

Professional **BATTERY CHARGERS**

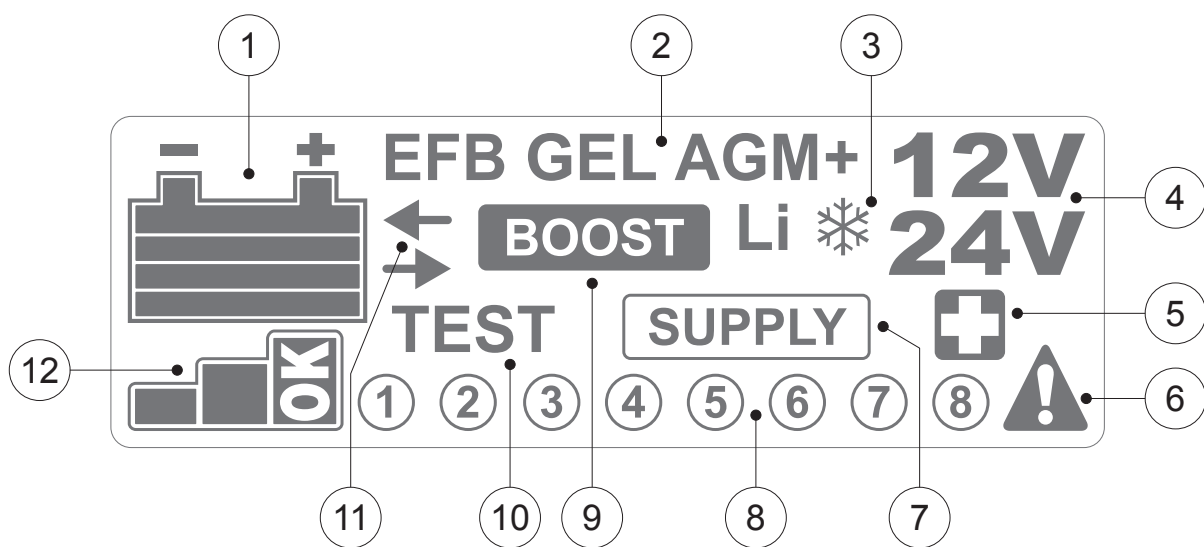
MULTIFUNCTION BATTERY CHARGER



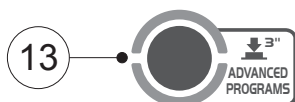
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GENERAL SAFETY.....5-56

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 **NL** ALGEMENE VEILIGHEID VOOR HET GEBRUIK **EL** ΓΕΝΙΚΗ ΑΣΦΑΛΕΙΑ ΓΙΑ ΤΗ ΧΡΗΣΗ
RO SIGURANȚA GENERALĂ PENTRU FOLOSIRE **SV** ALLMÄNNA SÄKERHETSANVISNINGAR **CS** ZÁKLADNÍ BEZPEČNOSTNÍ POKYNY PRO POUŽITÍ
HR-SR OPĆA SIGURNOST PRILIKOM UPOTREBE **PL** OGÓLNE BEZPIECZEŃSTWO PODCZAS UŻYTKOWANIA **FI** YLEISET TURVALLISUUSOHJEET KÄYTTÖÄ VARTEN **DA** ALMENE SIKKERHEDSREGLER FOR ANVENDELSE **NO** GENERELLE FORHOLDSREGLER FOR BRUK **SL** SPLOŠNA VARNOST PRI UPORABI **SK** ZÁKLADNÉ BEZPEČNOSTNÉ POKYNY PRE POUŽITIE **HU** ÁLTALÁNOS HASZNÁLATI BIZTONSÁGI ELŐÍRÁSOK **LT** BENDRIEJI SAUGOS REIKALAVIMAI EKSPLOATAVIMUI **ET** ÜLDISED HOIATUSED KASUTAMISEKS **LV** VISPĀRĒJIE DROŠĪBAS NOTEIKUMI LIETOŠANAS LAIKĀ **BG** ОБЩА БЕЗОПАСНОСТ ПРИ УПОТРЕБА **TR** GENEL KULLANIM GÜVENLİĞİ **AR** السلامة العامة للاستخدام



FUNCTION



VOLT

LCD DISPLAY (page 2)

