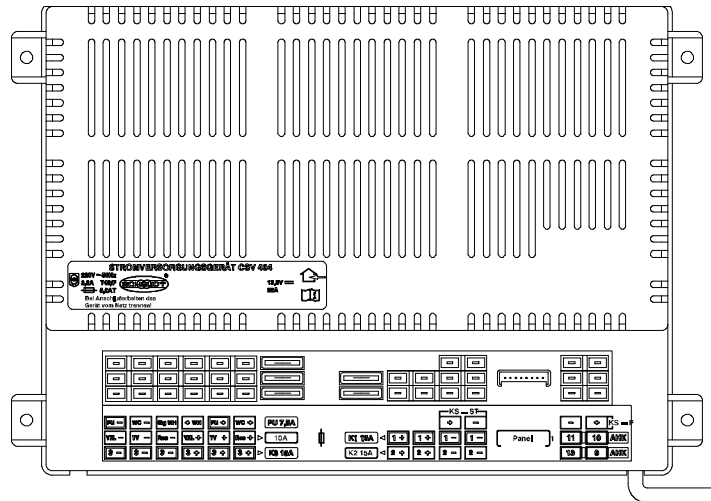


# Instruction Manual



## Caravan Charging System CSV 404

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## 1 Introduction

This instruction manual contains important information for the safe operation of equipment supplied by Schaudt. Make sure you read and follow the safety instructions provided.

The instruction manual should always be kept in the vehicle. All safety information must be passed on to other users.

## 2 Safety information

### 2.1 Meaning of the safety symbols



#### **DANGER !**

Failure to comply with this sign may result in danger to life or physical condition.



#### **WARNING!**

Failure to comply with this sign may result in injury.



#### **CAUTION!**

Failure to comply with the sign may result in damage to equipment or other connected loads.



This symbol references recommendations or special features.

### 2.2 General safety instructions

The design of the device is state-of-the-art and complies with approved safety regulations. Failure to observe the safety instructions may nonetheless lead to injury or damage to the device.

Only use the device when it is in perfect technical condition.

Any faults affecting the safety of persons or the proper functioning of the device must be repaired immediately by specialists.



#### **DANGER !**

230V units carrying mains voltage.

Risk of fatal injury due to electric shock or fire:

- The motorhome or caravan's electrical system must comply with DIN, VDE and ISO regulations.
- Never try to modify the electrical system.
- Do not try to modify the device.
- Only qualified electricians are permitted to establish electrical connections in accordance with the installation instructions supplied by Schaudt.
- Connection work may only be carried out after the power has been disconnected.
- Never try to start the device using a defective mains cable or a faulty connection.
- Never undertake maintenance on the device when it is live.



#### **DANGER !**

Incorrect installation

Electric shock or damage to connected devices:

- Install as shown in installation instructions.
- The mains connection line may only be replaced by an authorised customer service department or by those qualified.



### WARNING!

Hot components

Burns:

- Blown fuses may only be changed after the power to the system has been disconnected
- Blown fuses may only be replaced once the cause of the fault is known and has been rectified
- Never bypass or repair fuses
- The back of the device can get hot during operation. Do not touch them.
- Only use original fuses rated as specified on the device
- Never store heat sensitive objects close to the device (e.g. temperature sensitive clothes if the device has been installed in a wardrobe)

## 3 Operation



This device is not intended to be used by persons (including children) with limited physical, sensory or mental aptitude or lack of experience and/or knowledge unless they are supervised by a person responsible for their safety or have received instruction from this person as to how the device is used.

Children must be supervised to ensure they do not play with the device.

This device is intended for installation into a vehicle.



The caravan power supply is operated solely from the control and switch panel connected.

No operation is required for the CSV 404 caravan power supply in everyday use.

