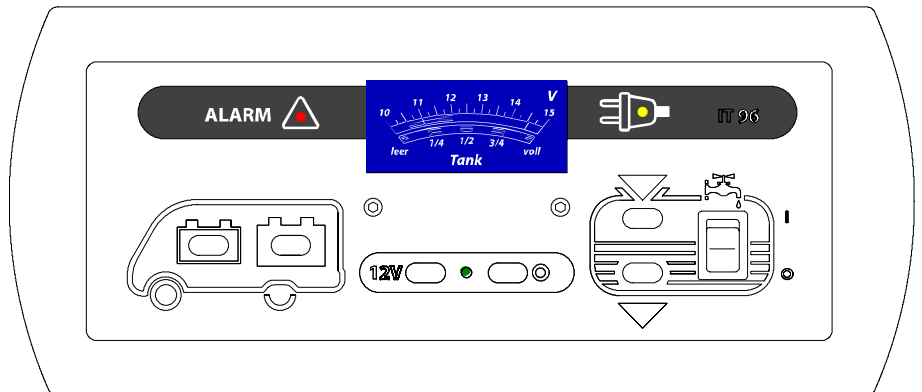


Instruction manual



Instrument panel IT 96-A IT 96-2

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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 imparted to other users.

2 Safety information

2.1 Meaning of safety symbols



▲ **DANGER!**

Failure to comply with this symbol may result in danger to life and limb.



▲ **WARNING!**

Failure to comply with this symbol may result in injury to persons.



▲ **ATTENTION!**

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



▲ This sign indicates recommendations or special features.

2.2 General safety information

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.

Ensure that the device is in perfect working order before use.

Any technical faults which may impact personal safety or the safety of the device must be rectified immediately by qualified personnel.



▲ **DANGER!**

230V units carrying mains voltage.

Risk of fatal injury as a result of electric shock or fire:

- The electrical system of the motorhome or caravan must comply with DIN, VDE and ISO regulations.
- Never attempt to modify the electrical system.
- Never attempt to modify the device.
- Only qualified electricians are permitted to make 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 work on the device whilst it is still live.



▲ DANGER!

Incorrect installation!

Electric shock or damage to connected devices:

- Install as shown in installation instructions.



▲ WARNING!

Hot components!

Burns:

- Blown fuses may only be exchanged once the system has been disconnected from the power supply.
- Blown fuses may only be replaced once the cause of the fault has been identified and rectified.
- Never bypass or repair fuses.
- The rear of the device may become hot during operation. Do not touch.
- Only use original fuses rated as specified on the device.

3 Application and function

The instrument panel IT 96 A / IT 96-2 is the central operating unit for the EBL electrobloc ... , which supplies all 12 V consumers in the electrical system on board of the motorhome. It is usually installed in an easily accessible spot that is high up near the door of the motorhome.

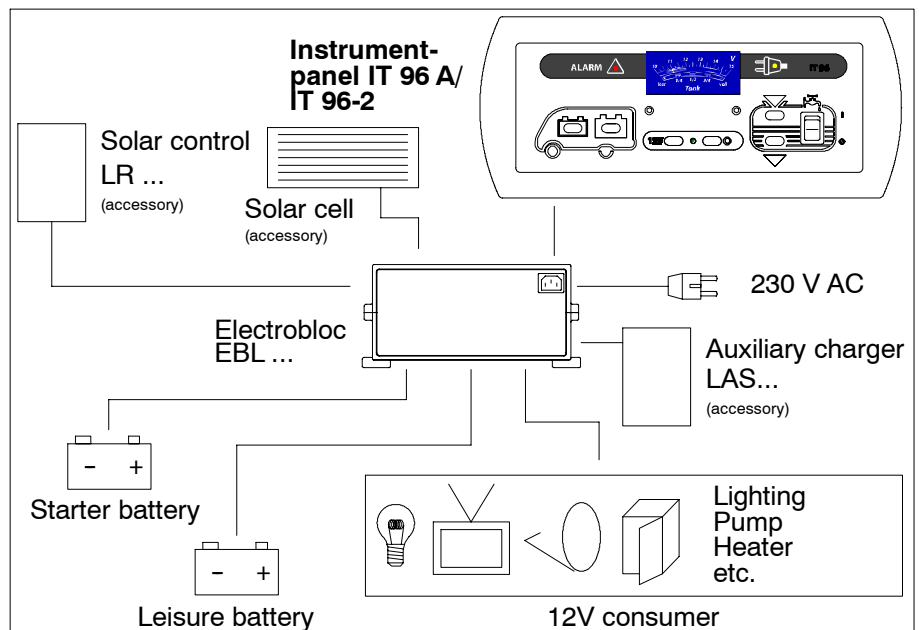


Fig. 1 Onboard power supply system

Modules

The instrument panel contains:

- A backlit display instrument
- Two operator keys to switch on and off the 12 V power supply.
- Operator keys for checking the battery voltages and tank fill levels
- Switch for the supply voltage of the water pump
- LEDs for mains indicator and alarm signalling

System devices An EBL ... electrobloc must be installed to operate the system. This provides the 12 V supply to the various devices in the motorhome or caravan and also recharges the leisure and starter batteries.