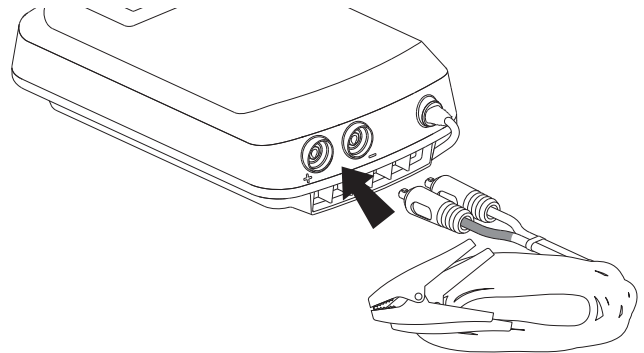
1. Battery charge level.
2. Choice of battery type:
 - **GEL:** Lead-Calcium (PbCa), solid electrolyte, gel, completely sealed battery. They are maintenance-free batteries.
 - **AGM** (ABSORBENT GLASS MAT): lead batteries with electrolyte absorbed in fibreglass. Completely sealed. They are maintenance-free batteries.
 - **AGM+:** they ensure a higher number of start-ups at higher current and more in-depth discharge than standard AGM. Used on vehicles with Start-Stop system. Compact dimensions, greater resistance to vibrations and fast recharge times.
 - **Lithium (Li):** batteries with reduced weight, high energy density and very low auto-discharge. They are mainly used in the world of motorsport.
 - **EFB** (Enhanced Flooded Battery): liquid electrolyte batteries with a higher recharge capacity and which support a higher quantity of cycles (start-ups) than traditional ones. Ideal for vehicles with Start-Stop system.
- If no type of battery is selected, the battery charger automatically sets the type of battery.
3. Charges at low temperatures.
4. Battery voltage set.
5. RECOVERY mode.
6. Generic alarm for polarity reversal, short circuit, worn or faulty battery.
7. SUPPLY mode.
8. PULSE-TRONIC charge phases.
9. BOOST mode.
10. TEST mode.
11. Alternator test and Starting Load Efficiency test (CCA).
12. Outcome of TEST, RECOVERY and charge end.
13. FUNCTION - Setting button:
 - PULSE-TRONIC CHARGE (GEL, AGM, AGM +, Li, EFB and low temperatures ❄).
 - TEST (battery status, battery starting load efficiency, vehicle alternator).
 - Advanced Programs: BOOST, RECOVERY, SUPPLY.
14. VOLT - Setting button:
 - 12/24V battery voltage.

FUNCTIONS

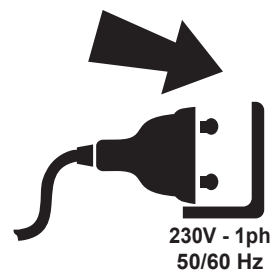
- A. PULSE-TRONIC CHARGE
- B. TEST
 - CHARGE STATUS TEST
 - BATTERY CRANKING EFFICIENCY TEST (CCA)
 - ALTERNATOR TEST
- C. BATTERY MAINTENANCE
 - RECOVERY
- D. POWER SUPPLY
 - SUPPLY

OPTIONAL
INFO ALARM

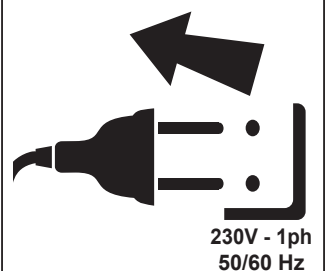
CHARGER CABLES CONNECTION



SWITCH ON



SWITCH OFF

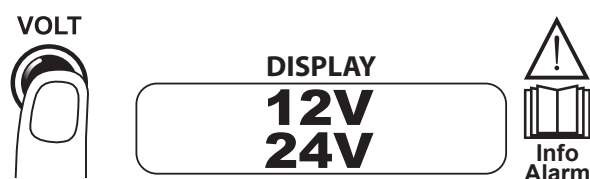


A LOAD/MAINTENANCE

PULSE-TRONIC TECHNOLOGY

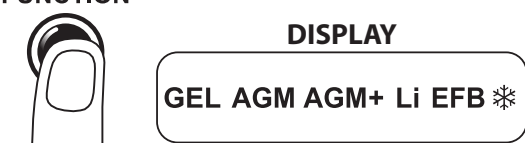


1 VOLTAGE SELECTION



2 Pulse-Tronic PROCESS SELECTION

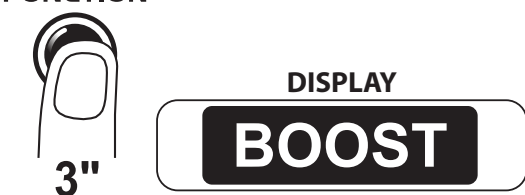
FUNCTION



If no type of battery is selected, the battery charger automatically sets the type of battery.

