THE MOTORHOME MANUFACTURER

Operating instructions

for

motorhomes

from model year 2019

FRANKIA GP GmbH

Bernecker Strasse 12

D-95509 Marktschorgast

Phone: 09227 / 738-0

E-mail: info@frankia.de

Website: www.frankia.com

Edition I

Dear FRANKIA customer,

Congratulations on your new FRANKIA motorhome.

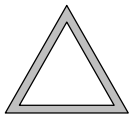
By acquiring a FRANKIA, you have chosen a motorhome offering unequalled technology, comfort and equipment. Soon you will appreciate how much joy it is to travel with a FRANKIA. You will be independent and free to choose your destinations and stopovers. We thank you for the confidence that you have placed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

The commissioning by the Frankia dealer with you as customer ensures that you understand the operating and maintenance instructions. If you do not understand parts of these operating instructions, please contact your Frankia dealer. It is important that these instructions are understood and followed.

These instructions do not contain all the safety instructions and operating instructions for the installed components and accessories that can be fitted when the motorhome is delivered and subsequently. The driver must understand and use the operating instructions for the motorhome and accessories.

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

CONTENTS

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.

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
* 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
* 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

As with any other car, motorhomes 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) AND TO THE WEIGHT OF YOUR MOTORHOME!

Warning

!! Pay attention to service station height restrictions, rock overhangs & branches, etc.

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

Please respect the following points:

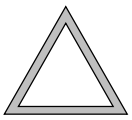
- longer braking distances
- different handling on gradients and slopes
- headwinds can have an influence on speed
- higher crosswind-sensitivity on bridges, when leaving a tunnel or when overtaking large sided vehicles
- different vehicle handling on bends due to height and weight
- larger vehicle-dimensions: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

Warning

It is the driver's responsibility to ensure 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.

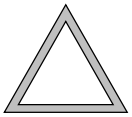
Warning

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.



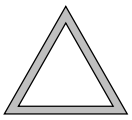
Attention

Please turn off all gas appliances when attending service stations.



Attention

- Please adapt travelling speed when driving on uneven and tight, winding 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. Vehicle body contact and touching of the road is possible when the road surface condition is uneven (e.g. deep bumps). Therefore please drive with caution in narrow bends (e.g. when entering or leaving parking spaces) or on rough and 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.



Attention

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.
See table below for tyre pressure information.

Tyre pressures model year 2019

FRANKIA

	Model	Tyre dimensions	Front	Centre	Rear	Front Nm	Rear Nm
FIAT	X 290 Fiat Ducato Light	215/70 R15	5,0 bar		5,0 bar	160 Nm	160 Nm
	X 290 Fiat Ducato Heavy	225/75 R16	5,5 bar		5,5 bar	160 Nm	160 Nm
	X 290 Fiat Ducato Heavy - 3 Axles	225/75 R16	5,5 bar	3,5 bar	3,5 bar	160 Nm	160 Nm
Mercedes-Benz	MB Eurosprinter 316	235/65 R16 C	3,7 bar*		5,3 bar*	240 Nm	240 Nm
	MB Eurosprinter 319	235/65 R16 C	3,7 bar*		5,3 bar*	240 Nm	240 Nm
	MB Eurosprinter 516	205/75 R16 C	4,4 bar*		4,0 bar*	240 Nm	180 Nm
	MB Eurosprinter 519	205/75 R16 C	4,4 bar*		4,0 bar*	240 Nm	180 Nm

* = Tyre pressure for fully loaded vehicle

Info

See the table below for information on speed limits in Europe (for vehicles of more than 3,5 t). We assume no responsilibity for the correctness and completeness.

Source: ADAC
Date: May 2015

Speed limits

Country	In built-up areas	Outside built-up areas	Trunk roads	Motorways
Austria	50	70	70	80
Belgium	50	90	90	90
Bosnia Herzegovina	50	80	80	80
Bulgaria	50	70		100
Croatia	50	80	80	90
Czech Republic	50 (H : 30)	80 (H : 30)	80	80
Denmark	50	70	80	80
Estonia	50	70		90
Finland	50	80		80
France	50	80	100	110
Germany	50	80	80	100
Great Britain	48	80 (A)	96(A)	112
Greece	40	80		80
Hungary	50	70	70	80
Iceland	50	90 (B:80)		
Ireland	50	80	80	80
Italy	50	80	80	100
Latvia	50 (C : 20)	90	90 (D: 110)	
Lithuania	50	80 (B, E : 70)	80	90
Luxembourg	50	75		90
Macedonia	50 (D : 60)	80 (E : 60)	80	80
Montenegro	50	80	80	
Netherlands	50	80	80	80
Norway	50	80	80	80
Poland	50 (F : 60)	70	80	80
Portugal	50	70 (D : 80)	90	110
Romania	50	80 (G : 60)	90 (G : 70)	110 (G : 90)
Serbia	50	80	80	80
Slovakia	50	80		90
Spain	50	80	80	80
Sweden	D	D	D	D
Switzerland	50	80	100	100
Turkey	50	80		90

A : total weight of more than 3,05 t C : in residential areas E : driving license < 2 years G : driving license < 1 year
B : on unpaved roads D : according to road signs F : depending on time of day H : 50 m in front of railway crossings

Destination	Road charges for motorhomes	Environmental area
Denmark	Charge for bridge between Fünen and Sealand	Miljøzone in Aalborg, Arhus, 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 M6 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 und buses.

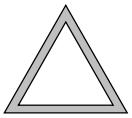
Source: Promobil
From: May 2012

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 damage.
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 center 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 center 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.

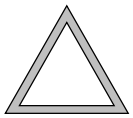
Source: Promobil
from May 2012

1.6 Sleeping

The **alcove beds** can be used immediately. In all Plus models, we recommend to slide the extendable slatted frame in and lock it to gain easier access to the driver's cab. In all other models, you can fold up the alcove bed. Please note the alcove bed may be left folded while travelling.

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

- 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. It is not necessary to raise the bed up to the stop.



Attention

Do not use a fold up front bed to store any other items, only bed linen for two persons may be stowed. Only put weight on the bed when it has reached the lower end position.

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 switches off the bed automatically. It can be operated again after 20 seconds.

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

Duo Bed (option)

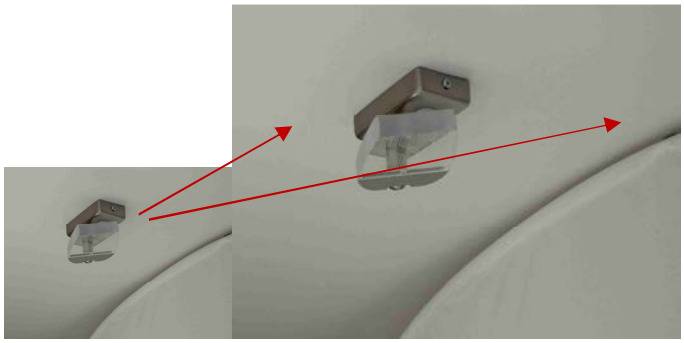
Frankia Duo Beds for A-Class motorhomes can be used in two ways:
They are used either lengthways or as a large crosswise double bed of approx. 2m x 2m.

- Position table (optional) in driver's cab (see chapter "tables").
- Depending on the floorplan you may be required to fold up the seat cushions in order to hook in the ladder (option).
- Fold front backrests flat.
- Release bed extension by turning rotary knob A.
- Lower the electric bed to the position below the upper cupboards. The operation switch is located next to 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 (optional) 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.
- After lifting bed always lock the bed extension.

Attention

- Before lifting the bed always fold down the FRANKIA LED reading lamp covers to avoid damage.



The lifting bed (Plus layout)

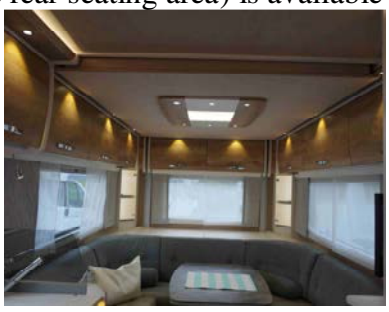
Plus layout: Before folding down bed, position seat backrests to the front to gain maximum height for lifting bed. Swivel driver's seat slightly to an outside position so seat does not touch the steering wheel.

Should you wish to lie in the driving direction position, extend slatted frames on both driver and passenger side until the stop has been reached. Then place additional cushions onto the frame.

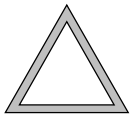
To re-convert place additional mattresses transversely on bed and push as far forward as possible towards the front. Push bed extensions back to original position. If bed linen is to be left on mattress, it is not necessary to raise bed completely.

Electric rear bed (= optional)

The electric rear bed (above the rear seating area) is available as an option for I 790 Plus.



To lower the bed press the switch above the entrance door until the bed has reached the lowest position and rests on the rear storage surface.
Press the switch with the up arrow to lift the bed.
We recommend to fold flat the backrest cushions of the seating area before using the bed.



Attention

The bed has to be used only in the lowest position to avoid damage to the bed structure and other furniture.

Warning

Do not use the lifted bed to store any items, not even bed linen may be stored on bed in the lifted position.

Headrest adjustment for beds in QD layout

There are two switches for the headrest adjustment: one above the dresser and one on the rear upper cupboard. The headrest adjustment can be used to gain a wider passage around the foot of the bed.

The headrest adjustment may only be used in accordance with its intended use. During the adjustment process no persons may remain on the bed.

Conversion of seating group for a makeshift bed (Plus models) (except 790 Plus with height-adjustable rear bed)

By lowering the table, using the pull-out aluminum profiles and placing the cushions as seen in the photo, the facility of a large bed surface covering almost the total motorhome width is available.

(see also “Conversion of the seating group for a makeshift bed”)

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 aluminum 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 driver's cab area and bed make up can be made without difficulties.

2. Ventilation

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.

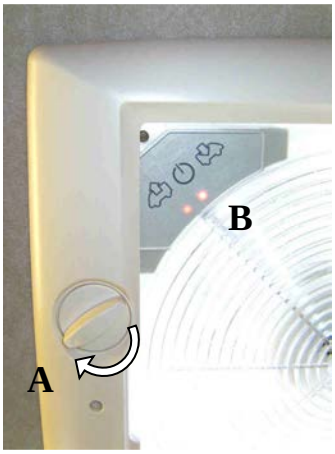
Roof lids have flow-through ventilation, which is required by law.
While travelling roof lids must be closed.

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.

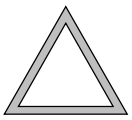
Additional important information regarding Heki III is available in the Seitz operating instructions.

2.3 Windows

Your FRANKIA motorhome has combination roller blinds. These provide darkening for night, plus aeration. They 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.

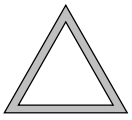


Attention

Do not drive with opened hinged windows!

2.4 Body door

Open the body door manually by turning key clockwise until its stop is reached or by pressing the button for the central locking system (remote control). 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.



Attention

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

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.
It is essential to ensure air exchange through the flow-through ventilations.
We recommend to let fresh air into the motorhome while using the gas hob to make sure to leave sufficient levels 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 perspiration, 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, 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. If used with butane gas, 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, will not be 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.
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 two 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 cabinet or in the kitchen, next to the entrance (depending on layout)
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.