The following connection options are available:

- EBL ... electroblock
- Sensors and/or probe for water tank
- Sensors and/or probe for sewage tank
- Water pump

The instrument panel IT 96 A / IT 96-2 has the task of switching the 12 V supply for the living area on and off and of displaying various measured values.

Display functions The following data can be displayed:

- Voltage in the leisure battery
- Voltage in the starter battery
- Tank filling levels
- Battery alarm
- Power supply

4 Design

The instrument panel is flash-mounted in a cabinet or wall.

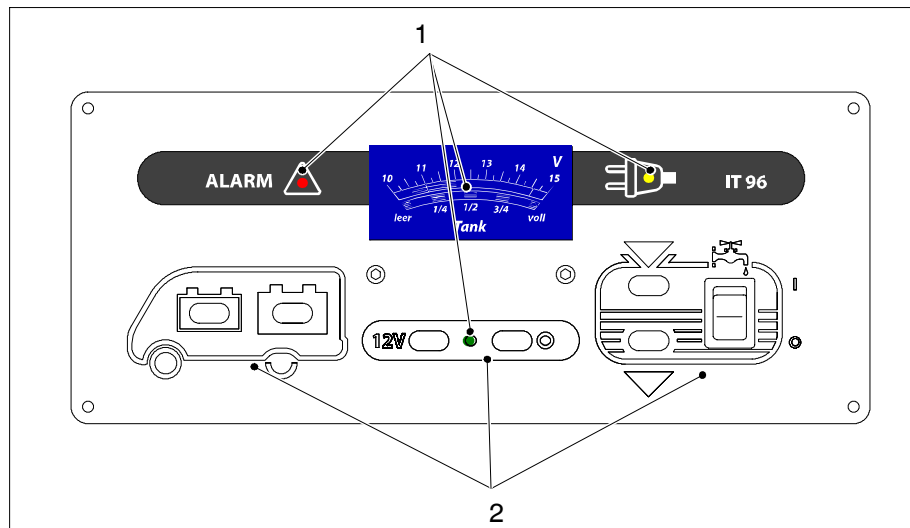


Fig. 2 Design of instrument panel IT 96 A

- 1 Display controls
- 2 Control panels

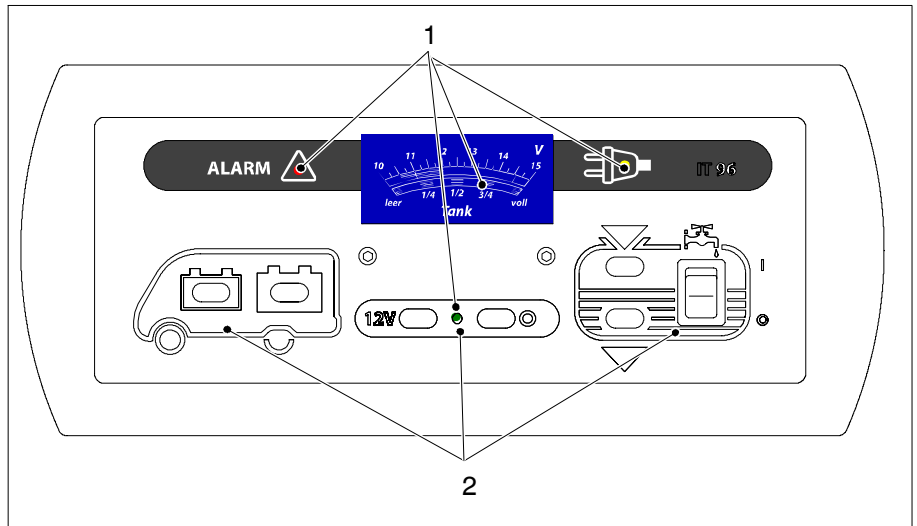


Fig. 3 Design of instrument panel IT 96-2

- 1 Display controls
- 2 Control panels

5 Operation

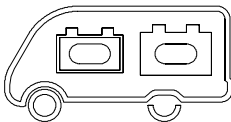
5.1 Operating controls

The instrument panel IT 96 A / IT 96-2 has the following operating controls:

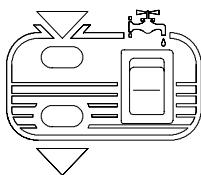


Button 0 and 1: Main switch

Button for switching the 12 V supply in the motorhome or caravan on or off.



