



# Saphir compact

<b>(D)</b>	<b>Gebrauchsanweisung Einbauanweisung</b>	Seite 3 Seite 11	<b>(NL)</b>	<b>Gebruiksaanwijzing Inbouwhandleiding</b>	Pagina 47 Pagina 55
	Im Fahrzeug mitzuführen!			In het voertuig meenemen!	
<b>(GB)</b>	<b>Operating instructions Installation instructions</b>	Page 14 Page 22	<b>(DK)</b>	<b>Brugsanvisning Monteringsanvisning</b>	Side 58 Side 66
	To be kept in the vehicle!			Skal medbringes i køretøjet!	
<b>(F)</b>	<b>Mode d'emploi Instructions de montage</b>	Page 25 Page 33	<b>(S)</b>	<b>Bruksanvisning Monteringsanvisning</b>	Sida 69 Sida 77
	À garder dans le véhicule !			Skall medföras i fordonet!	
<b>(I)</b>	<b>Istruzioni per l'uso Istruzioni di montaggio</b>	Pagina 36 Pagina 44	<b>(E)</b>		
	Da tenere nel veicolo!		<b>(FIN)</b>		
			<b>(GR)</b>		
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			<b>(PL)</b>		
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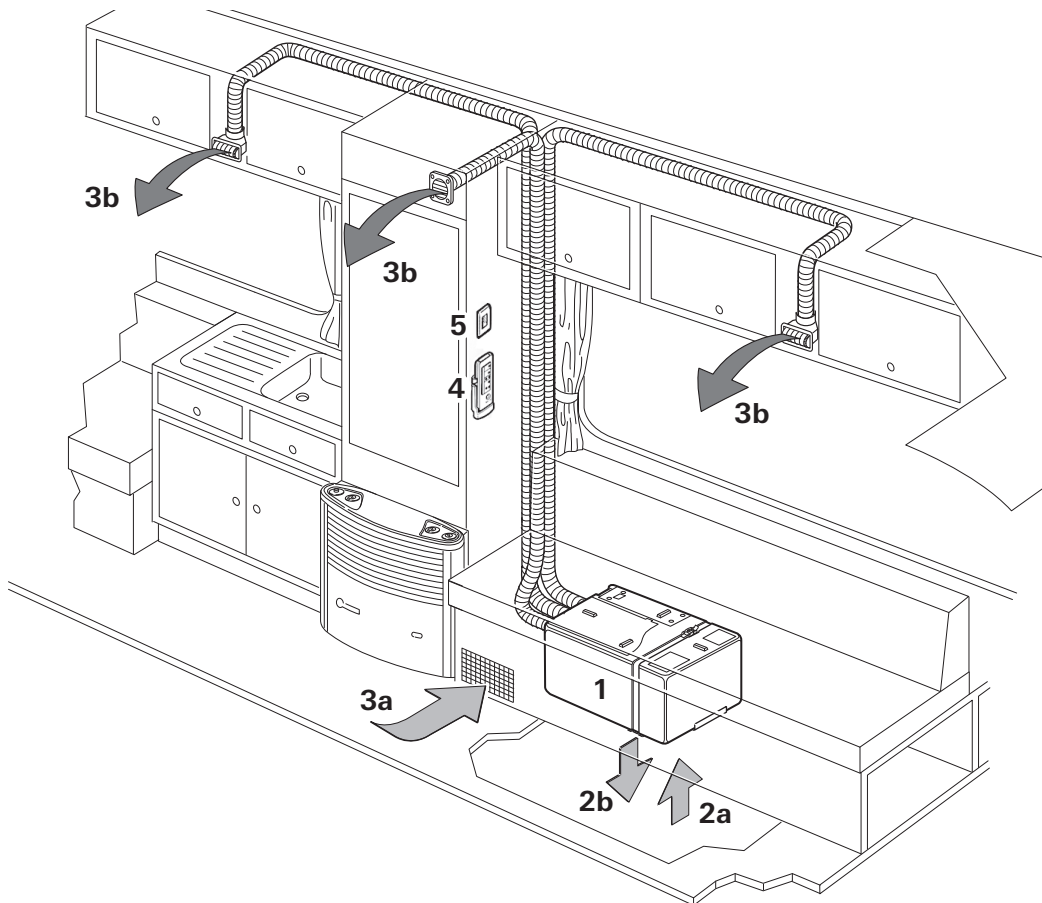


Bild 1

(D)

### Einbaubeispiel

- 1 Klimasystem  
Saphir compact
- 2a Versorgungsluft-Zufuhr
- 2b Versorgungsluft-Abgang
- 3a Umluft-Ansaugung
- 3b Kaltluft-Austritte
- 4 Infrarot (IR)-Fernbedienung
- 5 Infrarot (IR)-Empfänger

(GB)

### Installation example

- 1 Saphir compact  
air conditioning system
- 2a Supply air intake
- 2b Supply air outlet
- 3a Circulated air intake
- 3b Cold air outlets
- 4 Infrared (IR) remote control
- 5 Infrared (IR) receiver

(F)

### Exemple de montage

- 1 Système de climatisation  
Saphir compact
- 2a Amenée d'air  
d'alimentation
- 2b Sortie d'air d'alimentation
- 3a Aspiration d'air de  
circulation
- 3b Sorties d'air froid
- 4 Télécommande  
infrarouge (IR)
- 5 Récepteur infrarouge (IR)

(I)

### Esempio di montaggio

- 1 Sistema di condiziona-  
mento Saphir compact
- 2a Ingresso aria di  
alimentazione
- 2b Uscita aria di alimentazione
- 3a Aspirazione aria di  
ricircolo
- 3b Uscite aria fredda
- 4 Telecomando a  
infrarossi (IR)
- 5 Ricevitore a infrarossi (IR)

(NL)

### Inbouwvoorbeeld

- 1 Airconditioningsysteem  
Saphir compact
- 2a Luchtoevoer
- 2b Luchtafvoer
- 3a Aanzuiging omgevingslucht
- 3b Koudeluchtuitlaten
- 4 Infrarood  
(IR)-afstandsbediening
- 5 Infrarood (IR)-ontvanger

(DK)

### Monteringseksempel

- 1 Klimasystem  
Saphir compact
- 2a Forsyningsluftindgang
- 2b Forsyningsluftudgang
- 3a Cirkulationsluftindsugning
- 3b Koldluftudgange
- 4 Infrarød (IR)-fjernbetjening
- 5 Infrarød (IR)-modtager

(S)

### Monteringsexempel

- 1 Klimatsystem  
Saphir compact
- 2a Tillförsel försörjningsluft
- 2b Utlopp försörjningsluft
- 3a Insugning cirkulationsluft
- 3b Utloppsöppningar kylsluft
- 4 Infraröd (IR)-fjärrkontroll
- 5 Infraröd (IR)-mottagare

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## Installation instructions

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## Symbols used



The device must only be installed and repaired by an expert.



