



# Operating instructions for Motorhomes



from model year 2020

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Edition I

## Dear FRANKIA customer

we congratulate you on the purchase of your new FRANKIA.

With this purchase you have chosen a motorhome that is unparalleled in terms of technology, comfort and equipment. You will soon realise just how pleasant it is to travel with a FRANKIA. You will be independent and free, you can determine your daily objectives and stays yourself. We thank you for the trust that you have placed in our company.

Your FRANKIA is built on a Fiat or Mercedes chassis. For more detailed insight into the technology of your motorhome, you will receive the manufacturer's documentation for the following devices separately:

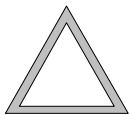
Chassis, refrigerator, cooker, living room heating, chargers, radio, TV, satellite system, air conditioning, etc.

Before you go on holiday with your new FRANKIA, we request that you read these operating instructions. They are intended to help you get to know your motorhome. In addition to the operating instructions, you will also find tips on maintenance and the practical use of your new vehicle. We have used the following symbols to make orientation easier:



**Warnung**

Here you will find safety regulations, that protect against personal injury.



**Achtung**

Here you will find safety regulations, that protect against material damage.



**Info**

Here you will find general notes and cross-references.

The commissioning by the Frankia dealer with you as a customer ensures that you understand the operating and maintenance instructions. Contact your Frankia dealer if you are unable to understand parts of these operating instructions. It is important that these instructions are understood and followed.

The instructions do not contain all safety instructions and operating instructions for the built-in components and accessories, which are fitted on delivery of the motorhome or can be retrofitted later. It is imperative that the driver understand and use the operating instructions for the motorhome and the accessories.

We strive for continuous development and improvement.  
FRANKIA expressly reserves the right to make changes that are intended for technical progress or that take changed regulations into account. These operating instructions have been put together with great care. However, we cannot guarantee the correctness of the content.

On behalf of all FRANKIA employees we wish you a safe trip and relaxing journeys.

**Your FRANKIA team**

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# 1. DEPARTURE AND DRIVING

## 1.1 Payload

Your motorhome contains numerous storage spaces. Pay special attention to distributing things well so that your motorhome has the best possible road holding.

The double floor that characterises the FRANKIA motorhomes offers additional storage space. Some of these storage spaces are accessible from the inside and outside.

### Loading the motorhome

Please note the following points:

- ! **Heavy objects should be near the ground** and directly next to or better between one of the vehicle axles. In the case of heavy loads, make sure that the motorhome is loaded equally on the left and right as far as is possible. With a uniform, low-lying load, you achieve stable handling; the load close to the axle reduces the tendency of the body to rock and pitch. Only light objects may be packed in the roof storage boxes.



**Warnung**

- ! A heavy roof load causes unfavourable driving characteristics due to the high centre of gravity. Secure the roof load safely with lashing straps.
- ! The luggage must be well wedged and stored in a non-slip manner. Loose objects can damage the structure. The cupboards must be loaded in such a way that nothing can rattle and slide.
- ! Cupboards that are opened in or against the direction of travel must not be loaded with heavy objects. The cupboard doors must be locked while driving. Make sure that everything fits into cupboards, drawers and other storage spaces. In the motorhome, unsecured objects can turn into “bullets” in the event of hard braking or an accident and seriously injure the occupants.

- When loading the motorhome, the max. permissible total weight when loaded and the permissible axle load weights (= weight on the front and rear axles) must not be exceeded.
- Additional installations of the special equipment package reduce the standard load capacity.
- Before using for the first time, we recommend a personal weighing on a calibrated vehicle scale with full tanks, so that the very personal payload for the luggage can be determined, tailored to the type of motorhome and equipment package.

The maximum permissible total weight when loaded and the permissible axle load weights can be found on the vehicle documents or on the type plate.



**Info**

**If overloaded, there is a risk of fines, and this can also lead to axle and tyre damage.**

### Note when loading:

- Stow and secure everything inside the motorhome so that a sudden braking manoeuvre does not cause problems.
- The following should be taken into consideration:
  - \* Sliding doors
  - \* Contents of cupboards
  - \* Cutting boards
  - \* Loose objects on tabletops and shelves
  - \* Travel utensils in the washroom
  - \* Table/ tabletop
  - \* Television cabinet
- Secure loose items e.g. with towels. This also reduces rattling noises.

## **1.2 Before driving**

- adjust the exterior mirrors correctly
- open the darkening blinds of the front and side windows completely
- check whether the outside flaps, especially the tailgate, are actually locked and not just ajar.
- lock the body door
- retract the step manually if it is not automatically retracted and therefore the warning light on the dashboard lights up.
- disconnect and roll up the 230V electrical cable
- close all doors, flaps and drawers
- Turn off all “open points of fire” that run on gas, such as gas stoves, refrigerators and hot water boilers, and turn off the gas bottles.
- Close the TV cabinet
- Lock the table/tabletop
- Crank up the rear supports
- Stow the toothbrush beaker and soap dispenser in the cupboard

Before setting off, we advise you to check that you have not forgotten anything and that nothing is hindering your departure.



### 1.3 Driving

A motorhome is driven like any other car: with care and at a suitable speed. However, the unusual size of the vehicle should be taken into consideration.

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



**Warnung**

**!!! Warning:** Pay attention to petrol station roofs, rock overhangs, branches, etc.

Please pay particular attention to the special regulations abroad.  
A fully loaded motorhome has different handling to an empty one.

The following should be taken into consideration:

- longer braking distance
- different handling on inclines and descents
- Influence on the speed with headwind
- higher cross wind sensitivity on bridges or when leaving a tunnel, when overtaking trucks
- different handling in bends due to height and weight
- larger vehicle dimensions: Length, width, height
- small bridges, narrow streets, low passages, low petrol station roofs etc.
- limited view when reversing
- correct mirror setting



**Warnung**

**!!! Warning:**

The driver is responsible for ensuring that the passengers remain in their seats and use the seat belts provided.

All seats that are not equipped with seat belts must not be used while driving.  
No people may be in the alcove while driving.

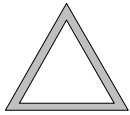


**Warnung**

The driver seats can be turned towards the living area.

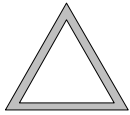
Seat rotation is only permitted when the vehicle is stationary and secured against vehicle movement!

In the driving position, the seat must be lowered (at least to the first locking position) .



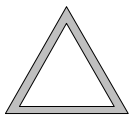
**Achtung**

Shut off all “open points of fire” that run on gas at petrol stations.



**Achtung**

- Drive on bad roads at an appropriate speed.
- Your vehicle has a long rear overhang compared to a car (= distance between rear axle and the tailgate), which swerves in tight bends and can hit on the road if the road surface is unfavourable (e.g. deep bumps). Therefore, you should drive carefully in tight bends (for example when parking and exiting) as well as with larger bumps.
- Due to the high body of a motorhome, this provides cross winds with a large surface. Therefore, drive with particular care in cross winds.



**Achtung**

Tyre pressure that is too low causes excessive tyre wear or can cause the tyre to burst when the motorhome is fully loaded. Therefore, check the tyre pressure regularly. The information on the correct tyre pressure can be found in this table.

### Reifendruck-Tabelle ab Mod. 2020



	Modell	Reifengröße	Vorne	Mitte	Hinten	Vorne NM	Hinten NM
	X 290 Fiat Ducato Light /Alko 2-Achser	215/70 R15	5,0 bar*		5,0 bar*	160 Nm	160 Nm
	X 290 Fiat Ducato Heavy/Alko 2-Achser	225/75 R16	5,5 bar*		5,5 bar*	160 Nm	160 Nm
	X 290 Fiat Ducato Heavy - Alko 3 Achser	225/75 R16	5,5 bar*	3,5 bar*	3,5 bar*	160 Nm	160 Nm
	MB Sprinter 314 / Alko 2-Achser	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







\* = Druck bei vollbeladenem Fahrzeug



**Info**

Below are a few pointers regarding street signs in Germany. We do not guarantee the completeness and content here.

Source: ADAC  
Revision 08/2019

Type of determination		Motorhome 2.8 to 3.5 tons	Motorhome 3.5 to 7.5 tons
<b>Top speed</b> inside city limits		50 km/h	50 km/h
outside city limits		100 km/h; with trailer 80 km/h	80 km/h; with trailer 60 km/h
Motorway		Recommended speed 130 km/h	100 km/h
<b>No overtaking</b> for motor vehicles over 3.5 tons (including trailer)		not affected	applicable
<b>Traffic prohibition</b> for motor vehicles over 3.5 tons		not affected	applicable
<b>Prohibition of driving without a minimum distance</b>		not affected	applicable if vehicle in front is heavier than 3.5 tons
<b>Parking on pavements</b>		Parking not permitted	Parking not permitted
<b>Additional sign: only cars</b>		not affected	not affected
<b>Additional sign: only motorhomes</b>		applicable	applicable
<b>Additional sign: only Motor vehicles with more than 3.5 tons authorised total weight</b>		not affected	applicable
<b>Stopping vehicles in the dark</b> inside city limits		not affected	own light source or warning board
outside city limits		own light source: (Side light)	own light source: (Side light)
<b>Parking and stopping of vehicles in the public traffic area</b>		as before. Not on pavements with parking space marking	as before. Not on pavements with parking space marking
<b>This has to be carried along</b>		First aid kit Warning triangle High-visibility vest	First aid kit Warning triangle Warning light High-visibility vest
<b>TÜV inspection after months</b>		24 months (first at 36)	24 months (after 6 years 12 months)
<b>Emissions test after months</b>		24 months	24 months (after 6 y. 12 mon.)
<b>Testing the LPG system according to G 607 after months</b>		24 months	24 months



## Info

Below are a few pointers regarding speed limits in Europe for vehicles over 3.5 t. We do not guarantee the completeness and content here.

Source: ADAC

Last updated: May 2015

## Tempolimits

	Innerorts	außerorts	Schnellstraßen	Autobahnen
Belgien	50	90	90	90
Bosnien und Herzegowina	50	80	80	80
Bulgarien	50	70		100
Dänemark	50	70	80	80
Deutschland	50	80	80	100
Estland	50	70		90
Finnland	50	80		80
Frankreich	50	80	100	110
Griechenland	40	80		80
Großbritannien	48	80 (A)	96 (A)	112
Irland	50	80	80	80
Island	50	90 (B: 80)		
Italien	50	80	80	100
Kroatien	50	80	80	90
Lettland	50 (C: 20)	90	90 (D: 110)	
Litauen	50	80 (B, E: 70)	80	90
Luxemburg	50	75		90
Mazedonien	50 (D: 60)	80 (E: 60)	80	80
Montenegro	50	80	80	
Niederlande	50	80	80	80
Norwegen	50	80	80	80
Österreich	50	70	70	80
Polen	50 (F: 60)	70	80	80
Portugal	50	70 (D: 80)	90	110
Rumänien	50	80 (G: 60)	90 (G: 70)	110 (G: 90)
Schweden	D	D	D	D
Schweiz	50	80	100	100
Serbien	50	80	80	80
Slowakische Republik	50	80		90
Slowenien	50	80	80	80
Spanien	50	80	80	90
Tschechische Republik	50 (H: 30)	80 (H: 30)	80	80
Türkei	50	80		90
Ungarn	50	70	70	80

A gilt ab 3,05 t Leergewicht  
 B auf unbefestigten Straßen  
 C in Wohngebieten  
 D nach Beschilderung  
 E Führerschein weniger als zwei Jahre  
 F Abweichung nach Tageszeit  
 G Führerschein weniger als ein Jahr  
 H 50 m vor Bahnübergängen

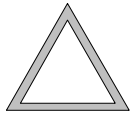
## 1.4 Parking

Shift into gear (put the gearbox in position “P” for the automatic transmission) and apply the handbrake, or for electrical handbrakes pull the lever.

It is necessary that the motorhome is as level as possible to ensure the unimpeded drainage of dirty water from the shower and sink. Levelling wedges are practical for this.

If your motorhome is equipped with an awning, always secure it with additional tension to the ground when in use. Awnings raised by gusts of wind often cause costly damage to the vehicle.

Your motorhome is equipped with rear supports, never use them for a possible wheel change.



**Achtung**

For motorhomes with rear axle air suspension:

The motorhome must be lowered completely using the rear axle air suspension before the rear supports are used.

If this procedure is not followed, the supports and the motorhome floor can be damaged.

For more detailed information on operating the air suspension, please refer to the manufacturer's operating instructions.

Here are some practical tips:

When you have lowered the rear supports, place the hand crank on the steering wheel as a reminder in the cab. In this way you will avoid an erroneous start with the supports lowered.



**Info**

In midsummer, if possible, park the motorhome in such a way that the ventilation slots of the refrigerator are not exposed to the blazing sun, so that your refrigerator will work better.

When parking on public roads within closed towns, red/white “night parking signs” must be attached to the motorhome in the dark (for vehicles over 3.5 t).

When leaving a stopover place, make sure that you do not leave any damage or rubbish: Discretion and environmental awareness are the most important characteristics of motorhome users.

## 1.5 Staying overnight in the motorhome

The following table shows the regulations of some European countries:  
(subject to correction)

Country	
Belgium	Campsites in all parts of the country, especially near the coast, few parking spaces, outside of campsites and parking spaces only overnight stay at motorway service areas (maximum one night).
Denmark	Very dense network of campsites, no parking spaces, quick-stop spaces in front of many campsites, overnight stays outside of campsites prohibited.
Germany	Very dense network of campsites, dense network of parking spaces, an overnight stay outside of camping and parking spaces allowed to restore roadworthiness, some regional prohibitions.
France	Very dense network of campsites, dense network of parking spaces, overnight stays outside of camping and parking spaces regulated by local regulations.
Greece	Numerous campsites, especially on the coasts, very few parking spaces. No overnight stay outside of campsites.
Great Britain	Very dense network of campsites, no parking spaces, overnight stays outside of campsites regulated by local regulations.
Italy	Very dense network of campsites, dense network of parking spaces, especially in northern and central Italy, overnight stays outside of camping and parking spaces allowed for one night, observe local regulations.
Croatia	Very dense network of campsites on the coast, few parking spaces, overnight stays outside of camping and parking spaces also prohibited on private property.
Luxembourg	Dense network of campsites, no parking spaces, overnight stays outside of camping and parking spaces prohibited.
The Netherlands	Very dense network of campsites, many camping offers at farms, few parking spaces, overnight stays outside of camping and parking spaces prohibited.
Norway	Dense network of campsites, especially in the south of the country, very few parking spaces, observe local prohibitions when staying outside of campsites and parking spaces.
Austria	Dense network of campsites, no parking spaces, overnight stays outside of camping and parking spaces prohibited.
Sweden	Dense network of campsites in the south and centre of the country, very few parking spaces, observe local prohibitions when staying outside of campsites and parking spaces.
Switzerland	Dense network of campsites, no parking spaces, overnight stays outside of camping and parking spaces prohibited.
Spain	Very dense network of campsites, few parking spaces, observe local prohibitions when staying outside of campsites and parking spaces.

The vehicle may only be set up on private property with the permission of the property owner.

Source: Promobil  
Last updated: May 2012



## 1.6 Sleeping

**The alcove beds** can be used immediately. In order to facilitate access to the driver's cab, in the case of Plus floor plans, the extendable central slatted frame should be inserted and locked. For all other floor plans, you can fold the bed up. You can keep the alcove bed folded up while driving.

Before **the drop-down bed in Coachbuilt motorhomes** is swivelled down, the backrests of the front seats must be moved forward, and the seat height all the way down. Swing the driver's seat slightly outwards so that the backrest swings past the steering wheel.



- Press the rocker switch down to lower the electric drop-down bed.
- When the lower position is reached, the motors switch off automatically.
- To raise the electric drop-down bed, press the rocker switch upwards.
- If there is a mattress or bedding on the vehicle roof, stop the process. It is not absolutely necessary to raise the bed as far as it will go.



**Warnung**

The raised drop-down bed must not be used as a luggage rack. Only the bedding for two people may remain on the bed. The bed may only be loaded in the lower end position.

**During the adjustment process, the bed lowers and rises on both sides at different speeds due to the design, so there is no synchronisation and the bed may be pulled into a slight incline on the way between the upper and lower position. This has no influence on the operational safety of the bed. Therefore, when adjusting, keep the switch pressed until both motors have moved to the lower end position and switch off automatically.**

**An integrated overload protection switches the drop-down bed off automatically in the event of a collision. The system can be operated again after about 20 seconds.**

**Emergency operation in the event of a defect in the linear drives is described from Section 9.8.**

### The Duo bed (= option)

The Duo bed in Coachbuilt motorhomes can be used in two different ways. Either as a double bed in the transverse direction of the motorhome or extended in the longitudinal direction as a large double bed with approx. 2m x 2m lying area.

- Push the table (option) into the driver's cab (see chapter "Tables").
  - Due to the layout, the seat cushions must be folded up to hang the ladder (option).
  - Put the front back cushions on.
  - Unlock the bed drawer by turning knob A.
  - First, lower the drop-down bed electrically to below the fitted cupboards. The switch is located next to the display panel above the body door.
  - Pull the bed by the handles at the foot end as far as it will go and lock it by turning knob A.
  - Hang the belts on the side next to the female connectors in the hooks under the front fitted cupboards.
  - Then lower the bed completely.
  - Place the additional mattresses on the slatted frame.
  - Hook the ladder (option) into the two slots on the cover.
  - For dismantling, proceed in the reverse order.
- 
- Place the additional mattresses on the bed and push them as far forward as possible. If you also leave the bedding on the mattress, it is not absolutely necessary to raise the bed as far as it will go. After the bed has been lifted up, the bed extension must be locked again.



Before the Duo bed is raised, the LED Frankia reading lights must be folded in to avoid damage.



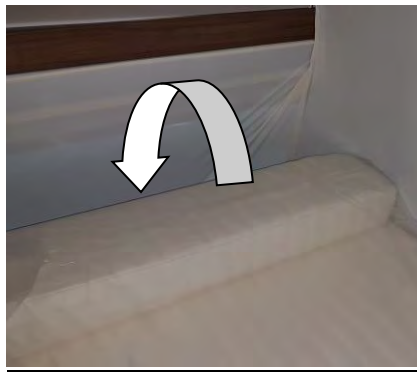


### The drop-down bed in the Plus floorplan

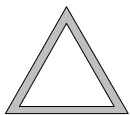
Before the drop-down bed in the Plus floorplan is lowered, the backrests of the front seats must be folded forward to provide enough space for the drop-down bed.

Press the button until the bed is down **and** the headboard is fully extended. Tilt the mattress headboard forward.

For dismantling the bed, proceed in the reverse order.



If you also leave the bed linen on the mattress during the temporary retraction, do not raise the bed as far as it will go.



**Achtung**

Only use the bed in the lowest position.  
Otherwise damage to the bed construction and other furniture can be caused.



**Warnung**

The raised drop-down bed must not be used as a luggage rack.  
The bedding should not remain on the bed either.

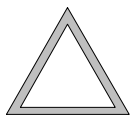
### **The drop-down bed above the round seating group (=option)**

The I 790 Plus is optionally available with a drop-down bed above the round seating group.

To lower the bed, press and hold the switch above the body door until the bed has reached the lowest position and rests on the rear shelf. Press the switch marked with the up arrow to raise the bed again.



We recommend folding the back cushions of the round seating group before using the bed.



**Achtung**

Only use the bed in the lowest position.  
Otherwise damage to the bed construction and other furniture can be caused.



**Warnung**

The raised drop-down bed must not be used as a luggage rack.  
The bedding should not remain on the bed either.

### **Headboard adjustment for QD beds**

There is a switch on the chest of drawers and on the rear fitted cupboard, which can be used to adjust the headboard of the bed electrically. With the headboard up, you get a larger passage at the foot of the bed.



The bed can only be adjusted as intended. No persons may be on the bed during the adjustment process.

**Conversion of the round seating group in the plus floor plan to a supplementary bed**  
**(option)**  
**(not for 790 Plus with height-adjustable rear bed)**

By hanging the table feet, lowering the table and placing the upholstery as in the photo, you can obtain a large lying area over almost the entire width of the motorhome.

(See also “Conversion of the seating group to a supplementary bed”)



**Conversion of the seating group to a supplementary bed (option)**

To lower the table, first raise the table slightly and push it down as far as it will go. Pull up to return to its position.



To convert the seating group into a supplementary bed (depending on the floor plan), two additional foot units must be attached to the tabletop before it is lowered and provided with additional upholstery.





## 2. VENTILATION

### 2.1 Roof hatches

Your motorhome is equipped with roof hatches that allow both ventilation and darkening. To open the roof hatch, press the release button and push the bracket up. The roof hatch can be set in various positions using the locking positions.

Keep the darkening blinds or pleated blinds of the roof hatches a maximum of 2/3 closed in strong sunlight. The pane must be in the “permanent ventilation” position to prevent damage from overheating.

Depending on the situation, you can open the roof hatch completely or partially.

The roof hatches are equipped with legally required forced ventilation.

The roof hatches must be closed while driving.

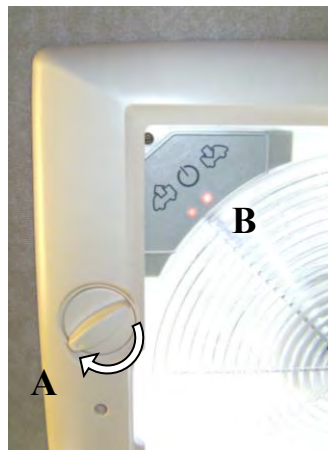
The roof hatch in the kitchen area provides optimum ventilation in connection with the slightly opened kitchen window.

The opening of the roof hatch in the washroom prevents the mirrors from misting up.



#### Roof hatches with fan

“Omnivent” roof hatches equipped with a fan can be opened by turning handle “A” in the direction shown. The fan can be switched on/off via the control panel “B” and you can choose whether the air is blown in or out. Red LEDs indicate the current mode.



The “Fiamma” roof hatches with fan are also opened by operating the rotary handle. The toggle switch controls the direction of rotation of the fan.

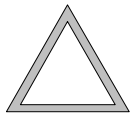


## 2.2 Midi-Heki, Heki III

The operating instructions of the company Seitz contain all the necessary information.

### **Heki III roof window**

The Heki 3 can be opened with the hand crank up to an opening angle of approximately 70°. To lock it completely, continue cranking 2-3 turns after the pane is fully supported.



**Achtung**

The Heki III must remain closed while driving. Before operating the satellite antenna, the surrounding roof hatches must be closed.

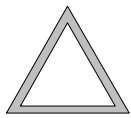
For more detailed information about the Heki III, please refer to the operating instructions from Seitz that are supplied.

## 2.3 Windows

FRANKIA motorhomes are equipped with combination roller blinds. These allow optimum darkening during the night and full or partial ventilation, with or without a mosquito net.

Do not keep the darkening blinds closed for a long period of time in strong sunlight, otherwise material fatigue can be expected.

To open the window, press the safety button and turn the locks to the side. You can connect the mosquito blind to the darkening blind and move the whole unit up or down.



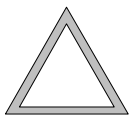
**Achtung**

Do not drive with the hinged windows open!

## 2.4 Body door

To open the body door manually, turn the key to the right as far as it will go or press the central locking button (remote control). The door is opened by pulling the handle. Before removing the key, turn the lock cylinder to vertical again. To lock the door from the inside, turn the locking lever to the horizontal position.

For your safety, we recommend that you only drive with the lock locked when travelling with people in the living area.



During your stay and especially during the night, make sure that access to the door is not blocked.  
(Escape route)

**Achtung**

### Some advice regarding ventilation



There are only a few cubic metres of air in a motorhome, which are cut off from the “outside world” by the insulated walls of the motorhome and rubber seals on the windows.

**Warnung**

Air exchange through the forced ventilation must be ensured.

If the stove is also in operation, the oxygen quickly becomes scarce and there is a risk of suffocation!

Inadequate ventilation also creates other problems: high humidity and condensation. These are formed by body perspiration, wet clothing and condensation from showering and cooking. Therefore, here are a few tips for ventilation:

- As long as the motorhome is inhabited at pleasant outside temperatures, the following applies: Ensure a permanent air exchange by cleverly dosed ventilation (open windows and/or roof vent).
- In winter, occupied motorhome should be thoroughly ventilated several times a day.
- Keep the ventilation slots in the storage compartments clear.
- Ensure adequate air exchange even during the night (e.g. open a roof hatch). The more people stay in the motorhome, the more ventilation is required.
- Even a motorhome out of use must be ventilated from time to time so that no condensation can form.

The excess moisture in the indoor air is first reflected in the colder areas in the motorhome. Therefore, observe and remove any condensation on the window panes and, in the case of A-class models, on the front and corners of the alcove.

## 3. GAS SYSTEM

### 3.1 General

The gas system of your motorhome supplies the refrigerator and the heating with the boiler and the cooker. These 3 devices are connected to the gas bottles, which are located in the storage box provided. The system should be operated with propane gas. When operating with butane gas, the proper functioning of the system cannot be guaranteed due to the widely differing gas quality. Therefore, maintenance work due to contamination, e.g. cleaning burner nozzles, is not included in the scope of the guarantee. The operating pressure is 30 mbar. Before you go abroad, make sure that gas supply is possible there. In some countries, the gas bottles are not exchanged, rather they are filled up again. You need an adapter for this. In some countries you can drive with open gas bottles. Inquire before your departure.

The gas system must be checked every two years by a certified expert. The test certificate must be carried in the motorhome.

A gas tank is optionally installed in your motorhome.  
Please note the manufacturer's instructions, which are issued separately.



**Warnung**

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

### 3.2 Gas bottles

In the stowage box, the gas bottles are lashed against twisting with two straps.

If you change the bottles:

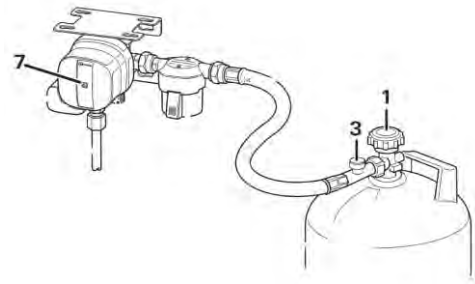
1. Switch off gas appliances
2. Close the bottle valve
3. Loosen the union nut of the pressure reducing valve  
CAUTION ==> left-hand thread
4. Replace the empty bottle with a full one
5. Reconnect the bottle to the system
6. Tighten the union nut of the pressure regulator vigorously by hand without tools.

If gas cylinders are not connected, the valve must always be secured with the protective cap.



### Using a new gas bottle for the first time

1. Open the bottle valve (1).
2. Firmly press the hose rupture protection (3) (green button) on the high-pressure hose for approx. 5 seconds.
3. After a false trigger, press the yellow reset button (7) and turn it slightly clockwise and hold it for 5 seconds.  
(See also the Truma operating manual)



### Opening and closing the system

#### **Opening the system**

1. Open the connected bottle
2. Open the shut-off valve in the display cabinet or kitchen (depending on the floor plan) next to the entrance
3. Switch on the device

We advise against opening the shut-off valve of a device when you are not using it.  
If a device does not work, repeat this process in the order mentioned above.

#### **Closing the system**

Close devices, stopcocks and gas bottles.



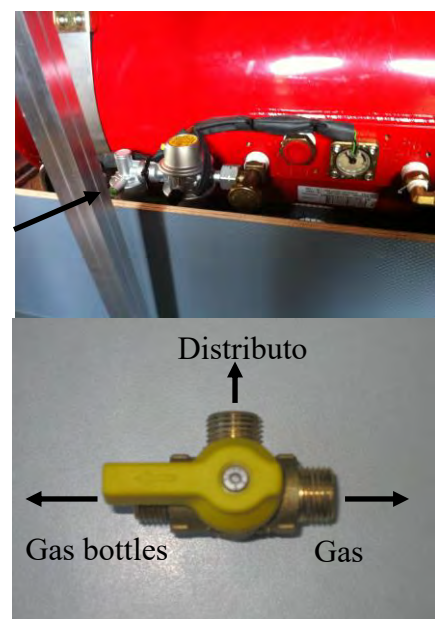
**Warnung**

- The space in the gas bottle box is only reserved for gas bottles. Do not use it as additional storage space.
- The forced ventilation in the bottom of the gas box must not be closed!

### Commissioning of the gas tank (option)

1. Open the tank valve.
2. Press the hose rupture protection (green button) firmly.
3. After an accident or a false trigger, press the green reset button on the MonoControl CS (reset the crash sensor trigger element).

