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Installation of AC converters in caravans

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Caravans are fitted as standard with an electrical system for the living area. Up to a defined power requirement (see safeguarding the free supply output) additional optional devices can be fitted or retrofitted. The installation of a 230V a.c. converter with a 100W is, however, an extreme consumer for which the standard facilities are not generally equipped.

The power consumption of a device of this kind often exceeds the entire power consumption of the rest of the caravan.

Retrofitting an AC converter in a caravan therefore often involves a great many problems.

If, for example, an AC converter is to be installed that has an output rating of 800W, owing to the high power consumption, no reserve output for the installed electronic block (e.g. EBL 101) can be used.

An AC converter with an 800W output rating has a power consumption on the 12V side of up to approx. 75A. This power is much too great for the EBL outputs and the a.c. converter would therefore have to be connected directly to the battery.

This would, however, mean that the power input that contributes to the battery discharge would not be registered by the current shunt. For this reason it could be that the installed battery capacity display, through which the current is branched off from its measuring device, is deceived and would show incorrect values or would wrongly generate warning messages.

This problem is often compounded by a complete overload of the 12V power system. This battery is very quickly discharged during autarkic operation.

When driving the running AC converter (air conditioning) often uses more energy than the generator can supply. This then means that the batteries are no longer sufficiently charged. There is also the risk that the 50A fuse in the cable between the starter and the living area battery would overload.

AC converters of this size generally require a high battery capacity with all the consequences that this carries (reinforcing the cable installation, reinforcing the load, etc).

This use of these devices is not recommended unless the electricity system is redesigned by a specialist.

Electronic Systems for leisure caravans
Power-control-display



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