

# R1100

## Installation and User Manual



## Advanced Battery Chargers

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**R1100** Powerfinn R1100 battery chargers use modern switching technology. The intelligent microcontroller extends the life of the battery by supervising the charging process. The charger is compact, silent and meets the EU safety and EMC requirements. Protection class against water & dirt is IP54.

**General** R1100 chargers are available for a variety of battery types. The charger type and charging algorithm should correspond to the battery (sealed, vented, etc.). Attempting to charge a battery with the wrong type of charger may result in considerable damage.

Find “Editing charging configuration paragraph page 8” and Operations page 5.

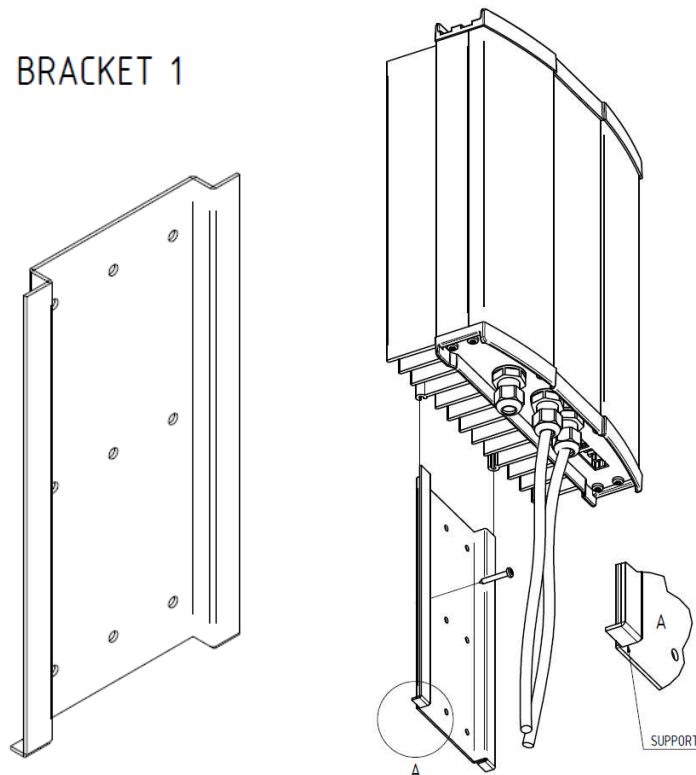
Check the battery to ascertain that the “five hour capacity” (in ampere-hours, Ah5) is between 5 and 14 times greater than the nominal current (in amperes) of the charger. E.g. a 10A charger is suitable for charging batteries with a 5-hour capacity of 50Ah-140Ah.