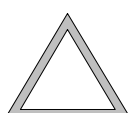
If the gas tank is installed with gas bottles in addition to the gas box, select the gas source on the 3-way valve. The 3-way valve is mounted near the gas distributor.



### 3.3 Gas stove

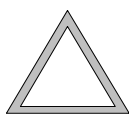
Turn the gas tap to the left while pressing. Keep the button pressed until the gas ignites. Release after 10 seconds.

The roof hatch in the kitchen area provides optimum ventilation in connection with the slightly opened kitchen window.



**Achtung**

The gas stove must not be used as a heater. If you use pots or pans with a long handle, make sure that they do not protrude into the passage.



**Achtung**

Be sure to use pots of a suitable size. If the pots are too small, the flames can blow out over the rim of the pot. With the lowered hob, pots or pans should never protrude beyond the work surface. The kitchen worktop is damaged by heat transfer.

### 3.4 Heating – Hot water

The liquid gas heating in your motorhome is equipped with an electronically controlled fan and an integrated hot water boiler. The same device therefore allows you to distribute warm air throughout the entire main body and to have 12 l of hot water at all times. So, you only have one device for heating and hot water.

For more information on heating and hot water, please refer to Chapter 6.

Before use and maintenance, please study the enclosed operating instructions from TRUMA.

### 3.5 Gas supply

The following table provides information on gas supply in some European countries: (subject to correction)

Country	Propane	BP Gas light	Autogas
Belgium	Belg. Bottles are structurally identical to German products. Filling and bottle exchange are possible. No adapter required.	Bottle exchange at BP petrol stations.	Comprehensive network with 397 LPG filling stations at petrol stations, Europe adapter (bayonet) required.
Denmark	German gas bottles with 5 and 11 kg filling are offered in exchange on many campsites. Refill possible at Kosan Gas As in Norresundborg near Alborg, Koge and Nekso. German bottles are also available from BP Gas.	Bottle exchange at BP petrol stations, adapter required. 13 LPG filling stations at petrol stations, Europe adapter (Italian system) req.	
France	Only French bottles are filled and exchanged. You can rent domestic bottles (usually 13		Comprehensive network with 1800 LPG filling stations at petrol stations, Europe adapter

	kg) from petrol stations and campsites for a deposit (approx. € 35) and connect them using a Euro Set adapter. Gold-coloured bottles should fit without an adapter.	(Italian system) required.
Greece	Exchanging and refilling bottles mostly only in big cities like Athens, Thessaloniki, Patras and Monernvassia. It is recommended to take the Euro filling set with you. Info in Greece via ADAC hotline (01) 960 1266.	No filling of gas tanks of tourist vehicles at the 34 LPG gas filling stations, connection: ital. system.
Great Britain	Brit. Calorgas bottles can be connected using an adapter (Europe tapping set). For German bottles there are filling stations in Bury St. Edmunds/Suffolk, Ellesmere Port/Cheshire, Grangemouth/Stirlingshire, Ivybridge/Devon, Liverpool/Merseyside, Middlesbrough/Cleveland, Neath/West Glamorgan, Southampton/Hampshire, Stanford-le-Hope/Essex, Stoney Stanton/Leicestershire. Scotland: Gleaner Oils in Milnfield, Elgin.	Comprehensive network with LPG filling stations at over 1000 petrol stations, especially in metropolitan areas, adapter (bayonet) required.

Country	Propane	BP Gas light	Autogas
Italy	Exchange of German bottles possible on some northern Italy camping sites according to ACE. Refilling German bottles with adapters possible nationwide, exchange and filling stations nationwide.		Comprehensive network with GPL/LPG filling stations at 350 petrol stations, especially in the north, adapters (Italian system) required.
Luxembourg	Luxembourg bottles are structurally identical to German products. Filling and bottle exchange are possible. No adapter required.		5 LPG filling stations at petrol stations in southern Luxembourg.
The Netherlands	Netherlands bottles are structurally identical to German products, exchange and filling possible nationwide.	Bottle exchange at BP petrol stations.	Comprehensive network with LPG filling stations at petrol stations, adapter (Spanish system) required.
Norway	No filling of foreign gas bottles. Deposit bottles (5 and 11 kg) available from AGA at 900 branches (compatible with Swedish and Finnish gas bottles); Return within 6	Bottle exchange at BP petrol stations, adapter required.	Comprehensive network with LPG filling stations at 39 petrol stations, especially in the south, adapter (Italian system) required.

	months. AGA adapter required. Info: <a href="http://www.aga.no">www.aga.no</a> .		
Austria	Filling and exchange without problems, since German and Austrian bottles are identical.	Bottle exchange at BP petrol stations.	10 LPG filling stations at petrol stations on the motorways, adapter (Italian system) required.
Sweden	No filling of foreign gas bottles Deposit bottles (5 and 11 kg) available from AGA (compatible with Norwegian and Finnish gas bottles). AGA-Adapter required, Info: <a href="http://www.aga.se">www.aga.se</a> .	Bottle exchange at BP petrol stations, adapter required.	10 LPG filling stations at petrol stations, adapter (Italian System) required.
Switzerland	No exchange possible, filling German bottles in exceptional cases by adapter Swiss bottles with pressure regulator can be rented. Info: Shell Gas, Telephone: 0041/327/587555.		7 LPG filling stations at petrol stations, partially adapter (Italian system) required.
Spain	Dispensing of LPG only in gas tanks, no filling of gas bottles. There are deposit bottles of 6 and 12.5 kg available at Repsol. A list of gas stations is available at <a href="http://www.cepsa.es">www.cepsa.es</a> .		Network under construction with 33 LPG filling stations at petrol stations, especially in the west. Adapter (Spanish system) required.

### 3.6 Fridge

#### General

FRANKIA motorhomes are equipped with a Dometic refrigerator (depending on the layout for Selection: Thetford), which can be operated with gas, 230 V or 12 V batteries. The refrigerator can only be supplied with 12 volts while driving. Use 230 volts or gas preferably when the vehicle is parked. AES refrigerators have an automatic energy source selection.

After a long period of non-use or after changing the gas bottle, there is often air in the gas line.

To ensure that the refrigerator ignites without a long delay, vent the line by briefly starting up the gas cooker and set the thermostat to the highest level.

The device has all the classic functions of a refrigerator:

- \* Preserve food
- \* Production of ice cubes
- \* Preserve frozen foods.

The operating instructions from DOMETIC or THETFORD contain all information and recommendations concerning this device. We therefore advise you to read them carefully and observe them.

#### Some tips for the optimum use of your refrigerator:



Info

- **Ice cubes:** The best time to make ice cubes is at night. This allows you to have ice cubes during the day, even with 12 V operation.

- **Defrosting** : If the cooling elements freeze up, it will reduce the performance of your refrigerator. We therefore advise you to defrost the refrigerator regularly.

### Safety instructions



Warnung

- Changes and repairs to the gas system may only be carried out by authorised specialists! If changes are made to the gas system, the gas test certificate becomes invalid!
- The gas devices are only designed for operation with propane, butane or a mixture of both gases.
- When handling gas (filling the tank, changing the gas bottles), there must be no fire or open light near the motorhome! There is a risk of explosion!
- If the motorhome is parked in a garage, there must be no fire nor open light near the motorhome, since escaping gas can accumulate in the closed space to form an ignitable mixture!
- The operating pressure of the gas system is 30 mbar. If gas regulators with a higher operating pressure are used, the ball valves will be damaged.
- Each gas device has its own shut-off valve (quick-closing valve). This valve must always be closed when the device is not in use.
- If all gas devices are out of operation, all device shut-off valves, the gas remote switch and, if not used for a long time, the gas bottle valves must be closed.
- The gas cooker must not be used for heating purposes!
- Read the operating instructions of the device manufacturers and follow the instructions. Leave these instructions in the motorhome so that you can refer to them in case of doubt.
- Regularly check whether the supply air and exhaust gas openings of the installed gas devices (heating, refrigerator) are free of dirt, leaves and snow.

### Gas socket (option)

If your motorhome has a gas socket, it is advisable to close the associated shut-off valve in the event of a long absence. Otherwise gas could be withdrawn without being noticed.

### Properties of the gases used:

- They are heavier than air: leaked gas collects on the floor.
- They are relatively easy to liquefy under pressure, which can increase the amount of energy stored. One litre of liquefied gas produces more than 200 litres of “fuel” in gaseous form.
- Gas-air mixtures are explosive with a gas content of approx. 2-10%.
- Escaped gas has an intense odorant.
- If liquid gas contacts the skin, the cooling effect can cause frostbite.
- They have different boiling points:
  - Propane - 42° Celsius

- Butane + 1° Celsius

- The boiling point indicates the temperature up to which the liquid “gas” changes to the gaseous state. If the ambient temperature is lower, there is no more evaporation.
- This means: In cold weather, propane must be used, as it can be evaporated down to approx. -42° C.

### **What to do if you smell gas?**

1. No fire, do not smoke
2. Do not operate any electrical switches
3. Close the bottle valves
4. Ventilate the motorhome well
5. Have the system checked by a specialist

## 4. ELECTRICAL SYSTEM

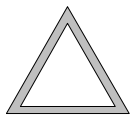
### 4.1 General

Your FRANKIA motorhome is equipped with a 230 V AC and a 12 V DC system. The connection to the 230 V mains is established in the case of Selection floor plans using the plug located in the central supply compartment, or in all other motorhomes using the cable drum located in the central supply compartment and the associated plug with the vehicle connection cable.

The 230 V circuit breaker and the residual current circuit breaker are located in the electrical board. Vehicles with an inverter have two 230V automatic circuit breakers installed (for inverters and shore power).

The 12 volt supply is provided by 2 batteries: the vehicle battery and the body batteries. All electrical parts that are assigned to the chassis are supplied by the vehicle battery. The body battery supplies the electrical system in the living area and the radio. (Exception Mercedes-Benz original radio)

If the 230 V supply is not possible when parking, we advise you not to use the vehicle battery to be sure that it remains charged enough and that the motorhome is always ready to start.



For your own safety, it is recommended to have the 230/12V system checked regularly by an electrician.

**Achtung**



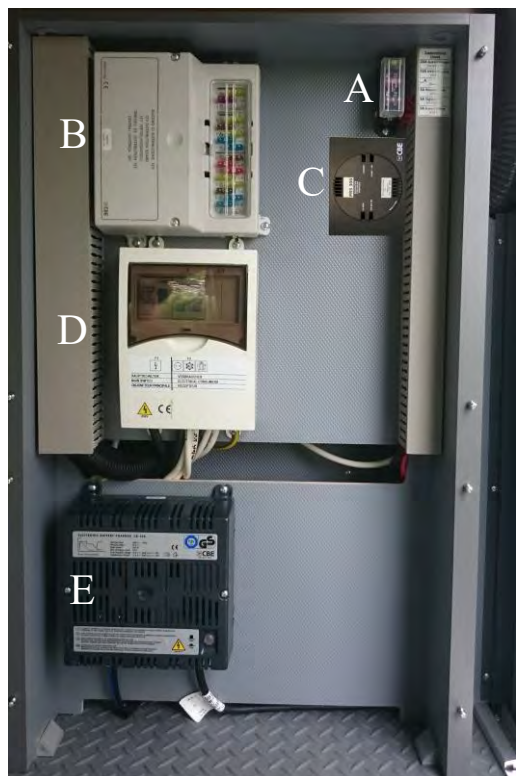
No connection to the 230V electrical system may be established on ferries because the voltage fluctuations on ships can damage the electrical system due to overvoltage.

**Warnung**



## Electrical board

The electrical board is located in the rear storage compartment (depending on the floor plan). All body-specific circuits are protected here.



- A) Additional distribution chassis (Mirror heater, window regulator, rear view camera, etc.)
- B) 12V-distribution DS 470
- C) PRS 300 Bus solar charge controller (option)  
(For Power Package and Platin Edition see chapter 4.6 or 4.7)
- D) 230V distribution with automatic circuit breaker and residual current circuit breaker (2 x present with optional inverter)
- E) CB 522 charger (2 x present for 2 main body batteries)

### Vehicle electrical system 230V:

For the electrical installation, an initial commissioning test is carried out by a qualified electrician in accordance with DIN VDE 0100-600 when assembling every FRANKIA motorhome. If the system is expanded or changed, this test must be repeated. The test report is enclosed with the vehicle documents including a circuit diagram for the 230V installation.

### Automatic circuit breaker:

This device protects the 230V connection against overload and short circuit.

### Residual current circuit breaker (RCD):

The residual current circuit breaker protects against impermissibly high contact voltages and also serves to prevent fire in the event of a technical defect.

The residual current circuit breaker must be tested monthly to ensure the operational function and when changing location (pressing the test button simulates a fault to ensure proper functioning - see page 35,36).



**Vehicles with an optional inverter are equipped with two circuit breakers and two residual current circuit breakers.**

- By means of the first unit (F1) large consumers such as the refrigerator, heating etc. as well as the input side of the inverter are protected. These are only active with a shore power connection.
- The second unit (F01) is located on the output side of the inverter. All 230V sockets are protected by this. This unit is active with both shore power and inverter supply.

**Operation of the circuit breaker:**



#### Switch off the circuit breaker

- Set the toggle switch to “0”

#### Switch on the circuit breaker

- Set the toggle switch to “1”



**Warnung**

- The circuit breaker is mostly triggered by a defective electrical device. If necessary, have the device checked and repaired by a specialist.
- The toggle switch must never be held in position “1” by force!

**Checking the residual current circuit breaker (RCD)**



#### Test residual current circuit breaker

- Press the test button
- Toggle switch must jump to “0”

#### Switch on the residual current circuit breaker

- Set the toggle switch to “1”



**Warnung**

- The triggering of the residual current circuit breaker is usually caused by faulty insulation or a device defect. If necessary, have the system or device checked and repaired by a specialist.
- The toggle switch must never be held in position “1” by force!

### Vehicle electrical system 12V:

If your motorhome is disconnected from the 230V mains, at least one body battery provides the energy supply for the electrical consumers in the living area.

Your basic vehicle has its own starter battery that is NOT discharged by the living space consumer.

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

1. when connected to the 230 volt mains via the integrated charger
2. with the engine running via the alternator (for Titan and Platin package additionally via (combined) charge booster, see chapter 4.6 or 4.7)
3. by the solar module if there is sufficient sun exposure (option) (the starter battery is also charged if: 1. The living area battery is fully charged and 2. The control panel is switched on)

#### **Protection of vehicle electrical system:**

The main fuses (MIDI fuses) for the consumers are located on the batteries. The position and function of the additional fuses can be found under 4.3.

In addition, the individual consumers are protected by fuses on the charger.

A battery from the **MOLL GEL** series is used as the living area battery in FRANKIA motorhomes. This is an accumulator with GEL technology, which is specially designed for use in the hobby and leisure sector (see *MOLL technical data sheet*).

(Titan and Platin packages have LiFePo technology batteries, see sections 4.6 and 4.7, respectively)

The essential handling instructions can be found in this, as well as in the operating instructions for the 12V distribution and the control panel.

(For Power Package and Platin Edition see chapter 4.6 or 4.7 as well as the relevant instructions from Büttner Elektronik)

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

(For the LiFePo battery of the Titan and Platin package, see chapter 4.6 or 4.7)

#### **State of charge of the battery**

The easiest way to determine the state of charge of a battery is via the so-called open circuit voltage. The open circuit voltage is the battery voltage in the state of rest. The measurement should take place at the earliest 5 hours after the last charge. In the meantime, the battery must not have been significantly loaded. The open circuit voltage can either be measured via the control panel or via a separate volt meter.

<i>Open circuit voltage</i>	<i>State of charge</i>	<i>Measure</i>
12.80 V and higher	fully charged	O.K.
12.65 V	75%	Charging required
12.35 V	50%	
12.00 V	25%	
11.80 V	0%	
Less than 11.80V	deeply discharged	

**How long can a certain current flow - and how can you calculate it?**

First some basics of physics:

An electrical current is measured in **A** (amperes). The voltage in **V** (volts).

The mathematical product of both is the electrical power **W** (Watt) = **V** x **A**

The nominal voltage of our battery is 12V. The capacity is indicated on the battery in so-called ampere hours (Ah). In the case of **MOLL GEL**, it is the so-called 100-hour capacity.

**Example:** If a 100 Ah battery is discharged with 1A current, the current can flow for 100 hours. Therefore 100 Ah would be removed from the battery.

With higher load currents, however, the removable capacity decreases. So, in our example the 100Ah battery with a discharge of 20A, only approx. 75 Ah can be removed.

This corresponds to a time of 3.75 hours.

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

A current of approx. 1 A flows. A fully charged battery would last for approx. 100 hours.

**What damages a battery?**

- Extreme deep discharges down to a voltage below 11.8V
- Long down-times or partially discharged conditions
- Longer operating times at very high temperatures
- Opening of the maintenance-free battery

During operation, the battery should be recharged as quickly as possible after a discharge. 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. Check the charge status of the batteries regularly; recharge the batteries if necessary.

Check the pole terminals: They should sit securely and have clean, greased contacts.

2. If the motorhome is going to be out of use for a long period of time, you should disconnect the batteries from the earth connection (remove the negative pole cable). It is important to ensure that the solar modules do not supply electricity so that the solar controller is not damaged. Regular condition monitoring is also important then. The best frost protection for a battery is a good state of charge.

3. Use every opportunity during the journey to recharge the batteries via the 230V external connection.

**Self-discharge of the batteries:**

Every battery loses its stored energy over time without a consumer being connected.

This self-discharge is a measure of the age of the battery, old or frequently charged and discharged batteries discharge faster than new ones.

**Shutting down the battery:**

If the motorhome is not going to be used for a long time, the following measures should be carried out:

1. Fully charge the battery via the electro block (open-circuit voltage after 5 hours at least 12.6V).
2. Disconnect the battery from the circuit - either via the control panel or better by disconnecting the negative pole
3. For the Solar option: Remove fuse No. 5 “DIR2” from the 12V distribution board. (For the Platin and Titan packages, the corresponding fuse on the fuse holder in the technical centre or on the solar controller must be removed)
4. Keep the surface of the battery clean and dry.
5. Store the battery as cool as possible

When commissioning please repeat the above mentioned measure.

For longer downtimes, repeat the above mentioned measures every 6 months.

**Deeply discharged batteries:**

If the open circuit voltage drops below 11.8V, we refer to a deeply discharged battery. If the operating mode is correct, this condition should not actually occur, since the control panel issues a visual and acoustic warning when the battery is discharged. (See operating instructions from the company CBE).

In some cases, deeply discharged batteries can no longer be charged using the built-in charger.

If the battery is still deeply discharged, proceed as follows:

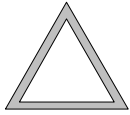
1. Charge the battery using the electro block

**If this does not succeed:**

2. Disconnect and remove the battery on both sides
3. Charge with a suitable external charger
  - a. Either an hour with about 2A
  - b. Or charge an hour with about 16V
4. Reinstall the battery and connect it
5. Then fully charge the battery using the electro block

If this measure does not work, there is likely to be permanent damage and the battery needs to be replaced.

**Further information can be found in the warnings and safety regulations for lead-acid batteries.**

**Achtung**

- Avoid discharging voltages of less than 11 volts. Such deep discharges shorten the life of the batteries considerably.  
Due to insufficient charge, sulphate formation can also occur, which is difficult to remove.
- A fully charged battery is less sensitive to cold than an empty battery. It is therefore a good idea to keep the battery charged to prevent freezing.
- The batteries should be charged for at least 12 hours before and after each trip.
- All devices and lights must be switched off before connecting or disconnecting the additional battery.
- The replacement battery must be replaced by the same type with the same specification as the originally installed auxiliary battery or as specified by the manufacturer.

**Solar module (option):**

The solar panel is located on the vehicle roof and converts light into electrical energy. These are solar cells with a high degree of efficiency.

The energy obtained in this way is fed directly into the 12-volt electrical system, and the living area battery is charged when there is an excess. The solar controller takes over the distribution of the solar power.

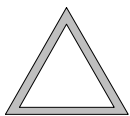
When the living area battery is charged and the control panel is switched on, the starter battery is also charged.

**Maintenance and care:**

- The solar cells are located behind a hardened glass plate; the panel is waterproof and weatherproof. Solar cells must be clean in order to maintain their performance. Therefore, you should clean the glass plate of the module with a damp cloth and a little washing-up liquid every 4 weeks.
- In dusty environments, the solar panel needs to be cleaned more often.
- In winter, the panel must be kept free of snow, as hidden solar cells cannot supply electricity.

**Instructions for the electrical power supply according to DIN VDE 0100-721:2010-02****When connecting**

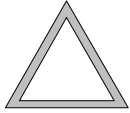
- a) Check the following points before connecting the motorhome system to the electrical power supply:
  - 1) The power supply available at the parking space must be suitable for the electrical system and the devices of the motorhome with regard to the dimensioning for voltage, frequency and current.
  - 2) The cables and connections must be suitable.
  - 3) The main disconnect switch of the motorhome must be in the off position.

**Achtung**

The flexible supply line of the motorhome should be completely unwound to prevent damage from overheating.

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

- c) Insert the plug of the flexible cable into the socket provided on the power supply unit at the parking space.
- d) Turn on the main disconnect switch on the motorhome.
- e) Check the function of the residual current device (RCD) installed in the motorhome by pressing the test button and switch it on again.

**Achtung**

In case of doubt or if the supply is not available or faulty after performing the above procedure, contact the parking space operator.

**When ending the connection**

Switch off the main disconnect of the motorhome and remove the cable, at the power supply facility at the parking space.

**Recurring Inspection**

The electrical system of the motorhome should preferably be inspected and checked annually by a competent electrician who should issue a report on the condition if the motorhome is used frequently.


Source: DIN VDE 0100-721 Annex A (standard)

**4.2 Electrical supply - control panel**

This control centre is a real on-board control. You can use the control panel to read off the fresh water and wastewater level, the state of charge of the main body and starter battery, the power consumption in the main body and the status of the solar panels (option).

The CBE PC380 control panel with 12V main switch (button 5) is installed in all motorhomes.  
 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 displays the tank levels  
 Button 8 shows the charge status of the batteries



The flashing of the display  indicates that the body battery must be recharged.

**Multimedia functions:** these can be activated either by pressing Button 4 or automatically by switching on the ignition or starting the engine.

For more detailed information on the control panel, please refer to the operating instructions from the company CBE which are supplied.

(For operation of the two additional control panels for the Titan package and Platin package, see Chapter 4.6 or 4.7)

## Water pump



### Info

The water pump should only be switched on when the motorhome is occupied and the water supply is full. This can prevent the pump from running dry **or your storage space or double floor filling up with water due to a small leak.**

You have switched on the water pump, but have no water consumption means that all taps are closed. If the pump turns on from time to time, it can be an indication that you have a leak in the water pipe. Immediately switch off the pump and examine the pipes, thus preventing “flooding” in the storage compartments.

To do so, it is also possible to provide the water pump with an electronic timeout.

Here the water pump is then automatically deactivated after the set time (see CBE operating instructions, chapter “Customer programming”) if a water flow is measured beyond the set time. The internal meter is reset here simply by closing and opening the tap used again.

The timeout could also be used to reduce your own water consumption. (e.g. showering too long)

The water distribution (usually located directly next to the fresh water tank) is a direct connection between the pump and the tapping point (water tap). In the event of a leak, you can isolate the damaged pipe from the water supply with a blanking plug, so you can continue to use the other taps.

We recommend that you check the hot water supply for leaks or tighten the hose clips every 6 months.

### Fresh and wastewater display

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

The display shows, for example:

Tank display	Fresh water tank Tank capacity (l)	Wastewater tank Tank capacity (l)
100 %	approx. 150	approx. 120
50%	approx. 75	approx. 60
0%	0	0

The tank volumes can vary depending on the layout.

For more detailed information on the control panel, please refer to the operating instructions from the company CBE which are supplied.



### 4.3 Fuses 12 Volt

#### 12 volt fuses from the vehicle battery (additional distribution chassis)

The following fuses are located in the 6-way fuse holder in the electrical board (see also position A in the photo in Chapter 4.1):

- A) 20A wing mirror (Coachbuilt only)
- B) 15A trailer coupling (option)
- C)   A (Reserve)
- D) 5A reversing camera (option)
- E) 5A daytime running lights (Coachbuilt only)
- F) 2A outside flap (option)

In all vehicles, fuses for the additional chassis distribution (40A MaxiVal) for line protection are located in the battery compartment under the floor of the driver's cab.



The protection of the supply line for the 12V distribution is also housed here.

For vehicles without an inverter:

FIAT 50A

Mercedes 60A

For vehicles with an inverter:

FIAT 125A

Mercedes 125A

#### **Fuses 12 Volt (Battery)**

The main fuse for the 12 volt power supply in the body is located directly next to the body battery.

For vehicles without an inverter:

50A

For vehicles with an inverter:

125A

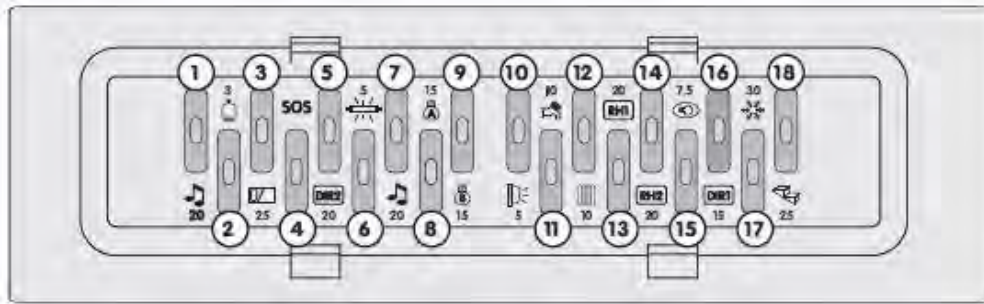
#### **Installation of the fuse circuits on the 12V electrical distribution DS 470**

The fuses for the interior lighting are located on the 12V distribution.

If a fuse is defective here, this is signalled by a red LED under the fuse.

The safety circuits 1 to 18 are set up according to the following scheme:





### Fuse assignment

No.:	Value:	Description	Function
1	20A	Multimedia 1	Radio, Subwoofer
2	3A	Truma Ice-Ex	Heating cartridge on the gas pressure regulator
3	25A	Drop-down bed	Drop-down bed, awning
4	SOS	See instruction manual CBE	In an emergency, a fuse (any value) can be inserted to activate basic functions
5	20A/25A	DIR2	Fuse SOLAR
6	5 A	switched lights	Reserve
7	20A	Multimedia 2	TV
8	15A	Lighting group A	Circuit 1
9	15A	Lighting group A	Circuit 2, Circuit 5
10	5 A	Awning lights	Awning lights / motion detector
11	10A	Water pump	Fresh water pump
12	10A	Heater	Supply heating Alde/Truma
13	20A	RH1	Reserve 1
14	20A	RH2	Front blind
15	7.5A	Sidemarker	Sidemarker lights
16	15A	DIR1	Circuit 4, satellite system, radio
17	30A	Fridge	Supply fridge
18	25A	Step	Supply step

#### Circuit 1

- Consumers in the passenger compartment on the passenger side

#### Circuit 2

- Consumers in the passenger compartment on the driver side

#### Circuit 3

- Not used or options

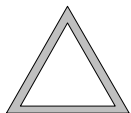
#### Circuit 4

- Ceiling lighting complete

#### Circuit 5

- Indirect lighting or options

The supplied consumers and their fuses can also be found in the operating instructions of the company CBE.



**Achtung**

Defective fuses indicate a fault in the circuit.  
Please have the relevant devices checked.

#### **4.4 Central locking**

The vehicle has a central locking system for controlling the cab and body door.

- *For FIAT A-class and Low-Profile:*  
Driver, front passenger and body door via ignition key
- *For FIAT Coachbuilt:*  
Driver and body door via ignition key
- *For Mercedes Low-Profile:*  
Driver and front passenger door via ignition key, body door via separate remote control
- *For Mercedes Coachbuilt:*  
Driver and body door via ignition key

#### **4.5 Inverter (option)**

- Press the ON button **(1)** on the inverter.
- The inverter carries out a self-test and confirms the operational readiness with a beep.
- The LED Automatic **(2)** flashes, which indicates that the inverter is in stand-by mode. When a load is applied, it automatically switches to operating mode.
- Connect a 230 volt consumer ( $\geq 25$  W e.g. hair dryer etc.) to the 230 volt sockets. The Automatic **(2)** and Inverter **(3)** LEDs light up.
- When the motorhome is connected to 230 volts, the inverter switches the applied voltage to the sockets with an automatic grid switch. The LED Line **(4)** lights up.
- Manual operation of the inverter without automatic mode:  
Press and hold the ON/OFF switch for longer than 3 seconds.

