

# Professional BATTERY CHARGERS

## BATTERY MANAGER



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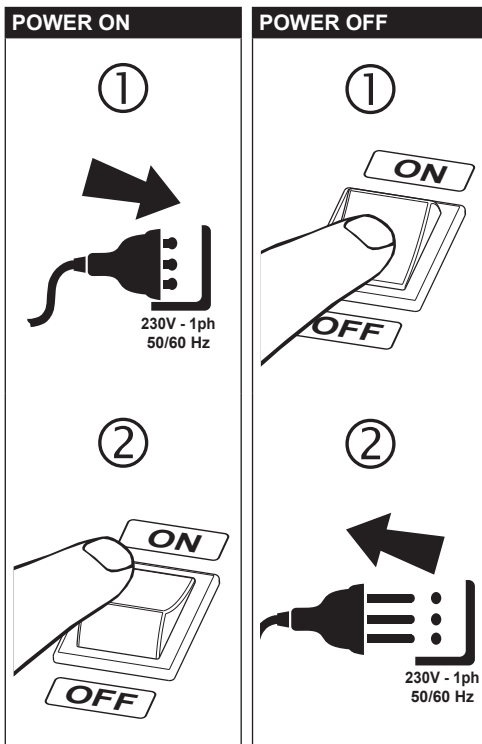
GENERAL SAFETY ..... 5-54

**EN** GENERAL SAFETY RULES FOR THE USE **IT** SICUREZZA GENERALE PER L'USO **FR** INSTRUCTIONS GÉNÉRALES DE SÉCURITÉ POUR L'UTILISATION **ES** SEGURIDAD GENERAL PARA EL USO **DE** ALLGEMEINE SICHERHEITSVORSCHRIFTEN FÜR DEN GEBRAUCH **RU** ОБЩАЯ БЕЗОПАСНОСТЬ ПРИ ИСПОЛЬЗОВАНИИ **PT** SEGURANÇA GERAL PARA O USO **EL** ΓΕΝΙΚΗ ΑΣΦΑΛΕΙΑ ΓΙΑ ΤΗ ΧΡΗΣΗ **NL** ALGEMENE VEILIGHEID VOOR HET GEBRUIK **HU** ÁLTALÁNOS HASZNÁLATI BIZTONSÁGI ELŐÍRÁSOK **RO** SIGURANȚA GENERALĂ PENTRU FOLOSIRE **SV** ALLMÄNNA SÄKERHETSANVISNINGAR **DA** ALMENE SIKKERHEDSREGLER FOR ANVENDELSE **NO** GENERELLE FORHOLDSREGLER FOR BRUK **F** YLEISET TURVALLISUUSOHJEET KÄYTTÖÄ VARTEN **CZ** ZÁKLADNÍ BEZPEČNOSTNÍ POKYNY PRO POUŽITÍ **SK** ZÁKLADNÉ BEZPEČNOSTNÉ POKYNY PRE POUŽITIE **SL** SPLOŠNA VARNOST PRI UPORABI **SR** OPĆA SIGURNOST PRILIKOM UPOTREBE **LT** BENDRIEJI SAUGOS REIKALAVIMAI EKSPLOATAVIMUI **ET** ÜLDISED HOIATUSED KASUTAMISEKS **LV** VISPĀRĒJIE DROŠĪBAS NOTEIKUMI LIETOŠANAS LAIKĀ **BG** ОБЩА БЕЗОПАСНОСТ ПРИ УПОТРЕБА **PL** OGÓLNE BEZPIECZEŃSTWO PODCZAS UŻYTKOWANIA **AR** السلامة العامة للاستخدام

