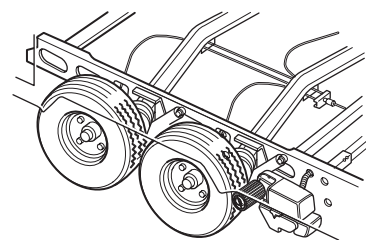




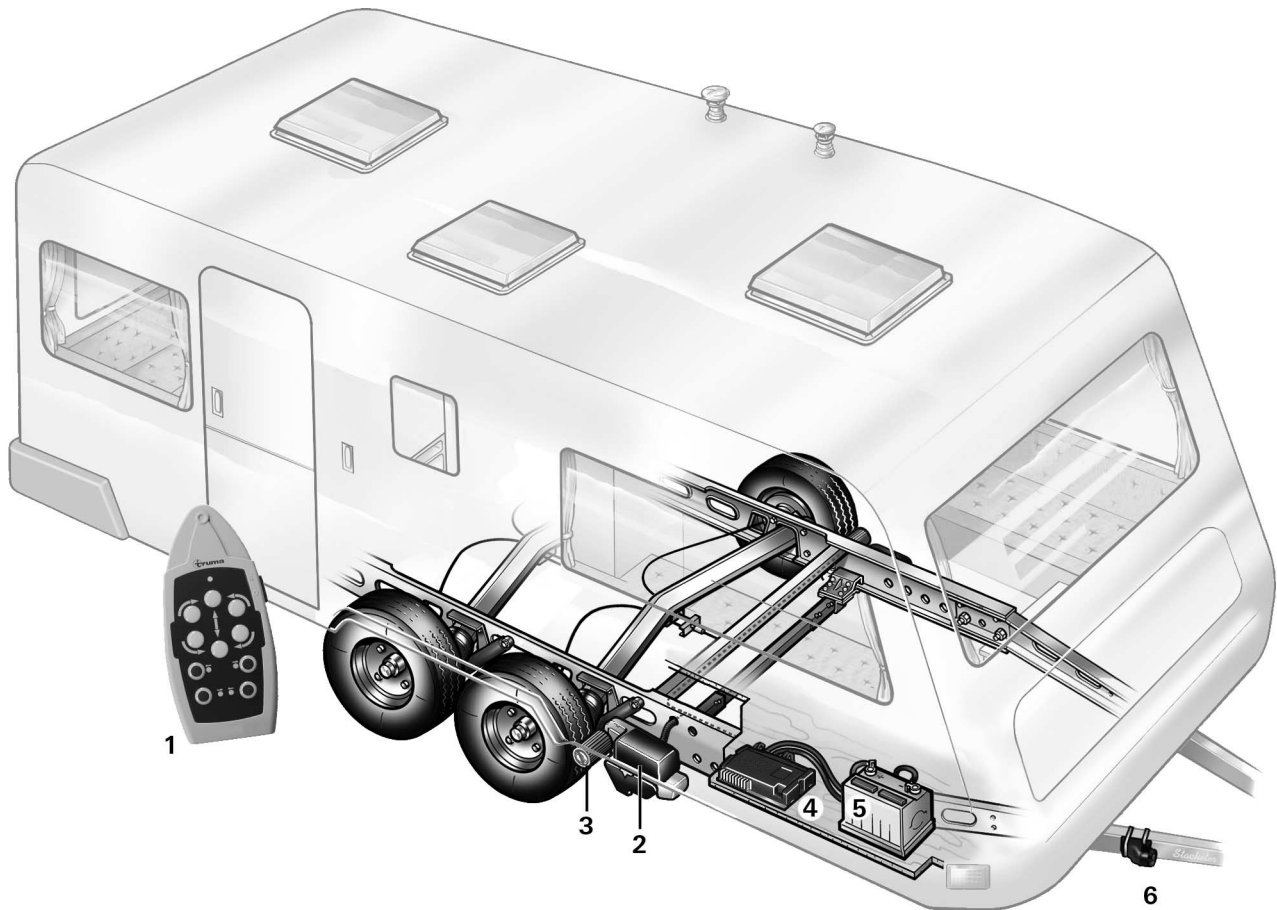
Mover SE Mover TE Version UK



Operating instructions
Installation instructions

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Page 7

To be kept in the vehicle!



Installation example

- 1 Remote handset
- 2 Drive motor
- 3 Drive roller
- 4 Electronic control unit
- 5 Battery
- 6 Safety socket

Safety-related instructions


- Practice operating the Mover in an open area before using for the first time. **This to fully familiarise yourself with the handset/mover operation.**
- Always check tyres and drive rollers before using the equipment; remove sharp-edged stones and the like if necessary.
- No person must be present in the caravan during operation.
- **All persons (particularly children)** must remain outside the Mover operating area.
- The distance between the radio remote hand set and the centre of the caravan when manoeuvring **must not exceed 10 m!**
- In the event of malfunctions pull on the handbrake.
- To prevent the caravan from tipping, direct the tow hitch downhill when manoeuvring down a slope.
- After manoeuvring, always **apply the handbrake** first, **swivel the drive rollers away from the tyres** and **block the wheels** (particularly on downwards-sloping surfaces). The Mover is **not suitable for use as a parking brake** for a parked caravan.
- Ensure that remote radio control is protected from unauthorised access (particularly by children!).
- Never tow the caravan with the drive rollers applied. This can cause damage to the tyres, the towing vehicle and the drive units.
- All wheels and tyres on the caravan must be of the same size and design.
- In order to ensure that the Mover operates correctly, the distance between the tyres and the swivelled-out drive rollers must be 20 mm. All tyres must have the same inflation pressure as per the manufacturer's instructions (check at regular intervals!). If tyres are worn or new tyres are fitted, the distance between the drive rollers and the tyres may need readjusting (see „Installation of the drive units“).
- Do **not** use the Mover as a support when jacking up the caravan, since this can damage the drive unit.
- Sensitive objects such as cameras, DVD players etc. must not be kept in the stowage box near the control unit or the motor cable. They can be damaged by the electromagnetic fields.
- The empty weight of the vehicle increases by the weight of the Movers, which reduces the payload of the vehicle.

General instructions

The Mover SE was developed for overcoming inclines of up to approx. 25% with a gross weight of 1200 kg and 15% with a gross weight of 1800 kg, and the Mover TE for overcoming inclines of up to approx. 25% with a gross weight of 1200 kg and 10% with a gross weight of 2250 kg on a suitable surface.