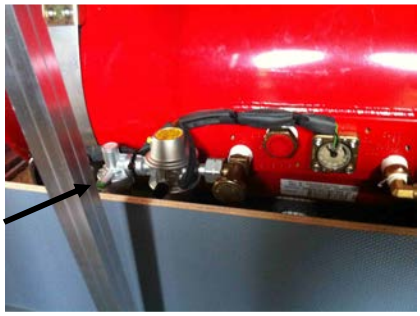
Warning

- 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!

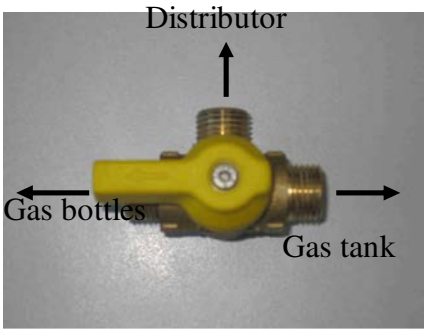
Operating the gas tank (option)

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.



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 pot. 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 12 litres 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
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.
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.
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/Hamsphire, Stanford-le-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.

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.
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: www.aga.no.	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.
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 www. cepsa.es.		Country-wide net is being set up, with 33 LPG filling stations at service stations especially in Western Spain. Adapter (Spanish 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: www.aga.se.	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.

Source: Promobil from January 2007

3.6 Refrigerator

General
Your FRANKIA motorhome has a Dometic refrigerator (Thetford for 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 12 V.

*** 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.

- When gas appliances are not in use, close their shut-off valves, the gas remote switch and, if not in use for a longer period, your gas bottles.
- 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 (optional)

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 intense smell.
- 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

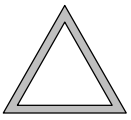
Your motorhome has a 230V alternating current system and a 12V direct current system.

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. Motorhomes with inverter have two 230V electric cutouts (one for inverter and one for external 230 V connection).

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 (except for the Mercedes-Benz original radio).

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) (see also points 4.7 and 4.8)
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 an 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.

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 32).

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 indicated 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"

Warning

- 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.
- 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 Titan and Platin pack by an additional (combined) 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 Titan and Platin pack have LiFePo accumulators, 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 Titan and Platin Pack 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 Titan and Platin pack with LiFePo batteries 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.

Open-circuit voltage	*Charge*	*Action*
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.

Battery storage:
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 Platin and Titan pack 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 period of time, repeat the procedure every 6 months.

Deeply discharged batteries:
If the open circuit voltage falls below 11.8V, this is 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.

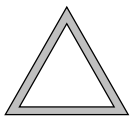
In the case the battery is deeply discharged, proceed as follows:

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.

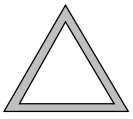
Maintenance and care:

- 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

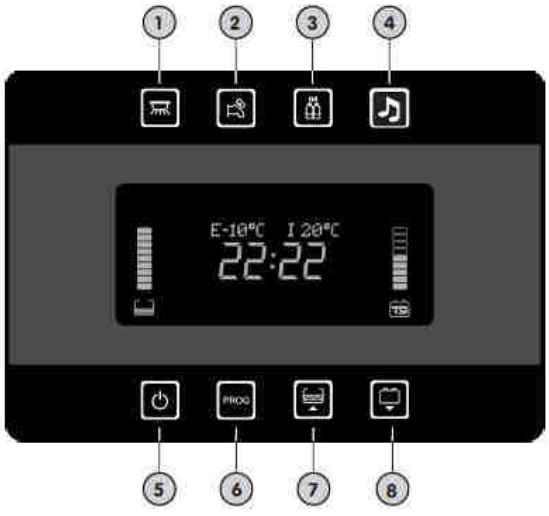
The electrical system of the motorhome should be inspected and checked by a competent electrician at least every three years, and if the motorhome is used frequently, every year. The electrician should issue a report on the condition of the system.

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 Titan and Platin pack see points 4.7 and 4.8)

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

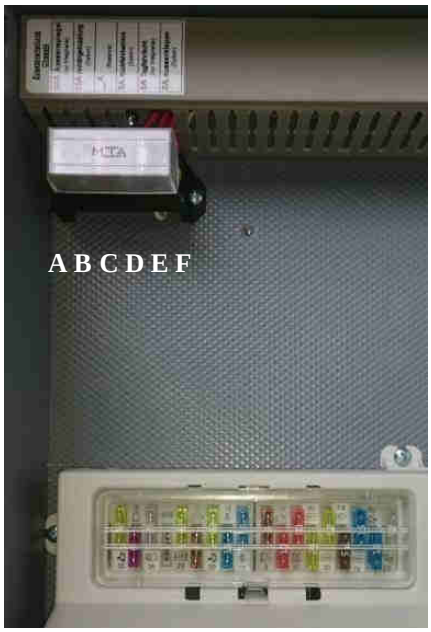
The control panel CBE PC380 shows the water level in steps of 10%.
The display shows the following:

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.

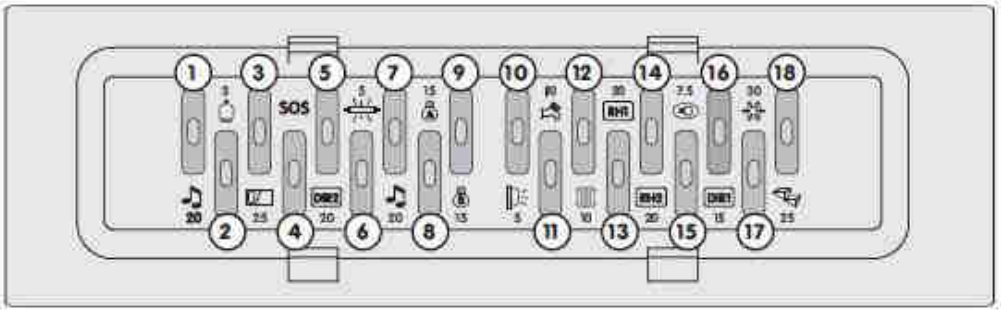
For motorhomes without inverter:
50A

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	Sidemarker	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

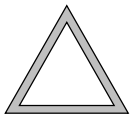
Circuit 3

- 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.



Attention

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

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

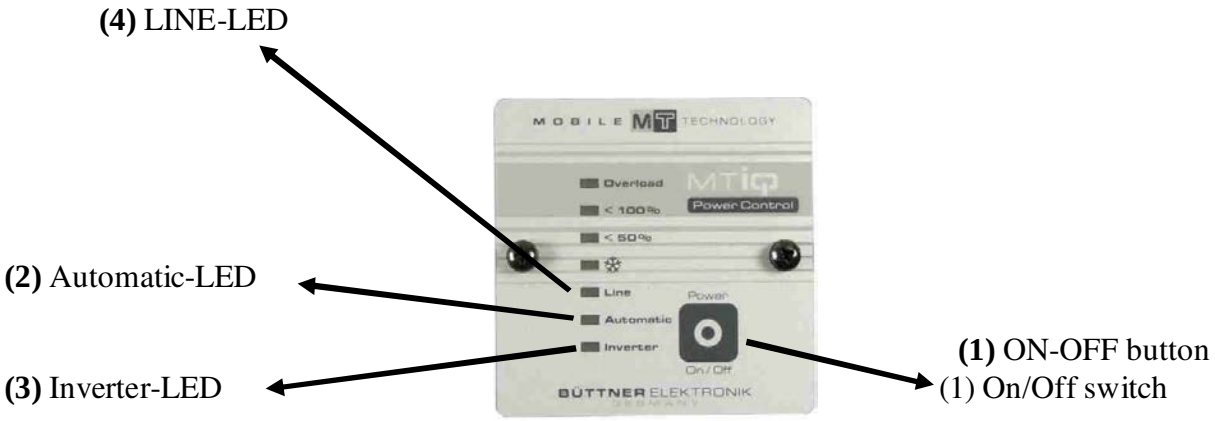
- ***For Mercedes low-profile models:***
  The driver's and passenger's door are opened/closed with the ignition key, the body door has a separate remote

- ***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 (≥ 25W 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 yellow LED "Automatic" goes out and 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.

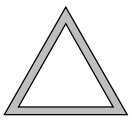


4.6 Generator (option)

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 Titan (option)

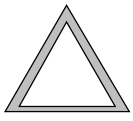
FRANKIA Titan models are equipped with a large technical package from BÜTTNER ELEKTRONIK for the perfect energy management on board.
The components of the Titan package are optimally adapted to one another and ensure high-quality electric supply and charging - even during short trips and charging processes. 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 battery
The integrated body battery has a total capacity of 110 Ah. The battery is the latest lithium iron phosphate (LiFePo4) technology.
The body battery is automatically charged:

1. When connected to the 230 Volt mains via the battery control booster (BCB40/40).
2. When the engine is running via the battery control booster (BCB40/40).
3. By the solar module depending on weather conditions.

Maintenance and servicing of the on-board battery:

- Regularly check the level of the battery; recharge the battery 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 battery is charged to 50 % - 80 % in regular intervals (every 2-3 months). 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.



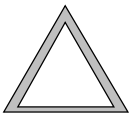
Attention

Very importantly prevent discharge voltages below 30 %. As for all other batteries, the following is true also for LifePo4 batteries: The higher the battery depth of discharge, the shorter the battery service life. Yet these batteries do not have to be permanently fully charged or recharged and are usable even if only partially charged (between 30 % and 100 %.

There are several protection systems to avoid damage to the LiFePo4 battery:

- At very low temperatures below 0° C the performance of the charging systems is reduced and, if necessary, completely interrupted if the temperature drops below -20° C. The same is true for very high temperatures over 50° C. In both cases charging restarts automatically as soon as the battery has heated up / cooled down.
- Battery capacity warning:
  Please pay attention to the battery capacity display of your battery computer. If the usable capacity falls below 30% a flashing light indicates that less than 30 % of the battery capacity are usable and that the battery should be recharged.

Automatic battery shutoff:



Attention

Deep discharge, permanently too high currents, excessive temperature as well as incorrect charging voltages can result in an automatic battery shutoff!
As soon as the reason for the shutoff is no longer present, or the battery is recharged, the battery switches on automatically and can be used normally.
Please note that in this case specific settings of the vehicle electric system could be necessary.

- 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. If you want to install a second battery in addition to the LiFePo4 battery, it is absolutely necessary to charge both batteries to 100 %, before they are connected in parallel.

Solar modules

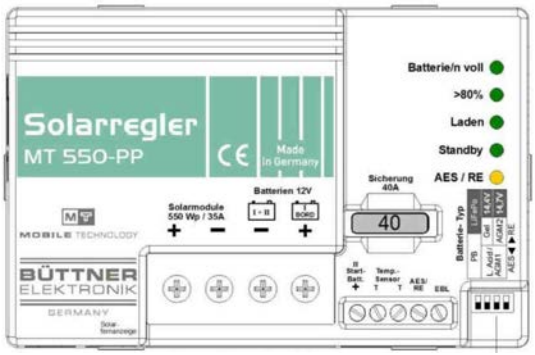
The 2 integrated solar modules are high efficiency Black Line solar modules with MultiCell technology. The solar modules have a total capacity of 200 Wp.
The solar panels are located on vehicle roof; they transform light into electrical energy. The generated energy is directly fed into the vehicle's 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 230Wp.
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:
"Battery low" (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) fully charged" (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 charging current is less then approx. 0.2 A.

