for the 230 V installation is enclosed with the vehicle documents.

## Electric cutout:

The electric cutout protects the 230V connection against overload and short-circuit (Depending on the floorplan this will be located either in the wardrobe or seating group).

## Residual Current Protective Device (RCD)

The residual current protective device protects you against excessive contact voltage, plus serves to prevent fire in case of any technical defect.

In order to confirm that the RCD functions properly, it must be checked every month as well as when changing location. (Press the check key which simulates an error in order to ensure correct functioning – see page 30).

### Motorhomes with optional inverter have two electric cutouts and two residual current protective devices.

- The first unit (F1) protects big appliances such as the refrigerator, the heating, etc. as well as the input side of the inverter. These are active only if the motorhome is connected to external 230 V.
- The second unit (F01) can be found on the output side of the inverter. It protects all 230 V sockets. This unit is active when using external 230 V connection and also when operating the inverter.

### Operation of the electric cutout:



#### Switch off the electric cutout

- Switch the rocker switch to "0"

#### Switch on the electric cutout

- Switch the rocker switch to "1"



#### Warning

- If the electric cutout trips out/off, in most cases this will indicate a defective electrical appliance. If necessary please have a trained specialist check and repair the appliance.
- Never use force to hold rocker switch in position "1"!

### Checking the Residual Current Protective Device (RCD)



#### Checking the RCD

- Press the check key
- Rocker switch must jump to "0"

#### Switch on the RCD

- Switch the rocker switch to "1"



- In most cases, the RCD is activated by faulty insulation or a faulty device. Should this situation arise, have the system / device checked and repaired by a trained expert.

**Warning** • Never use force to hold the rocker switch in position "1"!

### Vehicle electric system 12V:

If your motorhome is disconnected of the 230V mains, at least one body battery will ensure the energy supply to all electric consumers in the living space.

The chassis has its own starter battery which is NOT discharged by the electric consumers of the living space.

### **Both batteries are charged automatically**

1. by the integrated battery charger when the vehicle is connected to 230V mains
2. by the alternator when the engine is running (for Power Pack and Platin Edition by an additional charger / booster, see chapter 4.7 and 4.8)
3. by the solar module when sufficient sunlight is available (option)

### **Protection of the electric system**

The main fuses (MIDI fuses) are on the batteries. Please see chapter 4.3 for the position and function of the additional fuses.

Moreover the electric consumers of the body are protected by fuses on the battery charger.

The FRANKIA body battery is a **MOLL GEL** battery. This is an accumulator using GEL-technique which is specifically designed for use in hobby and leisure. (See *MOLL technical data sheet*).

(Motorhomes with Power Pack and Platin Edition have accumulators in AGM-technique, see chapter 4.7 and 4.8)

The main handling / maintenance information can be found within this chapter as well as the operating instructions for the 12 V distribution and the control panel.

(For motorhomes with Power Pack and Platin Edition see chapter 4.7 and 4.8 as well as the operating instructions from Büttner Elektronik).

### **Additional information for the correct care and maintenance of the MOLL GEL battery:**

(For Power Pack and Platin Edition see chapter 4.7 and 4.8)

### **Understanding the charge status of the battery**

The easiest way to determine the battery charge status is via open-circuit voltage. An open circuit voltage refers to the battery voltage in an un-operated state.

Please wait a minimum of 5hrs after charging before measuring.

In this time the battery should not have had any considerable drain.

The measurement of the open circuit voltage can be made either by the control and display panel, or a separate voltmeter.

<i>Open-circuit voltage</i>	<i>Charge</i>	<i>Action</i>
12.8 V and higher	Fully charged	O.K.
12.65 V	75 %	Recharge
12.35 V	50 %	
12.0 V	25 %	Recharge immediately!
11.8 V	0 %	
Lower than 11.8 V	Deeply discharged	

### How long can a certain current flow - and how can you calculate this?

First, some basic physical principles:

Electric current is measured in **A** (Ampere), the voltage in **V** (Volts).

The mathematical product of the two is the electric power **W** (Watts) = **V x A**

Nominal voltage of our battery is 12V. On the battery, the capacity is indicated in ampere hours (Ah). In the case of **MOLL GEL** this is the 100-hour capacity.

**Example:** If a 100Ah battery is discharged with 1A current, the current can flow 100 hours. The battery was therefore discharged 100Ah.

With higher load currents, the available capacity decreases. In our example of the 100Ah battery: with a 20A discharge, only approximately 75Ah can be drawn.

This corresponds to 3.75 hours.

If we are now connecting a lamp with a rated power of 12W, the discharge current is calculated as follows:  $12W / 12V = 1A$ .

This means that a current of approx. 1A flows. A fully charged battery would last approximately 100 hours.

### What can damage the battery?

- Deep discharging below a voltage of 11.8V
- Long idle times in a discharged or partially discharged state.
- Long operating times at very high temperatures
- Opening a maintenance-free battery

During operation, the battery should be recharged as soon as possible. The battery should be fully charged regularly so that the open circuit voltage is 12.6V and higher.

### Care and maintenance of the batteries:

1. You should control the battery charge condition regularly, if necessary recharge the batteries. Check the battery-terminal clips: They should be tight and have clean, greased contacts.
2. If the motorhome is immobilized for long periods of time, you should disconnect the batteries from the earth connection (disconnect the negative terminal cable). Please make sure that the solar modules do not supply any current in order to protect the solar regulator from damage. For this we recommend monitoring the battery condition regularly. The best frost-protection for a battery is a good charge condition.
3. During your journeys you should use every possibility to recharge the batteries with the 230V exterior connection.



**Self-discharge of the batteries**

Every battery will lose its stocked energy, even without any consumers connected.

This self-discharge shows the age of the battery, old batteries or batteries often discharged and recharged will discharge faster than new batteries.

**Immobilizing the battery:**

If the motorhome is not used for long periods of time, please carry out the following measures:

1. Fully charge the battery through the electric block (at least 12.6V of open-circuit voltage after 5 hours)
2. Isolate the battery from the circuit – either via the switch panel or preferably by disconnection of the negative pole.
3. If your motorhome has solar cells: Pull the fuse no. 5 “DIR” on the 12 V distribution device.  
(For motorhomes with Power Pack and Platin Edition remove the corresponding fuse on the fuse support in the technical center / the solar charger)
4. Keep the battery surface clean and dry.
5. Store the battery in a cool place.

For reconnection of battery, please repeat the above process.

If the battery is not in operation for a long periods of time, repeat the procedure every 6 months.

**Deeply discharged batteries:**

If the open circuit voltage falls below 11.8V (referred to as a deeply discharged battery).

If correctly operated, this condition should actually not occur because the control panel gives an optical and acoustic warning (see also CBE operating instructions).

It may not be possible to charge deeply discharged batteries with the on-board charger.

In the case the battery is deeply discharged, proceed as follows:

1 Charge the battery via the electric block

**Should this fail:**

2 Disconnect the battery from both terminals and remove from the storage position.

3 Connect a suitable external charger

a. either one hour with approx. 2A

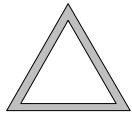
b. or one hour with approx. 16V

4 Reinstall battery and connect.

5 Then fully charge battery with the electrical block

Should this process not be successful, there is probably permanent damage and the battery must be replaced.

**More information can be found in the warning notices and safety regulations for lead-acid batteries.**

**Attention**

- Please avoid discharge voltages of under 11 Volt. Such exhaustive discharges will considerably shorten the service life of your batteries. If the charge is not sufficient this can also cause sulphation of the battery, which is difficult to remove.
- Fully charged batteries are more resistant to the cold than an empty battery. Therefore always keep the battery charged in order to prevent it from freezing.
- Charge the batteries for at least 12 hours before and after each journey.
- Before connecting or disconnecting the auxiliary battery, all electrical devices and lights must be switched off.
- The auxiliary battery must be replaced with the same type & specification as the originally installed auxiliary battery, or as indicated by the manufacturer.

**Solar module (= option)**

The solar panel on the vehicle roof transforms light into electric energy. It is made of solar cells with a high efficiency.

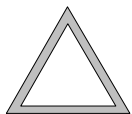
The energy produced from the solar cells is directly entered into the 12V vehicle electric system, any additional energy excess will load the body battery. A solar regulator distributes the solar energy.

**Maintenance and care:**

- The solar cells are behind a hardened glass sheet; the panel is water-tight and weatherproof. The solar cells should always be clean in order to preserve their performance. We recommend cleaning the glass sheet every four weeks with a damp cloth and a washing-up liquid solution.
- In dusty environments, the solar panel should be cleaned more frequently.
- In the winter please keep the panel free from snow. If solar cells are covered with snow, they will not supply any current.

**Instructions for the power supply as per DIN VDE 0100-721:2010-02 directive****When connecting**

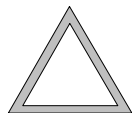
- a) Before connecting the motorhome system with the power supply, please check the following points:
  - 1) The power supply available at the camp site must be suitable for the electric system and devices of the motorhome regarding the measurements of voltage, frequency and current.
  - 2) The cables and connections must be suitable.
  - 3) The main circuit breaker of the motorhome must be switched off.

**Attention**

The flexible feed line of the motorhome should be unwound completely in order to avoid damage due to overheating

- b) Check cables / lines, plugs and connections for damage.

- c) Plug the flexible feed line into the power socket of the power supply unit provided at the motorhome pitch.
- d) Switch on the main circuit breaker of the motorhome.
- e) Check the functioning of the installed Residual Current Protective Device (RCD) by pressing the check key and switch it back on again.



### Attention

In cases of doubt or if the power supply is unavailable or faulty after performing the above procedure, contact the campsite owner.

### Disconnecting the current supply

Switch off the main circuit breaker of the motorhome and remove the cable from the power supply unit of the motorhome pitch.

### Periodic inspection and testing

The electrical system of the motorhome should be inspected and checked by a competent electrician at least every three years, and if the motorhome is used frequently, every year. The electrician should issue a report on the condition of the system.

Source: DIN VDE 0100-721 Attachment A (normative)

## 4.2 Control panel

The control panel shows the fresh water and sewage levels as well as the charge condition of the starter battery and the body battery, the power consumption and the status of the solar panel (option).

All motorhomes are equipped with the CBE PC380 panel with a 12 V main switch (button 5).

Button 1 activates the light functions

Button 2 activates the water pump

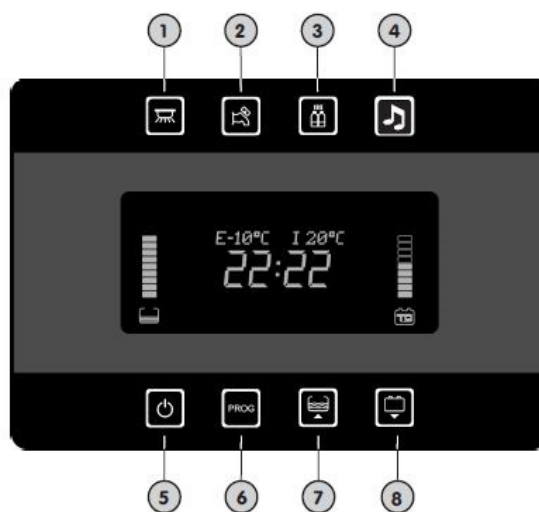
Button 3 activates the heating of the gas pressure regulator (option)


Button 4 activates the optional multimedia functions (radio, TV, subwoofer)

Button 6 activates the programming mode

Button 7 shows the tank levels

Button 8 shows the battery charge levels



If the LED  flashes, the body battery has to be reloaded urgently.

The **multimedia functions** can be activated via button 4 or automatically by turning on the ignition or starting the engine.

Please refer to the CBE operating instructions for further information about the control panel. (For information about the two additional control panels for Power Pack and Platin Edition see points 4.6 and 4.7)

### **Water pump**



**Info**

The switch for the water pump should only be switched on when you are living in your motorhome and the water supply is full. This will avoid the pump from running dry or **water penetrating into the loading space or double floor if a leak should materialized somewhere.**

If the water pump is switched on but there is no water consumption, this indicates all valves are closed. Should the pump alternate from an on/off mode, this may indicate a possible leak somewhere. Please switch off the pump immediately and check all pipe work in order to establish fault and prevent “flooding” of the storage spaces.

You also have the possibility to program a timeout for the water pump, which will automatically deactivate the pump after a set time (see CBE operating instructions chapter „customer programming“) if a water flow is measured after the set time. The internal counter can be reset by closing and re-opening the water tap.

This timeout could also be used to reduce the water consumption (i.e. too long showering).

In most models you can find the water distributor next to the fresh water tank. This water distributor is a direct connection between the pump and the valve. In case of a leak you can put a dummy plug into the damaged pipe so that you can use all other valves.

We recommend checking especially the warm water supply every 6 months and tightening up the hose clamps.

### **Display for the fresh water and sewage**

The control panel CBE PC380 shows the water level in steps of 10%.

The display shows the following:

Display	Fresh water tank capacity (l)	Sewage tank capacity (l)
100 %	approx. 150	approx. 120
50 %	approx. 75	approx. 60
0 %	0	0

The tank capacities may vary depending on the layout.

For further information about the control panel please refer to the CBE operating manual.

### 4.3 12 Volt fuses

#### 12V fuses on the vehicle battery (additional distribution of chassis)

The following fuses can be found in the fuse holder (6 circuits) of the central electrics unit (also see pos. A in photo of chapter 4.1):

- A) 20 A exterior mirror (A-Class models only)
- B) 15 A trailer coupling (option)
- C) \_\_\_ A (reserve)
- D) 5 A rear view camera (option)
- E) 5 A daytime running light (A-class models only)
- F) 2 A outside locker door (option)

For all motorhomes (for added line protection) there are fuses for the additional distribution of the chassis (40 A MaxiVal) in the battery compartment below the footwell of the driver's cab.

Here you can also find the protection of the supply line for the 12 V distribution.

For motorhomes without inverter:

FIAT 50 A

Mercedes 60 A

For motorhomes with inverter:

FIAT 125 A

Mercedes 125 A

#### 12 Volt fuses (battery)

The main fuse for the 12 V current supply of the body is situated next to the body battery.

For motorhomes without inverter:

50A

For motorhomes with inverter:

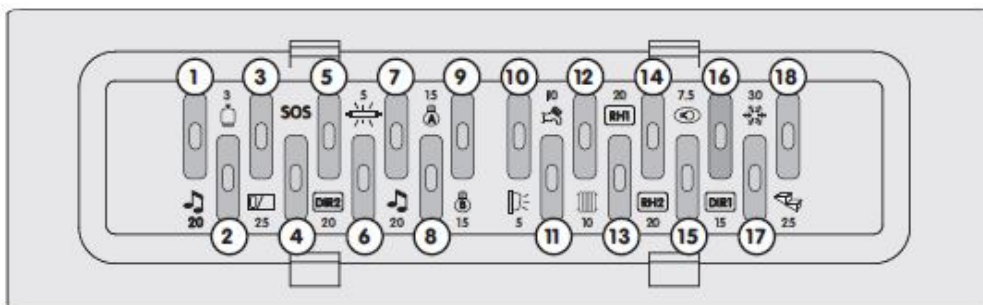
125A



### Fuse circuits on the 12 V distribution device DS 470

The fuses for the interior lights can be found on the 12 V distribution device.  
A red LED under the fuse indicates a defective fuse.

The fuse circuits 1 to 18 are as follows:



#### Fuse assignment

No:	Value:	Designation	Function
1	20 A	Multimedia 1	Radio, subwoofer
2	3 A	Truma Eis-Ex	Heating cartridge on gas pressure regulator
3	25 A	Drop-down bed	Drop-down bed, awning
4	SOS	see CBE operating instructions	In emergency case you can insert a fuse (any value) to activate basic functions
5	20 A/ 25 A	DIR2	Fuse SOLAR
6	5 A	Switched lights	Reserve
7	20 A	Multimedia 2	TV
8	15 A	Lighting group A	Circuit 1
9	15 A	Lighting group B	Circuit 2, circuit 5
10	5 A	Outside light	Outside light / motion sensor
11	10 A	Water pump	Fresh water pump
12	10 A	Heating	Power supply heating Alde/Truma
13	20 A	RH1	Reserve 1
14	20 A	RH2	Front blind
15	7,5 A	Sidemarkers	Side marker lights
16	15 A	DIR1	Circuit 4, satellite system, radio
17	30 A	Refrigerator	Power supply refrigerator
18	25 A	Electric step	Power supply electric step

#### Circuit 1

- Consumer loads inside of vehicle, right side

#### Circuit 2

- Consumer loads inside of vehicle, left side

#### Circuit 3

- Not allocated / options

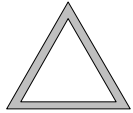
Circuit 4

- Complete lights in ceiling

Circuit 5

Indirect lights / options

For more detailed information regarding the consumer loads and fuses please refer to the CBE operating instructions.



A defective fuse shows a fault in a circuit.  
Please have the respective appliances checked.

**Attention**

#### 4.4 Central locking system

Your motorhome has a central locking system for the cabin and the body door.

- *For FIAT coachbuilt and low-profile models:*  
The driver's and passenger's door as well as the body door are opened/closed with the ignition key
- *For FIAT A-class models:*  
The cabin and the body door are opened/closed with the ignition key
- *For Mercedes low-profile models:*  
The driver's and passenger's door are opened/closed with the ignition key, the body door has a separate remote
- *For Mercedes A-class models:*  
The cabin and the body door are opened/closed with the ignition key

#### 4.5 Inverter (option)

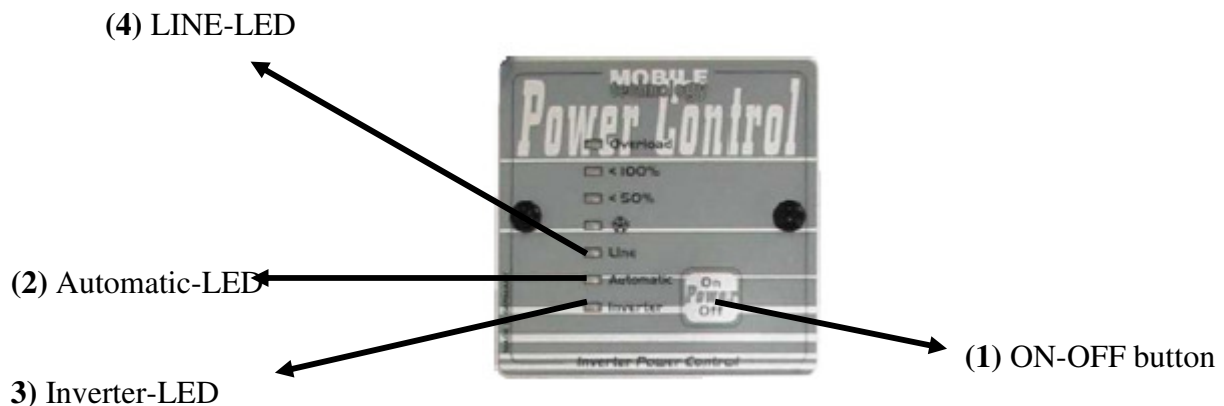
- Push the ON button **(1)** of the inverter.
- The inverter carries out a system check and gives a beep signal when ready for operation.
- The LED Automatic **(2)** blinks, this indicates that the inverter is in stand-by mode. When a load is connected, the inverter switches automatically to the operation mode.
- Connect a 230 Volt appliance ( $\geq 25\text{W}$  e.g. hair dryer etc.) to the 230 Volt socket. The LEDs Automatic **(2)** and Inverter **(3)** light up.
- If the motorhome is connected to 230 Volt, the inverter carries out an automatic power supply switch and forwards the applied voltage to the sockets. The Line **(4)** LED is lighted.
- Manual operation of the inverter without automatic mode:  
Push ON/OFF button for more than 3 sec.

If you wish to operate the inverter without automatic mode, push the ON/OFF button for more than 3 seconds. This way even consumer loads with very low power (i.e. battery chargers, portable radios etc.) can be used without any problems.

After this time the converter switches to continuous operation.

You can switch off the inverter by pushing the ON/OFF button for a second time.

During continuous operation the battery is strained even without consumer loads connected.



#### 4.6 Generator (option)

The generator creates an alternating voltage of 230 Volt and 50 Hz, which can supply the power requirement of various applications, as with all 230V sockets and consumers (air conditioning, heating, hob and electric block). The maximum continuous power output is approx. 2600 Watt. It is not a problem to connect susceptible appliances like e.g. TFT screens or PCs because the inverter unit is maintaining a stable frequency.

The generator can be operated very easily through the installed on-board vehicle computer with lighted display.

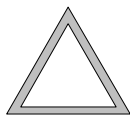
For more detailed information, please refer to the provided operating instructions by Dometic.



**Regarding TEC29LPG generator (gas operation):**

During operation of this generator, make sure to not exceed the statutory maximum flow rate (1,500 g/h) of the gas system.