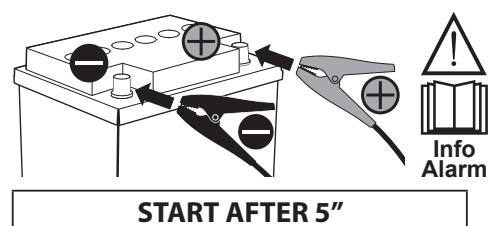
3 OPTIONAL: ADVANCED MENU SELECTION

FUNCTION



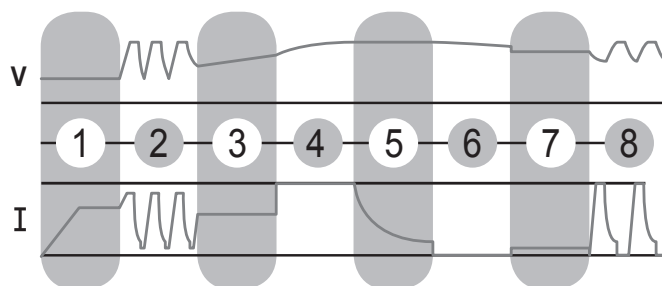
Optional for faster charging

4 CLAMPS CONNECTION



START AFTER 5"

5 PULSE-TRONIC GRAPHIC



- 1 Battery test
- 2 Sulphated/very discharged battery pulse recovery
- 3 Integrity check
- 4 Charge up to 80%
- 5 Charge up to 100%
- 6 Charge endurance monitoring
- 7 Charge holding (*)
- 8 Pulsed charge recovery (*)

(*) Maintenance phases after charging has ended. They are interrupted only on disconnecting the battery charger.

