

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE



Please read & follow this user guide & all safety instructions carefully when using this product.

Keep the user guide for future reference. When passing the product onto others be sure to include all documentation.

The user guide is also available on our website:

[www.maypoleltd.com](http://www.maypoleltd.com)

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### RISK OF FIRE OR EXPLOSION

Explosive gases may escape during charging. This is normal, but please follow the following guidelines:



- Do not charge near flames or sparks – do not smoke in the area.
- Ensure adequate ventilation during charging.
- Keep the charging area completely clear of combustible materials.
- Do not leave charging batteries unattended for extended periods.
- Do not allow battery to overheat.
- Store and use indoors only, do not expose to rain or moisture.
- The charger is designed to charge 12/ 24V Lead-Acid, AGM & GEL batteries with capacities as shown in the specifications table.
- Charge only one battery at a time. Do not use with non-rechargeable batteries.

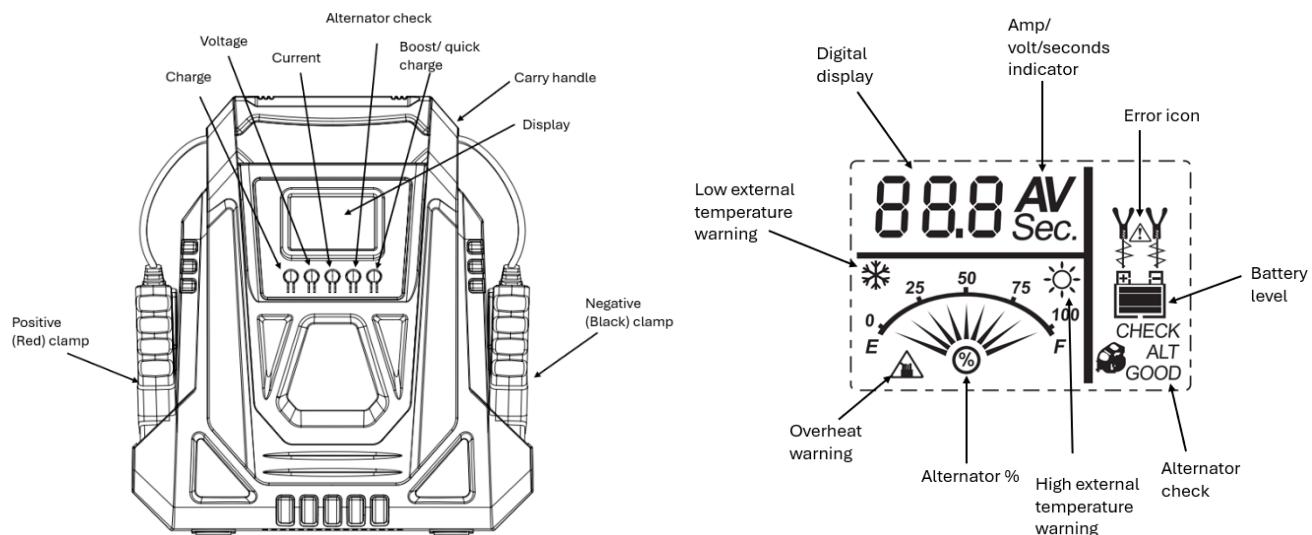
### WARNING – GENERAL SAFETY

- Never attempt to charge a frozen battery or dry cell battery.
- This charger should not be used as a continuous DC power source or for any purposes other than those listed – any other use will invalidate warranty.
- Never use the appliance if the charger has been dropped.
- Ensure that cables are regularly inspected and kept in good condition.
- Never use the cable to carry or pull the device.
- Never use the charger if the mains lead, plug, output leads or crocodile clips are worn or damaged.
- There are no user-serviceable parts in this product other than the fuse in the mains plug.
- Locate the charger as far away from the battery being charged as the cables will permit.
- Never place charger directly on or above the battery being charged; gases from the battery can corrode and damage the charger.
- The use of an extension cable is not recommended. If an extension cable must be used ensure that the capacity of the cable is greater than the rating of the charger.
- Be sure to position the mains lead to prevent it from being stepped on, tripped over or damaged.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

- Always disconnect mains supply before connecting and disconnecting the battery leads.
- Follow instructions for safe use, electrical discharge from batteries can be dangerous.
- Battery electrolyte is acidic and likely to cause burns. The use of safety goggles and gloves when working with lead acid batteries is strongly advised.
- Remove metal items such as rings, necklaces and watches while working with batteries.
- This appliance is not for use by a person (including children) with reduced physical, sensory or medical capabilities or lack of experience or knowledge.
- NOTE: A marine battery installed in a boat must be removed and charged on shore. To charge it on board requires equipment specially designed for marine use and not within the scope of this product.
- **The manufacturer is not responsible for damages caused by:**
- Exterior force, damage to the device and / or damage to parts of the device caused by mechanical impact or overload.
- Consequential damages caused by non-intended and / or improper use, and / or defective batteries.
- Unauthorized opening of the device will void the warranty.