The maximum gas demand of the generator at full load is ~ 1,200 g / h. If there is also an increased gas demand for other devices (e.g. boiler, heating), malfunctions of the operated devices might occur due to the low operating pressure. In this case, we recommend reducing the number of consumers.

**Attention**

Before switching on the generator, make sure that all consumer loads are switched off. Otherwise, the voltage peak during the switching on could damage the connected appliances.

**4.7 Power Pack by Büttner Elektronik (option)**

You can equip your FRANKIA motorhome with a large technical package from BÜTTNER ELEKTRONIK for the perfect energy management on board.

The components of the package are optimally adapted to one another and ensure high-quality electric supply and charging - even during short trips and charging processes. The solar modules extend the service life considerably; they also are, to a large extent, energy independent.

In the following the individual components of this package as well as their function and operation are described.

**On-board batteries**

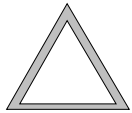
The integrated body batteries have a total capacity of 240 Ah. The batteries are AGM (Absorbent Glass Mat) batteries.

The two body batteries are automatically charged:

1. When connected to the 230 Volt mains via the integrated charger as well as the additional charger and the battery control booster.
2. When the engine is running via the charger booster and the battery control booster.
3. By the solar module depending on weather conditions.

**Maintenance and servicing of the on-board batteries:**

- Regularly check the level of the batteries; recharge the batteries if necessary.
- Check the secure position of the pole terminals.
- If the motorhome is not going to be used for a longer periods of time, make sure that the batteries are completely charged in regular intervals (every 2-3 weeks). If a 230V external connection is available, the charging devices automatically take over the complete charging process. If the vehicle is outdoors, this function is normally taken over by the solar installation. We normally recommend – also during the journey - to recharge the batteries via an available external connection, as the provided maintenance programs optimally charge the batteries and ensure an optimal service life.



Very importantly prevent discharge voltages below 11 Volts. Such deep discharges shorten the battery service life considerably. Due to insufficient charge, sulphate formation is possible, which is difficult to eliminate.

### Attention

- A completely charged battery is less sensitive to cold than an empty battery. It is therefore appropriate to keep the battery charged to prevent freezing. It is recommended to charge the batteries for 12 hours minimum before and after each trip.
- Switch off all devices and lights before connecting or disconnecting the on-board battery.
- The on-board battery must be replaced by a battery of the same type displaying the same specifications as the originally mounted on-board battery, or the specifications recommended by the manufacturer. Never connect new batteries to used batteries.

### Solar modules

The 2 integrated solar modules are high efficiency Black Line solar modules with MultiCell technology. The solar modules have a total capacity of 180W.

The solar panel is located on vehicle roof; it transforms light into electrical energy. The generated energy is directly fed into the vehicle's 12 Volt onboard electrical system; a surplus of energy is used to charge the on-board battery. The solar controller distributes the solar energy.

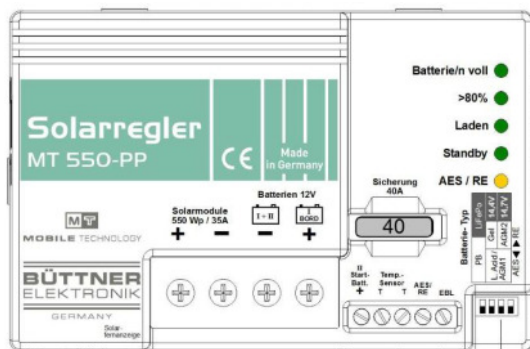
### Maintenance and servicing of the solar modules:

- The solar cells are protected with a toughened glass plate. The panel is water and weather proof. Solar cells must be clean to maintain their efficiency. It is recommended to clean the glass plate of the module every 4 weeks with a damp cloth and dishwashing liquid.
- In dusty environments clean the solar panel more frequently.
- In winter keep the panel free of snow, as covered solar cells cannot produce energy.

### Solar controller

The integrated solar controller is a MT-230-PP (PowerPlus) controller designed for a total solar capacity of up to 230W.

The controller leads the energy from the solar panels into the 12V supply system and controls the charging of the on-board batteries.



Operation displays:

"AES/RE" (yellow):

- Illuminated: Undervoltage of the on-board batteries. Recharge the batteries as soon as possible.

"Standby" (green):

- Flashing: The controller is in standby mode if no solar current flows (at night).

"Laden" / "Charging" (green):

- Illuminated: Brightness from slightly glowing to full brightness indicates the charging rate.
- Off: Not enough solar energy available.
- Flashing: Safety mode battery protection: Battery temperature  $< -20/-30$  °C or over temperature  $+50$  °C. Automatic return and continued charging when  $2$  °C lower.
- Flashes 1x: Shut-off solar overvoltage: LED "Laden" (Charging) flashes 1 x, then the controller switches to standby. Check solar module voltage (Voc)!

">80 %" (green):

- Illuminated: On-board batteries are nearly completely charged. Solar controller is in U1 charging phase.
- "Batterie/n voll" / "Battery (ies) full" (on-board batteries completely charged, green):
- Illuminated: Battery (ies) 100% charged, charge retention U2, finished.
- Glowing: Main charging process is still in U1 charging phase.
- Off: Main charging process is still in I-phase.

In the absence of solar electricity (at night), the "Laden" / "Charging" LED flashes briefly to indicate operational readiness.

If the "Charging" LED flashes at regular intervals, this indicates a potential error in the system: Controller is overheated or an error is detected during the self-test, battery too hot ( $>50$ ° C) if a battery temperature sensor is used.

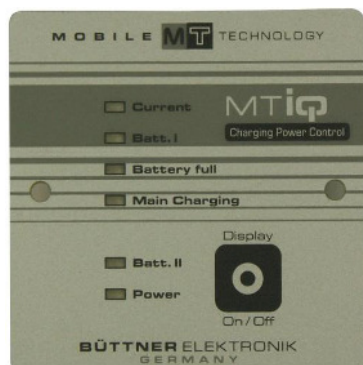
As soon as sufficient solar capacity is available, the "Laden" / "Charging" LED lights up and the charging process starts.

The brightness of the "Laden" / "Charging" LED is at the same time a measure for the converted solar energy. The brighter the LED, the higher the amount of available (even low) solar capacity is transferred.

**BCB Battery Control-Booster**

The battery control booster monitors the batteries in each operating state. It provides for optimum charging and battery maintenance in mains operating and in booster mode.

At a standstill without connection to an electrical network, it also monitors the batteries via a pulser mode.

**Remote control / display panel**

The display panel is on the device in the storage box of your vehicle.

The "Display On/Off" button only switches the display off (e.g. night operation, only "Current" is slightly lit as operation display) or on.

Operation displays:

"Current" (charging current, red):

- Illuminated: Mains or booster charging mode, is lit lighter or darker depending on the transferred charging current.
- Off: the current charging rate is less than approx. 0.2 A.

"Batt. I" (on-board battery, yellow):

- Illuminated: Mains or booster charging mode, on-board battery is monitored and charged.
- Flashing: Battery over temperature or battery under voltage in booster mode.
- Off: no charging mode (safety button is switched off).

"Battery full" (on-board battery is completely charged, green) in mains or booster charging mode:

- Illuminated: Battery 100% charged, charge retention U2, U3, finished.
- Flashing: Main charging process currently active in U1 charging phase, state of charge display is slowly increasing from approx. 80 % (short flashing) to 100 % (long flashing).
- Off: Main charging process is still in phase I.

"Main Charging" (main charging of on-board battery, yellow) with mains or booster charging mode:

- Illuminated: Main charging process currently active in I or U1 charging phase.
- Off: Charge retention, U2, U3 charging phase.
- Flashing: 1. Shut-off battery protection: Battery temperature  $< -30\text{ }^{\circ}\text{C}$  or over temperature  $>50\text{ }^{\circ}\text{C}$  automatic reset when slight cooling to  $48\text{ }^{\circ}\text{C}$ , or 2. external overvoltage of the on-board battery,  $> 15,50\text{ V}$  after 20 seconds, automatic reset  $< 12,75\text{ V}$  after 30 seconds.

"Batt. II" (starter battery, yellow):

- Illuminated: Booster mode (driving), starter battery charges on-board battery.
- Off: Booster not active:

"Power" (mains, green):

- Illuminated: The BCB has mains voltage or is active with 12 V for booster mode.
- Flashing: 1. Shut-off safety timer, charging phase I has taken too long (15 hours), too many consumers or battery defective (internal short-circuit). Reset only by removing signal at "D+/terminal 15" (engine, ignition off) and by pulling mains plug. 2. Internal device fault (over-heating), automatic reset after cooling down.
- Flashes every 20sec: Pulser in the BCB is active, on-board battery is being trained.

Note: Power supply mode at the 230 V AC plug has always priority over 12 V DC/12 V DC booster mode.

No further operation or servicing of the device is necessary.

### **Inverter (optional)**

The sinus inverter MT 1700 Si-N inverts 12V direct voltage of the on-board batteries to 230V / 50 Hz sinus alternating voltage with a permanent capacity of up to 1700 W.

The inverter is equipped with an intelligent energy saving control with automatic shut-off which ensures that no more current is consumed in idle run than absolutely necessary. In

order to protect the batteries, a low-voltage protection is integrated; it shuts off the inverter when battery voltage is low.

Thanks to the integrated power transfer, the inverter automatically switches off in the case of a ground connection and the external current is directly switched to the available vehicle plugs.

### Control panel

The control panel is located inside, left of the entrance area.



### LCDs

"Inverter":

- Illuminated: The inverter is ready for use

"Automatic"

- Illuminated: The inverter is in automatic mode.

"Line":

- Illuminated: The motorhome has been connected to 230 Volt external current. The applied voltage is fed to the plugs.

"\*":

- Illuminated: Only active if the inverter is equipped with a cool box and the conditions for the use of the air conditioning via inverter are fulfilled.

"<50%"

- is illuminated at a charge of approx. 10/20 Watt to 50 % of the nominal capacity of the connected device.

"<100%"

- nominal capacity is between 50 % and 100 %.

"Overload"

- The nominal capacity exceeds 100 %. Operation is possible only for a short time. Additional signaling via audible alert.

### Operation and function

The inverter can be operated in automatic mode or can be manually switched on and off.

1. Automatic mode:

- Shortly operate the on/off switch.

Briefly pressing the ON/OFF switch starts the inverter in automatic mode. After an internal self-test of the whole system, signalled by 2 short and one long audible signal, the operation

of the inverter starts. The green "Inverter" LED indicates the operational readiness, the "Automatic" LED lights up. 230V alternating voltage (AC) is applied to the front cable plug and the consumers are supplied with electricity.

In this mode, the inverter checks the connected charge (e. g. TV) continuously. As long as the TV is switched on, it needs power ( $> 25 \text{ W}$ ). Once the TV is switched off ( $< 25 \text{ W}$ ), the inverter acknowledges this state and, after an observation time of 30 seconds, switches to standby mode.

All LEDs are switched off, only the yellow "Automatic" LED flashes at one-second intervals. The inverter checks at one-second intervals if a charge  $> 25 \text{ W}$  is connected to the output. If no consumer is identified in standby mode within the next 5 or 10 minutes, the inverter switches off completely and can be restarted via the ON/OFF switch.

In order to reduce this unnecessary battery load, it is recommended to use the automatic function.

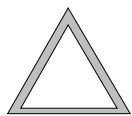
## 2. Inverter manual mode without automatic mode:

- Press the ON/OFF switch for more than 3 seconds.

If you want to operate the inverter without automatic mode, e. g. in order to operate consumers with very little capacity such as battery chargers, portable radios without problems, press the ON/OFF switch for more than 3 seconds when switching on the inverter. The yellow "Automatic" LED goes out and the inverter is in permanent mode.

Pressing the ON/OFF switch again switches the inverter off.

In permanent mode, the battery is loaded even if no consumer is connected.



### **Attention**

In automatic mode the inverter is not completely switched off! Therefore when working on the 230 V consumers or the corresponding installation, the inverter must be disconnected from the 230 V consumers or the installation!

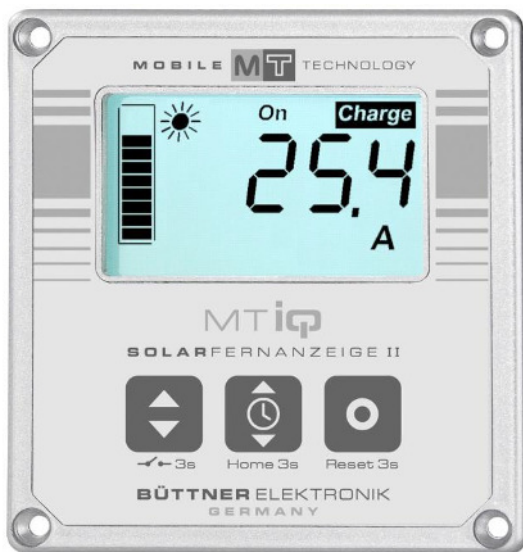
## Solar remote display

Detailed display of all important values for the solar installation. The indicator is located in display box above the entry door.

The following displays are possible:

- Charging current (A)
- On-board battery voltage (V)
- Solar capacity as bar chart
- Solar electricity meter (Ah and Wh)
- Time
- Date

## Operation



Button 1: Switches the solar displays

3s



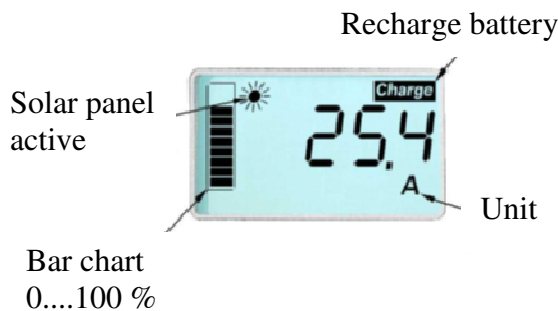
Button 2: Switches between time and date, programs the home screen (3 s)

Home 3s



Button 3: Switches the display, menu on and off (3 s)

Reset 3s



## Switching on, switching off

### Standby

In standby mode the display is empty. Only "ON" appears if the switch output is active, and the "Charge" alert symbol appears if the battery is discharged.

### Display with or without light:

When the solar remote display is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically. The display still shows the same content. Pressing any button activates the display light again. It is only by pressing a button twice that the function is executed.

### Switching on from standby:

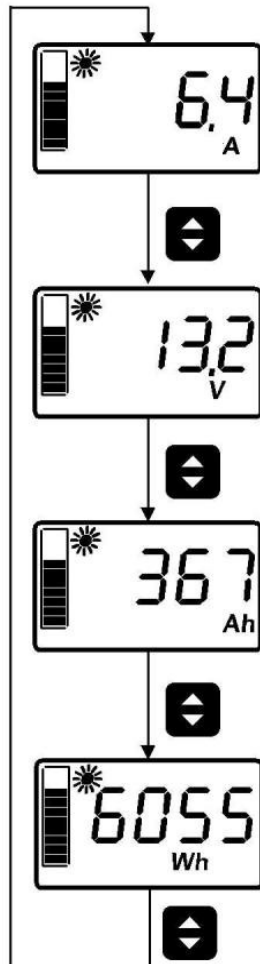
From standby, it is possible to switch the device completely on or just the time function. If the device is switched on by pressing button 2 (centre), it is possible to switch between time and date only. In any case, the display returns automatically to standby after 30 seconds.

If all functions are to be displayed, switch the device on with button 3 (right). The device will remain active and return to standby mode when button 3 (right) is pressed.



Home screen: Any display can be programmed as home screen (HOME). This display appears first after switching on the MT solar remote display II. To program the home screen, display the desired screen and press button 2 (center) for more than 3 seconds until "HOME" is displayed.

### Solar displays



The measuring and display values of the solar installation are scrolled forward via button 1 (left).

#### Voltage:

- The voltage (Volt "V") of the on-board battery is displayed.

#### Current:

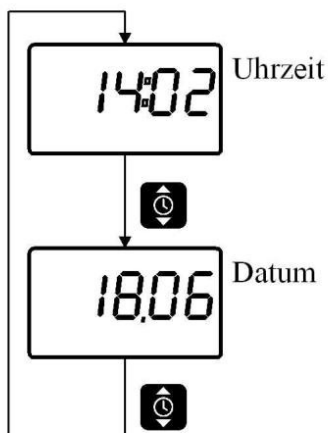
- The display indicates the actual current (ampere "A") of the solar installation.

#### Solar energy meter:

The energy generated by the solar installation is counted continuously and displayed as Ampere hours (Ah) and Watt hours (Wh). If the Wh counter exceeds the value 9999 Wh, the display automatically switches to kWh. The counters can be reset to zero at any time. To this effect, the display must indicate the respective value and button 3 must be pushed down for more than 3 seconds until the display shows (Set ----).

#### Output:

- The current output of the solar installation is shown as bar chart on the left side of the display in steps of 10 %. To this effect, it is possible to switch the display manually to 100 % if the sun is shining and the full charging current is available. To this effect, switch the display to current (A) and press down button 3 for more than 3 seconds until (Set 100 %) is displayed. This operation can be repeated as often as necessary.



#### Time display:

Time and date are scrolled forward via button 2 (centre).

#### Time:

The current time is displayed. The colon between hour and minutes flashes every second.

#### Date:

The separating point in the date display separates between day and month.

**Solar controller operating state (sun symbol):**

The operating state of the solar controller is displayed via a sun symbol.

No sun symbol: No solar power available, the solar controller is in standby.

Full sun symbol: Solar power is available, maximum possible charge

Flashing sun symbol: The controller limits the current due to a full or nearly full battery in order not to overcharge the battery.

**Battery Computer 4000iQ**

The battery computer makes a complete battery control possible by calculating the exact state of charge of the on-board batteries and displays it like a "battery fuel gauge". The state of charge of the batteries can be indicated in % and in Ah.

The battery computer is in the display box above the entry door of the vehicle.

**Operation:**

Button 1: Switches the battery computer displays



Button 2: Switches the time and thermometer displays, programs the home screen (3s)



Button 3: Switches the display on/off, menu (3s)

**Switching on, switching off****Standby:**

In standby mode the display is empty. "ON" appears only if the switch output is active and the arrow above the "Hybrid" inscription appears only if EFOY should operate in hybrid mode.

**Display with or without light:**

When the MT 4000iQ is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically.

The display shows the same content as before with lighting. By pressing any button the display light is activated again. It is only by pressing a button twice that the function is executed.

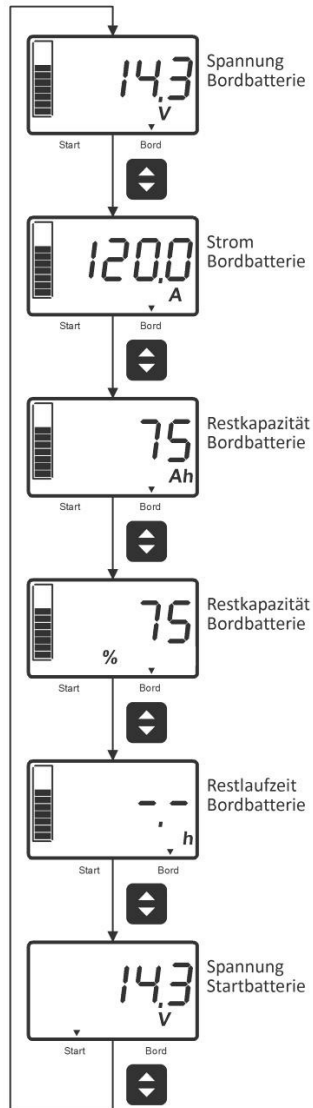
**Switching on from standby:**

From standby, it is possible to switch the device completely on or just the time function. If the device is switched on by pressing button 2 (center), it is only possible to switch between the time and thermometer display. In any case, the MT 4000iQ returns automatically to standby after 30 seconds.

To display all functions of the MT 4000iQ, switch the device on via button 3 (right). The device will remain active and return to standby mode when button 3 (right) is pressed.

### Battery computer displays

The measuring and display values of the battery computer functions are scrolled forward via button 1 (left)



#### Voltage:

- The voltage of the on-board battery (B1) and of a second battery (B2), e.g. starter battery can be displayed. The marking triangles at the lower edge of the display point to the displayed battery.

#### Current:

- The current display indicates the actual charge or load of the battery. The display shows the actually measured current which enters or leaves the battery.
- When the current enters the battery, the display shows a positive current and the charging symbol "CHARGE". When the current leaves the battery, it is negative and is displayed with a minus.

#### Capacity display:

- The capacity of the on-board battery is displayed in Ampere hours (Ah) and in per cent (%) of the nominal capacity. The bar chart at the left edge of the display represents the capacity in 10 % steps.

#### Remaining time display:

- The remaining time is calculated from the remaining capacity (until the adjusted disabling threshold) and the actual current. When no current leaves the battery, it is of course not possible to calculate a remaining time. -- is displayed.

### Time displays

Time and date are scrolled forward via button 2 (center).



#### Time:

- The current time is displayed. The colon between hour and minutes flashes every second.

