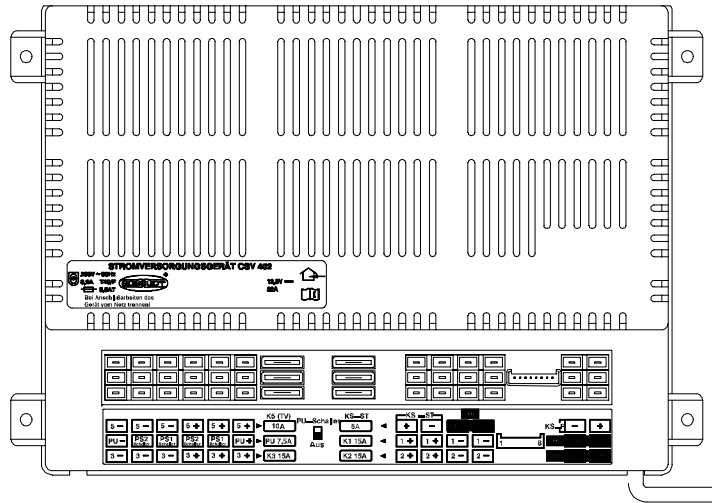


Instruction manual



CSV 402 caravan power supply

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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 Significance of the warning signs



▲ **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.



▲ **ATTENTION!**

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



▲ This symbol indicates recommendations or special features.

2.2 General safety instructions

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

Do not use the device if it is not in perfect technical condition.

Any faults that may affect 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 perform the electrical connections in accordance with the installation instructions supplied by Schaudt.
- The connection work must only be undertaken 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 the installation instructions.
- The mains connection line may only be replaced by an authorised customer service department or by qualified persons.



▲ 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 when 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 it.
- Only use original fuses rated as specified on the device.

3 Application and function



- ▲ 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 on 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 CSV 402 caravan power supply is the central power supply unit for all 12V consumers in the caravan's electrical system. It is normally fitted inside a cabinet or a stowage space and can be accessed from the front to change a fuse.

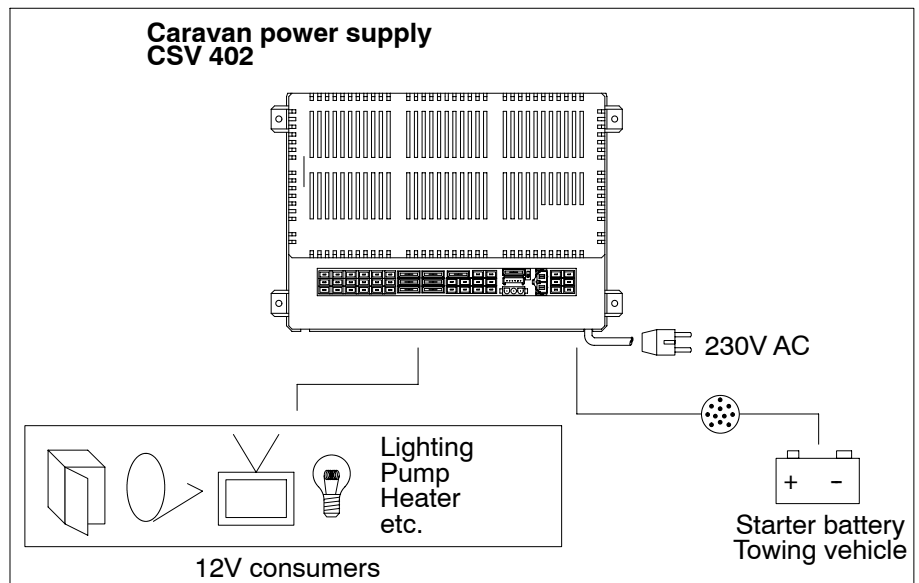


Fig. 1 On-board power supply system

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

If there is no mains connection, connected devices can be supplied by the towing vehicle battery (with the exception of TV and awning light). The power supply then automatically switches to the mains power as soon as the caravan is connected to the CSV 402 power supply.

Modules The CSV 402 caravan power supply contains:

- one power supply module
- the complete 12V distribution system
- fuses for the 12V circuits

Required control circuits No other devices need to be connected for operation.

Connections are provided for:

- 12V control

Flat vehicle fuses protect the various circuits.

Protective circuits

- Excess temperature
- Overload
- Short circuit

Mains connection 230V AC voltage $\pm 10\%$, 47 – 63 Hz sinusoidal, protection class I

Current-carrying capacity 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).