Symbol indicates a possible hazard.



Note containing information and tips.

## Safety instructions



Repairs may only be carried out by an expert!

To avoid transportation damage, the device may only be dispatched if the Truma Service Centre has been consulted beforehand.

The power supply must be disconnected from the mains (all poles) before opening the housing.

The 230 V, T 5 A H-type (slow, IEC 127) device fuse can be found on the electronic control unit in the device, and must always be replaced with an identical fuse.

The device fuses and connection cables must only be replaced by experts.

Guarantee claims, warranty claims and acceptance of liability will be ruled out in the event of the following:

- Modifications to the device (including accessories)
- Failure to use original Truma parts as replacement parts and accessories
- Failure to follow the installation and operating instructions

This may also invalidate the device operating permit, which in many countries also denotes cancellation of the vehicle operating permit.

The refrigerant circuit contains R 407C refrigerant and must only be opened **in the factory**.

The cold air outlet and the circulated air intake must not be obstructed under any circumstances. This is essential in order to ensure that your device operates correctly.

cle must be kept free of dirt and slush. These openings must not be within the range of the wheel spray – fit splash guard if necessary.

If **underbody protection** is being applied to the floor of the vehicle, all openings beneath the vehicle must be covered so that the spray mist that is created does not penetrate the device and cause malfunctions. Remove covers again when the work is complete.

In order to avoid damage to the compressor, no uphill or downhill slopes with an incline of more than 8 % must be driven on when the device is being operated while driving (e.g. with generator or voltage converter).

Do not operate the device in cooling mode for long periods with the vehicle at an angle, since the condensation that is produced may not be able to run away and may penetrate the vehicle under unfavourable circumstances.

In order to ensure that the equipment works properly and to avoid damage, only power supply sources with a purely sinusoidal waveform (e.g. voltage converter, generator) and without voltage peaks must be used.

When the floor of the vehicle is being cleaned, it must be ensured that no water penetrates the openings in the base of the device when spraying with a high-pressure cleaner, for example.

- We recommend a dynamo with output of at least 120 Ah for operation while driving.
- The Saphir compact air conditioning system is designed for minimal power consumption. You should still check whether the camp site has adequate fuse protection (min. 3 A) before starting the equipment up.
- Park the vehicle in the shade if possible.
- Darkening with shutters and / or a canopy reduces the amount of heat radiation.
- Clean your roof at regular intervals (a dirty roof heats up more than a clean roof).
- The vehicle must be properly ventilated before starting the equipment in order to remove accumulated warm air from the vehicle.
- When aprons or the like are being fitted, please ensure that adequate openings are present for dissipating the supply air. The opening for the warm outgoing air should not be at the inlet side.
- In order to obtain a healthy room climate, the difference between the inside and outside temperatures should not be too great. The recirculated air is cleaned and dried during operation. A pleasant room climate is produced by drying the moist air, even if the temperature difference is minimal.
- Keep all doors and windows closed when in cooling mode.

**Always observe the operating instructions and the "Safety instructions" prior to starting!** The vehicle owner is responsible for correct operation of the appliance.

**i** Operating instructions can be viewed in offline mode with a mobile device and the Truma App. Download the operating instructions when you have a WiFi connection and save them on your mobile device.