6 CHARGE END - EXAMPLE



Pulse-Tronic charge end - Positive result



Pulse-Tronic charge end - Negative result

B TEST

CHARGE STATUS



1 VOLTAGE SELECTION

VOLT



DISPLAY

12V
24V



2 TEST SELECTION

FUNCTION

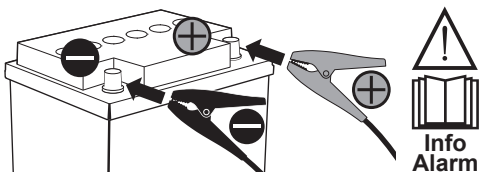


DISPLAY

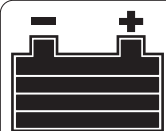


TEST

3 CLAMPS CONNECTION



4 TEST END - EXAMPLE



TEST

12V

DISPLAY LEGEND



very flat



flat



charged

B TEST

BATTERY STARTING LOAD EFFICIENCY



1 VOLTAGE SELECTION

VOLT



DISPLAY

12V
24V



2 TEST SELECTION

FUNCTION

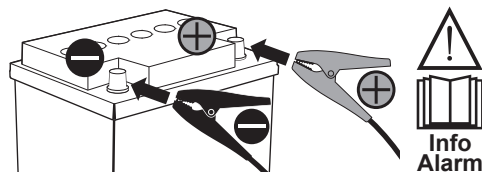


DISPLAY



TEST

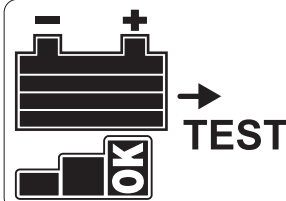
3 CLAMPS CONNECTION



4 VEHICLE START



5 TEST END - EXAMPLE



TEST

DISPLAY LEGEND



positive



sufficient



negative

B TEST

ALTERNATOR



1 VOLTAGE SELECTION

VOLT



DISPLAY

12V
24V



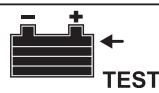
Info
Alarm

2 TEST SELECTION

FUNCTION

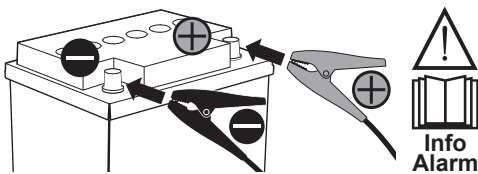


DISPLAY



TEST

3 CLAMPS CONNECTION

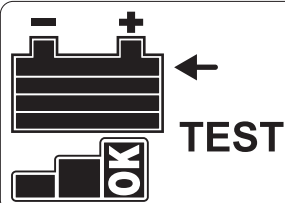


Info
Alarm

4 VEHICLE START



5 TEST END - EXAMPLE



DISPLAY LEGEND



positive



sufficient



negative

C MAINTENANCE

RECOVERY



1 VOLTAGE SELECTION

VOLT



DISPLAY

12V
24V



Info
Alarm

2 ADVANCED MENU SELECTION

FUNCTION

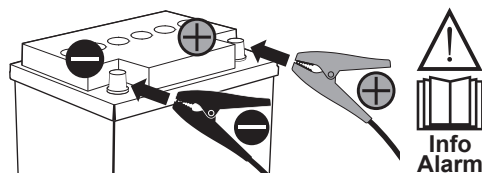


3"

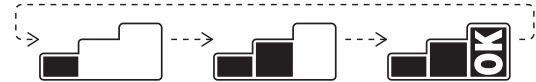
DISPLAY



3 CLAMPS CONNECTION



Info
Alarm



With symbols flashing in succession, the RECOVERY process in progress is indicated.

4 PROCESS END - EXAMPLE



12V



5 EXIT FUNCTION

FUNCTION



3"

D POWER SUPPLY

SUPPLY

SUPPLY

CHANGE
BATTERY

1 VOLTAGE SELECTION

VOLT



DISPLAY

12V
24V



2 ADVANCED MENU SELECTION

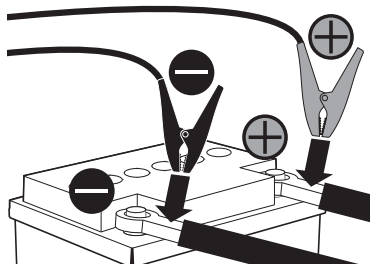
FUNCTION



DISPLAY

SUPPLY

3 CLAMPS CONNECTION TO VEHICLE BATTERY CABLES



4 VEHICLE POWERED



REMOVAL OF
BATTERY



REPLACEMENT OF
BATTERY

5 EXIT FUNCTION

FUNCTION



OPTIONAL

SUPPORT BRACKET



+



MAGNETIC KIT





INFO ALARM

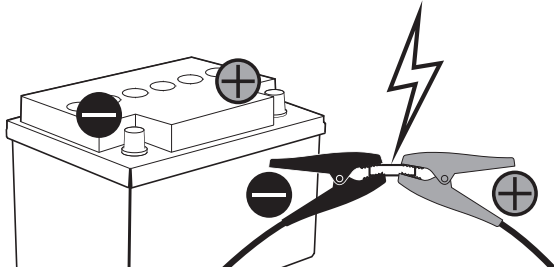


Info
Alarm

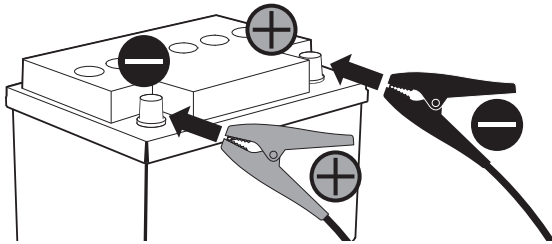


BEEEEP

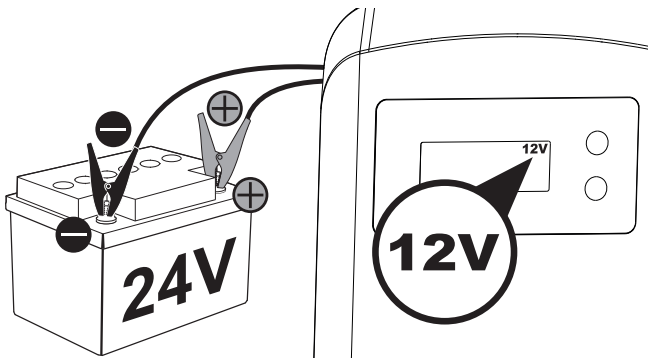
SHORT CIRCUIT



POLARITY REVERSAL



BEEEEP



LCD-DISPLAY (FIG. A sd. 2)

