



Battery equalization charger LCAS5

Application

The LOADCHAMP LCAL5 battery balancer is for all 12V lead batteries that are connected in series to keep the individual battery voltages in balance.

If two or more batteries are connected in 12V or 48V systems,
This can lead to different individual voltages when charging the batteries.

For example, one battery has a higher (overcharged) and the other a lower voltage
(insufficient charge).

The consequences of this:

- Sulfation of the insufficiently charged battery (loss of capacity)
- Severe oxidation and drying out of the overcharged battery.

In both of these possible cases, the lifespan of the batteries will be greatly reduced.

Normal charging via solar charge controller or charger cannot take into account or compensate for voltage differences between the batteries.

Therefore, subsequent charging cycles intensify this effect and cause the insufficiently charged battery block to fail prematurely.

Voltage differences occur during charging, discharging and idle operation.

As soon as the battery equalizing charger detects a voltage difference of 20mV between the batteries, the equalizing charger switches on automatically and gradually and ensures that the individual battery voltages are balanced.

The equalizing charger works bidirectionally and is able to equalize the charge in both directions, regardless of where the weak battery is located.

This process continues until the connected batteries have almost the same battery voltage.

This battery equalizing charger improves battery performance and extends battery life.

The LOADCHAMP LCAL5 battery equalizer charger can be used for 12V, 24V, 36V, 48V and any combination of 12V batteries.

- 1 equalizing charger for a 24V system, consisting of two 12V batteries
- 2 equalizing chargers for a 36V system, consisting of three 12V batteries
- 3 equalizing chargers for a 48V system, consisting of four 12V batteries
- ...

Technical data

Nominal battery voltage Max.	2*12V
equalizing current Quiescent	5A
current	< 3mA
Dimensions	L: 70mm W: 70mm H: 27mm
Protection	Reverse polarity protection
Load separation	10V

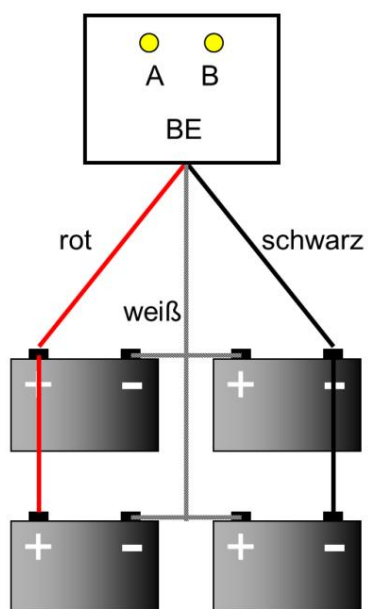
LED display

	LED A	LED B
$U(A)=U(B)$	Out of	Out of
$U(A)>U(B)$	Flashing	Out of
$U(A)<U(B)$	Out of	Flashing
$U(A)<10V$	To	Out of
$U(B)<10V$	Out of	To
$U(A/B)<10V$	To	To

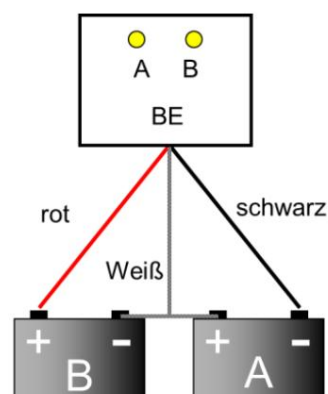
installation

Please connect the battery equalizer charger to the batteries in the following order (see illustration)

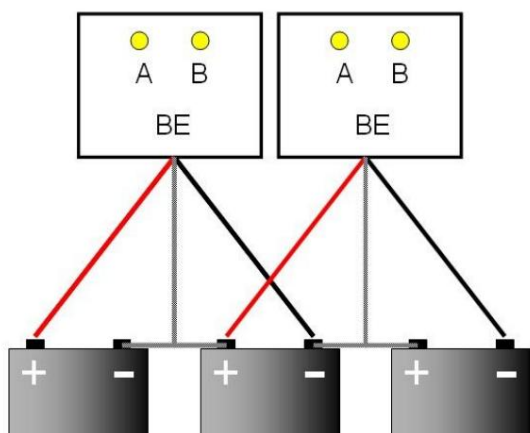
1. Black cable: Battery A minus/-pole
2. Red cable: Battery B plus/+ pole
3. White cable: Battery B –pole or Battery A +pole (middle, the pole of battery A and the pole connect battery B in series)



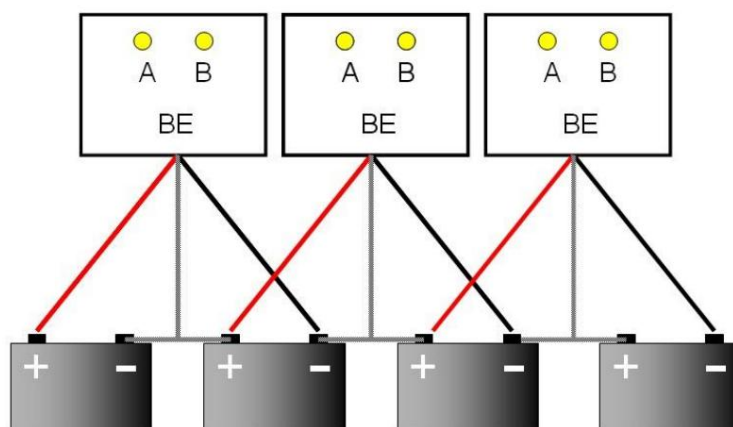
24V battery bank consisting of 4 batteries



24V battery bank consisting of 2 batteries



36V battery bank consisting of 3 batteries



48V battery bank consisting of 4 batteries

Safety instructions



> Before using the device, read the operating instructions carefully and observe the safety instructions.

> Do not operate the device with a damaged cable, power cord or power plug.

> Protect the battery's electrical contact surfaces from short circuits!

> Only operate the device in appropriate, well-ventilated rooms and not outdoors.

> Use the device only as intended (according to the device specifications).

> Do not expose the device to high temperatures or extremely high humidity.

> To avoid the risk of fire or electric shock, the device must be protected from moisture.

> Do not open the device

> Have repairs carried out only by authorized dealers.

> Only carry out cleaning and maintenance work when the power plug is unplugged.

> Clean only with a dry cloth.

> Do not operate the device unattended.

> Disconnect the device from the power supply after use.

> Chargers should not be left in the hands of children.

> Improper use of the balancing charger may endanger the user.

Failure to follow the safety instructions may result in damage to the device or even serious injury to persons!

Disclaimer

Please read the instructions for use carefully.
This manual contains product specifications and operating instructions.
For improper installation, maintenance and improper use or
We assume no responsibility for the use.
Furthermore, we are not liable for any costs or losses.

Do not dispose of electronic waste with household waste

Please dispose of the device at a recycling facility. When decommissioning the device, please contact your nearest recycling center or your point of sale and inquire about the current disposal regulations.



Declaration of conformity

We, Loadchamp (Kiriakis & Papazis GbR), Fahrlachstr. 14, 68165 Mannheim, Germany, Tel: 0621-4907730 subsequently described as Loadchamp declare that the product Loadchamp, Model: LCAS5, complies with the following standards:

EMC Directive 2004/108/EC

EN 55014-1:2006

EN 55014-2:1997/+A1:2001

EN 61000-3-2:2006

EN 61000-3-3:1995/+A1:2001/+A2:2005

Low Voltage Directive 2006/95/EC

EN 61558-2-6:1997

EN 61558-1:1997+A1:1998+A11:2003

Mannheim 01-08-2016