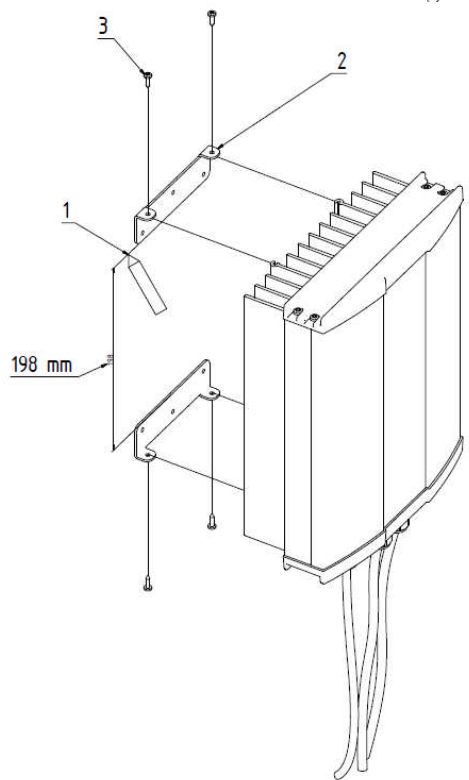
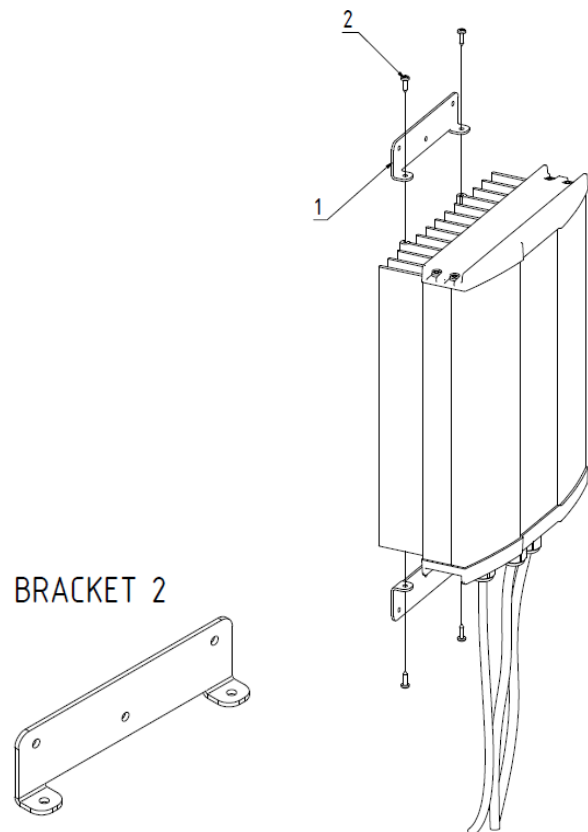
## Installation and Warnings

The following points must be respected when choosing a location for the charger.

1. In fixed installation the operation temperature range is  $-35^{\circ}\text{C}$  to  $+55^{\circ}$ . Higher than  $+40^{\circ}$  ambient temperature will limit the output power.  
*Caution: Mains cord & battery cable "indoor use" min temperature  $+5^{\circ}\text{C}$ . Do not bend in cold environment.*
2. The charger is to be installed vertically on a concrete or other non-combustible surface only. For unplugging the unit, make sure the wall socket is located in an easy access area.
3. To ensure sufficient ventilation, leave a free space of at least 10 cm around all sides and 30 cm top and bottom of the charger. Do not cover the unit.
4. The charging process generates explosive hydrogen gas. Install the charger as far away from the battery as possible to prevent hydrogen gases from entering the charger. Keep the area well ventilated. Never use an open flame or equipment that produces sparks close to the battery and charger.
5. Charger is to be installed vertically to a wall like shown in the next figures.

BRACKET 1





## Operations

Read these operating instructions carefully before using the charger for the first time. Also read the safety instructions in the next paragraph thoroughly.

It must be ensured that children do not play with the device.

To charge a battery with the R1100 charger, follow these instructions:

**Charger is configured with factory default settings. The factory default setting is 12 cells algorithm LK10-06 freely ventilated, capacity 50 Ah.**

**Find “Editing charging configuration paragraph page 8”.**

1. Ensure that the charger is unplugged and that the installation environment meets the conditions described in the previous paragraph.

**Warning: Explosive gases. Prevent flames and sparks. Provide adequate ventilation during charging.**

2. Connect the charger cables to the battery terminals: the positive (+) cable to the positive (+) terminal and the negative (–) cable to the negative (–) terminal. The positive cable is red colored. The negative cable is black or blue.
3. Turn the power on by plugging the power cord in a mains outlet with protective earth.
4. Charging starts automatically.

### **STOP**

Pressing STOP will **PAUSE** charging. Pressing STOP again resumes charging.

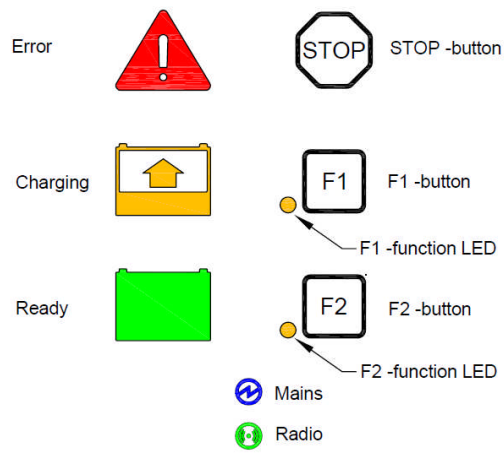
### **F1 and F2**

F1 and F2 buttons can be assigned the various functionality. By default no function is assigned.