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

- Illuminated: Mains or booster charging mode, on-board battery is monitored and charged.
- Flashing: 1. Battery protection: abnormal battery temperature > 50°C (depending on type), Switching to a lower security charging voltage and half of the maximum charging current, automatic return when the temperature is normal.
  2. Control input „BMS“ has been activated by the LiFePO4 battery, i.e. charging process is stopped.
  - Turns off shortly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced in all charging types to protect the battery, discharged batteries have longer loading times
- 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. 75 % (lead) / 90 % (LiFePo4) (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. Battery temperature sensor not connected for LiFePO4-charging characteristics!
  2. External battery overvoltage > 15,2V delay 20s, automatic reset < 13,2V (depending on type), delay 30s.

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

- Illuminated: Booster mode (driving), starter battery charges on-board battery.
- Flashing: Operation voltage on terminal „START“ not sufficient, the booster's power control has reduced the power output by more than 30%.
- 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.
- Turns off shortly every 2 s: „AC Power Limit“ is active, limited mains charging capacity, Silent Run (night mode).
- Flashes shortly every 20s: Without charging source the BCB pulser is training, the on-board (lead) battery is being trained. (Note: This function is automatically deactivated if LiFePo battery type has been chosen!)
- Off: No mains connection, booster not active, standby mode

All LEDs „Current”, „Batt. I“, „Battery full“, „Main Charging“, „Batt. II“, „Power“ are flashing at the same time:
The 4 upper switches „BORD“ are in an invalid position, the device has switched off for security reasons. Select the on-board battery type (battery type, technology).
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.

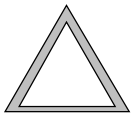
1. Automatic mode:
- Shortly operate the on/off switch.

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 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.
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

Button 1: Switches the solar displays

Button 2: Switches between time and date, programs the home screen (3 s)
0

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

Recharge battery

Solar panel active

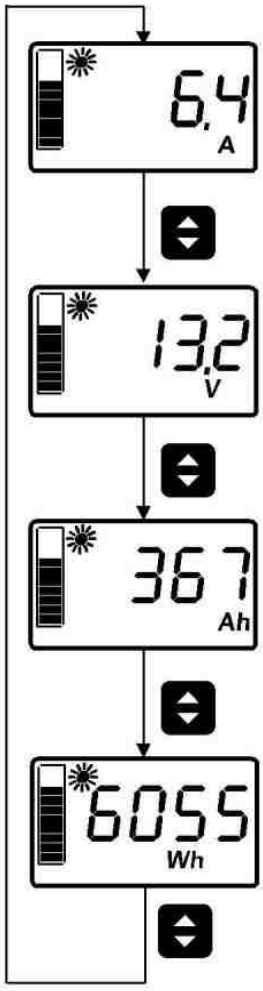
Unit

Bar chart
0....100 %

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 (cenrer) 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:

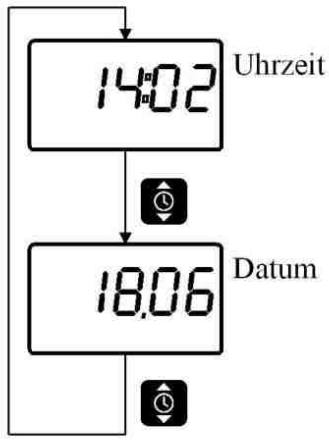
- The voltage (Volt "V") of the on-board battery is displayed.

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 5000iQ
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 has a visual battery capacity warning. If the capacity drops below < 30% (factory setting) the display starts flashing.
This additional function is especially useful for LiFePo4 batteries and serves as a reminder to recharge the batteries.
The display stops flashing as soon as the battery is recharged.
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

This device is extremely power-saving and has three operating modes:

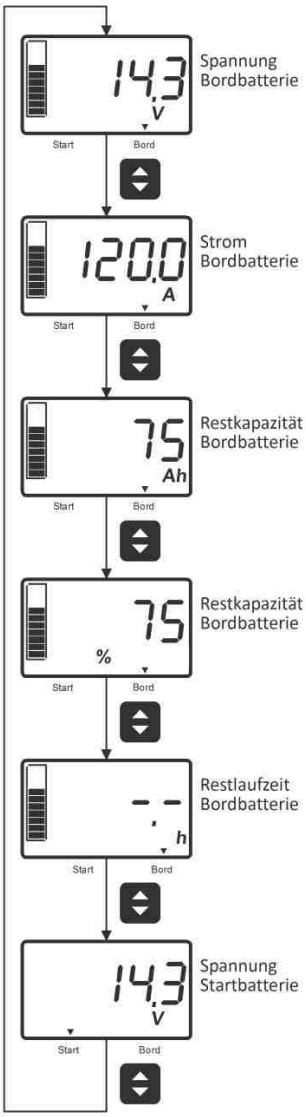
Standby:
In standby mode the display is empty. "ON" appears only if the switch output is active.

Display with or without light:
When the MT 5000iQ 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 5000iQ returns automatically to standby after 30 seconds.
To display all functions of the MT 5000iQ, switch the device on via button 3 (right). The device will remain active and return to standby mode when button 3 (right) is pressed.

BCB mode:
If the device is connected to a BCB, a marker symbol will appear at the bottom of the display (between the marker symbols for start and on-board battery). The marker symbol flashes if the BCB cut-off relais is triggered.

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:

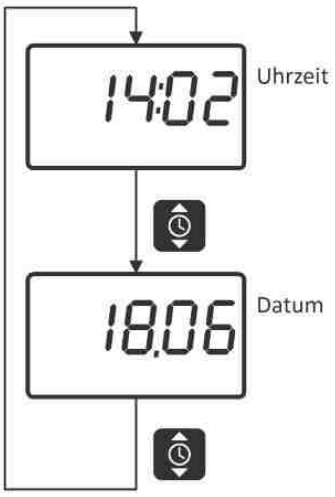
- The current display indicates the actual charge or load of the battery. The display shows the actually measured current which enters or leaves the battery.
- When the current enters the battery, the display shows a positive current and the charging symbol "CHARGE". When the current leaves the battery,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

The measurement and display values of the time 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) 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.

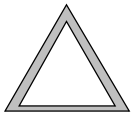
4.8 Platin (option)

FRANKIA Platin models are equipped with a large technical package from BÜTTNER ELEKTRONIK for the perfect energy management on board.
The components of the Platin 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 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 package as well as their function and operation are described.

On-board batteries
The integrated on-board batteries have a total capacity of 220 Ah. The batteries are the latest lithium iron phosphate (LiFePo4) technology.

The two body batteries are automatically charged:
1. when connected to the 230 Volt mains via the charger (MT-1240 CAC) with lithium charging characteristics.
2. when the engine is running via the charging booster (MT-Lb90) with lithium charging characteristics.
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 charged to 50 % - 80 % in regular intervals (every 2-3 months). 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.

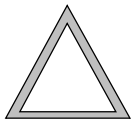

Attention

Very importantly prevent discharge voltages below 30 %. As for all other batteries, the following is true also for LifePo4 batteries: The higher the battery depth of discharge, the shorter the battery service life. Yet these batteries do not have to be permanently fully charged or recharged and are usable even if only partially charged (between 30 % and 100 %.

There are several protection systems to avoid damage to the LiFePo4 battery:

- At very low temperatures below 0° C the performance of the charging systems is reduced and, if necessary, completely interrupted if the temperature drops below -20° C. The same is true for very high temperatures over 50° C. In both cases charging restarts automatically as soon as the battery has heated up / cooled down.
- Battery capacity warning:
  Please pay attention to the battery capacity display of your battery computer. If the usable capacity falls below 30% a flashing light indicates that less than 30 % of the battery capacity are usable and that the battery should be recharged.

Automatic battery shutoff:



Attention

Deep discharge, permanently too high currents, excessive temperature as well as incorrect charging voltages can result in an automatic battery shutoff!
As soon as the reason for the shutoff is no longer present, or the battery is recharged, the battery switches on automatically and can be used normally.
Please note that in this case specific settings of the vehicle electric system could be necessary.

- 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.
- If you want to install a second battery in addition to the LiFePo4 batteries, it is absolutely necessary to charge all batteries to 100 %, before they are connected in parallel.

Solar modules

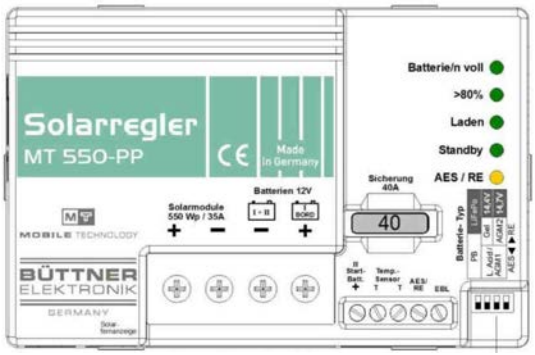
The 4 integrated solar modules are highly efficient BlackLine solar modules with MultiCell technology. The solar modules have a total capacity of 400 Wp.
The solar panels are on the vehicle roof and transform light into electrical energy. The generated energy is directly fed into the vehicle's 12 Volt 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 °C or overtemperature +50 °C. Automatic return and continued charging when 2 °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) fully charged" (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 °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.

Additional charger

Fully automatic battery charger (CAC) MT 1240 with "IUoU" lithium charging characteristics and intelligent charging control with dynamic charging time calculation and temperature compensation of the charging current at temperatures below 0°C and above 50°C. 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.
- Flashing: Battery protection: abnormal battery temperature > 50°C (depending on type). Switching to a lower security charging voltage and half of the maximum charging current, automatic return when the temperature is normal.
  - Turns off shortly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced in all charging types to protect the battery, discharged batteries have longer loading times
  - Off: Charging output locked (safety switch)

“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.
- Flashing: 1. Battery temperature sensor not connected for LiFePO4-charging characteristics!
  2. External overvoltage battery I or II, > 15,5V delay 20s, automatic reset < 12,8V (depending on type), delay 30s.
- Off: Charge retention U2, charge storage U3

"Batt. II" (starter battery, yellow):
(Note: This 2nd charging output is not used!)

- Illuminated: On-board batteries are monitored and charged.
- Flashing: Battery protection: abnormal battery temperature > 50°C (depending on type). Switching to a lower security charging voltage and half of the maximum charging current, automatic return when the temperature is normal.
  - Turns off shortly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced in all charging types to protect the battery, discharged batteries have longer loading times
  - Off: Charging output locked (safety switch)

"Power" (mains, green):

- Illuminated: Mains power 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 setting mains switch (on the back of the unit) to position “0”.
  2. Internal device fault (over-heating), automatic reset after cooling down.
  3. Reversed polarity of the on-board battery (+ and - interchanged).

Please note: The secondary battery III (starter battery) operates together with the primary battery „I“ (Master) in a reduced voltage and power mode and does not have its own display. The function of the output can be seen by the voltage increase on the battery to be charged.

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 LB90.
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 "IU1oU2" 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).

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 charging current is less then approx. 0.2 A.

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

- Illuminated: The on-board battery is monitored and charged.

