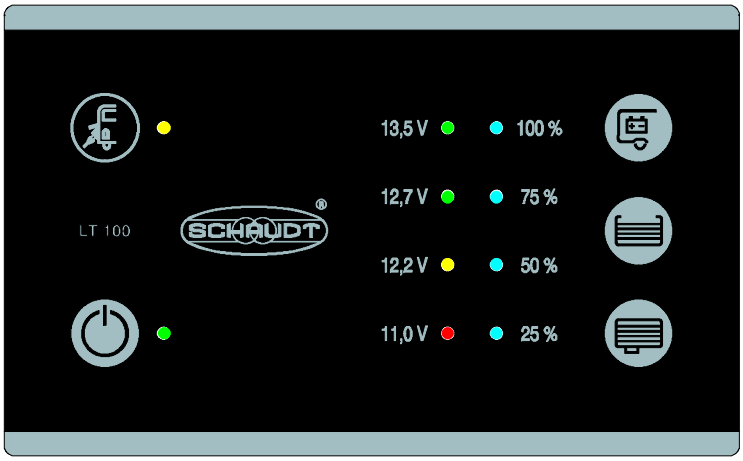
Operating Instructions



Operator and control panel LT 100

Table of contents

1 Introduction

This instruction manual contains important information for the safe operation of equipment supplied by Schaudt.

The operating instructions should always be kept in the vehicle.

▲ ATTENTION!

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

2 Application and function

Purpose

The LT 100 control panel is the central console for electroblock EBL ... / CSV ... supplying all 12V consumers in the electrical system on board the motorhome. It is usually installed in an easily accessible place high up near the door of the vehicle.

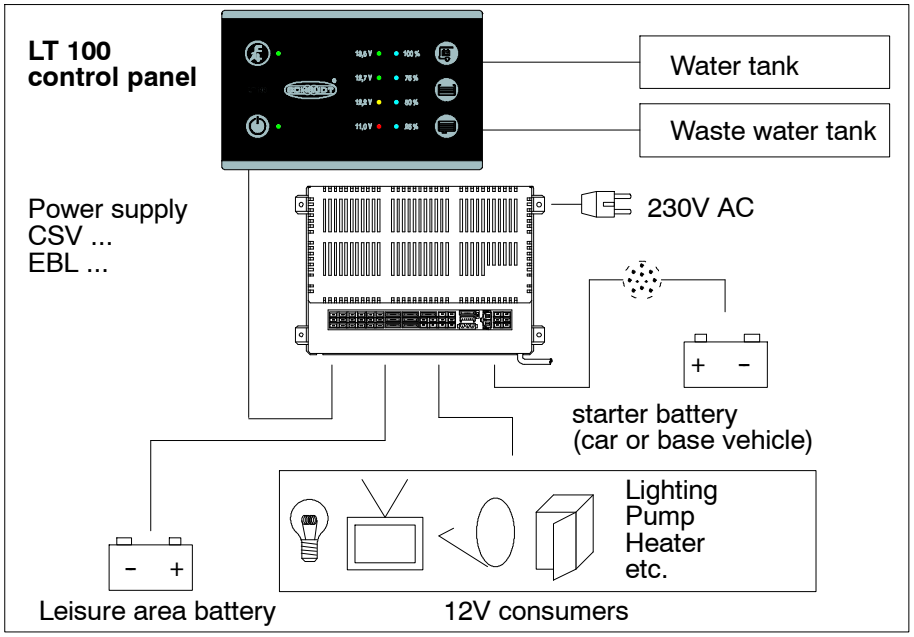


Fig. 1 On-board power supply system

The main layout of the on-board vehicle electrical system is shown in Fig. 1.

Function

The functions of the LT 100 control panel is to switch on and off the 12V supply to the caravan, and to display the battery voltage, the tank levels and the connection to the mains supply (230 V).

System devices

An EBL ... / CSV ... power supply must be connected for operation. This provides the 12V supply to the caravan devices and charges the battery.

The following connection options are available:

- EBL ... / CSV ... power supply
- Water tank probe
- Waste water tank probe or sensors

3 Operation

3.1 Layout

The LT 100 control panel is intended for installation in a cabinet or wall.