### **F1 and F2 pressed at power on**

Charger is configured with factory default settings. The factory default setting is 12 cells, algorithm LK10-06 freely ventilated, capacity 50 Ah.

## 5. Front panel indicators



			Green flashing: STOP pressed, charging paused.
			Yellow continuously lit: main charging phase. Defined in charging algorithm.
			Additional charging. Defined in charging algorithm.
			Equalize charging. Defined in charging algorithm.
			Charging ready, maintenance charging. Defined in charging algorithm.
			Alarm, no specific.
			Alarm, low battery voltage. Defined in charging algorithm.
			Alarm, high battery voltage. Defined in charging algorithm.
			Alarm, time limit exceeded. Defined in charging algorithm.
			Alarm, Ah limit exceeded. Defined in charging algorithm.
			Alarm, invalid charging parameters.
			Alarm, high charger temperature.
			Alarm, low charger temperature or sensor fault.
			Alarm, regulation fault.

6. To avoid sparking disconnect the charger from the mains voltage before removing charger output cables from the battery terminals.

## Safety Instructions

In addition to the safety measures mentioned under 'Operations' (page 5), the following personal precautions should be taken whenever charging batteries.

1. For emergency situations ensure in advance that help is available in time of need.
2. Batteries contain acid that is harmful to the eyes, skin and clothes. Always wear overalls and safety goggles. Never touch the eyes with unwashed hands after handling batteries.
3. Ensure that a working, fresh water tap is available. If acid gets into the eyes or on the skin, immediately rinse the area with plenty of water for several minutes. If visible injury occurs, contact a physician immediately. In case of eye injuries, always contact a physician.
4. The charging process generates explosive hydrogen gas. Do not smoke or otherwise bring burning or sparking matter to the vicinity of the battery when it is being charged.
5. If a short circuit occurs, the battery may explode or the item causing the short circuit may melt. Keep the work area clear from tools and debris. Remove jewelry, watches etcetera before working with the battery.
6. The power cord should be unplugged and the battery must be disconnected from the charger in case the equipment is left unused for a longer period of time.
7. The charger must locate away from heat sources like radiators and heat registers.
8. This device is not meant to be used by children or people whose physical, sensory or mental attributes or lack of experience and knowledge prevent them from using the device safely unless a person responsible for their safety supervises them or has instructed them how to use the device.

## Trouble– shooting and repair

If the cause of malfunction cannot be found, contact your retailer or the manufacturer. Only authorized persons can repair the charger.

## Guarantee

The charger has a guarantee of two years from the date of purchase. Guarantee covers manufacturing and component failures and is valid only if the equipment is installed and used according to the instructions in this manual.

Keep the receipt as evidence of the date of purchase.

