

INSTRUCTIONS FOR USE OF BATTERY CHARGER AND BOOSTER

6-12-24 Volt - 500 Ampere

FEATURES

6-12-24 Volt Battery charger and booster - 60 A slow charging - 100 A fast charging - 500 A starting impulse. Totally protected through an automatic circuit breaker and fuses.

Three-phase power supply 220-380 Volt 50÷60 Hz (other tensions and frequencies on request).

MAX. ELECTRICAL INPUT:

slow charging: 1,6 KW - fast charging: 3 KW - starting: 14 KW.

INSTRUCTIONS FOR USE

1) Terminal connections (17) (on board (32) inside the housing) must be placed according to mains voltage.

2) Connect the clamps to battery: red (+) clamp to the positive terminal post of the battery and the black (-) clamp to the negative terminal post.

3) Turn switch knob (6) on 6-12 or 24 V according to battery voltage.

4) Through volt/ampere switch (31) the scale of the instrument can be read either to 100 A or to 35 V; when batteries are connected and the charger is «OFF» the instrument shows batteries no load tension, whereas it shows the charging tension, when the charger is working.

5) Connect the mains supply cable (29) to an (earthed) mains.

6) Slow charging: turn switch knob (4) from «OFF» to «SLOW». Through the switch (10) adjust the charging current to the required value. Do not exceed 60 A.

For finding out the required value of the charging current, proceed as follows:

Normal charging current = Ah capacity divided by 10

Max. charging current = Ah capacity divided by 5,5

Example = 80 Ah battery/20 hours rating

$80 : 10 = 8 \text{ A} = \text{Normal charging current}$

$80 : 5,5 = 15 \text{ A} = \text{Max. charging current.}$

During the charging time, the battery electrolyte must not exceed 40°C.

The battery is fully charged when: a) Tension reaches 2,7-2,8 V per cell. - b) Electrolyte density remains constant for two hours at the values mentioned in «Batteries on charge». - c) There is a remarkable release of gas in all cells.

7) Fast charging: turn timer (7) on required charging time. Place switch (4) on «QUICK» and then adjust the charging current without exceeding 100 A. The fast charging current must not exceed the Ah capacity of the battery.

Example: in a 42 Ah battery, at the beginning, the charge rate may build up to 40 A and will drop later during the charge. Through the timer adjust the charging time to the minimum necessary.

During fast charging battery temperature may reach 45°C for a short time.

Fast charging of old batteries or batteries in bad conditions is not recommended.

8) For starting, connect the plug of the remote control cable (54) to the socket (55), place switch (4) on «START» and then press the button as long as it is necessary to start.

9) A fast charging of the battery for a few minutes is advisable before starting.

CHECKING

If the unit fails to operate, check mains and socket, fuses inside the housing and whether the circuit breaker (8) is on; ensure that clamps are making good contact with the battery posts and check the battery too.

If the automatic circuit breaker (8) cuts off, remove possible overloads, wrong connections, polarity inversions. Before switching on the automatic circuit breaker again, let it cool down for a few minutes, then push the lever downward and again upward.

BATTERIES ON CHARGE

To check the state of charge in the batteries, it is necessary to use a hydrometer of good quality. The following values refer to 25°C.

Fully charged battery: 1,28 Kg/L = 32 Bè - 3/4 charged

battery: 1,24 Kg/L = 28,5 Bè - 1/2 charged

battery: 1,2 Kg/L = 24,5 Bè - 1/4 charged

battery: 1,16 Kg/L = 20,5 Bè - flat

battery 1,12 Kg/L = 16 Bè - completely flat

battery 1,1 Kg/L = 13,5 Bè.

Sulphatation seriously damages batteries which are left flat.

The self discharge of standard batteries is about 1/100 of its capacity per day. As a matter of fact a fully charged battery halves its charge after 60 days of inactivity.

To avoid accumulations of dangerous gas, charge the batteries in a ventilated area.

Batteries must be charged without cell caps.

The electrolyte level must be a few millimeters above the lead plates in the cells.

When two or more batteries have to be charged at the same time (provided that their tension and capacity allow it) preferably connect them in series (Fig. 1).

Fig. 1 - SERIES CONNECTIONS TO BE PREFERRED



Fig. 2 - CONNECTIONS TO BE USED ONLY IF NECESSARY