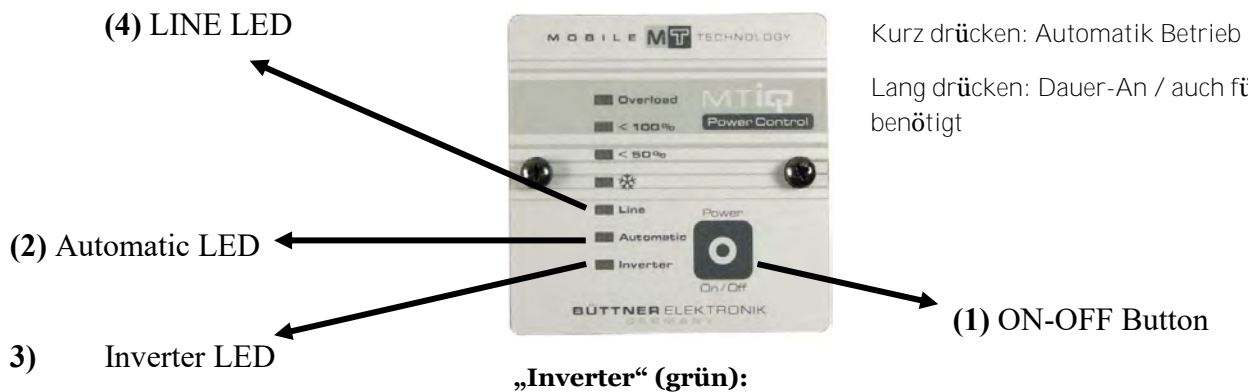
If the inverter is to be operated without Automatic mode, e.g. so that also consumers with very low power such as battery chargers, portable radios or similar can operate without problems, the ON/OFF switch must be operated for more than 3 seconds when switching on the inverter.

After this time, the yellow “Automatic” LED goes out and the inverter is now in continuous operation.

The inverter is switched off again by pressing the ON-OFF switch.

In continuous operation, the battery is loaded even without connected consumers.

## LEDs



„Inverter“ (grün):

Inverter eingeschalten.

### 4.6 Generator (option)

„Automatic“ (gelb):

The generator generates an alternating voltage of 230 volts and 50 Hz, which can cover the energy requirements of various consumers. All 230 V sockets and consumers, such as air conditioning, heating, hob and electro block, are connected. The maximum continuous output is around 2600 watts. Sensitive consumers, such as TFT monitors or PCs, can also be operated without worrying, as an inverter device ensures a stable frequency. The built-in on-board computer with an illuminated display makes it very easy to operate the generator.

Leuchtet: Netzumschaltung aktiv (230V von außen angeschlossen)

For more detailed information, please refer to the enclosed operating instructions from Dometic.

\*  
Das \* Symbol aktiviert sich im Klimaanlagebetrieb in Verbindung mit dem BOX-Set.

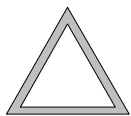
Applies to generator TEC29LPG (for gas operation):

When operating this generator, care must be taken not to exceed the legally prescribed maximum flow rate (1,500 g/h) of the gas system.

Full load is ~1,200 g/h. If an increased gas requirement is demanded at other points (e.g. cooker, heating), the operating pressure may drop due to malfunctioning of the operated devices.

Wird der Wechselrichter mit mehr als 100% seiner Nennleistung betrieben, wird die gelbe LED „Load < 100%“ und die rote LED „verload“ brennt zu leuchten. Zusätzlich wird nun ein Warnton ausgegeben, der auf die Überlastung hinweist.

We recommend here to minimise the number of consumers by means of a personal selection.



**Achtung**

Before the generator is switched on, you should make sure that all consumers are switched off. Voltage peaks that occur when starting the generator can damage the devices connected.

### 4.7 Titan (option)

As a supplement to your FRANKIA motorhome, the BÜTTNER ELEKTRONIK technology package in the Titan package, offers perfect energy management on board.

For you, this means extra performance, comfort and independence.

The components of the Titan package are perfectly coordinated with one another and ensure high-quality power supply and charging in all areas - even during short journeys and charging processes. With the solar modules, you can also achieve a significant increase in service life and great independence from the power connection.

The individual components of this technology package are described below with their function and operation.

## On-board battery

The integrated body battery has a total capacity of 110Ah. The battery has the latest lithium iron phosphate (LiFePo4) technology.

The body battery is charged automatically:

1. when connected to the 230 volt mains via the battery control booster (BCB40/40)
2. with the engine running via the battery control booster (BCB40/40)
3. via the solar module according to the prevailing weather conditions.

### Care and maintenance of the LiFePo4 battery system:

- The state of charge of the battery should be checked regularly; recharge the battery if necessary.
- Check the pole terminals for a secure fit.
- If the motorhome is out of use for a long period of time, you must make sure that the battery is recharged to 50% -80% at regular intervals (every 2-3 months). If a 230V external connection is available, the charging devices generally take over the recharging automatically. If the vehicle is outdoors, this function is usually also performed by the solar system.



**Achtung**

Avoid frequent discharges below 30%. The same applies to LiFePo4 batteries, the greater the depth of discharge, the shorter the lifespan of the batteries. However, these batteries do not have to be fully charged or recharged permanently and are usable in a partially charged state between 30% and 100%.

*To prevent damage to the LiFePo4 battery, there are several protective devices:*

- At very low temperatures below 0°C, the performance of your charging systems is reduced and, if necessary, completely interrupted from -20°C. This also applies to very high temperatures above 50°C. In both cases, charging starts again automatically when the battery warms up or cools down again.
- Battery capacity warning:  
Please note the battery capacity indicator on your battery computer. If the usable capacity falls below 30%, a flashing display should indicate that less than 30% of the battery capacity can still be used and should be recharged if necessary.

Automatic battery shutdown:

Deep discharge, permanently too high currents, too high temperatures, as well as incorrect charging voltages can lead to the automatic switching off of the LiFePo4 battery for its protection!



**Achtung**

If the switch-off criterion no longer exists or charging takes place, the battery switches on again automatically and can be used normally.

Please note that specific settings may then be required in your on-board electronics.

- The on-board battery must be replaced with the same type and specification as the originally installed on-board battery, or as specified by the manufacturer.

When expanding the existing LiFePo4 battery with an additional battery, it is essential that both batteries are charged 100% independently before they are connected in parallel!

## Solar module

The 2 installed solar modules are BlackLine solar modules with very high efficiency MultiCell technology. The solar modules have a total output of 200Wp.

The solar panels are located on the vehicle roof and convert sunlight into electrical energy.

The energy obtained in this way is fed directly into the 12-volt electrical system, and the on-board battery is charged if there is an excess. The solar controller takes over the distribution of the solar power.

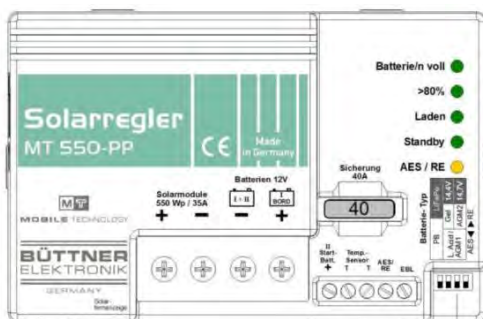
### Maintenance and care of the solar modules:

- The solar cells are protected by a hardened glass plate. The panel is waterproof and weatherproof. Solar cells must be clean in order to maintain their performance. Therefore, you should clean the glass plate of the module with a damp cloth and a little washing-up liquid every 4 weeks.
- In dusty environments, the solar panel should be cleaned more often.
- In winter, the panel must be kept free of snow, as covered solar cells cannot supply electricity.

## Solar controller

The solar controller installed is an MT-230-PP (Power-Plus) controller, which is designed for a total solar power of up to 230Wp.

The controller takes over the control of the current coming from the solar panels into the 12V power network and the charging of the on-board batteries.



### Operating indicators:

“weak” (yellow):

- Lights up: Undervoltage in on-board batteries. The batteries should be recharged as quickly as possible. “Standby” (green):
- Flashes: The controller is in standby when no solar power is flowing (at night). “Charging” green):
- Lights up: Brightness from a slight glow to full brightness indicates the charging current.
- Off: Not enough solar energy available.
- Flashes: Battery protection safety mode: Battery temperature  $<-20/-30\text{ }^{\circ}\text{C}$  or overtemperature  $+50\text{ }^{\circ}\text{C}$ . Automatic return and recharge at  $2\text{ }^{\circ}\text{C}$  lower.
- Flashes 1x: Shutdown solar overvoltage: Load LED flashes 1x, then the controller switches to standby mode. Be sure to check the solar module voltage (Voc)! “> 80%” (green):
- Lights up: On-board batteries are almost fully charged. Solar controller is in the U1 charging phase.

“Battery/batteries full” (on-board batteries fully charged, green):

- Lights up: Battery/batteries 100% charged, charge retention U2, finished.
- Glows: The main charging process is still in the U1 charging phase.
- Off: The main charging process is still in the I-phase.

If there is no solar power (at night), the operational readiness of the controller is indicated by a brief flashing of the “Charge” LED (light emitting diode).

A steadily flashing “Charge” LED indicates a possible fault in the system: Controller overheated, or a fault found in the self-test, battery too hot ( $> 50\text{ }^{\circ}\text{C}$ ) when using the battery temperature sensor.

As soon as there is sufficient solar power, the “Charge” LED lights up and the charging process begins.

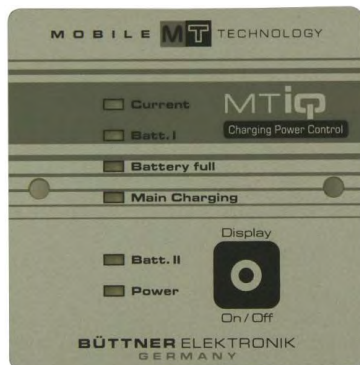
The brightness of the “Charge” LED is also a measure of the solar power implemented: The brighter, the more of the available (even low) solar power is passed on.

### **BCB Battery control booster**

The battery control booster monitors the batteries in every operating state. It ensures optimum charging and battery maintenance in mains operation and in booster operation.

It also monitors the batteries in standby mode without a mains connection using a Pulser mode.

### **Remote control / Display panel**



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

The “Display On/Off” button switches the display off (e.g. night mode, only “Current” lights up dimly as an operating display) or on again.

Operating indicators: “Current” (charging current, red):

- Lights up: Mains or booster charging mode, lights up brighter or darker depending on the charging current emitted.
- Off: the charging current is less than approx. 0.2 A. “Batt. I” (On-board battery, yellow):
- Lights up: Mains or booster charging, on-board battery is monitored and charged.
- Flashes: 1. Battery protection: Abnormal battery temperature  $>50^{\circ}\text{C}$  (depending on type),  
Switchover to low safety charging voltage and half max.  
charging current, automatic return at normal temperatures.  
2. Control input “BMS” was activated by the LiFePO4 battery, i.e.  
charging stop.
- Goes out briefly every 2 s: Only for LiFePo4: Batt.Temp below  $0^{\circ}\text{C}$ , the charging current can be reduced to protect the battery for all types of charging, longer charging times for discharged batteries
- Off: no charging operation (safety switch is switched off). “Battery full” (on-board battery fully charged, green) with mains or booster charging:
- Lights up: Battery 100% charged, charge retention U2, U3 finished.



- Flashes: The main charging process is in the U1 charging phase, charge status display of approx. 75% at / 90% LiFePo4 (short flashing) gradually increasing to 100% (long flashing).
- Off: The main charging process is still in the I-phase. “Main charging” (main charge on-board battery, yellow) with mains or booster charging:
- Lights up: The main charging process is in the I or U1 charging phase.
- Off: Charge retention U2, U3 charging phase.
- Flashes: 1. Battery temperature sensor is 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” (start battery, yellow):

- Lights up: Booster mode (driving mode), start battery charges to the on-board battery.
- Flashes: Operating voltage at the “START” terminal is too low, the power control of the booster has therefore reduced the output power by more than 30%
- Off: Booster not active.

“Power” (mains, green):

- Lights up: The BCB has mains voltage or is active with 12 V for booster operation.
- Flashes: 1. Safety timer shutdown, charging I-phase took too long (15h), too many consumers or battery defective (cell closure). Reset only by removing the signal at “D+/K1.15” (engine, ignition off) and pulling out the mains plug. 2. Internal device fault (overheating), automatic reset after cooling.
- Goes out briefly every 2 s: “AC Power Limit” is active, the mains charging power is limited, Silent Run (Night mode).
- short flashes every 20s: Without a charging source, the pulser in the BCB trains the on-board (lead) battery. (Note: This function is automatically deactivated in the LiFePo battery selection!)
- Off: no power supply and booster also not active, idle mode

All LEDs “Current”, “Batt. I”, “Battery full”, “Main Charging”, “Batt. II”, “Power” flash at the same time: The top 4 selector switches “BORD” are in an invalid position, the device has switched off for safety. Set the desired battery type according to Page 9 “BORD” battery type (specification, technology). Note: Mains operation on the 230 V AC socket always has priority over 12 V DC/12 V DC booster operation.

No further operation or maintenance of the device is required.

### **Inverter (optional)**

The MT 1700 Si-N sine wave inverter converts the 12 V DC voltage of the on-board batteries into 230 V / 50 Hz sine wave AC voltage with a continuous output of up to 1700 W.

The inverter has an intelligent power saving control with automatic shutdown. This ensures that no more electricity is used when idling than is absolutely necessary. To protect the batteries, an undervoltage protection is integrated, which switches the inverter off when the battery voltage drops. Thanks to the integrated mains switchover, the inverter switches off when connected to the shore connection and the external power is switched directly to the available vehicle sockets.

## Control panel

The control panel is located on the left side of the entrance area.



## LED displays

“Inverter”:

- Lights up: The inverter is ready for operation “Automatic”:
- Lights up: The inverter is in automatic mode. “Line”:
- Lights up: the motorhome was plugged into 230 volt external power. The applied voltage is switched through to the sockets. “\*”:
- Lights up: Only active if the inverter is equipped with a climate box and the requirements for operating the air conditioning system via the inverter are met. “50%”
- lights up at a load of approx. 10/20 watts to 50% of the nominal power of the connected device. “<100%”
- The nominal power is between 50 and 100%. “Overload”
- The nominal power is greater than 100%. Operation is only possible for a short time. Additional signalling by an acoustic signal.

## Commissioning and function

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

### 1. Automatic mode:

- Briefly press the on/off switch.

The inverter is started in automatic mode by briefly pressing the ON/OFF switch. After an internal self-test of the entire system, signalled by 2 short and one long beep, the inverter starts operating. The green “Inverter” LED indicates that the device is ready for operation, the “Automatic” LED lights up. There is now 230 V AC on the device socket at the front and the consumers are supplied.

In this mode, the inverter continuously checks the connected load (e.g. TV set). As long as the TV set is switched on, it requires power (> 25 W). If the TV set is switched off (< 25 W), the inverter recognises this state and automatically switches to standby mode after an observation time of approx. 30 seconds.

All LEDs go out, only the yellow “Automatic” LED flashes every second.

The inverter now checks every second whether a load > 25 W is connected to the output.

If it does not find a consumer in standby mode within the next 5 or 10 minutes, it switches off completely and can be restarted using the ON/OFF switch.

In order to reduce this unnecessary battery load, it makes sense to use the automatic function.



2. Manual operation of the inverter without automatic mode:
- Press and hold the ON/OFF switch for longer than 3 seconds.

If the inverter is to be operated without Automatic mode, e.g. so that also consumers with very low power such as battery chargers, portable radios or similar can operate without problems, the ON/OFF switch must be operated for more than 3 seconds when switching on the inverter. After this time, the yellow “Automatic” LED goes out and the inverter is now in continuous operation. The inverter is switched off again by pressing the ON-OFF switch. In continuous operation, the battery is loaded even without connected consumers.



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

### Solar remote display

Precise display of all important measurements of the solar system. The display is located in the display box above the entrance door.

The following displays are available:

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

## Operation



Button 1: Switching the solar displays



Button 2: Switching the time and date, programming the Home screen (3 s)

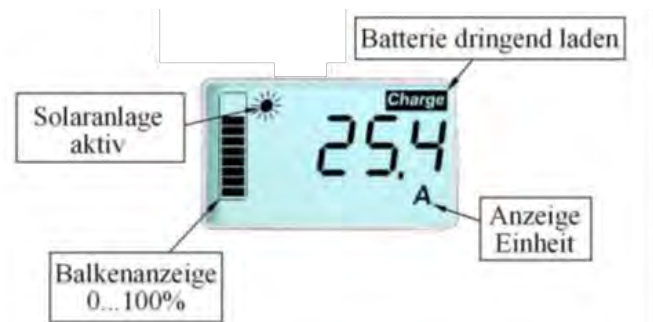


Button 3: Switching the display on/off, menu (3 s)

Home 3s



Reset 3s



### Switch on, switch off

#### Standby

In standby mode, the display has no content. “ON” only appears when the switching output is active and the “Charge” symbol as a warning when the battery is discharged.

#### Display with and without lighting:

When the solar remote display is operated, the display lighting is switched on and remains activated for 3 minutes. If no further operation takes place within this time, the lighting switches off automatically. The display continues to show the same content. Pressing any button again activates the display lighting again. Only the second press on a button performs the actual function of the button.

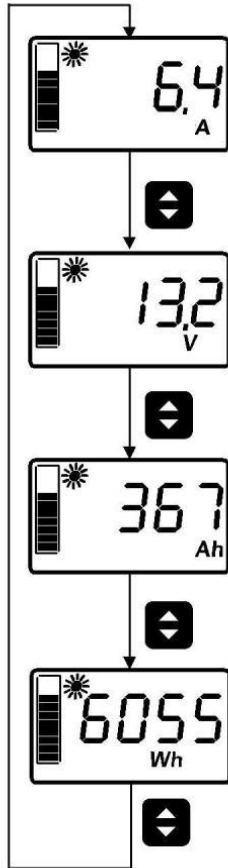
#### Switch on from standby:

From standby, the device can either be switched on completely or only the clock function. If Button 2 (middle) is pressed to switch on, it is only possible to switch between time and date. In any case, the display automatically returns to standby mode after 30 seconds.

If all functions are to be displayed, the device must be switched on with Button 3 (right). Now it stays on until you press Button 3 (right) again to put the device back into standby mode.

Home screen: Any display can be programmed as the Home screen. This display always appears first after switching on the MT Solar remote display II. To program the Home screen, the desired screen must be displayed and the Button 2 (middle) must be pressed for more than 3 seconds until the display “HOME” appears.

## Solar displays



The measurement and display values of the solar system are scrolled through with Button 1 (left).

### Voltage:

- The voltage (volt “V”) of the on-board battery is displayed.

### Current:

- The display shows the current (ampere “A”) of the solar system at that time.

### Solar power meter:

- The energy generated by the solar system is continuously metered and displayed as ampere hours (Ah) and watt hours (Wh). If the Wh meter exceeds 9999 Wh, kWh are automatically displayed. The meter readings can be set to zero separately at any time. To do so, the display must show the respective meter value and press Button 3 for over 3 seconds until the display shows (Set ----).

### Power:

- The current output of the solar system appears as a bar chart on the left side of the display in 10% steps. The display can be set to 100% manually when the sun is shining and the full charging current is flowing. To do so, the display must be set to current (A) and Button 3 must be held down for more than 3 seconds, until the display (Set 100%) is shown. This process can be repeated as required.

### Time display

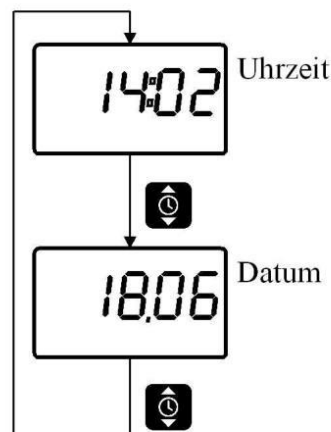
The time and date are scrolled through with Button 2 (middle).

### Time:

- The current between second.

### Date:

- The display the and month.



time is displayed. The colon hours and minutes flashes every

of the date can be recognised by separating point between day

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

The operating status of the solar controller is indicated by the sun symbol.

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

Full sun: Solar power is available, maximum possible charge

Flashing sun: The controller limits the current due to a full or almost full battery so as not to overcharge the battery.

**Battery computer 5000iQ**

The battery computer enables complete battery monitoring by calculating the exact state of charge of the on-board batteries and displaying this like a “fuel gauge for the battery”. The charge status of the batteries can be output in % and also in Ah.

The battery computer is also equipped with a visual battery status warning. If the battery capacity falls below the factory setting of <30%, the display illumination flashes alternately bright/dark.

This additional function is used in particular in connection with LiFePo4 batteries and is intended to indicate that the batteries need recharging.

The flashing function is automatically switched off by recharging.

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

**Operation**

Button 1: Switching the battery computer displays



Button 2:  
Switching the clock and thermometer displays, programming the Home screen (3s)



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

Reset 3s

## **Switch on, switch off**

The device is optimised for extremely energy-saving operation and therefore has three operating modes.

### Standby:

In standby mode, the display has no content. An “ON” only appears when the switching output is switched on.

Display with and without lighting:

When the MT 5000iQ is operated, the display lighting is switched on and remains activated for 3 minutes. If no further operation takes place within this time, the lighting switches off automatically. The display continues to show the same content, as with the lighting Pressing any button again activates the display lighting again. Only the second press on a button performs the actual function of the button.

### Switch on from standby:



From standby, the device can either be switched on completely or only the clock function. If Button 2 (middle) is pressed to switch on, switching can only be done between the clock and thermometer displays. The MT 5000iQ will automatically return to standby mode after 30 seconds.

If all functions of the MT 5000iQ are to be displayed, the device must be switched on with Button 3 (right). Now it remains switched on until you press Button 3 (right) again to put the device back into standby mode.

### BCB mode:

If the device is connected to a BCB, this is indicated by a marker centrally at the bottom of the screen (between the markers for Home and On-board battery). If the marker flashes, the isolating relay on the BCB is activated.

## Battery computer displays

The measurement and display values of the battery computer functions are scrolled through with Button 1 (left).

### Voltage:

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

### Current:

- The current display provides information about the load or charge of the battery at that time. The display shows the measured current, which flows in or out of the battery at that time.
- If the current flows into the battery, the display shows a positive current as well as the charging symbol “CHARGE”. If the current flows from the battery, it is negative and is shown with a minus sign.

### Capacity display:

- The capacity of the on-board battery is displayed in ampere hours (Ah) and in percent (%) of the nominal capacity. The bar graph on the left of the display also shows the capacity in 10% steps.

### Remaining time display:

- The remaining runtime is calculated from the remaining capacity (up to the set switch-off threshold) and the current at that time. Of course, if no current flows from the battery, no remaining period can be calculated. A -.- is then displayed.

## Clock displays



The measurement and display values of the clock and thermometer functions are scrolled through with Button 2 (middle).

### Time:

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

### Date:

- The display of the date can be recognised by the separating point between day and month.

## Access to the menu

Hold down Button 3 (right) for more than 3 seconds until “Set” flashes.

The settings in the menu can be changed with Buttons 1 (left) and 2 (middle). Button 3 switches the menu to the next step. The changes are saved automatically.

## 4.8 Platin (option)

As a supplement to your FRANKIA motorhome, the BÜTTNER ELEKTRONIK technology package in the Platin Edition, offers perfect energy management on board.

For you, this means extra performance, comfort and independence.

The components of the Platin Edition are perfectly coordinated with one another and ensure high-quality power supply and charging in all areas - even during short journeys and charging processes. Thanks to the solar modules and the optionally connectable EFOY fuel cell, you can also achieve a significant increase in service life and great independence from the power connection.

The individual components of this technology package are described below with their function and operation.

### On board batteries

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

Both body-batteries are charged automatically:

1. when connecting to the 230 volt mains via the charger (MT-1240 CAC) with lithium characteristic,
2. with the engine running via the charging booster (MT-Lb90) with lithium characteristic, and
3. via the solar module according to the prevailing weather conditions.

#### Care and maintenance of the LiFePo4 battery system:

- The state of charge of the batteries should be checked regularly; recharge the batteries if necessary.
- Check the pole terminals for a secure fit.
- If the motorhome is going to be out of use for a long period of time, you must make sure that the batteries are recharged to 50% -80% at regular intervals (every 2-3 months). If a 230V external connection is available, the charging devices generally take over the recharging automatically. If the vehicle is outdoors, this function is usually also performed by the solar system.



**Achtung**

Avoid frequent discharges below 30%. The same applies to LiFePo4 batteries, the greater the depth of discharge, the shorter the lifespan of the batteries. However, these batteries do not have to be fully charged or recharged permanently and are usable in a partially charged state between 30% and 100%.

To prevent damage to the LiFePo4 battery, there are several protective devices:

- At very low temperatures below 0°C, the performance of the charging systems is reduced and, if necessary, completely interrupted from -20°C. This also applies to very high temperatures above 50°C. In both cases, charging starts again automatically when the battery warms up or cools down again.
- Battery capacity warning:  
Please note the battery capacity indicator on your battery computer. If the usable capacity



falls below 30%, a flashing display should indicate that less than 30% of the battery capacity can still be used and should be recharged if necessary.



- **Automatic battery shutdown:**

Deep discharge, permanently too high currents, too high temperatures, as well as incorrect charging voltages can lead to the automatic switching off of the LiFePo4 battery for its protection!

If the switch-off criterion no longer exists or charging takes place, the battery switches on again automatically and can be used normally.

Please note that specific settings may then be required in your on-board electronics.

- The on-board battery must be replaced with the same type and specification as the originally installed on-board battery, or as specified by the manufacturer.
- When expanding the existing LiFePo4 battery with an additional battery, it is essential that both batteries are charged 100% independent from each other before they are connected in parallel!

### **Solar module**

The 4 installed solar modules are BlackLine solar modules with very high efficiency MultiCell technology. The solar modules have a total output of 400Wp.

The solar panel is located on the vehicle roof and converts light into electrical energy. The energy obtained in this way is fed directly into the 12-volt on-board electrical system, and the on-board battery is charged if there is an excess. The solar controller takes over the distribution of the solar power.

#### **Maintenance and care of the solar modules:**

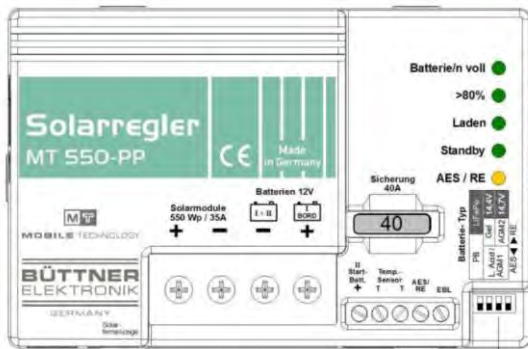
- The solar cells are protected by a hardened glass plate. The panel is waterproof and weatherproof. Solar cells must be clean in order to maintain their performance. Therefore, you should clean the glass plate of the module with a damp cloth and a little washing-up liquid every 4 weeks.
- In dusty environments, the solar panel should be cleaned more often.
- In winter, the panel must be kept free of snow, as covered solar cells cannot supply electricity.



## Solar controller

The installed solar controller is an MT-550-PP (Power-Plus) controller, which is designed for a total solar power of up to 550Wp.

The controller takes over the control of the current coming from the solar panels into the 12V power network and the charging of the on-board batteries.



### Operating indicators:

“AES/RE” (yellow):

- Lights up: There is sufficient excess solar power, the “AES/RE” output is activated.
- Off: Output “AES/RE” is switched off.

“Standby” (green):

- Flashes: The controller is in standby when no solar power is flowing (at night).

“Charging” (green):

- Lights up: Brightness from a slight glow to full brightness indicates the charging current.
- Off: Not enough solar energy available.
- Flashes: Battery protection safety mode: Battery temperature  $<-20/-30\text{ °C}$  or overtemperature  $+50\text{ °C}$ . Automatic return and recharge at  $2\text{ °C}$  lower.
- Flashes 1x: Shutdown solar overvoltage: Load LED flashes 1x, then the controller switches to standby mode. The solar module voltage ( $V_{oc}$ ) must be checked!

“> 80%” (green):

- Lights up: On-board battery is almost fully charged. Solar controller is in the U1 charging phase.

“Battery/batteries full” (on-board batteries fully charged, green):

- Lights up: Battery/batteries 100% charged, charge retention U2, finished.
- Glows: The main charging process is still in the U1 charging phase.
- Off: The main charging process is still in the I-phase.

