

Beta 1498/50A



INSTRUCTIONS FOR USE



- DECLARATION OF CONFORMITY

- We hereby state that the machine type

} MODEL 1498/50A

is in conformity with the EEC Directives:

} 73/23 EEC,
89/336 EEC,
93/68 EEC

and with the relative production standards:

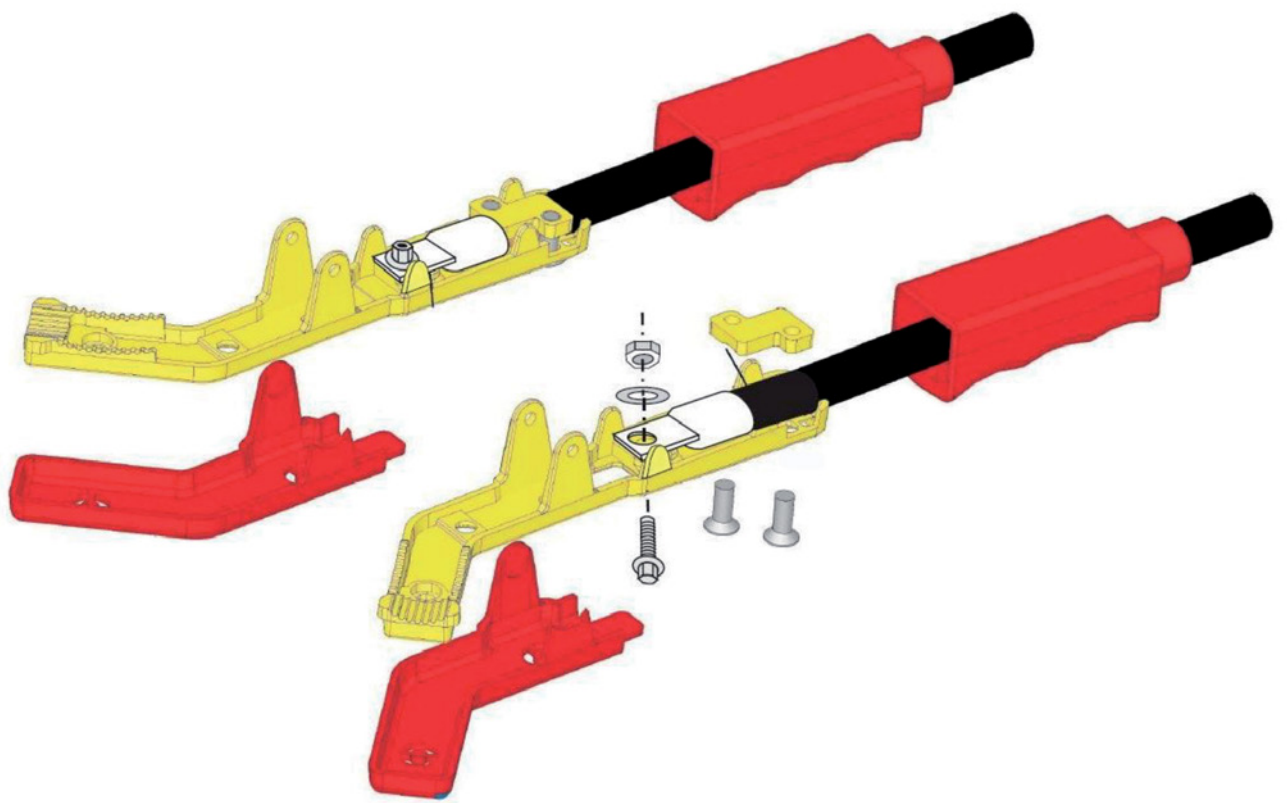
} EN 60335-2-29, EN 55014-1-2,
EN 61000-3-2, EN 61000-3-3,
EN60335-1

MILANO

ROBERTO CICERI
(President)

A handwritten signature in black ink, appearing to read 'Roberto Ciceri'.