### 3.1 Starting up the caravan power supply

**Generator  
operation  
and  
passenger  
vehicle  
ferries**



### CAUTION!

The caravan power supply, 12V consumers and connected devices can be damaged if the thresholds for the 230V supply are exceeded. So therefore:

- Do not connect a generator until it is running smoothly.
- It is essential that the generator conforms to the specifications of the mains supply.
- Do not connect the caravan power supply on car ferries with the onboard mains voltage (a non-problematic mains voltage cannot always be guaranteed on car ferries). The use of an upstream overvoltage protection device is recommended.

**Operation on  
towing  
vehicle**



### CAUTION!

Switch off the ignition when the towing vehicle is parked (when the caravan is connected to the towing vehicle). Otherwise the starter battery of the towing vehicle will discharge.

### 3.2 Switching on and off

Control and switch panels of type LT ... are supplied with a separate operating manual (kept with the vehicle). Please refer to this manual for instructions on operation.

Activating the 12V main switch (12V ON) on the operating panel connected enables/disables the following electrical circuits:

Pos.	Circuit	Fuse with
1	Circuit 1	15 A
2	Circuit 2	15 A
3	Circuit 3	15 A
4	Water pump	7.5A

The following consumers (circuits) continue to be provided with continual power:

Pos.	Circuit	Fuse with
1	Awning light	10 A
2	TV	
3	Res	

## 4 Application and function

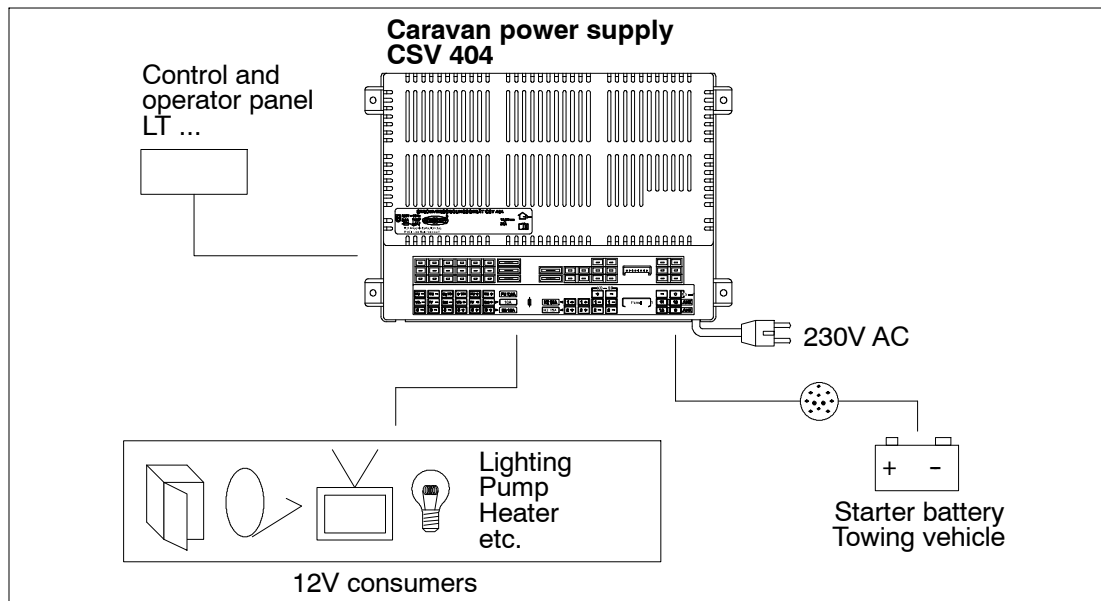


Fig. 1 On-board power supply system

The CSV 404 caravan power supply is the central power supply unit for all 12V consumers in the caravan's electrical system. It is usually located in a cupboard or storage area and is accessible from the front in order to change fuses.

The caravan power supply has been designed solely for connecting to a 12V onboard power supply.

Connected devices can be supplied from the towing vehicle's battery if a mains supply is not available.

Because the device provides a hum-free, stabilised output voltage, sensitive consumers such as transistor lights and radios can be connected and powered.