- Flashing: Battery protection: battery overtemperature > 50°C. Switching to a lower security charging voltage and half of the maximum charging current, automatic return when the temperature is down to 48° C, for LiFePO4 batteries: flashes also in case of subnormal battery temperature < -20° C.
- Turns off shortly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced in all charging types to protect the battery, discharged batteries have longer loading times
- 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. Battery temperature sensor not connected for LiFePO4 charging characteristics!
  2. External battery overvoltage > 15,2V delay 20s, automatic reset < 13,2V (depending on type), delay 30s.

"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 engine 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 current 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 voltage is low.
Thanks to the integrated power transfer, the inverter automatically switches off in the case of a mains power connection and the external current is directly switched to the 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.

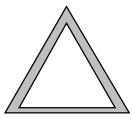
1. Automatic mode:
- Briefly operate the on/off switch.

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, prress 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 above 13.4 V, the "*" LED lights up and the air conditioning can be started.
When the voltage of the batteries drops 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).

Operation with external mains 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 (3 s)

Recharge battery

Solar panel active

Unit

Bar chart 0....100 %

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:

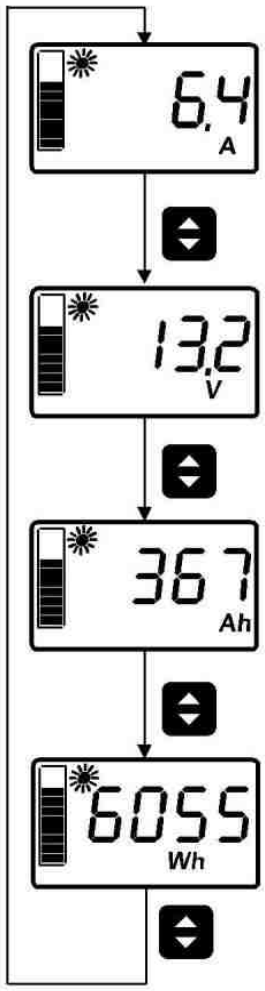
When the solar remote display is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically. The display still shows the same content. By pressing any button the display light is activated again.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

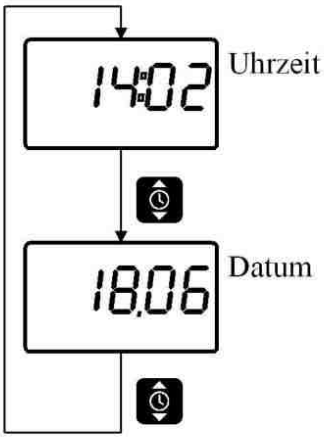
The counters can be reset to zero at any time. To this effect, switch the display to the respective value and press button 3 for more than 3 seconds until (Set ----) is displayed.

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 5000H

The battery computer makes a complete battery control possible by calculating the exact state of charge of the on-board batteries and displaying 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 **5000H** (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.

Please pay attention to the battery capacity display of your battery computer. If the usable capacity falls below 30% a flashing light indicates that less than 30 % of the battery capacity are usable and that the battery should be recharged (see chapter 4.8 On-board batteries).

Operation

Button 1: Switches the battery computer displays

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

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

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:

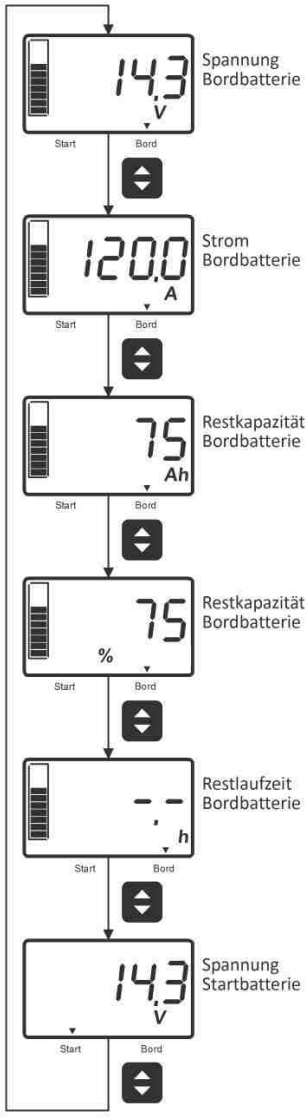
When the MT 5000H is operated, the display light is switched on and remains active for 3 minutes. If no further operation is made during this time, the light switches off automatically. The display shows the same content as before with lighting. By pressing any button the display light is activated again. 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 5000H returns automatically to standby after 30 seconds.
If all functions of the MT 5000H 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.

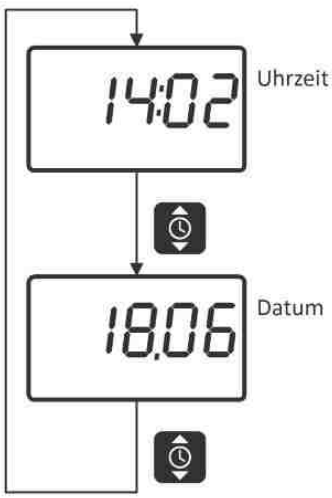
Capacity display:

- 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 5000H as control of the EFOY fuel cell

The MT 5000H 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 5000H 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" in the display and the LED of the hybrid box: When the EFOY fuel cell of MT 5000H is switched on, an arrow at the lower display edge points to the inscription "Hybrid" and the green "Hybrid" LED on the MT hybrid box lights up.

4.9 EZA lithium-energy system

With this option, a compact energy system replaces the standard on-board battery.

This system includes a 130 Ah LiFePO battery, an integrated charging booster (full charge in under 2 h driving time), direct connection and monitoring of the inverter as well as of the energy flow in the vehicle (via app).

Status control of the electric system via Bluetooth app for Android devices.
In your vehicle you find a printout with installation and configuration instructions. The link for the app can be found under: www.eza.fr/app.html

4.10 Radio map and software update

The factory-installed radio has the latest versions of navigation and firmware.

Supplier homepage for manual updates:
www.alpine.de/support/software-und-kartenupdate.html

or:
www.alpine.naviextras.com

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).


Central services unit Fiat

- 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.


Central services unit Mercedes

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

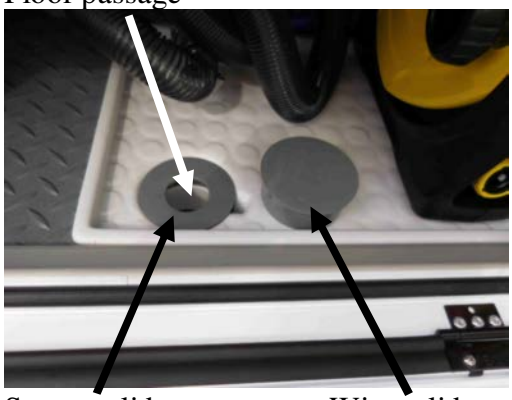
If not using the water pump, always isolate the switch on the control panel; especially if leaving motorhome unattended!

For all Fiat and Mercedes 7400 models 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:
(Fiat models, Mercedes low-profile models):

- Use the floor passage only for the water hose.
- Open the lid for the electric cable passage.
- Pull the cable completely through the opening.
- Connect cable to 230V / 50 Hz socket.
- On control panel above the entrance door the indicator lamp for 230V-charge will illuminate.

Power cable passage

Central services unit for Mercedes A-class models

For Mercedes A-class models the fresh water hose drum, the water distributor and the sewage tank drain hose are located together in the central services unit.

The self-retracting cable reel is behind a separate flap next to the central services unit. Pull out the power cable. Pull again lightly to trigger the self-retracting mecanism.

To avoid overheating, always completely unwind the cable from the cable reel. If however the overload protection should trigger, reduce the number of electric consumers below the permitted value and press the red switch on the cable reel.

Warning

The maximum power consumption must not exceed 3500 Watt when the cable reel is completely rolled out, and 1000 W when the cable reel is rolled up.

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.
- 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). For this purpose an ALDE load monitor (ALDE no. 301015) is available als accessory.

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:

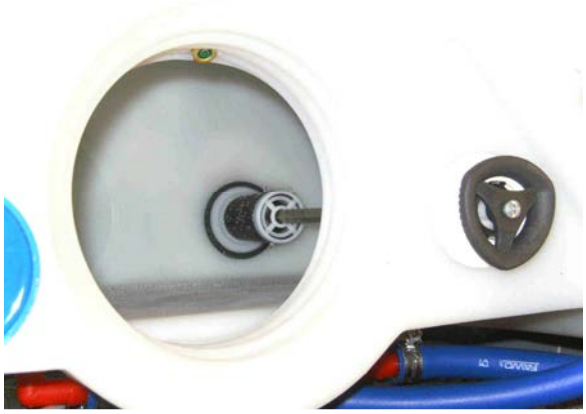
Consumer:	Note:	Power consumption (Watt):
Charger	(1 board battery)	320 W
Charger	(2 board batteries)	640 W
Heating TRUMA Combi 6 E	Stage 1	900 W
	Stage 2	1800 W
Heating ALDE Compact3020HE	Stage 1	1050 W
	Stage 2	2100 W
	Stage 3	3150 W
Coffee machine	(depending on model)	approx. 1000 W
Automatic coffee machine	depending on model)	approx. 1800 W
Capsule/pad 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 control 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 °C).

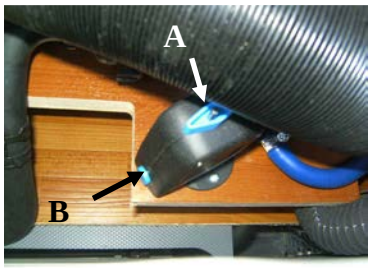
- Please always use clean drinking water.
- You can use antiseptic preparation such as Micropur, Certisil or Reomin in your fresh water tank. To avoid corrosion of the filter and chain in the tank, please ensure the additives used are compatible with stainless steel.
- Please heat your motorhome well 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.

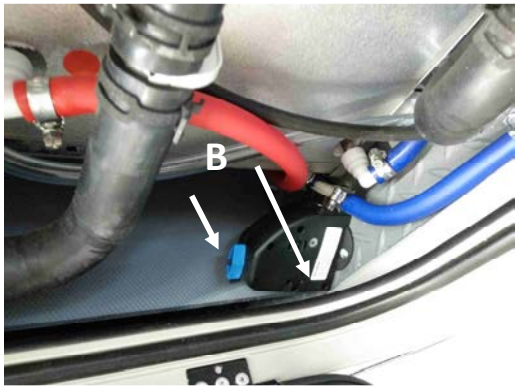
* There is a screw cap in the tank. Turn the cap ¾ counterclockwise – the tank now has a volume of approx. 50 liters or 20 liters (Selection models). If the cap is turned beyond a noticeable resistance, the tank will empty. In order to be able to fill the tank completely with approx. 150 liters, turn 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.
* 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.