- 

#### Date:

- The separating point in the date display separates between day and month.

### Access to the menu

Press button 3 (right) for more than 3 seconds until "Set" flashes.

The settings in the menu can be changed via buttons 1 (left) and 2 (center). Button 3 scrolls the menu forward to the next step. The settings are automatically saved.

### **4.8 Platin Edition by Büttner-Elektronik (option)**

In addition to your FRANKIA motorhome, the BÜTTNER ELEKTRONIK technical package of the Platin Edition is the perfect energy management on board.

This means a plus for increased performance, comfort and independence.

The components of the Platin Edition are optimally adapted to one another and ensure high-quality electric supply and charging - even during short trips and charging processes. The solar modules and the optional EFOY fuel cell extend the service life considerably; they also are, to a large extent, energy independent.

In the following the individual components of this technical package as well as their function and operation are described.

### **On-board batteries**

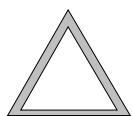
The integrated on-board batteries have a total capacity of 360 Ah. The batteries are AGM (Absorbent Glass Mat) batteries.

The three body batteries are automatically charged:

1. when connected to the 230 Volt mains via the integrated charger as well as the additional charger.
2. when the engine is running via the two charger boosters.
3. via the solar module depending on weather conditions.

### **Maintenance and servicing of the on-board batteries:**

- Regularly check the level of the batteries; recharge the batteries if necessary.
- Check the secure position of the pole terminals.
- If the motorhome is not going to be used for a longer period of time, ensure that the batteries are completely charged in regular intervals (every 2-3 weeks). If a 230 V external connection is available, the charging devices automatically take over the complete charging process. If the vehicle is outdoors, this function is normally taken over by the solar installation. We normally recommend - even during the traveling season - to recharge the batteries via an available external connection, as the provided maintenance programs optimally charge the batteries and ensure an optimal service life.



### **Attention**

Absolutely prevent discharge voltages below 11 Volts. Such deep discharges shorten the battery service life considerably. Due to insufficient charge, sulphate formation is possible, which is difficult to eliminate.

- A completely charged battery is less sensitive to cold than an empty battery. It is therefore appropriate to keep the battery charged to prevent freezing. It is recommended to charge the batteries for 12 hours minimum before and after each journey.
- Switch off all devices and lights before connecting or disconnecting the on-board battery.
- The on-board battery must be replaced by a battery of the same type presenting the same specifications as the originally mounted on-board battery, or the specifications recommended by the manufacturer. Never connect new batteries to used batteries.

### Solar modules

The 4 integrated solar modules are highly efficient BlackLine solar modules with MultiCell technology. The solar modules have a total capacity of 400 Wp.

The solar panel is on the vehicle roof and transforms light into electrical energy. The generated energy is directly fed into the vehicle's 12 Volt onboard electrical system; a surplus of energy is used for charging the on-board batteries. The solar controller distributes the solar energy.

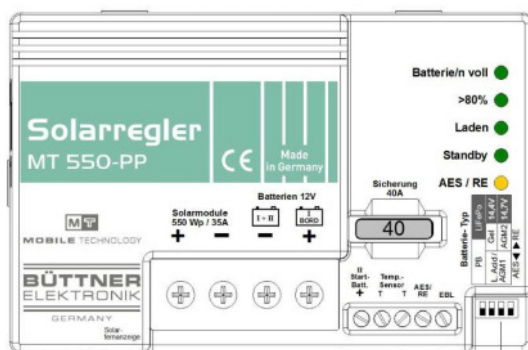
#### Maintenance and servicing of the solar modules:

- The solar cells are protected with a toughened glass plate. The panel is water and weather proof. Solar cells must be clean to maintain their efficiency. It is recommended to clean the glass plate of the module every 4 weeks with a damp cloth and some dishwashing liquid.
- In dusty environments clean the solar panel more often.
- In winter keep the panel free of snow, as covered solar cells cannot produce energy.

### Solar controller

The integrated solar controller is a MT-550-PP (PowerPlus) controller designed for a solar total capacity of up to 550 Wp.

The controller leads the energy from the solar panels into the 12 V supply system and controls the charging of the on-board batteries.



Operation displays:

"AES/RE" (yellow):

- Illuminated: There is sufficient surplus solar energy available, the output "AES/RE" is active.
- Off: Output "AES/RE" is disabled.

"Standby" (green):

- Flashing: The controller is in standby if no solar current flows (at night).

"Laden" / "Charging" (green):

- Illuminated: Brightness from slightly glowing to full brightness indicates the charge rate.
- Off: Not enough solar energy available.
- Flashing: Safety mode battery protection: Battery temperature  $< -20/-30\text{ }^{\circ}\text{C}$  or overtemperature  $+50\text{ }^{\circ}\text{C}$ . Automatic return and continued charging when  $2\text{ }^{\circ}\text{C}$  lower.
- Flashes 1x: Shut-off solar overvoltage: Charging LED flashes 1x, then the controller switches to standby. Make sure to check solar module voltage (Voc)!

">80%" (green):

- Illuminated: On-board battery is nearly completely charged. Solar controller is in U1 charging phase.

"Batterie/n voll" / "Battery(ies) full" (on-board battery completely charged, green):

- Illuminated: On-board batteries 100% charged, charge retention U2, finished.
- Glowing: Main charging process is still in U1 charging phase.
- Off: Main charging process is still in I-phase.

In the absence of solar electricity (at night), the "Laden" / "Charging" LED flashes briefly to indicate operational readiness.

If the "Laden" / "Charging" LED flashes at regular intervals, this indicates a potential error in the system: The controller is overheated or an error is detected during the self-test, battery too hot ( $>50\text{ }^{\circ}\text{C}$ ) when battery temperature sensor is used.

As soon as sufficient solar capacity is available, the "Laden" / "Charging" LED lights up and the charging process starts.

The brightness of the "Laden" / "Charging" LED is at the same time a measure for the converted solar energy. The brighter the LED, the higher the amount of available (even low) solar capacity is transferred.

**Additional charger**

Fully automatic battery charger MT 1230 with "IUoU" charging characteristics and intelligent charging control with dynamic charging time calculation and temperature compensation. Maximum charging capacity even in case of mains undervoltage.

Remote control / display panel:

The display panel is on the device in the storage box of your vehicle.



### Operation displays:

"Current" (charging current, red):

- Is lit brighter or darker depending on the transferred charging current.

"Batt. I" (on-board batteries, yellow):

- Illuminated: On-board batteries are monitored and charged.

"Battery Full" (on-board batteries completely charged, green):

- Illuminated: On-board batteries 100 % charged, charge retention U2, finished.
- Flashing: Main charging process currently active in in U1 charging phase, state of charge display is slowly increasing from approx. 80 % (short flashing) to 100 % (long flashing).
- Off: Main charging process is still in I-phase.

"Main Charging" (on-board batteries main charging, yellow):

- Illuminated: Main charging process currently active in I or U1 charging phase.
- Off: Charge retention U2.
- Flashing: Shut-off battery protection: Battery I temperature  $< -20\text{ °C}$  or  $> 50\text{ °C}$  (automatic reset  $< 45\text{ °C}$ ), or external battery overvoltage  $> 15,2\text{ V}$  ( $30,4\text{ V}$ ), automatic reset  $< 12,75\text{ V}$  ( $25,5\text{ V}$ ).

"Batt. II" (starter battery, yellow):

- Illuminated: Starter battery is monitored and charged.

"Power" (mains, green):

- Illuminated: Network available and charger ready for operation.
- Flashing: 1. Shut-off safety timer, charging phase I has taken too long, too many consumers, battery defective (internal short-circuit). Reset only by pulling mains plug.  
2. Internal device fault (over-heating), automatic reset after cooling down.

### Night time reduction "Silent Mode":

During nighttime, the silent mode function can be activated by pressing a button (1 second, button display on/off):

- the integrated cooling fan is constantly set to low-noise regular speed
- all display LEDs are switched off, only the "Current" LED remains slightly illuminated
- depending on the ambient temperature of the charger, the lower cooling capacity may slightly reduce the charging capacity

Reactivation of the display and thus the complete charging capacity:

- Manually by pressing the button again (1 second), possible at any time
- Automatically after 10 hours via the integrated timer (end of nighttime)

No further operation or servicing of the device is necessary.

### Charging booster

Fully automatic battery charging booster MT LB45.

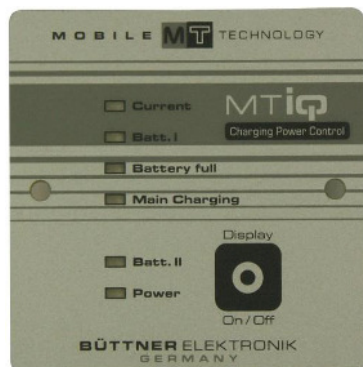
The charging boosters enable an optimized charging process of the on-board batteries during trips by raising the charging voltage of the generator to the value necessary for the complete charging of the batteries.



The charging boosters have "IUoU" charging characteristics with dynamic charging time calculation. It automatically ensures a safe and sparing full charge as well as subsequent 100 % charge retention of the connected batteries from any charging state.

#### Remote control / display panel:

The display panel for function control is in the charging booster storage box.



The "Display On/Off" button only switches the display off (e.g. night mode) or on. The operation of the charging boosters is not impacted).

#### Operation displays:

"Current" (charging current, red):

- Is lit brighter or darker depending on the transferred charging current.

"Batt. I" (on-board battery, yellow):

- Illuminated: The on-board battery is monitored and charged.
- Off: The on-board battery is completely disconnected from the charging booster (safety switch).

"Battery Full" (on-board battery completely charged, green):

- Illuminated: Battery 100 % charged, charge retention U2, finished.
- Flashing: Main charging process currently active in in U1 charging phase, state of charge display is slowly increasing from approx. 80 % (short flashing) to 100 % (long flashing).
- Off: Main charging process is still in I-phase.

"Main Charging" (on-board batteries main charging, yellow):

- Illuminated: Main charging process currently active in I or U1 charging phase.
- Off: Charge retention U2.
- Flashing: 1. Shut-off battery protection: Battery temperature  $< -40\text{ °C}$  or overtemperature (depending on the type, e.g.  $57\text{ °C}$  or  $63\text{ °C}$ ), automatic reset when slight cooling, or 2. external battery overvoltage  $> 15.50\text{ V}$  after 20 seconds, automatic reset  $< 12.75\text{ V}$  after 30 seconds.

"Batt. II" (starter battery, yellow):

- Flashing: The power control of the charging booster has reduced the output capacity by more than 30 % (starter battery discharge protection, starting capacity maintained), as the starter battery voltage has fallen beneath the set value for "reducing the charging

capacity" (table 2). When the voltage goes over the value "Increase of charging capacity", the control automatically increases the capacity.

"Power" (mains, green):

- Illuminated: The charging booster has started and is ready for operation.
- Flashing: 1. Shut-off safety timer, charging phase I has taken too long (15 hours), too many consumers, battery defective (internal short-circuit). Reset only by removing signal at "D+/terminal 15" (engine, ignition off). 2. Internal device fault (over-heating), automatic reset after cooling down.
- 3. Reversed polarity of the on-board battery ( + and - interchanged).

#### Operation and functional test:

The function of the charging booster can be checked:

- Start the engine.
- The charging booster is activated and starts at 10 % of the maximum charging capacity.
- "Power", "Batt. I", "Main Charging" LEDs are illuminated, "Current" LED is glowing.
- Increase vehicle speed so that the voltage at the starter battery rises over the set value for increasing the charging capacity.
- The charging capacity is increased and rises to the maximum value or, if the on-board battery is already full, to the necessary value of the charging characteristic.
- The "Current" LED is lit darker or lighter depending on the charging current.

No further operation or servicing of the device is necessary.

#### Air conditioning inverter

The sinus inverter MT 1700 Si-N inverts 12 V direct tension of the on-board batteries to 230 V / 50 Hz sinus alternating voltage with a permanent capacity of up to 1700 W.

The inverter is equipped with an intelligent energy saving control with automatic shut-off which ensures that no more current is consumed in idle run than absolutely necessary. In order to protect the batteries, a low-voltage protection is integrated which shuts off the inverter when battery tension is low.

Thanks to the integrated power transfer, the inverter automatically switches off in the case of a ground connection and the external current is directly switched to the available vehicle plugs.

#### Control panel

The control is located inside at the left of the entry area.



LEDs

"Inverter":

- Illuminated: The inverter is ready for use

"Automatic"

- Illuminated: The inverter is in automatic mode.

"Line":

- Illuminated: The motorhome has been connected to 230 Volt external current. The applied voltage is fed to the plugs.

"\*":

- Illuminated: Active, if the conditions for the use of the air conditioning via inverter are fulfilled.

"<50 %"

- is illuminated at a charge of approx. 10/20 Watt up to 50 % of the nominal capacity of the connected device.

"<100 %"

- nominal capacity is between 50 % and 100 %.

"Overload"

- The nominal capacity is higher than 100 %. Operation is possible only for a short time. Additional signaling via audible alert.

Operation and function

The inverter can be operated in automatic mode or can be manually switched on and off.

1. Automatic mode:

- Briefly operate the on/off switch.

Briefly pressing the ON/OFF switch starts the inverter in automatic mode. After an internal self test of the whole system, signaled by 2 short and one long audible signal, the operation of the inverter starts. The green "Inverter" LED indicates the operational readiness, the "Automatic" LED lights up. 230V alternating voltage (AC) is applied to the front cable plug and the consumers are supplied with electricity.

In this mode, the inverter checks the connected charge (e. g. TV) continuously. As long as the TV is switched on, it needs power (> 25 W). Once the TV is switched off (< 25 W), the inverter acknowledges this state and, after an observation time of 30 seconds, switches to standby mode.

All LEDs are switched off, only the yellow "Automatic" LED flashes at one-second intervals. The inverter checks at one-second intervals if a charge > 25 W is connected to the output. If no consumer is identified in standby mode within the next 5 or 10 minutes, the inverter switches off completely and can be restarted via the ON/OFF switch.

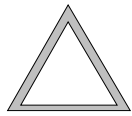
In order to reduce this unnecessary battery load, it is recommended to use the automatic function.

2. Inverter manual mode without automatic mode:

- Press the ON/OFF switch for more than 3 seconds.

If you want to operate the inverter without automatic mode, e. g. in order to operate consumers with very little capacity such as battery chargers, portable radios without problems, press the ON/OFF switch for more than 3 seconds when switching on the inverter.

The yellow "Automatic" LED goes out and the inverter is in permanent mode. To switch the inverter off, press the ON/OFF switch again. In permanent mode, the battery is drained even if no consumer is connected.

**Attention**

In automatic mode the inverter is not completely switched off! Therefore when working on the 230 V consumers or the corresponding installation, the inverter must be disconnected from the 230 V consumers or the installation!

**Air conditioning via inverter**

The inverter is designed for the use of the vehicle air conditioning. Thus the air conditioning can be used during the journey.

**Driving mode**

When the inverter detects that the engine of the vehicle is running and the voltage of the on-board battery is superior to 13.4 V, the "\*" LED lights up and the air conditioning can be started.

When the voltage of the batteries goes below 12.2 V even if the generator is running, due to the high consumption of the air conditioning, the inverter switches the plug of the air conditioning off and the LED goes out.

When the battery voltage goes over the turn-on threshold of 13.4 V due to the charging of the generator, the plug of the air conditioning is activated again after a delay of approx. 3 minutes. (The waiting time must be respected for the restart of the air conditioning compressor).

**Stand operation**

The air conditioning can also be operated when the vehicle is at a standstill (engine off) from the on-board battery (body battery). This mode, however, depends on the voltage status of the battery and is limited in time:

The voltage of the on-board battery must be over 12.6 V before switching on to allow the inverter to activate the plug of the air conditioning. If the voltage goes below the set value, the inverter switches the plug of the air conditioning off.

The operation of the air conditioning is interrupted until the voltage of the on-board battery rises over 12.6 V and the delay of approx. 3 minutes has elapsed.

**Operation with external ground power**

If the vehicle is connected to 230 V mains voltage (ground power), the use (switching on) of the inverter is blocked and the air conditioning is supplied with ground power via the internal power transfer. If the external mains (ground power) is removed while the air conditioning is in operation, the inverter remains switched off. Thus, an unwanted discharge of the on-board battery is prevented when the external mains voltage fails.

If the air conditioning should be subsequently used from the on-board battery, then the inverter must be switched on again. Also in this case the plug of the air conditioning is only activated after a delay of approx. 3 minutes.

**Changing from inverter mode to ground voltage with air conditioning in operation**

If the air conditioning is used via the inverter and then the vehicle is supplied with an external alternate voltage (ground power), the inverter switches off immediately. After approx. 4

seconds the internal power transfer automatically switches the ground power on. Also in this case the plug of the air conditioning is only activated after a delay of approx. 3 minutes.

### Solar remote display

Precise display of all important values of the solar installation. The display is in the box above the entry door.

The following indications are possible:

- Charging current (A)
- On-board battery voltage (V)
- Solar capacity as bar chart
- Solar electricity meter (Ah and Wh)
- Time
- Date

### Operation



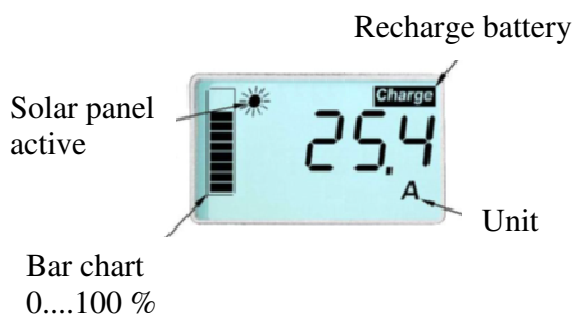
Button 1: Switches the solar displays



Button 2: Switches between time and date, programs the home screen (3 s)



Button 3: Switching on and off the indication, menu (3s)



**Switching on, switching off****Standby**

In standby mode the display is empty. Only "ON" appears if the switch output is active, and the "Charge" alert symbol appears if the on-board battery is discharged.

**Display with or without light:**

When the solar remote display is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically. The display still shows the same content. By pressing any button the display light is activated again. Only pressing on a button twice executes the function.

**Switching on from standby:**

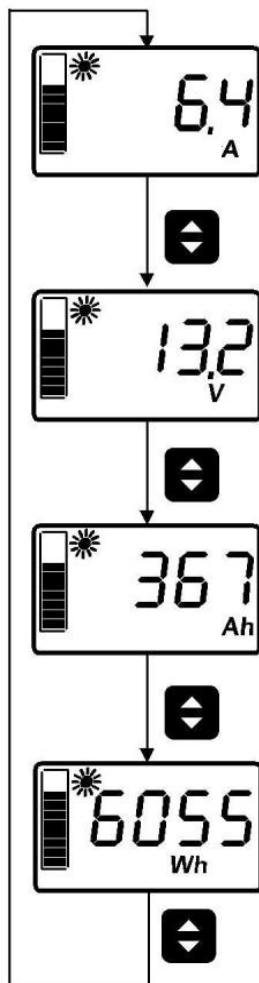
From standby, it is possible to switch the device completely on or just the time function. If the device is switched on by pressing button 2 (center), it is only possible to switch between time and date. In any case, the display returns automatically to standby after 30 seconds.

If all functions are to be displayed, switch the device on via button 3 (right). The device will remain active and return to standby mode when button 3 (right) is pressed.

Home screen: Any display can be programmed as home screen (HOME). This display appears first after switching on the MT solar remote display II. To program the home screen, display the desired screen and push down button 2 (center) for more than 3 seconds until "HOME" is displayed.

**Solar displays**

The measuring and display values of the solar installation are scrolled forward via button 1 (left).

**Voltage:**

- The voltage (Volt "V") of the on-board battery is displayed.

**Current:**

- The display indicates the actual current (ampere "A") of the solar installation.

**Solar energy meter:**

- The energy generated by the solar installation is counted continuously and displayed as Ampere hours (Ah) and Watt hours (Wh). If the Wh counter exceeds the value 9999 Wh, the display automatically switches to kWh.

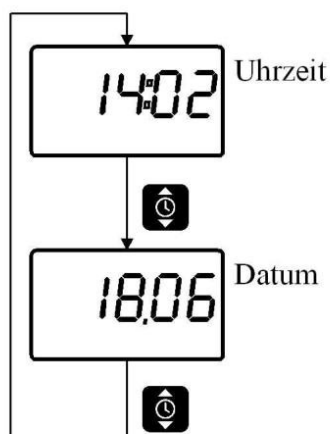
The counters can be reset to zero at any time. To this effect, switch the display to the respective value and press button 3 for more than 3 seconds until (Set ----) is displayed.

**Output:**

- The current output of the solar installation is shown as bar chart on the left side of the display in steps of 10 %. To this effect, it is possible to switch the display manually to 100 % if the sun is shining and the full charging current is available. To this effect, switch the display to current (A) and press down button 3 for more than 3 seconds until (Set 100 %) is displayed. This operation can be repeated as often as necessary.