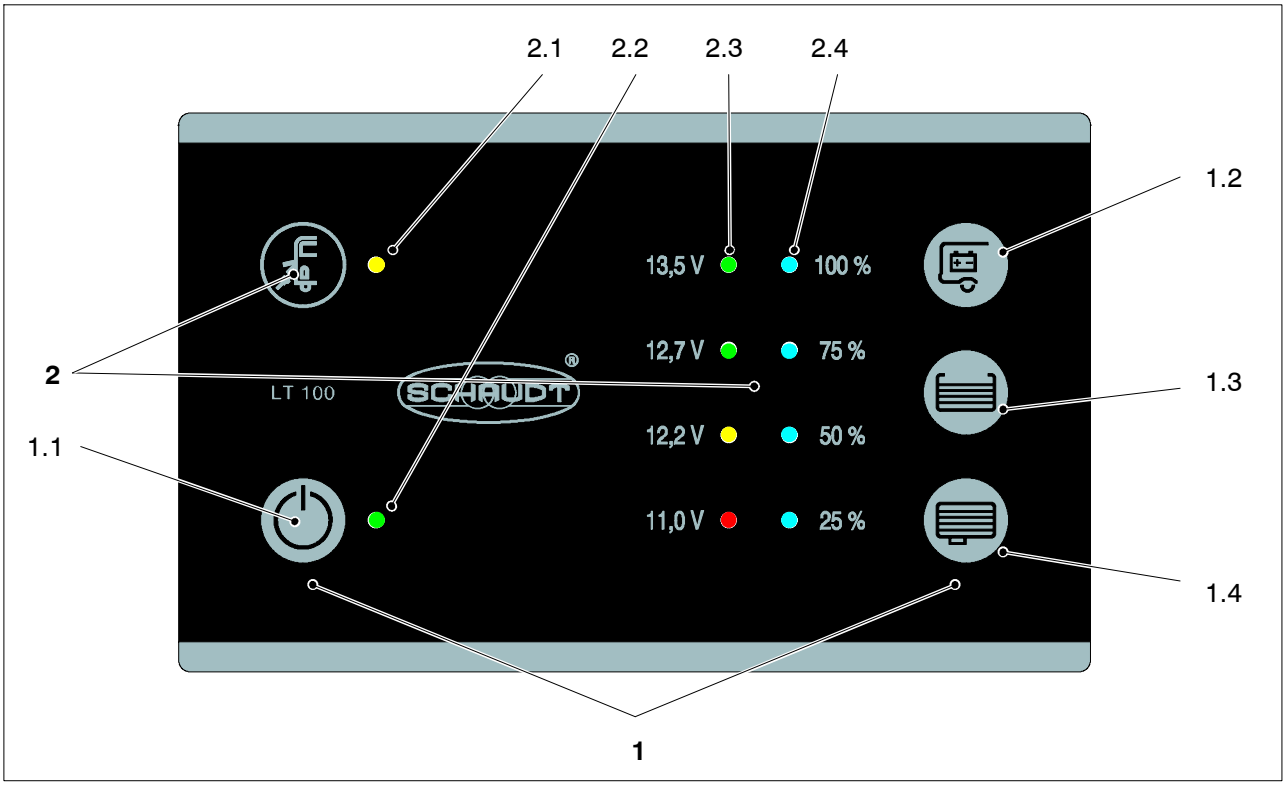


Fig. 2 Layout of LT 100 control panel

1	Touch sensor	2	Displays
–	–	2.1	LED mains indicator (yellow): The LED lights up when mains voltage is present at the input of the vehicle mains supply (also refer to the instruction manual for the relevant EBL ... / CSV ... power supply in section ”Starting up”).
1.1	Main 12V ON/OFF switch: For switching on and off the 12V supply of the vehicle	2.2	Indicator LED (green): Indicates the system is switched on.
1.2	Check of leisure area battery voltage	2.3	4 LEDs (red – yellow – green – green): Display of the battery voltage in four increments with voltage information and total discharge warning.
1.3	Check of water tank level	2.4	4 LEDs (blue): Display of water and waste water tank levels (four increments).
1.4	Check of waste water tank level		

General information on using the touch sensors

The LT 100 control panel has touch-sensitive sensors. These sensors react when touched with a bare finger. The LT 100 control panel cannot detect touches when gloves are worn (such as for camping in winter). Gloves must therefore be removed before use.