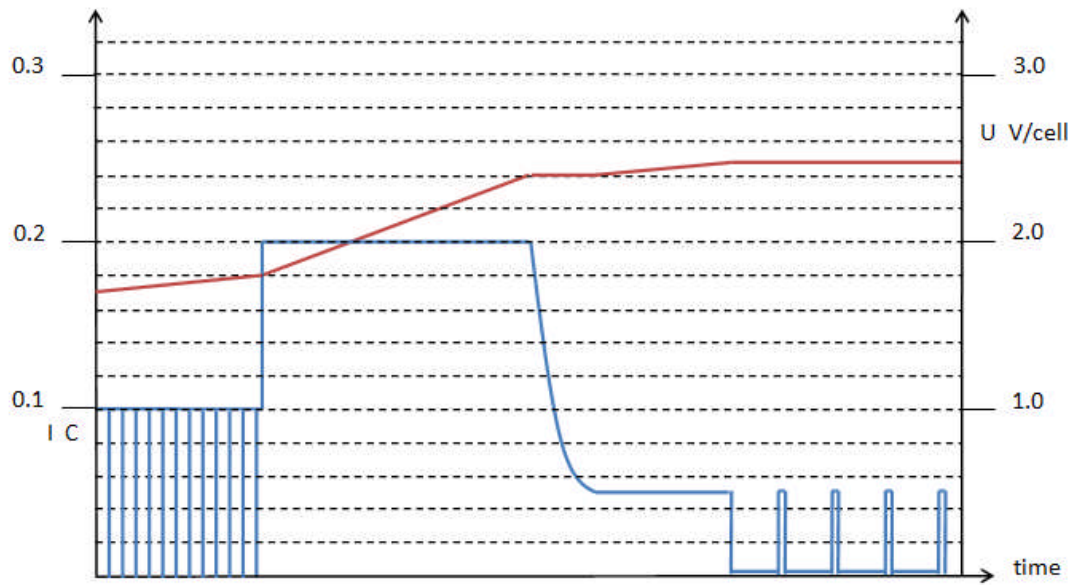
## Editing charging configuration

1. Disconnect battery.
2. Connect charger to mains supply.
3. As soon as blue LED is lit, press STOP for about 10 s. All LEDs should flash shortly. Release STOP.
4. Special configuration mode has been entered. Various charging algorithms and battery capacities can be selected. The list of selections and their indications are according to the table below. Charger displays table item 1.
5. Press STOP to scroll down the list. Small yellow LED “F1” indicates if item is on or off. Press F1 to toggle item on/off. After configuration is done, disconnect charger from mains.

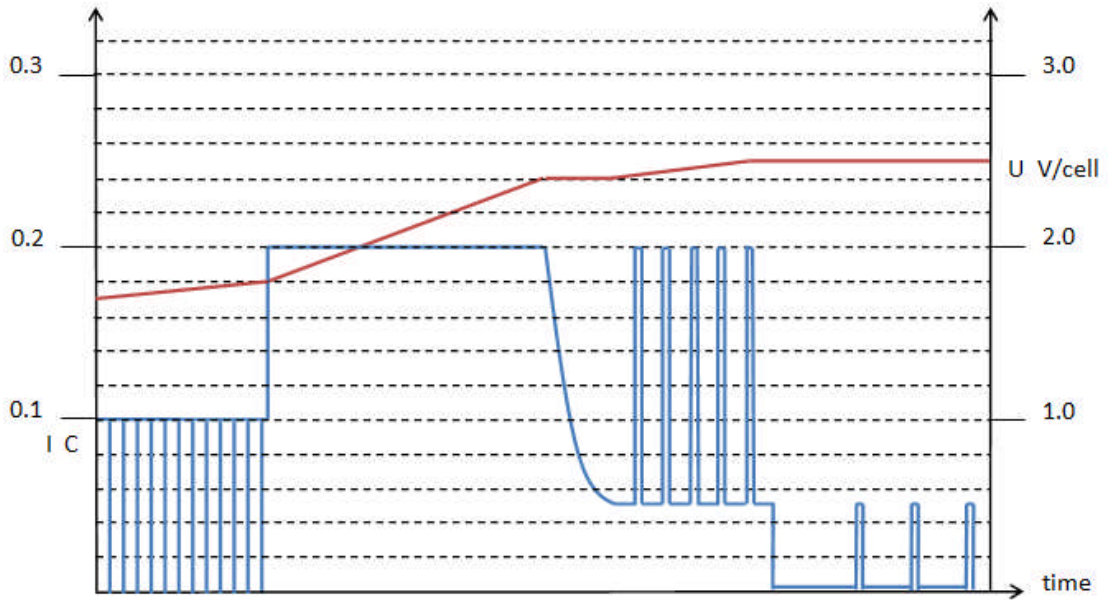
	red	yellow	green	blue	small green	item
1	red	yellow	green	blue	s.green	algorithm LK10-06 freely ventilated
2	red	yellow	green	blue	s.green	algorithm LK10-04 wet puls
3	red	yellow	green	blue	s.green	algorithm LK20-09 valve ventilated Sonnenschein
4	red	yellow	green	blue	s.green	algorithm LK10-05 wet with constant current maintenance charging
5	red	yellow	green	blue	s.green	algorithm PP100 unsealed