**Time display**

Time and date are scrolled forward via button 2 (center).

**Time:**

- The current time is displayed. The colon between hour and minutes flashes every second.

**Date:**

- The separating point in the date display separates between day and month.

**Solar controller operating state (sun symbol):**

The operating state of the solar controller is displayed via a sun symbol.

No sun symbol: No solar power available, the solar controller is in standby.

Full sun symbol: Solar power is available, maximum possible charge

Flashing sun symbol: The controller limits the current due to a full or nearly full battery in order not to overcharge the battery.

**Battery Computer 4000H**

The battery computer makes a complete battery control possible by calculating the exact state of charge of the on-board batteries and displays it like a "battery fuel gauge". The state of charge of the batteries can be indicated in % and in Ah.

The battery computer is in the display box above the entrance door of the vehicle.

The MT 4000H (hybrid) makes an ideal combination of solar charging and EFOY fuel cell possible.

The intelligent hybrid control calculates the optimal time for the charge support via fuel cell according to the type of the connected EFOY fuel cell (EFOY 600 – EFOY 2200 / Comfort 80 – Comfort 210).

To this effect, the residual charge, charge or discharge and voltage of the battery is calculated according to the time of day and season.



**Operation**

Button 1: Switches the battery computer displays



Button 2: Switches the time and thermometer displays, programs the home screen (3s)



Button 3 Switches the display on/off, menu (3s)

**Switching on, switching off****Standby:**

In standby mode the display is empty. "ON" appears only if the switch output is active and the arrow above the "Hybrid" inscription appears only if EFOY should operate in hybrid mode.

**Display with or without light:**

When the MT 4000H is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically. The display shows the same content as before with lighting. By pressing any button the display light is activated again. It is only by pressing a button twice that the function is executed.

**Switching on from standby:**

From standby, it is possible to switch the device completely on or just the time function. If the device is switched on by pressing button 2 (center), it is only possible to switch between time and thermometer display. In any case, the MT 4000H returns automatically to standby after 30 seconds.

If all functions of the MT 4000H should be displayed, switch the device on via button 3 (right). The device will remain active and return to standby mode when button 3 (right) is pressed.

### Battery computer displays



The measuring and display values of the battery computer functions are scrolled forward via button 1 (left).

#### Voltage:

- The voltage of the on-board batteries (B1) and of the starter battery can be displayed. The marking triangles at the lower edge of the display point to the displayed battery.

#### Current:

- The current display indicates the actual charge or load of the battery. The display shows the actually measured current which enters or leaves the battery.
- When the current enters the battery, the display shows a positive current and the charging symbol "CHARGE". When the current leaves the battery, it is negative and is displayed with a minus.

#### Capacity display:

- The capacity of the on-board battery is displayed in Ampere hours (Ah) and in per cent (%) of the nominal capacity. The bar chart at the left edge of the display represents the capacity in 10 % steps.

#### Remaining time display:

- The remaining time is calculated from the remaining capacity (until the adjusted disabling threshold) and the actual current. When no current leaves the battery, it is of course not possible to calculate a remaining time. -.- is displayed.

### Time displays



The measuring and display values of the clock and thermometer functions are scrolled forward via button 2 (center).

#### Time:

- The current time is displayed. The colon between hour and minutes flashes every second.

#### Date:

- The separating point in the date display separates between day and month.

### **Access to the menu**

Press button 3 (right) down for more than 3 seconds until "Set" flashes. The settings in the menu can be changed via buttons 1 (left) and 2 (center). Button 3 scrolls the menu forward to the next step. The settings are automatically saved.

### **Function of the MT 4000H as control of the EFOY fuel cell**

The MT 4000H can switch on or off the EFOY fuel cell at calculated times. With the set values for the size of battery (Ah), solar modules (Wp) and the type of the EFOY fuel cell, the parameters of the hybrid control are determined. The objective of the hybrid control is a full battery at the time of the expected sunset without consuming too much precious energy from the fuel cell.

The fuel cell can also be manually switched on and off. To this effect, press button 2 for more than 3 seconds until ON or OFF appears on the display. It is not possible to manually switch off the device if MT 4000H has calculated that the fuel cell must be in operation to charge the battery up to 90 % until the evening.

The operating state is displayed via "Hybrid" and the LED of the hybrid box:

When the EFOY fuel cell of MT 4000H is switched on, an arrow at the lower display edge points to the inscription "Hybrid" and the green "Hybrid" LED at the MT hybrid box lights up.

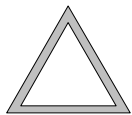
## 5. SANITATION FACILITIES

### 5.1 Central services unit (option for Selection models)

Your motorhome has a central services unit. All elements are located together in one storage compartment (see photo).



- Open the flap of the central services unit, unroll the fresh water hose.
- Switch on the water pump on the control panel.
- Turn on one water tap in the warm water position and open it completely to fill the boiler.
- As soon as the water runs out without bubbles, shut the water tap.
- Do the same with all other water taps.
- Open the water taps in the cold water position until the water runs out without bubbles - then shut all water taps.



#### Attention

The ventilation hose should not be used as overflow.  
When filling the tank please always control the filling level and stop the water supply in time when it reaches 100 %.

During the winter season ensure to unroll the water hose completely and release any water residue.

When the motorhome is not used for long periods of time, especially in the winter months, you can uninstall the fresh water hose drum and allow water to run out of hose completely.

#### Uninstall the fresh water hose drum:

- Lift the hose drum.
- Slightly tilt to take out.
- Remove adapter on the side



#### Install the fresh water hose drum:

Reverse process to replace.



#### Warning

If not using the water pump, always isolate the switch on the control panel; especially if leaving motorhome unattended!

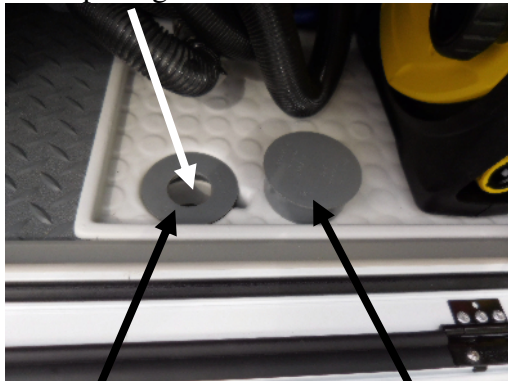
Additionally you are able to fill the fresh water tank with water cans through the water inlet connection (see photo). To do this remove hose from securing clips/mountings, remove plug and fill with water.



#### Draining off the sewage tank:

- Open the flap.
- Remove lid from floor passage.
- Push grey drain hose outside through floor passage.
- Open drain slide.  
Turn handle upwards until it shows direction of the flow.
- Drain off tank.
- Close drain slide.  
Return handle to original position.
- Return hose inside.
- Close floor passage with lid and place sewage hose into hole in lid.
- Close the flap.

Floor passage



Summer lid

Winter lid

#### **230V - connection through the central service unit:**

- Open the flap.
- Roll out cable from cable reel and push through floor passage.
- Close floor passage with the appropriate lid (depending on the season: summer/winter).
- Connect cable to 230V / 50 Hz socket.
- On control panel above the entrance door the indicator lamp for 230V-charge will illuminate.

**Warning**

- **Please always roll off the cable reel completely - danger of overheating!**
- When disconnecting from mains supply, always start with the mains socket to avoid handling any live cable.
- - If the mains cable should get caught, please do not use force to release it.
- The maximum load of the 230 V system is limited by the protection of the power column of the service point or campsite:
  - Power column 230 V, 6 A: maximum load 1250 W
  - Power column 230 V, 10 A: maximum load 2070 W
  - Power column 230 V, 13 A: maximum load 2690 W
  - Power column 230 V, 16 A: maximum load 3300 W
- If the power consumption exceeds the maximum load, this can result in technical damages (blowing the 230 V fuses of the power column / of the motorhome, or system overheating – risk of fire).
- To prevent a possible overload we recommend not to operate the ALDE heating on its maximum stage if you intend to use other consumers (i.e. coffee machine, vacuum cleaner, hair dryer).  
To guarantee a faultless operation the total amount of the operated appliances must not exceed the maximum load of the power column!

Please refer to the following chart for the power consumption of some appliances:

**Average values of some electrical consumers:**

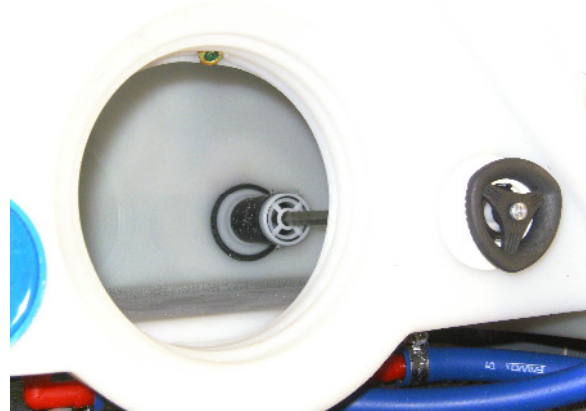
<b>Consumer:</b>	<b>Note:</b>	<b>Power consumption (Watt):</b>
Charger	(1 board battery)	320 W
Charger	(2 board batteries)	640 W
Heating TRUMA Combi 6 E	Stage 1	900 W
	Stage 2	1800 W
Heating ALDE Compact3020HE	Stage 1	1050 W
	Stage 2	2100 W
	Stage 3	3150 W
Coffee machine	(depending on model)	approx. 1000 W
Automatic coffee machine	depending on model)	approx. 1800 W
Capsule/pod machine	depending on model)	approx. 1500 W
Hair dryer	depending on model)	1200-2300 W
Kettle	depending on model)	1000-3000 W
Vacuum cleaner	depending on model)	700-1200 W
Notebook charger	depending on model)	60-100 W



## 5.2 Fresh water and sewage

Your motorhome has two tanks. The levels can be checked via the current-supply panel. The fresh water tank is filled from outside. It is located in the heated double floor and therefore safe from freezing (until approx.  $-15\text{ }^{\circ}\text{C}$ ).

- \* Please always use clean drinking water.
- \* You can use antiseptic preparation such as Micropur, Certisil or Reomin in your fresh water tank to avoid corrosion of the filter and chain in the tank, please ensure the additives used are compatible with stainless steel.
- \* Please heat your motorhome well when freezing is possible or drain the tanks off.
- \* If you do not use your motorhome for some time (more than 3 days), drain water off from the water tank and hose.
- \* Clean your water hose, fresh water tank and sewage tank regularly.
- \* Your sink unit, shower and washbasin are supplied with cold and warm water from the fresh water tank through a pressure pump.  
(The maximum uninterrupted running time for the pressure pump is approximately 15 minutes).
- \* Your fresh water tank has a drain plug on the bottom.
- \* For motorhomes that have a reduced fresh water volume, there is a screw cap in the tank. Turn the cap  $\frac{3}{4}$  counterclockwise – the tank now has a volume of approx. 50 liters or 20 liters (Selection models). If the cap is turned beyond a noticeable resistance, the tank will empty. In order to be able to fill the tank completely with approx. 150 liters, turn the cap clockwise until the stop limit.



- \* Please only switch your pressure water pump on when your water tank is filled.  
**Dry-running will destroy the pump.**
- \* You will find two drain valves for the water pipe on the water distributor.
- \* With Truma heating, the boiler has an automatic anti-freeze valve, which will open in freezing conditions or when the body battery is disconnected. The water pump will then start to pump the tank empty through the boiler, however the pump will not stop.  
Therefore, please always switch off 12V current supply when leaving your motorhome.

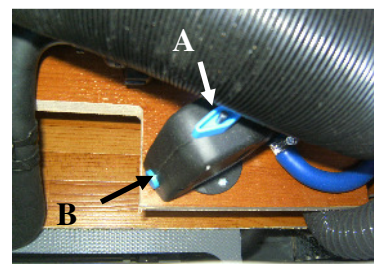
To drain boiler manually, firstly isolate with switch for the water pump.

Turn blue toggle switch “A” by  $90^{\circ}$  into the position shown.

To close valve, turn switch “A” again and then press button “B” located at the base of the freeze protection valve.

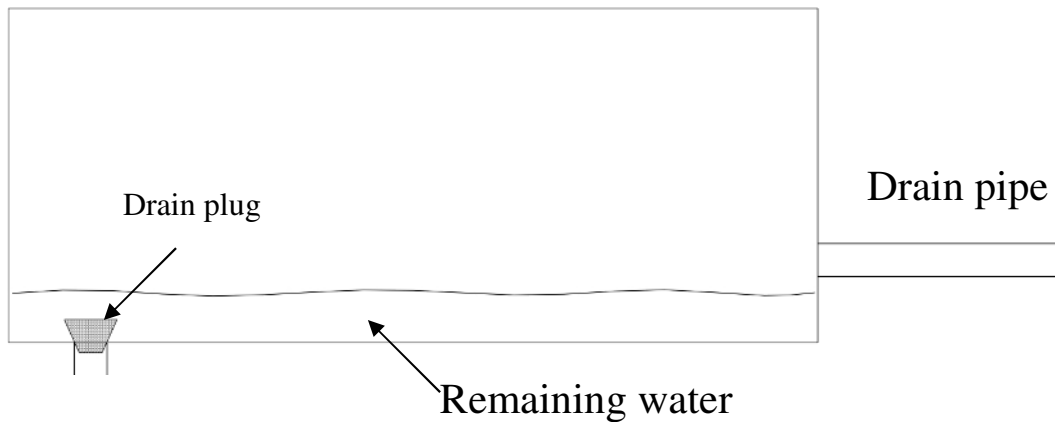
If the valve is automatically activated due to danger of freezing, the button “B” pops out.

The temperature inside your motorhome should be at least  $+6\text{ }^{\circ}\text{C}$  the valve will not close if any colder. If necessary, switch on the heating.





Because of the double-floor concept, water will not empty completely through the drain pipe. Therefore, a drain plug can be found at the bottom of the sewage tank. For emptying the boiler for the Alde heating, open the yellow discharge valve manually.



If you do not use your motorhome for a long time, we recommend storing in a horizontal position.

The sewage tank has a drain plug on the bottom in order to drain off water completely.

We recommend to clean the fresh water tank and sewage tank regularly to avoid any foul smells.

The sewage tank is frost-protected as long as the double-floor is heated. Should you wish to clean the sewage tank, it can be reached through a lid in the floor.

### **Empty your tanks only at a waste management station.**

The fresh warm and cold water are directed to the different consuming points through a water distributor. Each consuming point is supplied directly through the water distributor without any intermediate connection. In case of a leak in the water system please always control the consuming point and the water distributor.

The connection points can be:

- Water distributor for warm and cold water
- Water pump
- Mains water connection
- Outside shower
- Non-return valves
- Toilet
- Water taps

### Drinking water tank Blue Aqua (option)

As optional your motorhomes can be equipped with a separate closed drinking water system which consists of a movable 20ltr tank, an immersion pump and separate water tap installed in the kitchen.

This system is in accordance with current (German) drinking water regulations.

The tank and hose pipes with the pump can easily be removed for filling and cleaning.



### Security advice



#### Warning

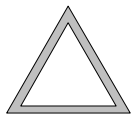
Please only use drinking water, never no water of poor quality (for example spring water or water from rivers), this will prevent germs accumulating in your fresh water tank.



#### Warning

The quality of the water in the fresh water tank depends on the quality of water you supply, where the tank is filled, how the tank is treated and how long water is held in the tank, etc.

Germs can develop in the water tanks then water is not suitable for drinking, preparing meals, etc. any more.



#### Attention

- Your motorhome is only frost-protected when the heating is running.
- Before immobilizing your motorhome please completely drain off your fresh water system.
- The fittings in kitchen and bathroom have wear-resistant ceramic inserts. If the temperature inside the motorhome is below 0 °C, the water remaining in the inserts will freeze. In this case please do not move the water taps until the fittings have thawed.
- In order to avoid frost damage both the fresh water and the motorhome must be warmer than 4 °C when you want to fill the fresh water tank. If the ambient temperature is below 4 °C, the motorhome must first be heated.
- If you have a motorhome with a water filler neck:  
Please do not use a rigid filling tube as this could damage the flexible connecting line between water filler neck and water tank.

### 5.3 Wash room

Water can only flow unhindered when the motorhome is parked horizontally.

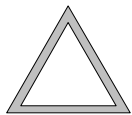
Please put the plug into the shower floor after use. This will avoid unpleasant smells in your motorhome.

## 5.4 Thetford-toilet

The THETFORD-cassette is made from high-quality synthetic material. The cassette is ecologically friendly and easy to use.

The water for the toilet flush comes from your fresh water tank. The cassette can be taken out through an exterior flap.

We kindly ask you to read the operating instructions for the THETFORD-cassette beforehand.

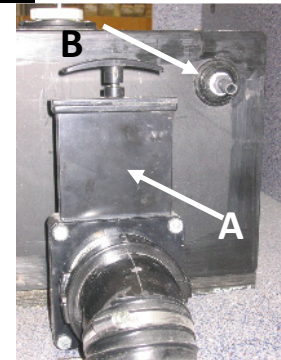


### Attention

It is absolutely necessary to use a sanitary additive.  
We recommend “Aqua-Chem blue/green” from THETFORD.

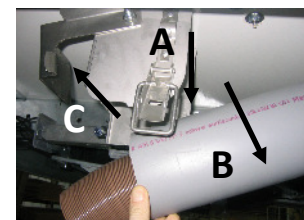
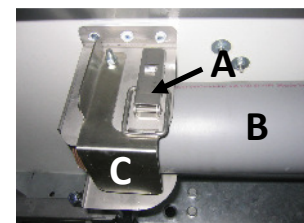
## 5.5 Dejection tank with Thetford C-250 Pump-Out Toilet (= option)

Motorhomes with dejection tank provide the possibility of pumping the content of the THETFORD cassette to the 80L dejection tank. This tank can be emptied with valve A via a flex tube. After each emptying of the tank, a water hose should be connected to the tank’s adaptor Gardena B and the inside of the tank should be flushed thoroughly by means of the installed flushing pipe.



### Emptying of dejection tank

- The drain hose of the dejection tank is directed through the under floor and ends in a pipe which is situated horizontally under the motorhome floor between two fixtures.
- By flapping down, open the lid A on the fixture at the end of the pipe.
- Hold the pipe B in one hand and turn back the swivel element C on the fixture with the other hand.
- Lower the pipe carefully and pull out the drain hose to the disposal station
- Open the valve of the dejection tank
- Empty the dejection tank completely
- Connect the flushing pipe to exterior water supply and dejection tank
- Open water supply
- Flush for approximately 2 – 4 minutes
- Turn off the water
- Close the valve of the dejection tank
- Disconnect the flushing pipe from exterior water supply and dejection tank
- Reposition the drain hose back through the pipe and turn it upwards.

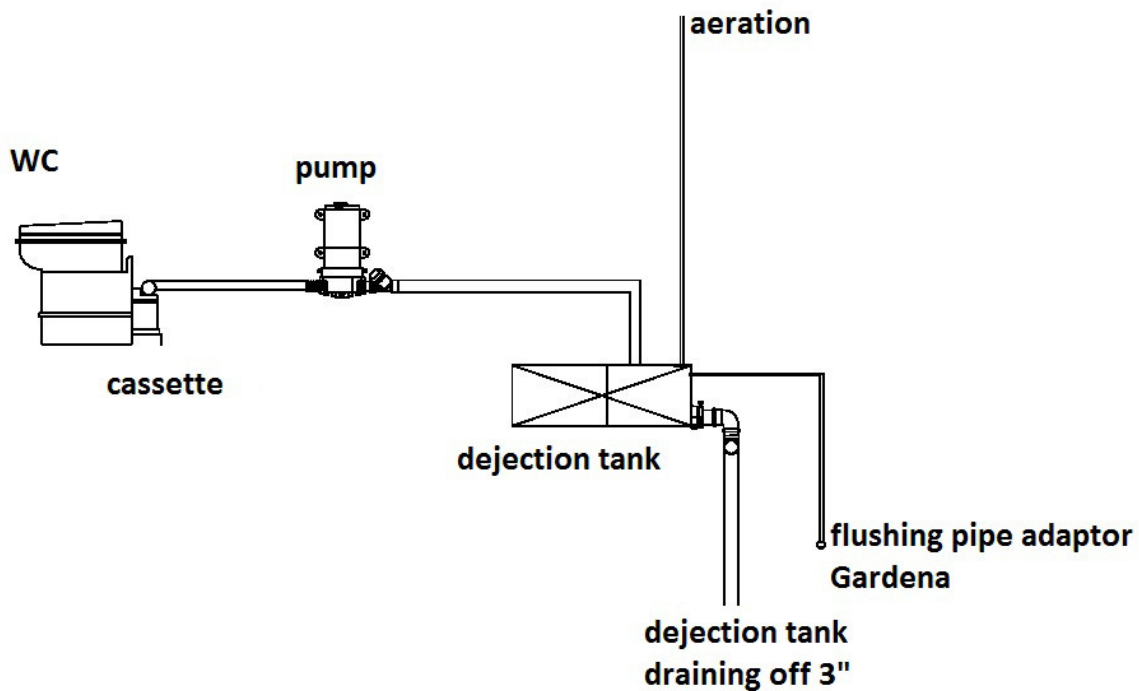


- Turn the swivel element downward to the stop limit and lock with fastening

The dejection tank should be emptied and flushed thoroughly after each trip. Please make sure that the tank is completely empty especially if the motorhome is not used during the winter months.

