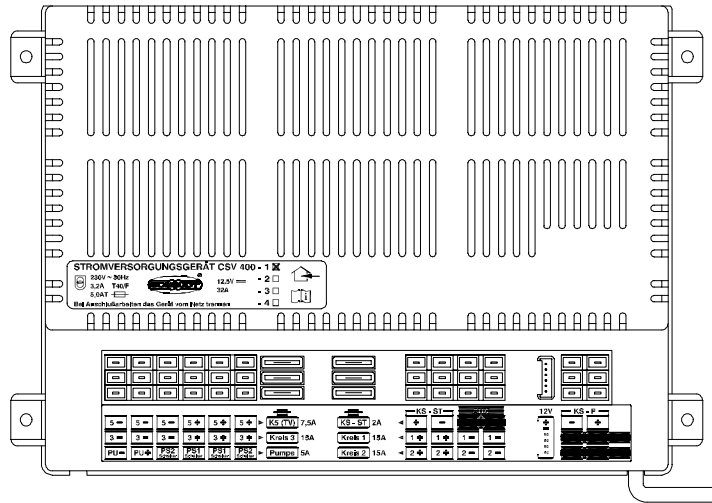


Instruction manual



CSV 400-1 A caravan power supply CSV 400-1 B

Table of contents

1	Introduction	2
2	Safety information	2
2.1	Significance of the warning signs	2
2.2	General safety instructions	2
3	Application and function	3
4	Design	5
5	Operation	6
5.1	Starting the system	6
5.2	Operating faults	7
5.3	Shutting down the system	7
6	Maintenance	7
	Appendix	8

1 Introduction

This instruction manual contains important information for the safe operation of equipment supplied by Schaudt. It is imperative that you read and follow this safety information.

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 and limb.



▲ WARNING!

Failure to comply with this sign may result in somebody being injured.



▲ ATTENTION!

Failure to comply with this sign may damage the device or the connected consumers.



▲ This sign indicates recommendations or special features.

2.2 General safety instructions

The design of the device is state-of-the-art and complies with the approved safety technology. Nevertheless, somebody might be injured or the device might be damaged if you do not abide by the safety information given in this instruction manual.

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

Any technical faults affecting the personal safety or the device must be dealt with immediately by qualified personnel.



▲ DANGER!

230 V unit 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.
- Never try to modify the device.
- Only qualified electricians are permitted to make 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!

Electrical shock or damage to the connected device:

- The device must be installed in accordance with 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 eliminated.
- Never bypass or repair fuses.
- The back of the device can get hot during operation. Do not touch.
- 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 as to how the device is used.

Children are to be supervised so as to ensure they do not play with the device.

This device is intended for installation in a vehicle.

The CSV 400-1 X caravan power supply is the central power supply unit for all 12 V consumers connected to 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.

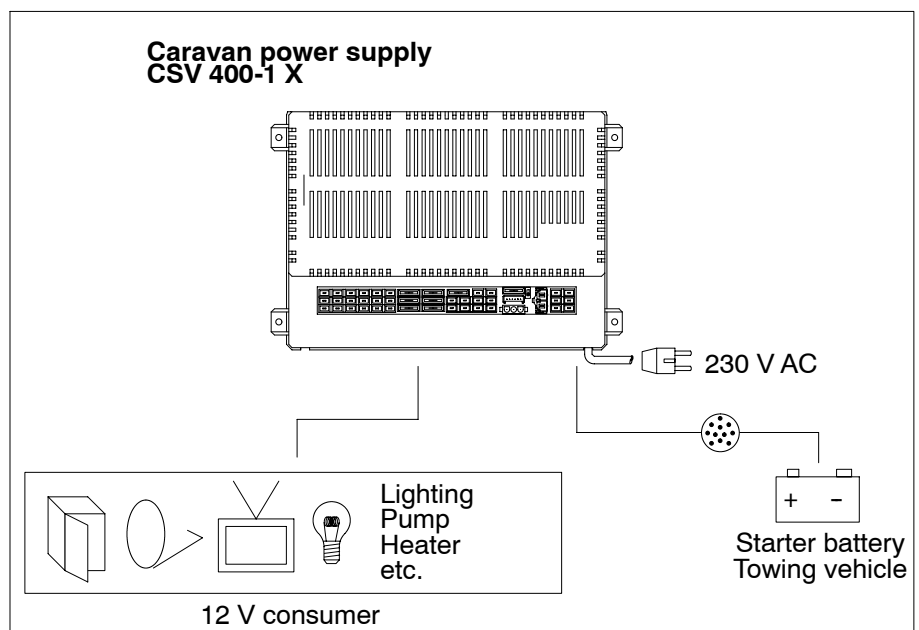


Fig. 1 Onboard power supply system

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

Connected units can be supplied from the towing vehicle's battery if a mains supply is not available (excepting TV system and awning light). The power supply is automatically switched over when 230 V is applied to caravan power supply CSV 400-1 X.