6	red	yellow	green	blue	s.green	algorithm PP101 sealed
7	red	yellow	green	blue	s.green	algorithm PP102 Sonnenschein
8	red	yellow	green	blue	s.green	algorithm --
9	red	yellow	green	blue	s.green	capacity 50 Ah
10	red	yellow	green	blue	s.green	capacity 75 Ah
11	red	yellow	green	blue	s.green	capacity 100 Ah
12	red	yellow	green	blue	s.green	capacity 125 Ah
13	red	yellow	green	blue	s.green	capacity 150 Ah
14	red	yellow	green	blue	s.green	capacity 200 Ah
15	red	yellow	green	blue	s.green	capacity 250 Ah
16	red	yellow	green	blue	s.green	capacity 300 Ah
17	red	yellow	green	blue	s.green	capacity 350 Ah
18	red	yellow	green	blue	s.green	capacity 400 Ah
19	red	yellow	green	blue	s.green	capacity 450 Ah
20	red	yellow	green	blue	s.green	capacity 500 Ah
21	red	yellow	green	blue	s.green	capacity 550 Ah
22	red	yellow	green	blue	s.green	capacity 600 Ah
23	red	yellow	green	blue	s.green	capacity 700 Ah
24	red	yellow	green	blue	s.green	capacity 800 Ah
25	red	yellow	green	blue	s.green	power supply mode
26	red	yellow	green	blue	s.green	remote in start/stop