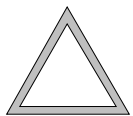
The rubber seals of the entire system need to be maintained regularly. We recommend to treat them with THETFORD maintenance spray.

### Function chart of dejection tank



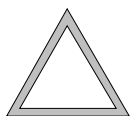
For further information please see the included operating manual from THETFORD.

### Please only empty at disposal stations.



#### Attention

It is absolutely necessary to use a sanitary additive.  
We recommend "Aqua-Chem blue or green" from THETFORD.



#### Attention

Please only use easily decomposable toilet paper.  
Regular domestic toilet paper is not suitable.  
We recommend "Aqua-Soft" from THETFORD.

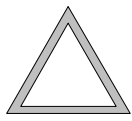
## 6. DIVERSE

### 6.1 Electric step

Your motorhome is equipped with an electric step for the body door. A-Class models may be equipped with an optional electric step for the driver's cab door. The switch is located inside near the entrance.

On the instrument panel you will see a red control lamp for the step. If the engine has been started with the step extended out, it will retract automatically (red control lamp will go out). If the indicator still illuminates red, check the step position (in or out).

If your step has retracted and the indication lamp is still red, there will be a defect in the limit switch. You will be able to continue driving but advised to visit your FRANKIA dealer as soon as possible.



It is absolutely necessary to extend the step out completely before stepping on it. Otherwise mechanics may be damaged!

#### Attention

#### Maintenance of the electric step

- Your step plate should be cleaned regularly in order to preserve the antiskid characteristics of its surface.
- Please lubricate joints of your step with oil spray or grease every three months.

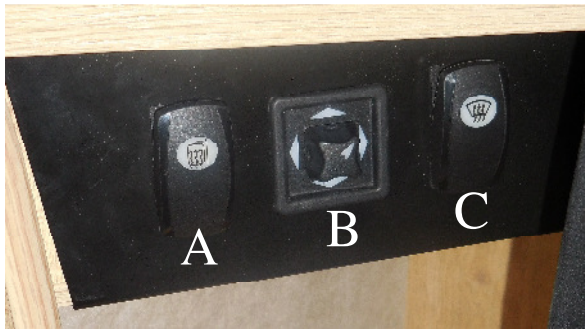
#### Fuse for the electric step

The EBL has an internal fuse for the electric step of the body door which switches off in case there is an overload, and switches on again after a short time, when it has cooled down.



The fuse for the electric step at the driver's cab door is located on the starting battery.

## 6.2 Electric adjustable and heated exterior mirrors, heated windscreen (A-class motorhomes only)



### A) Mirror heating:

#### Switching on the heating

Start engine, press switch. The indicator lamp in switch will illuminate.

#### Switching off the heating

Return switch to original position, indicator lamp goes out.

### B) Adjusting the mirrors:

- Turn on ignition / turn key to “Start” position
- Choose mirror: turn button to the left or right, the white flash indicates which side has been chosen
- Adjust the mirror with button; available directions: up/down and left/right

Manual adjustment only for additional wide angle mirror.

### C) Windscreen heating:

#### Switching on the heating

Start engine, press switch. The indicator lamp in switch will illuminate.

#### Switching off the heating

Return switch to original position, indicator lamp goes out.



**Info**

- The mirrors can also be adjusted by hand.
- The mirror heating, and especially the windscreen heating, have a high energy consumption. Therefore it should only be switched on when needed.

### Exterior light

Your motorhome has an exterior light with motion detector.

The switch for exterior light is near the entrance.

The left rocker switch operates light on and off.

Press right rocker switch to activate motion detector (only when the light is off).





### 6.3 Heating

#### Heating in the driver's cab (A-class models only)

The driver's cab of your A-class motorhome is heated through heat-diffusers. Located on the passenger side you will find a heat-diffuser and slide valve.

Position of slide valve "downwards" or "blue"

= Warm air will flow through heat-diffuser only.

Position of slide valve "upwards" or "red"

= Warm air will flow through heat-diffuser, plus slots located on instrument panel.

This will avoid cold air from escaping through the windshield.

The slide valve for the chassis regulating fresh-air supply should be closed, otherwise warm air will escape outside through the ventilation hose of the chassis.



#### Info

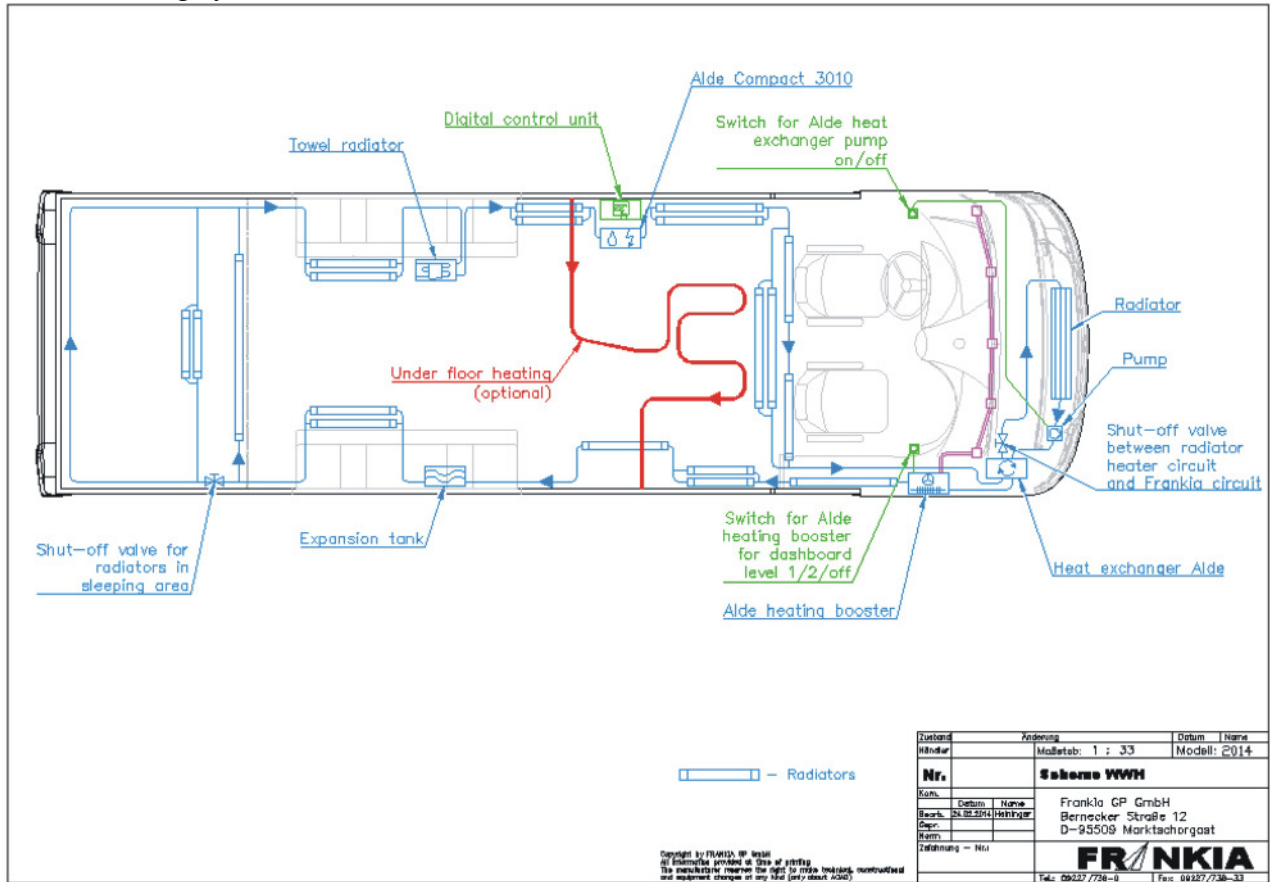
- During the journey the slide valve should be positioned "downwards" or "blue", otherwise warm air coming from the engine will escape from all the heat-diffusers of the motorhome. The windshield will steam up due to insufficient warm air.

While living in your motorhome the slide valve should be positioned "upwards" or "red" so warm air from the Truma heating can flow through the slots on instrument panel. You should still select the slide valve of the chassis located on the instrument panel to the (interior air circulation) position, otherwise warm air from the Truma heating will escape outside.



**Warm water heating (standard for Luxury equipment)**

Your motorhome has ALDE warm water heating combined with an engine heat exchanger. With this system you will be able to pre-heat the engine as well as use the engine heat for the ALDE heating system.



**In order to separate the radiator heater circuit and the Frankia body circuit, remove the cover from the passenger side storage compartment and turn black lever on the heat exchanger downwards.**



### Function of warm water heating

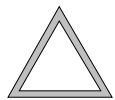
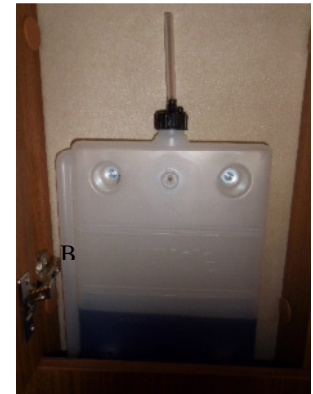
The control panel is located above the entrance door. There is the main switch and menu button. When in standby mode, temperature and time are indicated. In the settings menu, temperature “A”, warm water “B”, electric heating “C” and heating with gas “D” can be regulated. Also there is access to a tool menu. All functions are explained in the enclosed Alde operating instructions.

The motorhome has a temperature sensor near the entrance.



The compensation tank for ALDE heating is located in the wardrobe. During operation, the water level should always be between the (Min & Max) markings. If necessary fill with antifreeze directly into the compensation tank. To ensure not overfilling, only refill when heating is in operation.

The water of the heating circuit should be exchanged every 3 years.



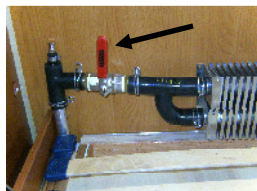
#### Attention

Only use antifreeze which has been approved for aluminum. We recommend G13 antifreeze from Alde.

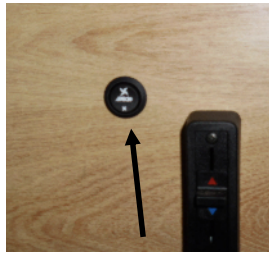


The heating system includes a water heater with the capacity of approx. 8.5 liters of fresh water. It is possible that air can accumulate in the pipes of the water heating. Please use venting screws on the radiators within the seating areas, kitchen and sleeping areas to release any air.

An automatic venting valve “A” is installed directly on the flow.

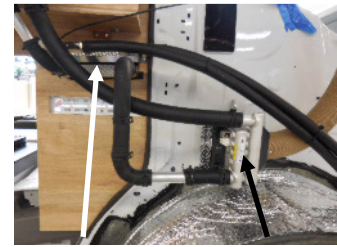


The convectors in the rear bed area (depending on floor plan) are connected to the heating circuit via a bypass which can therefore be regulated separately with the valve on the convector.



*Booster rocker switch*

For additional heating on the dashboard. An (optional) heating booster can be installed. Use the switch located in the passenger storage compartment to choose between the two heating levels or switch off the booster.



*Heat exchanger, booster*

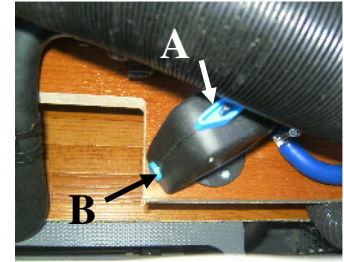


**Info**

When not using your motorhome, we recommend to fully drain water from the boiler.

Turn switch “A“ by 90° into position shown. To close the valve, turn switch “A“ again then press button “B“ on the bottom of the freeze protection valve.

If the valve is automatically activated due to danger of freezing. Button “B” will pop out.



## 6.4 Tables

### Table extension

The table top is divided in the middle and secured by magnets.

- Divide the table tops by sliding each side until the stop.



- Push strongly on fold down center section of the table.
- This will now lift up automatically until level with the tabletop.



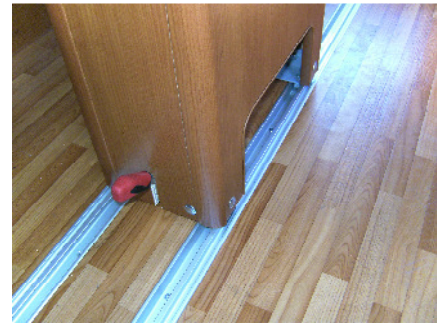
Slide the two lateral tabletops back towards the center until secured magnetically.

To re-convert back to original table, reverse process. Press center section of table carefully until located/locked in the lowered position.



### **Moving the table / the tabletop**

- Raise the locking lever on base of table.
  - Move table on the running rail.
  - When the desired position has been selected, push down locking lever on table base.
- 
- The tabletop may be move independently to the table base in an X and Y direction. To lock, raise the lever located below the tabletop.
  - Before continuing on your journey please check that the table base and tabletop have been secured in a locked position.
  - In order to avoid damage to the table mechanics do not move table top when in a locked position. .



### **Parking the table in the driver's cab**

- Release the table from the floor fastening.
- With A-class motorhomes you are advised to swivel driver's seat slightly to an outside position in order for the backrest to not connect with the steering wheel.
- Slide table into driver's cab.
- Before driving, the table must be re-positioned and locked to avoid movement in case of heavy braking/emergency stop.

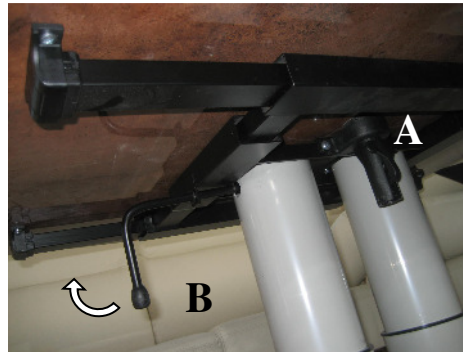




**Fixed table foot, lowerable**

The table consists of a fixed telescopic leg and continuous movable table top.

By releasing lock “A” under the table, the table top can now move freely, e.g. to gain greater access to cabin. When the table top is in the required position, secure by flipping up the locking lever.



Before starting your journey, the table top must be secured in order to prevent movement while driving or in case of heavy braking.

Lower the table by turning lever “B” then press tabletop down until the stop limit. Once lowered turn lever back to original setting in order to secure the table in the lowered position.



For floor plans with a round seating group, the table must be lowered first. Then place the extendable aluminum profiles into the supports in order to gain a large bed surface or a makeshift bed.



## 6.5 TV cupboard

### Pre-wiring

#### Sat system

Your motorhome is already pre-wired for the connection of a sat system. There are two cables (1x1,5<sup>2</sup> white D+) and 3x0,75<sup>2</sup> black (reserve) leading from the battery charger to a distribution box located in the compartment above the refrigerator, or in the top locker next to the TV cupboard. Furthermore, a blue and brown 1x6<sup>2</sup> cable have been installed from the body battery to this distribution box.



*Pre-wiring at battery charger*



*Pre-wiring at body battery*



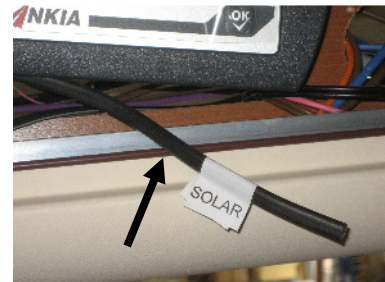
*Distribution box near TV cupboard*

#### Solar system

For connection of a solar system, pre-wiring of (2x2,5<sup>2</sup> black) leads from the battery charger up to the back of the operating panel.



*Pre-wiring at battery charger*



*Pre-wiring at operating panel*

### TV cabinet for TFT flatscreen TV

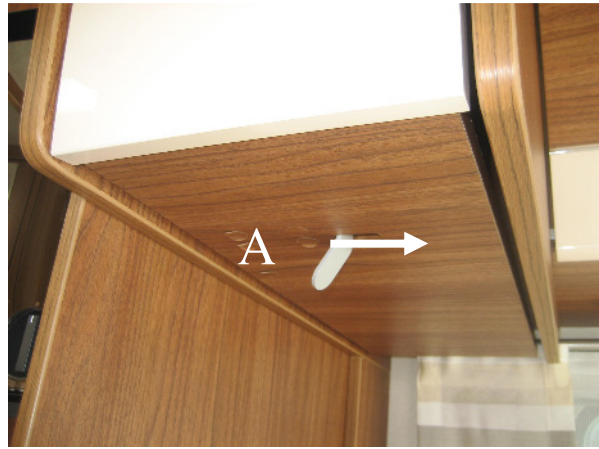
The cabinet located at the entrance of your motorhome offers sufficient space for a FRANKIA flat screen TV up to 22". Press lever "A" down behind the TV in order to slide out. This will unlock the pivot arm. After use replace flat screen TV back to original position. Carefully push TV until you hear the pivot arm engage.



**TV cupboard for TFT flatscreen TV**

This cupboard is designed for Frankia 17” & 19” flat screen TV’s.

- Before starting your journey please make sure the TV cupboard is latched in secure position.
- Release locking lever “A” by pulling in direction shown.
- Move the cupboard slowly down and support.
- The TV can be adjusted by tilt and angle. Before storing, make sure the TV is back in the original position!
- After use, raise the lowered TV cupboard back until you hear lock engage.

**Warning**

- Never pull the locking lever “A” without supporting cupboard - danger of injury!
- Before starting your journey please ensure TV cupboard is in correct raised position.
- The TV must not be used during the journey.



**TV Cupboard for TFT flat screen TV at the front of the motorhome (= option)**

This TV cupboard has been designed for Frankia flat screen TVs up to 24”.

- Before starting your journey please ensure TV cupboard is latched in secured position.
- Release the locking lever located at base of TV-cupboard and pull.
- Slowly move cupboard down and support.



**Warning**

- Never pull locking lever without supporting cupboard - danger of injury!
- Before starting your journey please ensure TV cupboard is in correct raised position.
- The TV must not be used during the journey.

## 6.6 Sun blinds

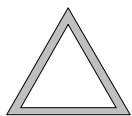
### Sun blind for the windshield and the side-windows (A-class models)



- Closing the sun blind: Lower sunblind by handle “A” in the middle of blind until desired position has been reached.
- Opening the sun blind: Slowly raise blind upwards

### Blackout roller blind for the windshield and the side-windows

#### A-class models



#### Attention

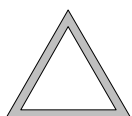
The blackout roller blind must not be used as a sunblind when you are driving! The blind must be attached with the two straps in the upper position before starting your journey.

#### Closing the blind:

Release the locks and close the blinds for the side windows until they are attached to the magnetic rail. Make sure that the blind does not get stuck in the upper guide rail.

Release the locks of the windshield blind and pull the blind down to the instrument panel.

Spring-loaded latches on the sides lock the blind after approx. 20cm. This function has been built in for security reasons, to avoid the blind from falling down while driving, in case you forget to attach it. This locking mechanism can be overcome by pressing the handle A in the middle of the lower ledge of the blind.



#### Attention

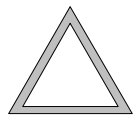
For security reasons this function must always stay active!

The blind for the front screen can also be used for glare and privacy protection. The blind is not fixed at the top. Therefore you can only position it in the lower position of the front screen to restrict people from looking in.



Opening the blind:

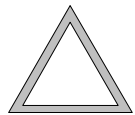
Draw the blind back / up (for the windscreen blind). Lock the blind with the closing strap.



**Attention**

Before driving always completely open the blackout roller blinds for the windscreen and the side windows, and attach them with the straps.

### Electrically operated blackout roller blind for A-Class models (standard with Luxury equipment)

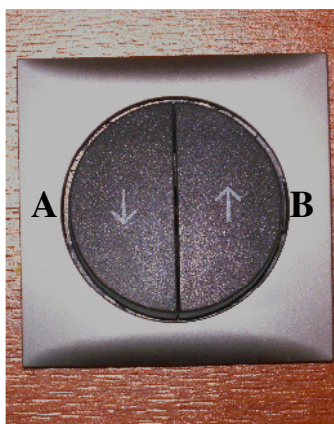


**Attention**

The blackout roller blind must not be used as a sunblind when you are driving!  
The blind must be in the open position before you start your journey.

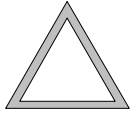
Closing:

Hold button A until the blackout blind has reached the dashboard.



