



Automatic Workshop Trolley Chargers Instruction Manual

MP726



MP727



5/15/30/40A Charge. 250A Engine Start

20/30/40/60A Charge. 350A Engine Start

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

Please read and follow this operating manual and all safety instructions carefully when using this device to charge batteries or to start a vehicle.

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



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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 long periods or overnight.

Do not allow battery to overheat by exceeding 40⁰C.

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.

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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.

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 the charger directly above the battery being charged, gases from the battery will corrode and damage the charger.

Always disconnect the 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:

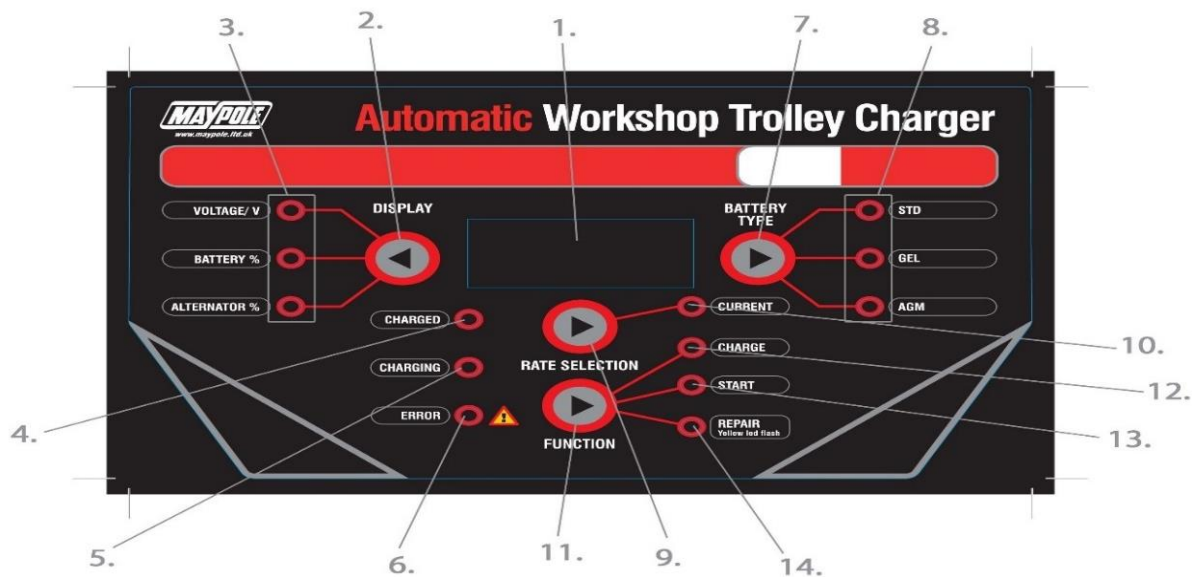
Consequential damages caused by non-intended and / or improper use, and / or defective batteries.

The unauthorised opening of the device will void the guarantee.

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PRODUCT OVERVIEW

No.	Description / Function
1	Main digital display – shows charging status
2	Display mode button – switches the parameters (Voltage/ Battery % & Alternator %) shown on the main display (1)
3	Voltage/ Battery % & Alternator % LED’s – indicate the selected charging parameter
4	Charged LED – lights up when the battery is fully charged
5	Charging LED – lights up during charging
6	Error LED – lights up if connected incorrectly or cannot charge battery (see trouble shooting)
7	Battery type selector button – switches battery type (STD/ GEL/ AGM)
8	STD/GEL/AGM LED’s – indicate the selected battery type
9	Current rate selector button – switches the charging current
10	Current LED – lights up when changing the current rate selection (9)
11	Function selector button – switches between charge / engine start & repair functions
12	Charge LED – indicates charging function is selected
13	Start LED – indicates start function is selected
14	Repair LED – indicates repair function is selected



DESCRIPTION OF DISPLAY INFORMATION

When connected to a battery press the "DISPLAY" button (2) until the following LED is illuminated:

Voltage LED illuminated

When no charging function is selected, the display will show the battery's resting voltage.