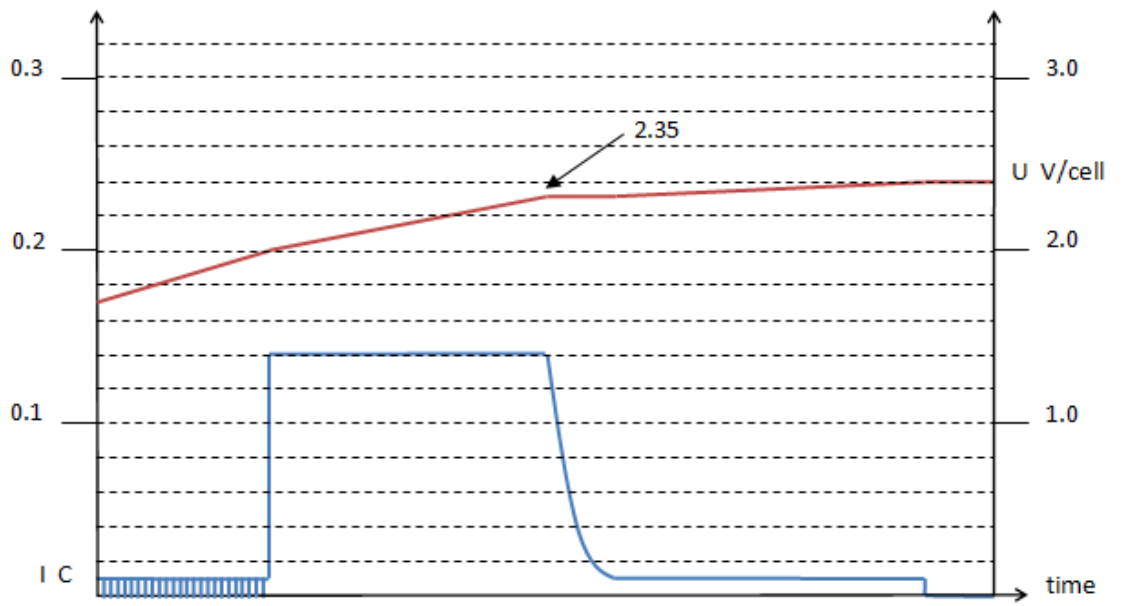
LK10-06 freely ventilated



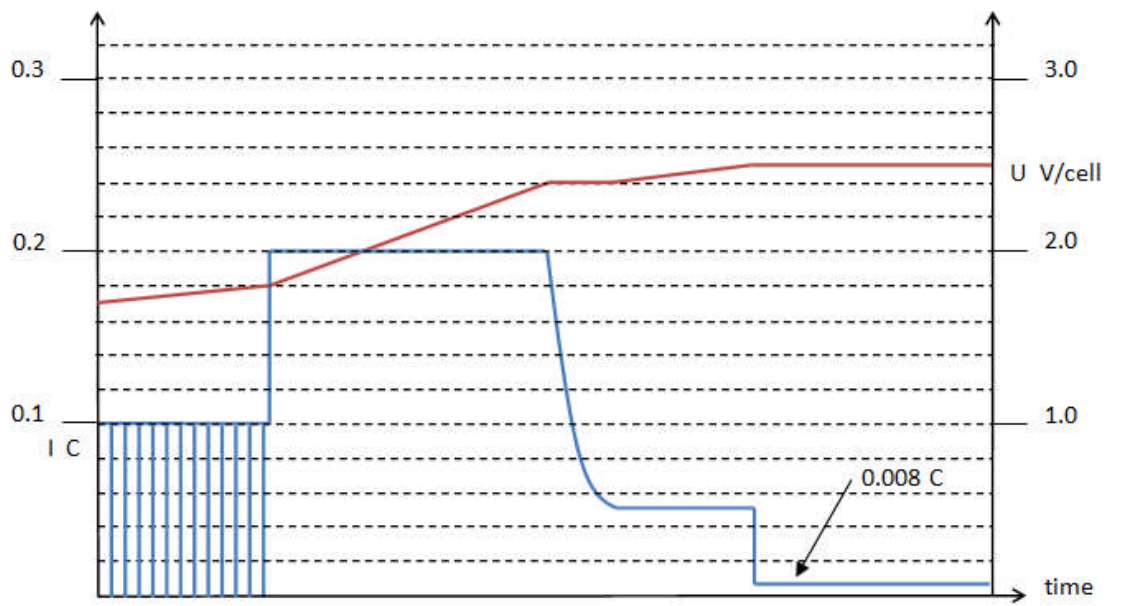
LK10-04 wet puls



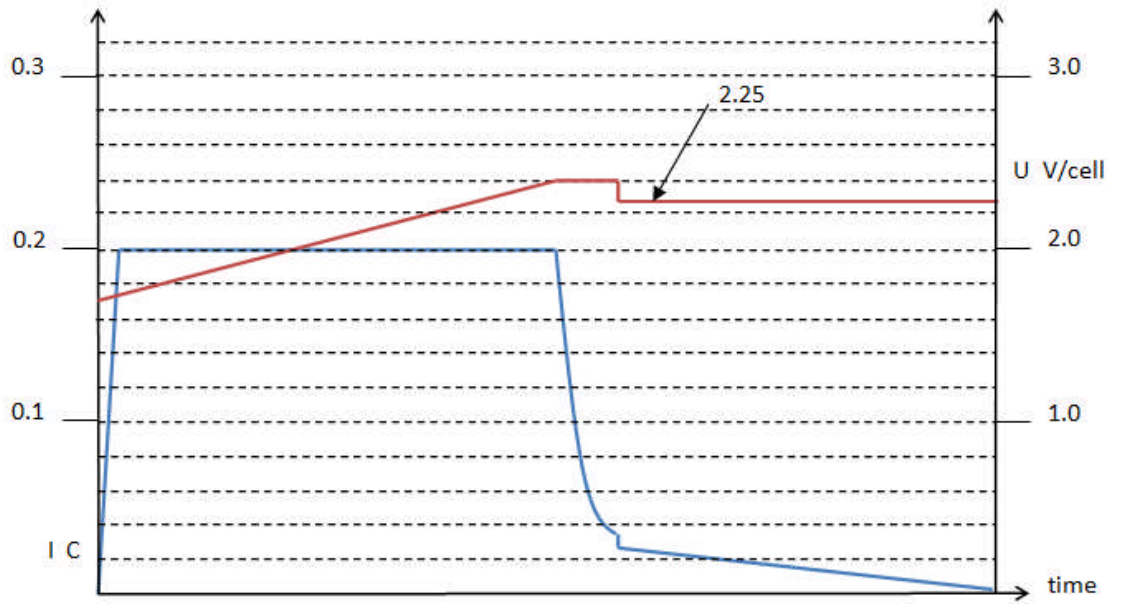