## Remote control

**i** The symbols in the display are visible depending on the settings.

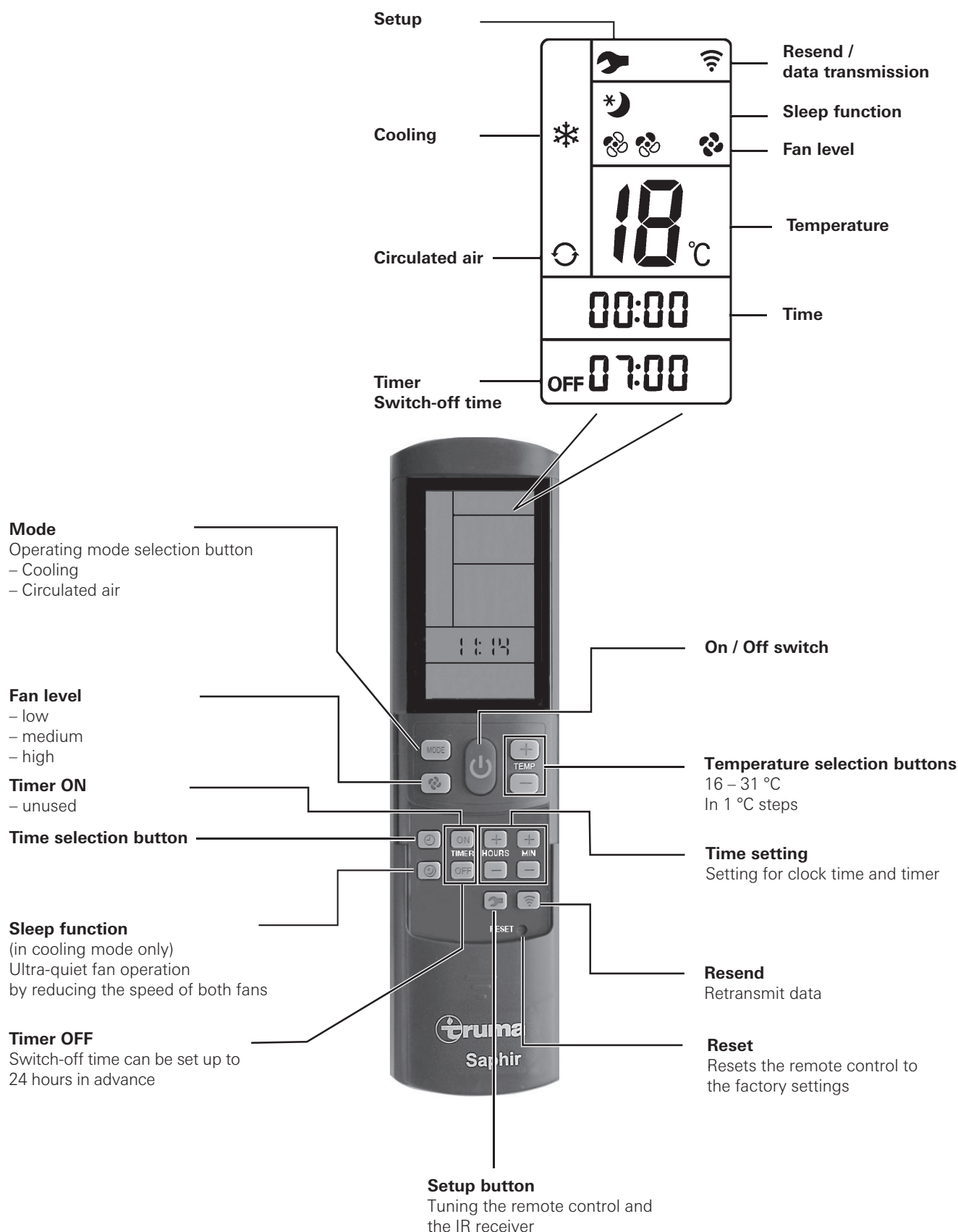



Fig. 2



Before switching on, be sure to check that the camp site has adequate power supply fusing (230 V / min. 3 A).

 In order to prevent the power cable of the recreational vehicle from overheating (minimum cross-section 3 x 2.5 mm<sup>2</sup>) the cable drum must be fully unwound.

The remote control must always be pointed at the infra-red receiver in order to perform the individual switching commands.


Before switching on for the first time, the remote control must be tuned to the IR receiver.

- Insert batteries (pay attention to polarity)
- Setup symbol flashes (if symbol does not flash, perform Reset)
- Point remote control at IR receiver
- Press Setup button and hold down
- When red LED on the IR receiver flashes, release Setup button.

The remote control is tuned to the IR receiver, the Setup symbol goes off and the air conditioning system starts in circulated air mode, at low fan level and with no timer set.

## Switching on

Switch on the air conditioning system using the **“On / Off switch”** of the remote control. The previous settings are taken over.

 The circulated air fan runs after switching on. The compressor switches itself on after no more than 3 minutes, and the green LED (cooling) flashes.

## Temperature

If necessary, use the **“Temperature selection buttons”** to set the required room temperature with **“+”** and **“–”**.

## Mode

Select the required operating mode by pressing the **“MODE”** button one or more times.

- Cooling
- Circulated air

When the room temperature that was selected using the remote control is reached in **cooling mode**, the compressor switches off and the green LED in the IR receiver goes off. The circulated air fan continues to run in order to provide ventilation. If the room temperature setting is exceeded, the device automatically reverts to cooling mode.

In **circulated air mode**, the interior air is recirculated and cleaned by the filters. No LED's illuminate in the IR receiver.

## Fan

Select the required fan level by pressing the **“Fan level”** button one or more times.


### Fan level

- low
- medium
- high

## Sleep function

In **“Sleep function”** the internal and external fans operate at slow speed and are therefore extremely quiet.

To switch off, press the **“On / Off switch”** on the remote control. The remote control and the device are switched off.

 If the air conditioning system is switched on again, the green LED flashes. The circulated air fan runs, and the compressor switches on after no more than 3 minutes.

## Time

Press **“Time selection button”** (time flashes) and set current time using the **“Time setting”** buttons.

The time always appears on the display.

The time always has to be reset after a battery change, a time change or synchronisation with the remote control and the IR receiver.

## Timer OFF

The switch-off time of the air conditioning system can be set in advance for a minimum of 15 minutes to a maximum of 24 hours, starting from the current time, using the integrated timer.

The device must be switched on using the remote control in order to program it.

Set required operating mode and room temperature.

Then select **TIMER OFF**. Set the required Off time using the **“Time setting”** buttons (15 minutes to 24 hours) and **confirm** with **TIMER OFF**.

Pressing the Timer OFF button again deactivates the timer function.

**The air conditioning system must be switched on for the programming to be active.** The remote control can be switched off by covering the infrared transmitter on the front of the remote control. This prevents the air conditioning system from being accidentally switched off and/or the switch-off time from being re-programmed.

## Reset

Resets the settings of the remote control to the factory settings when pressed using a ballpoint pen, for example. Setup symbol flashes. The remote control settings are set to **“Circulated air”**, fan level low, no timer set.

## Resend

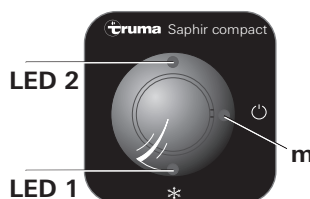
The previous settings are resent.

## Setup

Tune the remote control to the air conditioning system that is going to be operated. Settings set to **“Circulated air”**, fan level low, no timer set.

## IR receiver and manual on / off

There is an additional pushbutton on the receiver (m), with which the unit can also be switched on and off without the remote control (e.g. with a ballpoint pen).



If the unit is switched on using this pushbutton, the system is automatically reset to the factory settings (**cooling, fan level high, TEMP. 21 °C**).