### PRODUCT LAYOUT



### PREPARATION OF BATTERY

Refer to the vehicle manufacturer's handbook for battery maintenance and charging guidelines. If the battery must be removed from the vehicle before charging, ensure all other electrical loads in the vehicle are switched off. Always disconnect the earthed connector from the battery first.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

### CONNECTION

Always disconnect the mains supply before making or breaking battery connections. Ensure the battery poles are clean. Connect the battery clips to the battery in the following order:

- First connect the positive charging lead (RED) to the positive post of the battery (marked +, +ve or P).
- Then for vehicles with the battery still installed: connect the negative charging lead (BLACK) to the vehicle chassis, well away from the battery, fuel line, hot or moving parts.
- For batteries removed from the vehicle: Connect the negative charging lead (BLACK) to the negative post of the battery (marked -, -ve or N).
- After connecting the clips, rotate them slightly so to remove any dirt or oxidization, thus ensuring a good contact. The charger must now be connected to the mains supply.

### CHARGING MODES

The charger has 9 charging modes. Do not operate the charger until the appropriate charging mode has been selected.

Mode	Battery Size (Ah)
12V 5A	2-60
12V 10A	14-200
12V 15A	50-400
12V 25A	≥75
24V 3.5A	2-100
24V 7.5A	14-200
24V 12A	36-350
12V 40A Boost	Any
12V Alternator Check	Any

### CHARGING OPERATION

- Connect the charger to a battery as per the CONNECTION instructions above.
- Connect the charger to the AC mains supply.
- The charger will automatically detect the voltage of the battery connected (12V or 24V).
- A 10 second countdown will be displayed; if no buttons are pressed within 10 seconds, the charger will commence its 12V/5A or 24V/3.5A program.
- During the 10 second countdown, the user can manually select a charging program by pressing the 'voltage' and "current" buttons.

Note: if a 24V program is selected whilst connected to a 12V battery, damage may occur to battery.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

Pressing 'charge' button during an active charge cycle will pause the cycle. A second press will resume.

Pressing 'voltage' button during an active charge cycle will display the actual charging current and battery voltage.

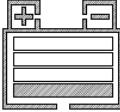
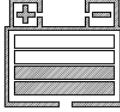
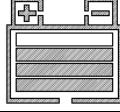
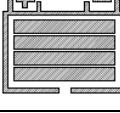
A graphical representation of battery capacity is indicated by the battery level icon. When full charge is indicated, the device will enter maintenance charge mode.

The charger has a built in auto-memory which automatically shows the last mode selected.

NOTE – Once power is disconnected the auto-memory is cleared.

**WARNING! DO NOT ATTEMPT TO START THE VEHICLE WITH THE CHARGER CONNECTED TO THE BATTERY. THIS MAY DAMAGE YOUR BATTERY CHARGER.**

### BATTERY LEVEL INDICATOR

ICON	DESCRIPTION
	The first bar will flash when the battery level is less than 25%. When the battery is 25% charged the bar will be solid.
	The second bar will flash when the battery level is less than 50%. When the battery is 50% charged the bar will be solid.
	The third bar will flash when the battery level is less than 75%. When the battery is 75% charged the bar will be solid.
	The fourth bar will flash when the battery level is less than 100%. When the battery is 100% charged the bar will be solid. The charger will automatically switch to maintenance charging.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

### CHARGING CYCLE

The charger uses an 8-stage charging process designed to efficiently charge and maintain batteries:



**Stage 1** — Diagnosis: The battery is analysed to ensure it can be charged, to prevent charging a defective battery.

**Stage 2** — Desulphation: If the battery is sulfurized, the charger will clear the sulphide with a pulsed current to recover battery capacity.

**Stage 3** — Analysis: Checks the battery voltage after desulphation stage.

**Stage 4** — Soft start: The charger gradually charges.

**Stage 5** — Bulk charging: Charging with constant maximum current until the battery voltage reaches a threshold.

**Stage 6** — Absorption charging: The charging current reduces gradually until the battery is fully charged.

**Stage 7** — Pulse charging: Pulsed charging with trickle current.

**Stage 8** — Analysis and maintenance: Battery is analysed to confirm it can hold charge. Once battery falls below threshold the device will enter trickle charge.