3.2 Starting up

▶ Switch on the LT 100 control panel (see Section 3.3).

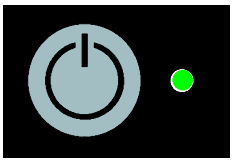
230V mains operation

▶ Connect the input to the mains supply of the vehicle to the 230V mains supply.

Mains indicator LED lights up. The leisure area battery is being charged. For details on the charge functions, refer to the operating instructions for the relevant power supply (EBL ... / CSV ...).

3.3 Switching on

The 12V supply of the vehicle is switched on from the relevant button. The refrigerator controller is an exception. It also works when the 12V power supply is switched off – refer to the operating instructions for the relevant power supply (EBL ... / CSV ...).

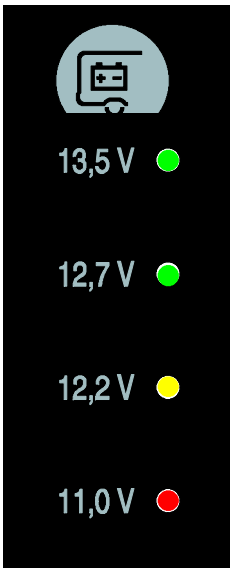


▶ Touch the sensor for the main 12V ON/OFF switch

- The green indicator LED lights up
- The 12V leisure area supply is switched on

▲ When the LED “11.0 V” flashes, the supply voltage cannot be switched on, because the battery voltage ist too low (battery alarm, see chap. 3.6.1).

3.4 Checking the battery voltage



▶ Touch the sensor for the Check leisure area battery voltage:

- Red LED lights up: Battery voltage above 11.0V
- Yellow and red LEDs light up: Battery voltage above 12.2V
- Red, yellow und the lower green LEDs ligt up: Battery voltage above 12.7V
- All LEDs light up: Battery voltage above 13.5V

The following table shows the correct interpretation of the voltage of the leisure area battery displayed on the scale.
These values apply to actual operation, not off-load voltage.

Battery voltage	Battery operation	Mobile operation	Mains operation
Below 11.0V	Totally discharged	Totally discharged and the alternator is not charging the battery	he alternator is not charging the battery ans no charging by the EBL ... / CSV ... power supply
Lower than 12.2V Risk of total discharge	When consumers are switched off: Battery flat	The alternator is not charging the battery	No charging by the EBL ... / CSV ... power supply
	When many consumers are switched on: possible battery overload	12V power supply overloaded	12V power supply overloaded

Battery voltage	Battery operation	Mobile operation	Mains operation
12,2V to 12.7V	Normal range	No charging by the alternator [1)]	No charging by the EBL... /CSV ... power supply [1)]
		12V power supply overloaded [1)]	12V power supply overloaded [1)]
13.5V	Only occurs during charging (only when there is a solar regulator) or momentarily after charging	Battery is charged	Battery is charged

[1)] If the voltage does not exceed this range for several hours.

▲ ATTENTION!

Total discharge results in damage to the leisure area battery:

- A low battery charge, indicated by low voltage, must be prevented.
- Switch off some consumers in the event of overloaded power supply.
- Prior to taking the vehicle out of service, ensure that no inactive consumers are still connected.

Off-load voltage

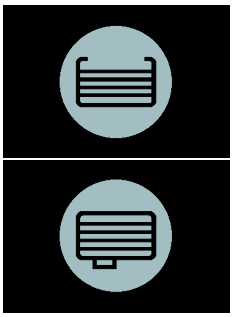
Measuring the off-load voltage is a simple and effective method of checking the condition of the battery. Off-load voltage is the voltage of the charged battery in a passive state, with no current being supplied or drawn.

Take the measurement several hours after the last charging. In the meantime, no significant load should be placed on the battery, meaning no current should be drawn from it. There is a risk of total discharge if the off-load voltage of the battery is 12.2V or lower.

The following table shows the correct interpretation of the off-load voltage displayed. The values specified are guidelines for gel batteries.