LK20-09 valve ventilated Sonnenschein



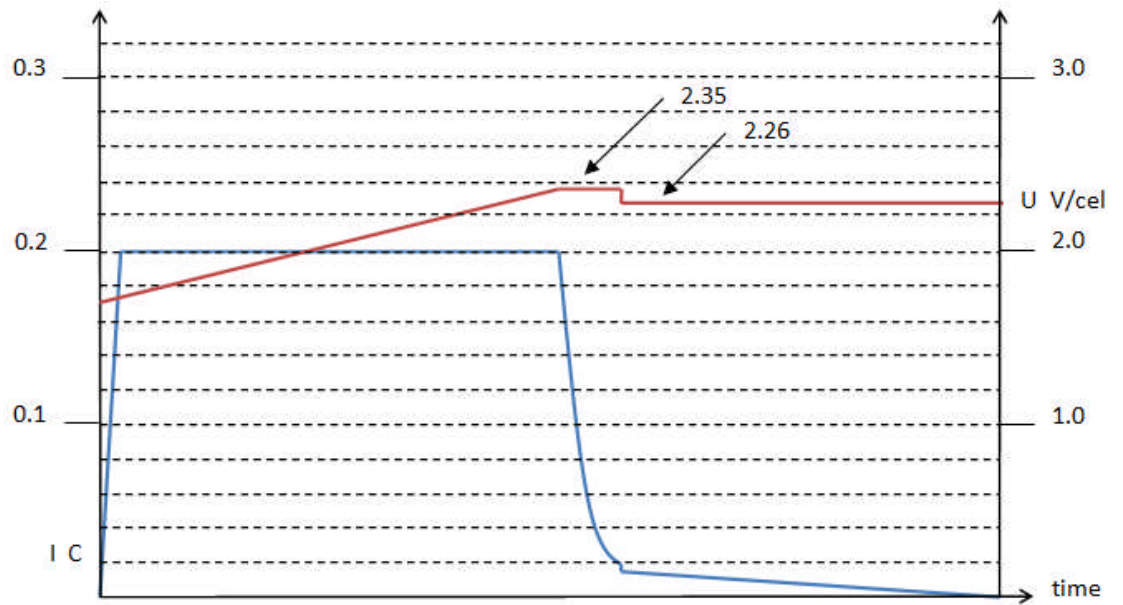
LK10-05 wet with constant current maintenance charging