- LED 1 illuminates in green – Cooling
- LED 1 flashes in green – The circulated air fan runs, and the compressor switches itself on after no more than 3 minutes.
- LED 1 flashes briefly in green – Only in the event of operation with power inverter: Wait for engine to start or function change via remote control
- LED 2 flashes in red – Data transfer in progress or power supply being connected
- LED 2 illuminates in red – Fault

## Red LED illuminates

The device is indicating a fault. Switch device off, wait for a short time and switch on again. If red LED continues to illuminate, please contact Truma Service.

## Maintenance

There is a fluff filter (n) and a particle filter (p) on the front of the device for cleaning the room air.

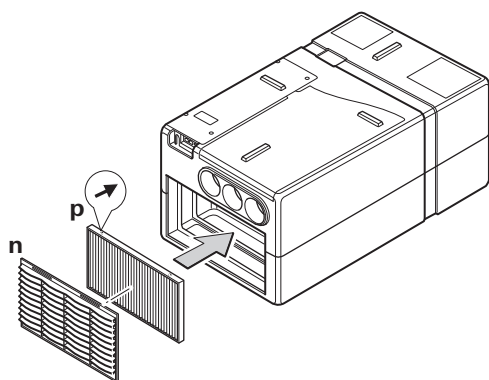


Fig. 4

The fluff filter (n) must be cleaned at regular intervals (at least 2 x per annum) and changed if required (part no. 40090-64600).

We recommend replacing the particle filter (p) every year at the beginning of the season (part no. 40090-58100).

The cold air ducts must be removed before replacing the filters. Pull the fluff filter (n) a little way forward at the recesses at the top edge and remove from above. Then remove particle filter (p) from the front.

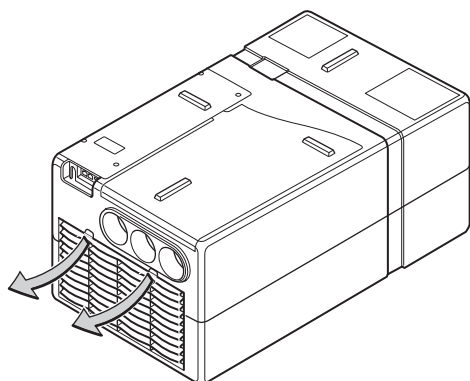


Fig. 5

**i** When installing the particle filter (p) the printed arrows must point towards the device – they indicate the circulated air flow direction. **Never operate the device without filters.** Operating the device without filters can cause evaporator coil soiling, which can have a detrimental effect on the performance of the device!

order to allow the condensation to drain away freely, check whether the drain is free of dirt, leaves and the like at regular intervals. **Failure to do this may allow condensation to penetrate the vehicle!**

## Troubleshooting

Is the motor home / caravan 230 V power supply lead properly connected, and are the fuses and circuit breakers OK?

Fault	Cause / Remedy
Device not cooling	<ul style="list-style-type: none"> <li>– Thawing process in progress / wait until thawing process is complete.</li> <li>– The temperature set on the remote control has been reached / set temperature on remote control to less than room temperature.</li> </ul>
Device providing insufficient cooling or no cooling at all	<ul style="list-style-type: none"> <li>– Filters soiled / change filters.</li> <li>– External air routes soiled, blocked / clear air routes.</li> </ul>
Moisture at cold air ducts	<ul style="list-style-type: none"> <li>– High air humidity / close windows and doors and select high fan level.</li> </ul>
Remote control not working	<ul style="list-style-type: none"> <li>– Check batteries in remote control / replace batteries if necessary.</li> </ul>
Device not reacting to remote control commands	<ul style="list-style-type: none"> <li>– Check whether there are obstructions between the remote control and the IR receiver / remove obstructions if necessary</li> <li>– Is the remote control tuned to the IR receiver? / tune remote control to IR receiver</li> </ul>

If these actions fail to remedy the fault, please contact Truma Service.

## IR remote control battery change

Only use micro-batteries that will not leak, type LR 3, AM4, AAA, MN 2400 (1.5 V).

The battery compartment is on the rear of the remote control.

When inserting new batteries, make sure the positive / negative terminals are connected correctly!

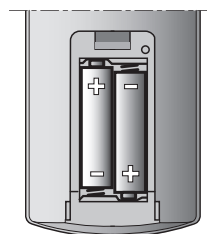


Fig. 6

**!** Empty, used batteries can leak and damage the remote control! Remove the batteries if the remote control is not being used for a long period of time.

**i** The tuning between the remote control and the air conditioning system is retained if the batteries are removed.

**No warranty is given for damage caused by leaking batteries.**

Before disposing of a defective remote control, always remove the batteries and dispose of them correctly.

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

## Accessories

Sound muffler for installation in the cold air duct for additional noise reduction within the living compartment (part no. 40040-60100).

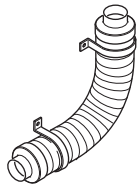


Fig. 7

Air outlet channel for additional noise reduction outside the living compartment. Installation beneath vehicle (part no. 40040-32500).

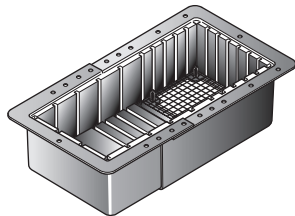


Fig. 8

The flexible air conditioning intake allows the air conditioning system to be installed in a space that is sealed off from the interior (e.g. false floor or rear storage space) and prevents contaminated air from being drawn in (part no. 40090-59100).

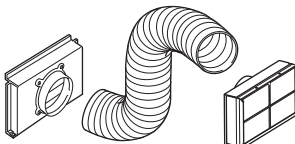


Fig. 9

TG 1000 sinus power inverter for operating the Saphir compact with 230 V ~ from the 12 V battery network (part no. 40090-81000).

The wiring looms that are needed for operation with the air conditioning system have to be ordered as well.

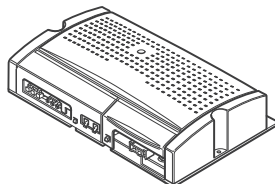


Fig. 10

Truma CP plus digital control panel with automatic air conditioning system for the iNet-capable Truma heaters Combi and Truma air conditioning systems Aventa eco, Aventa comfort (from serial number 24084022 – 04/2013), Saphir comfort RC and Saphir compact (from serial number 23091001 – 04/2012)

- The automatic air conditioning system function automatically controls the heater and the air conditioning system until the required temperature is reached in the vehicle.
- With the Truma iNet Box extension, all TIN-Bus-capable Truma appliances can also be controlled via the Truma App.