Values for off-load voltage	Charge state of the battery
11.5V or lower	totally discharged
12.2V	Approx. 25%, discharged or almost exhausted
12.7V	Approx. 50%
Greater than 12.7V	Full

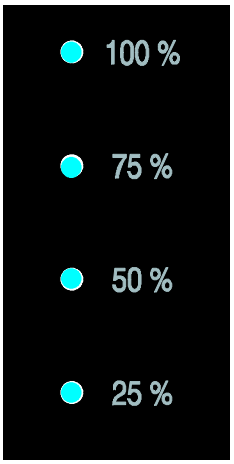
3.5 Checking tank levels



▶ Touch Check tank level sensor:

– Water or

– Waste water



- The level of the relevant tank is displayed:

  – Water: 100%, 75%, 50%, 25%;
  The tank is empty if the 25% LED flashes.

  – Waste water: 100%, 75%, 50%, 25%
  The tank is full if the 100% LED flashes.

3.6 Troubleshooting and remedies

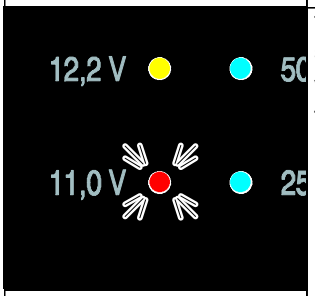
3.6.1 Alarms

▲ **ATTENTION!**

Total discharge results in damage to the leisure area battery:

- A low battery charge, indicated by low voltage, must be prevented.
- Check the voltage regularly (see Section 3.4)

▲ It is best to carry out checks in the morning before 12V consumers are switched on.

Alarm	Possible cause	Remedy
 12V supply cannot switched on.	Totally discharge of the leisure area battery. Voltage of the leisure battery has fallen below 11.0V.	Switch off all 12V consumers. Charge the battery immediately: – Start engine (motorhomes only) or – connect to 230V power supply

3.6.2 Faults

Flat vehicle fuses

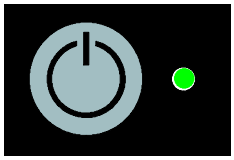
The majority of power supply system faults are caused by blown fuses (refer to the instruction manual for the relevant EBL ... / CSV ... power supply for information on voltage distribution and fusing).

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

If this is not possible (such as when you are abroad), you can have the electrical vehicle system 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 function (or some areas are not powered).	12V main switch is switched off.	12V main switch must be switched on.
	Fuse blown.	Refer to the operating manual for the EBL... / CSV power supply. .
12V indicator LED (green) does not light up.	12V main switch is switched off.	12V main switch must be switched on.
	Leisure area battery not charged.	Charge the leisure area battery.
	Fuse blown.	Refer to the operating manual for the EBL... / CSV power supply. .
Leisure area battery is flat.	Leisure area battery is discharged.	Immediately charge the leisure area battery. The leisure area battery is damaged beyond repair if left totally discharged for a lengthy period.
	The battery can be discharged by inactive consumers.	Fully charge the leisure area battery before taking the motorhome out of service for a longer period.
The mains indicator LED (green) does not light up even though the 230V mains supply is connected.	The mains connection is dead.	Check the mains connection (e.g. camping site).
	Circuit breaker or earth leakage circuit breaker in the vehicle (in front of power supply) has triggered or is disabled.	Reset the vehicle circuit breaker or earth leakage circuit breaker.

3.7 Switching off



▶ Touch the sensor for the main 12V ON/OFF switch

- The green indicator LED goes out.
- The 12V leisure area supply is switched off.

The refrigerator controller is an exception. It also works when the 12V power supply is switched off, and as soon as a battery is connected or mains voltage applied.

3.8 Closing down the system

The system should be switched off if the vehicle is not being used for a lengthy period, such as during the winter.

▶ Disconnect the leisure area battery from the 12V on-board supply; to do this:

  ▶ Disable the battery cut-off switch of the relevant power supply

or

  ▶ Disconnect the battery terminals (depending on power supply)

▲ Also refer to the operating manual for the relevant power supply (EBL ... , CSV ...)

4 Maintenance

The LT 100 control panel requires no maintenance.