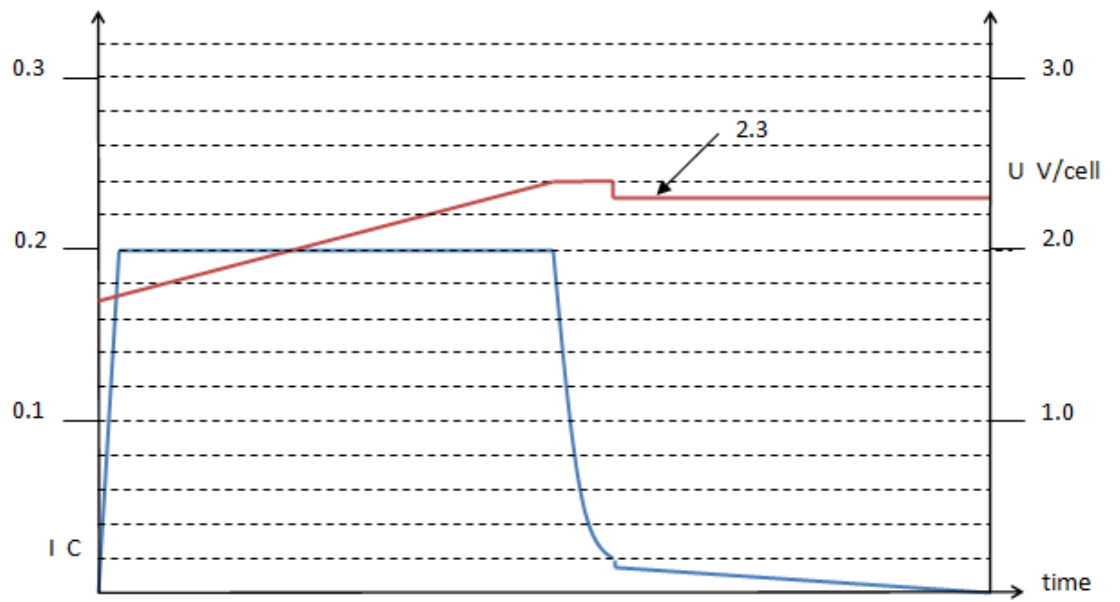
PP100 unsealed



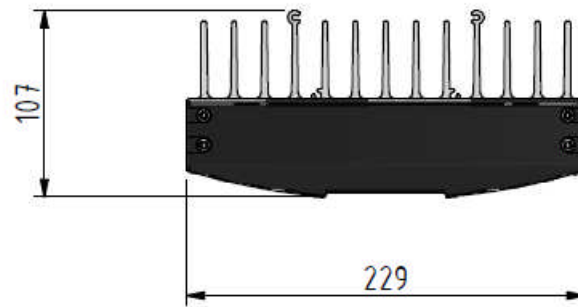
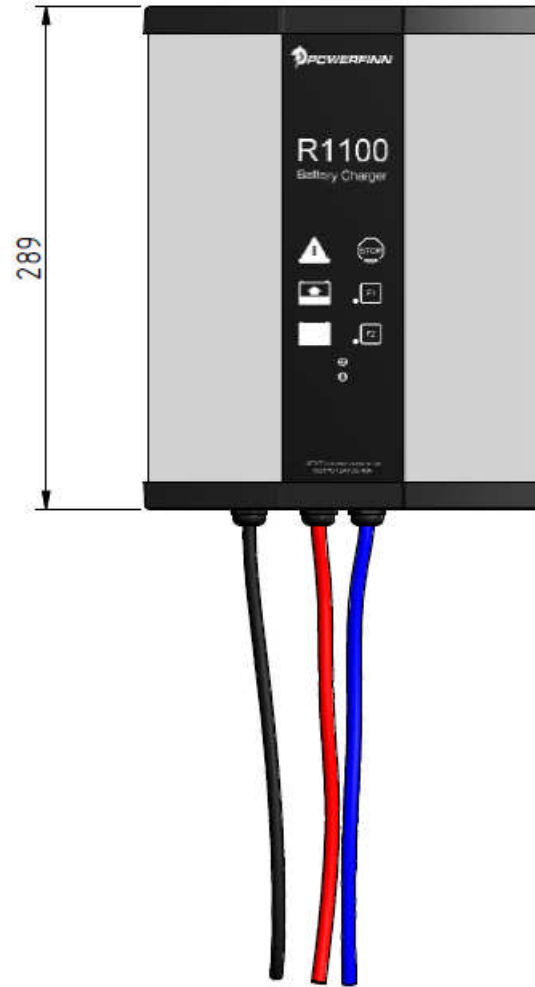
PP101 sealed



# PP102 Sonnenschein



Charger  
dimensions





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