Depending on the weight of the caravan, the Mover cannot overcome obstructions that are more than about 2.0 cm in height without assistance (please use wedges as a ramp).

Due to the nature of a radio signal, it can get corrupted by external terrain or objects. So there may be small areas around the caravan where the quality of reception reduces, hence the Mover may stop momentarily.

 When the Mover is switched off using the remote control the control unit remains in standby. In order to switch off completely the battery must be disconnected or switched off using the isolating switch.

Batteries

We recommend the use of so-called drive and lighting batteries. Gel batteries and round cell batteries are also suitable.

These batteries are designed for high power demands and have an extremely long service life. The maximum power consumption of the Mover on the steepest incline and carrying the maximum weight is 120 A. The correct choice of battery depends on the usage period and the scope of use (other consumers in caravan). For mover operation we recommend batteries with a capacity of approx. 60 Ah or more.


Example:

A fully charged lead-acid battery with a capacity of 60 Ah allows the Mover to be operated for approximately 30 minutes with a full load (depending on weight of caravan, battery type and terrain). On level terrain the Mover has average power consumption of approximately 20 A and therefore an operating time of approx. 3 hours.

The use of gel batteries or round cell batteries means that smaller batteries can be used.

Batteries with more capacity allow the equipment to be used for longer.

We recommend the use of chargers with the luou characteristic curve (e.g. Truma battery charger NT 12/ 3-18, Part no. 39901-01). These chargers prevent the battery from being damaged because of overcharging, for example.

 Because of the limited charging current, the charger cannot be used for rapid charging.

Function description

Always observe the operating instructions and „Safety-related instructions“ prior to starting! The vehicle owner is responsible for correct operation of the appliance.

Please note that the Mover SE is only suitable for single-axle towed vehicles, and the Mover TE is only suitable for twin-axle towed vehicles.

The Mover is a manoeuvring system with which a caravan can be moved without the assistance of a towing vehicle.

It consists of two separate drive units, each of which has a 12 Volt DC motor. These units are attached to the frame of the vehicle near the wheels and are connected by lateral bars.

Once the drive rollers have been swivelled onto the tyres using the remote hand set, the Mover is ready for operation. All operation takes place using the remote hand set. This transmits radio signals to the control unit. A separate 12 V lead-acid battery or suitable lead-gel battery (not included in scope of delivery) supplies the control unit with current.

Remote handset

a = On/Off slide switch

- ⓘ On (green LED illuminates)
- ⓪ Off (green LED goes off)

b = Caravan forwards (both wheels rotate in forwards direction)

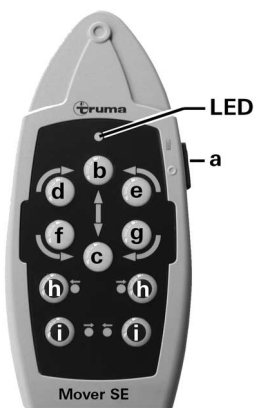
c = Caravan reverse (both wheels rotate in reverse direction)

d = Caravan right forwards (left wheel rotates in forwards direction)

e = Caravan left forwards (right wheel rotates in forwards direction)

f = Caravan right reverse (left wheel rotates in reverse direction)

g = Caravan left reverse (right wheel rotates in reverse direction)



Mover SE only:

The caravan can be turned in a circle on the spot without moving forward.

d + g = Turn caravan to the right (left wheel rotates forwards + right wheel rotates backwards)

e + f = Turn caravan to the left (left wheel rotates backwards + right wheel rotates forwards)

Mover TE only:

Turning on the spot without moving forward is not possible because of the two axles. Pressing the d, g, e or f buttons causes the Mover to move in a circle, whereby the outer motor runs continuously and the inner motor pulsates.

Mover SE/TE:

h = Two-handed operation, swivel drive rollers **in**
i = Two-handed operation, swivel drive rollers **out**

Both buttons must always be pressed simultaneously to swivel the drive rollers in and out.

The swivelling (in or out) starts after about 3 seconds (safety delay). The drive rollers automatically move to the end position, even if both buttons are released.

i Pressing the two buttons for swivelling out whilst the Mover is swivelling in causes the swivelling procedure to be aborted. The drive rollers are swivelled out and automatically move to the end position.

The remote hand set switches off:

- after approx. 2 minutes, if no button is pressed
- after approx. 7 minutes, if one of the movement buttons is permanently held down. The green LED goes off.

To reactivate the remote control, move slide switch to „Off“ ⓪ and then back to „On“ ⓘ after approximately 1 second.

There is no „On/Off“ switch on the caravan to be operated.

Remote hand set LED flash codes and acoustic signal

● LED „On“ and no acoustic signal

System is ready for operation

● LED „Off“ and no acoustic signal

System off

(check remote hand set batteries if necessary)

● LED „flashes“ in combination with acoustic signal:

– for approx. 5 seconds after switching the remote hand set on, until the system is ready for operation.

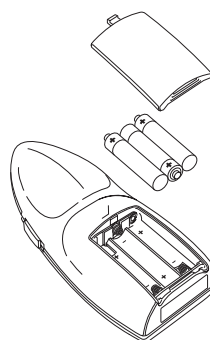
– for approx. 10 seconds after switching the remote hand set on, then it is switched off again – 7-pin connector has not been plugged into the safety socket, or the radio link to the controller could not be established.

– every 3 seconds if the caravan battery has a low charge (finish manoeuvring as quickly as possible and charge battery).

– continuously if the caravan battery has undervoltage. No manoeuvring is possible until the battery voltage is above 11 V again (e.g. by means of recovery/battery charging). The drive rollers can also be swivelled out with a voltage of less than 11 V.

– approx. 2 times per second with overcurrent/overtemperature (2 Hz). Switch remote hand set off and on again (wait for cooling down if necessary in the event of overtemperature).

Changing the batteries in the remote handset



Please be sure to use leak proof micro-batteries only, type LR 03, AAA, AM 4, MN 2400 (1.5 V).

When fitting new batteries ensure the polarity is correct!

! Dead and used batteries may leak and damage the remote handset! Remove the batteries if the handset is not going to be used for an extended period.

No claims under guarantee will be considered for damage caused by leaking batteries.

Before throwing away a defective handset, it is essential that the batteries are removed and disposed of in proper manner.

Manoeuvring the caravan

⚠ Please read the „Safety-related instructions“ before using the Mover!

Apply handbrake with caravan uncoupled.