### 12V BOOST CHARGE

**The boost function will only operate with 12V batteries.**

Pressing the BOOST button will activate the 40A boost charge.

For optimal results, allow the boost to complete its 300 second (5-minute) charge. After the 300-seconds countdown, the display will show “000”, and you are ready to start your vehicle (whether FULL light is illuminated or not). Do not attempt to start the vehicle during the BOOST charge!

After each boost the charger will rest for 5 minutes will be operational until the LCD shows “END.” At this stage normal charging can be recommenced by pressing any button.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

If starting attempt is unsuccessful, let the battery rest for 15 minutes and run the boost program again. Most vehicles will start with one boost. Do not use boost more than two (2) times within a 24-hour period. If two boosts cannot successfully start your vehicle, have your battery replaced or evaluated by a local battery store.

The boost charge function can be stopped at any time by pressing the CURRENT button.

### 12V ALTERNATOR CHECK

Connect the charger to a battery as per the connection instructions. NOTE – the battery must be installed in the vehicle.

Connect the charger mains plug to an AC supply.

Press and hold the ALTN CHECK button for 3 seconds.

Start the vehicle and turn on the vehicle's headlights.

The LCD shows the estimated output percentage of the vehicle's charging system.

ICON	DESCRIPTION
 GOOD	0%-100% output reading indicates a good output.
 SLOW FLASH	Below 0% (13.2V) output reading indicates a low output.
 QUICK FLASH	Above 100% (14.6V) output reading indicates a high output.

If you get a LOW or HIGH reading; have the electrical system checked by a qualified technician. After 10 seconds; the charger will automatically return to the normal charging process.

### CLEANING, CARE & MAINTENANCE

Clean clamps after every charge to prevent corrosion, wipe off any battery fluid which may have come into contact with the clamps.

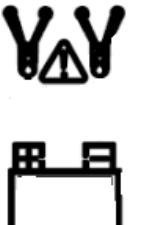
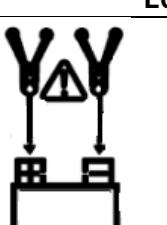
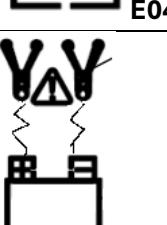
Clean the product with a soft, dry cloth. Store in a clean, dry place.

Disposal: Do not throw electrical appliances in with domestic waste!

In accordance with European Directive 2012/19/EC for waste electrical and electronic equipment (WEEE) must be collected separately and taken to a recycling point for disposal.

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

### TROUBLE SHOOTING

ICON	CAUSE	SOLUTION
 <b>E01 (WITH ALARM)</b>	The charger is overheating	Charging will automatically pause with the alarm sound. Do NOT cut off the power supply. The charger will work again once cooled down
 <b>E02</b>	1) Open-circuit 2) Dirty battery terminals 3) Dead battery 4) Output short circuit	1) Connect the red & black clamps to the battery terminals 2) Clean the battery terminals 3) Replace the battery 4) Disconnect the red and black output terminals
 <b>E03 (WITH ALARM)</b>	Charging in 12V mode on a 24V battery	Restart the charger and choose the correct voltage. NOTE – selecting 24V for a 12V could damage the battery
 <b>E04</b>	Battery cannot store charge during the charging process	Replace the battery
 <b>E05</b>	Battery is heavily corroded and cannot be recovered through the desulphation process	Replace the battery
 <b>E06</b>	Reverse polarity	Disconnect and reconnect correctly

## 12/24V 25A SMART CHARGER WITH 40A BOOST (MP7225) USER GUIDE

### TECHNICAL SPECIFICATION

Model No.	MP7225
AC Input	230V, 50-60Hz
DC Output	12VDC, 25A/ 15A/ 10A/ 5A 24VDC, 12A/ 7.5A/ 3.5A 12VDC only; 40A, 300s (Boost)
Efficiency	85% Approx
Charger Type	8 Steps; fully automatic charging cycle
Battery Type	All types of 12V & 24V Lead-acid/AGM
Battery Capacity	2-350Ah
Housing Protection	IP20
Ambient Temperature	0°C ~ +40°C
Fuse Mains Plug	10A

### ENVIRONMENTAL PROTECTION



Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority or retailer for recycling advice.

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