1. Set battery voltage.
2. Main Display: voltage-current measured in the battery, selected Ah, voltage value selected for the Supply / Equalization programs, messages for the operator, alarm code.
3. Polarity reverse alarm, short circuit, worn or faulty battery.
4. Set current and voltage.  
"AL1 - AL9" Alarm code.
5. Battery charge level.
6. PULSE-TRONIC Charge current choice: AUTO, BOOST, Customized (Ah setting).
7. Low temperature operation.
9. EQUALIZATION Mode.
10. DESULFATION Mode.
11. Battery type choice:  
WET: lead batteries, liquid electrolyte.  
GEL: lead batteries, sealed, solid electrolyte.  
AGM: lead batteries, sealed, electrolyte on absorbent material.  
PbCa: lead-calcium batteries.
12. SUPPLY Mode.
14. PULSE-TRONIC charging steps.
15. START mode.
16. Automatic charge Mode.
17. PulseTronic Charge.
18. Charging circuit operation Test (alternator).
19. Battery starting capacity Test - CCA.
20. Battery charge status Test .
21. VOLT - Setting button:  
- 12/24V battery voltage.  
- voltage/Ah adjustment.
22. FUNCTION - Setting button:  
- PULSE-TRONIC CHARGE (AUTO, AUTO <sup>\*</sup>, WET, GEL, AGM, PbCa).  
- TEST (battery status, vehicle's alternator, battery starting capacity).  
- Advanced Programs (DESULFATION, EQUALIZATION, SUPPLY).  
- voltage/Ah adjustment.
23. MODE - Setting button:  
- Output current (AUTO, BOOST, customized).  
- START Mode.

- A. PULSE-TRONIC CHARGE
- B. TEST  
- CHARGE STATUS TEST  
- BATTERY START CAPABILITY (CCA)  
- ALTERNATOR TEST
- C. BATTERY MAINTENANCE  
- DESULFATION  
- EQUALIZATION
- D. POWER SUPPLY  
- SUPPLY
- E. START

**INFO ALARM**



# A CHARGE/MAINTENANCE

## PULSE-TRONIC TECHNOLOGY

Pulse<sup>TRONIC</sup>

WET<sup>+</sup> GEL<sup>+</sup> AGM<sup>+</sup> PbCa<sup>+</sup>

### 1 PULSE-TRONIC SELECTION

FUNCTION



DISPLAY

Pulse<sup>TRONIC</sup>

### 2 BATTERY TYPE SELECTION

FUNCTION



DISPLAY



AUTOMATIC

AUTOMATIC  
WINTER T<0°C

MANUAL

### 3 CURRENT SELECTION

MODE



DISPLAY



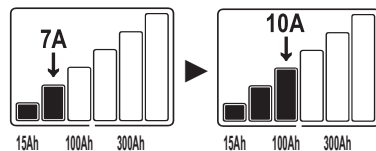
AUTOMATIC

QUICK CHARGE

MANUAL

### 3A (●) Ah SETTING - EXAMPLE

MODE



DISPLAY

85 Ah

VOLT



80Ah  
75Ah  
70Ah

FUNCTION



100Ah  
95Ah  
90Ah

### 4 VOLTAGE SELECTION

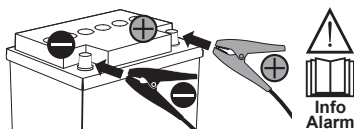
VOLT



DISPLAY

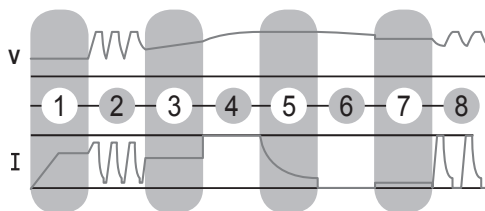


### 5 CLAMP CONNECTION



START AFTER 5"

### 6 PULSE-TRONIC GRAPHIC



- ① Battery test
- ② Recovery of sulphated/very low batteries
- ③ Integrity control
- ④ Charge up to 80%
- ⑤ Charge up to 100%
- ⑥ Charge maintenance monitor
- ⑦ Charge maintenance
- ⑧ Pulse charge recovery