Unplug 7-pin plug from vehicle and plug into safety socket of caravan.

i For safety reasons the Mover can only be operated if the 7-pin plug of the caravan has been plugged into the safety socket.

i If there is a fault in both caravan brake lights, the safety socket power circuit is not closed. In this case the Mover cannot be operated.

Switch remote hand set on – green LED flashes for 5 seconds in combination with the acoustic alarm until the control unit is ready for operation.

Simultaneously press the two buttons (h) for swivelling in, which starts after approx. 3 seconds (safety delay).

Use the **position indicator** to **check** whether **both drive rollers have been correctly applied** (arrow of yellow position indicator is above the line that is closest to the tyre).



Before operating the Mover, release the handbrake.

The six direction buttons provide movement in six directions – forward, reverse, left forward, left reverse, right forward, right reverse.

With the Mover SE, the „left forward“ (e) and „right reverse“ (f) or „right forward“ (d) and „left reverse“ (g) buttons can also be pressed simultaneously in order to turn the caravan in a circle on the spot without moving it forwards.

i The soft start/stop facility means that the caravan starts without jerking and is gently braked when stopping.

If the buttons are released or the radio signal is interfered with or becomes too weak, the caravan stops. Your Mover cannot be activated by radio devices or other Mover remote hand sets.

After starting up, the Mover moves at one speed only. The speed will increase a little when going downhill and decrease a little when going uphill.

After manoeuvring, **first apply the handbrake** and then **swivel the drive rollers away from the tyres**.

Move slide switch on remote control to the „Off“ ● position to switch the remote control and the Mover off.

i **The slide switch also acts as an „Emergency stop“ switch.**

When manoeuvring is complete or if the system is going to be idle for long periods, unplug the plug from the safety socket.

Hitching to a tow car

1. It is totally possible to position the caravan's hitch to a stationary car tow ball using the Mover, but take some care.

2. Use the instructions above as your guide. Use the button controls to bring the caravan to the car (car handbrake „ON“, and car in gear). Use a button stabbing technique to exactly position the hitch directly over the ball. Lower the hitch to the ball and engage in the normal way using the jockey wheel.

3. Prepare the caravan for towing as usual. **The caravan must not be towed with the drive rollers swivelled in.**

Maintenance

1. Please do not allow the drive units to become soiled with coarse road material. When you are cleaning the caravan, spray the Mover with a water hose to dissolve mud etc. Please ensure that no stones, twigs or the like become trapped in the equipment. The control unit does not require maintenance. Please keep the remote hand set in a dry place.

2. Every year (and/or before putting away for the winter), clean Mover as described, dry and lightly spray the drive unit guides with oil spray or a similar water-repelling lubricant. **Do not put lubricant on the rollers or the tyres!** Swivel the drive units in and out several times to allow the lubricant to penetrate all the guides. Do not park the caravan with the drive rollers swivelled in.

3. To prevent the battery from becoming totally discharged during long periods of inactivity it must be disconnected or switched off using the isolating switch and occasionally recharged. Charge the caravan battery before starting up.

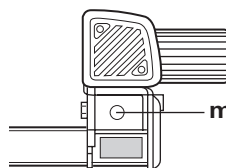
It is extremely easy for you or your caravan dealer to perform the checking and maintenance of your Mover during the annual inspection of your caravan. If in doubt, please contact the Truma Services.

Checks

- Check the installation, wiring and connections for damage at regular intervals. The drive units must be able to move freely and be returned automatically to the safe idle position when they are swivelled out. If this is not the case, examine drive units for soiling or corrosion at the guides and clean if necessary. Undo all moving parts as required and oil or spray with a lubricant such as WD40 to ensure that the equipment moves correctly and provides the full range of movement.
- After the annual inspection, check whether all motors react properly to the buttons on the remote control.

Emergency swivelling out function

If the caravan battery has become so discharged that swivelling out cannot be performed using electrical means, or a fault has occurred, the drive motors can be swivelled out manually.



Pry out the plastic cap (m) at the rear end of the swivel-in motor using a screwdriver. Place the socket wrench (size 7 – included in scope of delivery) onto the hexagon bolt and swivel the drive unit out by turning anticlockwise. Repeat procedure at the opposite side.

Once the battery has been recharged the rollers can be swivelled in again electrically.

Trouble-shooting

1. Check that the batteries in the remote handset are in immaculate condition!
2. Check whether the caravan plug has been plugged into the safety socket!
3. Check whether the caravan battery is in immaculate condition and is fully charged! Please note that battery performance can deteriorate considerably at cold ambient temperatures.
4. Check whether the flat fuse (20 A) for the swivel-in motors is OK. If the fuse is defective, check the swivel-in motor connecting cables at the controller for possible short circuiting!
5. Perform a reset – approx. 10 seconds – (briefly disconnect the battery, move isolating switch to „OFF“ and then back to „ON“, or remove and re-connect the safety socket)!

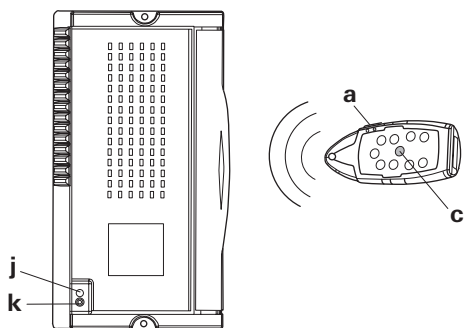
If the fault cannot be remedied, please contact your dealer or the Truma Service department.

Synchronising the electronic control unit with the radio remote hand set

i The remote hand set and the control unit are synchronised with each other in the factory.

If the control unit or the remote hand set is replaced, they must be re-synchronised as described below.

1. Check the installation in accordance with the installation instructions and ensure that the drive rollers are **not** applied. Check that the battery is properly connected, check the condition of the battery and that a voltage of 12 V volts is present at the control unit. Please ensure that the caravan plug has been plugged into the safety socket.



2. Press the reset button (k) on the control unit and hold down (red LED – j – flashes slowly), and after approx. 5 seconds the LED (j) starts to flash rapidly. Then release the reset button and press and hold down the caravan reverse button on the remote hand set (c) within 10 seconds, simultaneously switching on the remote hand set using the slide switch (a).

The remote hand set and the control unit are synchronised to each other. After successful synchronisation, the red LED flashes rapidly.

Manufacturer's terms of warranty

1. Case of warranty

The manufacturer grants a warranty for malfunctions in the appliance which are based on material or production faults. In addition to this, the statutory warranty claims against the seller remain valid.