If there is no solar power (at night), the operational readiness of the controller is indicated by a brief flashing of the “Charge” LED (light emitting diode).

A steadily flashing “Charge” LED indicates a possible fault in the system: Controller overheated or a fault found in the self-test, battery too hot ( $> 50\text{ °C}$ ) when using the battery temperature sensor.

As soon as there is sufficient solar power, the “Charge” LED lights up and the charging process begins.

The brightness of the “Charge” LED is also a measure of the solar power implemented: The brighter, the more of the available (even low) solar power is passed on.

## Stromversorgung

10

### Auto-Lade-Booster 45A

Fully automatic battery charger (CAC) MT 1240 with “IUoU” Lithium charging characteristic and intelligent charging control with dynamic charging time calculation and temperature compensation of the charging current at temperatures below 0°C and also above 50°C.

**Schnell-Hilfe Lade-Booster 45A**  
Maximum charging power even with mains undervoltage.

#### Remote control/Display panel

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



Die Taste „Display On/Off“ schaltet die Anzeige aus (z.B. Nachtbetrieb) bzw. wieder ein.

Die Arbeitsweise des Lade-Boosters wird dabei nicht beeinflusst.

#### Operating indicators:

##### **Betriebsanzeigen:**

“Current” (charging current, red):

- „Current“ (Ladestrom, rot): depending on the charging current emitted.

Leuchtet entsprechend dem abgegebenen Ladestrom heller oder dunkler.

“Batt. I” (On-board batteries, yellow):

- Lights up: On-board batteries are monitored and charged.
- Flashes: Battery protection: Abnormal battery temperature >50°C (depending on type), Switchover to low safety charging voltage and half max. Charging current, automatic return when the batteries cool down slightly.

##### **„Batt. I“ ( BORD-Batterie, gelb ):**

- Aus: BORD-Batterie ist vom Lade-Booster komplett getrennt (Sicherheitsschalter).
- Goes out briefly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced to protect the battery for all types of charging, longer charging times for discharged batteries

##### **„Battery Full“ ( BORD-Batterie vollgeladen, grün ):**

Off: Charging output is blocked (safety switch)

Leuchtet: Batterie zu 100 % geladen, Ladeerhaltung U2, fertig.

“Battery full” (on-board batteries fully charged, green)

- Lights up: On-board batteries 100% charged, charge retention U2 finished.
- Flashes: The main charging process is in the U1 charging phase, charge status display of approx. 80% (short flashing) gradually increasing to 100% (long flashing).
- Off: The main charging process is still in the I-phase.

Aus: Hauptladevorgang läuft noch in der I-Phase.

“Main charging” (On-board batteries main charge, yellow):

- Lights up: The main charging process works in the I phase and then in the U1 charging phase.

- Flashes: 1. Battery temperature sensor is not connected for LiFePO4 charging characteristics! 2. External overvoltage battery I or II, > 15.5 V delay 20 s, automatic reset < 12.8 V (depending on type), delay 30 s.
- Off: Charge retention U2, or storage charge U3 “Batt. I” (On-board batteries II, yellow): (Note: This 2nd charging outlet is not used!)
- Lights up: On-board batteries are monitored and charged.
- Flashes: Battery protection: Abnormal Battery II temperature > 50°C (depending on type), Switchover to low safety charging voltage and half max. Charging current, automatic return when the batteries cool down slightly.
- Goes out briefly every 2 s: Only for LiFePo4: Battery temperature below 0°C, the charging current can be reduced to protect the battery for all types of charging, longer charging times for discharged batteries
- Off: Charging output is blocked (safety switch)
- “Power” (mains, green):
- Lights up: Mains present and charger ready.
- Flashes: 1. Safety timer shutdown, charging I-phase took too long, too many consumers, battery defective (cell closure). Reset only by power switch (rear of device) in position “0”) 2. Internal device fault (overheating), automatic reset after cooling.
  3. Battery reverse polarity (+ and - interchanged).

Note: The secondary battery III (starter battery) is operated with reduced voltage and current together with the main battery “I” (master) and does not have its own display on the device. The function of the output can be recognised by the rise of the voltage on the battery to be charged .

#### Night reduction “Silent Mode”:

The Silent Mode function can be activated at the push of a button (1 second display on/off button) especially for sleeping at night:

- the internal cooling fan is constantly set to the lowest noise, constant speed
- all display LEDs are switched off, only the “Current” indicator is still weakly lit
- the lower cooling capacity may reduce the charging capacity somewhat depending on the ambient temperature of the charger Reactivating the display and thus always the full charging capacity:
- Manually possible at any time by pressing the button again (1 second)
- Automatically after 10 hours by built-in timer (end of night's sleep)

No further operation or maintenance of the device is required.

## Charge booster

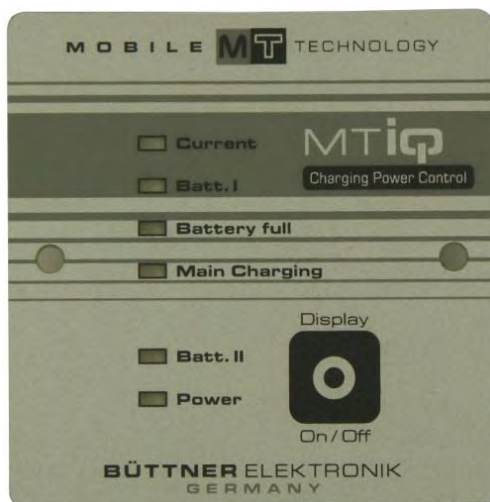
Fully automatic battery charging booster MT LB90.

The charging boosters enable optimised charging of the on-board batteries while driving, by raising the charging voltage of the alternator to the value required for fully charging the batteries.

The charging boosters have an “IU1oU2” charging characteristic with dynamic charging time calculation and therefore automatically ensure fast and gentle full charging and subsequent 100% charge maintenance of the connected batteries from any charge state.

### Remote control / Display panel:

The display panel can be found in the storage box on the charging booster for functional checks.



The “Display On/Off” button only switches the display off (e.g. night mode) or on again. The way of working of the charging boosters is not affected thereby.

### Operating indicators:

“Current” (charging current, red):

- Lights up: Mains or booster charging mode, lights up brighter or darker depending on the charging current emitted.
- Off: the charging current is less than approx. 0.2 A. “Batt. I” (On-board battery, yellow):
  - Lights up: The On-board battery is monitored and charged.
  - Flashes: Battery protection: Battery overtemperature  $> 50^{\circ}\text{C}$ , switchover to low safety charging voltage and half max. charging current, automatic return with slight cooling to  $48^{\circ}\text{C}$ , for LiFePO<sub>4</sub> also with battery under-temperature  $< -20^{\circ}\text{C}$ .
  - Goes out briefly every 2 s: Only for LiFePO<sub>4</sub>: Battery temperature below  $0^{\circ}\text{C}$ , the charging current can be reduced to protect the battery for all types of charging, longer charging times for discharged batteries
  - Off: On-board battery is completely disconnected from the charging booster (safety switch). “Battery full” (on-board batteries fully charged, green):
    - Lights up: Battery 100% charged, charge retention U<sub>2</sub>, finished.
    - Flashes: The main charging process is in the U<sub>1</sub> charging phase, the charge status indicator gradually increases from around 80% (short flashing, 90% LiFePO<sub>4</sub>) to 100% (long flashing).

- Off: The main charging process is still in the I-phase. “Main charging” (Main charge on-board battery, yellow):
  - Lights up: The main charging process works in the I phase and then in the U1 charging phase.
  - Off: Charge retention U2.
  - Flashes: 1. Battery temperature sensor is not connected for LiFePO4 charging characteristics! 2. External battery overvoltage > 15.5 V delay 20 seconds, automatic reset < 13.2 V (depending on type), delay 30 seconds. “Batt. II” (STARTER battery, yellow):
  - Flashes: The power control of the charging booster has reduced the output performance by more than 30% (STARTER battery protection against discharge, ability to start) since the voltage of the STARTER battery has decreased below the set value for “Reduction of charging power” (Table 2). If the voltage rises above the value “Increase of charging power”, the system automatically adjusts itself again.

“Power” (green):

- Lights up: The charging booster has been activated and is ready for use.
- Flashes: 1. Safety timer shutdown, charging I-phase took too long (15 hours), too many consumers, battery defective (cell closure). Reset only by removing the signal at “D+/K1.15” (engine, ignition off). 2. Internal device fault (overheating), automatic reset after cooling. 3. Accidental polarity reversal of the On-board battery (+ and - interchanged).

#### Commissioning and function test:

The function of the charge booster can be checked:

- Start the vehicle.
- Charge booster is activated and starts with 10% of the maximum charging power.
- LEDs “Power”, “Batt. I”, “Main Charging” light up, LED “Current” glows.
- Increase the revolutions of the vehicle so that the voltage on the start battery rises above the set value for increasing the charging power.
- The charging capacity is regulated and increases to the maximum value or, if the on-board battery is already full, to the required value of the charging characteristic.
- The “Current” LED lights up brighter or darker depending on the charging current.

A further operation or maintenance of the device is not required.

#### Climate control inverters

The MT 1700 Si-N sine wave inverter converts the 12 V DC voltage of the on-board batteries into 230 V / 50 Hz sine wave AC voltage with a continuous output of up to 1700 W.

The inverter has an intelligent power saving control with automatic shutdown. This ensures that no more electricity is used when idling than is absolutely necessary. To protect the batteries, an undervoltage protection is integrated, which switches the inverter off when the battery voltage drops.

Thanks to the integrated mains switchover, the inverter switches off when connected to the shore connection and the external power is switched directly to the available vehicle sockets.

## Control panel

The control panel is located on the left side of the entrance area.



## LED displays

“Inverter”:

- Lights up: The inverter is ready for operation “Automatic”:
- Lights up: The inverter is in automatic mode. “Line”:
- Lights up: the motorhome was plugged into 230 volt external power. The applied voltage is switched through to the sockets. “\*”:
- Lights up: Active if the requirements for operating the air conditioning system via the inverter are met. “50%”
- lights up at a load of approx. 10/20 watts to 50% of the nominal power of the connected device. “<100%”
- The nominal power is between 50 and 100%. “Overload”
- The nominal power is greater than 100%. Operation is only possible for a short time. Additional signalling by an acoustic signal.

## Commissioning and function

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

### 1. Automatic mode:

- Briefly press the on/off switch.

The inverter is started in automatic mode by briefly pressing the ON/OFF switch. After an internal self-test of the entire system, signalled by 2 short and one long beep, the inverter starts operating. The green “Inverter” LED indicates that the device is ready for operation, the “Automatic” LED lights up. There is now 230 V AC on the device socket at the front and the consumers are supplied.

In this mode, the inverter continuously checks the connected load (e.g. TV set). As long as the TV set is switched on, it requires power (> 25 W). If the TV set is switched off (< 25 W), the inverter recognises this state and automatically switches to standby mode after an observation time of approx. 30 seconds.

All LEDs go out, only the yellow “Automatic” LED flashes every second.

The inverter now checks every second whether a load > 25 W is connected to the output.

If it does not find a consumer in standby mode within the next 5 or 10 minutes, it switches off completely and can be restarted using the ON/OFF switch.

In order to reduce this unnecessary battery load, it makes sense to use the automatic function.



## 2. Manual operation of the inverter without automatic mode:

- Press and hold the ON/OFF switch for longer than 3 seconds.

If the inverter is to be operated without Automatic mode, e.g. so that also consumers with very low power such as battery chargers, portable radios or similar can operate without problems, the ON/OFF switch must be operated for more than 3 seconds when switching on the inverter.

After this time, the yellow “Automatic” LED goes out and the inverter is now in continuous operation.

The inverter is switched off again by pressing the ON-OFF switch.

In continuous operation, the battery is loaded even without connected consumers.



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

### Air conditioning on the inverter

The inverter is designed to operate the vehicle air conditioning system.

The air conditioning can thus be operated while driving.

#### Driving operation

When the inverter detects that the vehicle's engine is running and the voltage on the on-board battery is above 13.4V, the “\*” LED lights up and the air conditioning system can be started. If the voltage of the batteries drops below 12.2 V due to the high consumption of the air conditioning system despite the alternator running, the inverter switches off the socket for the air conditioning system and the LED goes out. If the voltage of the batteries rises above the switch-on threshold of 13.4 V due to the charging of the alternator, the socket for the air conditioning system is reactivated after a time delay of approx. 3 minutes. (The waiting time must be observed for the restart of the air conditioning compressor.)

#### Operation with external shore power

If there is 230 V mains voltage (shore power) on the vehicle, the operation (switching on) of the inverter is blocked and the air conditioning system is supplied with shore power via the internal mains switch. If the external mains voltage (shore power) is removed while the air conditioning system is running, the inverter remains switched off. This prevents accidental discharge of the on-board battery if the external mains voltage fails.

If the on-board battery is to continue operating the air conditioning system, the inverter must be switched on again. Also in this case, the socket for the air conditioning system is only reactivated after a time delay of approx. 3 minutes.

#### Change from inverter operation to shore power operation with the air conditioning system running

If the air conditioning system is operated via the inverter and then external AC voltage (shore power) is fed into the vehicle, the inverter switches off immediately. After approx. 4 seconds, the internal mains switch-over automatically switches the shore power on again. Also in this case, the socket for the air conditioning system is only reactivated after a time delay of approx. 3 minutes.



## Solar remote display

Precise display of all important measurements of the solar system. The display is located in the display box above the entrance door.

The following displays are available:

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

## Operation



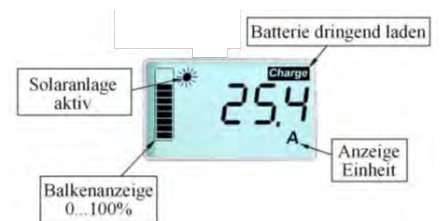
Button 1: Switching the solar displays



Button 2: Switching the time and date, programming the Home screen (3 s)



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



## Switch on, switch off

### Standby

In standby mode, the display has no content. “ON” only appears when the switching output is active and the “Charge” symbol as a warning when the on-board battery is discharged.

### Display with and without lighting:

When the solar remote display is operated, the display lighting is switched on and remains activated for 3 minutes. If no further operation takes place within this time, the lighting switches off automatically. The display continues to show the same content. Pressing any button again activates the display lighting again. Only the second press on a button performs the actual function of the button.

### Switch on from standby:

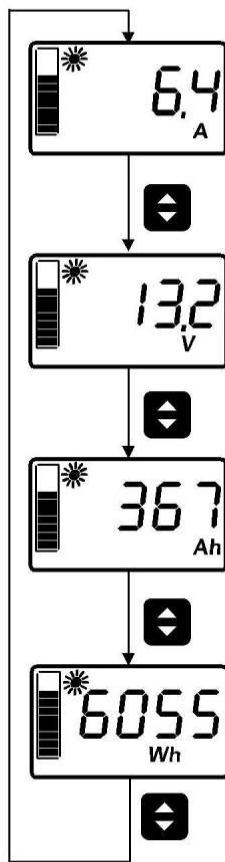
From standby, the device can either be switched on completely or only the clock function. If Button 2 (middle) is pressed to switch on, it is only possible to switch between time and date. In any case, the display automatically returns to standby mode after 30 seconds.

If all functions are to be displayed, the device must be switched on with Button 3 (right). Now it stays on until you press Button 3 (right) again to put the device back into standby mode.

Home screen: Any display can be programmed as the Home screen. This display always appears first after switching on the MT Solar remote display II. To program the Home screen, the desired screen must be displayed and the Button 2 (middle) must be pressed for more than 3 seconds until the display “HOME” appears.

### Solar displays

The measurement and display values of the solar system are scrolled through with Button 1 (left).



#### Voltage:

- The voltage (volt “V”) of the on-board battery is displayed.

#### Current:

- The display shows the current (ampere “A”) of the solar system at that time.

#### Solar power meter:

- The energy generated by the solar system is continuously metered and displayed as ampere hours (Ah) and watt hours (Wh). If the Wh meter exceeds 9999 Wh, kWh are automatically displayed.

The meter readings can be set to zero separately at any time. To do so, the display must show the respective meter value and press Button 3 for over 3 seconds until the display shows (Set ----).

#### Power:

The current output of the solar system appears as a bar chart on the left side of the display in 10% steps. The display can be set to 100% manually when the sun is shining and the full charging current is flowing. To do so, the display must be set to current (A) and Button 3 must be held down for more than 3 seconds, until the display (Set 100%) is shown. This process can be repeated as required.

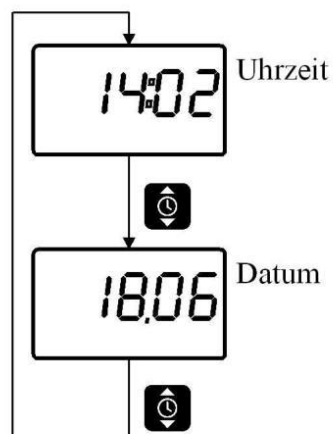
through with Button

#### Time:

- The current between hours second.

#### Date:

- The display of the separating



#### Time display

The time and date are scrolled 2 (middle).

time is displayed. The colon and minutes flashes every

the date can be recognised by point between day and month.

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

The operating status of the solar controller is indicated by the sun symbol.

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

Full sun: Solar power is available, maximum possible charge

Flashing sun: The controller limits the current due to a full or almost full battery so as not to overcharge the battery.

**Battery computer 5000H**

The battery computer enables complete battery monitoring by calculating the exact state of charge of the on-board batteries and displaying this like a “fuel gauge for the battery”. The charge status of the batteries can be output in % and also in Ah.

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

The MT 5000H (Hybrid) enables an ideal combination of solar charging and EFOY fuel cells. Depending on the type of EFOY fuel cell connected (EFOY 600 - EFOY 2200 / Comfort 80 - Comfort 210), the intelligent hybrid control calculates the optimum time for the charge support by the fuel cell. For this purpose, the remaining charge, charge or discharge and voltage of the battery are evaluated depending on the time of day and season.

Please note the battery capacity indicator on your battery computer. If the usable capacity falls below 30%, a flashing display should indicate that less than 30% of the battery capacity can still be used and should be recharged if necessary.

(see chapter 4.8. - On-board batteries)

**Operation**

Button 1: Switching the battery computer displays



Button 2: Switching the clock and thermometer displays, programming the Home screen (3s)



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

Menü 3s

### **Switch on, switch off**

#### Standby:

In standby mode, the display has no content. “ON” only appears when the switching output is switched on and the arrow above the word “Hybrid” if the EFOY is to run in hybrid mode.

#### Display with and without lighting:

When the MT 5000H is operated, the display lighting is switched on and remains activated for 3 minutes. If no further operation takes place within this time, the lighting switches off automatically. The display continues to show the same content, as with the lighting Pressing any button again activates the display lighting again. Only the second press on a button performs the actual function of the button.

#### Switch on from standby:

From standby, the device can either be switched on completely or only the clock function. If Button 2 (middle) is pressed to switch on, switching can only be done between the clock and thermometer displays. The MT 5000H will in any case automatically return to standby mode after 30 seconds.

If all functions of the MT 5000H are to be displayed, the device must be switched on with Button 3 (right). Now it remains switched on until you press Button 3 (right) again to put the device back into standby mode.

### **Clock displays**



The measurement and display values of the clock and thermometer functions are scrolled through with Button 2 (middle).

#### Time:

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

#### Date:

- The display of the date can be recognised by the separating point between day and month.



### Battery computer displays

The measurement and display values of the battery computer functions are scrolled through with Button 1 (left).

#### Voltage:

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

#### Current:

- The current display provides information about the load or charge of the battery at that time. The display shows the measured current, which flows in or out of the battery at that time.
- If the current flows into the battery, the display shows a positive current as well as the charging symbol “CHARGE”. If the current flows from the battery, it is negative and is shown with a minus sign.

#### Capacity display:

- The capacity of the on-board battery is displayed in ampere hours (Ah) and in percent (%) of the nominal capacity. The bar graph on the left of the display also shows the capacity in 10% steps.

#### Remaining time display:

- The remaining runtime is calculated from the remaining capacity (up to the set switch-off threshold) and the current at that time. Of course, if no current flows from the battery, no remaining period can be calculated. A -- is then displayed.

### Access to the menu

Hold down Button 3 (right) for more than 3 seconds until “Set”

flashes.

The settings in the menu can be changed with Buttons 1 (left) and 2 (middle). Button 3 switches the menu to the next step. The changes are saved automatically.

#### Function of the MT 5000H as the control of the EFOY fuel cell

The MT 5000H can switch the EFOY fuel cell on or off at calculated times. The cornerstones of the hybrid controller are determined by the set values for the size of the battery (Ah), solar modules (Wp) and type of the EFOY fuel cell. The aim of the hybrid control is to have a full battery at the time of the expected sunset, without drawing too much valuable energy from the fuel cell.

The fuel cell can also be switched on and off manually. To do so, press Button 2 for more than 3 seconds until ON or OFF appears in the display. Manual switch-off is not possible if the MT 5000H has calculated that the fuel cell must run in order to charge the battery to 90% by evening.

Operating status is indicated by the “Hybrid” mark on the display and the LED in the Hybrid box:

When the EFOY fuel cell of the MT 5000H is switched on, a marking arrow at the bottom of the display points to the word “Hybrid” and the green “Hybrid” LED on the MT Hybrid box lights up.

#### 4.9 EZA - Lithium energy system

With this option, instead of a normal living area battery, a compact energy system is in its place.

This system includes a LiFePo battery with 130Ah, an integrated charging booster (fully charged in less than 2 hours driving time), direct connection and monitoring of the inverter and the energy flow in the vehicle (via App)

Condition control of the electrical system via Bluetooth App for Android devices.

The link for the App can be found at [www.eza.fr/app.html](http://www.eza.fr/app.html)

The EZA lithium energy system enables you to be autonomous without maintenance and without special monitoring. However, it is necessary to have the cells of the battery checked every year, but without exact date restrictions, to ensure that they are properly balanced. Your dealer has the technical know-how to do this.

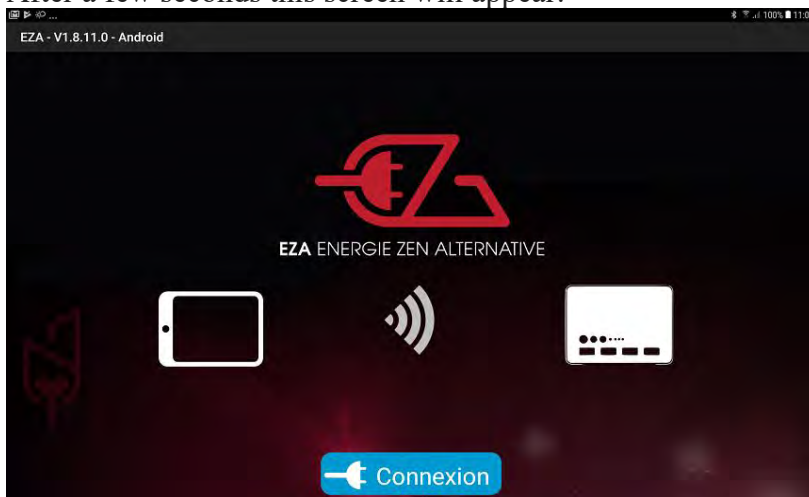
EZA has provided you with options to visualise the inputs and outputs of your battery so that you can see the different consumption and charging processes of your battery if you wish:

- 1- The free App can be downloaded on your smartphone and/or tablet. This APP not only enables the user to visualise the charging currents, the percentage utilisation and the autonomy, but also enables our technicians to carry out remote diagnosis if necessary.
- 2- A wired display is optional for people who prefer a fixed solution. It enables the visualisation of the charging currents, the autonomy and the percentage of utilisation.

##### **1- How to use the APP:**

- a. Download the APP from the website [www.eza.fr](http://www.eza.fr)
  - i. is downloaded
  - ii. EZA-APP
  - iii. Choose Android or IOS
- b. Download the APP from “Google Play” or “App Store” by entering EZA.
- c. Once the App is downloaded, click it to pair your EZA battery.

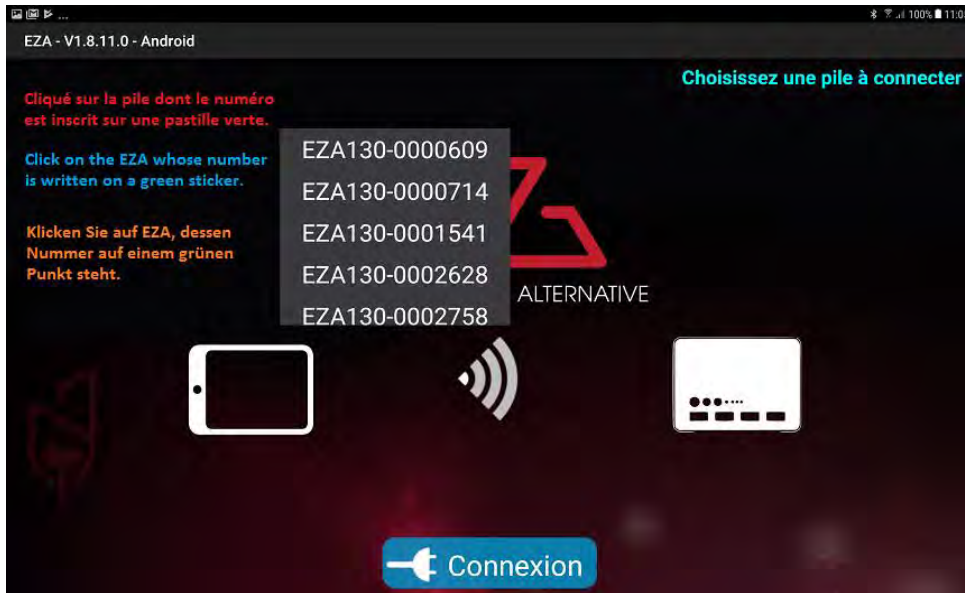
After a few seconds this screen will appear:





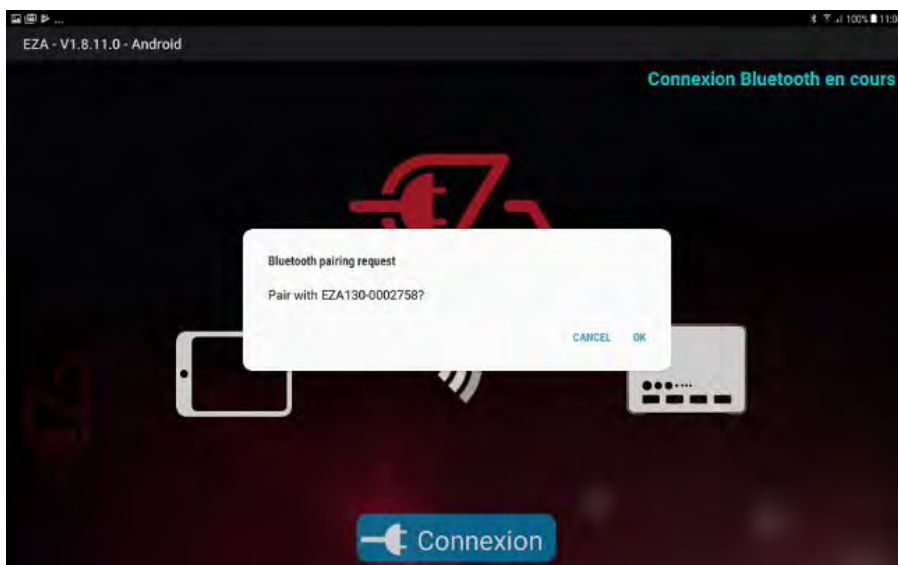
Then click on Connection.

d. One (or more) Bluetooth references will appear as listed below:



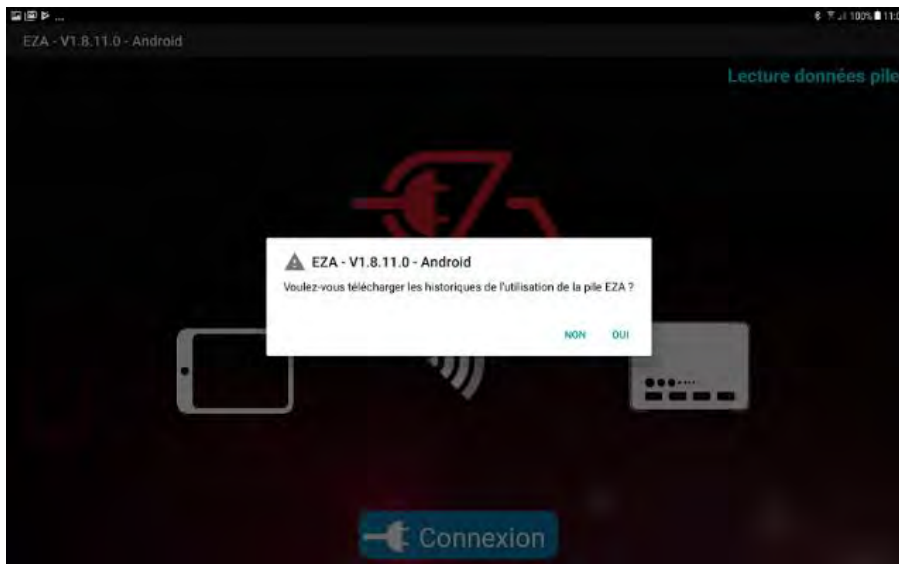
Click on the number that is on a green dot on the front of **Your battery** to the right of the cooler to proceed to the next step.

e. The next 2 screens are shown below



Or





Click “Yes” to connect.