Opening:

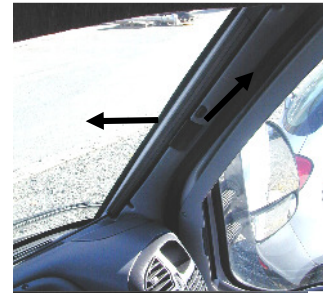
- Hold button B until the blackout blind has reached the top position.

**Attention**

The blackout blind has to be opened completely before starting your journey.

**Blackout roller blind for coachbuilt and low-profile models**Closing the blinds:**Windscreen:**

The blackout roller blinds are behind the A-pillar covering. Slide up the little lever above the handle. Now close the blinds from left and right to the middle of the windscreen.

**Side windows:**

The blackout roller blinds for the side windows can be found behind the covering located between the two side windows. Tip the handle slightly in the direction of the window and then draw the blinds to the front / to the back until they reach the magnetic strips.

Opening the blinds:**Windscreen:**

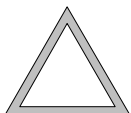
Draw back the blinds until they reach the A-pillars. Push down the little lever, back to the down position in order to avoid blinds from closing inadvertently when driving.

**Side windows:**

Draw back the blinds until the handle engages back on the covering.

**Warning**

- During the journey the blackout roller blinds must always be completely folded and locked.
- Never use the blackout roller blinds during the journey.

**Attention**

If you have a coachbuilt or low-profile model, please first turn the cab seats to the living area before closing the roller blinds, otherwise blinds may get damaged.

## 6.7 Electrically adjustable beds

### Electric drop-down front bed for A-class models

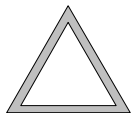
If you have the electric front bed option, you can raise and lower the bed with the rocker switch.



- To lower electric front bed press the rocker switch down.
- When the lowest position is reached the motor stops automatically.
- To raise the electric front bed press rocker switch up.
- Stop this action when mattress or bedding touch the ceiling.
- If your front bed is in the upper position, please secure it with strapping provided.

#### **ATTENTION:**

**During the adjusting process, the lowering and lifting of the bed on both sides happens at different speeds. Therefore, there is no constant velocity and so your bed may be in an inclined position when raising or lowering it. This has no influence on the operational safety of the bed. Therefore please always hold the switch pressed until both motors have reached the bottom end position and have stopped automatically. In case of a collision an integrated overload protection automatically switches off the bed. After approx. 20 seconds the system can be used again.**



#### **Attention**

It is not absolutely necessary to raise the bed completely up until the stop, but please ensure that you can secure the bed with the belt during the journey.

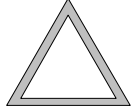
**Emergency operation - the manual procedure for the front bed is explained in chapter 9.8**



## 6.8 Rear garages

### Motorbike fixing with sliding ramp for rear garage (= option)

The motorbike holder makes it easier to load the motorbike/scooter into the rear garage. Two people are needed for loading the motorbike.

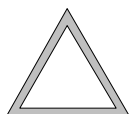
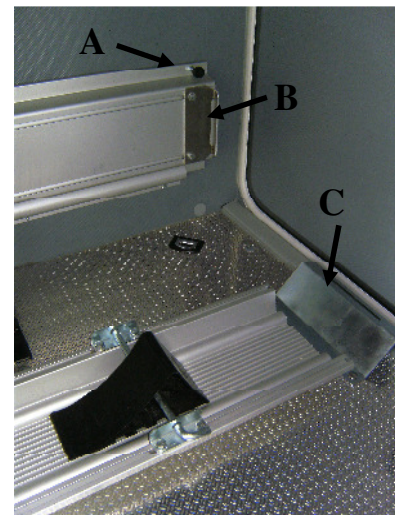


**Before you use the motorbike fixing please park your motorhome horizontally, on dry, flat ground!**

#### Attention

#### Loading of the motorbike:

- If your motorhome is equipped with air-suspension, we recommend to lower the motorhome so it may be easier to push your motorbike into the rear garage.
- Loosen hand knob A. The ramp can now be pulled out of the holding rail.
- Put the lip B at the end of the ramp into the receptacle C in front of the rail on the floor.
- Remove the rearmost holding wedge. For this remove the securing splint and take out the bolt on the side.
- Swing up fastening for the handle bar.
- Push the motorbike into the rear garage via the ramp until the front wheel lies in its support bracket.
- Swing down fastening for the handle bar. The claw can be opened by loosening the knurled screw.
- Put the claw around the handle bar and fasten the knurled screw.
- For first use, it might be necessary to displace the claw by loosening the screws and refastening them in one of the other holes.
- Put the rear holding wedge under the rear wheel of your motorhome and fasten with the bolt and the securing splint.
- In order to securely fasten the motorbike, only use the lashing rail with the adjustable lashing eyes. Tighten the included load-securing straps until the motorbike cannot be moved anymore.



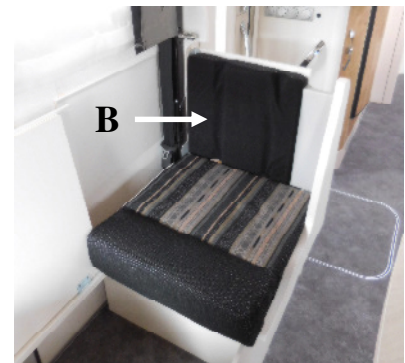
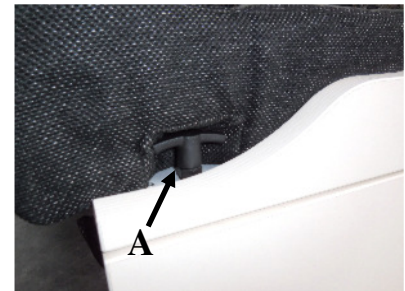
#### Attention

- Always fasten the motorbike with all 4 load-securing straps in order to secure a safe transport.

### 6.9 1 Person safety belt system for the side seating bench / L-shaped seating bench (= option)

The FRANKIA single person safety belt system gives you the possibility to wear a safety belt on a side seating bench in or against the driving direction.

- If you have a large side seating bench, first remove the front seat and backrest cushions and swing open the bench lid.
- To unlock the rotary seat raise the lock pin A and pull the seat towards the middle of the motorhome until the stop limit.
- Turn seat to driving direction and push back to outside position again. Let go of the lock pin until locking engages.
- Place additional backrest cushion B into position.
- Finally push the headrest support onto its bolt.
- For re-conversion pull out the lock pin C on headrest support and then remove headrest.
- Unlock seat with the lock pin A and then follow reverse order.
- The headrest and its support can be stowed within the L-shaped seating bench.





### **1 Person safety belt system for the round seating group (option)**

FRANKIA motorhomes with a Plus layout have fold down seats with safety belts situated in the round seating group.



- Remove the front seat and backrest cushions of the round seating group.



- Open seating bench lids to the side.
- The seat has a pivot joint between the seat surface and backrest and a second pivot joint in the backrest.
- Press the lever A and fold the upper backrest forward until the stop.
- Operate lever B. Fold complete backrest backward.



- Operate the upper lever once again and completely unfold the backrest.
- To re-convert reverse process.



## 6.10 Back-up aid (option)

Your motorhome is equipped with a back-up aid sensor. When you go into reverse, a beep indicates that the sensor is active. If an obstacle is detected, this is indicated by an acoustic signal. The frequency of this signal increases the closer you approach the obstacle and turns into a continuous tone at a distance of approx. 30 cm.

Because a loaded lifting bike carrier would be viewed as a constant obstacle, the upper back-up aid sensors can be switched off via a disconnecting switch. This switch is located in one of the high cupboards in the rear.



(upper back-up aid sensor on / off)

## 6.11 Diverse

### Swivel washroom door

If your Frankia motorhome has a swivel washroom door, you can join the washroom with the shower room in simple movements.

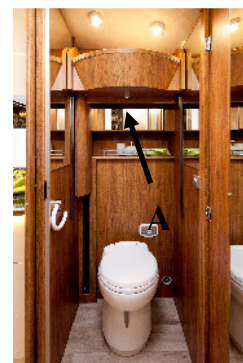
- Turn the rotary lock on the inside of the washroom door.
- You can now swing open the door in the direction of the shower room.
- Turn the rotary lock again to lock the door in the new position.

You will now have a spacious washroom covering the complete motorhome width. For the re-conversion reverse process.

### Lowering washbasin

FRANKIA models that have lowering washbasin. The washbasin is situated over the toilet.

- Before using the toilet, raise the washing/sink stand until the side locks engage.
- To lower the washstand, turn screw cap "A" located on base.
- Lower the washstand slowly as far as possible.



You can only open the mirrored cabinet once the washbasin is lowered.



**Warning**

- Only raise the washstand if completely empty.
- During the journey, the washbasin must be in the lowered position.

### **Ventilator for refrigerator (option)**

As an option, two ventilators can be installed at the rear of the refrigerator. These may be operated via a thermo switch and they help to disperse the warm air. The switch above the refrigerator deactivates the ventilators.

### **Outside lockers**

- Especially after cleaning with car shampoo or degreaser, plus the wintertime it is recommended to treat the rubber seals of your outside lockers with a rubber care product, for example silicone spray, grease pen or similar in order to keep the rubber seals supple.
- To open and close external lockers, press the flap slightly to the vehicle, hold and simultaneously turn the toggle lock. This will compress the seals in order for the lockers to be opened or closed more easily.
- If the side doors of the rear garage aren't fully closed, a warning light will light up on the dashboard (only if your motorhome has rear garage doors opening to the top).

### **Spare tyre set**

With the spare tyre set you are able to repair punctures without having to change the tyre.

- Fill the tyre with sealing gel.
- Inflate the tyre with the compressor.

You can now drive to the next garage (**max. 80 km/h!**).

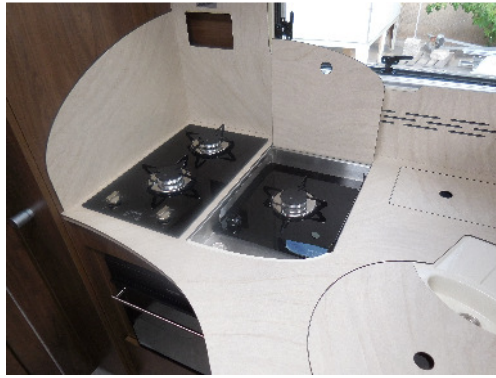
For further information please refer to the enclosed user's manual.

### **Chopping boards**

The covers for the sink and the integrated 1-burner-hob (depending on layout) have multi-purpose use. The working surface can be expanded: Open the top drawer and insert the sink cover into the cutout.



If your kitchen has a hob integrated in the working surface you can insert the cover into the slot behind the hob and use it as a splash and flame protection.



## 7. SERVICE AND CARE

### Vehicle care:

The correct maintenance of your FRANKIA motorhome will guarantee a particularly high comfort of living during your journeys for many years. Therefore we would like to give you some advice to ensure your FRANKIA will be a reliable companion.

### Base vehicle

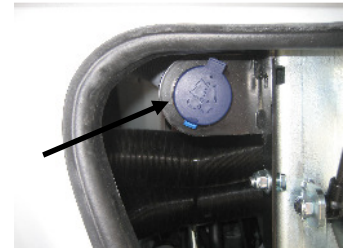


For the chassis, the manufacturer's operating instructions are influential.

#### Info

### Washer fluid filling hose

- In order to refill washer fluid, open the bonnet.
- The filling hose for the washer fluid can be found on passenger's side next to the bonnet hinge.
- Remove blue covering and refill water.



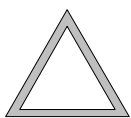
### AdBlue (only for Mercedes)

AdBlue is an additional solution which has a separate tank. When this runs out, it must be refilled, as the motorhome cannot be driven with the AdBlue tank empty.

AdBlue can be refilled from a canister with a screwed filling hose (Mercedes spare part No "A 000 583 22 04").



All Mercedes service centers can refill AdBlue and offer AdBlue refill containers.



#### Attention

Never refill the AdBlue from a pump. Generally these are not suitable for cars and motorhomes.

Beware spilled AdBlue can cause serious damage in the engine compartment.



### **Interior**

Generally the interior of your Frankia will not require any more care than your home.

In general, all synthetic surfaces can be preserved with washing-up liquid and water.

Cockpit sprays also give good results. Abrasive or aggressive cleaning agents must not be used. Any special cleaning agent should be tested first before use.

Please do not expose the door covering to rain or strong sunlight for long periods of time, we advise to close the door under such conditions.

Please note that stones, scouring agents or strong cleansing agents can damage your shower tray.

The acrylic glass windows are pretty indestructible (but not completely). Aggressive, scouring or even caustic cleaning methods will dull your view. A mild washing-up liquid solution or glass cleaner are sufficient to clean these windows.

The furniture surfaces are easy to clean.

You only need water, a dirt eraser, washing-up liquid and a tea towel.

Clean the surface with the dirt eraser and some washing-up liquid, and dry it with the tea towel.

Do not use scouring sponges (type Scotch Brite), microfibre cloths, furniture polish or sprays.

### **Exterior**

For exterior washing we recommend clear water, stubborn dirt should be removed with an appropriate shampoo. Recommended are special caravan shampoos.

Never wash your motorhome in bright sunlight, to avoid water drying too fast and leaving stains.

A number of care products for long-term conservation of the gelcoat surface are available. For example: (“YC Boat Wax” available from Yachtcare). Leading GRP manufacturers recommend to seal all GRP elements with “Yachtcare Boat Wax” at the beginning of the season. Apply this wax with a soft cloth, then polish the surface with a clean soft cloth.

Repeating this process through the season, will provide the best protection for your GRP surface. For further information please refer to user’s information of care product used.

Please avoid using hard methods like scouring sponges or rim cleaning agents.

Due to the motorhome height, keeping the roof clean is often neglected. The performance of solar modules are considerably reduced when dirty. Likewise a clean motorhome is of no use when rain water rinses dirt from the roof. This will leave ugly marks on the side walls.

It is possible to walk on the roof providing non-slip soft shoes are used. Attention! (Avoid kneeling on the roof as this may leave dents. To avoid dents, aluminum tread strips can be fitted.)

To avoid permanent damage to the surface, remove traces of tree resin, insects and bird droppings as soon as possible.

Please pay attention of the undersection of your motorhome!

Options fitted with moving parts, for example steps, rear supports & extensible bike holders, etc. should be cleaned and greased approximately every six months. In bad conditions (salt, dust & sand) these parts will require care more frequently.



**Info**

Salt water (from thawing snow) can cause white rust on the galvanized chassis. The white rust does not present a fault in the quality of the galvanizing. It only provides a visual impairment. (see also AL-KO chassis manual)

In order to avoid or remove white rust, AL-KO recommend:

- \* After driving through winter, clean all galvanized surfaces with clear water (example: with a steam cleaner).
- \* Also white rust can be cleaned away from galvanized parts using a zinc cleaner.

We recommend cleaning the water hose, fresh water tank and sewage tank regularly.

The company Certisil offer a product “Certibox” for cleaning, disinfecting and decalcifying.

Particularly in the warm season regularly check the acid & water levels of your battery.

In Germany an authorized expert must check the gas system every two years.

Every year it is necessary to have a tightness test carried out by your FRANKIA dealer.

### **Plastic windows / acrylic glass**

- \* Clean windows & acrylic glass with plenty of water, mild soap suds solution and a soft cloth/sponge.
- \* **Please do not use glass cleaners with chemicals, scourers, alcohol or glycerin additives.**
- \* **Pay attention to the directions of use on packaging.**
- \* **Pay attention when attending car washing stations.**
- \* **Do not apply stickers.**

SEITZ (manufacture) recommend to use original Seitz glass cleaner or acrylic glass cleaners from the company Frankana.

To maintain the rubber seals Seitz recommend the use of talc or petroleum jelly without additives.

### **Locker grips of the furniture flaps**

- \* To open desired flap, hold locker grip, press the locking button and simultaneously open the flap.
- \* Close the flap and press softly on grip until you hear the lock engage.

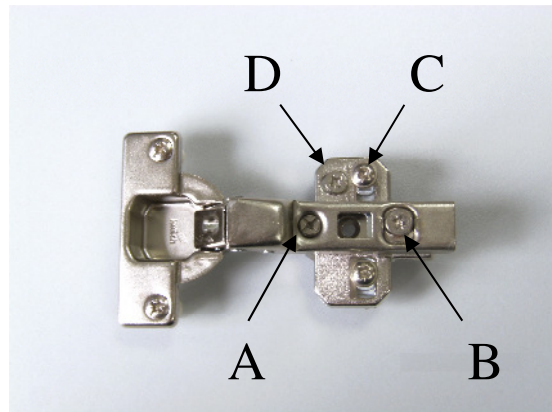


### Metal fittings on furniture doors and lockers

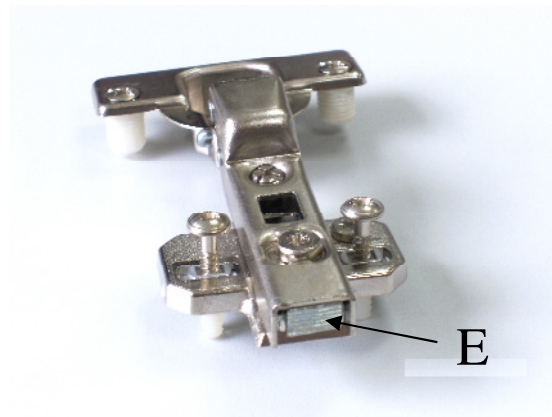
Should the furniture frontage become misaligned over time, the metal fittings allow readjustment.

The concealed hinges can be adjusted in three directions.

- **A:** Overlay adjustment to correct a gap. Turn screw clockwise to reduce or anticlockwise to increase the door gap.
- **B:** Depth adjustment. Direct, continuous depth adjustment via eccentric adjustment.
- **C:** Height adjustment. With the height adjustable mounting plates it is possible to adjust the doors to the exact required height.
- **D:** Direct, continuous height adjustment via eccentric adjustment.



- To unhinge doors or lockers, simply press the hidden unlocking key **E**.



### Kitchen top with marble effect mineral material (option)

The following advice will help to keep your marble effect mineral material in good condition for many years.

As with every other surface, the marble effect mineral material needs regular cleaning and care.

For daily cleaning you will only require water, a household cleaner and sponge without abrasive grit.

Please note dark surfaces will require more care than light surfaces.

Hard water can leave lime stains on the surface. To avoid please wipe with damp cloth, then polish with a dry cloth. In case of large lime stains, you may use household lime scale remover from time to time.

Tenacious stains, as cigarette condensate, cosmetics, pollen or similar can be removed with scouring cream and abrasive side of a household sponge. Please beware this may change the gloss degree of the surface.

Even though mineral material is considerably harder than many comparable surfaces, you are advised to always use a cutting board. Cuts, scratches and cigarette scorch marks can be removed with very fine sandpaper. Please contact a workshop specialist to obtain the correct working method.

Always use trivets or holders to avoid damage to your kitchen surface from hot pots, pans, and baking dishes or similar. Most chemicals, reagents and biochemical colorants used in the household will only have a minor effect on the surface, if it is immediately washed with water and treated as described above.

Avoid dyes, acidic drain cleaners and acetone-based nail polish removers. Prolonged contact with concentrated acids, chlorinated solvents and ketones can cause etching or discoloring of the surface. In most cases serious damage, caused by impacts, heat exposure or vandalism, can be completely repaired.

### **Siphons**

Siphons for all drains should be cleaned from time to time.

Should you notice water not draining from the shower, dismount the siphon and remove any dirt accumulation.

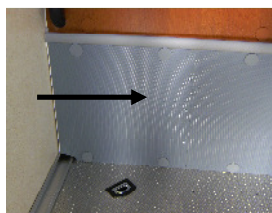


*Screwed siphon of sink*



*Pipe siphon of washbasin*

To clean the siphon located under the shower, it is necessary to remove a panel in the rear garage or in the double floor (depending on the layout). Then you will be able to reach the siphon and unscrew it.



### **Heating**

For the maintenance of the warm air heating, we recommend using Truma care products.