A claim under warranty shall not pertain:

- for parts subject to wear and in cases of natural wear and tear
- as a result of not original Truma parts being used in the appliance
- as a consequence of failure to respect the manufacturers instructions for installation and use
- as a consequence of improper handling
- as a consequence of improper transport packing.

2. Scope of warranty

The warranty is valid for malfunctions as stated under item 1, which occur within 24 months after conclusion of the purchase agreement between the seller and the final consumer. The manufacturers will make good such defects by subsequent fulfilment, i.e. at their discretion either by repair or replacement. In the event of manufacturers providing service under warranty, the term of the warranty shall not recommence anew with regard to the repaired or replaced parts; rather, the old warranty period shall continue to run. More extensive claims, in particular claims for compensatory damages by purchasers or third parties, shall be excluded. This does not affect the rules of the product liability law.

The manufacturer shall bear the cost of employing the Truma customer service for the removal of a malfunction under warranty – in particular transportation costs, travelling expenses, job and material costs, as long as the service is carried out by an authorised Truma-Dealer.

Additional costs based on complicated removal and installation conditions of the appliance (e.g. removal of furniture or parts of the vehicle body) do not come under warranty.

Rollers carry 24 months warranty against manufacturing defects. Take care to remove sharp stones from your tyres prior to using your Mover.

3. Raising the case of warranty

In the event of faults, in principle the Truma Service Centre is to be notified: Truma UK Limited, 2000 Park Lane, Dove Valley Park, Foston, South Derbyshire DE65 5BG.

In other countries, respective service partners are available (refer to address list). Complaints must be specified. In addition, the correctly completed warranty certificate must be presented or the Serial number of the appliance and the date of purchase specified.

In order to allow the manufacturer to check whether it is a warranty case, the end consumer must take or send the device to the manufacturer at his own risk.

In instances of the device being sent to the works, dispatch is to be effected by freight transport. In cases under warranty, the works shall bear the transport costs or the costs of delivery and return. If the damage is deemed not to be a warranty case, the manufacturer shall notify the customer and shall specify repair costs which shall not be borne by the manufacturer; in this case, the customer shall also bear the shipping costs.

Installation instructions

Read the installation instructions prior to starting work and follow them carefully!

Please ensure that no metal chips or other contaminants get into the controller during installation.

Intended use

The **Mover SE** is designed for use on single-axle caravans with a gross weight of up to 1800 kg, and the **Mover TE** is designed for use on dual-axle caravans with a gross weight of up to 2250 kg.

The Mover SE/TE weighs approx. 33 kg.

Check the towing load of your vehicle and the gross weight of your caravan in order to establish whether they are designed for the additional weight.

Approval

The Truma-Mover SE/TE has design approval, and a general operating permit (ABE) has been issued for **Germany**. Acceptance by a vehicle expert is not required (except when installing the flat frame kit). The ABE can be requested from Truma and must be carried in the vehicle in Germany.

The Mover SE/TE complies with the vehicle engine interference suppression directive 72/245/EEC with supplements 2004/104/EC and 2005/83/EC and bears type approval number: e1 03 4473.

The Mover SE/TE complies with EMC directive 89/336/EEC.

The remote hand set and the receiver comply with the requirements of the R&TTE directive 1995/5/EC.

The technical and administrative regulations of the country in which the vehicle is initially registered must be complied with when the Mover is being installed.

Any modification to the unit, or the use of spare parts and functionally-important accessories which are not original Truma components, or failure to respect the installation and operating instructions, will lead to the cancellation of the guarantee and to exclusion of claims for liability. In addition to this, the operational approval for the device will be cancelled.

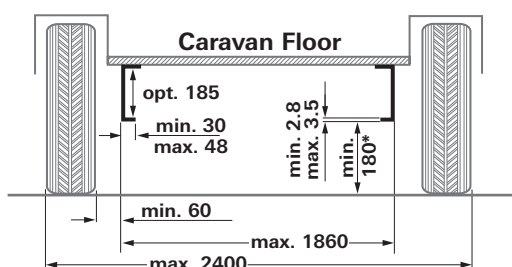
Tools and facilities required

To install the unit you will need:

13 mm, 17 mm socket wrench, ring spanner or open-jawed spanner
Torque wrench (20 – 40 Nm)
Cable cutter/crimping tool
Power drill/screwdrivers / 25 mm hole cutter
Portable 2 tonne trolley jack and axle stands to suit
Appropriate lighting.

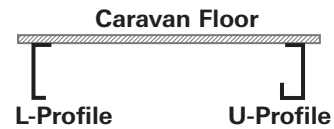
Minimum installation dimensions

The equipment can only be fitted to caravans/trailers within the following dimensions.



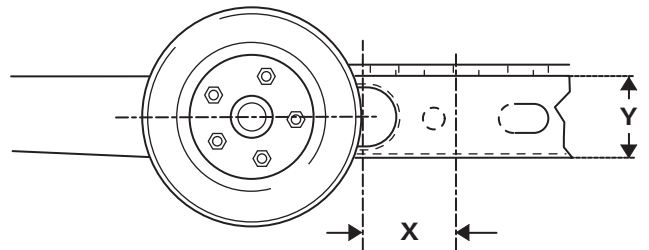
all dimensions in mm
* with fully loaded vehicle

i A distinction is made between L-profiled and U-profiled chassis as shown in the illustration.



Measuring the chassis height

Frame height (Y) measured at distance of 106 mm (X) from the outer edge of the tyre at height of hub/middle of tyre.



Determining the installation type

1. Standard installation

Standard installation is used with a U-profile or L-profile chassis and a frame height (Y) of approx. 185 mm. **No special accessories** are required.

2. Installation with chassis with U-profile or L-profile and frame height of between 140 and 185 mm

With a chassis with a frame height (Y) of 140 mm to 185 mm, 1, 2 or 3 **spacer plate sets** and the **screw set** are needed to compensate for the height.

3. Installation with chassis with U-profiles or L-profiles with frame height of less than 140 mm

With a chassis with a frame height (Y) of less than 140 mm a **low chassis kit** must be fitted to compensate for the height.

! In Germany, the low chassis kit installation must be accepted by a vehicle expert.

4. The **AL-KO Vario III/AV installation kit must be used** with the AL-KO Vario III/AV chassis with a frame thickness of less than 2.8 mm.