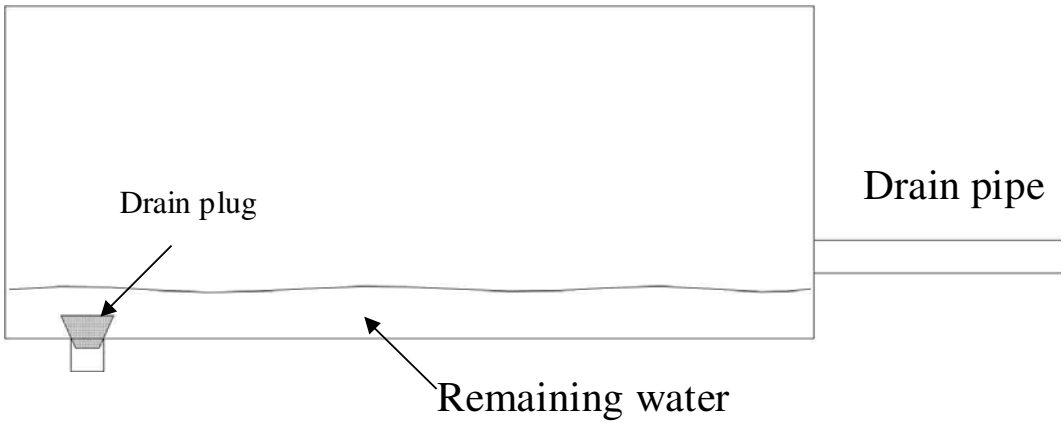
To drain boiler manually, firstly isolate with switch for the water pump.
Turn blue toggle switch "A" by 90° into the position shown.
To close valve, turn switch "A" again and then press button "B" located at the base of the freeze protection valve.
If the valve is automatically activated due to danger of freezing, the button "B" pops out.





The temperature inside your motorhome should be at least + 6 °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 disposal 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 20 l 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.

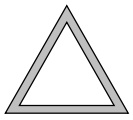
Security advice

Warning

Please only use drinking water, never 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.
We recommend to change the water every day, in order to be able to enjoy fresh water anytime.



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 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 (Fiat):
  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.

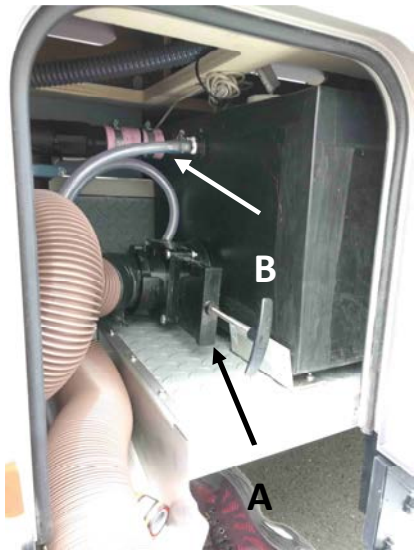
5.5 Kitchen

Attention

When the kitchen sink is not used, always close the drain with the plug in order to avoid humidity that could deform the sink covers.

5.6 Dejection tank with Thetford C-250 Pump-Out Toilet (= optional)

Motorhomes with dejection tank provide the possibility of pumping the content of the THETFORD cassette to the 80 L 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 Gardena B adaptor and the inside of the tank should be flushed thoroughly by means of the installed flushing pipe.



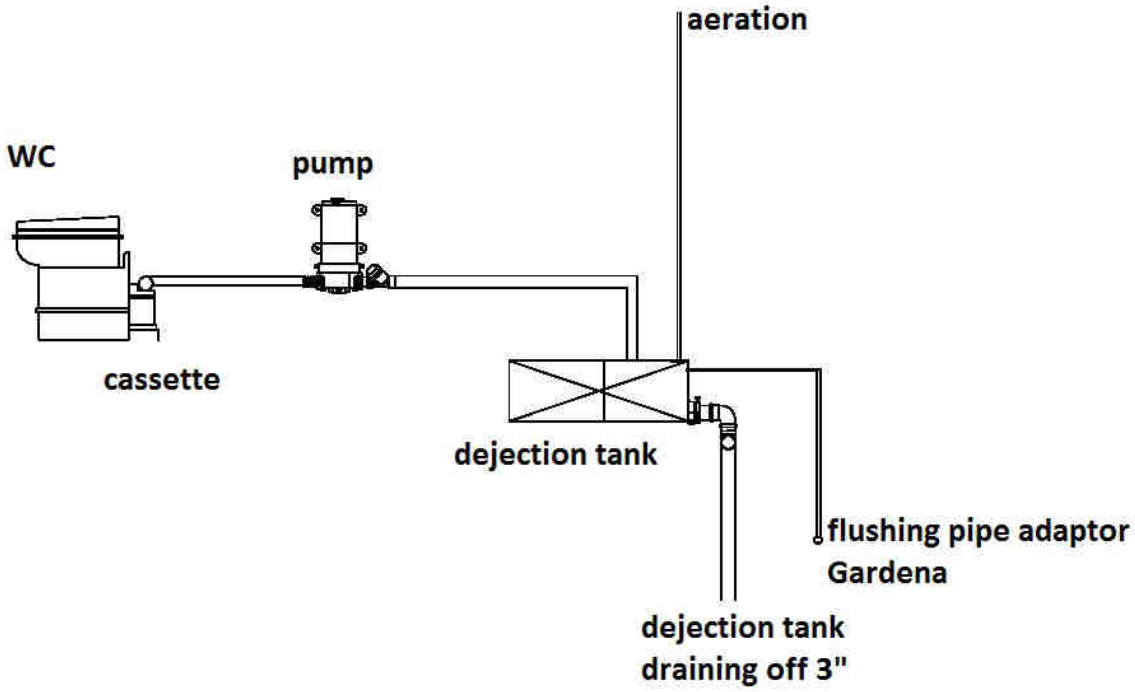
Emptying of dejection tank

- Pull out the drain hose (C) of the dejection tank over the slide to the disposal station.
- Open the valve (A) of the dejection tank
- Empty the dejection tank completely
- Connect the flushing hose (B) to exterior water supply
- Open water supply and flush for approximately 2 – 4 minutes
- Turn off the water
- Close the valve of the dejection tank
- Disconnect the flushing hose from exterior water supply
- Put the drain hose back in its inital position.

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.

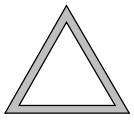
The rubber seals of the entire system need to be maintained regularly. We recommend to treat them with THETFORD maintenance spray.

Function chart of dejection tank



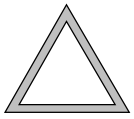
For further information please see the included operating manual from THETFORD.

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, the step 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.

Attention

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

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.

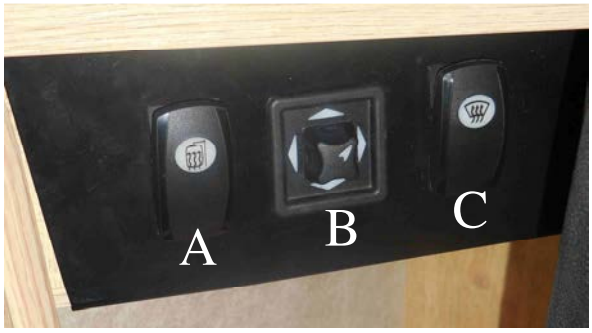
Fuse for the electric step

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).

Awning light (optional)

With this option you have a LED light strip running the complete awning length. This light strip can be switched on and off with a remote control.
.

6.3 Heating

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

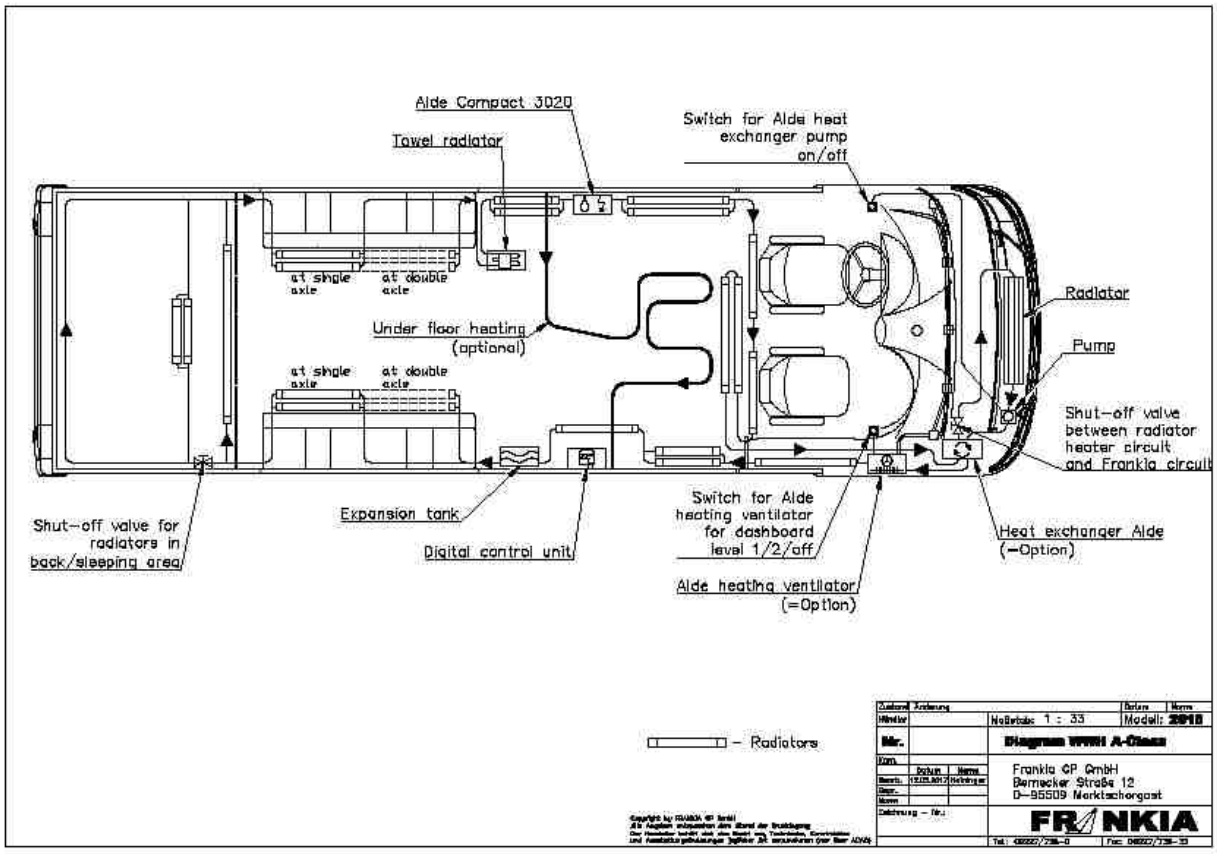
The driver's cab of your A-class motorhome is heated through heat-diffusers. Located on the passenger side you will find a heat-diffuser and slide valve.
Position of slide valve "downwards" or "blue"
= Warm air will flow through heat-diffuser only.
Position of slide valve "upwards" or "red"
= Warm air will flow through heat-diffuser, plus slots located on instrument panel.
This will avoid cold coming in 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

