

PRATIK PHF812 - FGM



USER'S MANUAL

www.Tecnikchargers.com

1. SAFETY PRECAUTIONS

1. Before to start using the FGM Charger, read these instructions carefully.
2. Installation and Service operations can be done by qualified personnel only.
3. To prevent the risk of electric shock, don't touch uninsulated parts of the charger or the battery.
4. Manually stop the charger before to disconnect the battery.
5. The charger is suitable for indoor installation, in ambient with abundant ventilation.
6. Don't use the charger near flammable materials.
7. Don't obstruct the ventilation slots and leave sufficient free space around the unit.
8. Don't expose the charger to liquids, excessive dust or vibration.
9. Check the conditions of cables and accessories on a regular basis, and replace them immediately if they get damaged.
10. Don't extend the batter cables. Replace them, if necessary, with cables of the same type, length, section and insulation as the original ones.
11. During the installation of the charger, make sure to connect the EARTH conductor properly, and respect all the applicable Safety Standards.
12. Don't modify any part of the charger. Any modification, applied without written authorization of the manufacturer, may generate unsafe operating conditions and will void the warranty.

2. Description

The FGM Charger has been designed to charge Lead-Acid or GEL motive batteries. This charger converts the AC input to DC, at the proper value to charge the battery

The FGM is based on High-Frequency Switchmode technology, which allows very compact size and efficient operation. The operation is completely automatic, and it's managed by a microprocessor based control system.

The exclusive charging curve of the FGM charger allows to reduce the charging factor to the minimum value, so the duration of the overcharge/gassing phase and the average temperature of the battery are minimized.

3. INSTALLATION

Conditions of use:

- Temperature (operation): from 0°C t 40°C
- Temperature (storage): from -20°C to 60°C
- Relative Humidity: less than 75%

The charger must be connected to the AC input using an adequate cable, plug and protections.

The charger is suitable for FIXED or ON-BOARD installation. In any case, it is recommended to take all the necessary precautions in order to ensure sufficient ventilation, and good protection against vibrations.

For ON-BOARD installation, it is recommended to use anti-vibration mounts.

Respect the polarity of the battery (+/-) at the connection. The charger is protected against reverse polarity.

ATTENTION!

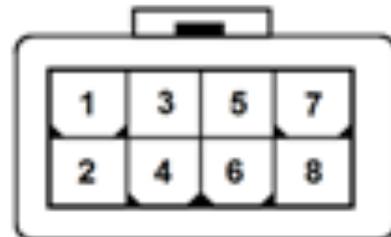
It's recommended to control that the AC input voltage available at the installation site has the right value, and that the power available is sufficient. The nominal AC input voltages that the charger can accept, and maximum input current and power are reported on the nameplate of the unit.

4. AUXILIARY CONTACTS

The charger is equipped with two Auxiliary contacts, to be connected to the vehicle in on-board installations.

3-5 **Deeply discharged battery**
1-7 **AC Line connection**

2-4-6-8 **Remote LED module**



- Deeply discharged battery (Terminals #3 and #5)
This contact is NC (normally closed) and it opens if the battery voltage is lower than a programmed minimum value (default 1.75 V/cell). It is intended to stop or limit the vehicle operation when the battery is deeply discharged.
- AC input connected (Terminals #1 and #7)
This contact is NC (normally closed) and it opens when the AC line is connected to the charger. It is intended to prevent the vehicle from moving while the AC input plug is connected.

When the charger is not visible in on-board installations, it is possible to add an optional REMOTE LED MODULE, to be positioned on the vehicle dashboard. Contact the manufacturer for more details.

5. OPERATION

Connect the battery and the AC input. The charge will begin automatically and the LED “in charge” will turn on.

When the charge will be completed, the charger will stop automatically, and the LED “Charge complete” will turn on.

The charging time depends on the programmed curve, the size of the battery and its initial SOC (state of charge). In any case, duration of the charge is automatically adjusted by the charger, depending on the real battery condition.

AC INPUT BLACK OUT

If there is a black-out of the AC input, while the charge is in progress, the charger will shut down, while the charge parameters will remain in memory.

When the AC input will be recovered the charger will restart the charge cycle automatically.

EQUALIZE-MAINTENANCE

These functions are useful to keep the battery in perfect condition and to extend its life, even when it's not used for a long period (weeks, months ...).

It is sufficient to leave the battery connected to the charger. After a normal termination of the charge, it is sufficient to leave the battery connected for 2 days (typically the weekend). The charger will let the battery cool down before to execute an automatic equalization cycle.

If the battery will remain connected for extended periods (weeks or months), the charger will switch automatically to maintenance mode, by activating automatically refresh-maintenance cycles when needed.

DISCONNECTION OF THE BATTERY DURING THE CHARGE

WARNING!
DONT'T DISCONNECT THE BATTERY DURING THE CHARGE.
RISK OF EXPLISION!!!

It is necessary to disconnect the battery while it's being charged, press the STOP pushbutton for two seconds, in order to stop the charger manually.

The charger will suspend the charge and the LED "Charge complete" will turn on. At this time it's possible to disconnect the battery.

ERROR SIGNALS

If a faulty condition is detected, the charger will stop automatically and generate a fault signal:

DEFECTIVE OR INCORRECT BATTERY: Both LEDs flashing

CHARGING FAILURE: Both LEDs remain in ON state

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-End of Manual-