Figure 11

### Truma iNet Box

The Truma iNet Box for simple networking and control of Truma appliances with a smartphone or tablet computer using the app.

- Simple installation and start-up via the Truma App
- Can be extended with the update function, which ensures that it is always up to date



Figure 12



## conditioning system with the TG 1000 sinus power inverter

The electrical kit (part no. 40090-23100) and the air conditioning kit (40090-25900) are needed to make the electrical connection of the power inverter (part no. 40090-81000). A connection diagram and a description of the connection are provided with the respective set.

### Operating modes of the TG 1000 sinus power inverter with the Saphir compact air conditioning system

**i** The inverter is controlled by the air conditioning electronics after the air conditioning system has been switched on. The air conditioning system checks the status of the power inverter and the connected electrical supply at short intervals (D+ of dynamo, starter battery / auxiliary battery and mains).

**If the Saphir vario air conditioning system is being operated with the TG 1000 sinus power inverter, the following operating statuses are possible:**

#### Operating status 1

**Via the auxiliary battery with 12 V**  
(vehicle engine off, D+ of dynamo is 0 V).

Switch on the Saphir compact air conditioning system via the remote control.

- If the auxiliary battery voltage is **higher than 12 V** when the system is switched on, the Saphir compact air conditioning system is started.

**Only circulated air** fan mode with the low or high fan levels is possible.

- If the auxiliary battery voltage is **less than 12 V**, the red LED on the IR receiver illuminates. The air conditioning system does not start up. Resetting takes place by switching the air conditioning system off.
- The air conditioning system with power inverter cannot be switched on again using the remote control until the auxiliary battery has been recharged (above 12 V - no automatic restart).
- **If the voltage of the auxiliary battery falls below 10.8 V while the air conditioning system is being operated**, the air conditioning system with power inverter switches off completely to prevent further battery discharging. **No** red LED therefore illuminates on the IR receiver as a fault indicator.

The air conditioning system with power inverter cannot be switched on again using the remote control until the auxiliary battery has been recharged (above 12 V - no automatic restart).

The air conditioning system continues to operate and the power inverter switches itself off when mains voltage is applied (connection a – for mains input voltage, see "Operating status 3").

#### Operating status 2

**Via the dynamo with 12 V**  
(vehicle engine running, dynamo supplies D+ = 12 V)

The auxiliary battery and the starter battery are switched in parallel via the isolating relay. The relay is actuated by D+ from the dynamo (or D+ substitute).

When the compact air conditioning system is started via the remote control.

- If the auxiliary battery voltage is **higher than 12 V** when the system is switched on, the Saphir compact air conditioning system is started.

**The full scope of air conditioning system functionality is available.**

- If the air conditioning system is operating and the vehicle is then switched off, the air conditioning system restarts with the setting on the remote control when the vehicle is started again. The switchover procedure is controlled by the D+ signal.

#### Tip

To protect the batteries and limit the use of the dynamo charge current, switch electrical consumers off if possible (e.g. switch refrigerator to gas operation).

- When the engine is switched off, the air conditioning system and the power inverter also switch themselves off. The green LED on the IR receiver flashes briefly.
- If the **starter battery voltage falls below 11.7 V or the auxiliary battery voltage falls below 10.8 V**, the air conditioning system with power inverter switches off completely to prevent further battery discharging. **No** red LED therefore illuminates on the IR receiver as a fault indicator.

The air conditioning system with power inverter cannot be switched on again using the remote control until the auxiliary / starter battery has been recharged (above 12 V - no automatic restart).

The air conditioning system and the power inverter switch themselves off when mains voltage is applied (connection a – for mains input voltage, see "Operating status 3"). The red LED on the IR receiver illuminates. The air conditioning system must be switched on again via the remote control.

#### Operating status 3

**via mains with 230 V~**

The 230 V~ mains is looped through from connector (a) to connector (c) via a relay in the power inverter. The power inverter remains switched off. The air conditioning system can now be operated with any cooling level.

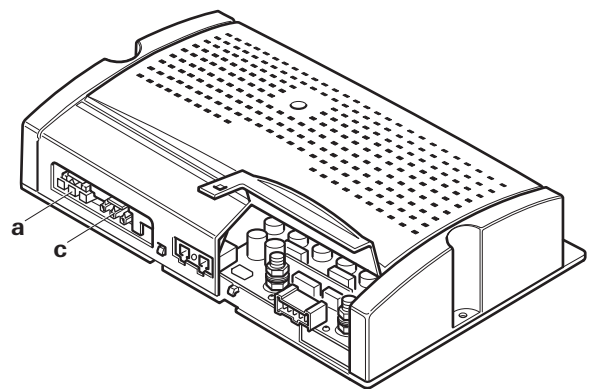


Fig. 13

The air conditioning system with power inverter switches itself off in the following cases:

- Mains failure
- Mains input voltage connector (a) is disconnected.

The red LED on the IR receiver illuminates. The air conditioning system must be switched on again via the remote control.

If the 230 V~ mains fails, the power inverter is **not** automatically switched on again in order to prevent unwanted battery discharging.

Determined on the basis of EN 14511 or Truma test conditions

### Designation

Saphir compact, comfort air conditioning system

### Dimensions (L x W x H)

560 x 400 x 290 mm

### Weight

20 kg

### Power supply

230 V – 240 V ~, 50 Hz

### Maximum cooling power

1800 W

### Starting current

15 A (150 ms)

### Power consumption

2.8 A

### Protection class:

IP X5 (when installed)

### Volume flow (cold air)

max. 310 m<sup>3</sup>/h

### Refrigerant

R 407C / 0.39 kg

Contains fluorinated greenhouse gases covered by the Kyoto Protocol. Hermetically sealed.