1. Batteriets opladningsniveau.
2. Valg af batteritype:
 - **GEL:** Helt forseglede bly-calciumbatterier (PbCa) med fast elektrolyt af geléagtig type. Det drejer sig om vedligeholdelsesfrie batterier.
 - **AGM (ABSORBENT GLASS MAT):** Blybatteri med elektrolyt i absorptiv glasmåtte. Helt forseglede. Det drejer sig om vedligeholdelsesfrie batterier.
 - **AGM+:** sikrer et højere antal starter ved en højere strømstyrke samt en større afladningsdybde end AGM-standardbatterierne. Anvendes i køretøjer udstyret med start-stop-system. Mindre mål, højere modstandsdygtighed overfor vibrationer og hurtig genopladning.
 - **Litium (Li):** Lettere batterier, høj energitæthed og meget lav selvafladning. De anvendes først og fremmest i motorsporten.
 - **EFB (Enhanced Flooded Battery):** Batterier med flydende elektrolyt og en bedre ladeevne, der understøtter et større antal cyklusser (starter) end traditionelle batterier. Den ideelle løsning til køretøjer udstyret med start-stop-system.

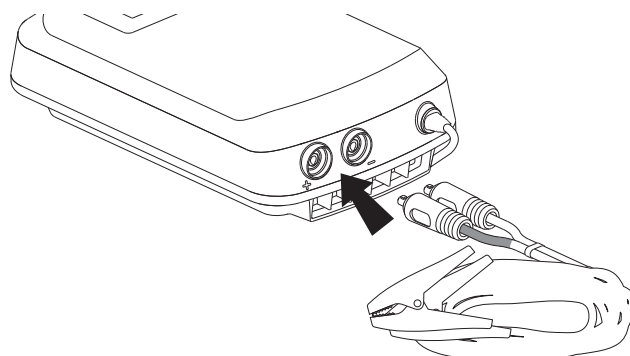
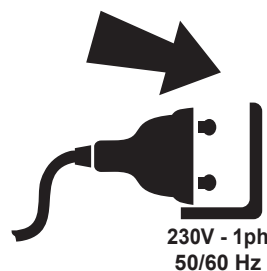
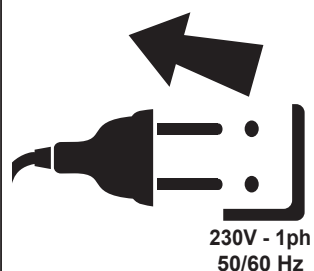
Hvis der ikke er valgt nogen batteritype, indstiller batteriladeren automatisk batteritypen.

3. Opladning ved lave temperaturer.
4. Indstillet batterispænding.
5. Tilstand RECOVERY.
6. Generel alarm for polvending, kortslutning, slidt eller defekt batteri.
7. Tilstand SUPPLY.
8. Opladningsfaser PULSE-TRONIC.
9. Tilstand BOOST.
10. Tilstand TEST.
11. Test af generator og test af batteriets startevne (CCA).
12. Resultat af TEST, RECOVERY og afslutning af opladning.
13. FUNCTION - Indstillingsknap:
 - PULSE-TRONIC OPLADNING (GEL, AGM, AGM +, Li, EFB og lave temperaturer ❄).
 - TEST (batteriets tilstand, batteriets startevne, køretøjsgenerator).
 - Avancerede programmer: BOOST, RECOVERY, SUPPLY.
14. VOLT - Indstillingsknap:
 - batterispænding 12/24V.

FUNKTIONER

- A. PULSE-TRONIC-OPLADNING
- B. TEST
 - TEST AF LADETILSTAND
 - TEST AF BATTERIETS STARTEVNE (CCA)
 - TEST AF GENERATOR
- C. VEDLIGEHOLDELSE AF BATTERIER
 - RECOVERY
- D. FORSYNING
 - SUPPLY

EKSTRA
ALARMINFO

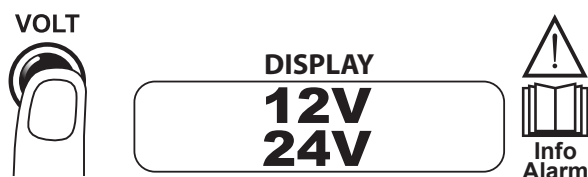
TILSLUTNING AF LADEKABLER**TÆNDING****SLUKNING**

A OPLADNING/OPRETHOLDELSE

PULSE-TRONIC TECHNOLOGY



1 VALG AF SPÆNDING



2 VALG AF Pulse-Tronic-PROCES

FUNCTION



Hvis der ikke er valgt nogen batteritype, indstiller batteriladeren automatisk batteritypen.