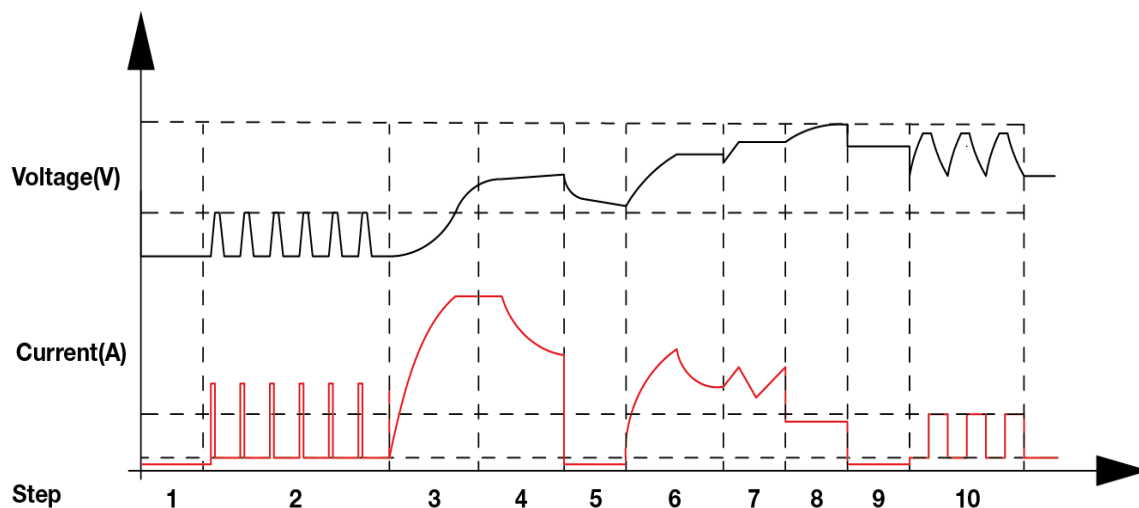
Battery % LED illuminated

During the charging cycle, the display will show the estimated charge percentage of the battery.

Alternator % LED illuminated

When the charger is NOT charging; start the vehicle and turn on the vehicle's headlights. The alternator percentage range is from 0% to 100%. Readings below 0% will read LO, readings above 100% will read HI. If you get a HI or LO reading have the vehicles electrical system checked by a qualified technician.

The below information is a detailed explanation of the 10 stage charging process:



STEP 1: ANALYSING 1 (Checks if battery has connected with the charger)

STEP 2: DESULPHATION (Pulsing charging to remove sulphate)

STEP 3: SOFT START (Charges with gradually increasing charging current)

STEP 4: CONTROLLED CURRENT CHARGE (Adjusts the charging current intelligently)

STEP 5: ANALYSING 2 (Tests if the battery can absorb charge)

STEP 6: CONSTANT OUTPUT CHARGE (Charges with constant voltage and compensates fake full charge caused by high current charging)

STEP 7: RECOVERY CYCLE CHARGE (Absorbs more charge and compensates side effect of reduced charging current)

STEP 8: ABSORPTION (Charges with constant trickle current for maximum battery voltage)

STEP 9: ANALYSING 3 (Tests if the battery can hold charge)

STEP 10: MAINTENANCE (Continuously monitors the battery, and charges with trickle current once the voltage is lower than threshold)

CONNECTION TO MAINS SUPPLY

	Max. input power charging	Max input power - engine start	Recommended fuse or circuit breaker
MP726	1.5Kw	6.0Kw	16 Amp
MP727	3.0Kw	9.0Kw	32 Amp

MAINS SUPPLY

The electrical supply required for this product is in excess of 13 amp, NO plug is fitted. You must therefore contact a qualified electrician to ensure that a suitable power supply is available. We recommend the use of an industrial round pin plug and socket (IEC60309) this should be discussed with your electrician. Use of an RCD to protect this circuit is recommended.

MAINS PLUG

This charger must be correctly earthed via a three-pin plug, as shown.

- a) Connect the green/yellow earth wire to the earth terminal.
- b) Connect the brown live wire to live terminal 'L'.
- c) Connect the blue neutral wire to the neutral terminal, 'N' or unmarked.
- d) After wiring, check that there are no bare wires, that all wires have been correctly connected, that the external insulation extends beyond the cable restraint and that the restraint is tight.

EXTENSION CABLES

If an extension reel is used it should be fully unwound before connection. The cable conductor core section is important and should be at least 1.5mm² for MP726 and 2.5mm² for MP727, use of long extension cables will also affect performance and the shortest suitable length should be selected.

HANDLE INSTALLATION

To install the handle - pull the clamp storage panel found on the rear of the charger upwards to remove it. Press the spring clips on the handle and insert into the 2 holes on the rear of the charger. Ensure the spring clips are fully locked into the retaining holes. The handle can be fully retracted for compact storage.

To remove the handle – use a tool (ie screwdriver) to press the spring clips into the retaining holes. Pull the handle out of the 2 holes on the rear of the charger.

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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.

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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.

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CHARGING

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).

Select the correct battery type **"Battery Type"** (7).

Select an appropriate current rate **"Current rate selector"** (9).

Select charge on the **"Function selector"** (11).

The **"Charging LED"** (5) will light up, the charging process is fully automatic. The digital display provides information on the 10 stage charging process.

To stop charging press the **"Function selector"** (11). The **"Charging LED"** (5) will go out and the digital display will read 'CHARGE-OFF'.