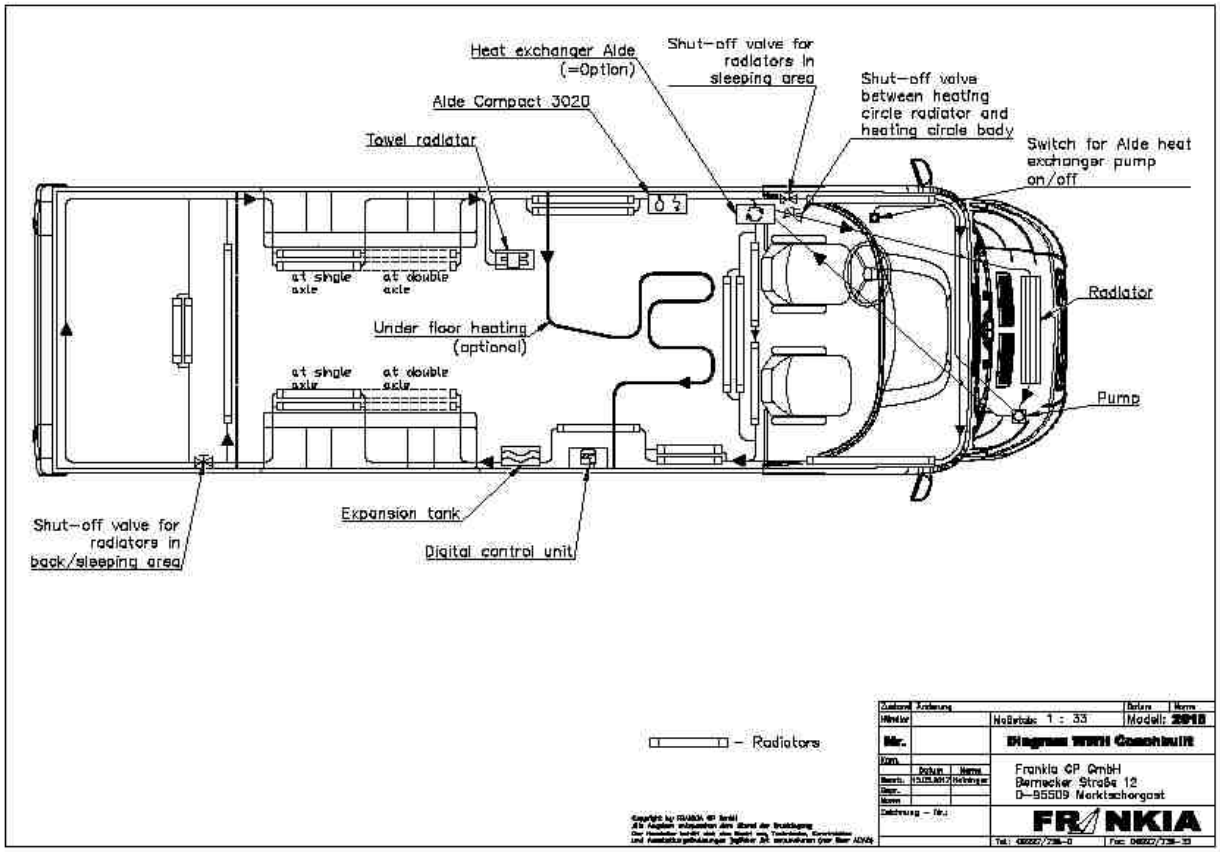
- During the journey the slide valve should be positioned "downwards" or "blue", otherwise warm air coming from the engine will escape from all the heat-diffusers of the motorhome. The windshield will steam up due to insufficient warm air.
  While living in your motorhome the slide valve should be positioned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

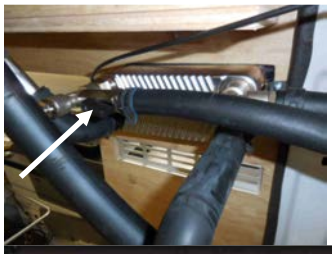


Warm water heating A-Class models



Warm water heating Coachbuilt models

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 two temperature sensors: one in the control panel and one in the living area. In the basic settings the sensor in the living area (near the entrance) is activated.

B

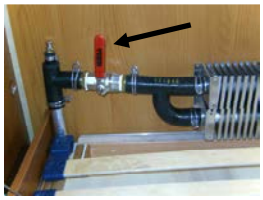
The compensation tank for ALDE heating is located in the wardrobe. During operation, the water level should always be between the (Min & Max) markings. If necessary fill with antifreeze directly into the compensation tank. To ensure not overfilling, only refill when heating is in operation.
The water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

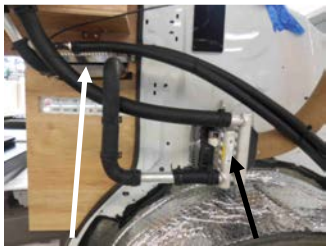
An automatic venting valve “A” is installed directly on the flow.



The convectors in the rear bed area and in the alcove (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.

Ventilator rocker switch

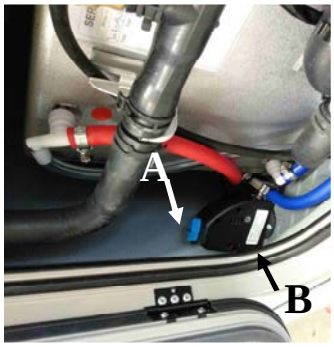
For additional heating on the dashboard, an (optional) heating ventilator can be installed. Use the switch located in the passenger storage compartment to choose between the two heating levels or switch off the ventilator.



Heat exchanger, ventilator

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.

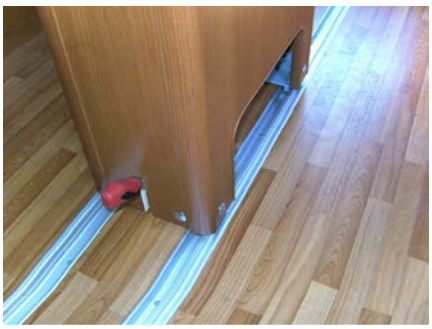
- Push strongly on fold down center section of the table.
- This will now lift up automatically until level with the tabletop.

- 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.
- When the desired position has been selected, push down locking lever on table base.
- Move table on the running rail.



- The tabletop may be moved 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.

Rotating table

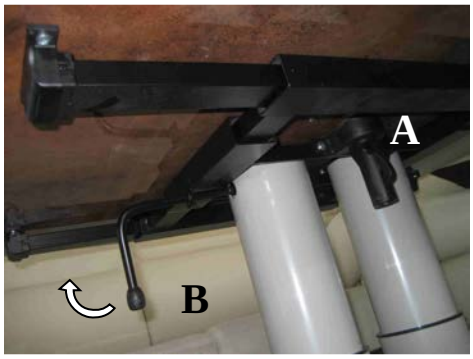
Depending on the layout, your motorhome can have a rotating table. Rotate the table 90° to gain larger passage between the seating bench and the table plate.

The table can be rotated steplessly without having to releasing a locking mechanism.

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 breaking.

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

Pre-wiring for sat system:
All lines are fully fitted and can be accessed on the back of the operating panel.

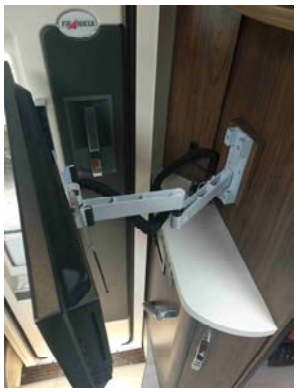
Empty conduit for retrofit:
The empty conduit leads from the back of the operating panel to the central electrics unit.

Solar system

For connection of a solar system, pre-wiring (2x4² red-black) leads from the wiring duct in the technical unit up to the back of the operating panel.

TV cabinet for TFT flatscreen TV

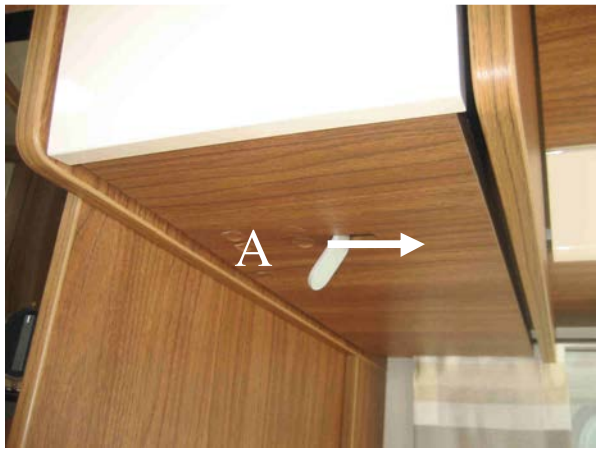
The cabinet located at the entrance of your motorhome offers sufficient space for a FRANKIA flat screen TV up to 24". Press lever "A" down behind the TV in order to slide out. This will unlock the pivot arm.
After use replace flat screen TV back to original position. Carefully push TV until you hear 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.

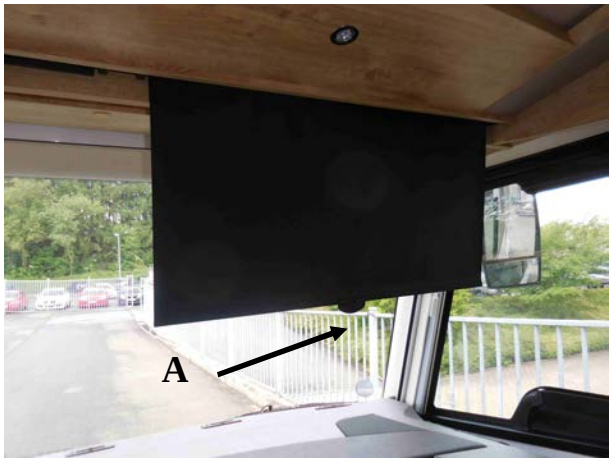


Warning

- 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.

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:
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. 20 cm. 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

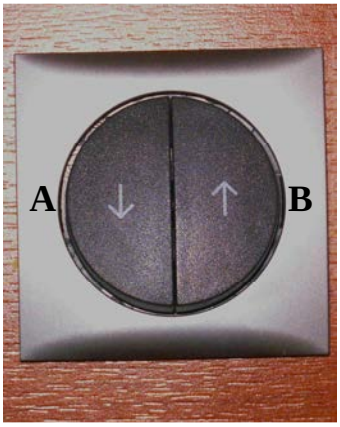
Before driving always completely open the blackout roller blinds for the windscreen and the side windows, and attach them with the straps.

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 your 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.

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

Attention

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.

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

Warning

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.

Attention

6.7 Opening angle rear garage lockers

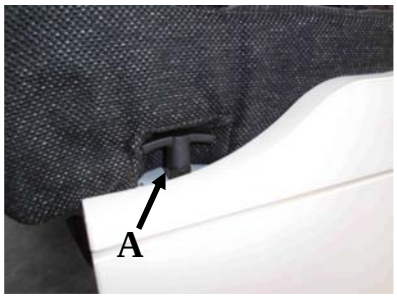
The garage side lockers have a standard opening angle of 140 degrees.
This angle can reduced by approx. 30 degrees by re-screwing the gas strut on the door.
The same can be done with the rear lockers.

6.8 1 person safety belt system for the side seating bench / L-shaped seating bench (optional)

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.

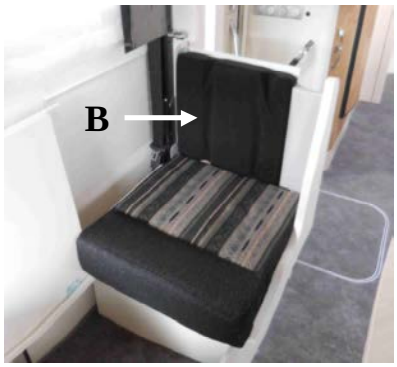
- To unlock the rotary seat raise the lock pin A and pull the seat towards the middle of the motorhome until the stop limit.