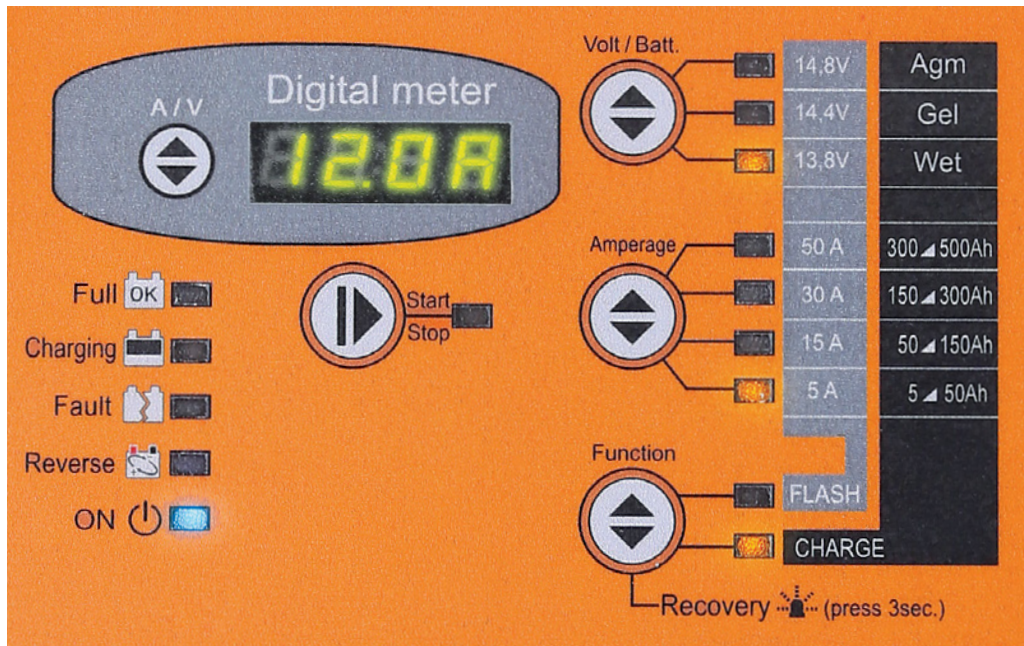
- Any tampering or change unauthorized by BETA UTENSILI shall immediately invalidate this statement.



INSTRUCTION MANUAL

Model: 12V – Charge 5Ah-500Ah

CONTROL PANEL



Signalling LEDs

There are 15 LEDs on the front panel having the following functions:

- 4 battery status LEDs, indicating:
 - Full : battery is charged and is in charge maintenance status
 - Charging : battery charging
 - Fault : battery is damaged
 - Reverse : polarity reversal
- 1 battery charger status LED, «ON LED», battery charger on (colour BLUE).
- 1 operating status LED; indicates whether output is in accordance with selected mode. Connected with the Start/Stop button. (Colour YELLOW).
- 2 operating mode LEDs, « Function »: Flash or Charge (colour YELLOW)
- 4 supplied current LEDs, « Amperage », described in next chapter (colour YELLOW).
- 3 supply voltage and battery type LEDs, « Volt/Bat », described in next chapter (colour YELLOW).

Operating mode selection buttons

There are 5 buttons:

- Start / Stop: starts or stops supply in the selected mode
- Function: selects operating mode
- Volt / Batt: selects supply voltage or the type of battery to charge
- Amperage: selects supplied current
- A/V (display): selects the information to be displayed

Digital Display

"A/V" button

The "A/V" selector button selects voltage or current display.

BATTERY CHARGER FEATURES AND OPERATING MODES

A) Operating modes: “Function”

Charge

Battery charging mode. There are 7 charging steps, as described below:

- STEP 1: Analysis 1. If the battery output is less than 6.5V, the unit proceeds with the next step. Outputs below 6.5V will cause the device to revert to stand-by.
- STEP 2: Pre-charge. The charge starts at a constant current, until the battery voltage reaches 13V.
- STEP 3: Analysis 2. Checks whether the battery has short-circuited elements. The battery charger stops supplying current for 5 minutes. If during this time the battery voltage falls below 11.7V, the device will revert to stand-by. If the voltage remains above 11.7V, the battery charger will move on to STEP 4. If any element short-circuits or the battery becomes sulphated (as confirmed by message ERR02 on the display during STEP 3), the battery should be charged in the RECOVERY mode.
- STEP 4: Deep cycle charging. The battery charges until the set limit value is reached.
- STEP 5: Constant voltage. Keeps the battery at the charging end voltage.
- STEP 6: Buffer. The voltage falls to the maintenance level and the charging cycle is completed. The green FULL LED will turn on.
- STEP 7: Pulsed current cycle. Pulsed battery maintenance cycle (over long periods).