### 7 END OF CHARGE - EXAMPLE



# B TEST

## CHARGE STATUS



### 1 TEST SELECTION

FUNCTION



DISPLAY  
TEST



### 2 BATTERY TYPE SELECTION

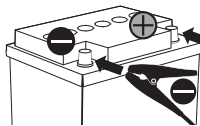
FUNCTION



DISPLAY  
WET GEL AGM PbCa

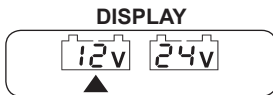


### 3 CLAMP CONNECTION



### 4 VOLTAGE SELECTION

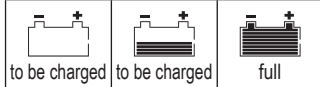
VOLT



### 5 END OF TEST - EXAMPLE



#### DISPLAY LEGENDA



# B TEST

## BATTERY START CAPABILITY



EN

### 1 TEST SELECTION

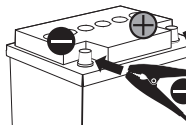
FUNCTION



DISPLAY  
TEST

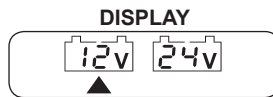


### 2 CLAMP CONNECTION



### 3 VOLTAGE SELECTION

VOLT



### 4 VEHICLE'S STARTING



### 5 END OF TEST - EXAMPLE

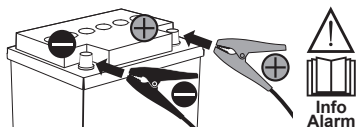


#### DISPLAY LEGENDA

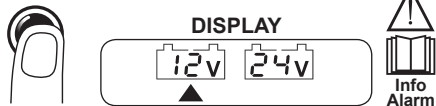


**B TEST****ALTERNATOR****1 TEST SELECTION**

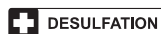
FUNCTION

**2 CLAMP CONNECTION****3 VOLTAGE SELECTION**

VOLT

**4 VEHICLE'S STARTING****5 END OF TEST - EXAMPLE****DISPLAY LEGENDA**

<b>OK</b> working	<b>SUF</b> sufficient	<b>bAd</b> insufficient
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**C MAINTENANCE****DESULFATION****1 ADVANCED MENU SELECTION**

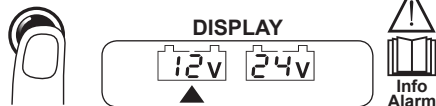
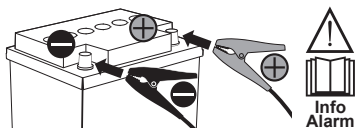
FUNCTION

**2 FUNCTION SELECTION**

FUNCTION

**3 VOLTAGE SELECTION**

VOLT

**4 CLAMP CONNECTION****START AFTER 5"****5 END OF PROCESS - EXAMPLE****6 EXIT - ADVANCED MENU**

FUNCTION



# C MAINTENANCE

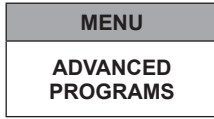
## EQUALIZATION



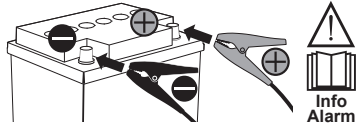
EN

### 1 ADVANCED MENU SELECTION

FUNCTION



### 4 CLAMP CONNECTION



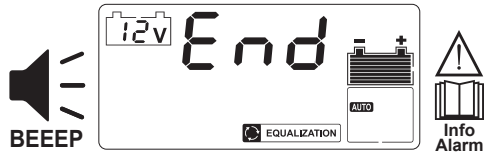
START AFTER 5"

### 2 FUNCTION SELECTION

FUNCTION

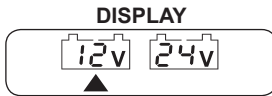


### 5 END OF PROCESS - EXAMPLE



### 3 VOLTAGE SELECTION

VOLT



### 6 EXIT - ADVANCED MENU

FUNCTION



### 3A VOLTAGE ADJUSTMENT - EXAMPLE

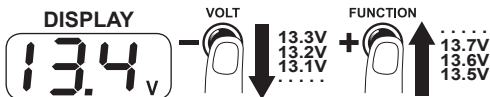


CHECK BATTERY TYPE (WET, GEL, AGM, PbCa) AND MAX. ALLOWED VOLTAGE.