Max. total current All consumers together may not exceed the following load:

- Mains operation: 32 A
- Operation with towing vehicle, ignition ON: max. 15 A; lower if the fuse in the towing vehicle is designed for lower currents

Refrigerator controller This output supplies the control electronics of a fridge:

- For mains power supply
- From the towing vehicle's battery when the ignition is switched on



▲ ATTENTION!

Total discharge.

Damage to the towing vehicle battery:

- Avoid continuous 12V operation.

Pump controller This output is enabled/disabled via a slide switch and supplies the water pump. This prevents the pump from emptying the water tank if a water tap is turned on unintentionally or unnoticed. For pressure pumps, it prevents the pump enabling itself in the event of a pressure drop in the system (e.g. at night).

4 Layout

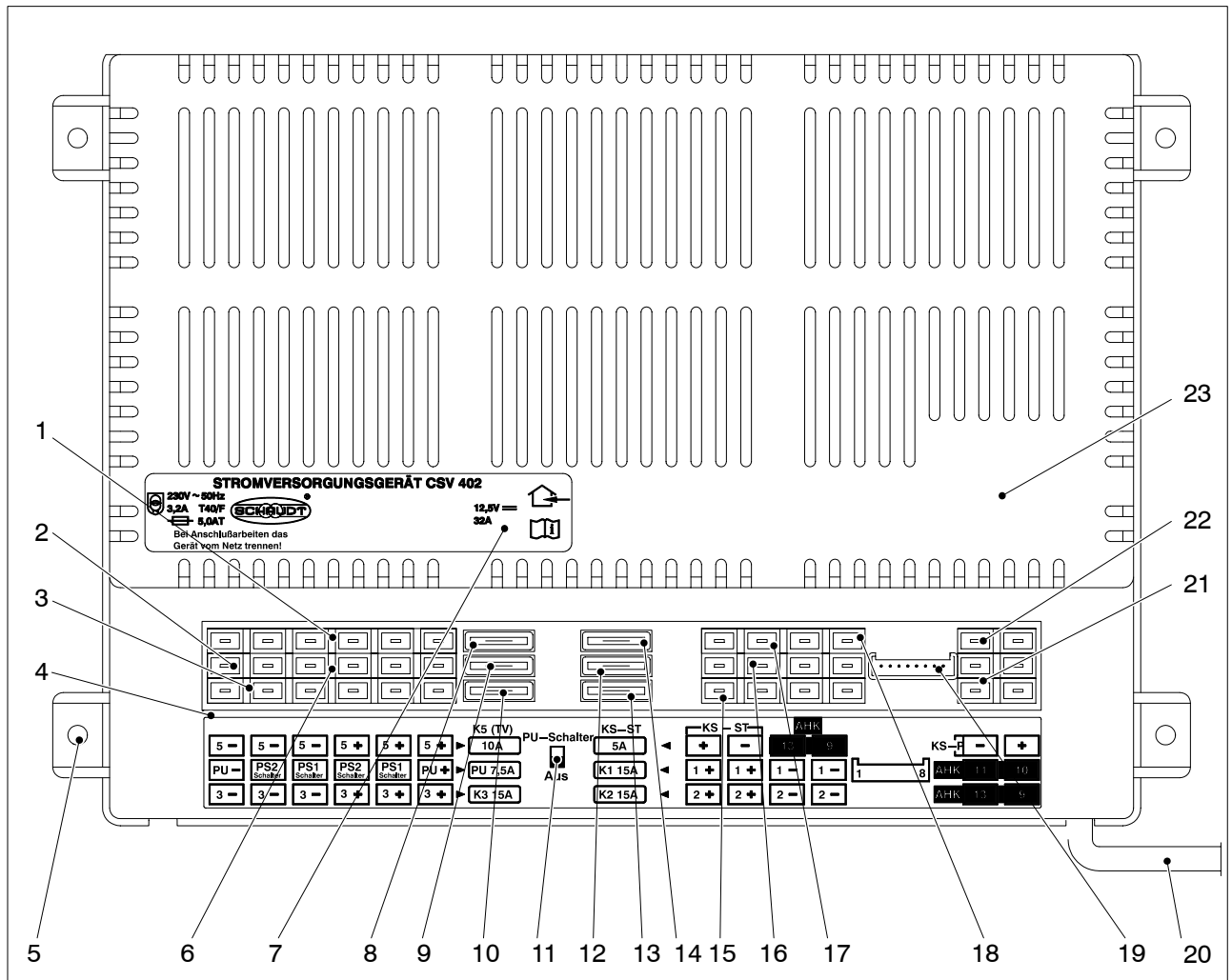


Fig. 2 Front view of CSV 402 caravan power supply

- | | | | |
|----|---|----|---|
| 1 | Connections for circuit 5 | 13 | Flat vehicle fuse for circuit 2 |
| 2 | Connections pump PU+/PU- (12V/GND) | 14 | Flat vehicle fuse for fridge controller |
| 3 | Connections for circuit 3 | 15 | Connections for circuit 2 |
| 4 | Adhesive label | 16 | Connections for circuit 1 |
| 5 | Bracket with hole | 17 | Fridge controller connection |
| 6 | Connections pump switches 1 and 2
PS1: Pump switch 1
PS2: Pump switch 2
(each GND and GND switching input) | 18 | Trailer coupling connection plug |
| 7 | Adhesive label | 19 | 12V control connection |
| 8 | Flat vehicle fuse for circuit 5 | 20 | Mains cable |
| 9 | Flat vehicle fuse for circuit 3 | 21 | Trailer coupling connection plug |
| 10 | Flat vehicle fuse for pump | 22 | Refrigerator supply connection |
| 11 | Pump switch | 23 | Casing |
| 12 | Flat vehicle fuse for circuit 1 | | |

5 Operation

The caravan power supply is switched on via the 230V supply connection.

5.1 Starting up the power supply

230V supply ➤ Connect the caravan's mains supply to a 230V socket.

All connected consumers are supplied with 12V.

**Generator operation
and passenger vehicle
ferries**



▲ ATTENTION!

Exceeding the thresholds of the 230V mains supply.

Damage to the caravan power supply, 12V consumers or other connected devices:

- 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 on-board mains voltage (a non-problematic mains voltage cannot always be guaranteed on car ferries).

**Operation on towing
vehicle**



▲ ATTENTION!

Battery discharge

Towing vehicle can no longer start:

- Switch off the ignition when the towing vehicle is stationary.

Connection ➤ Connect the 13-pin plug on the towing vehicle.

➤ Start engine.

All connected consumers in the caravan are supplied with 12V (with the exception of awning light and TV system).

5.2 Pump switch

The water pump supply can be disabled with a switch on the CSV 402 caravan power supply.

➤ Move the switch (Fig. 2, Pos 11) to the "Off" position.

- The pump supply voltage is switched off.

➤ Push the switch up (Fig. 2, Pos 11).