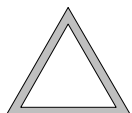
## 8. WINTER

### 8.1 Winter holiday

Please note the following points for a winter holiday:

- Please protect the pivot bearing of entrance step with lubricating grease.
- Only use propane gas. Below  $-42\text{ }^{\circ}\text{C}$  propane gas changes from a liquid condition into a gaseous condition.
- The pressure reducer on your gas bottle should be equipped with the TRUMA-Triomatic system with "Eis-Ex heating" (= option).
- If external temperatures are below  $+5\text{ }^{\circ}\text{C}$  please use the "Eis-Ex heating" to avoid pressure reducer from freezing
- Treat door locks with silicone.
- Always make certain that the bottom ventilation of gas locker is free of obstruction. Remove any snow if necessary.
- Please heat motorhome well when vacating in order to assist water pipes and sewage from freezing.
- **Under no circumstances use or allow antifreeze into sewage tank or pipe system. Poisoning risk!!!** Antifreeze can attack pipe work and is harmful to the environment.
- Please protect the ventilation grille of your refrigerator with winter covering when the temperature falls below  $0\text{ }^{\circ}\text{C}$ . Installation instructions can be found on inside of cover.
- If temperature should raise above  $5\text{ }^{\circ}\text{C}$  the cover must be removed.
- Dependent on use, amount of occupants, location, humidity and internal/external temperature, make sure air and heat to your motorhome is sufficient.
- The interior of your motorhome is vapor-proof, i.e. the humidity created by cooking, showering and drying of wet clothes cannot escape. Therefore, please air and heat your motorhome well at the same time.
- Surplus of humidity condenses on cold things first in your motorhome. Therefore, please remove any condensation from the windows. If you have a coachbuilt model, remove any condensation from front wall and corners of the alcove too.
- You can use your motorhome to approximately below  $-15\text{ }^{\circ}\text{C}$  when heated well.
- Please remember useful winter utensils snow-shovel, ice scraper, broom, gloves and defrosting agent.
- Before starting your journey ensure the motorhome roof is free from any snow and ice. Ice plates or large amounts of snow sliding down from the roof could endanger other traffic participants.

### Preparation of the living area



#### Attention

When fresh water system is filled, for any water left in the sewage tank or in the dejection tank, the motorhome must be heated permanently.  
Should the external temperature drop extremely, the water system is frost-protected.

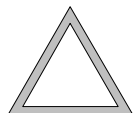
- If necessary, especially in the evening, place insulation mats on the side windows and windscreen.
- Check charge condition of the body battery.
- Use the winter coverings for the refrigerator.

- Close all water drains, water taps and the boiler drain valve.
- Close all gas shutoff valves.
- Check heating and the water system before starting your journey.
- The first time of letting fresh air into your motorhome ensure that you open all cupboards and loading space too. This will prevent the possibility of mould.
- For technical reasons the driver's cab is not as well insulated as the living area.
- In the winter months we recommend the following items are carried: shovel and broom to remove snow from step, roof and windows, plus snow chains and starting aids.
- You may need to drive differently in snow and ice.
- Please read the operating instructions of your basic chassis under the chapter "Winter".

Please pay attention to the following points in the winter months:

- \* Conversion of fuel, motor oil, gear oil, antifreeze for the engine water etc.
- \* Tyres / air pressure
- \* Hand brake
- \* Spark plugs
- \* Battery
- \* Door locks
- \* Air entrance slots

## 8.2 Living in your motorhome in the winter



### Attention

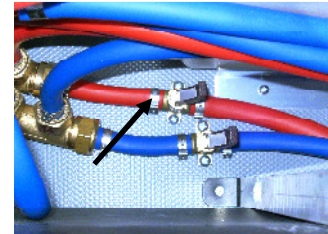
- Do not lay the electric cable on the ground, it could freeze.
- Please use defrosting agents on alcohol basis for thawing frozen locks. Do not thaw frozen locks with heated objects or open flames.
- Do not use defrosting sprays or ice scrapers on the acrylic glass windows!
- You can thaw frozen drain slides with defrosting spray.
- Keep the roof free from snow.
- Always keep the ventilation and exhaust gas vents of the heating, the boiler and the refrigerator free from snow and ice.
- Keep the roof lids free from snow and ice.
- For parking the motorhome please engage the first gear or the reverse gear - for motorhomes with automatic transmission put the selector lever to "P"; for vehicles with Sprintshift gear put the lever to "A" or "R".
- Use wheel chocks to prevent the motorhome from rolling.
- Keep the solar panel free from snow and ice.
- In the winter please avoid long cooking because of the condensation.
- Keep the heating running permanently.
- Put the ventilation in the driver's cab to inner circulation to avoid that the warm air flows out through the ventilation ducts.
- If it gets too warm in the motorhome, let fresh air in more often.
- If necessary switch on the additional heating.
- Hang wet clothes into the shower.

### 8.3 Immobilization

Your motorhome does not need special care if you do not use it for a long time. With the following advice you will avoid getting unpleasant smells, mould and frost damage in your motorhome:

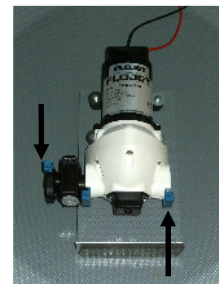
\* Clean the outside of your motorhome, the fenders and the underbody.

\* Empty the fresh water tank, sewage tank and toilet tank completely as well as all pipes. For this process please switch fuse of the water pump off and open all water valves, plus the shower (in the middle position). Remove the drain plug from the bottom of the fresh water tank and open both drain valves of the water pipe. These are situated between the water tanks.



• In order to avoid freezing of the pump, it can be dismantled during the winter time, the pump may be removed from the water circuit via the quick-release fasteners (see photo on the right).

To catch any residual water, use a small bowl.



\* Unscrew and empty the siphon in the bathroom. Afterwards screw it back in place.



\* Empty and rinse out the sewage tank and dejection tank (option). Leave the lids of the fresh water and sewage tanks open in order to dry completely. This can prevent unpleasant odours.

\* Uninstall the fresh water hose drum.

\* Empty the boiler. To do this open the antifreeze valve.

\* Open both drain valves. For this put levers in vertical position.

\* To empty the water pump completely let run dry for a short time.

\* When the water tank is empty press toilet flush several times to empty the pipe.

\* Rinse the sewage tank if you have the outside shower and the mains water connection, with water.

- \* Blow compressed air through fresh water hose to remove any remaining water or uninstall the fresh water hose.
- \* Bring your engine to service temperature before immobilizing your motorhome to avoid damage by condensation in the engine.
- \* Leave the refrigerator door slightly open.
- \* Disconnect the batteries (see chapter 4).
- \* Leave open cupboards and storage spaces.
- \* Put up upholstery and mattresses.
- \* If motorhome is parked in a garage, if possible leave roof lids and windows open.
- \* Increase tyre pressures by 0,5 bar.
- \* Every two months let air into the motorhome and heat it.

#### **8.4 Antifreeze**

If you do not use your motorhome for a short time, especially in the winter. Or in the intermediate season, please remember that a water pipe break could occur. A water pipe break can happen within a two hour period depending on the temperature.

Should the outside temperature be approximately 0 °C, water in the pipes can freeze which could cause a water pipe break.

Please note the following points:

- \* The heating should always be on.
- \* Put the thermostat on 5° to 10° C.
- \* If you would like to save energy because the motorhome will be parked over a longer period of time, empty the fresh water, sewage tanks, all pipes, toilet and the boiler (see 8.3).



## 9. FAULTS

It may not always be necessary to contact our after-sales service department if you have a problem with your motorhome. Sometimes small problems can be dealt with yourself. If unsure, especially with electricity or gas. You are advised for your own security to visit our service workshop.

**Please do not carry out repairs of the electric and gas system yourself.**

**CAUTION: DANGER!**

### 9.1 Electric system

**\* 230V-control light and sockets without energy:**

- Check electric cutout in the wardrobe
- Check the fuse of the campsite

**\* 12V-interior lighting does not work:**

- Switch on the main switch of the instrument panel
- Check the charge condition of your body battery
- Check the 12V fuses of the battery charger

Lamps	Illuminant
Recessed spot light	LED – Frankia article no. 0604215
Light in the rear garage	Frankia article no. 0602580
Reading lamp	LED – Frankia article no. 0606350
Indirect lighting cupboard	LED – Frankia article no. 0803130
Light of the step	LED – Frankia article no. 0804540
Light of the wash room mirror	LED – Frankia article no. 0802730
Light for the glass cabinet	LED – Frankia article no. 0806410
Lights of the storage space	LED – Frankia article no. 0608700
Lights in shower canopy	LED – Frankia article no. 0802820

Illumination that requires replacement must be replaced with the same type and power ratio. Halogen lamps should only be handled with a cloth. By touching the glass bulb with your fingers reduces the brightness and can shorten the length of life.

#### Rear garage lights

- Remove glass cover to gain access
- Remove defective illuminant from base
- Insert replacement illuminant
- Replace cover



**Defective reading lamp**

- The reading lamps are equipped with LEDs as illuminant.
- These have an extremely long operating life. Should a defect materialize, the complete lamp will require replacement.

**LED-lighting**

Interior lighting is mainly equipped with LEDs. These have an extremely long operating life. Should a defect materialize, the complete lamp will require replacement.

**9.2 Gas system****\* Gas appliances do not work:**

- Open shutoff valve on the gas bottle
- Open shutoff valve on the consumption places
- Fill your gas bottle
- During frost use propane gas only
- Check that the pressure reducer works well (frost risk)
- Use the "Eis-Ex heating" (= option) if outside temperature is below 5 °C
- If one single appliance does not work please confirm operation process in the respective chapter

**9.3 Fresh water system****\* Water escapes from beneath motorhome when fresh water tank is replenished:**

- When the boiler is heating a little water may be released from the pressure relief valve because of water extension.
- Close the antifreeze valve. The temperature in your motorhome must be above + 6 °C, otherwise valve will not close.
- Insert drain plug into fresh water tank
- Check for loose hose clamps
- Check fresh water tank and sewage tank to confirm not overfilled

**\* Water flow from tap - only a little water or no water flow:**

- Check the 12V supply is connected and operational
- Switch on the fuse of the water pump
- Check fresh water display
- After refilling an empty tank, open the drain valve briefly to ventilate pump
- If water has been taken from the boiler it may take a few minutes until the boiler has refilled again and warm water flows
- If the water tap is opened but pump does not run, this may be caused by a fault in the electrics or on the pump
- The water pump must not run dry, (except for a short time)

**\* Leak in your motorhome:**

- Isolate the fresh water pump by switching off on supply panel. Locate the source of leak.

**\* The water has unacceptable aftertaste:**

- Sterilize fresh water tank and pipe system (takes effect not earlier than after 6 hours)
- Please be aware that water is sterile only after having boiled for at least 10 minutes.
- Drain off your unused water after three days, then clean the tank and refill it.

**\* Problems with warm water production:**

- Check that the heating is on.
- Activate 12V supply and fresh water pump switch on supply panel.
- Warm water boiler needs approximately 30 minutes to reach required heat.
- Fill the warm water boiler or ventilate by opening the warm water tap.

**\* If the body battery is immobilized, the antifreeze valve of the boiler will open unavoidably.**

## 9.4 Sewage

**\* Water does not drain off:**

- Check the level of your sewage tank on control panel.
- Search for a possible blockage in the sewage pipe.
- Clean the siphons of the sink unit, washbasin and shower.
- The sewage tank is located in the double floor, therefore sewage pipes have little incline, so be sure to park your motorhome horizontally.

**\* Smells in the motorhome:**

- Check that the siphons of the sink unit and washbasin have a full water level.  
Please insert plugs into shower floor and sink unit when not in use.  
This will avoid any unpleasant smells in your motorhome.

## 9.5 Toilet tank

**\* The toilet tank is too full:**

- Make an emergency drain:  
Inside - Open the slider to the toilet base  
Outside - Open the toilet tank door  
Hold the drain plug and open carefully. Allow to run into independent container.  
When the WC is empty, close toilet slider and drain plug then remove the toilet tank.

**\* Annoying smells:**

- The toilet tank is full, therefore empty tank at a waste management station.
- The fluid-level indicator indicates when the tank should be emptied (red area).
- During hot weather, please use a higher measurement of sanitary concentrate.
- Always close the toilet slider after use.

**\* The toilet flush does not work:**

- Check the level of fresh water in tank.
- Check the 12V supply.
- Check the toilet flush fuse in toilet tank drain.
- If necessary clean the toilet basin manually with a little water.

**\* The toilet slider doesn't open, not able to empty the toilet basin:**

- Open toilet tank drain door and position drain plug to the outside. Then level out the excess pressure by slowly opening the lock of the drain plug.
- Re-lubricate the toilet slider seal with silicone spray.

**\* Cannot remove toilet tank:**

- Close slider on toilet base.
- Check for free movement of holding bow below the toilet tank.
- Never remove the toilet tank with force. Visit the service workshop.

## 9.6 Heating

**\* Heating does not ignite:**

- Switch on 12V supply on supply panel.
- Open gas shutoff valve of the consumption place.
- Check gas supply.
- Check fuse and electric connections of the heating unit.
- Switch on room thermostat.
- The red light emitting diode for reset-key on control panel of heating must be off. If not, press reset-key for a few seconds.
- Repeat the ignition process according to instructions.

**\* The burner runs but does not warm:**

- Set your room thermostat to a appropriate temperature

**\* The heating goes out while it is running:**

- Check gas supply resp. tank level and gas bottle.
- Check 12V supply.
- Has there been any deflagration?

**In this case please visit your service workshop to have heating checked before using again!**

- Wait 3 minutes before restarting new ignition process.
- Check chimney extraction for blockages.

## 9.7 Kitchen appliances

### \* **The refrigerator does not work:**

- Establish operating mode for refrigerator.
- The refrigerator works without any noise.
- It takes approximately one hour to establish that the refrigerator has cooled.
- If gas is used, open shutoff valve of the consumption place.
- Choose the correct operating mode.
- Park motorhome horizontally
- Air-extractor vents must be free from blockage.
- Remove air-extractor vents completely when temperature is above 35 °C.
- When temperature is below 0 °C place winter covering in front of the air-extractor vent.

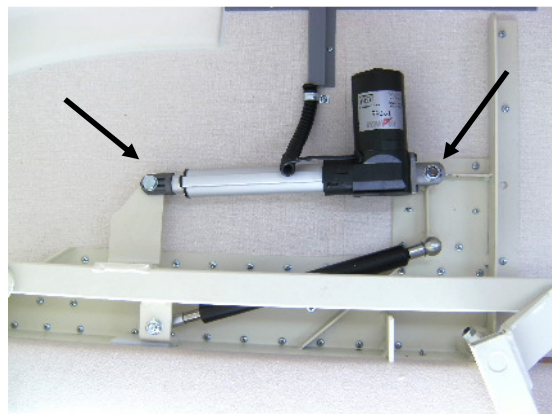
### \* **Gas hob does not ignite** (see also 3.2: gas system)

- Turn gas system on and check.
- Fill or exchange gas bottle.
- Open shutoff valve of the consumption place.

## 9.8 Electric front bed

### **In case of motor been defective:**

- Turn off 12V main switch on the supply panel positioned above entrance.
- Remove the front bed curtain.
- Release both fastening screws from the lifting cylinders and unhinge.
- Swing bed up carefully and secure with securing straps.
- Please visit your FRANKIA dealer urgently in order to repair the fault.



## 9.9 Vehicle

### \* **Straight-running stability is not good and motorhome is difficult to steer:**

- Check tyre inflation pressure.
- Check for front axle overload.

### \* **The engine power is not satisfactory:**

- Carry out similar checks as for straight-running stability.
- Check that the fuel filter is not dirty.
- With a loaded motorhome you are required to drive differently than you would with a car.
- Gradients and strong headwinds reduce driving performance.

### \* **Defective headlight:**

- If a headlight is inoperative, before changing bulb please check that the contacts are not oxidised and the corresponding fuse is working.
- Burnt bulbs must be replaced with bulbs of the same type and performance.
- Please note, do not touch the glass bulb with bare hand as this will reduce the luminosity and even reduce service-life of the lamp.

	<b>Outside lighting</b>	<b>Illuminant</b>	<b>Wattage</b>
<b>Front</b>	Low beam light	DE-H7 12V	55 W
	Long distance light with position light (for coachbuilt and low-profile models)	FF-H7 12V T4W 12V	55 W 4 W
	Direction indicator light	PY21W 12V	21 W
	Fog lights	H7 12V (coachbuilt, low-profile); H3 12V (A-Class)	55 W
	Position light for A-Class	LED – Frankia Article n°.: 0605830	
	Position light for coachbuilt	LED – Frankia Article n°.: 0605760	
<b>Rear</b>	Rear end light / brake light / direction indicator	LED – Frankia Article n° : 0608360	
	Back up light	LED – Frankia Article n° : 0608370	
	Rear fog lamp	LED – Frankia Article n° : 0608380	
	Third brake light	LED – Frankia Article n°.: 0608390	
	Contour rear end light	LED – Frankia Article n° : 0608400	
<b>Side</b>	Side lights horizontal vertical	LED – Frankia Article n°: 0608100 LED – Frankia Article n° : 0608110	

### \* **Defective headlight (A-class models):**

#### **Main and low beam headlight**

- Remove the rubber cap on rear of headlight by turning counterclockwise.
- Remove bulb.
- Replace new bulb.
- Reverse procedure for installation of rubber cap.
- For optional LED headlights please refer to a Frankia dealer.



**Parking light**

- Remove the rubber cap on rear of headlight by turning counterclockwise.
- Remove bulb.
- Replace new bulb.
- Reverse procedure for installation of rubber cap.

**Direction indicator lamp**

- Disconnect electric plug connector.
- Rotate socket containing the bulb anticlockwise and remove from light casing.
- Rotate bulb anticlockwise and remove from bulb holder.
- Replace with new bulb.
- Reverse procedure to reinstall.

**Daytime running light / position light (for A-Class models)**

- These lights are maintenance-free.
- Should the light not illuminate, check 5A fuse located in the additional distribution of the chassis (near the electric block EBL)

**Fog lamps (for A-Class models)**

- Remove rubber cap from rear of headlight.
- Disconnect plug connector.
- Remove bulb from its socket.
- Insert the new bulb.
- If fog lamps are still inoperative, check 10A fuse located in the additional distribution of the chassis (on the electric block EBL)

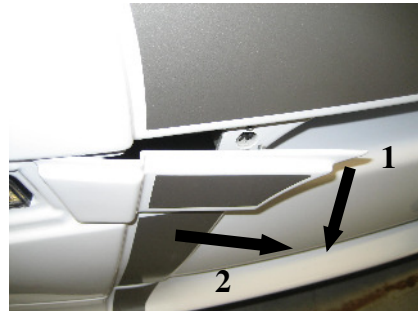
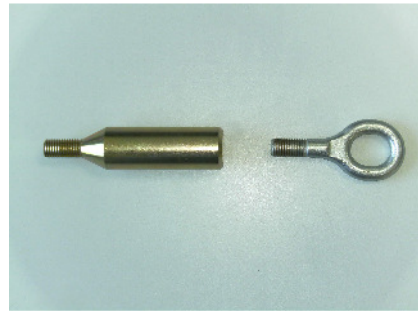
**Side positioning lights, rear lights and position lights**

The side positioning lights, rear lights and position lights are equipped with LEDs. These have an extremely long operating life. Please note should there be a defect, the complete lamp must be changed by your authorized Frankia workshop.

## Towing

If your motorhome requires to be towed. For A-class models on Mercedes chassis, it is absolutely necessary to use the extension piece provided.

- Screw/insert the original towing lug into the extension piece provided as far as possible.
- Open towing point cover on the front bumper. Pull right-hand side of cover forward until the lock has released. Then remove cover to the right.
- Attach the towing lug by threading into dedicated hole as far as possible. For Mercedes models use the extension piece provided. For Fiat models original towing lug can be used.



**Tyre change:**

If motorhomes with spare wheel option. Please follow instructions in case of deflated tyre:

- Engage first or reverse gear. In case of automatic transmission select “P” position.
- Secure opposite tyre with a choc.
- Remove spare wheel from carrier.

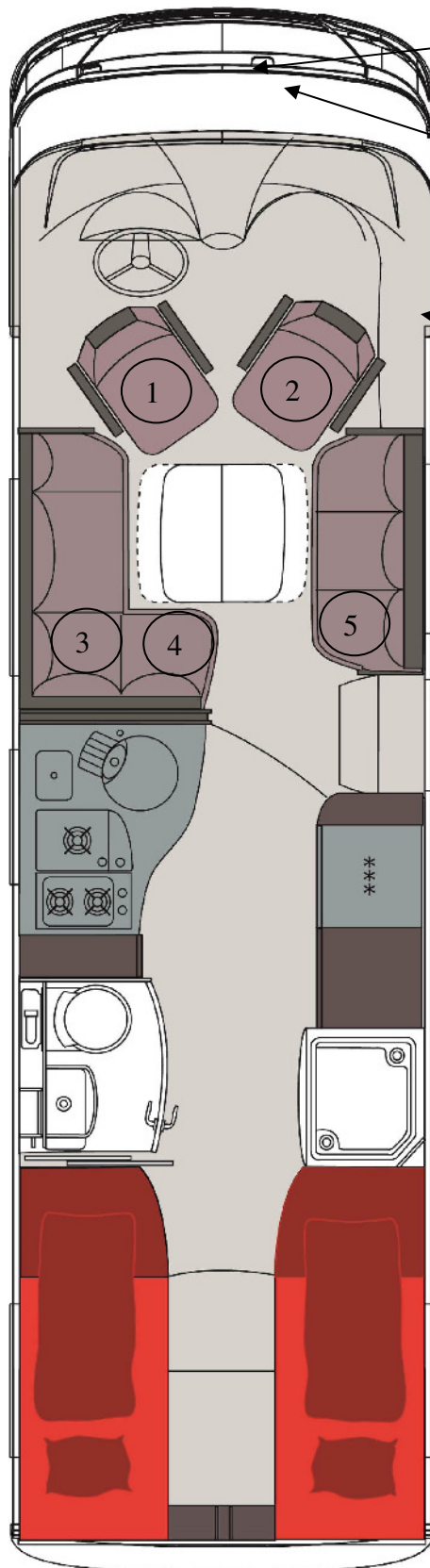
You may wish to use the jack in place of wheel spanner in order to lower and lift wheel support containing wheel more easily (see photo).