Modules The CSV 400-1 X caravan power supply consists of:

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

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

Connection options are available for:

- 12 V indicator

Flat vehicle fuses are used to protect the various circuits.

Protective circuits

- Overtemperature
- Overload
- Short circuit

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

Current-carrying capacity 12 V outputs shall only be loaded up to a maximum of 90 % of the rated current of the associated fuse (see block diagram or nameplate).

Maximum total current All of the consumers must not exceed the following loads when combined:

- Mains operation: 32 A
- Operation with towing vehicle and ignition ON: 15 A; less if, the fuse in the towing vehicle allows a lower current rating.

Fridge controller This output supplies the control electronics in a fridge:

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



▲ ATTENTION!

Total discharge!

Damages the caravan battery/towing vehicle battery:

- Avoid continuous 12 V operation.

4 Design

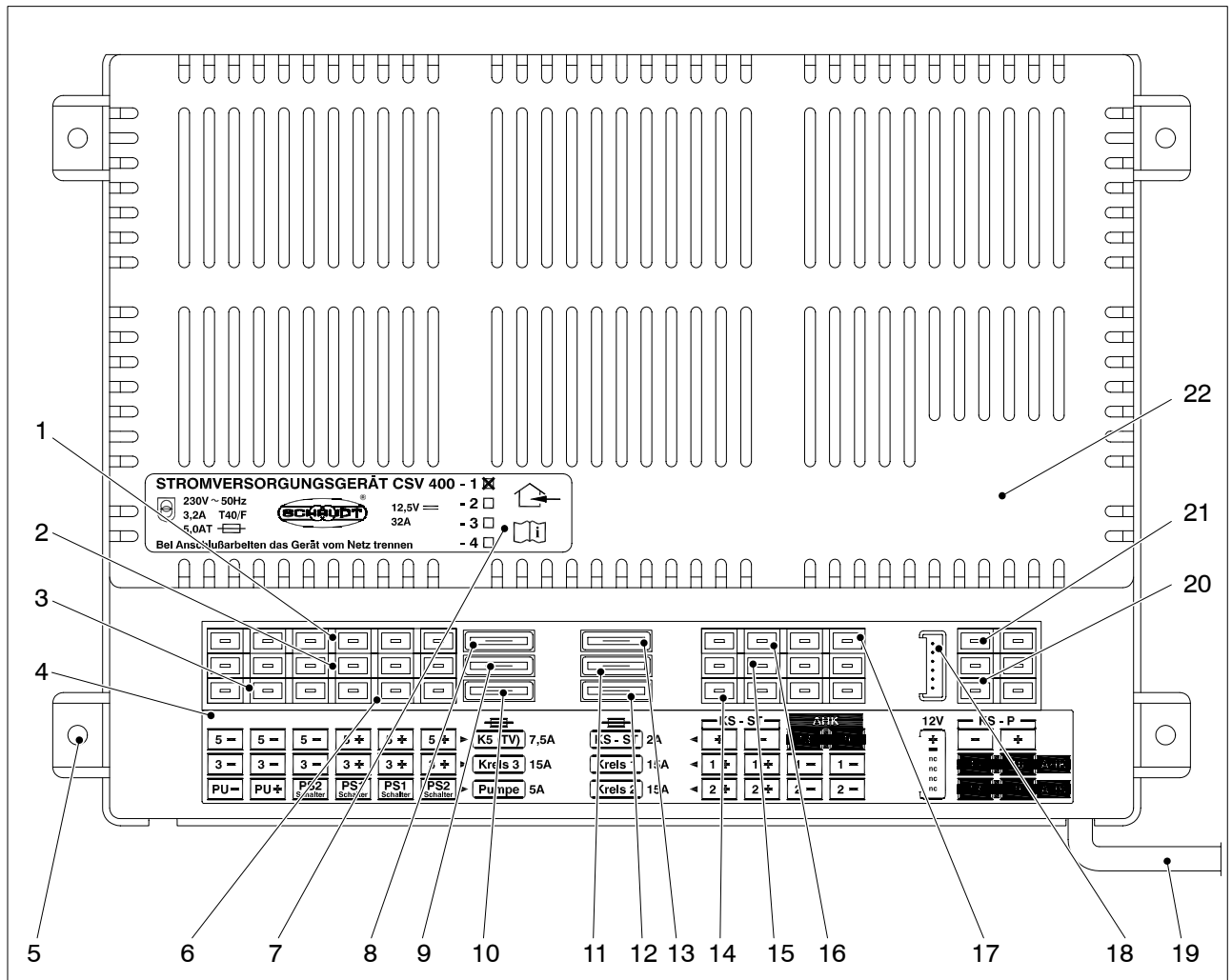


Fig. 2 CSV 400-1 X caravan power supply viewed from front

- | | | | |
|----|---------------------------------|----|---|
| 1 | Circuit 5 connections | 12 | Circuit 2 flat vehicle fuse |
| 2 | Circuit 3 connections | 13 | Flat vehicle fuse for fridge controller |
| 3 | Pump connections | 14 | Circuit 2 connections |
| 4 | Adhesive label | 15 | Circuit 1 connections |
| 5 | Fixing lug with drilled hole | 16 | Fridge controller connection |
| 6 | Switch 1 and 2 pump connections | 17 | Trailer hitch plug-in connection |
| 7 | Adhesive label | 18 | 12 V check connection |
| 8 | Circuit 5 flat vehicle fuse | 19 | Mains cable |
| 9 | Circuit 3 flat vehicle fuse | 20 | Trailer hitch plug-in connection |
| 10 | Flat vehicle fuse for pump | 21 | Refrigerator supply connection |
| 11 | Circuit 1 flat vehicle fuse | 22 | Housing |

5 Operation

The Caravan Power Supply has no controls. It is switched on via the 230 V supply connection.

The CSV 400-1 X caravan power supply does not require daily operation.

5.1 Starting the system

230-V-supply ► Connect caravan power supply to 230 V AC.

All connected consumers are supplied with 12 V.

Generator operation and car ferries



▲ ATTENTION!

Violation of 230 V mains voltage limit!

Will damage the caravan power supply, 12 V consumers or other connected devices:

- The generator must not be switched in until it is running smoothly.
- It is essential that the generator complies with the mains supply specifications.
- Do not connect the caravan power supply to the onboard mains voltage on car ferries (a non-problematic mains voltage cannot always be guaranteed on car ferries).

Towing vehicle operation



▲ ATTENTION!

Battery discharge!

Towing vehicle cannot be started:

- Switch off the ignition when the towing vehicle is at a standstill.

Connection ► Plug 13-pole connector in at towing vehicle.

► Start the engine.

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

5.2 Operating faults

Flat vehicle fuses The majority of power supply system faults are caused by blown fuses.

Please contact our customer service address if you cannot eliminate 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 and Schaudt GmbH will not accept any liability for damage resulting from such repairs.

Fault	Possible causes	Remedy
12 V power supply in the living area does not work	No 220 V supply	Check mains connection (e.g. camp site)
	Defective fuse or wiring	Have the fuse and wiring checked
	Defective caravan power supply	Call customer service



▲ If the device becomes too hot due to excessive ambient temperature or lack of ventilation, the charging current is automatically reduced. However, always prevent the device from overheating.

5.3 Shutting down the system

► Disconnect mains supply from caravan.

6 Maintenance

The CSV 400-1 X caravan power supply requires no maintenance.

Cleaning Clean the caravan power supply using a soft, slightly damp cloth and mild detergent. Never use spirit, thinners or similar substances. Do not allow fluid to ingress the caravan power supply.

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Appendix

A EU Conformity Declaration

Schaudt GmbH hereby confirms that the CSV 400-1 X caravan power supply design complies with the following relevant regulations:

EU low voltage directive

73/23/EEC edition with amendments issued on 22.07.93

Directive on electromagnetic compatibility

89/336/EEC with amendments 92/31/EEC

The original EU conformity declaration is available and can be referred to at any time.

Manufacturer Schaudt GmbH, Elektrotechnik & Apparatebau

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Germany

B Customer service

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

Opening hours Mon to Thur 08:00 – 12:00, 13:00 – 16:00 hours
Fri 08:00 – 12:00 hours

Sending in the device Returning a defective device:

- ▶ Always use well-padded packaging.
- ▶ Fill out and enclose the fault report; see Appendix C.
- ▶ Send it to the addressee delivered free.

C Fault report

In the event of damage, please return the defective device together with the completed fault report.

Device type: _____
 Article no.: _____
 Vehicle: Manufacturer: _____
 Model: _____
 Own installation? Yes No
 Upgrade? Yes No

There is the following defect:
 (please tick)

The following electrical consumers do not work:	
Cannot switch ON or OFF	
Permanent fault	
Temporary fault/loose contact	

Other remarks:

D Block circuit diagram/Connection diagram

* ⑨ ⑩

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

* ⋯

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