Referring to the history: Since the download takes a lot of time, it is better to click on “No” unless this appears to be necessary for you.

f. The following screen appears:



g. You must enter the serial number, starting with an A - - - - - followed by 5 numbers (click the white rectangle) and then click OK.

**This number must be communicated in all correspondence.**

Once this first connection is made, you should not need to re-enter this information, except:

- If you move the phone or tablet connected to the APP too far from the EZA.
- If you switch off EZA.
- If the EZA switches off for safety reasons
- If the EZA is charged too low, that it turns off
- When Bluetooth disconnects itself. In this case, you have to close the App or disconnect your EZA from your phone (or tablet). To do so, select “Settings”, then “Bluetooth” and then “Restart pairing” (see Section 1c and following).

In extreme cases, you may need to uninstall and reinstall the App.

h. You then access the APP itself via this “Autonomy” screen:



i. Once the first full battery charge is complete, the first screen looks like this:

**Dropdown-Menü**

Diese Taste zeigt an, dass die Batterie mit der Motorbatterie verbunden ist. Diese Anzeige sollte nur bei laufendem Motor erscheinen.

230 V

Diese Informationen werden nur bei der Installation des 1500 W MODPILCONV-Konverters aus dem EZA-Programm angezeigt.

**Autonomy : ... \***

Ihr Akku wurde einmal zu 100% geladen und Sie haben nun Zugriff auf die Informationen auf dieser Seite.

Autonomie; wenn die Batterie entladen wird, erscheint im grünen Teil der Batterie ein Pfeil nach unten. Diese Autonomie wird nach dem momentanen Verbrauch der Batterie berechnet.

**Nutzbare Leistung Ihrer Anlage** \

EZA/130Ah

\* Battery charging

j. To access the next screen “USE”, click on the dropdown menu and then on “USE”. On this screen you have access to:

- Charging and discharging information of the EZA.
- The ON / OFF button of the grey connector that supplies the inverter.
- And always the key that indicates that the engine is on or off.

**Alle untenstehenden** Tabletten entsprechen den gleichfarbigen Steckern an der Batterie.

Der blaue Punkt zeigt die Ladung einer Hilfsvorrichtung an, falls vorhanden.

Der gelbe Punkt zeigt die Ladung des/der Solarmodule(s) an. Dies ist natürlich der Fall, wenn Panels an die gelbe Buchse der Batterie angeschlossen werden.

Der graue Punkt zeigt die Leistungsaufnahme des Umrichters an. Die zugehörige rote Taste zeigt an, dass die Stromversorgung ausgeschaltet ist. Drücken Sie ihn, um den Konverter mit Strom zu versorgen, die Taste wird dann grün. VORSICHT, es ist sehr wichtig, den Umrichter nach Gebrauch auszuschalten, da sein Standby-Verbrauch 2 oder sogar 2,5 Ampere erreichen kann.

Der schwarze Punkt zeigt den 12V-Verbrauch sowie im Allgemeinen die 12V-Ladung des ursprünglichen 230V/12V-Ladegeräts an. Die auf dem Tablett sichtbare Stromstärke zeigt automatisch die Summe zwischen Verbrauch und Last an.

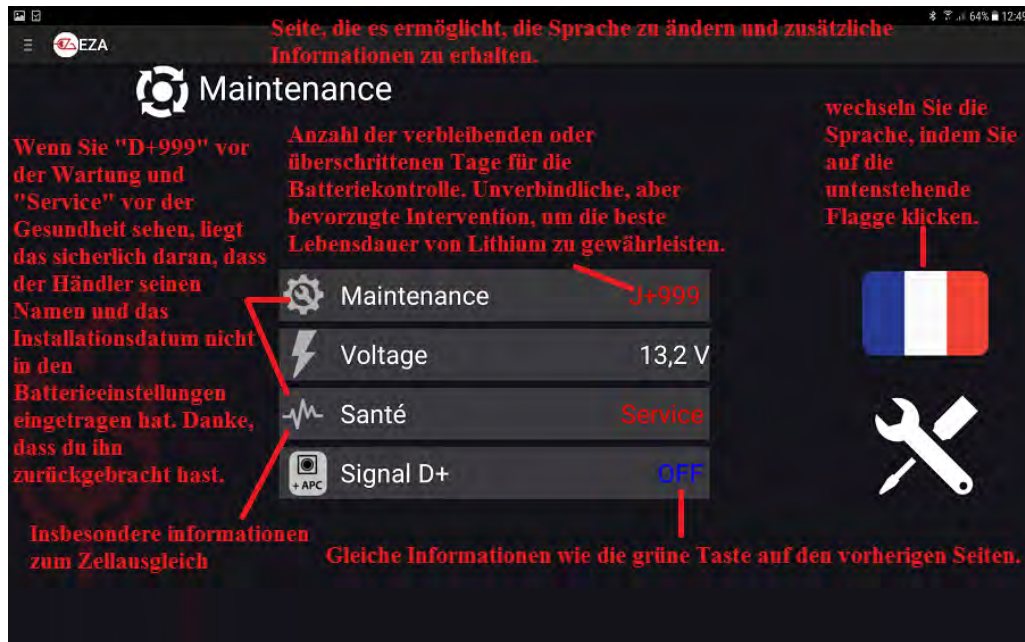
Die Motorlast wird auf dem roten Pad angezeigt, nur wenn der Motor eingeschaltet ist. Diese Ladung variiert zwischen 0 und 70 Ampere.

Der rote Punkt zeigt die Motorlast an.

Die Motorlast wird auf dem roten Pad angezeigt, nur wenn der Motor eingeschaltet ist. Diese Ladung variiert zwischen 0 und 70 Ampere.

k. To access the “MAINTENANCE” screen, click the drop-down menu and then click on “MAINTENANCE”. On this screen you can:

- Change the language of the App.
- Show battery voltage.
- View the health status of the battery.
- View the number of days remaining or exceeded for a cell balance check.



#### 4.10 Radio map or software update

A radio installed ex works already contains the current versions for navigation and firmware of the device.

For a manual update, please visit the manufacturer's website:

[www.alpine.de/support/software-und-kartenupdate.html](http://www.alpine.de/support/software-und-kartenupdate.html)

and

[www.alpine.naviextras.com](http://www.alpine.naviextras.com)



## 5. SANITARY SYSTEM

### 5.1 Central supply (not with M-Line Neo)

Your motorhome is equipped with a central supply. All elements are stored together in a storage compartment (see image).



Central supply Fiat / MB (depending on floor plan)

- Open the storage flap of the supply and disposal compartment, roll out the fresh water hose.
- Switch on the water pump on the control panel.
- Put a tap in the hot water position and open it completely - the boiler will now be filled.
- As soon as the water comes out without bubbles, close the tap again.
- Repeat the process with all other hot water taps.
- Open the taps in the cold water position until the water comes out without bubbles - close all taps again.



Central supply MB / Fiat (depending on floor plan)



The ventilation hose does not serve as an overflow.  
When filling the tank, always check the water level and stop the water supply in time when it reaches 100%.

For winter operation, please do not forget to empty the water in the hose completely. For this, the hose must be completely unrolled.

If you do not use your motorhome for a long time, e.g. due to wintering, you can also remove the fresh water hose drum and completely empty the water in the hose

#### Disassemble hose reel:

- Raise the hose reel
- tilt slightly to take it out
- Disconnect the adapter on the side

#### Assemble fresh water:

- Assemble in the reverse order



**Warnung**

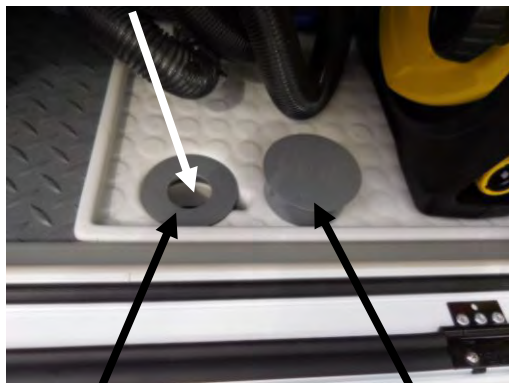
When not in use, the water pump should always be switched off using the button on the control panel; especially when leaving the vehicle!

With all Fiat floor plans, you can fill the fresh water tank with water canisters via the emergency water filler neck (see photo). To do so, loosen the flexible hose from the brackets, pull off the plug and pour the water. For MB this hose is available depending on the floor plan (depending on the accessibility of the tank inspection opening through an outer flap).

Wastewater discharge:

- Open the storage flap
- Remove the cover from the floor duct.
- Guide the grey disposal hose through the floor duct to the outside.
- Open drain slide: Turn the handle upwards so that it is in the direction of the flow.
- Empty the tank.
- Close the drain slide:  
Bring the handle into the starting position.
- Pull the hose inwards.
- Close the floor duct with the cover and insert the wastewater hose into the hole in the cover.
- Close the storage flap.

## Floor outlet



Cover summer

Cover winter

230V - connection via the central supply (Fiat, Mercedes Low-Profile):

- The floor outlet is only intended for the water connection
- Open the power supply flap
- Pull the cable of the cable drum completely through the opening.
- Connect the cable of the cable drum to a 230V/50Hz socket.

The control symbol for the 230V charge must light up on the control panel above the entrance door.



## Power supply flap Central supply Mercedes Coachbuilt



For motorhomes on Mercedes, the fresh water hose reel, the water distributor and the wastewater disposal hose are housed in the central supply compartment.



The cable reel with automatic reel is located under a separate flap in front of the central supply compartment. Unplug the power cord. After gently pulling the cable again, it automatically rolls up again. **To minimise the risk of overheating, always unroll the cable drum completely.** Should the overload protection still trigger, reduce the number of consumers below the permissible value and then press the red button on the cable drum.



**Warnung**

By means of the cable drum no more than 3500 watts may be consumed when fully rolled out. When rolled up, a maximum of 1000 watts may be consumed.



**Warnung**

- **Always unroll the cable drum completely - risk of overheating!**
- Please start by disconnecting the mains connection from the mains socket so that you do not have to work with a cable that is live.
- The load capacity of the 230V system is limited by the fuse of the power column at the place of stay (e.g. campsite):
  - With 230V, 6A power column: Max. load capacity 1250W
  - With 230V, 10A power column: Max. load capacity 2070W
  - With 230V, 13A power column: Max. load capacity 2690W
  - With 230V, 16A power column: Max. load capacity 3300W

- Power consumption above this value can lead to a technical defect (triggering the 230V fuses on the power column or in the vehicle or overheating the system - risk of fire).



- In order to prevent possible overloading, it is advisable not to operate the ALDE heating in 230V operation at maximum level if you intend to operate additional consumers (e.g. coffee machine, vacuum cleaner, hair dryer).  
Especially for this case, ALDE offers a load monitor (ALDE No. 301015) as an accessory.

The sum of the consumers operated must not exceed the connected load of the power column for correct operation!

The following table provides an indication

#### **Average values of electrical consumers:**

<b>Consumers:</b>	<b>Note:</b>	<b>Power consumption (watt):</b>
Battery charger	(1 on-board battery)	320W
Battery charger	(2 on-board batteries)	640W
Heating TRUMA Combi 6 E	Level 1	900W
	Level 2	1800W
Heating ALDE Compact3020HE	Level 1	1050W
	Level 2	2100W
	Level 3	3150W
Coffee machine	(device dependent)	approx. 1000W
Fully automatic coffee machine	(device dependent)	approx. 1800W
Capsule / pad machine	(device dependent)	approx. 1500W
Hair dryer	(device dependent)	1200-2300W
Kettle	(device dependent)	1000-3000W
Vacuum cleaner	(device dependent)	700-1200W
Notebook charger	(device dependent)	60-100W

## **5.2 Fresh water and wastewater**

Your motorhome is equipped with two tanks, the filling level of which can be checked on the central control panel. The fresh water tank is filled from the outside and is frost-proof down to approx. -15°C because it is located in the heated intermediate floor.

- Always fill with clean drinking water.
- If necessary, add drinking water disinfectant (Micropur, Certisil or Reomin) through the inspection opening of the fresh water tank. To avoid corrosion on the strainer and on the chain in the tank, make sure that all additives are compatible with stainless steel.
- If there is a risk of frost, ensure that the motorhome body is adequately heated or drain the system.
- Drain the water from the tank and water hose if it is not used for a longer period (more than 3 days).
- Clean the water hose, fresh water and wastewater tanks regularly.
- Sink, shower and wash basin are supplied with cold and warm water from the fresh water tank via a pressure pump (maximum uninterrupted operating time of the pressure pump approx. 15 minutes).
- The fresh water tank has a drain plug in the bottom.

- There is a screw cap in the tank. Turn the cap about a  $\frac{3}{4}$  turn anti-clockwise - the tank can hold about 20 (for Selection) or 50 litres. If you continue to turn after overcoming a noticeable resistance, the tank will be emptied.  
To fill the tank completely with about 150 litres, turn the cap clockwise until it stops.



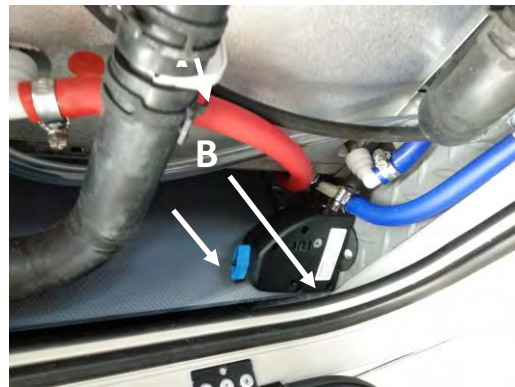
- Only operate the pressure water pump when the water tank is filled.  
**Running dry will destroy the pump.**
- The two drain valves of the water pipe can be reached on the water distributor.
- In the case of heaters, an automatic frost protection valve is attached to the boiler, which opens automatically when there is a risk of frost in the motorhome, but also when the body battery is disconnected. As this causes the water pump to start and empty the tank via the boiler, but does not switch itself off again, always switch off the 12 volt power supply when the vehicle is not occupied!

To empty the boiler manually, first switch off the water pump switch.

Turn the blue switch “A” by 90° to the position shown.

To close the valve, turn switch “A” again and then press button “B” on the base of the frost guard.

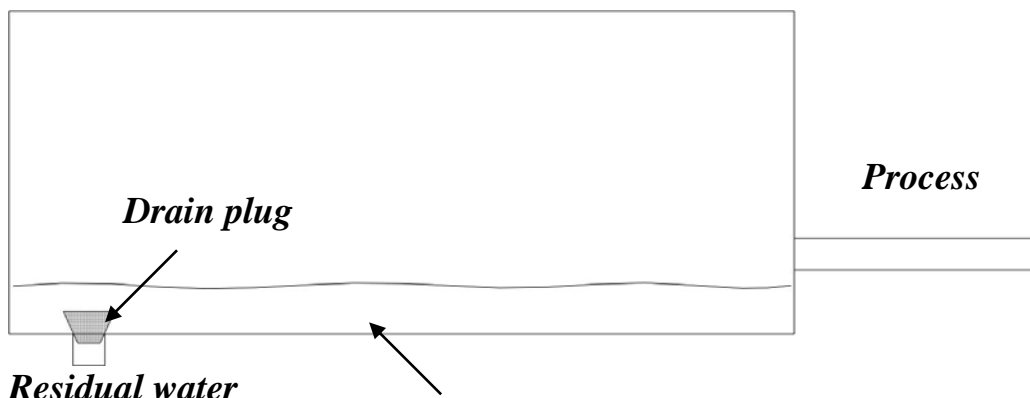
If the valve automatically triggers when there is a risk of frost, button “B” pops out.



The room temperature must be at least approx. + 6 degrees, otherwise the valve cannot be closed. If necessary, switch on the heating beforehand.

Due to the double floor concept, the water level cannot be completely drained through the drain. That is why the wastewater tank also has an emptying plug in the bottom.

Open the yellow drain valve by hand to drain the Alde heater boiler.



**Residual water**

If you do not need the motorhome over a long period of time, we recommend that you position the motorhome level horizontally.

You can empty the residual water by pulling out the plug. We recommend cleaning the fresh water and wastewater tanks at regular intervals to prevent foul odours.

The wastewater tank is frost-proof as long as the raised floor is heated. The wastewater tank is accessible through a lid in the floor for cleaning.

**Please only empty at disposal stations.**

The fresh water hot and cold is distributed to the individual consumers via water distributors. Every consumer is supplied directly via this water distributor, there is no intermediate connection. If there is a leak in the water system, please always check at the consumer or the water distributor.

The connection points can be:

- Water distributor hot and cold water
- Water pump
- City water connection
- Exterior shower
- Non-return valves
- WC
- Water taps.

**Blue Aqua drinking water tank (option)**

Optionally, a separate closed drinking water system is built into your motorhome, consisting of a mobile 20 litre tank, a submersible pump and a separate tap installed in the kitchen.

This system complies with the current drinking water regulations.

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



**Safety instructions**



**Warnung**

Use only drinking water and no water of poorer quality (e.g. spring water or water from rivers) to fill up the water supply, otherwise there is a risk of contamination of the fresh water tank.

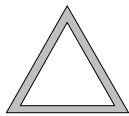


**Warnung**

The quality of the water in the fresh water tank depends on the water quality, where you fill it, how you treat the water tank, how long the water is in the tank, etc.

As a result, the water can form bacteria and will not be suitable for drinking, preparing food, etc.

We therefore recommend changing the water daily. In this way you can enjoy fresh drinking water at any time.

**Achtung**

- Your fresh water system is largely frost-proof only when the motorhome is heated.
- The entire fresh water system must be emptied when the motorhome is decommissioned.
- The fittings in the kitchen and washroom have low-wear ceramic inserts. If the interior temperature drops below 0 ° Celsius, the inserts freeze due to residual water.
- The fresh water and the motorhome must be warmer than 4° Celsius to avoid frost damage when filling the fresh water tank. If the ambient temperature is below 4° Celsius, the motorhome must first be heated.
- With water filler neck (Fiat):  
Do not use a rigid filler pipe, as this could damage the flexible connecting line between the filler neck and the tank.

### 5.3 Washroom

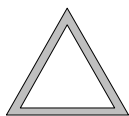
Trouble-free water drainage is only possible if the motorhome is horizontal on all sides.

To avoid possible odour nuisance, the floor plug should be reinserted after showering.

### 5.4 Thetford toilet

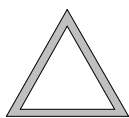
The THETFORD cassette is made of high quality plastic, is environmentally friendly and easy to use. The toilet is flushed from the fresh water tank. The faeces cassette can be removed through an outer flap.

Please read the operating instructions for the THETFORD cassette.

**Achtung**

The use of sanitary additives is mandatory.  
We recommend “Aqua-Chem blue/green” from THETFORD.

### 5.5 Kitchen area

**Achtung**

When the sink is not in use, close the drain with the drain plug to counteract moisture in the motorhome and deformation of the covers.

### 5.6 Holding tank with Thetford C-250 Pump-out toilet (= option)

Motorhomes with a holding tank offer you the opportunity to pump the contents of the THETFORD cassette into the 80 l holding tank. This is emptied via a slide A using a flexible hose. Subsequently, each time the tank is emptied, a water hose should be connected to the Gardena adapter B on the tank and the tank should be thoroughly rinsed out from the inside using the built-in flushing line.



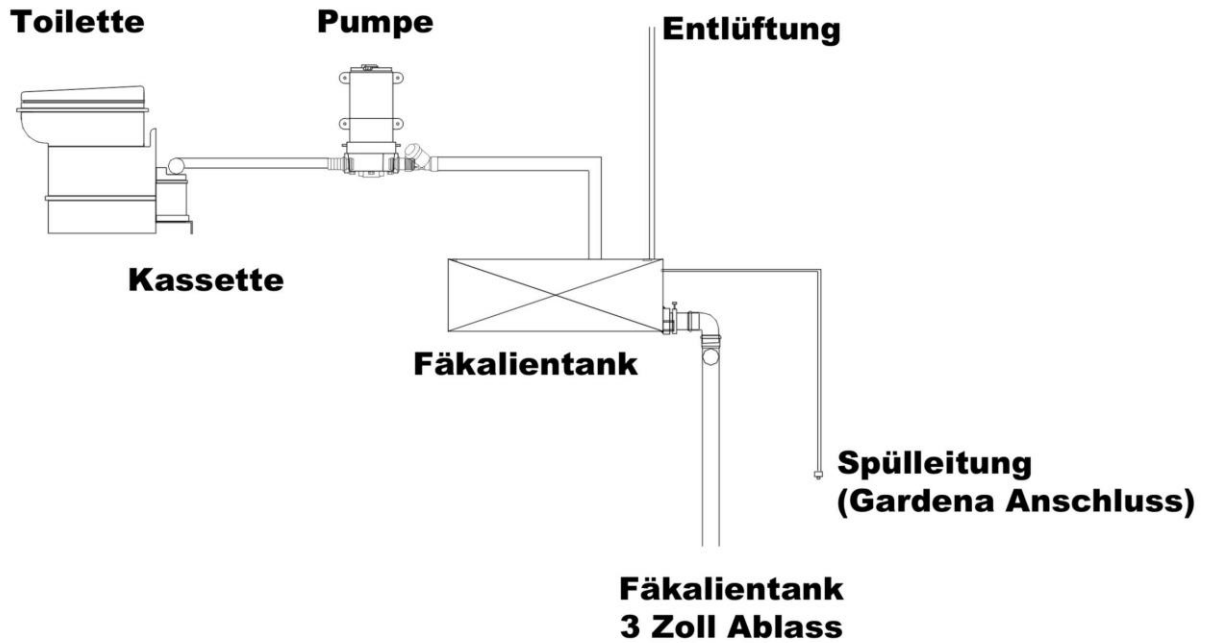
#### Emptying waste holding tank

- Guide the waste hose (C) of the holding tank over the chute to the disposal station.
- Opening the waste tank slider (A)
- Empty the waste holding tank completely
- Coupling the flushing hose (B) to the outside water network
- Turn on the tap and rinse for 2-4 minutes
- Turn off the tap
- Close the waste holding tank
- Disconnect the flushing hose from the external water network
- Place the drain hose back on the slide



The waste holding tank should be emptied and rinsed thoroughly after each trip. Especially when decommissioning over the winter months, make sure that the tank has been completely emptied.

The rubber seals of the entire system have to be maintained regularly. We recommend treatment with THETFORD care spray

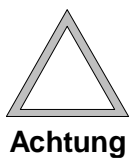
**Waste holding tank functional diagram**

For further information, please refer to the operating instructions supplied by THETFORD.

**Please only empty at disposal stations.**



The use of sanitary additives is mandatory.  
We recommend “Aqua-Chem blue/green” from THETFORD.



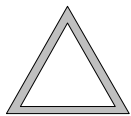
Only use easily decomposable toilet paper.  
Ordinary household toilet paper is not suitable.  
We recommend “Aqua-Soft” from THETFORD.



## 6. DIVERSE SYSTEMS

### 6.1 Electric step

Your motorhome is equipped with an electric step at the main body door. With Coachbuilt motorhomes, an electrical step can optionally be fitted to the cab door. With the help of the rocker switch attached to the inside of the entrance, you can extend or retract the step. There is a red indicator lamp on the dashboard. If the step is still extended and you start the engine, the step automatically retracts and the red indicator lamp goes out. If the red lamp is still on, please check the position of the step before departure. If the step is retracted and the red lamp continues to be lit, the error is due to the limit switch. You can continue your journey and visit your authorised FRANKIA dealer.



The step must be fully extended before you step on it. Otherwise damage to the mechanical parts can be expected!

**Achtung**

#### Caring for the step

- The step surface must be cleaned regularly to maintain the grip of the surface.
- The joints of the step are to be lubricated every quarter with spray oil or grease.

#### Electric step fuse:

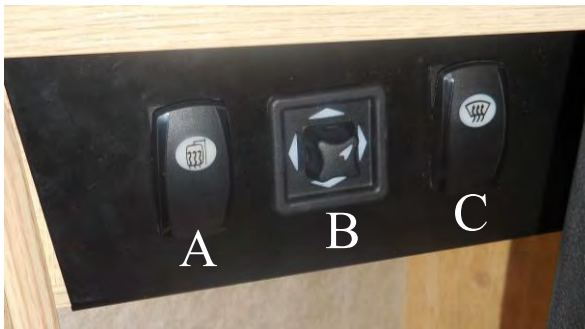
There is an internal fuse in the EBL for the step at the body door, which switches off in the event of an overload and switches on again automatically after a short time as soon as it has cooled down.



The fuse of the step at the cab door is located on the starter battery.



## 6.2 Exterior mirrors electrically adjustable and heated, windscreen electrically heated (only for Coachbuilt motorhomes)



### A) Heating the mirror:

#### Switch on mirror heating

Start the motorhome engine - press the switch - the indicator lamp in the switch lights up

#### Switch off mirror heating

Return the switch to the starting position - the indicator lamp in the switch goes out

### B) Adjust the mirrors:

- Switch on the ignition of the motorhome or turn the ignition key to “Start”
- Select mirror: Turn the setting button left/right - the printed white arrow indicates the selected side
- Adjust the mirror with the adjusting knob; possible swivel directions: up/down and left/right

Adjust the additional wide-angle mirror manually.

### C) Heat the windscreen:

#### Switch on the windscreen heater

Start the motorhome engine - press the switch - the indicator lamp in the switch lights up

#### Switch off the windscreen heater

Return the switch to the starting position - the indicator lamp in the switch goes out



Info

- The mirrors can also be adjusted manually.
- The mirror heater and especially the windscreen heater have a high energy consumption. Therefore, they should only be switched on when necessary.

### Exterior lighting

Your motorhome is equipped with exterior lighting with a motion detector.

The awning light is controlled via the series switch at the entrance.

The left rocker switch switches the light on or off.

If the right rocker switch is pressed when the lamp is switched off, the motion detector is activated.



### Awning lighting (option)

The awning lighting option includes an LED bar along the entire length of the awning that serves as an external light.

With the awning remote control, this can be switched on and off.



## 6.3 Heater

### Heating in the cab in the Coachbuilt models

In the Coachbuilt motorhomes from FRANKIA, the cab is heated with the help of heating nozzles. There is a heating nozzle and a slider on the passenger side.

Position the slide “down” or position “blue”

= The heating air only flows through the heating nozzle.

Position the slide “up” or position “red”

= The heating air flows through the heating nozzle and

with the help of the channels in the dashboard, the warm air flows through the slots on the dashboard.

This will prevent the cold from the windscreen entering.

The slider of the fresh air supply from the chassis should be closed, otherwise the heat will go outside through the ventilation hose of the chassis.