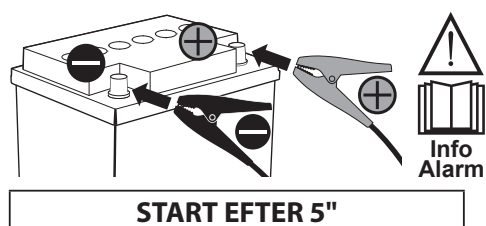
3 EKSTRAUDSTYR: AVANCERET MENU VALG AF

FUNCTION

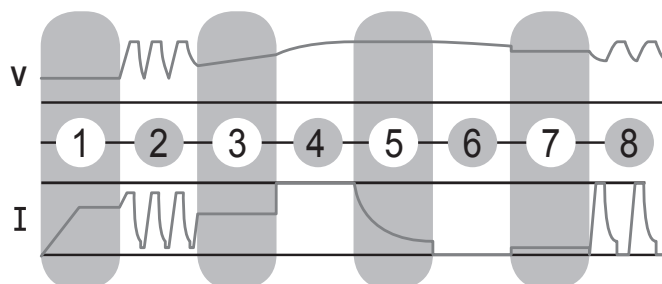


Ekstraudstyr for at opnå en hurtigere opladning

4 TILSLUTNING AF TANG



5 GRAFIK PULSE-TRONIC



- 1 Test af batteri
 - 2 Genvinding af sulferede/næsten helt afladene batterier
 - 3 Kontrol af intakthed
 - 4 Opladning op til 80 %
 - 5 Opladning op til 100 %
 - 6 Overvågning af opretholdelse af opladningsniveau
 - 7 Opretholdelse af opladningsniveau (*)
 - 8 Genopretning af opladningsniveau med impulser (*)
- (*) Opretholdelsesfaser efter afslutning af opladning. Afbrydelsen sker efter frakobling af batteriladeren.