- The pump supply voltage is switched on.

5.3 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 living area	No 220V supply	Check mains connections (e.g. camping site)
	Defective fuse or wiring	Check fuse and wiring
	Caravan power supply faulty	Call customer service
Pump does not work	Pump switch on the CSV 402 in position "Off"	Turn on pump switch
	Water tap switch contact defective	Contact workshop
	Pump defective	Contact workshop
	Caravan power supply faulty	Call customer service



▲ The charging current is reduced automatically if the device becomes too hot due to excessive ambient temperature or lack of ventilation. Always prevent the device from overheating nevertheless.

5.4 Shutting down the system

➤ Disconnect the caravan power supply.

6 Maintenance

The CSV 402 caravan power supply requires no maintenance.

Cleaning 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 402 caravan power supply complies with the following relevant regulations:

- DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 12.12.2006 for the harmonization of legal provisions of member states in regard to electrical equipment for use within particular voltage limits
- DIRECTIVE OF THE COMMISSION 2004/104/EC from October 14th 2004 for the adaptation of Directive 72/245/EEC of the council on noise suppression (electromagnetic compatibility) of motor vehicles to technical advancements
- DIRECTIVE 2005/49/EC OF THE COMMISSION from July 25th 2005 for the change of directive 72/245/EEC of the council on noise suppression (electromagnetic compatibility) of motor vehicles and Directive 70/156/EEC of the council for harmonization of the legal provisions of Member States on the operating license for motor vehicles and motor vehicle trailers for the purposes of adaptation to technical advancements.
- DIRECTIVE 2005/83/EC OF THE COMMISSION from November 23rd 2005 for the change of Appendices I, VI, VII, VIII, IX and X of Directive 72/245/EEC of the council on noise suppression (electromagnetic compatibility) of motor vehicles for the purposes of their adaptation to technical advancements
- DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND COUNCIL from 15.12.2004 for the harmonization of legal provisions of member states in regard to electromagnetic compatibility and for the annulment of Directive 89/336/EEC
- Law on the electromagnetic compatibility of equipment (EMVG) from February 26th 2008

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B Customer service

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- e-mail: 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

The following fault has occurred:
 (please select)

The following electrical consumers do not work:	
Cannot switch on/off	
Permanent fault	
Intermittent fault/loose contact	

Other comments:

D Block diagram/wiring diagram

* ⑨ ⑩

Connections 9 and 10 must be fused externally in the vehicle up to a maximum of 15A.

* ⋯

Trailer hitch towing vehicle/
caravan connecting plug
assignment as per EN 1648-1