- Modules** The CSV 404 caravan power supply contains:
- a 12V power pack
  - a main switch relay to switch certain consumers on and off
  - the complete 12V distribution system
  - fuses for the 12V circuits
- Actuation** A control panel (such as a LT 4XX) is connected for operation.
- Connections provided for:
- Operator and control panel
- Flat vehicle fuses protect the various circuits.
- Protective circuits**
- Excess temperature
  - Overload
  - Short circuit
- Mains** 230V AC  $\pm 10\%$ , 47 - 63 Hz sinusoidal, protection class I
- Current** 12V outputs may only be loaded up to a maximum of 90% of the rated current of the associated fuse (see block diagram or nameplate).
- All consumers together may not exceed the following load:
- Mains operation: 32 A
  - Operation with towing vehicle, ignition ON: 15 A

### 4.1 Functions

- 12V main switch** The main 12V switch on the operator and control panel connected isolates certain 12V consumers from the voltage supply (see also Page 4).

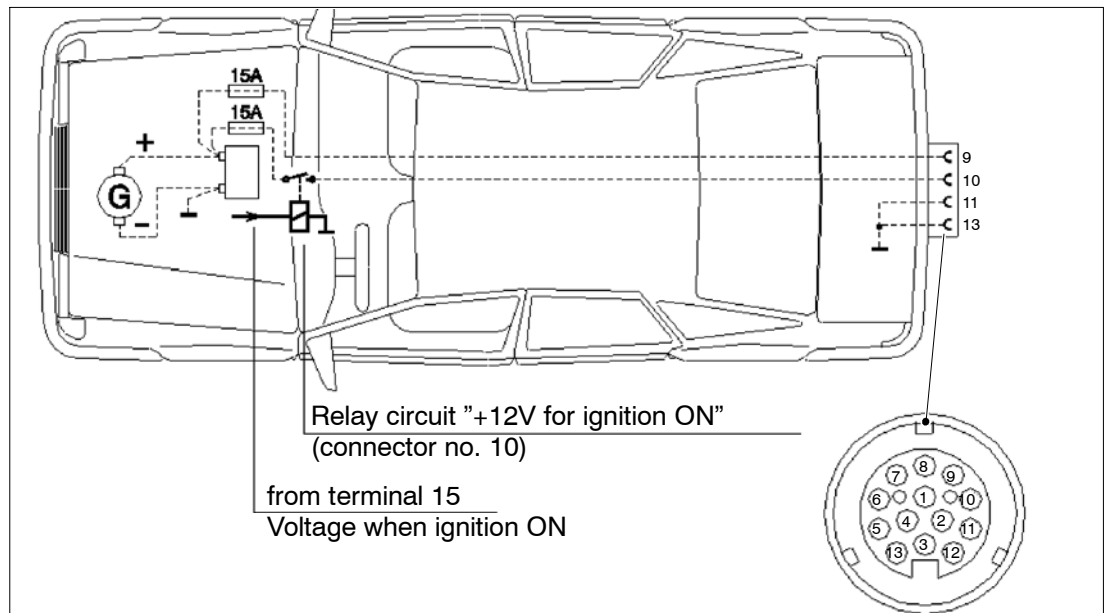


Fig. 2 Connector for towing vehicle power socket



For the "Automatic shutoff" and "Towing vehicle battery standby current" functions to be guaranteed in line with the following specifications, both the 13-pin connector of the caravan, and the socket of the towing vehicle must be assigned as per EN 1648-1 (see Fig. 2).

**Autom. switch-off**

Consumers are switched off (with the exception of these with a continual supply, see Page 4) when the caravan is hitched to the towing vehicle and the ignition is switched on (power on terminal 10 of trailer hitch TH). Consumers can be switched on again at any time (the automatic disconnecter does not prevent this).

**Towing  
vehicle-  
battery  
standby  
current  
Refrigerator  
controller**

No standby current when the towing vehicle ignition is OFF, plus power consumption of control electronics of refrigerator (see documentation from refrigerator manufacturer and other consumers with a continual supply, see Page 4); measurement taken when all consumers in the caravan are switched off.