### Global warming potential (GWP)

1774

### CO<sub>2</sub> equivalent

691.9 kg

### Maximum incline of vehicle during operation

8 %

### Usage limits

+16 °C to +40 °C.

- An interior air sensor prevents the compressor from operating at temperatures of less than +16 °C.
- An anti-freeze sensor prevents non-permitted ice formation on the evaporator coil.
- A temperature switch prevents excessive current and temperature at the compressor.



E24 10R-040991

Right reserved to make technical changes!

## Function diagram

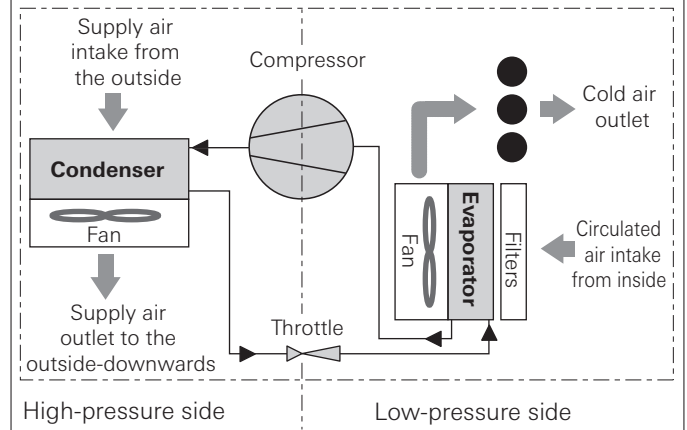


Fig. 14

## Installation dimensions

The dimensions are in mm.

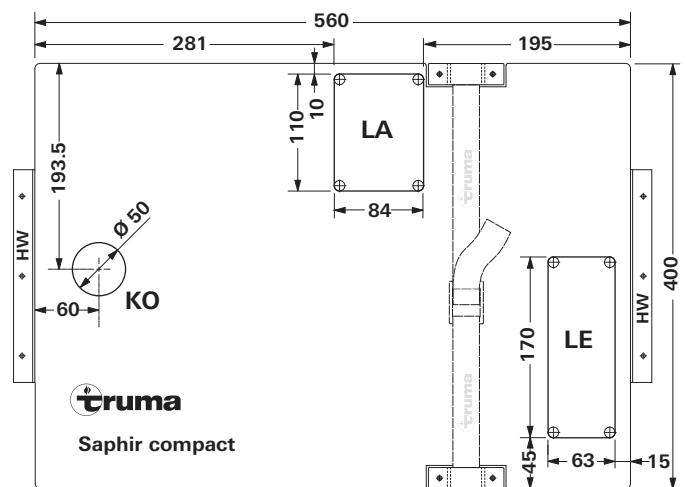


Fig. 15

## 1. Warranty claims

The Manufacturer hereby warrants for all defects of the unit caused by material or production faults. In addition, the seller continues to be subject to any statutory warranty claims.

No warranty claim shall be applicable under the following circumstances:

- Consumable parts which are subject to wear and tear
- Use of parts other than original Truma components in any of the units
- In gas pressure regulation systems: damage caused by foreign substances in the gas (e.g. oils, plasticisers)
- Failure to observe Truma's installation or operating instructions
- Improper handling
- Improper transport packing

## 2. Scope of warranty

The warranty covers all defects under clause 1 that occur within 24 months upon concluding the purchase agreement between the seller and the end customer. The Manufacturer undertakes to remedy such defects through subsequent fulfilment, i.e. at its discretion either by repairing or replacing the defective item. If the Manufacturer remedies a defect under its warranty commitment, the term of the Warranty shall not recommence anew with regard to the repaired or replaced parts; rather, the original warranty period shall continue to be applicable. No further-reaching claims shall be permitted, especially damage claims presented by purchasers or third parties. This provision shall not affect the validity of the German Product Liability Act (Produkthaftungsgesetz).

The Manufacturer shall bear the cost of employing the Truma Customer Service for the removal of warranty defects – in particular, transportation, travelling, job and material costs – provided that the Customer Service conducts its work within Germany. This Warranty does not cover Customer Service work outside Germany.

Additional costs arising from complicated removal or installation jobs on the unit (e.g. dismantling of furnishings or parts of the vehicle body) are not covered by the Warranty.

## 3. Making a claim under the warranty

The Manufacturer's address is:  
Truma Gerätetechnik GmbH & Co. KG  
Wernher-von-Braun-Straße 12  
85640 Putzbrunn, Germany

Should problems occur, please contact the Truma Service Centre or one of our authorised service partners (see [www.truma.com](http://www.truma.com)). Please describe your claim in detail and state the serial number of the unit and the date of purchase.

To help the Manufacturer determine whether your claim is covered by the Warranty, the end user must take or send the unit to the Manufacturer or service partner at their own risk. In the event of damage to the heat exchanger, the gas pressure regulator, too, must be returned along with the unit.

Air conditioning systems:

To avoid transport damage, the unit must be sent either to the Truma Service Centre in Germany or to the relevant authorised service partner; this must only be done upon prior arrangement. Otherwise the sender shall bear the risk for any transport damage that may occur.

If a unit is sent to the manufacturing facility, make sure it is shipped as a freight item. If the claim is covered by the Warranty, transport / shipping and the cost of return shall be borne by the manufacturing facility. If the claim is not covered by the Warranty, the Manufacturer shall notify the customer to this effect, specifying the cost of repairs not borne by the Manufacturer; shipping costs, too, shall be borne by the customer in such a case.

## Installation instructions



**The device must only be installed and repaired by an expert.** Read the installation instructions carefully before commencing the work, and then comply with them!

## Intended use

This device has been designed for installation in motor homes and caravans and is intended for use in the private sector.

## Regulations

Guarantee claims, warranty claims and acceptance of liability will be ruled out in the event of the following:

- Modifications to the device (including accessories)
- Failure to use original Truma parts as replacement parts and accessories
- Failure to follow the installation and operating instructions

## Selecting a location

The device must always be installed so that it is easy to access at all times for service work, and also easy to remove and install.

**i** In the event of restricted installation space being available, the 2 connector cables (power and IR receiver cable) must be of sufficient length for the device to be pulled out with the cables attached and the cover to be opened.