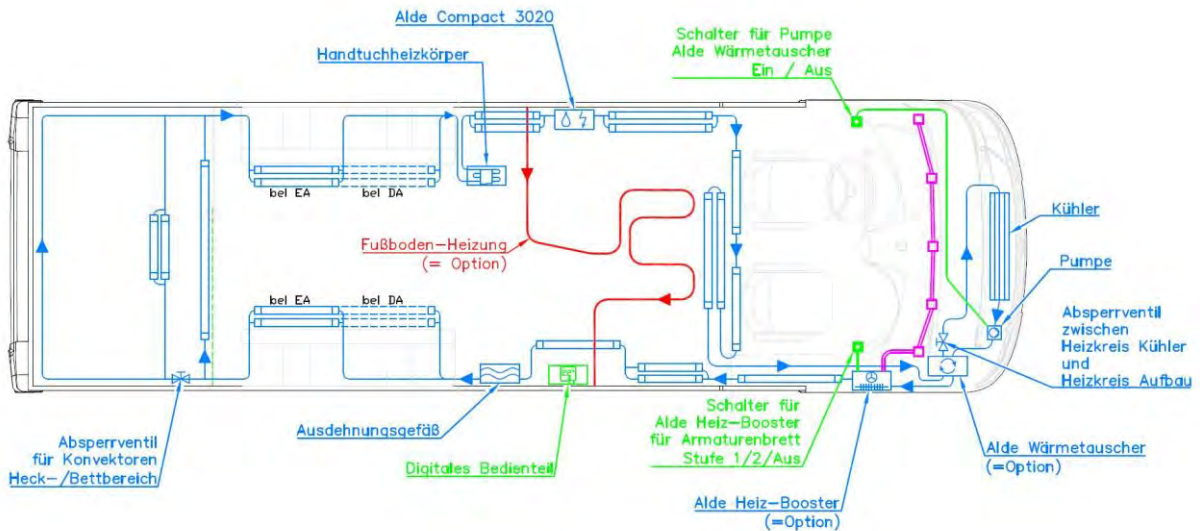


#### Info

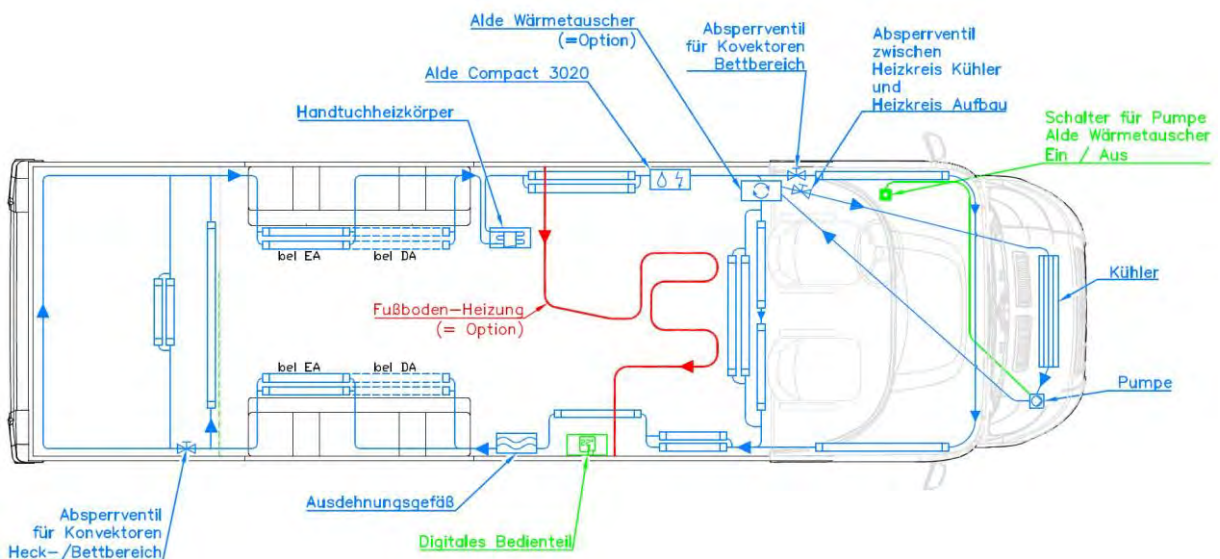
- While driving, the slider should be set to the “down” or “blue” position, otherwise the warm air flows from the engine out of all the heating nozzles of the motorhome; the front windscreen will be misted up because the warm air is insufficient.
- When stopping, the slider should be set to the “up” or “red” position so that the warm air from the Truma heater can flow through the slots on the dashboard. However, slide the slider on the dashboard of the chassis to inside air, otherwise the warm air from the Truma heater will flow to the outside to some extent.

**Hot water heating (standard with Luxury version)**

Your motorhome is equipped with an Alde hot water heater in combination with an engine heat exchanger. This gives you the option of using both the engine heat for the Alde system and, conversely, preheating the engine.

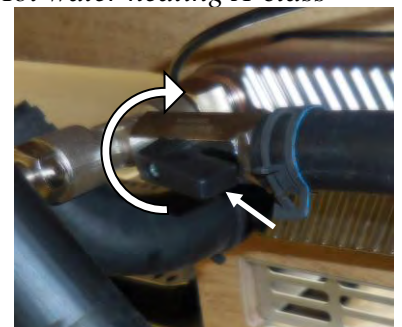


*Schematic diagram Hot water heating Coachbuilt*



*Schematic diagram Hot water heating A-class*

To disconnect the radiator heating circuit from the body heating circuit, remove the cover from the front passenger storage box and turn the black lever on the heat exchanger downwards.





### Function of hot water heating

The control panel is located above the body door. It contains a main switch and a MENU button. In idle mode, the temperature and time are displayed. Temperature “A”, hot water “B”, electric heating “C” and heating with gas “D” are controlled in the settings menu. There is also access to the Tools menu. All functions are explained in the Alde operating instructions enclosed.

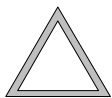
In the motorhome there is a temperature sensor in the control unit and another in the living area.

In the basic setting, the sensor is active in the living area when entering.



The expansion tank for the heating water is in the wardrobe. The level should be between the two markings (min., max.) in the operating state. If necessary, add antifreeze directly to the expansion tank. To avoid overfilling the system, the refilling may only be carried out while the heating is running.

The water in the heating circuit should be replaced after 3 years.



**Achtung**

Only use antifreeze approved for aluminium. We recommend frost protection G13 from Alde.



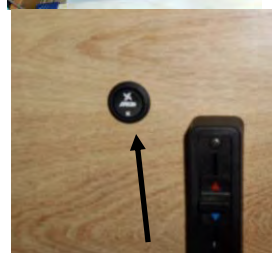
The heater has a built-in water heater with a capacity of approximately 8.5 litres of fresh water.

Air can collect in the pipes of the water heater, which should be let out at the vent screws on the radiators in the seating areas, in the kitchen and in the bed area.

An automatic vent valve “A” is mounted directly on the flow.



The convectors in the rear bed area and in the alcove (depending on the floor plan) are connected to the heating circuit by a so-called bypass and can therefore be regulated separately via a valve that is attached to the convector.



*Booster toggle switch*

A heating booster can optionally be connected to the heating circuit for additional hot air supply to the dashboard. Two blower levels can be selected or the booster switched off using the switch on the front passenger storage box.



*Heat exchanger, booster*

**Info**

We recommend that you drain the water from the water heater completely when you are not using your motorhome.

Turn the blue switch “A” by 90° to the position shown.  
To close the valve, turn switch “A” again and then press  
button “B” on the base of the frost guard.

If the valve automatically triggers when there is a risk of frost, button “B” pops out.



## 6.4 Tables

### Table extension

The tabletop is divided in the middle and fixed with magnets.

- Pull the tabletops apart sideways as far as they will go.
- Press firmly on the lowered centre piece of the table with your hand.
- The extension element now automatically rises to the level of the tabletop.
- Push the side table tops up to the centre piece so that it is magnetically fixed again.

For dismantling, proceed in the reverse order. Carefully press down the middle tabletop segment until it locks in the lowered position.



### Rotatable table base

Depending on the floor plan, a rotatable table base is installed. By rotating the table 90°, the passage between the side seating group and the tabletop can be increased.



The table can be rotated steplessly without having to release a lock.



### Fixed table base, lowerable

The table consists of a fixed, lowerable table base and a continuously adjustable tabletop.

By loosening the locks “A” under the tabletop, the tabletop can be moved freely, for example to provide wider access to the cab.

If the tabletop is in the desired position, it can be fixed by folding up the locking lever (in the direction of the arrow).



Before starting the journey, the tabletop must be locked so that it cannot shift around bends or when the brakes are applied hard.

To lower the table, first raise the table slightly and push it down as far as it will go. Pull up to return to its position.





To convert the seating group into a supplementary bed (depending on the floor plan), two additional foot units must be attached to the tabletop before it is lowered and provided with additional upholstery.



## **6.5 TV compartment**

### **Pre-wiring**

#### **SAT system**

##### **Cable preparation SAT:**

All cables are fully connected and are located behind the control panel above the body door.

##### **Empty tube for subsequent installation:**

The tube lies behind the control panel above the body door and runs to the electrical board.



#### **Solar system**

For the connection of a solar system, the pre-wiring (2x4<sup>2</sup>, red-black) leads from the wiring duct in the technical centre to behind the control panel.



### **TV compartment for TFT flat screen**

The display cabinet at the entrance to your motorhome offers space for a FRANKIA flat screen up to a size of 24". To swing out, press the lever "A" behind the TV set down. The swivel arm is therefore unlocked.

After use, return the flat screen to the starting position. Push the TV gently until the swivel arm clicks into place.



## 6.6 **Blinds**

### **Sun visor for side windows and windscreen (Coachbuilt models)**

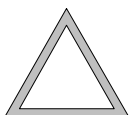


Pull down: - Pull the sun blind by the handle A in the middle into the desired position.

Close: - Slowly raise the roller blind.

### **Darkening blind for front and side windows:**

**Coachbuilt models.**



**Achtung**

The darkening blind must not be used as a sun blind while driving! The roller blind must be lashed with both straps in the uppermost position before you drive off.

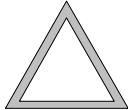
**Closing:**

Pull the side blinds back until they stick to the magnetic rail. Make sure that the roller blind does not jam in the upper guide rail.

Also loosen the locks on the windscreen roller blind and pull down to the dashboard.

Lateral snap locks lock the blind after about 20 cm. This function has been installed for safety reasons so that the roller blind cannot slide downwards while driving if it is accidentally not lashed up at the top.

This locking can be overcome by pressing the button A in the middle of the lower roller blind strip.



For security reasons, this locking function must not be overridden!

**Achtung**

The windscreen roller blind can also be used as a privacy screen. The roller blind is not fixed at the top. Therefore, you have for example the possibility to position it only in front of the lower part of the windscreen, so as not to allow looking in from the outside.

**Opening:**

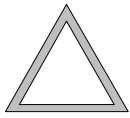
Pull the roller blind back or up (front roller blind). Lock it with the fastening tape.



Before the start of the journey, the darkening blinds for the front and side windows must be fully opened and lashed down.

**Achtung**

## Electrically operated darkening blind for Coachbuilt models (standard with luxury equipment package)



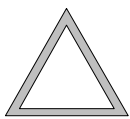
**Achtung**

Before starting the journey, both bars must be in the uppermost position. As soon as the engine is running, the roller blind can be lowered using switch A and used as a sun visor. The roller blind stops automatically when approx. 1/3 of the windscreen is protected from direct sunlight.



Switch A is located in the switch console next to the steering wheel. The lower bar of the front blind is operated with this switch. This allows the lower bar to be moved up and down.

The upper bar of the roller blind is operated with switch B. The privacy function can be used with this switch.



**Achtung**

The darkening blind must be opened completely before starting the journey.

## A-class and Low-Profile models

### Closing:

#### **Windscreen:**

The darkening blinds are located behind the A-pillar trim. Push the small slider above the handle upwards. Now you can bring the roller blinds from the left and right in the middle of the windscreen.



#### **Side windows:**

The side darkening blinds are located behind the panelling between the side windows. Tilt the handle slightly towards the window and then pull the blinds forward or back to the magnetic strips.



### Opening:

#### **Windscreen:**

Pull the blinds back up to the A-pillars. Bring the small slider back into the lower position, thus preventing the blinds from closing unintentionally while driving.

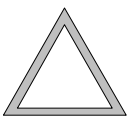
#### **Side windows:**

Carefully guide the side blinds back until the handle clicks into place.



**Warnung**

- The darkening blinds must always be fully folded up and locked in place while driving.
- Use while driving is prohibited.



**Achtung**

In the case of A-class and Low-Profile motorhomes, care must be taken that the driver's cab seats are turned towards the living area and then the blinds are closed. If this sequence is not followed during operation, this can cause damage to the roller blinds.



### **6.7 Opening angle of rear storage compartment flaps (1-piece for rear storage compartment)**

The rear storage compartment side flaps are delivered with an opening angle of approx. 100° as standard.

By turning the damper on the door, the opening angle can be reduced or enlarged by approx. 30 degrees. The same principle applies to the tailgates.



### **6.8 Washroom (only Neo)**

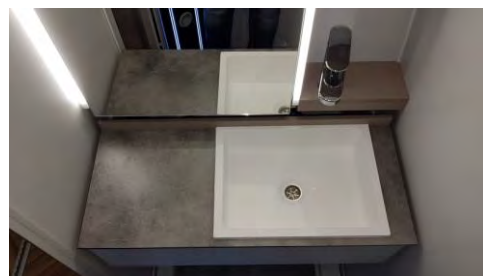
#### **Wash basin**

Opening:

- Press lightly on the front (push to open)
- Wash basin moves automatically outwards, with gas spring support

Closing:

- Push in the wash basin until the end point



## Toilet

### Opening:

- Pull off the safety strap (leather strap)
- Press lightly on the toilet front (push to open)
- Toilet moves automatically outwards, with gas spring support



### Closing:

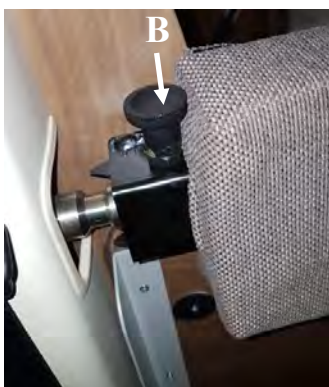
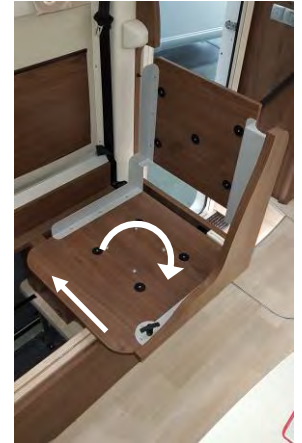
- Push in the toilet until the end point
- Always attach the safety strap (leather strap) before starting the journey



### 6.9 1-person seat belt system on side seating group / L seating group (=option)

The 1-person seat belt system from FRANKIA allows you to sit buckled in the direction of travel.

- First remove the seat and back cushions on side benches.
- To unlock the swivel seat, pull up the locking pin A and pull the seat to the centre of the vehicle as far as it will go.
- Rotate the seat in the direction of travel and push it out again. Release the locking pin until the lock engages.
- Fold out the storage floor cover (serves as a footrest)
- Place the headrest bracket on the bolt.
- Put on additional back cushion C and seat and back cushion.
- To dismantle, first pull the locking pin B on the headrest bracket and pull it out.
- Unlock the seat using the locking pin A and then proceed in reverse order.
- The headrest can be completely stowed in the L-shaped seating group.

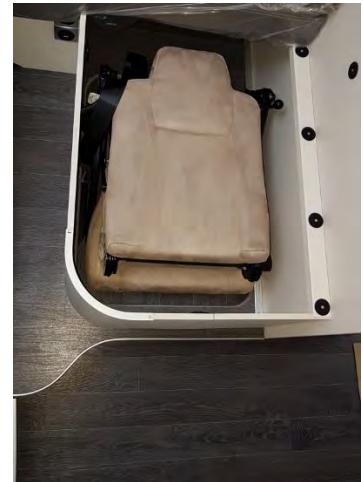




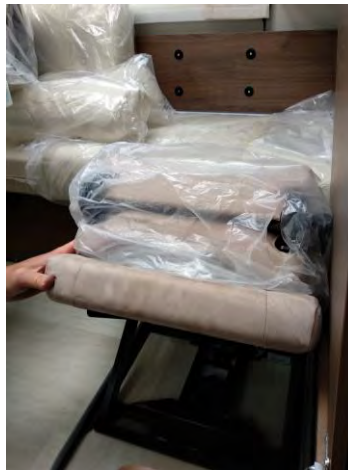
**Folding seat with 1-person belt system in round seating group**  
**(option for 840/8400**  
**Plus)**

In Frankia 840/8400 Plus floor plans, belt seats are folded up in the round seating group.

- First remove the front back and seat cushions of the round seating group to access the folding seat.

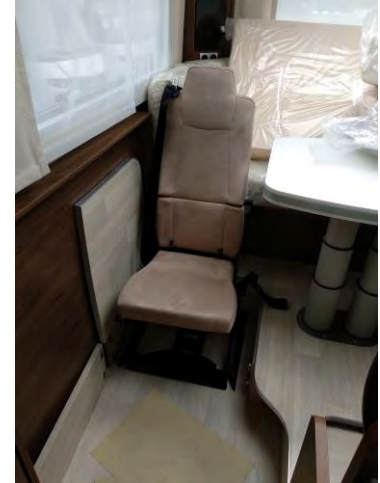


- Remove the front panel
- Lift the upholstery by 45° and loosen the screw with the star handle (A).

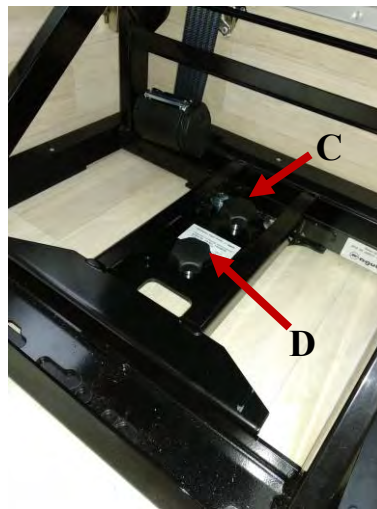


- Open the cover on the floor and also remove the front panel
- Then carefully insert the seat into the guide rails and use lever B to unfold the backrest
- Now fold the entire backrest upwards (lever C)





- Lift the seat cushion to fix the seat with the 2 star grip screws (C and D).



**Sofa seat with 1-person belt system in a round seating group (option for 680,740,790,840, 7400, 7900, 8400 Plus)**

In Frankia 680,740,790,840 Plus floor plans there is a belt seat folded up in the round seating group.

- First remove the front back and seat cushions of the round seating group



- Press the rotary knob (A) and fold the backrest up.
- Fold in the cover (B) to make it easier to get in.
- Push the cushion marked with C upwards and place the smaller seat cushion in front of your sofa folding seat.



### 6.10 Reversing warning system (option)

If your motorhome is equipped with a reversing warning system, a signal tone sounds when you engage reverse gear, indicating that the sensor is activated. An obstacle detected is indicated by an acoustic signal, the frequency of which increases as the obstacle is approached until it becomes a continuous tone (at a distance of about 30 cm).

Since a loaded lifting bicycle carrier would represent a constant obstacle, the upper reversing warning system can be switched off using a disconnecter. The switch is located in one of the tailgate compartments



## 6.11 Miscellaneous

### Revolving washroom door

If you have chosen a FRANKIA model with a rotating washroom door, you can connect the washroom to the shower opposite in a few simple steps.

- Operate the rotary lock on the washroom door.
- The door can now be swung open towards the shower.
- Press the twist lock again so that the door remains locked in this position.

This gives you a spacious washroom across the entire width of the motorhome.

Dismantling takes place in reverse order.

Well-known furniture manufacturers point out in their quality certificates that furniture should not be exposed to large temperature fluctuations and excessive humidity, to prevent working, warping, i.e. changes in shape. This is always the case with motorhomes.

The good quality of furniture at Frankia shows that there is no problem here.

The door is made of a honeycomb material, which is mainly made from the natural materials wood and paper in order to save weight and to be able to display the curved shape.

As a result, this door reacts to the above-mentioned influences. It can only be recognised by the gap between the doors.

### Fan for refrigerator (option)

Two fans are optionally mounted on the back of the refrigerator. These are switched on via a thermal switch in order to remove the heated air more quickly.

The switch above the refrigerator deactivates the fans.

### External storage flaps

- The rubber seals of the outer flaps are to be treated especially after cleaning with car shampoo or fat-dissolving agents and in winter with rubber care (silicone spray, deer tallow grease stick or similar) so that they remain supple.
- To open and close the flaps, first press them onto the vehicle with slight pressure, hold them down and turn the toggle lock. This procedure results in an additional compression of the seals, which results in less effort when opening or closing the fasteners.
- If the large side flaps of the rear storage compartment are not closed correctly, a warning light on the dashboard lights up (only with the flap opening option).

### Spare wheel set

With the spare wheel set, punctures can be fixed without changing the wheel.

- Fill with tyre sealant
- Inflate the tyres with the compressor

The tyre is now ready again for the journey (**max. 80 km/h!**) to the nearest repair workshop.

For more detailed information, please see the description attached.

### Mercedes Benz spare wheel



If the spare wheel has to be used on the front axle and alloy wheels are fitted, the original Mercedes Benz adapter hub must be fitted.

Our recommendation: Always take 1 adapter hub with you



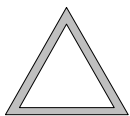
### Cutting boards

The covers of the kitchen sink and the lowered single-burner stove (depending on the floor plan) have multiple uses.

The work surface of your kitchen can be expanded depending on the version. Pull out the top drawer. Close the cutout with the front sink cover.

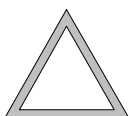
With the rear sink cover, the storage space above the kitchen worktop can be enlarged. Insert the cover into the slot on the side of the shelf.

In kitchens with a lowered hob, you can slide the cover into the shaft behind the cooker and thus obtain flame and splash protection



**Achtung**

When the sink is not in use, close the drain with the drain plug to counteract moisture in the motorhome and deformation of the covers.



**Achtung**

Do not leave wet cloths in the sink when the sink cover is in place. These can warp due to the moisture.

## 7. MAINTENANCE AND CARE

### Vehicle care:

With good care, your Frankia will offer you extremely high living and travel comfort for many years, so we would like to give you some tips. If you take these into consideration, your Frankia will be a loyal and reliable companion for you.

### Base vehicle



The manufacturer's operating instructions are decisive for the chassis.

#### Info

### **Windscreen washer fluid-filler hose**

- Open the bonnet to add windscreen washer fluid.
- The filling hose for the windscreen washer fluid is accessible on the passenger side at the side of the bonnet hinge.
- Pull off the blue cap and add water.



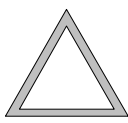
### **AdBlue (Mercedes Coachbuilt)**

AdBlue is an additional fuel that is supplied to the vehicle via a separate tank. When it runs low, it is imperative to refill it because the vehicle is no longer ready to drive with an empty AdBlue tank.

You have the option of refilling AdBlue yourself using a canister with a screwed-on filling hose (Mercedes spare part “A 000 583 22 04”).



All Mercedes service centres offer the refill service for AdBlue and have Ad-Blue refill containers in their range.



Never refuel AdBlue at petrol pumps. These are usually unsuitable for cars and motorhomes.

Spilled AdBlue can cause great damage in the engine compartment.

#### Achtung

### **Interior**

In general, the interior of your Frankia does not require any maintenance that you would not otherwise do in your home.

In general, you can treat the plastic surfaces with detergent solutions. The use of cockpit sprays also has good results.

Cleaning agents containing abrasive components must not be used.

Special cleaning agents must be checked in individual cases.

Please do not expose the door trim to rain or strong sunlight for a longer period of time, close the door under such conditions.

Please take into account that the shower tray can be damaged by stones, abrasives or harsh cleaners.

The acrylic glass windows of the living room are almost indestructible - but only almost. Aggressive, abrasive or even caustic cleaning methods literally cloud your view. Gentle detergent solutions or glass detergents are usually sufficient to clean them.

The furniture surfaces are easy to clean surfaces.

All you need is water, a sponge (e.g. from Mr Clean), washing up liquid (Pril) and a dish cloth.

Put some washing-up liquid on the wet sponge and clean the surface.

Then dry the surface with the dish cloth.

Please do not use Scotch Brite sponges, microfibre cloths, furniture polishes or furniture sprays.

### **Exterior**

It is best to use clear water for external washing, stubborn dirt can usually be removed with a suitable shampoo. Special caravan shampoos are recommended here.

Never wash the motorhome in the sunshine. Otherwise the water evaporates too quickly and water stains remain.

There are also a number of care products (e.g. “YC Boat Wax” from “Yachtcare”) for long-term preservation of the gel coat surface. Leading GRP manufacturers recommend sealing all GRP elements at the beginning of the season with “Yachtcare Boat Wax”. To do so, apply the wax with a soft cloth and polish the surface a little later with clean, soft cloths. A new coat during the season gives the GRP the best possible protection.

For more detailed instructions, please refer to the manufacturer information for the respective product.

In all cases, please avoid using hard methods such as scouring pads or wheel cleaners.

Due to the height of a motorhome, cleaning the roof is often neglected. Please bear in mind that dirty solar modules are severely impaired in their performance. Incidentally, the most thorough washing is of little use to you if the first rain rinses dirt off the roof and leaves ugly dirt on the walls.

With non-slip soft footwear you can walk on the roof without hesitation. (Caution: Do not kneel on the roof as this will leave dents. To avoid this, aluminium strips can be glued to the roof.)

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

Direct your attention under the motorhome too!

Movable attachments such as the step, supports, pull-out two-wheel brackets etc. should be cleaned and lubricated of any dirt every six months.

Under unfavourable operating conditions (salt, dust, sand), some care may be necessary more often.





Salt water, caused by road salt, can cause white rust on the galvanised chassis. So-called white rust is no defect for the quality of hot-dip galvanising. This is only a visual impairment. (See also on-board manual for the AL-KO chassis)

#### Info

To avoid or remove white rust, AL-KO recommends the following:

- After driving in winter, the hot-dip galvanised surfaces must be cleaned of de-icing salt with clear water (e.g. steam jets).
- Zinc-coated parts that are affected by white rust can be cleaned with zinc cleaner.

We recommend that you regularly clean the water hose, the fresh water and also the wastewater tank.

For cleaning, disinfecting and descaling, Certisil offers the product “Certibox” as a three-pack.

Acid or water level of the battery should be observed especially in the warm seasons. The gas system must be checked every two years by an expert. An annual leak test from an authorised FRANKIA dealer is required.

#### **Body door**

The locking bolts of the body door must regularly be provided with a suitable lubricant. We recommend the “Sitol-Plus” lubricant spray for the seals in the hinge area and for maintenance of the door stay.

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

- Clean with plenty of water, mild soapy water, a soft cloth or sponge.
- **Do not use glass cleaners with chemical, abrasive, alcohol or glycerine additives.**
- **Follow the application instructions on the packaging.**
- **Caution with car washes.**
- **Do not attach stickers.**

According to the recommendation of the manufacturer SEITZ, please use the original Seitz glass cleaner or the acrylic glass cleaner from Frankana.

To maintain the rubber seals, SEITZ recommends talc or petroleum jelly without additives.

#### **Closure of the furniture doors**

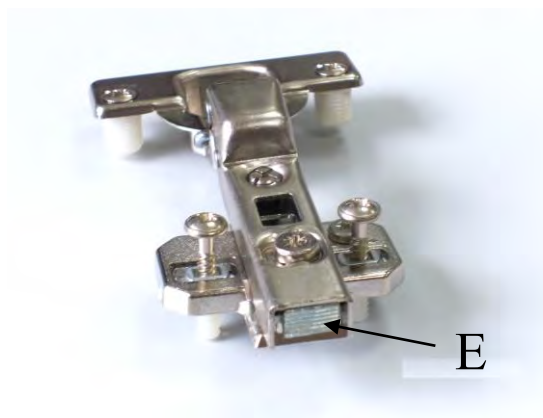
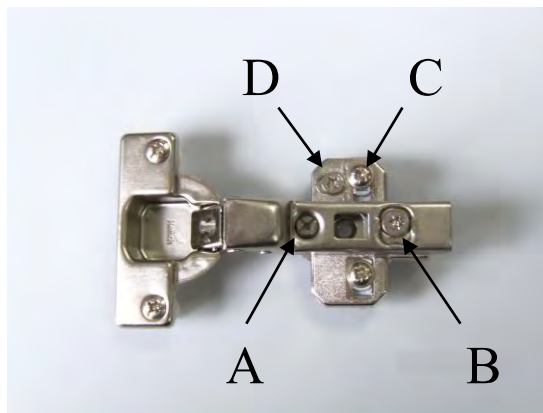
- To open the furniture doors easily, grasp the handle, press the locking button and pull open the door.
- To close the furniture doors, pull them down until they rest against the furniture, the lock engages with an audible click.

### **Fittings on furniture doors and flaps**

If the furniture fronts have been misaligned due to prolonged use or unintentionally, the fittings offer the possibility of readjustment.

The concealed hinges have adjustment options in all three directions.