- 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 for 7400 Plus)

FRANKIA 7400 Plus models can 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.

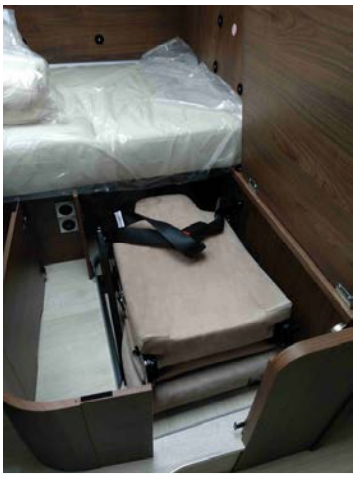
- Especially for models with two seats with safety belts, store the cushions behind the seats, so that they cannot shift during when driving or braking.

1 Person safety belt system for the round seating group (option for 840 Plus)

FRANKIA 840 Plus models can have fold down seats with safety belts situated in the round seating group.

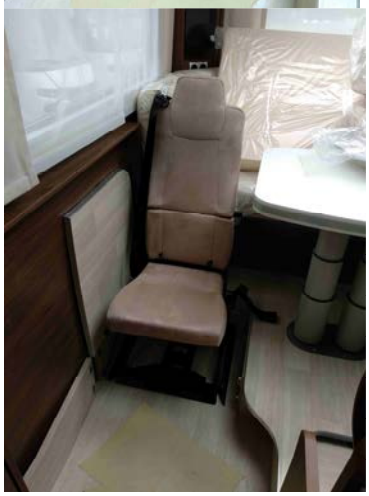
- Remove the front seat and backrest cushions of the round seating group.

- Open seating bench lids to the side and remove the front panel.
- Lift the seat by 45° and loosen the star-shaped grip (A).

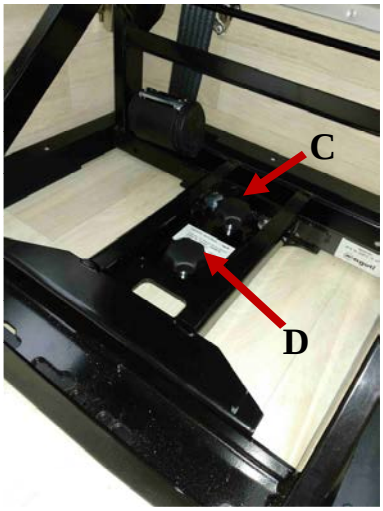


- Open the cover on the floor and remove the front panel.

- Carefully insert the seat in the guide rails and open the backrest using the lever B.
- Fold out the backrest completely (lever C).



- Lift up the seat cushion in order to fix the seat with the two star-shaped grips (C and D).



1 person safety belt system for the round seating group (option for 680, 740, 790, 840 Plus)

FRANKIA 680 740, 790 and 840 Plus models can 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.

- Turn the rotary knob (A) and the fold the backrest up.
- Fold in the front cover (B) for better access.

- Push the cushion C upward and place the small cushion in front of the seat.

6.9 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)

6.10 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.

Leading furniture manufacturers inform in their quality certificates that furniture should not be exposed to high temperature fluctuations or humidity to avoid deformations (warping).

Especially motorhomes are always exposed to these conditions. Frankia‘s high furniture quality shows that this is not a problem.

The door is made of honeycomb material manufactured with natural materials (wood and paper) to reduce weight and to realize the curved shape.
For this reason this door is subject to the above-mentioned effects, apparent only by the gap size of the door.

Additional bathroom shelf

To expand the area next to the sink take out the additional flexible shelf from its holder on the inside of the cabinet under the sink and insert it into the cutout directly under the washbasin countertop.
Before the journey store the additional shelf in its holder.

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 in 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.

Mercedes Benz spare wheel

If you have aluminium rims and need to mount the spare wheel on the front axle, the Mercedes original transition hub must be mounted.

We recommend to always take one transition hub with you.

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 (depending on layout). Open the top drawer and insert the front sink cover into the cutout. Use the rear sink cover to extend the storage shelf above the kitchen worktop. Insert the sink cover into the lateral slot of the shelf.
If your kitchen has a hob integrated in the kitchen worktop you can insert the cover into the slot behind the hob and use it as a splash and flame protection.

Attention

When the kitchen sink is not used, always close the drain with the plug in order to avoid humidity that could deform the sink covers.

Attention

Never leave wet dishcloths in the sink when closing the sink covers. These could be deformed by humidity.

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.

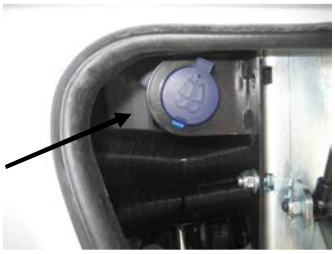
Base vehicle

Info

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

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.

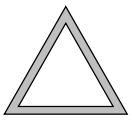


AdBlue (only for Mercedes)

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 provided that 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.

Body door

Regularly grease the locking bolts of your body door with a suitable lubricant.
For the seals next to the hinges and for the door holder we recommend the lubricant spray "Sitol-Plus".

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 using car washing stations.**
* **Do not apply stickers.**

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

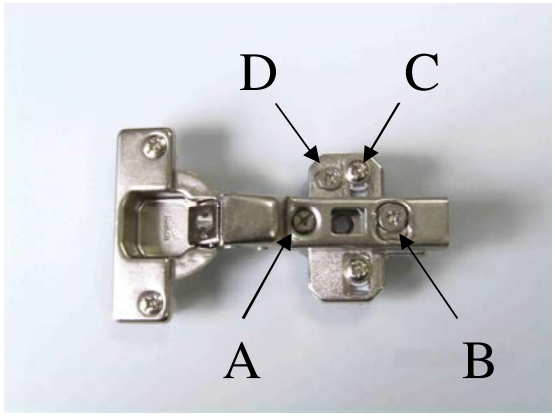
To maintain the rubber seals Seitz recommend the use of talc or petroleum jelly without additives.

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.

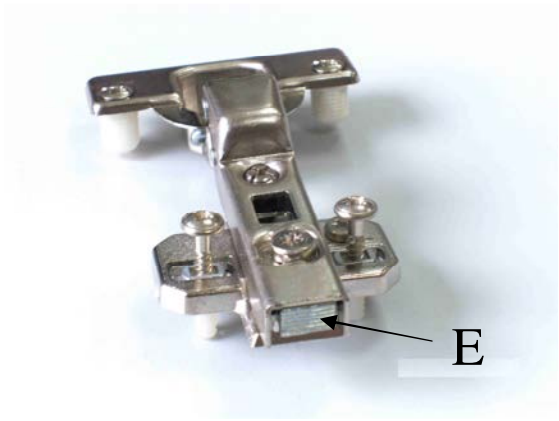
Metal fittings on furniture doors and lockers

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 and surfaces 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.

Kitchen sink and shower tray

We recommend the following care instructions:
- Do not use cleaning agents that could corrode the surfaces.
- Do not use aggressive cleaning agents.

Bathroom washbasin

For daily cleaning of the Ocritech Matt washbasin use a sponge (type Scotch Brite), scouring cream and water.
Dry with a microfibre cloth.
Never use cleaning spirit, nail-polish removers or other solvents that could damage the material.

Siphons

Siphons for all drains should be cleaned from time to time.
Should you notice water not draining correctly, dismount the siphon and remove any dirt accumulation.

Screwed siphon of sink

Pipe siphon of washbasin

Heating

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

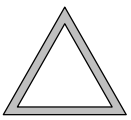
8. WINTER

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. Propane gas changes from a gaseous condition to a liquid condition when below – 42 °C.
- 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 °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 °C. Installation instructions can be found on inside of cover.
- If temperature should raise above 5 °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 °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.
As long as the outside does not drop to extreme temperatures, the water system is frost-protected.

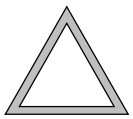
- If necessary, especially in the evening, place insulation mats on the side windows and windscreen.
- Check charge condition of the body battery.
- Use the winter coverings for the refrigerator.

- 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.

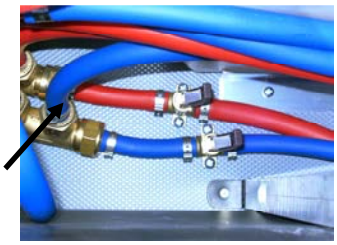
- For parking the motorhome please engage the first gear or the reverse gear - for motorhomes with automatic transmission put the selector lever to "P"; for vehicles with Sprintshift gear put the lever to "A" or "R".
- Use wheel chocks to prevent the motorhome from rolling.
- Keep the solar panel free 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

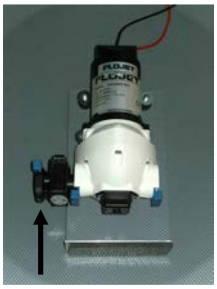
Your motorhome does not need special care if you do not use it for a long time.
With the following advice you will avoid getting unpleasant smells, mould and frost damage in your motorhome:

- 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 dismounted 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 and, if you have, the outside shower and the mains water connection, with water. Leave open the drain valve of the sewage tank.
- 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 heat up the motorhome and let fresh air in.

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 to a sufficient temperature to avoid freezing.
* 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).

	CHECKLIST	
	Make your Frankia motorhome safe for the winter	
	Inside	**Done**
1	Open all cupboards and storage spaces.	
2	Leave the refrigerator door slightly open.	
3	Clear out all food supplies, remove liquids and creams from the bathroom.	
4	Put up upholstery and mattresses.	
5	If motorhome is parked in a garage,leave roof lids and windows open.	
6	Every two months heat up the motorhome and let fresh air in.	
7	For fixed beds: open up the bed frame or put up the mattress	
8	Lubricate/grease all hinges and locks	
9	Treat the seals with silicone spray	
10	Make the fresh water system winterproof: Clean all tanks with the appropriate special fluids, empty them completely, if necessary by blowing compressed air through (Do not forget that there could be residual water in the water boiler, the shower head and the pumps!). When not using your motorhome, we recommend to fully drain water from the boiler. Turn the blue 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. (see chapter 6.3 Heating).	
11	Blow compressed air through fresh water hose or ininstall the fresh water hose drum.	
12	Empty the boiler. To do this open the antifreeze valve.	
13	Open both drain valves. For this put levers in vertical position.	
14	In order to avoid freezing of the pump, it can be dismounted during the winter time. The pump may be removed from the water circuit via the quick-release fasteners. To empty the water pump completely let run dry for a short time. To catch any residual water, use a small bowl.	
15	Unscrew and empty the siphon in the bathroom. Afterwards screw it back in place.	
16	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.	