The **"Charged LED"** (4) will light up when charging is complete. The charger will automatically go into Maintenance mode (step 10) to maintain the charge in the battery and protect from overcharging. This function allows the charger to be permanently connected.

Note – when charging the “Battery Type button” (7) will not work

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.

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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.

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OVERHEAT PROTECTION

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

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ENGINE START FUNCTION

The charger’s “engine start function” (13) can be used to help start vehicles with a weak battery. In very low temperatures or if the battery voltage is below 1V it is better to allow pre-charging of the battery for at least 4 minutes before jump starting.

- 1). Connect the charger as described under “Connection”.
- 2). Press “Function Selector” (11) until the “Start” (13) LED indicator is illuminated.
- 3). Crank the engine until it starts or 5 seconds pass. If the engine does not start, wait 4 minutes before cranking again. This allows the battery and charger to cool down.
- 4). During the engine start process the “digital display” (1) will show START READY – the charger is waiting for the engine to be cranked before delivering the amps for the engine start.
- 5). Once cranking is detected, the charger will automatically deliver up to its maximum output required by the starting system for up to 5 seconds.
- 6). After cranking the charger enters a mandatory 240 seconds cool down state. The “digital display” (1) indicates the remaining cool down time in seconds. After 240 seconds the “digital display” (1) will show START-READY.

- 7). Once the engine has started, unplug the mains plug from the 230 V mains socket.
- 8). Disconnect the black (-) terminal connection cable with clamp from the negative battery terminal.
- 9). Disconnect the red (+) terminal connection cable with clamp from the positive battery terminal.

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REPAIR FUNCTION

The charger's "repair function" (14) can be used to repair old, idle or sulphated batteries. Not all batteries can be recovered. If possible for optimum results take the battery through a full charging cycle before using this function. This mode uses a high charging voltage and may cause some water loss in WET cell batteries. As some batteries and electronics may be sensitive to high charging voltages, it is advised to disconnect the battery from the vehicle before using this mode.

- 1). Connect the charger as described under "Connection".
- 2). Press "Function Selector" (11) until the "Repair" (14) LED indicator is illuminated. This will be a solid light. The "digital display" (1) will show REPAIR ON.
- 3). The repair function will last for 8hrs. If the battery can be repaired the charger will automatically enter the 10 stage charging process.
- 4). To stop repairing press the "Function Selector" (11) again and the "Repair" (14) LED indicator will go out. The "digital display" (1) will show REPAIR OFF

The charger will automatically enter repair mode if it detects an old, idle or sulphated battery. The "digital display" (1) will show REPAIR ON and the "Repair" (14) LED indicator will flash yellow.

TROUBLE SHOOTING & 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 battery must be in good condition and capable of accepting a charge.

Error/Problem	Possible cause	Correction
Display (1) shows EO1 & Error LED (6) is illuminated	Inccorect connection	Ensure connection process is followed correctly
Display (1) shows EO2 & Error LED (6) is illuminated	Temperature in charger is too high	Allow charger to cool
Display (1) shows EO3 & Error LED (6) is illuminated	Defective battery	Follow the repair function process. Dispose of battery in an environmentally friendly manner
Display (1) shows EO4 & Error LED (6) is illuminated	No battery connection detected. Defective battery	Ensure connection process is followed correctly. Follow the repair function process. Dispose of battery in an environmentally friendly manner
Display(1) shows READY Function buttons not functioning	No battery connection detected	Ensure connection process is followed correctly / dispose of battery in an environmentally friendly manner
Display (1) shows REPAIR-ON Repair LED (14) flashing	Charger has automatically entered repair mode	Wait for battery to enter and complete charge cycle or display error message
Display (1) shows REPAIR-ON Repair LED (14) solid illumination	Repair mode has been selected	Wait for battery to enter and complete charge cycle or display error message

CLEANING AND 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 the machine in a clean, dry place.

TECHNICAL SPECIFICATIONS



Model No.	Input	Max. Charging Output	Max. Engine Start	For Battery Capacity
MP726	230V AC 50/60Hz	12/24V DC 5A/ 15A 30A 40A	250A (200A EN Rated)	30Ah – 450Ah
MP727	230V AC 50/60Hz	12/24V DC 20A/30A/40A/60A	350A (300A EN rated)	60Ah – 650Ah

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.

DECLARATION

EMC Directive (2014/30/EU)

EN 61000-6-1:2007

EN 61000-6-3:2007+A1:2011

Low Voltage Directive (2014/35/EU)

EN 60335-2-29:2004 + A2: 2010

EN 60335-1:2012 + A11:2014 + A13:2017

EN 62233:2008

2012/19/EU WEE Directive

2011/65/EU + 2015/863/EU RoHS Directive

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