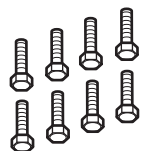
5. Installation with Eriba Touring chassis

The Eriba Touring mounting set is needed for the Eriba Touring chassis.

Special accessory installation

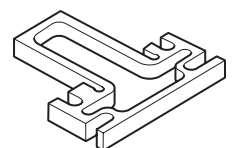
1. Set of screws

for height compensation with spacer plates, max. 45 mm, eight DIN 933 screws M10 x 95 8.8, galvanized, Part no. 60010-70000.

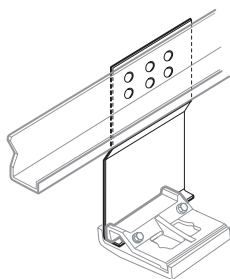


2. Spacer plate kit (two 15 mm spacer plates)

for height compensation max. 45 mm (3 plates) at each side (e.g. installed behind axle) Part no. 60010-66000.

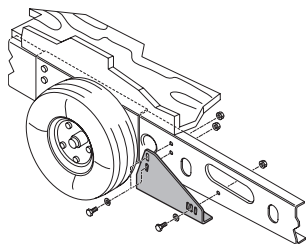


3. Low chassis kit
for height compensation for caravan/trailer with frame height of **less than 140 mm**, Part no. 60010-64900.



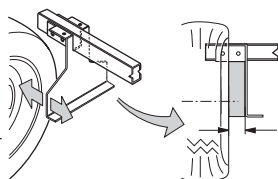
! In Germany, this installation kit **must be accepted by a vehicle expert.**

4. AL-KO Vario III/AV Installation kit
for caravans with AL-KO Vario III/AV Chassis (frame thickness less than 2.8 mm) **mandatory**, Part no. 60010-21500.



5. Mover mounting set for Eriba Touring
Part no. 60010-72000.

! Installation is not possible in some cases because of attachments to the underbody. Contact your dealer if necessary.



i Detailed installation instructions are provided with the relevant mounting set.

! The Mover SE/TE is not approved for installation on caravans/trailers with any other chassis!

Any drilling (exception: when using flat frame kit) or welding to the chassis is not allowed. Under no circumstances remove any suspension components from the chassis.

Choice of location

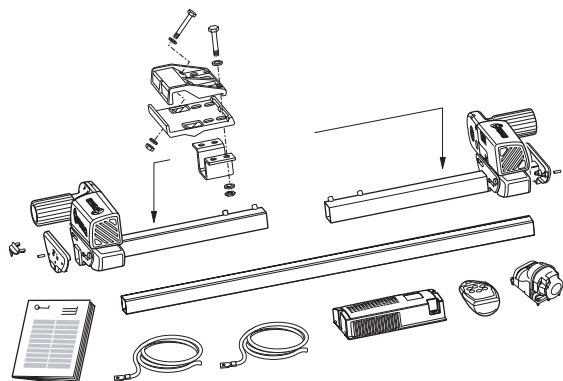
The Mover should preferably be installed in front of the axle, but can also be installed behind the axle under special circumstances (e.g. lack of space). Only the bolts that are provided must be used to secure the Mover (or the add-on parts provided as special accessories).

Installation of the drive units

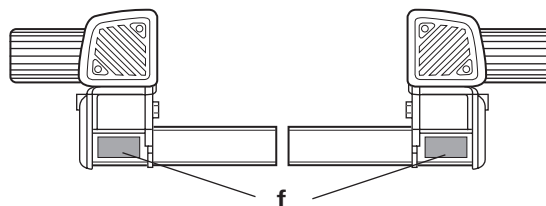
The frame of the vehicle must be kept free of rust and heavy soiling and without any damages to the suspension components.

The wheels and tyres that are fitted to the caravan must be of the same size and model and inflated as per the manufacturer's instructions.

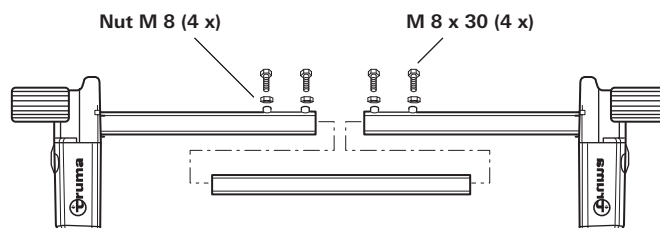
Remove all components from packing and place on the floor.



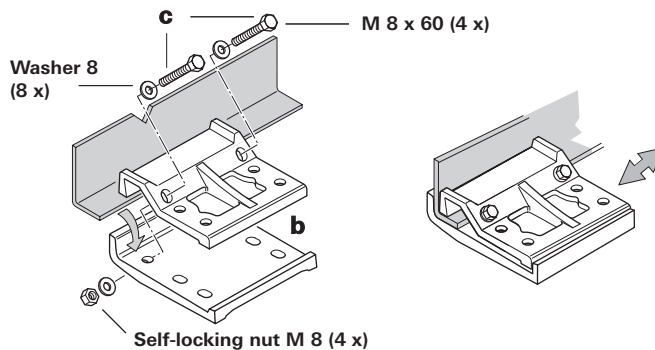
! In order to maintain the validity of the General Operating Permit (ABE) the provided factory plates (f) must be attached on the left and right sides of the cross strut between the drive unit retaining plates.



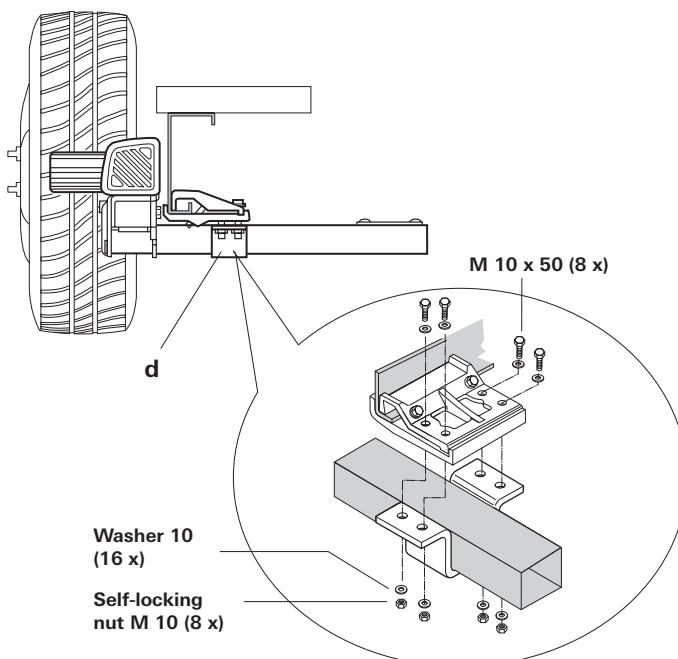
Loosely attach the drive units to the lateral bar. The bolts (lock nuts) must be no more than finger-tight.



