



# BATTERY CHARGERS

## HIGH FREQUENCY CHARGERS

### SPECIAL CHARGERS FOR REMOTE BATTERY ROOM MANAGEMENT & "BRAIN" BATTERY ROOM ARTIFICIAL INTELLIGENCE NETWORK



Zivan has patented a brand new system for battery room management. This allows an easy control from a remote PC or Mobile telephone of any single charger or complete charge room **up to 250 chargers**.

For this system Zivan have selected the "MG" Generation of chargers with a metal box solution up to IP 54 protection, and an easy connection to PC through a LAN cable. The increased IP54 protection takes the well known Zivan reliability to even an higher rate.

We start from the single power unit with box of 9 KW to the 36 Kw box unit, and bigger powers are available.

All chargers can be easily mounted on the wall.

The functioning keeps its easy approach through the button on the front and the information is well shown on the big display.

#### TECHNICAL FEATURES

- Based on Zivan CAN BUS proprietary system this project offers a management system for a battery recharge room where a central control unit (PC workstation):
- Instructs BC how to recharge that battery changing all parameter by remote, manually or automatically
- Manages every battery monitor
- Develops a data base to allow statistics on charger and battery behavior
- Creates a connection between the data arriving from the battery and from the charger of that battery
- Allows a remote download of the database and to monitor every single charger
- Allows a remote flashing of new SW on each BC
- Sends email for warnings or alarms
- Integrates a FIFO system in the Workstation Monitor (excluded from proposal as it could be of desired type and size)), or shows it in up to 10 remote monitors: information on ready battery, or ready groups located in different areas.
- Charger are easily connectable through standard LAN wire of any length.

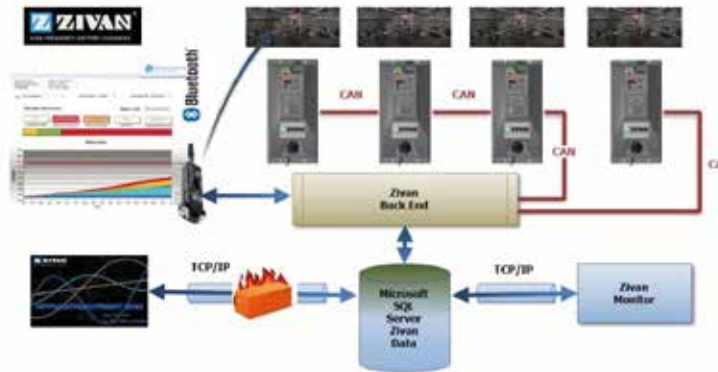
#### Parameter tool

Thanks to the select application it is possible to have a complete overview of the whole charging room composition. In this window it is possible to see all the connected chargers with particular focus on their:

- firmware release
- nominal output voltage
- nominal output current
- amperehour counter
- current alarm state



**System architecture**



**System cost Example**

Offer for MG chargers ready to be connected to our workstation through standard LAN wire (cursory, to be detailed upon quantities and installation type)

9 kW 400 VAC 3phase chargers	IP54
18 kW 400 VAC 3phase chargers	IP54
27 kW 400 VAC 3phase chargers	IP54
36 kW 400 VAC 3phase chargers	IP54
Software Brain Professional	
PC Workstation	Dashboard included

**ULTRA FAST CHARGERS HF**



▶ **MG9 - box type "1"**

for the 9kW model  
H 950 x W 330 x D 254

▶ **MG18 - Box type "2"**

for the 18kW model  
H 825 x W 472 x D 402

▶ **MG27 - Box type "3"**

for the 27kW model  
H 255 x W 173 x D 306

▶ **MG36 - Box type "4"**

for the 36kW model  
H 255 x W 173 x D 306

A turnkey system made by a battery data logger and the zivan data drone app enables an overview over forklift, battery and recharge as well as on maintenance and operating costs in real time

**EFFICIENCY AND SAFETY**

IP54 protection degree suitable for outdoor, heavy duty applications. The battery is everyday charged up to 80% to avoid gas emissions. The charger is equipped with a 55° safety cutoff and seasonal dynamic compensation of gas value depending on ambient temperature.

It is provided with a every day / once a week / never / on demand adjustable equalization charge in order to prevent possible battery degradation (cells unbalancing, plates sulfatisation). the equalization profile consists of an IU1A 17A/100 charge followed by a proper balancing phase. the equalization profile guarantees a 100% battery S.O.C. the system is able to reboot a huge battery capacity range from 500 up to 1500AH

**CONSIDERABLE SAVING**

The scope of the ultra fast range is to avoid recharging battery room installations, to reduce battery replacements enabling the truck to work for up to 3 shifts per day nonstop by adding as much as possible ah by intermediate or opportunity charging cycles during breaks. We recommend using onefastcharger for each lift truck and applying the necessary adjusting specific for that particular battery. The system modulates the charging cycle depending on the battery depth of discharge (dod) and the battery temperature by real time communication with battery data logger.

The multi-module charger box includes several can bus units in a master/slave configuration network up to 36KW power.

The data drone software provides report charts which are wifi-stored in a protected and customised cloud.