



12A and 20A Automatic Workshop Chargers

MP7212



MP7220



3 Amp Slow Charge
 75 Amp Engine Start 12V
 12 Amp Fast Charge 12V
 6 Amp Fast Charge 24V

3 Amp Slow Charge
 150 Amp Engine Start 12V
 20 Amp Fast Charge 12V
 12 Amp Fast Charge 24V

Fully automatic processor controlled. Suitable for all 12 or 24 Volt lead-acid batteries including deep cycle, AGM and Gel.

INSTRUCTION MANUAL

Please read and follow this operating manual and all safety instructions for the batteries to be charged and the vehicle before using this device.

Keep these instructions for future reference. When passing the device on to others be sure to also include all documentation. The instruction leaflet is also available on our website: www.maypole.ltd.uk



1 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 long periods or overnight.
- Do not allow battery to overheat by exceeding 40°C.
- Store and use indoors only, do not expose to rain or moisture.
- The charger is designed to charge 12V or 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.

2 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.
- Ensure that cables are regularly inspected and kept in good condition. Never use the cable to carry or pull the device.
- Never use the appliance if the charger has been dropped or if the charger, mains lead, plug, output leads or crocodile clips are worn or damaged.
- In order to avoid a hazard, replacement of the mains cable should only be carried out by the manufacturer. There are no user-serviceable parts in this product other than the fuse in the plug.
- Locate the charger as far away from the battery being charged as the cables will permit.
- The use of an extension cord is NOT recommended. If an extension cord must be used ensure that the capacity of the cable is greater than the rating of the charger
- Be sure to position the power cord to prevent it from being stepped on, tripped over or damaged.
- Never place charger directly above battery being charged, gases from the battery will corrode and damage the charger.
- 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.

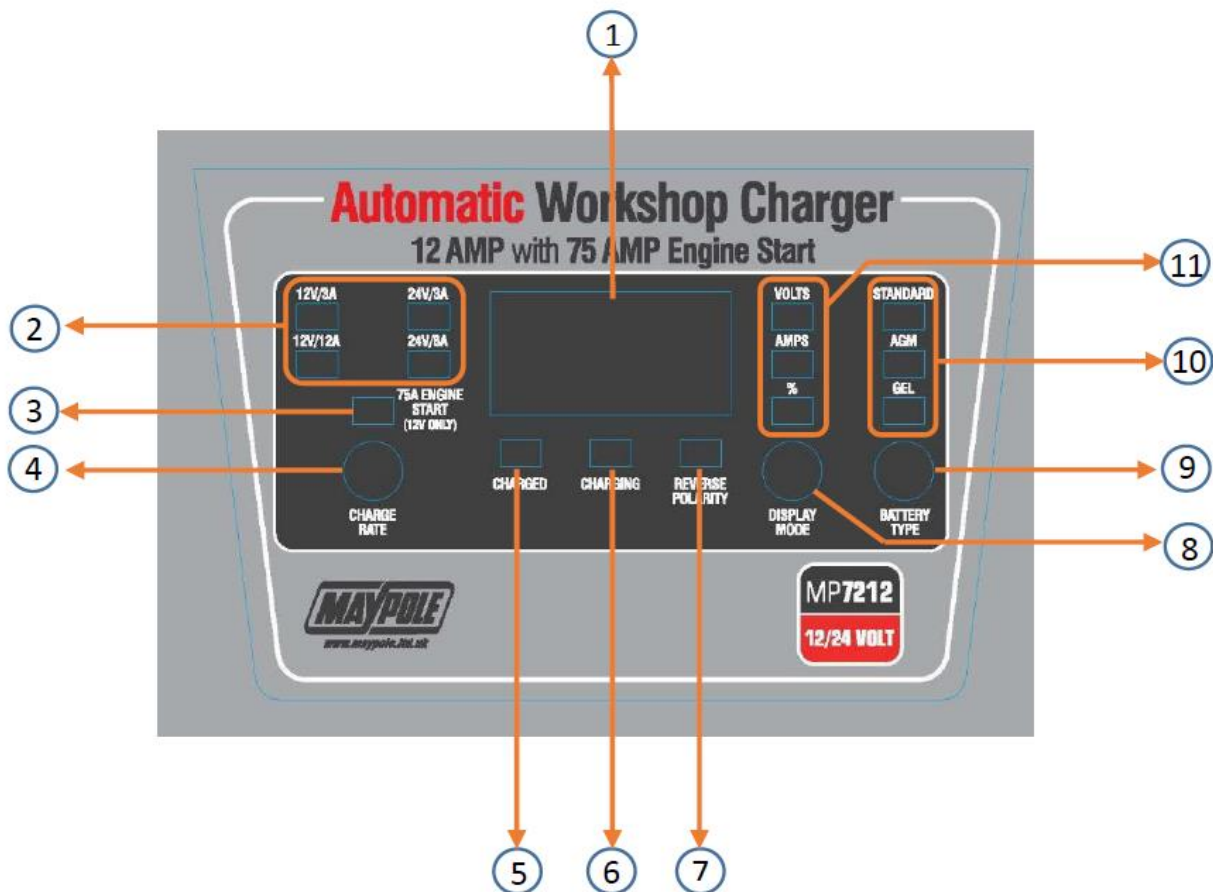
The manufacturer is not responsible for damages caused by:

- 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.
- The unauthorised opening of the device will void the guarantee.

3 Product Overview

No. Description / Function

- 1 **Main Display** – Displays the value of selected charging parameter.
- 2 4 x **Charging Voltage and Current** LEDs - Indicate the selected charging voltage and current. Switched with the button (4).
- 3 **ENGINE START** LED - Illuminated when the 12v jump starting function is activated by repeatedly pressing button(4)
- 4 **CHARGE RATE** selection button for selecting the charging current and charging voltage.
- 5 **CHARGED** LED - lights up when the battery is fully charged.
- 6 **CHARGING** LED - lights up during charging.
- 7 **REVERSE POLARITY** LED - lights up if connected incorrectly or a charging error occurs.
- 8 **DISPLAY MODE** button - switches the parameters (V / A / %) shown On the Main display (1).
- 9 **BATTERY TYPE** button - switches battery types (charging mode only).
- 10 **STANDARD / AGM / GEL** LEDs - Display the selected battery type (charging mode only).
- 11 **V / A / %** LEDs - display the selected charging parameter (in charging mode only) switched with the **DISPLAY MODE** button (8).



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DESCRIPTION OF LED INDICATORS AND DISPLAY

The charger starts with the **MAIN DISPLAY** (1) in the **AMPS** mode.

Pressing the **DISPLAY MODE** button (8) repeatedly will allow you to cycle through to the other modes, **VOLTAGE** and **BATTERY CAPACITY %**. The LEDs (11) will indicate which mode is selected, the digital display will indicate the corresponding value for each mode.

DESCRIPTION OF MAIN DISPLAY MODES

- **VOLTS**

The display will show the charging voltage supplied by the charger, this is usually higher than the battery's resting voltage.

- **AMPS**

This mode shows the charging current being supplied by the charger and not the charge rate selected. The charger detects and delivers the correct amount of amperage needed to charge the connected battery.

- **%**

Battery capacity is the approximate percentage of the full battery capacity. At less than 50% battery capacity, the **MAIN DISPLAY** will read **LO**.

As the battery is charged the display will increase in 10% increments between 50% and 90% capacity. At full charge, the display will read **FUL**.

5

PREPARATION OF THE 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.

6

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 (marked -, -ve or N), 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 as to remove any dirt or oxidization, thus ensuring a good contact. The charger must now be connected to the mains supply.

7

CHARGING

Warning! When correctly connected to a battery and to the mains supply, the charger will detect the battery voltage (12V-24V) and display the voltage measured on the "**Main Display**" (1).

Charging will then start automatically, always commencing with the slow charge rate for the detected Voltage and Standard Battery type.

This will illuminate one of Charging Voltage and Current display LEDs (2) and the **Standard** battery type LED in display (10).

The "**CHARGING**" LED (6) will light up, the charging process is then fully automatic.

Note:

Verify the device's pre-set charging voltage (12V or 24V) corresponds with the connected battery. The charger is equipped with a microprocessor (MCU - Micro Computer Unit) and features fully automatic diagnostic, charging, and maintenance functions. If the wrong battery voltage is set or the battery is defective, it will not continue to charge and the "**REVERSE POLARITY**" LED (7) will light up (also see "Troubleshooting").

8 CHARGING RATE SELECTION

Do not overcharge a battery, refer to the battery manufacturers charging instructions. The charger always starts up in the **AUTOMATIC** slow charge mode.

Repeatedly pressing the **CHARGING RATE MODE** button (4) will allow you to cycle through the following charging programs:

3A Intended Use for slow charging automotive batteries or charging motorcycle batteries.

Fast Charge: Intended Use for charging medium automotive batteries. Faster charging of small-to-medium capacity automotive, marine, deep cycle, and farm tractor batteries

Engine Start 12V - 75A or 150A: Intended Use Helps start vehicles and equipment with a weak battery.