Flash

Power Supplier mode assisting in vehicle programming. No charge phase occurs in it. It is just a power supplier stabilized at the nominal battery voltage. It is designed to deliver current supporting the battery, to prevent it from going flat during operations which require power for short or long periods of time.

Recovery

Recovery mode for sulphated batteries accessible by a prolonged press of the “Function” key. The screen displays the message “rEC” and shows the instantaneous voltage or current reading; during this step, the “Charge” LED flashes.

The battery charger performs a special charging cycle, in which higher than average voltages are forced, to attempt recovery of the battery. In this mode, no error messages are generated during the charging cycle; when the cycle is completed, a message is displayed to indicate whether or not the battery has been recovered on the basis of voltage or current absorption. This mode has 6 charging steps, as described below:

- STEP 1: Analysis 1. If the battery output is less than 3V, the unit proceeds with the next step. Outputs below 3V will cause the device to revert to stand-by.
- STEP 2: Pre-charge. The charge starts at a constant current, until the battery voltage reaches 13V.
- STEP 3: Deep cycle charging. The battery charges until the set limit value is reached.
- STEP 4: Constant voltage. Keeps the battery at the charging end voltage.
- STEP 5: Buffer. The voltage falls to the maintenance level and the charging cycle is completed. The green FULL LED will turn on.
- STEP 6: Pulsed current cycle. Pulsed battery maintenance cycle (over long periods).

ATTENTION: Because of the high voltage reached during this charging cycle, the battery recovery process must be performed with the battery disconnected from the vehicle. Recovery with the battery connected to the vehicle may result in damage to the vehicle's electronics.

B) “Flash” supply and charging mode: “Amperage”

Preset supply current bands:

Flash 5A: supply current set to 5A

Flash 15A: supply current set to 15A

Flash 30A: supply current set to 30A

Flash 50A: supply current set to 50A

Preset charging bands to select the connected battery (output current adjusted automatically)

Charge 5 Ah - 50 Ah: Supports batteries from 5Ah to 50Ah.

Charge 50 Ah - 150 Ah: Supports batteries from 50Ah to 150Ah.

Charge 150Ah - 300 Ah: Supports batteries from 150Ah to 300Ah.

Charge 300Ah – 500Ah: Supports all batteries from a minimum of 300Ah to a maximum of 500Ah.

C) “Flash” supply voltage and supported batteries: “Volt / Batt.”

Preset supply bands:

13.8V: Supply voltage set to 13.8V

14.4V: Supply voltage set to 14.4V

14.8V: Supply voltage set to 14.8V

Preset battery types:

Wet: Acid electrolyte batteries. Charge end at 14.4V

Agm: Agm batteries with flat plate or Optima type spiral cell. Charge end at 14.7V

Gel: Batteries with gelatinous electrolyte. Charge end at 14.2V

Saving Settings

The battery charger saves the settings made on the front control panel. In the event of an accidental power loss or voluntary power off, when the charger is restarted, it will restart with the latest saved settings. With the battery charger set to the FLASH mode, the work cycle will resume automatically when the power supply is restored. Whereas in the CHARGE mode, the screen will display the message ER01, and the START/STOP key will have to be pressed, to resume the normal charge cycle.

Battery Analysis

The analysis stages within the operating modes may terminate with the signalling of some errors.

- **Damaged Battery:** the "Fault" LED switches on and the "Start / Stop" LED switches off, and the charger enters Standby-by mode. The display shows the message "Errx" where 'x' is the number corresponding to the cause of the error (see Table 1). Single two second audible warning.
- **Polarity reversal:** the "Reverse" LED switches on, and the display shows the message "Err7" with a two second audible warning.

Error Codes

The errors that may be reported are described in Table 1.

Table 1: Numbering of errors

DISPLAY INDICATION	CAUSE	SOLUTION
E01	Leads disconnected, leads short-circuited.	Position the clamps correctly and start charging the battery again (see section “Operating the Charger”).
	Battery completely short-circuited.	The battery could be defective. Contact your nearest battery service centre.
E02	Battery faulty or unrecoverable No current accepted after 20 hours of recovery	The battery could be defective. Contact your nearest battery service centre.