6 AFSLUTNING AF OPLADNING - EKSEMPEL



Afslutning af Pulse-Tronic-opladning - positivt resultat



Afslutning af Pulse-Tronic-opladning - negativt resultat

B TEST

LADE TILSTAND



1 VALG AF SPÆNDING

VOLT



DISPLAY

12V
24V

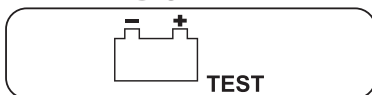


2 VALG AF TEST

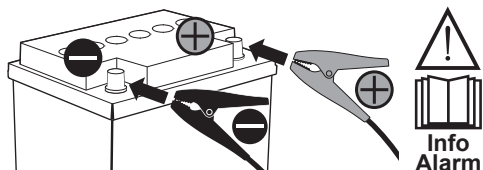
FUNCTION



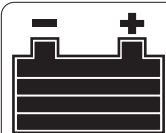
DISPLAY



3 TILSLUTNING AF TANG



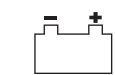
4 AFSLUTNING AF TEST - EKSEMPEL



TEST

12V

FORKLARINGER TIL DISPLAY



helt afladet



afladet



opladet

B TEST

BATTERIETS LADEEVNE



1 VALG AF SPÆNDING

VOLT



DISPLAY

12V
24V

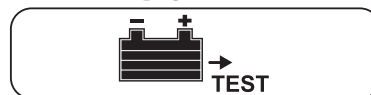


2 VALG AF TEST

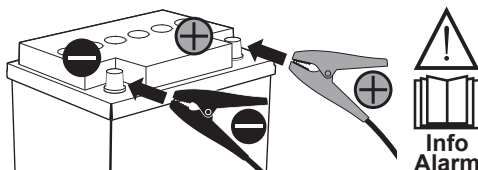
FUNCTION



DISPLAY



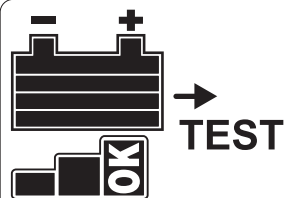
3 TILSLUTNING AF TANG



4 START AF KØRETØJ



5 AFSLUTNING AF TEST - EKSEMPEL



TEST

FORKLARINGER TIL DISPLAY



positivt



tilstrækkeligt



negativt

B TEST

GENERATOR



1 VALG AF SPÆNDING

VOLT



DISPLAY

12V
24V



Info Alarm

2 VALG AF TEST

FUNCTION

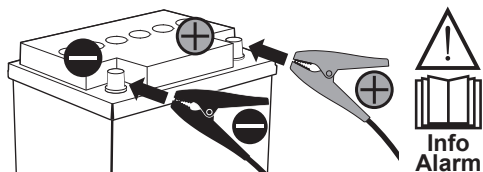


DISPLAY



TEST

3 TILSLUTNING AF TANG

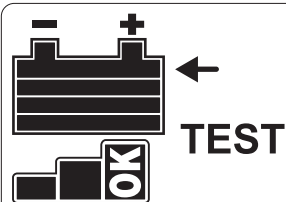


Info Alarm

4 START AF KØRETØJ



5 AFSLUTNING AF TEST - EKSEMPEL



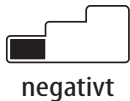
FORKLARINGER TIL DISPLAY



positivt



tilstrækkeligt



negativt

C VEDLIGEHOELSE

RECOVERY



1 VALG AF SPÆNDING

VOLT



DISPLAY

12V
24V



Info Alarm

2 VALG AF AVANCERET MENU

FUNCTION

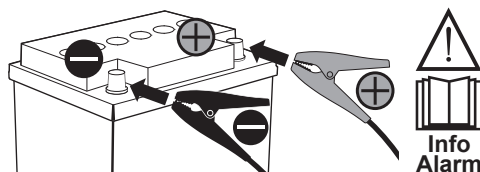


DISPLAY

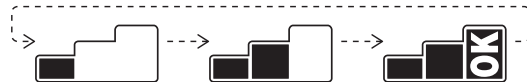


3"

3 TILSLUTNING AF TANG



Info Alarm



Når symbolerne blinker efter hinanden angives det, at RECOVERY-processen er i gang.

4 AFSLUTNING AF PROCES - EKSEMPEL



5 AFSLUTNING AF FUNKTION

FUNCTION



3"

D FORSYNING

SUPPLY

SUPPLY

SKIFT
BATTERI

1 VALG AF SPÆNDING

VOLT



DISPLAY

12V
24V



2 VALG AF AVANCERET MENU

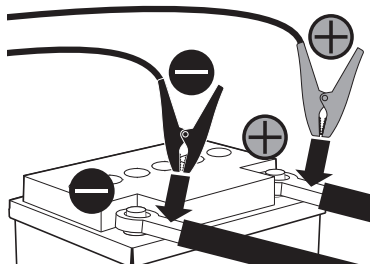
FUNCTION



DISPLAY

SUPPLY

3 TILSLUTNING AF TANG TIL KØRETØJETS BATTERIKABLER



4 KØRETØJET FORSYNET MED STRØM



AFTAGNING
BATTERI



UDSKIFTNING
BATTERI

5 AFSLUTNING AF FUNKTION

FUNCTION



EKSTRA

STØTTEBØJLE



+



MAGNETISK SÆT



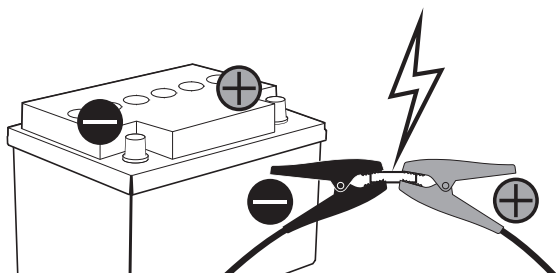


ALARMINFO

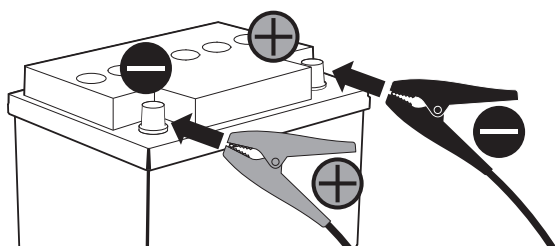


BEEEP

KORTSLUTNING



POLINVERTERING



BEEEP