During Charging: You may repeatedly press the DISPLAY MODE button (8) to display the Charging voltage (V), Charge in (%) and the Charging current (A). You may also repeatedly press the BATTERY TYPE button (9) to select the battery type.

9 MAINTENANCE MODE

Once the battery is fully charged, the “CHARGED” LED (5) will light up and the “Charging” LED (6) goes out, the charger will automatically go into Maintenance (Float) mode to maintain the charge in the battery and protect from overcharging. This function allows the charger to be permanently connected.

10 WHEN CHARGING IS COMPLETE

To disconnect the charger, first switch off the mains supply, unplug the charger from the mains socket and then disconnect the clips in the following order:

Remove the **negative (BLACK lead) first**. Then disconnect the **positive (RED lead)** from the battery.

11 ABORTED CHARGES

If charging cannot be completed normally, charging will be aborted. The digital display may show an Error code. To reset the charger after an aborted charge, unplug the charger, disconnect the battery and then after checking the battery and connections reconnect correctly.

12 OVERHEAT PROTECTION

The charger is designed to shut itself off if overheating is detected. Once the charger cools down, it will resume charging automatically.

13 ENGINE START FUNCTION

The charger’s engine start function (3) can be used to help start vehicles with a weak battery. In very low temperatures or if the battery voltage is below 1.5 V charge the battery at least 5 minutes before jump starting.

1. Connect the charger as described under “Connection”.

2. When charging commences, repeatedly press the **CHARGE RATE** button (4) to select “ENGINE START” mode LED (3).

The display shows the current battery voltage. The battery will be charged at 5 A until the engine is started.

Note: The engine start mode will automatically stop after approx. 30 seconds to prevent damage to the device.

3. Try starting the vehicle.

Note: Try starting for max. 5 seconds. Wait approx. 3 minutes before trying to start it again to allow the charger and battery to cool down.

4. Engine start mode will be disabled for 3 minutes. The display will show a 180 second countdown and the battery will be charged at 5 A until the engine is start mode is available.

5. Once the engine has started, unplug the mains plug from the 230 V mains socket.

6. Disconnect the black (-) terminal connection cable with clamp from the negative battery terminal.

7. Disconnect the red (+) terminal connection cable with clamp from the positive battery terminal.

14 TROUBLE SHOOTING AND FAULT CODES

Check that the mains supply is connected and the display is illuminated. Check that the clips are correctly connected to the battery and making a good contact. The only user serviceable part is the mains fuse fitted inside the mains plug. The battery must be in good condition and capable of accepting a charge.

Error/Problem	Possible cause	Correction
Display (1) shows "---".	No battery connected. Battery voltage below 0.5 V.	Connect battery (see "Connecting the Device"). Unable to charge battery.
Display (1) shows "Er1".	Connected battery incompatible.	Only connected compatible batteries (see "Intended Use").
Display shows (1) "Er2".	Connected battery defective.	Dispose of battery in an environmentally friendly manner.
Display (1) shows "Er3".	The battery was not fully charged within 24 hours.	<ul style="list-style-type: none"> • Verify the charging rate is set correctly. • Battery defective.
"Reverse Polarity" LED (7) lit	Battery incorrectly/not connected	Unplug charger and check the connections.
	Incorrect battery voltage (12/24V) selected	Unplug charger and wait for the LEDs to go out. Reconnect the charger and select the correct battery voltage.
Battery cannot be charged	No power supply	Battery defective
		Verify the charger is connected to a 230V mains socket.
Long charging time	Battery temperature too low	Never charge a frozen battery. Charging rate increases with battery temperature.
	Battery capacity too high.	Use a different charger
	Low charging current selected	Select higher charging current
Battery voltage too low	Battery charging period too short	Increase duration of battery charging period

15 Cleaning, care and 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 the machine in a clean, dry place.

16 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.

17 TECHNICAL SPECIFICATIONS

Model No.	Input	Max. Charging Output	Engine Start	For Battery Capacity	Fuse Mains Plug
MP7212	230V AC 50Hz 180 Watt	12V DC 3A / 12A 24V DC 3A / 6A	75A	12V 6-200 Ah 24V 6-100Ah	13A
MP7220	230V AC 50Hz 270 Watt	12V DC 3A / 20A 24V DC 3A / 12A	150A	12V 6-300 Ah 24V 6-150Ah	13A

We declare that this product conforms to the following standards

EN60335-1:2012+A11:2014+A13:2017

EN60335-2-29:2004+A2:2010, EN62233:2008.

EN55014-1:2017, EN55014-2:2015, EN61000-3-2:2014,

EN61000-3-3:2013, and the following Directives 73/23 CEE, 93/68 CEE, 2004/108/EC, 2002/95/EC (ROHS)



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