17	When the water tank is empty press toilet flush several times to empty the pipe.	
18	Set up an ambient dehumidifier with dry granules.	
19	Leave all water taps open.	
20	Rinse the sewage tank and, if you have, the outside shower and the mains water connection, with water. Leave open the drain valve of the sewage tank.	
	Outside	
21	Treat the hydraulic jacks with silicone spray.	
22	Treat door locks with silicone and rubber seals with talc.	
23	Thoroughly clean the outside walls (do not forget the wheelhouses) and if necessary use preserving polish.	
24	Repair possible damages.	
25	Underbody washing (if possible)	
26	Be careful with windows and roof lids: Gently clean with a sponge and appropriate mild cleaning agent. Treat the rubber seals of windows and roof lids with talc or cleaning agents suitable for acrylic glass.	
27	Clean and dry the awning, grease the joints.	
28	Clean antenna / satellite dish	
29	Increase tyre pressure (recommended are up to 0,5 Bar)	
30	Moderately lift up the vehicle with the lifting jack or hydraulic jacks, in order to relieve the wheels and axle and to prevent deformation.	
31	New GRP surfaces should be treated with a special wax suitable for GRP. This wax should contain a UV-blocker (Yachtcare, Yachticon or Rotweiss).	
32	Fill up the fuel tank (ideally with winter diesel).	
33	Drive slowly and at the same time slightly brake to dry the brakes.	
34	Secure the motorhome with wheel chocks and release the handbrake.	
35	Fill in antifreeze for engine and windscreen washer system.	
36	Lift the windscreen wipers so that the rubber lips do not touch the windscreen.	
37	Tightly close the gas valve, empty gas lines.	
38	Install refrigerator winter covers (if you have)	
39	**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 for approx. 24 h. 2. Isolate the battery from the circuit by removing the 80A fuse. 3. If your motorhome has solar cells: Pull the fuse no. 5 “DIR” on the 12 V distribution device. (For motorhomes with Platin and Titan pack remove the corresponding fuse on the fuse support in the technical center / the solar charger)	
	Once a month	
	Air your motorhome, change dry granules and recharge the battery.	

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
Kitchen light	LED – Frankia article no.: 0804780
Recessed spotlight (45 mm)	LED – Frankia article no.: 0608820
Recessed spotlight (30 mm)	LED – Frankia article no.: 0608830
Lamp in rear garage	LED - Frankia article no.: 0608980
LED reading lamp with Frankia logo	LED – Frankia article no.: 0609120
LED reading lamp with USB and Frankia logo	LED – Frankia article no.: 0609125
Indirect lighting cupboard	LED – Frankia article no.: 0805210
Light for step	LED – Frankia article no.: 0804540
Light for wash room mirror	LED – Frankia article no.: 0805250-1,-2,-3
Light for glass cabinet	LED – Frankia article no.: 0804610
Light for storage space, kitchen base	LED – Frankia article no.: 0608920
Light for shower canopy (1450 mm)	LED – Frankia article no.: 0804840
Light for shower canopy (1700 mm)	LED – Frankia article no.: 0804850
Gooseneck reading lamp	LED – Frankia article no.: 0608970

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

LED-lighting
Interior lighting is mainly equipped with LEDs. These have an extremely long operating life. Should a defect occur, 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 does not 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:

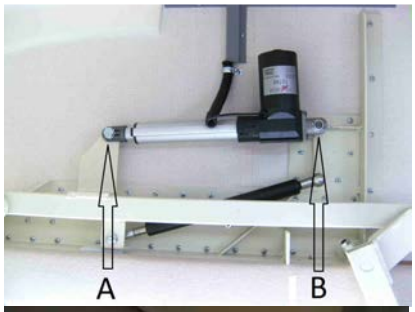
- Establish operating mode for refrigerator.
- The refrigerator works without any noise.
- It takes approximately one hour to establish that the refrigerator has cooled.
- If gas is used, open shutoff valve of the consumption place.
- Choose the correct operating mode.
- Park motorhome horizontally
- 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:



Bed in top position:

- Turn off 12V main switch on the supply panel positioned above entrance.
- Remove the front bed curtain.
- Release both fastening screws A and B (with a 17 wrench) from the lifting cylinders and unhinge.
- Swing bed up carefully.
- Please visit your FRANKIA dealer urgently in order to repair the fault.

Bed in bottom position:

- Turn off 12V main switch on the supply panel positioned above entrance.
- Sit on the dashboard.
- Release the screws over your head on both sides (Pos. A) and carefully lower the bed.
- 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.

	Outside lighting	Illuminant	Wattage
Front	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	
Rear	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	
Side	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)

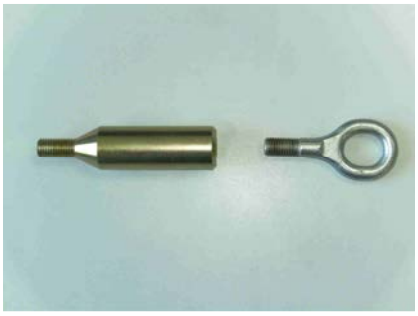
Side positioning lights, rear lights and position lights

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.



- For models on Fiat Ducato: Remove the chrome trim line attached to the bumper with velcro straps. Carefully work from both sides to the middle.

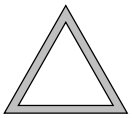
- Attach the towing lug by threading into dedicated hole as far as possible.

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.



Attention

For Mercedes models with spare wheel always take the Mercedes original transition hub with you. The spare wheel can only be installed with the transition hub.

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)

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:

Fiat: 00 800 3428 0000 **Fiat Camper Services:** 00 800 3428 1111
+39 02444 12160

Mercedes: 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
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
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
www.tank-reisemobile.de

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
www.premium-wohnmobil.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
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
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
www.kuno-mobil.de

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
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
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
www.reisemobile-jumpertz.de

Postal code 6

Engel Caravaning GmbH&Co.KG
Dieselstr. 4
61169 Friedberg
Tel.: 0 60 31 / 69 37 10
Fax: 0 60 31 / 69 37 11 1
engel@engel-caravaning.de
www.engel-caravaning.de

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
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
www.mycaravan.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
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
www.caravan-company.com

Wohnmobile-Wohnwagen
Wiedemann GmbH
Dieselstr. 1
Gewerbegebiet Lanzen
87448 Waltenhofen/Kempten
Tel.: 0 83 03 / 92 36 23
Fax: 0 83 03 / 92 34 74
wiedemann.waltenhofen@t-online.de
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
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
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
www.autohaus-imhof.de

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
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
www.toptrade.cz

Toptrade
Bytčická 89
SK - 01001 Žilina
Tel.: 0042 0 777 777 400
caravan@toptrade.cz
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
www.nbc-jels.dk

Estonia

AD Cunsult Plc
Sarapuu 20a-4
EST – 76904 Tabasalu
Tel .: 00 37 – 2 50 84 767
info@motorhome.ee
www.motorhome.ee

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

Ypo Camp Carabita
41 Avenue d'Aquitaine
F - 33560 Sainte-Eulalie
Tel.: 00 33 – 5 56 06 52 17
Fax:00 33 – 5 56 38 03 11

Caravaning Central
33 ZA du Clair de Lune
F - 44360 Saint Etienne de Montluc
Tel.: 00 33 – 2 40 85 25 25
Fax: 00 33 – 2 40 85 24 50

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

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

Niort Evasion
4 Rue Robert Turgot
F – 79000 Niort
Tel.: 00 33 – 05 49 33 41 76
Fax: 00 33 – 05 49 33
contact@niort-evasion.com
www.niort-evasion.com

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
www.smcmotorhomes.co.uk

Italy

Lusso Caravan SPA
Via Valle Grana 18
I-12010 Besenello
Tel.: 00 39 – 171 68 70 43
Fax: 00 39 – 171 6875 28
camper@lussocaravan.it
www.lussocaravan.it

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
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
www.raemacaravans.nl

New Zealand

Zion Motorhomes LTD
Lot 21, Gateway Park Drive (Turn in to Mcdonald Road)
Waikato, Pokeno 2471, New Zealand
Tel.: 0800 112 828
info@zionmotorhomes.co.nz
www.zionmotorhomes.co.nz

Norway

Grenland Bobilsenter AS
Rødmyrlia 3
N-3735 SKIEN
Tel.: 0047 – 46 1717 21
post@grenlandbobilsenter.no
www.grenlandbobilsenter.no

Reime & Lode AS
Bernervegen 30
N-4365 Nærbø
Tel.: 0047 - 51 79 10 10
Fax: 0047 - 51 79 10 16
post@reimeoglode.no
www.reimeoglode.no

Bobil Vest AS
Brynalii 74
N-5700 Voss
Tel.: 00 47 – 95 96 30 04
post@bobilvest.com
www.bobilvest.com

Løviknes Caravan Import AS
Kyrkjevegen 8
N-6390 Vestnes
Tel.: 0047 - 71 18 14 46
loviknes@bobiler.net
www.bobiler.net

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
www.bobilnamsos.no

Mathisens Landbruksservice AS
Altaveien 269
N-9515 Alta
Tel.: 00 47 – 78 43 69 33
salg@mathisen-ls.no
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
info@m3caravaning.com
www.m3caravaning.com

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
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
www.forsbergsfritidscenter.se

Forsbergs Fritidscenter AB
Fölehagsvägen 1
SE – 39184 Kalmar
Tel. : 00 46 – 480 889 44
kalmar@forsbergsfritidscenter.se
www.forsbergsfritidscenter.se

Forsbergs Fritidscenter AB
Hyssna
Bonared Solbacken 2
SE - 51022 Hyssna
Tel.: 00 46 – 3 20 – 3 05 50
Fax: 00 46 – 3 20 – 3 05 55
info@forsbergsfritidscenter.se
www.forsbergsfritidscenter.se

Forsbergs Fritidscenter AB
Möllersbrunnsvägen 3
SE - 59017 Mantorp
Tel.: 00 46 - 142 67 07 10
mantorp@forsbergsfritidscenter.se
www.forsbergsfritidscenter.se

Forsbergs Fritidscenter AB
Mejerigatan 2
SE - 65343 Karlstad
Tel.: 00 46 - 542 02 16 50
karlstad@forsbergsfritidcenter.se
www.forsbergsfritidscenter.se

Forsbergs Fritidscenter AB
Hugo Hedströms väg 6
SE - 78172 Borlänge
Tel.: 0046 - 243 21 25 00
borlange@forsbergsfritidcenter.se
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
www.garagechateau.ch

12.3 Service partners

Germany

M&M Michalk Automobil
Am Juliusturm 21
13599 Berlin / DE
Tel.: 030 / 33 89 02 0
Fax: 030 / 33 89 02 18
mmautomobile@t-online.de
www.michalk-automobile.de

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
www.w-z-b.de

MW Reisemobile
Pfaffengarten 15
35641 Schöffengrund
Tel.: 0 64 46 / 61 20 500
info@mw-reisemobile.de
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
www.reisemobil-caravan-service.de

myCaravan Mobilhome Pfister
Seewiesen 9
72348 Rosenfeld
Tel.: 0 74 28 / 37 223
markus.pfister@mycaravan.de
www.mobilehome-pfister.de

Netherlands

Liba Campers B.V.
Hamsestraat 16A
NL - 5298 NA Liempde
Tel.: 0031 / 41 16 33 3 79
Tel.: 0031 / 41 16 33 3 57
info@libacampers.nl
www.libacampers.nl

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
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
www.gebetsroither.com

Gebetsroither Unternehmensgruppe
Gebetsroitherweg 1
A – 8940 Weißenbach/Liezen
Tel.: 00 43 – 36 12 – 26 30 02 01
Fax: 00 43 – 36 12 – 26 30 04
liezen@gebetsroither.com
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
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
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
www.caravaning-coburg.de

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.