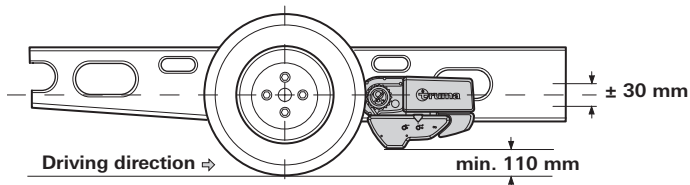
Place the mounting set (b) on the vehicle frame and secure using the two bolts (c), tight enough so that it can just about be moved on the frame.



Bolt drive units with lateral bar to mounting set using U-bracket (d), tight enough so that it can just about be moved.



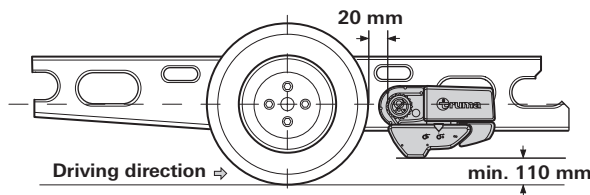
Position the drive rollers so that they are at approximately the same height as the wheel hub (middle of wheel ± 30 mm).



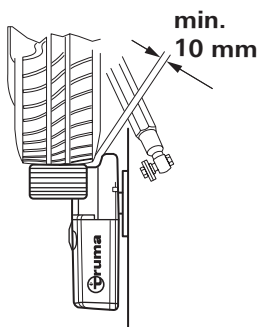
Truma can supply a spacer plate set for compensating for height differences of up to 45 mm (Part no. 60010-66000, 2 pcs. à 15 mm). Up to three spacer plates can be used at each side. A bolt set (Part no. 60010-70000) is needed to attach the spacer plates.

The flat frame mounting set (Part no. 60010-64900) must be used for height differences of more than 45 mm. Check that there is adequate ground clearance (min. 110 mm).

The correct distance can be set between the tyre and the roller (20 mm) with the provided spacer by sliding the (swivelled out) drive units in the longitudinal direction. The movable middle tube makes it possible to adapt to the width of the frame.



Slide drive units in lateral direction so that the maximum amount of tyre tread is covered.

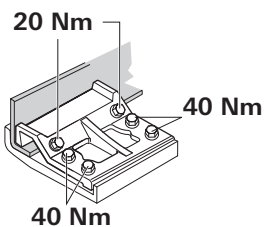


Ensure that there is adequate clearance between the gearbox and the tyre/shock absorber so that they do not touch.

! The minimum clearance with the drive units swivelled in is 10 mm.

After correctly positioning the bolts and nuts of the mounting set, tighten slightly and then check the required distances/clearances again. The weight of the caravan must be on the wheels when doing this.

Move sliding middle tube to a central position (e.g. measure at open side of middle tube with a pocket rule), tighten the 4 bolts (15 – 20 Nm) and secure the locknuts.



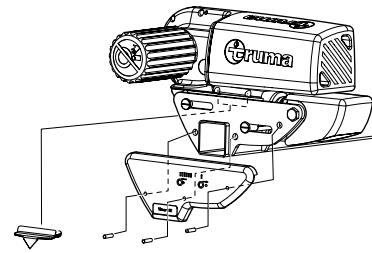
Re-check the distance of 20 mm to the tyre (with weight on wheels) and then tighten the 2 mounting set bolts (M 8) with 20 Nm and the 4 mounting set bolts (M 10) with 40 Nm.

The bolt tightening order must be strictly adhered to for correct installation.

i Re-check that **all** 6 bolts have been tightened to the correct torque!

Fit covering plates:

Place covering plate onto housing and fix in position with 3 guide pins in each case (knock in with a hammer or screw-driver handle).



Installing the position indicator:

Push the position indicator into the two holes in the gearbox.

Installation of motor cables and control unit

The Mover is only suitable for connection to 12 V batteries (DC voltage).

! Remove battery cable terminals and disconnect any external electrical power before starting work. If you are unsure about the electrical installation, have it checked out by a qualified Auto Electrician.

Two high-power cables for the drive motor (6 mm²) and a two-wire cable for the swivel-in motor are pre-attached to each motor. Mark the respective motor connecting cables (motor A or B – see also wiring diagram) and temporarily route to the intended control unit installation position on the underbody of the caravan. An example of a suitable location for the control unit is in a bed storage box in close proximity to the manoeuvring system, **at least 40 cm away from the battery.**

Insert control unit into storage box and secure with the supplied chipboard screws (5 x 16).

Drill a 25 Ø hole on the floor of the caravan for leading the cables through, approx. 150 mm from the control unit terminal strip.

! Take care to avoid any chassis members, gas pipes and electrical wires!

Drill hole and lead cables through floor of caravan to control unit in such a way that they cannot chafe (particularly when leading through metal panels). This can be done using protective tubes, which will prevent the cables from being damaged.

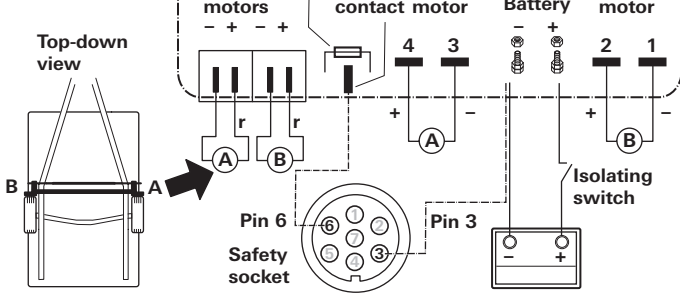
i **The drive motors move during operation.** To compensate for this, the **cables** should be secured **loosely** with a little play in this area in order to prevent cable stretching. **No** cables must be routed over the control unit!

Secure cables to chassis and/or underbody using the supplied clips and screws.

