

# AUTOMATIC BATTERY CHARGER



SAMLEX EUROPE® B.V.



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## Switch Mode Battery Charger

**Model No.**

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Champ 12-7

Champ 12-17

Champ 24-3

Champ 24-12

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# OWNER'S MANUAL

Please read this manual before operating your charger

## Manual

- Read this instruction before the charger is taken into use.
- Keep this manual within easy reach for the user of this battery charger
- Hydrogen gas will be produced when charging lead-acid batteries and hydrogen gas is explosive.
- Open flames and sparks should be kept away from batteries they may produce explosions.
- The charger should be switched off before the charger/battery plug is disconnected.

### Introduction

This charger is made for all types of lead-acid chargeable batteries, including GEL-batteries. It is a fully automatic charger with an UI charging characteristic. The charger can permanently be connected to the battery without the risk of overcharging.

The charger is small and very compact and can therefore easily be fitted close to the battery.

The charger operates in high frequency and should be connected to a standard 230V mains connection with ground. The built in micro controller controls the charging process according to the chosen charging algorithm.

During charging the charging progress is displayed with status indicator LED on the front panel. The micro-controller is also controlling the charging progress with regards to temperature in the charger and time. If a fault occurs in some cells or the temperature rises the charging current will be limited. If you have a special requirement of charging algorithm or application, please contact Samlex Europe B.V.

### Installation

The charger can simply be placed in any position using 4 screws or bolts and is suitable for indoor- and outdoor use. Position the charger in such a way that the air supply will not be obstructed.

Connect the red wire to the positive battery terminal and the black wire to the negative battery terminal. Connect the mains cable to a 230Vac mains voltage outlet.

The charger can be with fixed connection to the battery or with conventional connectors.

### Function

Check that the polarity between the charger and the battery is right. Positive + to positive + and negative – to negative -. Red cable is plus and black cable is minus.

The charging starts after a few seconds and the status indicator, Yellow LED, will lid up.

Yellow LED remains on until the battery is fully charged. If the charger is connected to a fully charged battery the charger will be charging for 1 hour. This is the minimum charging time. During this phase the green led will be illuminated. When only green LED is on the charger is kept in maintenance charger and ready to be used.

Maintenance charging will continue as long as the battery is connected.

The charger will be reset as soon as the charger is switched off and on, or if the battery is disconnected.

The charging time depends on the size of battery and the depth of discharge.

A freely ventilated battery (Wet) can be discharged to max. 80% and a valve regulated (Dry) with max 70%.

**Note:** Switch off the charger before the battery is disconnected. If the battery is disconnected without switching off the charger, sparks may be produced.

## Trouble shooting CHAMP 12-7, 24-3

### Yellow blinking LED

May mean that the battery is not properly connected.  
Check cables, connection terminals, plugs and other connections to the battery.  
Measure the voltage at the battery and at the charger.

### Yellow and green LED simultaneously flashing

The charging voltage is low, <1,8V/cell.

### Yellow and green LED flashing alternately

Internal temperature is too high.

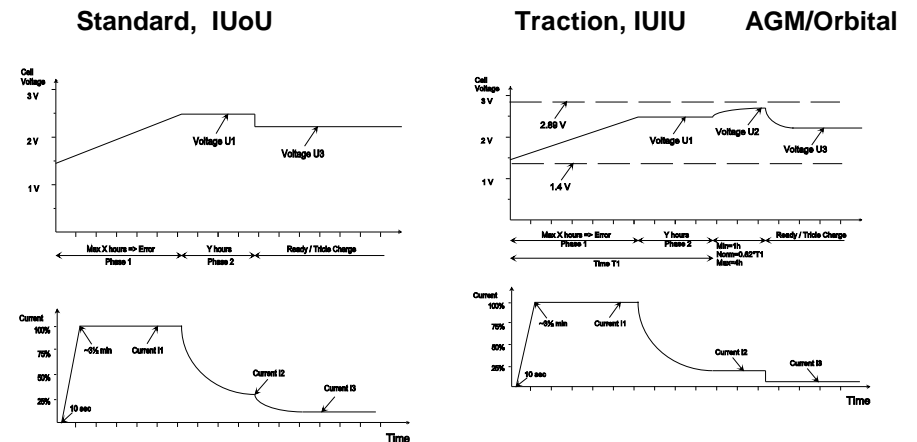
## LED-Function CHAMP 12-17, 24-12

After connection charging starts within a few seconds and yellow LED is lit up. Yellow LED remains lit up, until the battery is fully charged. If charger is connected to a fully charged battery the charger will be charging for 1 hour. This is the minimum charging time. During this phase the first green LED will be lit up as well. When the first green LED is lit up only, the charger is kept in maintenance charging. Maintenance charging will continue as long as the battery is connected.

Champ 1217 and 2412 are equipped with a second green LED for indicating maintenance charging. This 2<sup>nd</sup> green LED will be lit up, if the total charging time is exceeding 20 hours and current does not drop below 1 Amp. The charger will then continue with maintenance charging in order to prevent overcharge. The charger will be reset as soon as it is switched off and on, or if the battery is disconnected. Charging time depends on the capacity of the battery and depth of discharge.

### Charging algorithms

The champ II charger is designed for freely ventilated and valve regulated batteries. All chargers are equipped with app. charging curves. **If you change to another type or size of battery, please contact Samlex Europe b.v. .**



(The above values are for symbolic use only.)

Charging characteristics 12-7, 12-17, 24-3 and 24-12 champs according to software programming chosen.