- Place jack in position intended for wheel spanner, located on left side of spare wheel support.
- Hang out wheel support and lower slowly to ground with jack.
- Reverse process in order to lift wheel support.
- Loosen all wheel bolts.
- Position jack in respective locating points.
- Lift motorhome to remove defective wheel.
- Mount spare wheel, insuring all wheel bolts are tightened using a crisscross pattern.
- Store deflated tyre in spare wheel support.

## 10. IMPORTANT TO KNOW

### Chassis number, type plate



**Body number:**  
 Located on the type plate positioned on cross rail within the engine compartment

**Motorhomes on Mercedes chassis**  
 Chassis number located in the engine compartment, central position below the front windscreen.

**Motorhomes on Fiat chassis**  
 Chassis number located inside near the passenger entrance step under plastic lid.  
 For Fiat A-class models the chassis number can be viewed only from outside, through the outside locker behind the front axle on the drivers side.  
 For Fiat coachbuilt and low-profile models the chassis number can also be viewed on lower edge of front windscreen, from the outside.

**Seating points**

① - ⑤

are authorized while travelling.  
 (no 3 - 5 depending on floor plan and equipment).

## 11. Spare parts and emergency numbers

If you need spare parts for your motorhome, please refer to the dealer closest to your home. (For a list of all dealers, you can contact our sales department, phone +49 (0) 9227 / 738-0, e-mail [info@frankia.de](mailto:info@frankia.de))

Please note down your body number (it is written on the type plate in the engine compartment) in order to simplify the identification of your motorhome.

Of course it is also possible to contact us directly. You find our address on the front side of this manual.

In case of emergencies concerning the chassis, please refer to the appropriate emergency service:

<b>Fiat:</b>	00 800 3428 0000	<b>Fiat Camper Services:</b>	00 800 3428 1111 +39 02444 12160
<b>Mercedes:</b>	00 800 1777 7777		

## 12. FRANKIA DEALERS

### 12.1 Germany

#### Postal code 1

Wendisch-PS  
Fürstenwalder Poststrasse 102  
15234 Frankfurt  
Tel.: 0 3 35 / 40 02 22 2  
[info@wendisch-ps.com](mailto:info@wendisch-ps.com)  
[www.wendisch-ps.com](http://www.wendisch-ps.com)

#### Postal code 2

Reisemobile  
Jörg Lundberg  
Ohechaussee 214  
22848 Norderstedt  
Tel.: 0 40 / 5 28 50 25  
Fax: 0 40 / 5 23 23 47  
[info@lundberg.de](mailto:info@lundberg.de)  
[www.lundberg.de](http://www.lundberg.de)

Tank Reisemobile e.K.  
Stiller Winkel 2  
24229 Dänischenhagen  
Tel.: 0 43 49 / 91 94 10  
Fax: 0 43 49 / 91 94 11  
[rene.tank@tank-reisemobile.de](mailto:rene.tank@tank-reisemobile.de)  
[www.tank-reisemobile.de](http://www.tank-reisemobile.de)

Reicartech Reisemobile- und  
Caravan-Technik Zeven GmbH  
Kivinanstr. 40-44  
27404 Zeven  
Tel.: 0 42 81 / 95 42 37  
Fax: 0 42 81 / 95 42 38  
[ulrich.goetsche@reicartech.de](mailto:ulrich.goetsche@reicartech.de)  
[www.reicartech.de](http://www.reicartech.de)

#### Postal code 3

MPG Mobilpartner Gütersloh oHG  
Carl-Zeiss-Str. 36  
33334 Gütersloh  
Tel.: 0 52 41 / 7 32 63  
Fax: 0 52 41 / 68 77 52  
[info@mpg-mobilpartner.de](mailto:info@mpg-mobilpartner.de)  
[www.mpg-mobilpartner.de](http://www.mpg-mobilpartner.de)

Kuno's Mobile Freizeit  
GmbH & Co. KG  
Frankfurter Str. 6 A  
34295 Edermünde  
Tel.: 0 56 65 / 4 06 48 30  
Fax: 0 56 65 / 4 06 48 39  
[info@kuno-mobil.de](mailto:info@kuno-mobil.de)  
[www.kuno-mobil.de](http://www.kuno-mobil.de)

Brock Reisemobile UG  
Inh. Viola Lehmann  
Weddeler Str. 7  
38104 Braunschweig  
Tel.: 0 53 1 / 36 01 38  
Fax: 0 53 1 / 36 01 91  
[info@brock-reisemobile.com](mailto:info@brock-reisemobile.com)  
[www.brock-reisemobile.com](http://www.brock-reisemobile.com)

#### Postal code 4

Caravan Center Bocholt  
Harderhook 29  
46395 Bocholt/ Industriepark  
Tel.: 0 28 71 / 26 00 00  
Fax: 0 28 71 / 26 00 02  
[c.thielkes@caravan-center-bocholt.de](mailto:c.thielkes@caravan-center-bocholt.de)  
[www.caravan-center-bocholt.de](http://www.caravan-center-bocholt.de)



Dulle Mobile GmbH  
 An der Autobahn 12  
 49733 Haren/ Wesuwe  
 Tel.: 0 59 35 / 99 95 90  
 Fax: 0 59 35 / 99 95 910  
[info@dulle-mobile.de](mailto:info@dulle-mobile.de)  
[www.dulle-mobile.de](http://www.dulle-mobile.de)

### **Postal code 5**

Reisemobile Jumpertz  
 Inh. Olaf Jumpertz  
 Rudolf-Diesel-Str. 8  
 52428 Jülich  
 Tel.: 0 24 61 / 5 20 21  
 Fax: 0 24 61 / 42 34  
[reisemobile-jumpertz@t-online.de](mailto:reisemobile-jumpertz@t-online.de)  
[www.reisemobile-jumpertz.de](http://www.reisemobile-jumpertz.de)

### **Postal code 6**

Reisemobile Euch e.K.  
 Ludwigshafener Str. 22  
 67126 Hochdorf-Assenheim  
 Tel.: 0 62 31 / 75 79  
 Fax: 0 62 31 / 32 27  
[info@euch.de](mailto:info@euch.de)  
[www.euch.de](http://www.euch.de)

### **Postal code 7**

MyCaravan GmbH  
 In der Röte 10  
 71120 Grafenau  
 Tel.: 0 70 33 / 69 98 93  
 Fax: 0 70 33 / 53 45 21  
[info@mycaravan.de](mailto:info@mycaravan.de)  
[www.mycaravan.de](http://www.mycaravan.de)

Nier Reisemobile  
 Karl-Friedrich-Benz Str. 6-8  
 79395 Neuenburg am Rhein  
 Tel.: 0 76 31 / 93 57 708  
 Fax: 0 76 31 / 93 57 678  
[info@nier-wohnmobile.de](mailto:info@nier-wohnmobile.de)  
[www.nier-wohnmobile.de](http://www.nier-wohnmobile.de)

### **Postal code 8**

Reisemobile Oberbayern  
 Moosfeldstr. 2a  
 82275 Emmering  
 Tel.: 0 81 41 / 5 39 10 00  
 Fax: 0 81 41 / 5 39 10 020  
[office@reisemobile-oberbayern.de](mailto:office@reisemobile-oberbayern.de)  
[www.reisemobile-oberbayern.de](http://www.reisemobile-oberbayern.de)

Caravan Company Wolfrum  
 Inh. Jörg Wolfrum  
 Kapellenweg 31  
 83064 Raubling  
 Tel.: 0 80 35 / 9 67 96 36  
 Fax: 0 80 35 / 9 67 96 37  
[info@caravan-company.com](mailto:info@caravan-company.com)  
[www.caravan-company.com](http://www.caravan-company.com)

Wohnmobile-Wohnwagen  
 Wiedemann GmbH  
 Dieselstr. 1  
 Gewerbegebiet Lanzen  
 87448 Waltenhofen/Kempton  
 Tel.: 0 83 03 / 92 36 23  
 Fax: 0 83 03 / 92 34 74  
[wiedemann.waltenhofen@t-online.de](mailto:wiedemann.waltenhofen@t-online.de)  
[www.frankia-wiedemann.de](http://www.frankia-wiedemann.de)

### **Postal code 9**

Schittkowski  
 Stadelner Hauptstrasse 140  
 90765 Fürth  
 Tel.: 0 9 11 / 76 58 25 8  
[info@reisemobile-schittkowski.de](mailto:info@reisemobile-schittkowski.de)  
[www.reisemobile-schittkowski.de](http://www.reisemobile-schittkowski.de)

Caravaning & Fahrzeugcenter Coburg  
 Inh. Daniel Gebhardt  
 Industrie Str. 3  
 96487 Dörfles-Esbach  
 Tel.: 0 95 61 / 85 37 887  
 Fax: 0 95 61 / 85 37 847  
[info@reisemobile-coburg.de](mailto:info@reisemobile-coburg.de)  
[www.reisemobile-coburg.de](http://www.reisemobile-coburg.de)

Autohaus Imhof GmbH  
Wohnwagen-Reisemobile  
Schwarze Brücke 2  
97737 Gemünden-Wernfeld  
Tel.: 0 93 51 / 36 62  
Fax: 0 93 51 / 44 97  
[info@autohaus-imhof.de](mailto:info@autohaus-imhof.de)  
[www.autohaus-imhof.de](http://www.autohaus-imhof.de)

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## 12.2 Europe / Worldwide

### Belgium

Bronn Technics bvba  
Kapelanielaan 18 c  
B – 9140 Temse  
Tel.: 00 32 – 37 71 29 36  
Fax: 00 32 – 37 11 26 84  
[info@bronntechnics.com](mailto:info@bronntechnics.com)  
[www.bronntechnics.com](http://www.bronntechnics.com)

### Czech Republic / Slovakia

Toptrade  
Palackého 500  
CZ – 76901 Holesov  
Tel.: 00 42 – 07 77 – 77 74 00  
Fax: 00 42 – 05 73 – 39 40 92  
[vavra@toptrade.cz](mailto:vavra@toptrade.cz)  
[www.toptrade.cz](http://www.toptrade.cz)

### Denmark

Niels Braendekilde APS  
Jels-Krydset  
Haderslevvej 59  
DK – 6630 Rodding  
Tel.: 00 45 – 74 55 21 01  
Fax: 00 45 – 74 55 21 59  
[mail@nbc-jels.dk](mailto:mail@nbc-jels.dk)  
[www.nbc-jels.dk](http://www.nbc-jels.dk)

### France

Thellier Camping Cars  
25 Rue de l’Odon  
F - 14790 Verson  
Tel.: 00 33 – 2 31 80 04 00  
Fax: 00 33 – 2 31 80 06 00

Alpes Evasion  
RN 201 - 244 Rue de la Dent-du-Chat  
F – 73420 Voglans-Chambery  
Tel.: 00 33 – 4 79 61 23 83

Sud Loire Caravanes 49  
Route d'Angers - Cholet  
F – 49750 Beaulieu sur Layon  
Tel.: 00 33 – 2 41 78 31 66  
Fax: 00 33 – 2 41 78 63 12

Caravan’or  
104 avenue de la République - BP 70143  
F – 59471 Seclin  
Tel.: 00 33 – 3 20 90 24 84  
Fax: 00 33 – 3 20 90 36 84

Eurocar 69  
251-255 Route de Grenoble  
F – 69800 St Priest  
Tel.: 00 33 – 4 78 90 37 72  
Fax: 00 33 – 4 78 90 37 05

### Great Britain

SMC Motorhomes  
Northern Road  
Newark  
Nottinghamshire  
NG24 ET  
Tel.: 00 44 – 16 36 67 07 60  
Fax: 00 44 – 16 36 67 07 67  
[alistair@smcsales.co.uk](mailto:alistair@smcsales.co.uk)  
[www.smcmotorhomes.co.uk](http://www.smcmotorhomes.co.uk)

### Italy

Punto Camper  
di Giorgio De Tisi  
Via Nazionale 6  
I-38060 Besenello (TN)  
Tel.: 00 39 – 04 64 82 00 44  
Fax: 00 39 – 04 64 82 11 70  
[info@puntocamper.it](mailto:info@puntocamper.it)  
[www.puntocamper.it](http://www.puntocamper.it)

**Netherlands**

Raema Caravans & Campers b.v.  
Hulsenweg 8  
NL - 6031 SP Nederweert  
Tel. 00 31 / 4 95-72 59 00  
Fax. 00 31 / 4 95-72 59 01  
[info@raemacaravans.nl](mailto:info@raemacaravans.nl)  
[www.raemacaravans.nl](http://www.raemacaravans.nl)

**New Zealand**

Acacia Motorhomes Ltd  
16 Drake St.  
NZ – Howick, Auckland 2014  
Tel.: 08 00 - 11 28 28  
Mobil: 00 64 – 21 227 66 62  
[acacianz@outlook.com](mailto:acacianz@outlook.com)  
[www.frankia.co.nz](http://www.frankia.co.nz)

**Norway**

OK Caravan  
Melkeveien 10  
N-3719 Porsgrunn  
Tel.: 00 47 – 35 53 85 55  
Fax: 00 47 – 35 53 85 56  
[odd@okcaravan.no](mailto:odd@okcaravan.no)  
[www.okcaravan.no](http://www.okcaravan.no)

Vest Auto AS  
Vestheimvegen 36  
N-4250 Kopervik  
Tel.: 00 47 – 52 82 44 10  
Fax : 00 47 – 52 82 44 11  
[post@vest-auto.no](mailto:post@vest-auto.no)  
[www.vest-auto.no](http://www.vest-auto.no)

Bobil Vest AS  
Brynalii 74  
N-5700 Voss  
Tel.: 00 47 – 95 96 30 04  
[post@bobilvest.com](mailto:post@bobilvest.com)  
[www.bobilvest.com](http://www.bobilvest.com)

BobilSenteret Namsos AS  
Axel Sellægs veg 2  
N-7805 Namsos  
Tel.: 00 47 – 74 20 91 00  
Fax: 00 47 – 74 20 91 01  
[kveli@pilote.no](mailto:kveli@pilote.no)  
[www.bobilnamsos.no](http://www.bobilnamsos.no)

Mathisens Landbruksservice AS  
Altaveien 269  
N-9515 Alta  
Tel.: 00 47 – 78 43 69 33  
[salg@mathisen-ls.no](mailto:salg@mathisen-ls.no)  
[www.mathisen-ls.no](http://www.mathisen-ls.no)

**Spain**

M3 Caravaning S.A.  
Ctra. N-340  
Km 1214,8  
E-08720 Vilafranca – Barcelona  
Tel.: 00 34 – 9 38 18 25 00  
**Fax: 00 34 – 9 38 18 13 31**

**Sweden**

Forsbergs Fritidscenter Stockholm  
Bergkällavägen 22  
SE – 19279 Sollentuna  
Tel.: 00 46 – 87 56 67 60  
Fax: 00 46 – 87 56 44 64  
[info@forsbergsfritidscenter.se](mailto:info@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

Forsbergs Fritidscenter AB  
Bjuv  
Gnejsgatan 10  
SE – 267 90 Bjuv  
Tel.: 00 46 – 42 83 08 0  
Fax: 00 46 – 42 83 08 8  
[infobjuv@forsbergsfritidscenter.se](mailto:infobjuv@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

Forsbergs Fritidscenter AB  
Hyssna  
Bonared Solbacken 1  
SE – 51198 Hyssna  
Tel.: 00 46 – 3 20 – 3 05 50  
Fax: 00 46 – 3 20 – 3 05 55  
[info@forsbergsfritidscenter.se](mailto:info@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

**Switzerland**

Garage du Château SA  
Céline Richard  
Route du Château 37-39  
CH-2520 La Neuveville  
Tel: 00 41 – 79 65 99 278  
[frankia@garagechateau.ch](mailto:frankia@garagechateau.ch)  
[www.garagechateau.ch](http://www.garagechateau.ch)

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### 12.3 Service partners

#### Germany

Wohnmobil Zentrum Bongard GmbH  
 Wreedenschlag 7  
 25488 Holm  
 Tel.: 0 41 03 / 70 17 81 4  
 Fax: 0 41 03 / 80 88 93 7  
[service@w-z-b.de](mailto:service@w-z-b.de)  
[www.w-z-b.de](http://www.w-z-b.de)

Caravan & Fahrzeugtechnik Kassens  
 Töpferstr. 2  
 26506 Norden  
 Tel.: 0 49 31 / 91 82 526  
 Fax: 0 49 31 / 91 82 527  
[richard.kassens@yahoo.de](mailto:richard.kassens@yahoo.de)  
[www.carava-fahrzeugtechnik-kassens.de](http://www.carava-fahrzeugtechnik-kassens.de)

MW Reisemobile  
 Pfaffengarten 15  
 35641 Schöffengrund  
 Tel.: 0 64 46 / 61 20 500  
[info@mw-reisemobile.de](mailto:info@mw-reisemobile.de)  
[mw-reisemobile.de](http://mw-reisemobile.de)

Reisemobil & Caravan-Service Monsees  
 Robert-Kirchhoff-Straße 2  
 64579 Gernsheim  
 Tel.: 0 62 58 / 94 15 42  
 Fax: 0 62 58 / 94 15 44  
[info@reisemobil-caravan-service.de](mailto:info@reisemobil-caravan-service.de)  
[www.reisemobil-caravan-service.de](http://www.reisemobil-caravan-service.de)

myCaravan Mobilhome Pfister  
 Seewiesen 9  
 72348 Rosenfeld  
 Tel.: 0 74 28 / 37 223  
[markus.pfister@mycaravan.de](mailto:markus.pfister@mycaravan.de)  
[www.mobilehome-pfister.de](http://www.mobilehome-pfister.de)

Caravan-Technik-Service Stange  
 Liasstraße 5  
 73527 Schwäbisch-Gmünd  
 Tel.: 0 71 71 / 90 80 293  
 Fax: 0 71 71 / 90 80 294  
[info@caravantechnikservice.de](mailto:info@caravantechnikservice.de)  
[www.caravantechnikservice.de](http://www.caravantechnikservice.de)

#### Austria

Franz GmbH  
 F.N. der Fa. Gebetsroither  
 Industriestr. 15  
 A-2201 Hagenbrunn  
 Tel.: 00 43 – 22 – 46 47 11  
 Fax: 00 43 – 22 – 46 47 11 15  
[hagenbrunn@gebetsroither.com](mailto:hagenbrunn@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

Gebetsroither Unternehmensgruppe  
in Timelkam  
 Straß 22  
 A-4850 Timelkam-Vöcklabruck  
 Tel.: 00 43 – 76 72 – 7 77 98  
 Fax: 00 43 – 76 72 – 7 77 98 4  
[timelkam@gebetsroither.com](mailto:timelkam@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

Gebetsroither Unternehmensgruppe  
 Gebetsroitherweg 1  
 A – 8940 Weißenbach/Liezen  
 Tel.: 00 43 – 36 12 – 26 30 00  
 Fax: 00 43 – 36 12 – 26 30 04  
[liezen@gebetsroither.com](mailto:liezen@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

#### Switzerland

Mobil Center Dahinden ag  
 Hackenrüti 2  
 CH-6110 Wolhusen  
 Tel.: 00 41 –41 491 04 14  
 Fax: 00 41 –41 491 04 15  
[info@mobil-center.ch](mailto:info@mobil-center.ch)  
[www.mobil-center.ch](http://www.mobil-center.ch)



## **Commercial rental companies (Germany)**

### **Postal code 2**

Hoves HVD GmbH  
Max-Weber-Str. 42B  
25451 Quickborn  
Tel. 0 41 06 / 76 59 24 1  
Fax. 0 41 06 / 76 59 24 2  
[info@premium-wohnmobil.de](mailto:info@premium-wohnmobil.de)  
[www.premium-wohnmobil.de](http://www.premium-wohnmobil.de)

### **Postal code 9**

Caravaning & Fahrzeugcenter Coburg  
Inh. Daniel Gebhardt  
Industrie Str. 3  
96487 Dörfles-Esbach  
Tel.: 0 95 61 / 85 37 887  
Fax: 0 95 61 / 85 37 847  
[info@caravaning-coburg.de](mailto:info@caravaning-coburg.de)  
[www.caravaning-coburg.de](http://www.caravaning-coburg.de)

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If you should have a problem with your FRANKIA motorhome, no matter where you are in Europe, every one of our dealers or service partners will be happy to help you.