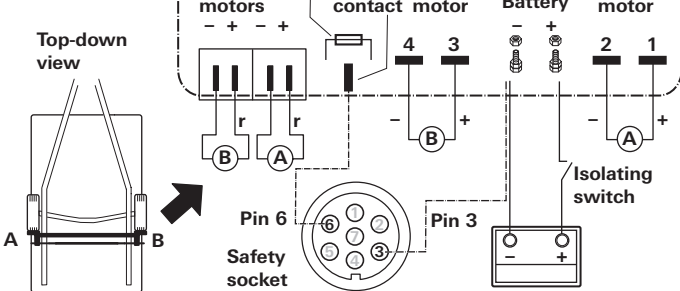
Seal hole in vehicle underbody using plastic body sealant.

Connecting diagram

Installation in front of axle



Installation behind axle



Connecting the drive motors

Cut motor cable of drive motor that is furthest away from control unit to length. Shorten the motor cable of the nearest drive motor to **the same length**. The two drive motor cables must be of the same length to ensure that the drive output of the Mover is uniform! Excess cable must be routed in wavy lines without looping.

Crimp the provided flat plugs onto the drive motor cables. Release flap at control unit terminal strip by pressing and connect cables as shown in wiring diagram (**red = positive, black = negative**). Please ensure that the connections are made properly!

Connecting the swivel-in motors

The positive connection (r) of the 2-wire motor connection cables has been marked with a red longitudinal line along the cable insulation.

Mark motor cables A + B and route to control unit (shorten cables to same length if necessary).

Slide spade connector sleeve insulation over the cables (e.g. black for motor A and transparent for motor B). Crimp on spade connector sleeves, slide on spade connector sleeve insulation and connect as shown in connecting diagram.

Installing the isolating switch and connecting the battery

Route battery connecting cables (10 mm²) to control unit and securely attach using the provided clips and screws (Torque 10 Nm ± 1).

i The battery connecting cables must not be extended. They must be routed separately from the motor cables, and must **not** run over the control unit.

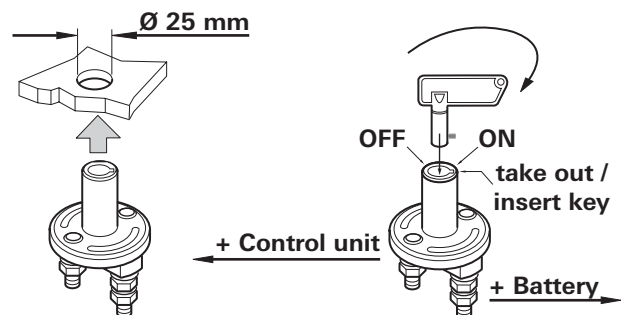
Route battery connecting cables so that they do not chafe (particularly at leadthroughs through metal panels). Use suitable

leadthrough grommets for protection in order to prevent damage to cables.

Installing the isolating switch

Install isolating switch in a suitable location (near the battery) in the positive lead between the battery and the controller.

- A hole with a diameter of 25 mm is required for installation.
- Turn key anticlockwise until it reaches the end position and remove.
- Slide isolating switch through hole and secure with either the provided chipboard screws (5 x 16 mm) or the M6 x 30 bolts and M6 self-locking nuts.
- Cut the positive lead of the battery and crimp the provided pipe-type cable shoes to both ends of the cut cable.
- Insert key again and move to „OFF“. Screw cable with pipe-type cable shoes to isolating switch. Connecting order: Pipe-type cable shoe, spring washer, nut.



Connect battery connecting cables to the existing battery terminals (**red = positive, black = negative**).

The connection to the control unit (as per the connecting diagram) must take place in the order – nut, battery connection ring, nut.

Safety socket connection with conventional brake lights (applies to 7-pin and 13-pin sockets!)

i The fact that there are two conventional brake lights and a third brake light with LED technology does not affect this connection.

Route the provided 2-wire cable (10 m) with the wire-end ferules through the socket holder (g) and the rubber sleeve (h).

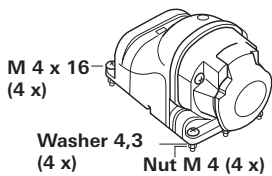
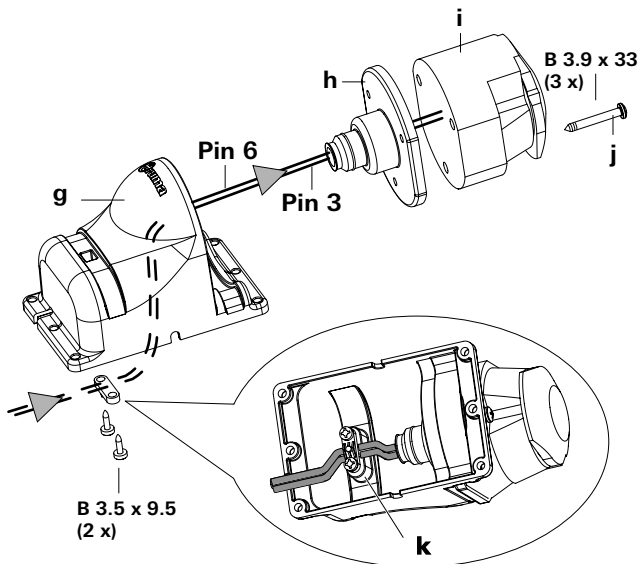
Open cover and push socket connection out of socket housing (i).

Connect wire with red stripe to pin 6 and black wire to pin 3 (pin designation printed on connection and on inside of cover).

Re-insert socket connection into socket housing (i).

Screw socket housing (i) to socket holder (g) using 3 sheet metal screws (j). (Several alternative positions are available by using the mounting holes in the socket holder and rotating the rubber seal).

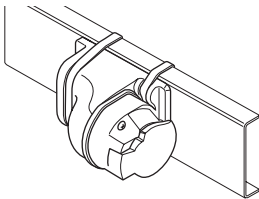
Loosely route cable through strain relief (k) and secure with 2 sheet metal screws. Depending on the installation situation, the cable can be led out of the socket holder through one of the three recesses.



Secure safety socket to the (plastic) **shaft cover** of the caravan with 4 bolts, nuts and washers.

! No holes must be drilled in the chassis.

Alternatively, the safety socket can be secured using the two worm drive hose clamps.



Route wire connected to pin 6 (with red stripe) to control unit (shorten if necessary), crimp on a flat plug and connect as shown in the connecting diagram.

Route wire connected to pin 3 (black) to control unit (shorten if necessary), crimp on a ring and screw to negative battery terminal as shown in connecting diagram.

i The connection to the control unit must be made in the order – nut, battery negative terminal ring, nut, cable pin 3 ring, nut.