VOLT



FUNCTION



### KEYBOARD LOCK/UNLOCK

LOCK  
VOLT



MODE



DISPLAY



UNLOCK  
VOLT



MODE



DISPLAY



# D POWER SUPPLY

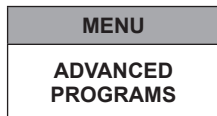
## SUPPLY

SUPPLY

**BATTERY CHANGE**

### 1 ADVANCED MENU SELECTION

FUNCTION



### 2 FUNCTION SELECTION

FUNCTION



DISPLAY

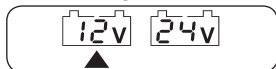

**VOLTAGE BETWEEN CLAMPS (MAX 27V).**

### 3 VOLTAGE SELECTION

VOLT



DISPLAY



### 3A VOLTAGE CUSTOMIZATION - EXAMPLE


**CHECK MAX. VOLTAGE ALLOWED IN THE VEHICLE MANUFACTURER'S INSTRUCTIONS.**

VOLT



FUNCTION



3"

DISPLAY



VOLT

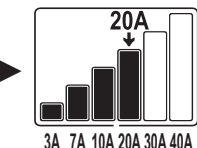
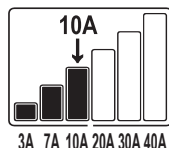
13.3V  
13.2V  
13.1V  
.....

FUNCTION

13.7V  
13.6V  
13.5V

### 3B CURRENT ADJUSTMENT - EXAMPLE

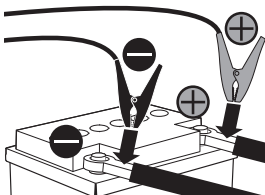
MODE



### 4 DISPLAY - EXAMPLE



### 5 CLAMPS CONNECTION TO VEHICLE'S BATTERY CABLES



### 6 SUPPLIED VEHICLE


**BATTERY REMOVAL**

**BATTERY CHANGE**

### 7 EXIT - ADVANCED MENU

FUNCTION



3"

### KEYBOARD LOCK / UNLOCK

LOCK



UNLOCK



MODE



MODE



DISPLAY

**Lok on**

DISPLAY

**Lok off**

# E START

## START



### 1 FUNCTION SELECTION

MODE



DISPLAY

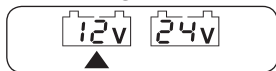
START

### 2 VOLTAGE SELECTION

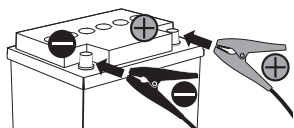
VOLT



DISPLAY



### 3 CLAMPS CONNECTION TO BATTERY



DISPLAY

Go

### 4 VEHICLE'S STARTING



### 5 TIMER 30" FOR FOLLOWING START

DISPLAY

30  
29  
28

### 6 FUNCTION EXIT

MODE



## INFO ALARM

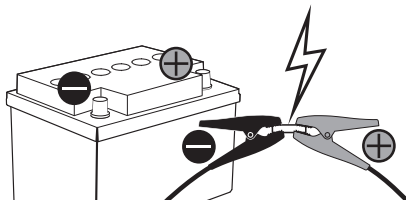


Info Alarm

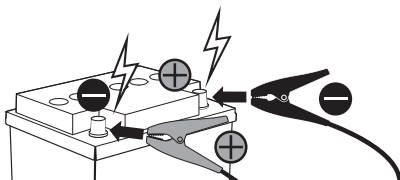
EN

AL 1

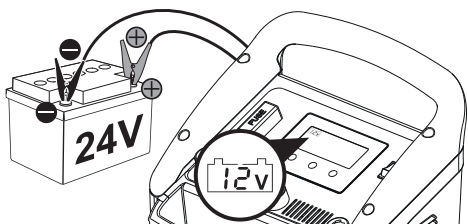
SHORT CIRCUIT



POLARITY REVERSAL



AL 2



AL 4

AL 5

AL 6

AL 7

AL 8

Pulse Tronic



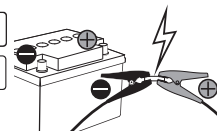
AL 9

SHORT CIRCUIT

EQUALIZATION

DIAGNOSTIC

SUPPLY



INDICATORS  
OVERHEATING  
Automatic reset

000



THERMAL  
ALARM

00





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***Pulse***   
***Tronic***