Cleaning Clean the device with a soft, slightly damp cloth and mild detergent. Never use spirit, thinners or similar substances. Do not allow fluid to penetrate into the LT 100 control panel.

Appendix

A Block diagram/wiring diagram

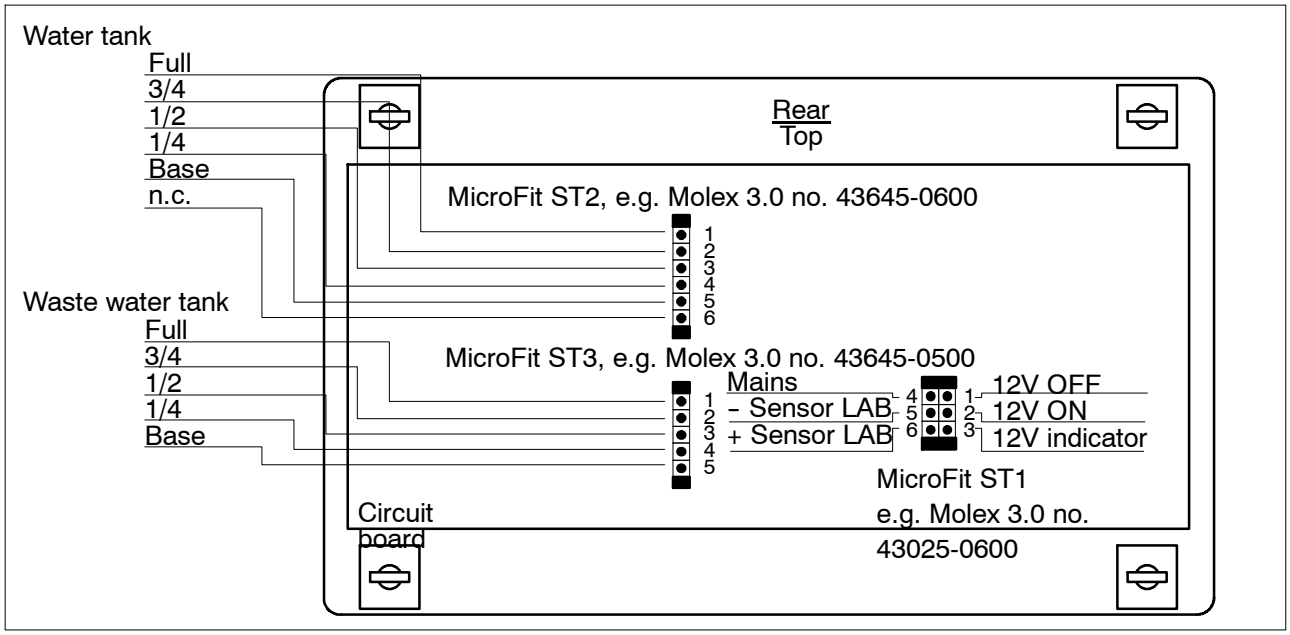


Fig. 3 Wiring diagram for LT 100 control panel

B EC Declaration of Conformity

Schaudt GmbH hereby confirms that the design of the LT 100 control panel complies with relevant regulations.

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

Manufacturer Schaudt GmbH, Elektrotechnik & Apparatebau

Address Planckstraße 8
88677 Markdorf
Germany

C Customer service

Customer service

Schaudt GmbH, Elektrotechnik & Apparatebau
Planckstraße 8
88677 Markdorf, Germany

Phone: +49 7544 9577-16

Email: kundendienst@schaudt-gmbh.de

Web: www.schaudt-gmbh.de

Send in device

Returning a faulty device:

- ▶ Complete and enclose the fault report, see Appendix D.
- ▶ Send it to the addressee (free delivery).

D 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.: _____
Caravan: Manufacturer: _____
Model: _____
Own installation? Yes ❑ No ❑
Upgrade? Yes ❑ No ❑

There is the following defect:
(please select)

- ❑ Battery not being charged during power operation
- ❑ Battery voltage not displayed
- ❑ Electrical consumers do not work – which?
- ❑ General malfunction of switch panel
- ❑ Persistent fault
- ❑ Intermittent fault/loose contact

Other comments:

_____

_____

_____

_____

_____