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DISPLAY INDICATION	CAUSE	SOLUTION
E03	Internal overheating of battery charger. Battery charger overload.	Remove any objects that could be covering the ventilation area of the battery charger or move it to a cooler area. Wait for the battery charger to start again automatically.
E04	Voltage error.	Set the voltage corresponding to that of the battery again. Start charging the battery again (see section "Operating the Charger").
	One or more elements of the battery has/have short-circuited.	The battery could be defective. Contact your nearest battery service centre.
E05	Battery voltage too high compared to that set (you are attempting to charge a 24V battery).	Only use the battery charger with batteries supported at 12V. Start charging the battery again (see section "Operating the Charger").
E06	Battery capacity excessive Unable to reach end condition.	Use a battery charger with greater capacity.
E07 and LED REVERSE	The clamps of the output leads are not connected correctly to the battery.	Position the clamps correctly and start charging the battery again (see section "Operating the Charger").
E08	Excessively high output current Current exceeds maximum limit	Reduce battery absorption.

WARNINGS

- The battery charger is designed to charge lead acid batteries. Do not use it for any other purposes. Do not charge disposable batteries. Do not charge frozen batteries.
- This appliance must not be used by incapable persons (including children) without supervision.
- Keep out of the reach of children. This appliance is not a toy and must not be used as such.
- Always wear protective goggles and keep your face away from the battery while connecting and disconnecting it.
- Explosive gas could be given off while the battery is charging; therefore, prevent the formation of sparks or flames, and do not smoke.
- Charge the battery in well-aired and dry places. Do not expose to rain or snow.
- Make sure the battery charger is disconnected from the mains before connecting, or disconnecting, the charge leads to/from the battery.
- Never put the battery charger on top of the battery while charging it.
- The fluid in the batteries is corrosive. In case of accidental contact between the acid and the skin or eyes, rinse with water immediately and seek medical advice.
- Improper use of the battery charger or tampering with the built-in electronic circuit will invalidate your warranty.
- If the power supply lead of the appliance is damaged, it must be replaced by authorized technicians, because its replacement requires the use of special tools.
- The appliance must be repaired or serviced by trained personnel only.
- Read the instruction manual carefully before using the battery charger.

BATTERY CHARGING

Charging batteries connected to the vehicle

1. Before starting to charge the battery, make sure the power supply lead is not plugged into the mains supply.
2. Locate the vehicle's earthing point, which is normally connected to the negative battery terminal.
3. Charging a battery with negative earth, grounded to the vehicle's chassis.
 - Connect the output lead with the red clamp to the positive terminal (+) of the battery.
 - Connect the output lead with the black clamp to the vehicle's earthing point, keeping it away from the battery and from the fuel pipe.
4. Charging a battery with positive earth, grounded to the vehicle's chassis.
 - Connect the output lead with the black clamp to the negative terminal (-) of the battery.
 - Connect the output lead with the red clamp to the vehicle's earthing point, keeping it away from the battery and from the fuel pipe.

Connecting batteries that are not connected to a vehicle

1. Before starting to charge the battery, make sure the power supply lead is not plugged into the mains supply.
2. Connect the output lead with the red clamp to the positive terminal (+) of the battery.
3. Connect the output lead with the black clamp to the negative terminal (-) of the battery.

ATTENTION: Make sure both clamps of the output leads generate a suitable contact with their corresponding terminals.

OPERATING THE CHARGER

1. Once the output leads have been connected to the battery, plug the power supply lead of the battery charger into the mains, making sure the voltage matches the nominal voltage of the battery charger (230V-50Hz); having done this, the charger will emit an acoustic signal for 0.5 seconds, and all the LED indicators on the control panel will switch on for 2 seconds; at this stage, the display shows " - - - -".
2. The battery charger is configured in "stand-by" mode; for example: ON LED lit, WET LED lit, CHARGE LED 5-50Ah lit. The LEDs light up differently based on the last programme saved (see section "Saving Charging Cycles").
3. At this stage, with the battery charger in "stand-by" mode, set the charging parameters suitable for the type of battery to be charged, using the buttons on the control panel. The charging parameters selected are displayed by the corresponding LED, which switches on.

Settable charging parameters:

- Function key: (see section A – Operating Modes: "Function") depending on the work cycle, select:
 - Flash, Charge or Recovery.