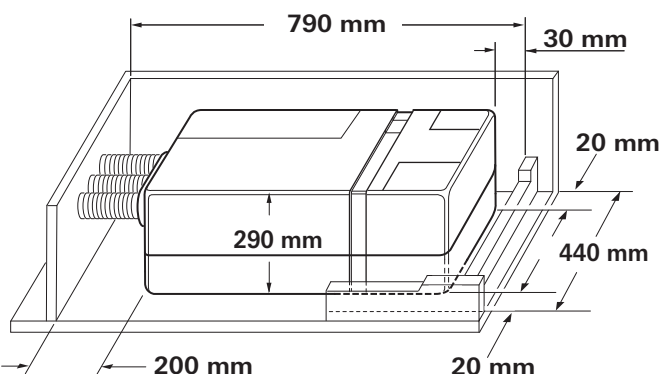


Fig. 16

**i** In order to achieve homogeneous vehicle cooling, the air conditioning system must be installed in a **central** location in a stowage box or the like so that the cold air is evenly distributed in the caravan or motor home.

The air conditioning system is attached to the floor, which must be level and smooth. The air inlet (LE), the air outlet (LA) and the connection (11) may need to be fitted with additional gaskets if the system is attached to a channelled floor, for example.

The room air that is going to be cooled is drawn in again from the vehicle interior by the device via openings with a total area of 300 cm<sup>2</sup>.



The circulated air is cleaned and dried during the operation of the device. For this reason, suitable measures must be taken to ensure that the air to be cooled is drawn out of the vehicle interior if the equipment is installed in external stowage spaces (e.g. false floor). Drawing in air from the

the air conditioning system.

If possible, position the device so that the frame of the vehicle is between the air inlet (LE) and the air outlet (LA).

Insert the installation template into the stowage box in which the equipment is being installed and check the amount of space available for floor apertures. The air conditioning system should have at least 20 mm of clearance at the sides and 30 mm at the rear from walls and furniture items in order to prevent noise transmission during operation. The minimum clearance at the front is 200 mm, so that the fluff / particle filter can be changed.

**!** The openings in the floor of the vehicle must be freely accessible, and must not be blocked by frame sections or the like behind them! The openings must not be within range of the wheel spray. A splash guard must be fitted if necessary.

## Installing the air conditioning system

Place installation template in stowage compartment and fix in position.

Mark the mounting holes for the 2 brackets (2 – HW) and the 2 side fastening brackets (3).

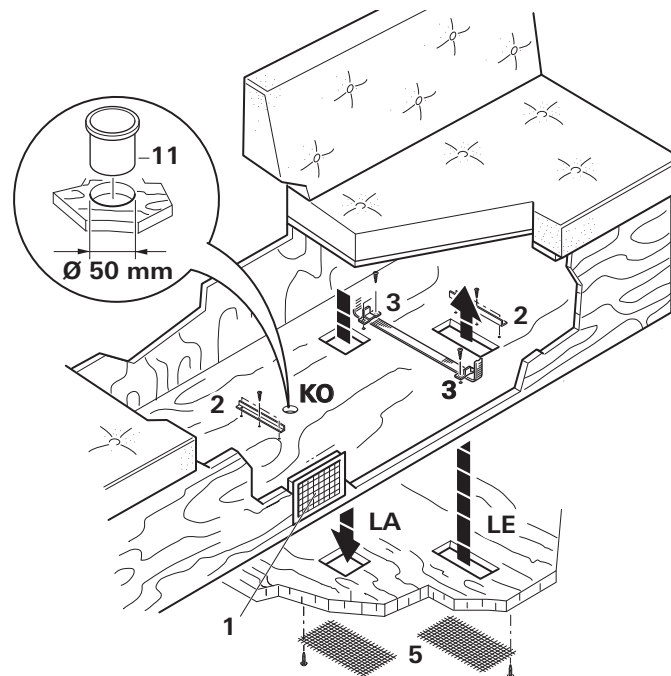


Fig. 17

Mark floor opening "LE" for the supply air intake, "LA" for the supply air outlet and "KO" for the condensation drain.

Remove template and cut out the marked floor openings.

**Before drilling, always check for underlying / concealed cables, gas lines, frame sections and the like!**

Then seal the edges of the openings in the floor of the vehicle with underbody protection.

Screw on the 2 side fastening brackets (3) with 2 screws each and the 2 brackets (2 – HW – leg must be pointing towards the outside!) with 3 screws each.

Insert connection (11) for condensation drain (KO) from above.

Seal connection (11) for condensation drain all round from below using body sealant.

**!** connection (11) of the condensation drain is located in the recess in the floor of the vehicle. Otherwise there is a risk of water penetrating the interior! In order to provide perfect air circulation the apertures in the base of the equipment and the floor must be exactly aligned. If this is not the case the equipment is not guaranteed to operate correctly!

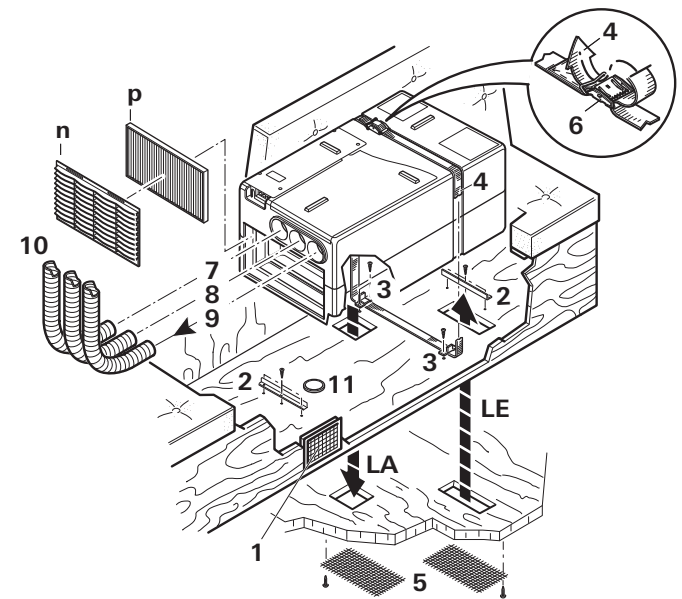


Fig. 18

Lead clamping strap (4) through the 2 fastening brackets (3) – lettering on clamping strap should be facing the floor.