Buttons for checking the battery voltages

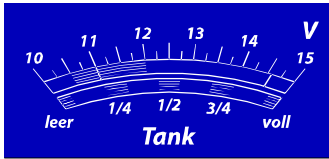


Left: Buttons for checking the tank filling levels

Right: Switch for the supply voltage of the water pump

5.2 Display controls

The instrument panel IT 96 A / IT 96-2 has the following operating controls:



Backlit display instrument

Display of battery voltage between 10 V and 15 V (upper scale)

Display of the tank fill level in five steps (lower scale):

- empty, 1/4, 1/2, 3/4, full

The instruments light up automatically when pressing buttons.



LED mains indicator (yellow)

The yellow LED lights up when mains voltage is present at the input of the electrobloc (see also instruction manual EBL ... electrobloc Chapter "Starting up").



Alarm LED (red)

Warning about draining the leisure battery.

- Indicator LED (green)
Indicates that the system is switched on.

5.3 Starting up

- ▶ Turn battery disconnecting switch at EBL ... electroblock into "ON" position.
- ▶ Switch on instrument panel IT 96 A / IT 96-2 (see Chapter 5.4).
- ▶ Plug in the 230 V main supply.

230V mains operation



LED mains indicator lights up. The batteries will then be charged.

5.4 Switching on

Switch the 12 V supply of the living area on using the relevant button. Exceptions:

- Heater
- Power circuit reserve 4
- Floor light/step
- Compressor/AES refrigerator

These consumers are always at stand-by even with the 12 V power supply switched off.



▲ To start these consumers for the first time after the elctrobloc had been switched off by the battery disconnecting switch or by a battery monitor or after a change in the battery or the connection of the leisure battery after a long break, the 12 V main switch at the instrument panel must be briefly switched on.



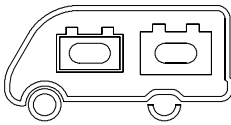
► Briefly press the left button in the middle control panel (12V - 0).

The green indicator LED lights up.

The 12 V power supply in the living area is now switched on.

5.5 Checking the measured values

5.5.1 Battery voltages



► Briefly press the left button in the left control panel (vehicle symbol).

The battery voltage of the starter battery is shown (the upper scale is applicable).

► Briefly press the right button in the left control panel (vehicle symbol).

The battery voltage of the leisure battery is shown (the upper scale is applicable).



While the button is pressed, the display instrument lights up and the corresponding measured value is shown.

The following table shows how to interpret the leisure battery voltage displayed at the display panel correctly.

These values apply to actual operation, not off-load voltage.

Battery voltage	Battery operation	Mobile operation	Power operation
	Vehicle stationary, no 230 V connection	Vehicle moving	Vehicle stationary, 230 V connection
Less than 11 V Risk of total discharge	if consumers are switched off: battery empty	the alternator is not charging the battery	the electrobloc is not charging the battery
	if consumers are switched on: battery overload	12V power supply overloaded	12V power supply overloaded
11,5 V to 13.2 V	normal range	no charge by the alternator ¹⁾	the electrobloc is not charging the battery ¹⁾
		12V power supply overloaded ¹⁾	12V power supply overloaded ¹⁾
13,3 V to 13.7 V	occurs only briefly after charging	battery being charged	battery being charged
13,8 V to 14.4 V	–	battery being charged	battery being charged
right red area on the display instrument	–	battery overcharged, defective regulator on alternator	battery overcharged, defective electrobloc

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

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 have been placed on the battery, which means no current should have been drawn from it. If the off-load voltage of the battery is less than 12.0 V, there is a risk of total discharge.

The following table shows how to interpret the displayed off-load voltage correctly. These values apply for gel batteries.

Values for off-load voltage	Charging condition of the battery
Less than 12 V	Totally discharged
12.2 V	25 %
12.3 V	50 %
More than 12.8 V	Full

5.5.2 Tank filling levels

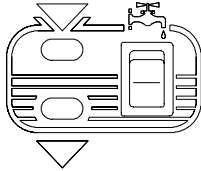


▲ ATTENTION!

Measuring too long.

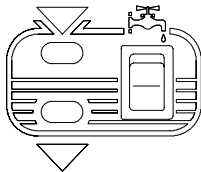
Damage of rod type tank probes or tank sensors:

- Briefly actuate keys for checking the tank filling levels.
 - ▶ Briefly press the top left key in the right control panel (tank symbol).
- The filling level of the water tank is shown (the lower scale is applicable).
- ▶ Briefly press the bottom left key in the right control panel (tank symbol).



The filling level of the sewage tank is shown (the lower scale is applicable).

5.5.3 Water pump



- ▶ Briefly press the top right switch in the right control panel (tank symbol).