- **A:** Overlay adjustment to correct the joint pattern. Turn the screw to the right, the door overlay becomes smaller; turn the screw left, door overlay becomes bigger.
- **B:** Depth adjustment. Direct, continuous depth adjustment via eccentric adjustment.
- **C:** Height adjustment. With height-adjustable mounting plates, the doors can be precisely aligned in height.
- **D:** Direct, continuous height adjustment via eccentric adjustment.
- To unhook doors or flaps, simply press the concealed release button **E**.



### **Kitchen worktop and shelves made of solid surface material (option)**

If you follow the instructions described below, you will enjoy the solid surface material for many years.

Like all other surfaces, a solid surface also needs regular cleaning and care.

For daily cleaning you only need water, a household cleaner (e.g. Viss scouring milk) and a sponge, in which the non-woven material contains no abrasive grit. In most cases, it is sufficient to clean the solid surface with water and Viss as usual and to wipe it dry.

Please note that dark areas require more care than light areas.

Hard water can leave limescale marks on the surface. Wiping with a damp cloth and polishing with a dry cloth will help to get the problem under control. Household limescale removers can occasionally be used for larger limescale deposits.

Stubborn stains such as cigarette condensates, cosmetics, pollen or the like can be removed with scouring milk or with the abrasive side of a household sponge. Please note that this can lead to a change in the gloss level.

Although solid surface materials are significantly harder than many comparable surfaces, you should always use a suitable surface for cutting. Should cuts, scratches or burn marks from cigarettes appear, they can be removed with fine sandpaper. Please inquire with your specialist company about the appropriate procedure.

Always use coasters or potholders so that work surfaces, sinks or counters are not damaged by hot pots, pans, baking tins or other objects that generate heat. Most chemicals, reagents or biochemical dyes used in the home have little effect if they are quickly washed off with water and treated afterwards, as described above.

Paint stains, acidic drain cleaners and acetone-containing nail polish removers should be avoided. Prolonged contact with concentrated acids, chlorinated solvents and ketones can cause the surface to be etched or discoloured. Most serious damage caused by impact, heat or vandalism can be completely repaired.

### **Kitchen sink and shower base**

For the care of the sinks, we recommend the following care instructions:

- Do not use detergents that attack the surface.
- Do not use any aggressive cleaning agents.

### **Washroom basin**

To clean the Ocritch Matt washbasin daily, use a Scotch Brite sponge, scouring milk and a little water.

Use a microfibre cloth to dry.

Never use alcohol, nail polish remover or other solvents that can damage the material.

### **Siphons**

The siphons of all drains should be cleaned occasionally.

If the water runs noticeably slower, disassemble the siphon and remove deposits.



*Sink screw siphon*



*Wash basin pipe siphon*

### **Heater**

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

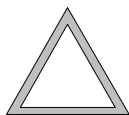
## 8. WINTER

### 8.1 Winter holidays

When you go on a winter holiday, please pay attention to the following:

- Protect the entrance step pivot bearing against freezing with lubricating grease.
- Use only propane gas. Propane gas changes from liquid to gaseous state down to - 42° C.
- The pressure reducer on the operating gas bottle should be equipped with a TRUMA Triomatic system with an ice-ex heater (= option).
- If the outside temperature is below + 5° C, the ice-ex heater must be started up to prevent the pressure reducer from freezing.
- Treat door locks with silicone.
- Keep the floor ventilation in the gas bottle compartment clear. if required remove snow.
- Heat the interior sufficiently even when leaving the motorhome so that the water pipe to the toilet and its drain does not freeze.
- **Do not put antifreeze in the wastewater tank or the piping system. Risk of poisoning!!** Antifreeze corrodes the pipes and damages the environment.
- If the temperature is below 0° C, protect the outside ventilation grille of the refrigerator with a winter cover. Installation instructions can be seen on the inside of the covers.
- The winter cover must be removed at temperatures above + 5° C.
- Depending on the use, number of people, location, humidity and temperature inside and outside, ensure good ventilation and simultaneous, sufficient heating.
- The interior is vapour diffusion tight, i.e. moisture occurring when cooking, showering and drying wet clothes cannot escape. Ventilate well and heat vigorously at the same time.
- The excess moisture in the indoor air is first reflected in the colder surfaces in the motorhome. Therefore, observe and remove any condensation on the window panes and, in the case of A-class models, on the front and corners of the alcove.
- The motorhome is suitable for winter operation up to approx. - 15° C.
- Do not forget to take along the usual winter utensils like snow shovel, ice scraper, snow sweeper, gloves, de-icing spray, lock de-icer.
- Be sure to clear snow and ice from the roof of your motorhome before departure. Larger ice sheets or amounts of snow that slide off the roof of the motorhome while driving endanger other road users.

### Preparation of living area



#### Achtung

The motorhome must be permanently heated when the fresh water system is full. The same procedure should be followed for wastewater or holding tanks that are not completely empty.

As long as the outside temperature does not drop extremely, your water supply is frost-proof.

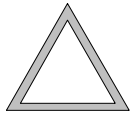
- If necessary, especially at night, attach the insulating mats to the side and front windows.
- Check the state of charge of the body battery.
- Use winter covers for the refrigerator.
- Close all water drains, taps and the boiler drain valve.
- Close gas shutoff valves.

- Check the function of the heaters and the water system before starting the journey.
- Also, open cupboards and storage spaces for initial full ventilation. This prevents the formation of mould.
- It should be taken into account that the driver's cab, due to its technical nature, should not be insulated as much as the living structure.
- Snow removal equipment such as a shovel and broom for cleaning the entry level, roof area and windows should be taken along.
- It is advisable to take snow chains and starting aids with you.
- Pay attention to the different handling of the motorhome in snow and ice.
- Read the chapter “WINTER” in the operating instructions of the basic vehicle manufacturer carefully.

The following should be taken into consideration:

- Change the operating materials such as fuel, engine oil, gear oil, antifreeze for engine cooling water etc. for winter operation.
- Tyres / air pressure
- Hand brake
- Spark plug
- Vehicle battery
- Door locks
- Air inlets

## 8.2 Living in winter



**Achtung**

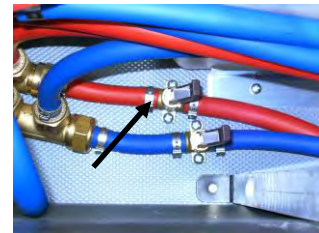
- Do not route the external connector power cable along the floor to prevent it from freezing.
  - Use alcohol-based door lock de-icers to defrost frozen locks. Do not thaw the frozen lock with heated objects or an open flame.
  - The acrylic glass panes of the body must not be treated with de-icing sprays or ice scrapers!
  - Thaw frozen drain slides with de-icing spray.
  - Remove snow loads from the vehicle roof.
  - Always keep the supply and exhaust air openings of the heating, boiler and refrigerator free of snow and ice.
  - Keep the roof vent free of snow and ice.
- 
- To park the vehicle, select first gear or reverse gear - motorhomes with automatic gearboxes: Set the selector lever to “P”; with Sprintshift gearboxes in stage “A” or “R”.
  - Secure the motorhome against rolling away using wheel chocks.
  - Keep the solar panel free of snow and ice.
  - Avoid extensive cooking in winter - strong condensation
  - Leave the heating in operation permanently.
  - Set the cab ventilation to internal circulation. This prevents the warm air from escaping through the ventilation ducts.
  - If it gets too warm: ventilate more often.
  - Put additional heater into operation if necessary.
  - Hang wet clothes in the shower cubicle.

### 8.3 Decommissioning

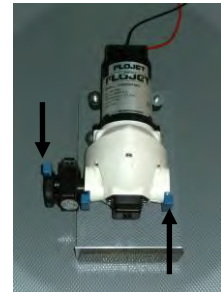
Your motorhome does not need any special care if you do not use it for a long time. To avoid smells and mould as well as frost damage to the sanitary system, we would like to give you some recommendations:

- Wash the outside of the motorhome. Spray off the wings and underbody.

- Empty the fresh and wastewater tanks as well as the toilet tank. Empty all pipes completely. To do so, switch off the fuse of the water pump and open all taps and the shower head (in the middle position). Open the drain plug in the bottom of the fresh water tank. Open both bottom valves in the hose line. These are located between the water tanks.



- To prevent the water pump from freezing, it can be dismantled. The pump can be removed from the water circuit for the winter by means of the quick-release fasteners (photo on the right). A small bowl is to be placed underneath to collect the remaining water.



- Unscrew and empty the siphon in the bathroom under the sink. Then reassemble the siphon.



- Rinse and empty the wastewater tank and waste holding tank (option). Leave the filler cap of the fresh and wastewater tank open so that the tanks can dry. In this way, odour formation can be avoided.
- Remove the fresh water hose reel.
- Empty the boiler. To do so, open the frost protection valve.
- Open both floor drain valves by placing the levers vertically.
- Allow the pump to run dry briefly to drain the water pump completely.
- If the water tank is empty, flush the toilet several times to empty the pipe.
- Rinse the wastewater tank and, if existing, the outside shower and city water connection with a water jet. Leave the drain tap of the wastewater tank open.
- Blow through the fresh water hose with compressed air to push out residual water in the hose or disassemble the fresh water hose.



- To avoid damage caused by condensation in the engine, bring the engine to operating temperature before it is finally shut down.
- Leave the fridge slightly open.
- Disconnect the batteries (see Chapter 4)
- Leave storage spaces and cupboards open.
- Lift up cushions and mattresses.
- If the motorhome is parked in a garage, leave the roof hatches and windows open.
- Increase the tyre pressure by 0.5 bar.
- Heat and ventilate vigorously every two months.

#### 8.4 Anti-freeze

If you do not use your motorhome for a short time in winter or in the off-season, please think about water pipe breakage. Depending on the temperature, water pipe breakage can occur after only about 2 hours.

If the outside temperature is around 0° C, the water in the water pipes can freeze and this will cause the water pipe to break.

Please pay attention to:

- The heating must always be on.
- Set your thermostat to a sufficient temperature to avoid freezing.
- Or if you want to save energy because the motorhome is standing a little longer, then please empty the fresh and wastewater tank, all pipes, toilets and the boiler (see 8.3).

**CHECKLISTE****WOHNMOBIL Frankia WINTERFEST MACHEN**

<b>Innenraum</b>		<b>Erledigung</b>
<b>1</b>	Stauräume und Schränke offen lassen.	
<b>2</b>	Den Kühlschrank leicht geöffnet lassen.	
<b>3</b>	Sämtliche Nahrungsmittelvorräte entfernen, Flüssigkeiten und Cremes aus dem Waschraum entfernen	
<b>4</b>	Polster und Matratzen aufstellen.	
<b>5</b>	Wenn das Reisemobil in einer Garage geparkt wird, Dachluken und Fenster geöffnet lassen.	
<b>6</b>	Alle zwei Monate kräftig durchheizen und durchlüften	
<b>7</b>	Bei Festbett: Bettkasten öffnen oder Matratze hochstellen	
<b>8</b>	Schlösser und Scharniere ölen/fetten	
<b>9</b>	Dichtungen mit Silikonspray behandeln	
<b>10</b>	Wasseranlage winterfest machen: Alle Tanks mit den jeweiligen Spezialflüssigkeiten reinigen und komplett leeren (Warmwasserboiler, Duschkopf und Pumpen bitte nicht vergessen, hier ist meist noch Restwasser vorhanden!) – ggf. "ausblasen". Bei Nichtgebrauch des Reisemobils das Wasser aus dem Warmwasserbereiter vollständig abzulassen. Den blauen Schalter „A“ um 90° in die abgebildete Position drehen. Zum Schließen des Ventils den Schalter „A“ erneut drehen und dann den Knopf „B“ am Fuß des Frostwächters drücken. Löst das Ventil bei Frostgefahr automatisch aus, springt der Knopf "B" heraus.	
<b>11</b>	Die Frischwasserschlauchtrommel abmontieren bzw. ausblasen.	
<b>12</b>	Den Boiler entleeren. Dazu das Frostschutzventil öffnen.	
<b>13</b>	Beide Bodenablassventile öffnen, dazu die Hebel senkrecht stellen.	
<b>14</b>	Um ein Einfrieren der Wasserpumpe zu vermeiden, kann diese demontiert werden. Mittels der Schnellverschlüsse (Foto rechts) kann die Pumpe zum Überwintern aus dem Wasserkreislauf entfernt werden. Zur restlosen Entleerung der Wasserpumpe die Pumpe kurz trocken laufen lassen. Eine kleine Schale ist unterzustellen, die das ablaufende Restwasser auffängt.	
<b>15</b>	Im Bad den Siphon unter dem Waschbecken abschrauben und entleeren. Den Siphon anschließend wieder montieren.	
<b>16</b>	Den Abwassertank und den Fakalientank (Option) ausspülen und entleeren. Die Tankdeckel des Frisch- und Abwassertanks geöffnet lassen, damit die Tanks trocknen können. So kann Geruchsbildung vermieden werden.	
<b>17</b>	Bei leerem Wassertank die Toilettenspülung zur Entleerung der Leitung mehrmals betätigen.	
<b>18</b>	Raumentfeuchter mit Trockengranulat aufstellen.	
<b>19</b>	Sämtliche Wasserhähne sollten geöffnet bleiben.	

20	Den Abwassertank und, falls vorhanden, Außendusche und Stadtwasseranschluss mit Wasserstrahl ausspülen. Den Ablasshahn des Abwassertanks offen stehen lassen.	
	<b>Außen</b>	
21	Frischwasserschlauch mit Druckluft durchpusten, um Restwasser im Schlauch herauszudrücken bzw. den Frischwasserschlauch demontieren.	
22	Hubstützen mit Silikonspray einsprühen.	
23	Türschlösser mit Silikon behandeln. Gummidichtungen mit Talkum behandeln.	
24	Außenwände gründlich reinigen (Radkästen nicht vergessen!) und ggf. konservieren.	
25	Schäden am Aufbau ausbessern.	
26	Falls möglich: Unterbodenwäsche.	
27	Fenster und Dachhauben aussparen – stattdessen sanft mit einem Schwamm und geeigneten schonenden Mitteln säubern. Gummidichtungen der Fenster und Dachluken pflegen Sie mit Talkum oder Pflegemitteln, die für Acrylglas geeignet sind.	
28	Markise reinigen und trocknen – bei fest installierter Markise: Gelenke fetten.	
29	Falls vorhanden: Antennen / Sat-Anlage von Schmutz befreien.	
30	Reifendruck erhöhen (empfohlen werden bis zu 0,5 Bar über dem üblichen Wert)	
31	Fahrzeug mit Wagenheber oder Hubstützen moderat anheben (das entlastet Räder und Achse und beugt Standplatten vor!)	
32	Neue GFK - Oberflächen müssen mit einem speziellen, für GFK geeigneten Wachs eingelassen werden. Dieses Wachs sollte einen UV-Blocker enthalten.(Yachtcare, Yachticon oder Rot-Weiss)	
33	Volltanken (idealerweise mit Winterdiesel)	
34	Langsam fahren und dabei leicht bremsen, damit die Bremsen "trocken laufen"	
35	Danach Fahrzeug mit Unterlegkeilen sichern und Handbremse lösen	
36	Frostschutz für Motor und Scheibenwaschanlage einfüllen	
37	Scheibenwischer nach vorne klappen (Gummilippen sollten nicht an der Scheibe anliegen)	
38	Ist eine Antenne- oder eine Sat-Anlage am Fahrzeug angebracht, sollte auch diese gut gesäubert werden.	
39	Drehen Sie das Gasventil richtig zu, lassen Sie das Gas aus den Leitungen heraus.	
40	Falls vorhanden, gilt es außerdem die Winterabdeckung für die Lüftung anzubringen.	
41	<b>Stillelegung der Batterie:</b> Wird das Reisemobil längere Zeit nicht benutzt, sollten folgende Maßnahmen durchgeführt :1. Batterie ca. 24h vollständig laden. 2. Batterie vom Stromkreis trennen durch entfernen der 80A-Sicherung, 3. Bei Option Solar: An der 12V-Verteilung die Sicherung Nr. 5 „DIR2“ abziehen. (Bei Platin Edition und Power Paket ist die entsprechende Sicherung am Sicherungshalter in der Technikzentrale bzw. am Solarregler zu entfernen)	
	<b>ca. 1 x pro Monat</b>	
	Lüften, Trockengranulat austauschen, Batterie nachladen	

gh/19.10.2017



## 9. INCIDENTS

It is not necessary to call or contact customer service for every malfunction. In some cases, remedial measures can be undertaken by yourself.

In the event of uncertainty, particularly in the area of electrics and gas, please go to our service workshop for your own safety.

**Makeshift work on the electrical and gas systems is prohibited.  
!!!RISK OF DEATH !!!**

### 9.1 Electrical system

#### **230 V indicator light and sockets without power:**

- Check the circuit breaker in the wardrobe
- Check the fuse from the campsite

#### **12 V interior lighting does not work:**

- Turn on the main switch on the instrument panel
- Check the state of charge of the body battery
- Check the 12 volt fuses on the charger

<b>Lamp</b>	<b>Illumination and lights</b>
Kitchen lights	LED – Frankia Item no.: 0804780
Built-in spot (45mm)	LED – Frankia Item no.: 0608820
Built-in spot (30mm)	LED – Frankia Item no.: 0608830
Rear storage compartment light	LED – Frankia Item no.: 0608980
LED reading light with Frankia logo	LED – Frankia Item no.: 0609120
LED reading light with USB and Frankia logo	LED – Frankia Item no.: 0609125
Indirect lighting rear fitted cupboard	LED – Frankia Item no.: 0805210
Lighting step	LED – Frankia Item no.: 0804540
Lighting washroom mirror	LED – Frankia Item no.: 0805250-1,-2,-3
Lighting glass cabinet	LED – Frankia Item no.: 0804610
Lighting storage space, kitchen base	LED – Frankia Item no.: 0608920
Lighting shower canopy (1450mm)	LED – Frankia Item no.: 0804840
Lighting shower canopy (1700mm)	LED – Frankia Item no.: 0804850
Gooseneck reading lamp	LED – Frankia Item no.: 0608970

Blown bulbs must be replaced with new ones of the same type and output.

Halogen lights should only be touched with a cloth. Touching the glass bulb with your fingers reduces the brightness that is emitted and can also shorten the life of the lamp itself.

#### **LED Lighting**

Most of the interior lighting is equipped with LEDs as the source of light. These have an extremely long lifespan. Should a defect nevertheless occur, the entire light must be replaced.

## 9.2 Gas system

### **Gas appliances do not work:**

- Open the shut-off valve on the gas bottle
- Open the shut-off valve at the consumer points
- Fill the gas bottle
- Use only propane gas during frost
- Does the pressure reducer work properly in winter operation? (Risk of frost)
- Use Ice-Ex-Heating (= Option) from + 5° C
- If a single device does not function, carefully follow the operating procedure in the corresponding chapter

## 9.3 Fresh water system

### **Water comes out of the motorhome during filling:**

- A small amount of water can escape under the motorhome via the pressure relief valve due to water expansion when the boiler is heated.
- Close the frost protection valve. The room temperature must be at least + 6° C, otherwise the valve cannot be closed.
- Insert the drain plug in the fresh water tank
- Check the hose clamps for the lines for firm seating
- Check the fresh and wastewater tanks for overfilling

### **Water withdrawal from the tap - too little or no water at all:**

- Check or switch on the 12 volt supply
- Switch on the fuse of the water pump
- Check fresh water display
- After refilling the completely empty tank, vent the pump by briefly opening the drain valves
- If the water was drained from the boiler, it takes several minutes for the boiler to fill and warm water to flow.
- If the pump does not start when the tap is open, look for the electrical or pump fault.
- Do not allow the pump to run dry over a longer period of time.

### **Leaks in the motorhome:**

- Immediately switch off the fresh water pressure pump on the central panel, only then search for a leak

### **Water has an aftertaste:**

- Sterilise the fresh water tank and piping system, only effective after 6 hours
- Water is germ-free only after boiling for 10 minutes
- Drain unused water after 3 days, rinse the tank and refill

### **Hot water malfunction:**

- The heating system must be in operation
- Activate the 12 volt supply and fresh water pressure pump on the central panel
- Take the heating-up time of the water heater into account, approx. 30 min.
- Fill or vent the hot water boiler by opening the hot water tap

**If the living area battery was disconnected, the frost protection valve of the boiler inevitably opens.**

#### **9.4 Wastewater**

##### **Water does not drain:**

- Check the fill level of the wastewater tank on the central panel
- Check for a possible blockage in the drain line
- Clean the siphons from the kitchen sink, washbasin and shower
- Is the motorhome level? Since the wastewater tank is located in the intermediate floor, the wastewater pipes have very little slope.

##### **Odour in the vehicle:**

- Check the siphons of the kitchen sink and washbasin for full water level.  
We recommend using the plugs of the sink and shower tray while driving to avoid unpleasant smells.

#### **9.5 WC tank**

##### **WC tank too full:**

- Carry out emergency emptying: Interior - Open the slider from the toilet bowl bottom  
Exterior - Open the toilet tank door  
Hold the drainage nozzle and open it carefully and let it run into a container. After the contents of the toilet bowl have been emptied, close the toilet slider, close the drain nozzle and remove the toilet tank as specified.

##### **Odour nuisance:**

- WC tank too full. Drain immediately at a service station. The fill level indicator shows you when to empty (red area).
- If the outside temperature is warm, use a slightly higher dose of the sanitary concentrate
- Close the toilet slider immediately after use

##### **Flush does not work:**

- Check the fresh water tank level
- Check 12 V supply.
- Check the toilet flushing device in the toilet tank shaft
- If necessary, manually flush the toilet bowl with a little water

##### **Slider on the toilet tank does not open, toilet bowl cannot be emptied:**

- Open the toilet tank shaft door, turn the drain connector outwards, compensate for excess pressure by slowly opening the lock on the drain connector
- Spray the slider seal with silicone spray

##### **WC tank cannot be removed:**

- The slider on the toilet bowl floor must be closed
- The bracket under the toilet tank must move freely
- No violent removal, contact a service centre



## 9.6 Heating system

### **Heating does not ignite:**

- Switch on the 12 volt supply on the central panel
- Open the gas shut-off valve at the consumer point
- Check the gas supply
- Check fuse and electrical connections on the heating unit
- Switch on the room thermostat
- The red LED on the reset button on the heating control panel must be off, if not, press the reset button for a few seconds
- Repeat the ignition process according to the instructions

### **Burner works but does not heat:**

- Set the room thermostat to a sufficient temperature

### **Heating goes off alone during operation:**

- Check the gas supply - Check the content of the gas bottle
- Check 12 volt power supply
- Was there a deflagration?

**In the event of a deflagration, have the heating system checked by a specialist workshop before restarting!!**

- Wait for 3 minutes before re-ignition
- Check the chimney flue for clogging

## 9.7. Kitchen appliances

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

- Check the operating mode of the refrigerator
- The refrigerator works noiselessly
- The first cooling effect can be felt after about 1 hour
- Open the shut-off valve of the consumer point in gas operation
- Check on the control panel of the refrigerator, select the correct operating mode
- Check the motorhome for horizontal level position
- External ventilation grilles must be free
- If the temperature is above + 35° C, remove the ventilation grille completely
- Place the winter cover in front of the ventilation grille if the temperature is below 0° C

### **Gas stove does not ignite:** (see also 3.2: Gas system)

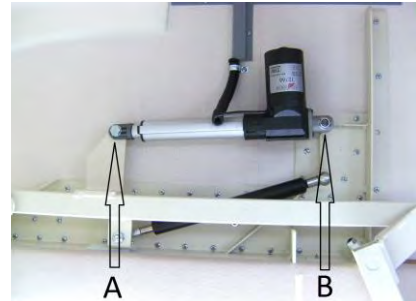
- Start up and check the gas system
- Refill or replace the gas bottle
- Open the shut-off valve of the consumer point

## 9.8 Electric drop-down bed (Coachbuilt except PLUS)

### Drop-down bed faulty:

#### Bed in the lower position:

- Turn off the main 12 V switch on the control panel above the entrance door.
- Remove the drop-down bed curtain.
- Loosen the two fastening screws A and B (size 17 spanner) of the lifting cylinder and unhook them.
- Gently swing the bed up.
- Quickly find an authorised FRANKIA dealer for troubleshooting.



#### Bed in the upper position:

- Turn off the main 12 V switch on the control panel above the entrance door.
- Sit on the dashboard.
- Loosen the screws above your head on both sides (Pos. A) and lower the bed slowly.
- Quickly find an authorised FRANKIA dealer for troubleshooting.



## Electric drop-down bed (Coachbuilt PLUS)

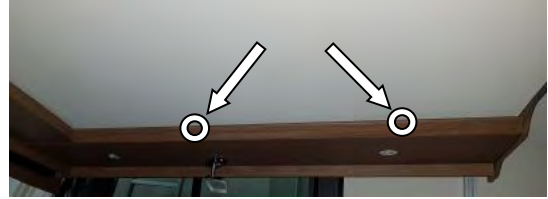
### Drop-down bed faulty:

#### Bed in lower position, headboard section extended:

- Turn off the main 12 V switch on the control panel above the entrance door.
- Remove the mattresses.
- Cut a slit in the spacer fabric over the two maintenance holes to access the headboard linear drive mounting screws.
- Loosen the two fastening screws and take them out.
- Pull in the headboard until it stops.



- You can use the two access points below the light canopy on the underside of the bed to drive the motor shafts of the seat belt retractors using the Allen key (emergency operating crank), alternately at the front and rear, or simultaneously.
- Quickly find an authorised FRANKIA dealer for troubleshooting.

**Bed in the upper position:**

- Turn off the main 12 V switch on the control panel above the entrance door.
- Turn the bed downwards as described above using the two crank access points.
- As described previously, unhook the headboard linear drives and pull out the head part.
- Quickly find an authorised FRANKIA dealer for troubleshooting.

## 9.9 Vehicle

**Straight line driving unsatisfactory, difficult to steer:**

- Check tyre pressure
- Check whether the front axle is overloaded

**Engine performance unsatisfactory:**

- Carry out the same check as for straight line driving
- Check the fuel filter for soiling
- A fully loaded motorhome cannot be compared with a car in all its handling. Inclines and strong headwinds reduce driving performance.

**Headlights defective:**

- If a light does not come on, please check before changing a light bulb that its contacts are not oxidised and that the fuse in question is intact
- Blown bulbs must be replaced with new ones of the same type and output.
- For halogen lamps, only the metal part should be touched. Touching the glass bulb with your fingers reduces the brightness that is emitted and can also shorten the life of the lamp itself.

	Exterior lighting	Light bulbs	Wattage
<b>Front</b>	Low beam headlight	DE-H7 12V	55 W
	High beam headlight with indicators and position lights (for A.T)	FF-H7 12V T4W 12V	55 W 4 W
	Indicator lights	PY21W 12V	21 W
	Fog lights	H7 12V (A,T) ; H3 12V (I)	55 W
	Position lights Coachbuilt	LED – Frankia Item no.: 0605830	
	Position lights A-class	LED – Frankia Item no.: 0605760	
<b>Rear</b>	Indicator-rear-brake light	LED – Frankia Item no.: 0608360	
	Reversing light	LED – Frankia Item no.: 0608370	
	Rear fog light	LED – Frankia Item no.: 0608380	
	Third brake light	LED – Frankia Item no.: 0608390	
	Outline rear light	LED – Frankia Item no.: 0608400	
<b>Page</b>	Sidemarkers lights horizontal	LED – Frankia Item no.: 0608100	
	vertical	LED – Frankia Item no.: 0608110	

### Headlights defective (Coachbuilt motorhomes):

#### High beam and low beam

- Turn the end cap at the rear end of the headlights anti-clockwise and pull off
- Pull out bulb
- Insert new bulb
- Installation is done in the reverse order.
- For optional LED headlights, please contact an authorised FRANKIA dealer

#### Side light

- Turn the end cap at the rear end of the headlights anti-clockwise and pull off
- Pull out light
- Insert new light
- Installation is done in the reverse order.

#### Travel direction indicator

- Disconnect electrical connector
- Turn the socket together with the bulb to the left and pull it out
- Turn the bulb to the left and pull it out of the socket
- Insert new bulb
- Dismantling takes place in reverse order.

#### Daytime driving lights / position lights (for Coachbuilt)

- maintenance free lights
- if they do not function, check the 5A fuse in the additional chassis distribution (for EBL)

**Fog lights (for Coachbuilt)**

- Pull off the rubber cap at the rear end of the headlights
- Disconnect electrical connector
- Remove the bulb from the socket
- Insert new bulb
- If the fog light still does not function, check the 10A fuse in the additional chassis distribution (for EBL)

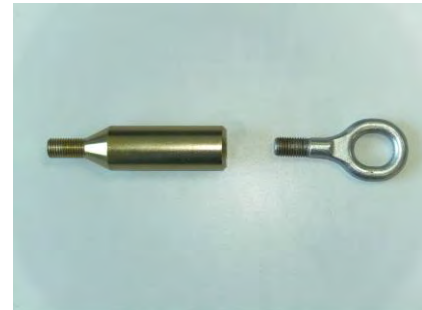
**Sidemarkers lights, rear lights, position lights**

The sidemarkers lights, the entire rear lighting and the position lights on all models are equipped with LEDs as illuminants. These have an extremely long lifespan. Should a defect nevertheless occur, the entire light must be replaced.