This output supplies the control electronics of a fridge:

- From the towing vehicle's battery when the ignition is switched on
- From the mains supply when it is connected up



The refrigerator only operates on 12 V when the caravan is hitched to the towing vehicle and the ignition is switched on.

**Water pump**

The water pump is connected directly to the CSV 404. The supply voltage to the pump is enabled from the Pump switch on the operator and control panel. The switch of a water tap (or multiple taps connected in parallel) can be connected to the CSV 404 as an option (6.3mm blade terminal "+ Water Tap" and "Water Tap Signal", instead of cable bridge). The pump is then switched on when the electric switch in the tap is closed by opening the tap.

## 5 Layout

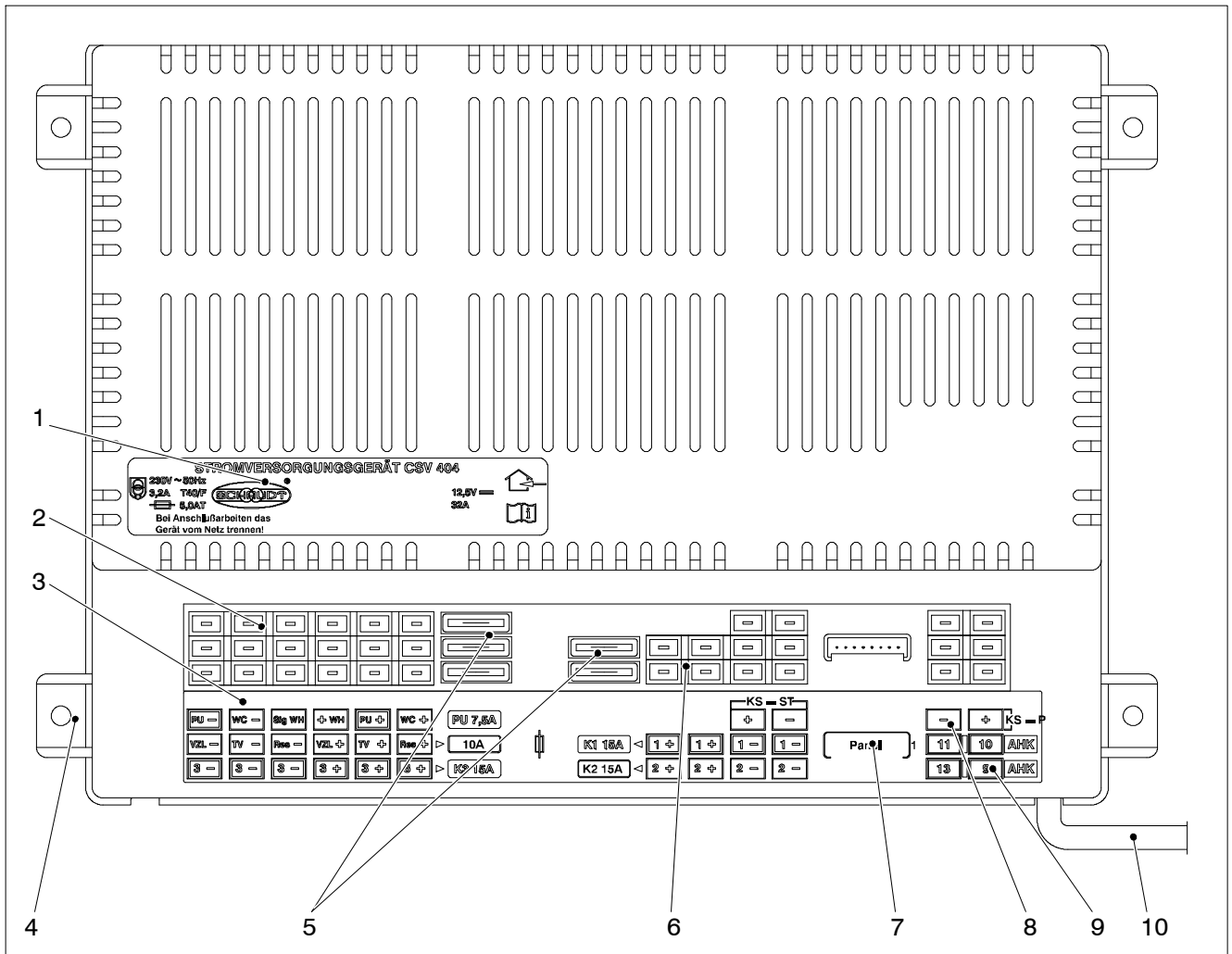


Fig. 3 Front view of CSV 404 caravan power supply

- |   |  |    |   |
|---|--|----|---|
| 1 | Adhesive label for details   | 6  | Connector panel for circuits 1 and 2, fridge controller |
| 2 | Connector panel for TV, awning light, spare, water pump, water tap | 7  | Controller for operating and control panel              |
| 3 | Adhesive label for functions                                       | 8  | Connector for refrigerator supply                       |
| 4 | Housing  | 9  | Trailer coupling connector plug                         |
| 5 | Flat vehicle fuses   | 10 | Mains cable   |

### 5.1 Faults

#### Flat vehicle fuses

A fault in the power supply system is usually caused by a blown fuse.

Please contact our customer service team if you cannot rectify the fault using the following table.

If this is not possible, e.g. if you are abroad, you can have the caravan power supply repaired at a specialist workshop. In this case, you must ensure that the warranty is not invalidated by incorrect repairs being carried out. Schaudt GmbH will not accept any liability for damage resulting from such repairs.

Fault	Possible cause	Remedy
12V supply does not work in the leisure area	12V main switch is switched off	12V main switch must be switched on
	Defective fuse or cabling	Have the fuse and cabling checked
	Caravan power supply faulty	Contact customer service
Caravan power supply cannot be switched on from the control panel.	Caravan power supply faulty	Contact customer service