Position air conditioning system in stowage compartment between brackets (2 – HW) and fastening brackets (3). Secure air conditioning system with clamping strap (4). Ensure that the clamping strap is in the provided recesses on the device. Guide clamping strap (4) through buckle (6) as shown in illustration and tighten.

**!** The air conditioning system must be attached **at all sides** using the brackets provided in order to prevent unintentional movement if vigorous movements occur (e.g. hard braking).

Attach the two floor grilles (5) for "LE" and "LA" to the floor of the vehicle from below with suitable screws or clips (not provided).

## Cold air distribution and circulated air return

### Cold air distribution

A KR 65 cold air duct with a diameter of 65 mm (10) and at least one outlet must be connected to all three cold air outlets of the device (7, 8 + 9).

Slide the cold air ducts (10) into the cold air outlets of the device and route to the air outlet nozzles. Ensure that the cold air ducts are firmly seated in the cold air outlets. For noise reduction purposes, Truma can supply a sound muffler for installing in the cold air system (part no. 40040-60100).

The swivel air outlet SCW 2 (black – part no. 39971-01 or beige – part no. 39971-02), the end outlet EN-O (part no. 40171-07) with lamella inset LA (part no. 40721-01/02/03/04/05) or the rectangular air outlet RL (part no. 40280-01) with connector piece ANH (part no. 40290-02) would be suitable as an outlet for the cooled air into the vehicle interior.

The cold air distribution is designed individually using the modular principle for each vehicle model; A wide range of accessories is available for this purpose.

In order to achieve the maximum cooling power we recommend:

- Route cold air ducts to air outlet nozzles as short and straight as possible.
- The total accumulated length of cold air duct that may be used is 15 m.
- Connect the longest cold air duct (max. 8m) to the right-hand cold air outlet (9), since this has the highest air throughput.
- In order to avoid condensation, do not route the cold air ducts in the vicinity of inflowing outside air (or behind the refrigerator).

## Circulated air return

The circulated air is drawn in again by the device, either via an additional rectangular air grille (1 – part no. 40040-29200) or through 3 round air grilles (part no. 40040-20400) e. g. in the stowage box wall, or via several small openings with a total area of at least 300 cm<sup>2</sup>.

### Important note

The ventilation from the vehicle interior to the installation area must be in the immediate vicinity of the equipment to provide perfect air exchange. Covers must be fitted if necessary to prevent the circulated air return from being affected by stowed objects.

**i** If installation in close proximity is not possible, Truma can provide a flexible room air intake as an accessory (part no. 40090-59100).

## Installing the IR receiver

The receiver (12) should preferably be mounted to the wardrobe in such a way that the remote control can be pointed at it without obstructions (length of connecting cable 3 m). A 3 m cable extension is available if necessary (part no. 40090-89100).

**i** If the receiver cannot be flush-mounted, Truma can supply an on-surface frame (13) – part no 40000-52600 – as an accessory on request.

Drill Ø 55 mm hole. Lead IR receiver cable (17) through hole towards the rear and secure receiver with 4 screws (14 – not included in scope of delivery). Then fit cover frame (15) and route cable (17) to air conditioning system.

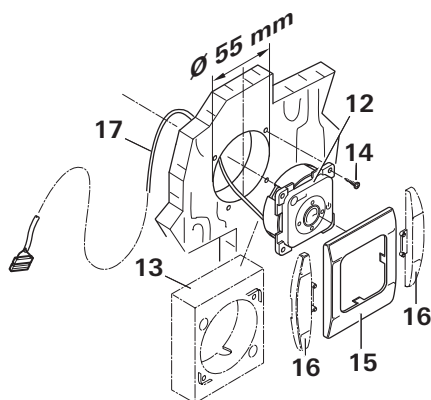


Fig. 19

**i** To finish off the cover frame, Truma can supply side parts (16) in 8 different colours as an accessory (please ask your dealer).

## connection of IR receiver

**!** The 230 V electrical connection must always be made by an expert (in accordance with VDE 0100, part 721 or IEC 60364-7-721, for example, in Germany). The instructions shown here do not constitute a request to non-experts to make the electrical connection, but serve as additional information for an expert who is employed to do the work!

Make the connection to the mains via the 150 cm long connector cable (20) to a line that is protected with a 10 A fuse in the vehicle.

It is imperative that connection is carried out with care while observing the correct cable colours!

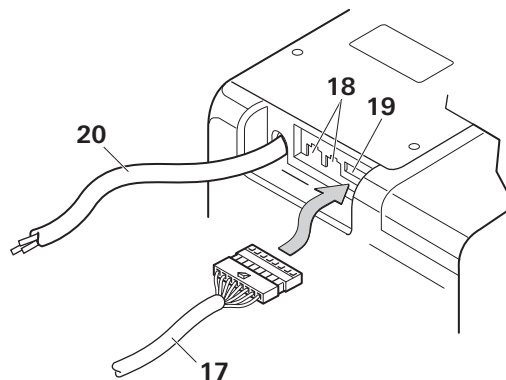


Fig. 20

Plug connector of IR receiver cable (17) into the socket (19).

**i** The connection (18) is needed if the Saphir compact air conditioning system is being operated via Truma TG 1000 sinus power inverter (Com connection / communication).

The cables must be long enough for the device to be pulled out of the false floor with the cables attached. All cables must be secured with clamps!

An insulating device for providing all-pole insulation from the mains with contact clearance of at least 3.5 mm must be provided at the vehicle end for carrying out maintenance and repair work.

## Function test / IR remote control mounting

Position IR remote control mounting as close as possible to the IR receiver (12) so that the air conditioning system can be operated without removing the remote control from the mounting.

All device functions must subsequently be tested as described in the operating instructions.

The operating instructions must be handed over to the vehicle owner.