**Towing Mercedes models**

If your motorhome has to be towed, you must use the attached extension piece for Coachbuilt models based on Mercedes.

Screw the original towing eye into the extension until it stops.

**Towing Fiat models**

For vehicles based on the Fiat Ducato, remove the chrome trim strip attached with Velcro on the bumper. To do so, carefully loosen the bar from both sides towards the centre.



Screw the towing eye into the threaded hole provided until it stops.





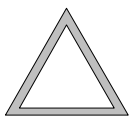
**Tyre change:**

If your motorhome is equipped with a spare wheel (option), proceed as follows in the event of a flat tyre that requires a tyre change:

- Engage first gear or reverse gear, select position “P” for automatic transmission. Secure the opposite wheel with wheel chocks.
- Take out the spare wheel.  
In order to be able to lower or lift the wheel holder together with the spare wheel more easily, the jack can be used instead of the wheel spanner (see photo).



- Position the jack under the seat provided for the wheel spanner on the left side of the spare wheel holder.
- Unhook the wheel holder and slowly lower it to the ground with the jack.
- The wheel holder is lifted in the same way.
- Loosen the wheel bolts.
- Position the jack at the respective position points.
- Raise the motorhome and remove the defective wheel.
- Mount the spare wheel, tightening the wheel bolts crosswise.
- Store the replaced wheel in the spare wheel holder.

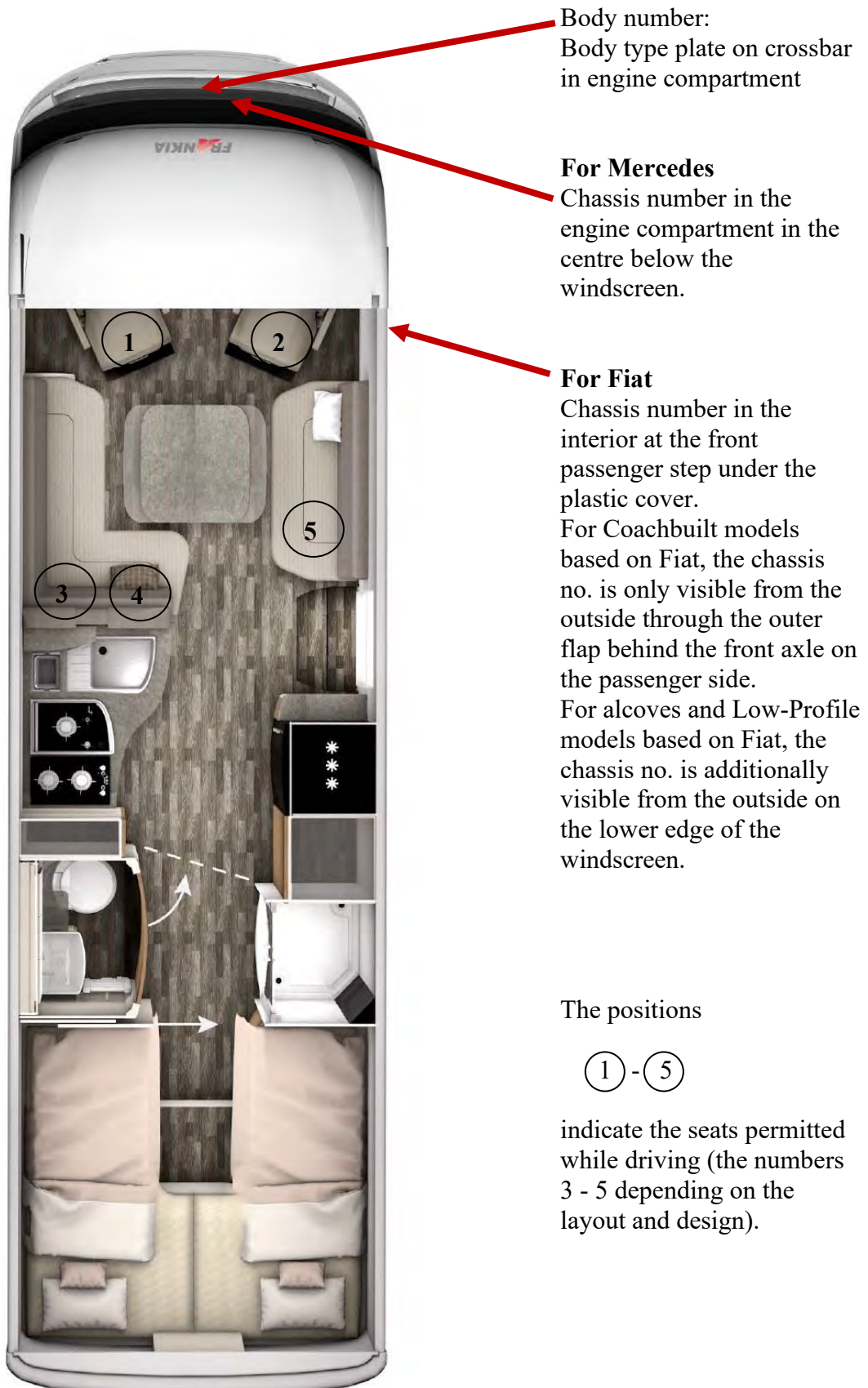
**Achtung**

For Mercedes with a spare wheel, the original wheel hub must be carried in order to fit the spare tyre.



## 10. WHAT YOU SHOULD KNOW

### Chassis number, type plate



## 11. SPARE PARTS AND EMERGENCY NUMBERS

If you need spare parts for your motorhome, please contact your nearest dealer (request the new dealer directory from our sales department,  
Telephone +49 (0) 9227 / 738-0, email [info@frankia.de](mailto:info@frankia.de))

Write down your body number (this is on the nameplate in the engine compartment) to make identification easier.

Of course, you can also contact us directly. You can find our address on the front of these operating instructions.

In the case of emergencies that affect the chassis, please contact the appropriate emergency service:

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

**Mercedes:** 00 800 1777 7777

### **ALKO-GmbH:**

Tel: 0800 - 25 56 000 (Germany free of charge)

Tel. +49 8221 - 97 92 61 (Abroad)

For emergencies that affect the heating, please call the following numbers:

**Truma:** 089 4617 2020  
**Alde:** 09723 911 660      or      0151 4651 4298  
**HPC:** +31 541 222444

For emergencies that affect your refrigerator, please contact the company

**Dometic:** 02572 879 191

**Thetford:** 02129 94250

For emergencies that affect the electrical system, please contact the company

**Büttner Elektronik:** 05973 90037-0

**CBE:** +39 0461 991598

**Teleco:** 089 211 299 97

**EZA:** +32 475 92 75 94

## 12. FRANKIA TRADING PARTNERS

### 12.1 Germany

#### Post code zone 0

##### **Muldental Caravaning**

Kupferstrasse 1  
04827 Gerichshain  
Tel.: 0 3 42 92 / 6 65 61  
Fax: 0 3 42 92 / 86 99 99  
[info@muldental-caravaning.de](mailto:info@muldental-caravaning.de)  
[www.muldental-caravaning.de](http://www.muldental-caravaning.de)

#### Post code zone 1

##### **Wendisch-PS**

Fürstenwalder Poststrasse 102  
15234 Frankfurt  
Tel.: 0 3 35 / 40 02 22 2  
[info@wendisch-ps.com](mailto:info@wendisch-ps.com)  
[www.wendisch-ps.com](http://www.wendisch-ps.com)

#### Post code zone 2

##### **Lundberg Reisemobile**

Ohechaussee 214  
22848 Norderstedt  
Tel.: 0 40 / 5 28 50 25  
Fax: 0 40 / 5 23 23 47  
[info@lundberg.de](mailto:info@lundberg.de)  
[www.lundberg.de](http://www.lundberg.de)

##### **Tank Reisemobile e.K.**

Teichkoppel 40  
24229 Dänischenhagen  
Tel.: 0 43 49 / 91 94 10  
Fax: 0 43 49 / 91 94 11  
[info@tank-reisemobile.de](mailto:info@tank-reisemobile.de)  
[www.tank-reisemobile.de](http://www.tank-reisemobile.de)

##### **Hoves HVD GmbH**

Carl-Backhaus-Str. 9  
22926 Ahrensburg  
Tel. 0 41 02 / 77 80 418  
[info@hoves.eu](mailto:info@hoves.eu)  
[www.hoves.eu](http://www.hoves.eu)

##### **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  
[info@reicartech.de](mailto:info@reicartech.de)  
[www.reicartech.de](http://www.reicartech.de)

#### Post code zone 3

##### **MPG Mobilpartner Gütersloh oHG**

Carl-Zeiss-Str. 36  
33334 Gütersloh  
Tel.: 0 52 41 / 7 32 63  
Fax: 0 52 41 / 68 77 52  
[info@mpg-mobilpartner.de](mailto:info@mpg-mobilpartner.de)  
[www.mpg-mobilpartner.de](http://www.mpg-mobilpartner.de)

##### **Kuno's Mobile Freizeit GmbH & Co. KG**

Frankfurter Str. 6 A  
34295 Edermünde  
Tel.: 0 56 65 / 4 06 48 30  
Fax: 0 56 65 / 4 06 48 39  
[info@kuno-mobil.de](mailto:info@kuno-mobil.de)  
[www.kuno-mobil.de](http://www.kuno-mobil.de)

#### Post code zone 4

##### **Caravan Center Bocholt**

Harderhook 29  
46395 Bocholt/ Industriepark  
Tel.: 0 28 71 / 26 00 00  
Fax: 0 28 71 / 26 00 02  
[info@caravan-center-bocholt.de](mailto:info@caravan-center-bocholt.de)  
[www.caravan-center-bocholt.de](http://www.caravan-center-bocholt.de)

##### **Dulle Mobile GmbH**

An der Autobahn 12  
49733 Haren/ Wesuwe  
Tel.: 0 59 35 / 99 95 90  
Fax: 0 59 35 / 99 95 910  
[info@dulle-mobile.de](mailto:info@dulle-mobile.de)  
[www.dulle-mobile.de](http://www.dulle-mobile.de)

### **Post code zone 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  
[info@reisemobile-jumpertz.de](mailto:info@reisemobile-jumpertz.de)  
[www.reisemobile-jumpertz.de](http://www.reisemobile-jumpertz.de)

### **Post code zone 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  
[info@engel-caravaning.de](mailto:info@engel-caravaning.de)  
[www.engel-caravaning.de](http://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](mailto:info@euch.de)  
[www.euch.de](http://www.euch.de)

### **Post code zone 7**

#### **My Caravan GmbH**

In der Röte 10  
71120 Grafenau  
Tel.: 0 70 33 / 69 98 93  
Fax: 0 70 33 / 53 45 21  
[info@mycaravan.de](mailto:info@mycaravan.de)  
[www.mycaravan.de](http://www.mycaravan.de)

### **Post code zone 8**

#### **Reisemobile Oberbayern**

Graf-Zeppelin-Strasse 28  
86899 Landsberg am Lech  
Tel.: 0 81 91 / 6 57 10 00  
Fax: 0 81 91 / 6 57 10 020  
[office@reisemobile-oberbayern.de](mailto:office@reisemobile-oberbayern.de)  
[www.reisemobile-oberbayern.de](http://www.reisemobile-oberbayern.de)

#### **Caravan Company Wolfrum**

Inh. Jörg Wolfrum  
Kapellenweg 31  
83064 Raubling  
Tel.: 0 80 35 / 9 67 96 36  
Fax: 0 80 35 / 9 67 96 37  
[info@caravan-company.com](mailto:info@caravan-company.com)  
[www.caravan-company.com](http://www.caravan-company.com)

#### **Wohnmobile-Wohnwagen**

##### **Wiedemann GmbH**

Dieselstr. 1  
Gewerbegebiet Lanzen  
87448 Waltenhofen/Kempton  
Tel.: 0 83 03 / 92 36 23  
Fax: 0 83 03 / 92 34 74  
[info@caravan-wiedemann.de](mailto:info@caravan-wiedemann.de)  
[www.caravan-wiedemann.de](http://www.caravan-wiedemann.de)

**Post code zone 9**

**Freizeit-Fahrzeuge Schittkowski e.K.**

Stadelner Hauptstrasse 140

90765 Fürth

Tel.: 0 9 11 / 76 58 25 8

[info@reisemobile-schittkowski.de](mailto:info@reisemobile-schittkowski.de)

[www.reisemobile-schittkowski.de](http://www.reisemobile-schittkowski.de)

**Caravaning & Fahrzeugcenter Coburg**

Inh. Daniel Gebhardt

Industrie Str. 3

96487 Dörfles-Esbach

Tel.: 0 95 61 / 85 37 887

Fax: 0 95 61 / 85 37 847

[info@reisemobile-coburg.de](mailto:info@reisemobile-coburg.de)

[www.reisemobile-coburg.de](http://www.reisemobile-coburg.de)

**Autohaus Imhof GmbH**

Schwarze Brücke 2

97737 Gemünden-Wernfeld

Tel.: 0 93 51 / 36 62

Fax: 0 93 51 / 44 97

[info@autohaus-imhof.de](mailto:info@autohaus-imhof.de)

[www.autohaus-imhof.de](http://www.autohaus-imhof.de)

## **12.2 Abroad**

### **Belgium**

#### **Bronn Technics bvba**

Kapelanielaan 18 c  
B – 9140 Temse  
Tel.: 00 32 – 37 71 29 36  
Fax: 00 32 – 37 11 26 84  
[info@bronntechnics.com](mailto:info@bronntechnics.com)  
[www.bronntechnics.com](http://www.bronntechnics.com)

### **Denmark**

#### **Niels Braendekilde APS**

Jels-Krydset  
Haderslevvej 59  
DK – 6630 Rodding  
Tel.: 00 45 – 74 55 21 01  
Fax: 00 45 – 74 55 21 59  
[mail@nbc-jels.dk](mailto:mail@nbc-jels.dk)  
[www.nbc-jels.dk](http://www.nbc-jels.dk)

### **Estonia**

#### **AD Cunsult Plc**

Sarapuu 20a-4  
EST – 76904 Tabasalu  
Tel.: 00 37 – 2 50 84 767  
[info@motorhome.ee](mailto:info@motorhome.ee)  
[www.motorhome.ee](http://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  
[thelliercamping-car@orange.fr](mailto:thelliercamping-car@orange.fr)  
[www.thelliercamping-car.com](http://www.thelliercamping-car.com)

#### **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  
[www.carabita.ypocamp.fr](http://www.carabita.ypocamp.fr)

#### **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  
[contact@sud-loire-caravanes.com](mailto:contact@sud-loire-caravanes.com)  
[www.caravaning-central.com](http://www.caravaning-central.com)

#### **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  
[contact@sud-loire-caravanes.com](mailto:contact@sud-loire-caravanes.com)  
[www.sud-loire-caravanes.com](http://www.sud-loire-caravanes.com)

#### **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  
[www.eurocar69.com](http://www.eurocar69.com)

#### **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](mailto:contact@niort-evasion.com)  
[www.niort-evasion.com](http://www.niort-evasion.com)

### **Great Britain**

#### **SMC Motorhomes**

Northern Road Newark  
NG24 ET Nottinghamshire  
Tel.: 00 44 – 16 36 67 07 60  
Fax: 00 44 – 16 36 67 07 67  
[sales@smcsales.co.uk](mailto:sales@smcsales.co.uk)  
[www.smcmotorhomes.co.uk](http://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](mailto:camper@lussocaravan.it)  
[www.lussocaravan.it](http://www.lussocaravan.it)

#### **Punto Camper**

di Giorgio De Tisi  
Via Nazionale 6  
I-38060 Besenello (TN)  
Tel.: 00 39 – 04 64 82 00 41  
Fax: 00 39 – 04 64 82 11 70  
[info@puntocamper.it](mailto:info@puntocamper.it)  
[www.puntocamper.it](http://www.puntocamper.it)

### New Zealand

ZION Motorhomes LTD  
Lot 21, Gateway Park Drive (Turn in to Mc Donald Road)  
Waikato, Pokeno 2471, New Zealand  
Tel.: 0800 11 28 28  
[info@zionmotorhomes.co.nz](mailto:info@zionmotorhomes.co.nz)  
[www.zionmotorhomes.co.nz/frankia/](http://www.zionmotorhomes.co.nz/frankia/)

### The Netherlands

#### **Raema Caravans & Campers b.v.**

Hulsenweg 8  
NL - 6031 SP Nederweert  
Tel. 00 31 / 4 95-72 59 00  
Fax. 00 31 / 4 95-72 59 01  
[info@raemacaravans.nl](mailto:info@raemacaravans.nl)  
[www.raemacaravans.nl](http://www.raemacaravans.nl)

### Norway

#### **Stamsaas Fritid AS**

Vogts vei 40  
N-1710 Sarpsborg  
Tel.: 0047 – 69 13 89 40  
[firmapost@stamsaasfritid.no](mailto:firmapost@stamsaasfritid.no)  
[www.stamsaasfritid.no](http://www.stamsaasfritid.no)

#### **Grenland Bobilsenter AS**

Rødmyrlia 3  
N-3735 Skien  
Tel.: 0047 – 46 1717 21  
[post@grenlandbobilsenter.no](mailto:post@grenlandbobilsenter.no)  
[www.grenlandbobilsenter.no](http://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](mailto:post@reimeoglode.no)  
[www.reimeoglode.no](http://www.reimeoglode.no)

#### **Aktiv Caravan**

Kokstadflaten 32  
5257 Kokstad  
Tel.: 00 47 – 40 00 35 70  
[post@aktivcaravan.no](mailto:post@aktivcaravan.no)  
[www.aktivcaravan.no](http://www.aktivcaravan.no)

#### **Bobil Vest AS**

Brynalii 74  
N-5700 Voss  
Tel.: 00 47 – 95 96 30 04  
[post@bobilvest.com](mailto:post@bobilvest.com)  
[www.bobilvest.com](http://www.bobilvest.com)

#### **Løviknes Caravan Import AS**

Kyrkjevegen 8  
N-6390 Vestnes  
Tel.: 0047 - 71 18 14 46  
[loviknes@bobiler.net](mailto:loviknes@bobiler.net)  
[www.bobiler.net](http://www.bobiler.net)

#### **Bobilsenteret Namsos AS**

Axel Sellægs veg 2  
N-7800 Namsos  
Tel.: 00 47 – 74 20 91 00  
Fax: 00 47 – 74 20 91 01  
[kveli@pilote.no](mailto:kveli@pilote.no)  
[www.bobilnamsos.no](http://www.bobilnamsos.no)

#### **Bobilsenteret Namsos Bodø AS**

Mølnbakken 76  
8050 Tverlandet  
Tel.: 00 47 – 90 18 64 65  
[reidar@pilote.no](mailto:reidar@pilote.no)  
[www.bobilnamsos.no](http://www.bobilnamsos.no)

### Norway

#### **Mathisens Landbruksservice AS**

Altaveien 269  
N-9515 Alta  
Tel.: 00 47 – 78 43 69 33  
[salg@mathisen-ls.no](mailto:salg@mathisen-ls.no)  
[www.mathisen-ls.no](http://www.mathisen-ls.no)

### Sweden

#### **Forsbergs Fritidscenter AB**

Bergkällavägen 22  
SE – 19279 Sollentuna  
Tel.: 00 46 – 87 56 67 60  
Fax: 00 46 – 87 56 44 64  
[stockholm@forsbergsfritidscenter.se](mailto:stockholm@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

Gnejsgatan 10  
SE – 267 90 Bjuv  
Tel.: 00 46 – 42 83 08 0  
Fax: 00 46 – 42 83 08 8  
[forsaljning.bjuv@forsbergsfritidscenter.se](mailto:forsaljning.bjuv@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

Fölehagsvägen 1  
SE – 39239 Kalmar  
Tel. : 00 46 – 480 889 44  
[kalmar@forsbergsfritidscenter.se](mailto:kalmar@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

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](mailto:info@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

Möllersbrunnsvägen 3  
SE - 59017 Mantorp  
Tel.: 00 46 - 142 67 07 10  
[mantorp@forsbergsfritidscenter.se](mailto:mantorp@forsbergsfritidscenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

Mejerigatan 2  
SE - 65343 Karlstad  
Tel.: 00 46 - 542 02 16 50  
[karlstad@forsbergsfritidcenter.se](mailto:karlstad@forsbergsfritidcenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

#### **Forsbergs Fritidscenter AB**

Hugo Hedströms väg 6  
SE - 78172 Borlänge  
Tel.: 0046 - 243 21 25 00  
[borlange@forsbergsfritidcenter.se](mailto:borlange@forsbergsfritidcenter.se)  
[www.forsbergsfritidscenter.se](http://www.forsbergsfritidscenter.se)

### Switzerland

#### **Garage du Château SA**

Céline Richard  
Route des Provins 32  
CH-2087 Cornaux  
Tel: 00 41 – 32 751 21 90  
Fax: 00 41 – 32 751 44 73  
[atelier@garagechateau.ch](mailto:atelier@garagechateau.ch)  
[www.garagechateau.ch](http://www.garagechateau.ch)

### Spain

#### **M3 Caravaning S.A.**

Carretera Nacional 340, Km1214  
E - 08720 Vilafranca del Penedes  
Tel.: 00 34 – 9 38 18 25 00  
Fax: 00 34 – 9 38 18 13 31  
[info@m3caravaning.com](mailto:info@m3caravaning.com)  
[www.m3caravaning.com](http://www.m3caravaning.com)

### Czech Republic

#### **Toptrade**

Palackého 500  
CZ – 76901 Holesov  
Tel.: 00 42 – 05 73 – 39 40 91  
Fax: 00 42 – 05 73 – 39 40 92  
[caravan@toptrade.cz](mailto:caravan@toptrade.cz)  
[www.toptrade.cz](http://www.toptrade.cz)

## **Slovakia**

### **Toptrade**

Bytčická 89  
SK - 01001 Žilina  
Tel.: 0042 0 777 777 400  
[caravan@toptrade.cz](mailto:caravan@toptrade.cz)  
[www.toptrade.cz](http://www.toptrade.cz)

## **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](mailto:mmautomobile@t-online.de)  
[www.michalk-automobile.de](http://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](mailto:service@w-z-b.de)  
[www.w-z-b.de](http://www.w-z-b.de)

#### **MW Fahrzeugtechnik**

Pfaffengarten 15  
35641 Schöffengrund  
Tel.: 0 64 46 / 61 20 500  
[info@mw-reisemobile.de](mailto:info@mw-reisemobile.de)  
[www.mw-reisemobile.de](http://www.mw-reisemobile.de)

#### **Reisemobil & Caravan Service Monsees**

Robert-Kirchhoff-Strasse 2  
64579 Gernsheim  
Tel.: 0 62 58 / 94 15 42  
Fax: 0 62 58 / 94 15 44  
[info@reisemobil-caravan-service.de](mailto:info@reisemobil-caravan-service.de)  
[www.reisemobil-caravan-service.de](http://www.reisemobil-caravan-service.de)

#### **myCaravan Mobilhome Pfister**

Seewiesen 9  
72348 Rosenfeld  
Tel.: 0 74 28 / 37 223  
[markus.pfister@mycaravan.de](mailto:markus.pfister@mycaravan.de)  
[www.mobilehome-pfister.de](http://www.mobilehome-pfister.de)

#### **Brock Reisemobile UG**

Inh. Viola Lehmann  
Weddeler Str. 7  
38104 Braunschweig  
Tel.: 0 53 1 / 36 01 38  
Fax: 0 53 1 / 36 01 91  
[info@brock-reisemobile.com](mailto:info@brock-reisemobile.com)  
[www.brock-reisemobile.com](http://www.brock-reisemobile.com)

### **Austria**

Franz GmbH  
F.N. of the company Gebetsroither  
Industriestr. 15  
A-2201 Hagenbrunn  
Tel.: 00 43 – 22 – 46 47 11  
Fax: 00 43 – 22 – 46 47 11 15  
[hagenbrunn@gebetsroither.com](mailto:hagenbrunn@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

Gebetsroither Unternehmensgruppe  
in Timelkam  
Strass 22  
A-4850 Timelkam-Vöcklabruck  
Tel.: 00 43 – 76 72 – 7 77 98  
Fax: 00 43 – 76 72 – 7 77 98  
[timelkam@gebetsroither.com](mailto:timelkam@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

Gebetsroither Unternehmensgruppe  
Gebetsroitherweg 1  
A – 8940 Weissenbach/Liezen  
Tel.: 00 43 – 36 12 – 26 30 02 01  
Fax: 00 43 – 36 12 – 26 30 04  
[liezen@gebetsroither.com](mailto:liezen@gebetsroither.com)  
[www.gebetsroither.com](http://www.gebetsroither.com)

### Switzerland

**Mobil Center Dahinden ag**  
Hackenrüti 2  
CH-6110 Wolhusen  
Tel.: 00 41 – 491 04 14  
Fax: 00 41 – 491 04 15  
[info@mobil-center.ch](mailto:info@mobil-center.ch)  
[www.mobil-center.ch](http://www.mobil-center.ch)

## 12.4 Commercial rentals

### Post code zone 2

**Lundberg Reisemobile**  
Ohechaussee 214  
22848 Norderstedt  
Tel.: 0 40 / 5 28 50 25  
Fax: 0 40 / 5 23 23 47  
[info@lundberg.de](mailto:info@lundberg.de)  
[www.lundberg.de](http://www.lundberg.de)

**Hoves HVD GmbH**  
Max-Weber-Str. 42B  
25451 Quickborn  
Tel. 0 41 06 / 76 59 24 1  
Fax. 0 41 06 / 76 59 24 2  
[info@premium-wohnmobil.de](mailto:info@premium-wohnmobil.de)  
[www.premium-wohnmobil.de](http://www.premium-wohnmobil.de)

### Post code zone 3

**MPG Mobilpartner Gütersloh oHG**  
Carl-Zeiss-Str. 36  
33334 Gütersloh  
Tel.: 0 52 41 / 7 32 63  
Fax: 0 52 41 / 68 77 52  
[info@mpg-mobilpartner.de](mailto:info@mpg-mobilpartner.de)  
[www.mpg-mobilpartner.de](http://www.mpg-mobilpartner.de)

**Kuno's Mobile Freizeit  
GmbH & Co. KG**  
Frankfurter Str. 6 A  
34295 Edermünde  
Tel.: 0 56 65 / 4 06 48 30  
Fax: 0 56 65 / 4 06 48 39  
[info@kuno-mobil.de](mailto:info@kuno-mobil.de)  
[www.kuno-mobil.de](http://www.kuno-mobil.de)

### Post code zone 4

**Caravan Center Bocholt**  
Harderhook 29  
46395 Bocholt/ Industriepark  
Tel.: 0 28 71 / 26 00 00  
Fax: 0 28 71 / 26 00 02  
[info@caravan-center-bocholt.de](mailto:info@caravan-center-bocholt.de)  
[www.caravan-center-bocholt.de](http://www.caravan-center-bocholt.de)

**Dulle Mobile GmbH**  
An der Autobahn 12  
49733 Haren/ Wesuwe  
Tel.: 0 59 35 / 99 95 90  
Fax: 0 59 35 / 99 95 910  
[info@dulle-mobile.de](mailto:info@dulle-mobile.de)  
[www.dulle-mobile.de](http://www.dulle-mobile.de)

### Post code zone 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  
[info@reisemobile-jumpertz.de](mailto:info@reisemobile-jumpertz.de)  
[www.reisemobile-jumpertz.de](http://www.reisemobile-jumpertz.de)

**Post code zone 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  
[info@engel-caravaning.de](mailto:info@engel-caravaning.de)  
[www.engel-caravaning.de](http://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](mailto:info@euch.de)  
[www.euch.de](http://www.euch.de)

**Post code zone 9**

**Caravaning & Fahrzeugcenter Coburg**

Inh. Daniel Gebhardt  
Industrie Str. 3  
96487 Dörfles-Esbach  
Tel.: 0 95 61 / 85 37 887  
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Last updated: October 2019

If there should ever be a problem with your FRANKIA motorhome, it doesn't matter where you are in Europe.

Any trade or service partner listed here will be happy to help you.