	No supply voltage	Check the battery or mains connection
	Rocker switch is defective	Contact customer service
12V supply from the towing vehicle not working	Pin assignment of towing vehicle socket not complete or correct	Contact customer service
	Fuse in the towing vehicle defective or cabling incorrect	Have the fuse and cabling checked
	Caravan power supply faulty	Contact customer service

## 6 Maintenance

The CSV 404 caravan power supply requires no maintenance.

Clean the caravan power supply with a clean, slightly damp cloth and a mild detergent. Never use spirit, thinners or similar substances. Do not allow fluid to penetrate the inside of the caravan power supply.

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## Appendix

### A EC Declaration of Conformity

Schaudt GmbH hereby confirms that the CSV 404 caravan power supply complies with the following relevant regulations.

The original EC declaration of conformity is available for reference at any time.

**M:** Schaudt GmbH, Elektrotechnik & Apparatebau

Planckstraße 8  
88677 Markdorf  
Germany

### B Customer service

**Customer service address** Schaudt GmbH, Elektrotechnik & Apparatebau  
Planckstraße 8  
D-88677 Markdorf

Phone: +49 7544 9577-16 Email: kundendienst@schaudt-gmbh.de

Web: www.schaudt-gmbh.de

**Send in device**

Returning a faulty device:

- Always use well-padded packaging.
- Complete and enclose the fault report, see Appendix C.
- Send it to the addressee (free delivery).

### C Fault report

In the event of damage, please fill in the fault report and send it with the faulty device to the manufacturer.

Device type: \_\_\_\_\_

Item no.: \_\_\_\_\_

Vehicle: \_\_\_\_\_ Manufacturer: \_\_\_\_\_

Model: \_\_\_\_\_

Own installation? Yes  No

Upgrade? Yes  No

Upstream overvoltage protection? Yes  No

Following fault has occurred (please tick):

- Electrical consumers do not work – which?  
(please specify below)
- Switching on and off not possible
- Persistent fault
- Intermittent fault/loose contact

Other comments:

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**D Block diagram/wiring diagram**

\* Trailer coupling assignment of towing vehicle / caravan connector to EN 1648-1. Connectors AHK 9 and AHK 10 must be fused externally in the vehicle with max. 15A.