- Amperage key: (see section B – Supply and charging mode: "Amperage")

Based on the supply current required to support the battery voltage during reprogramming operations, you can select four different supply currents:

If you select the FLASH function, you can choose among the following options:

- Flash 5A: the battery charger delivers a constant current of 5A
- Flash 15A: the battery charger delivers a constant current of 15A
- Flash 30A: the battery charger delivers a constant current of 30A
- Flash 50A: the battery charger delivers a constant current of 50A

If you select the CHARGE function: Based on the capacity of the battery, select:

- Charge 5Ah/50Ah: charge for batteries with capacity from 5Ah to 50Ah
- Charge 50Ah/150Ah: charge for batteries with capacity from 50Ah to 150Ah
- Charge 150Ah/300Ah: charge for batteries with capacity from 150Ah to 300Ah
- Charge 300Ah/500Ah: charge for batteries with capacity from 300Ah to 500Ah

- **Volt / Batt key** (see section C - "Flash" supply voltages and supported batteries: "Volt / Batt.")
Depending on the supply voltage required to support the battery voltage during reprogramming operations (**ONLY FLASH MODE**), you can select three different supply voltages:
13.8V: Supply voltage set to 13.8V
14.4V: Supply voltage set to 14.4V
14.8V: Supply voltage set to 14.8V

Depending on the construction/type of the battery (**ONLY CHARGE MODE**), select: Wet, Gel or Agm.

4. Once the charging parameters have been set, press the START/STOP key to start charging the battery. When the START/STOP and CHARGING LEDs light up, the battery is being charged; the display will show the charging current and the voltage of the battery.
5. The CHARGING LED remains lit in phases "I" and "U0" whilst the battery is charging.
6. When the FULL LED switches on, it means that the battery is fully charged (100%), and the charger will switch to the maintenance phase, keeping the state of efficiency of the battery constantly monitored, so that it is always at an optimal level of charge. In this charging phase, the appliance can be left connected to the battery for several months.
7. If you wish to end or interrupt the charging cycle, follow the charge end/interruption instructions.

INTENTIONAL INTERRUPTION OF THE CHARGING CYCLE

If you want to interrupt the battery charging cycle, simply press the START/STOP key; the corresponding LED will switch off to show that the work cycle has ended. At this stage, it is recommended to disconnect the output leads from the battery terminals.

INTERRUPTION OF THE CHARGING CYCLE IN THE CASE OF A POWER SUPPLY CUT

In the case of a 230V mains power supply cut, the charger saves the work cycle that it was performing in order to restore it automatically (only in the FLASH mode) as soon as the 230V power supply is restored. This function is fundamental if the battery charger is used to charge batteries without the operator supervising the cycle; for example, during very long charging cycles. Whereas, in the CHARGE mode, the START/STOP button must be pressed to resume the work cycle.

END OF CHARGING

1. Once the battery is charged, press the START/STOP key of the battery charger. The LED will turn off to show that the battery charger has completed the work cycle.
2. Disconnect the output lead with the black clamp from the vehicle's earthing point or from the negative terminal (-) of the battery.
3. Disconnect the output lead with the red clamp from the positive terminal (+) of the battery.

MAINTENANCE

When the battery charger is not being used, it must be stored in a dry place to protect it against humidity. Disconnect the battery charger and use a soft cloth to clean its outer casing.

WARRANTY CONDITIONS

1. This product is warranted by the manufacturer for a period of 12 months from date of purchase, as stated on the proof of purchase from the dealer.
2. The warranty provides for free repair or replacement of any parts in case of manufacturing and material defects acknowledged by the manufacturer.
3. Any problems arising from negligence, misuse or tampering with the appliance will void the warranty.
4. The warranty will only be valid if the appliance is repaired by trained personnel authorised by the manufacturer.
5. Incorrect connection to the mains, differences between the power supply voltage and the plate rated voltage of the battery charger, and line voltage fluctuations caused, for example, by external agents and lightning strikes, will invalidate the warranty.
6. Any returned appliances must be shipped CARRIAGE FREE and will be sent back CARRIAGE FORWARD. This also applies during the warranty period.
7. The warranty certificate must be accompanied by either a valid purchase receipt or a bill of parcel.
8. No liability can be accepted for direct or consequential damages to persons or things of any kind howsoever arising in connection with the use or interruption of use of the battery charger.