The supply voltage for the water pump is switched on:

- if applicable the pump is switched on briefly (e.g. in a pressure system).

- ▶ Briefly press the right bottom switch in the right control panel (tank symbol).

The supply voltage for the water pump is switched off.

5.6 Troubleshooting and remedies

5.6.1 Alarms



▲ ATTENTION!



Total discharge!

Damage of the leisure battery:

- Prevent a low battery charge which is indicated by low voltage.
- Check the voltage regularly (see Chapter 5.5.1).



- ▲ It is best to make the check in the morning before the 12 V consumers are switched on.

Alarm	Possible cause	Remedy
	Risk of draining the leisure battery.	Switch off all 12 V consumers.
	Voltage of leisure battery is lower than 11.0 V.	Recharge the battery: - Starting the engine or - connect to 230 V power supply.
	Risk of draining the leisure battery.	The battery monitor in the EBL .. electroblock switches off all consumers automatically.
	Voltage of leisure battery is lower than 10.5 V.	The battery must be immediately charged (see above). See also EBL ... electro-bloc instruction manual. .

5.6.2 Faults

Flat vehicle fuses

The majority of power supply system faults are caused by blown fuses (see the instruction manual for the associated electrobloc with regard to information about voltage distribution and fusing).

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 instrument panel 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 cause	Remedy
1212 V power supply does not work (or power is not being supplied to certain sections).	1212 V main switch is switched off.	1212 V main switch must be switched on.
	Fuse blown.	See EBL ... electrobloc instruction manual. .
12-V indicator LED (green) does not light up.	1212 V main switch is switched off.	1212 V main switch must be switched on.
	Leisure battery not charged, battery monitor has switched off	Recharge the leisure battery.
	Fuse blown.	See EBL ... electrobloc instruction manual. .
Leisure battery is flat.	Leisure battery has been discharged	Recharge the leisure battery immediately. The leisure battery will be irreparably damaged if it remains totally discharged for a lengthy period.
	The battery can be discharged by inactive consumers such as the frost protection valve in the combined heating system	Fully recharge the leisure battery before you shut down the motorhome for a lengthy period

Fault	Possible cause	Remedy
The "Check mains" LED (yellow) does not light up even though it is connected up to the 230 V power supply.	No power coming from the mains supply.	Check mains connections (e.g. camping site).
	The power cutout to the electrobloc has tripped or is switched off.	Reset the power cutout.

5.7 Switching off



- ▶ Briefly press the left key in the middle control panel (12V - 0).

The green indicator LED extinguishes.

The 12 V power supply in the living area is now switched off.

Exceptions:

- Heater
- Power circuit reserve 4
- Floor light/step
- Compressor/AES refrigerator

These consumers are always at stand-by even with the 12 V power supply switched off.

5.8 Closing down the system

Switch off the system if you are not going to use the vehicle for a lengthy period (for example during the winter).

- ▶ Disconnecting the leisure battery from the 12 V power supply (remove battery poles).
- ▶ More detailed information on closing down the system can be found in the EBL ... electrobloc instruction manual.

6 Maintenance

The instrument panel IT 96 A / IT 96-2 requires no maintenance

Cleaning Clean the front plate using a soft, moist cloth and mild detergent. Never use spirit, thinners or similar substances. Do not allow fluid to penetrate the inside of the instrument panel.

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Appendix

A EC-conformity declaration

Schaudt GmbH hereby confirms that the type of construction of the instrument panel 96 A / 96-2 complies with the following relevant regulations:

Electromagnetic compatibility directive

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

The original EC-conformity declaration is available and can be viewed at any time.

Manufacturer Schaudt GmbH, Elektrotechnik & Apparatebau

Address Daimlerstraße 5
88677 Markdorf
Germany

B Special fittings/accessories

- Rod type tank probes** Per tank:
1 x rod type tank probe, 1 x seal,
1 x locking nut, 1 x probe cable 5 x 0.5 (optional extras)
- Tank sensors** Alternative (per tank):
5 x tank sensors, 1 x sensor cable 5 x 0.5
- Mixed operation** It is also possible to operate tank probes and tank sensors together.

C Customer service

Customer service address Schaudt GmbH, Elektrotechnik & Apparatebau
Daimlerstraße 5
88677 Markdorf, Germany

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

- Send in device** Returning a faulty device:
- ▶ Fill in and enclose the fault report, see Appendix D.
 - ▶ Send it to the addressee delivered free.

D Fault report

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

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

There is the following defect:
 (please tick)

no Battery-charge during power operation					
no Battery-charge during mobile operation		Tank		Voltage	Current
The following electrical consumers do not work					
Malfunction on the instrument panel					
Permanent fault					
Temporary fault/loose contact					

Other remarks:

E Block diagram/connection diagram