Re-check whether all cables are correctly connected, attached using the provided clips and cannot chafe.

Safety socket connection with LED brake lights

i This connection must always be used if **all** brake lights are of the LED variety! With two conventional brake lights and a third brake light with LED technology, the connection is made as described in „Safety socket connection with conventional brake lights“.

7-pin safety socket:

Connect pin 3 of the caravan plug to the negative battery terminal.

Connect pin 3 of the safety socket to the controller (with one wire of the 2-wire cable).

13-pin safety socket:

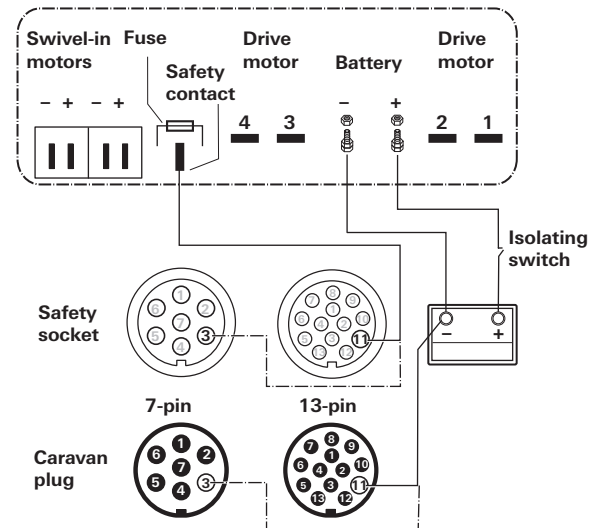
Connect pin 11 of the caravan plug to the negative battery terminal.

Connect pin 11 of the safety socket to the controller (with one wire of the 2-wire cable).

If it is not possible to make a connection using pin 11 (pin missing, for example), use pin 3 as an alternative.

! It must be ensured that ground connections pin 11 and pin 3 are not interconnected in an electrically conductive manner at the trailer side!

Connecting diagram with LED brake lights



Commissioning the Mover

1. Check whether the battery is fully charged for operating the Mover and that the isolating switch is in the „ON“ position.
 2. Park the caravan outside on an open, level surface and apply the handbrake. Ensure that the rollers are disengaged from the road tyres and the corner steadies are raised.
 3. Connect battery terminals to battery, check that all cables are secure and not hot or indicating signs of short circuits, etc.
 4. Plug the 7-pin plug into the safety socket.
- i** If there is a fault in both caravan brake lights, the safety socket power circuit is not closed. In this case the Mover cannot be operated.
5. Move slide switch on remote hand set to the „On“ **I** position. This switches the remote hand set on – green LED flashes for 5 seconds in combination with the acoustic alarm until the control unit is ready for operation. If LED does not illuminate, check polarity and condition of batteries in remote hand set. The remote hand set switches itself off after about 2 minutes if no buttons are pressed.
 6. Check whether both drive motors are stationary. Press the „forwards“ button with the remote hand set switched on – both drive motors must now move in the forward direction.
 7. Swivel the drive rollers against the tyres using the remote hand set.
 8. Please ensure that there are no obstructions beneath the caravan, then release the handbrake. Now check all functionality as per the operating instructions.
 9. Apply caravan brake. Swivel out the drive rollers and move slide switch on remote hand set to the „Off“ **O** position to switch the remote hand set and the Mover off. Re-check distance between drive rollers and tyres. Adjust if necessary.

i The distance between the swivelled-out drive rollers and the tyres is 20 mm.

Warning information

The yellow sticker with the warning information, which is enclosed with the appliance, must be affixed by the installer or vehicle owner to a place in the vehicle where it is clearly visible to all users (e.g. on the wardrobe door)! Ask Truma to send you a sticker, if necessary.

Technical data

Mover SE

Area of operation:	Single axle caravans with a total weight up to 1800 kg
Operational voltage:	12 V DC
Current consumption:	Average approx. 20 A Maximum 120 A
Stand by consumption:	< 15 mA
Remote hand set frequency:	Class 1, 868 MHz
Speed:	Approx. 16 cm per second (depending on weight and incline)
Weight:	Approx. 33 kg

Mover TE

Area of operation:	Dual-axle caravans with a total weight up to 2250 kg
Operational voltage:	12 V DC
Current consumption:	Average approx. 20 A Maximum 120 A
Stand by consumption:	< 15 mA
Remote hand set frequency:	Class 1, 868 MHz
Speed:	Approx. 16 cm per second (depending on weight and incline)
Weight:	Approx. 33 kg
Blade fuse swivel-in motors:	20 A



Right to effect technical modifications reserved!

R&TTE Declaration of Conformity

We,

Truma Gerätetechnik GmbH & Co. KG

Wernher-von-Braun-Str. 12, D-85640 Putzbrunn, Germany,

(name and address of the manufacturer and if applicable of this authorised representative issuing the declaration (contact information))

declare under our sole responsibility that the product:

Product name: Mover
Trade name: Mover S,
Mover SE,
Mover TE,
Type or model: Mover S,
Mover SE,
Mover TE,

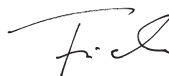
to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).

The product is compliant with the following standards and/or other normative documents:

SAFETY (art 3.1.a): EN 60950-1:2001
(title and/or number and date of issue of the standard(s) or other normative document(s))
EMC (art 3.1.b): EN 301489-1:2002, EN 301489-3:2002,
(title and/or number and date of issue of the standard(s) or other normative document(s))
SPECTRUM (art 3.2): EN 300220-1:2000, EN300220-3:2000
(title and/or number and date of issue of the standard(s) or other normative document(s))
Other: 72/245/ECC, 2004/104/EC, 2005/83/EC
(title and/or number and date of issue of the standard(s) or other normative document(s))
Sales Countries: AT, BE, CH, CY, CZ, DE, DK,EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU,
LV, MT, NL, NO, PL, PT, SE, SI, SK
Supplementary information: class 1, Frequency 434 MHz (Mover S)
class 1, Frequency 868 MHz (Mover SE and TE)

Place and date of issue: Putzbrunn, 31.03.2006

Signed by or for the manufacturer:



(Signature of authorised person)

Name (in writing)

Dr. Gerd Fricke

Title:

CTO



Warranty Card
Garantie-Karte
Bon de Garantie
Certificato di Garanzia
Garantiebon
Garantikort
Tarjeta de garantía



