

INSTRUCTION MANUAL



MPL50-Li Operating Instructions



تحذير! خطر حدوث صدمة كهربائية!
قد يتسبب الاستخدام غير السليم في حدوث
إصابات خطيرة أو تلف المواد. لموظفي JLR
المدربين فقط.

Safety Guidelines

1. General Safety Precautions

SAVE THESE INSTRUCTIONS.

- 1.1. IMPORTANT SAFETY INSTRUCTIONS. IT IS OF UTMOST IMPORTANCE THAT BEFORE USING YOUR BATTERY CHARGER, YOU READ THIS MANUAL AND FOLLOW THE SAFETY AND OPERATING INSTRUCTIONS EXACTLY.
- 1.2. Use of an attachment not recommended or sold by the Battery Charger manufacturer may result in a risk of fire, electric shock, or injury to persons
- 1.3. To reduce risk of battery explosion, follow these safety instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use near a battery. Review cautionary marking on these products and on the engine, and on the vehicle or equipment containing the battery.

If you are uncertain as to the type of battery you are attempting to charge, or the correct procedure for checking the battery's state of charge, contact the seller or battery manufacturer.

The charger is not intended to supply power to a low-voltage electrical system other than applications using rechargeable, flooded type batteries. Do not use the battery charger for charging dry-cell batteries commonly used with home appliances. These batteries may burst and cause personal injury and property damage.

WARNING

Charging a non-rechargeable battery may cause the battery to burst.

To reduce the risk of injury, only charge

rechargeable flooded type batteries including maintenance free, low maintenance, or deep-cycle batteries.

WARNING

Risk of explosive gases.

Batteries generate explosive gases during normal operation and when discharged or charged.

- 1.4. Never charge a frozen battery.
- 1.5. To reduce the risk of damage to the electric plug and cord, pull by the plug rather than by the cord when disconnecting the unit.
- 1.6. Position the AC and DC leads to avoid tripping over them and to prevent damage by hood or moving engine parts. Protect from heat, oil and sharp edges.
- 1.7. Do not operate the unit if it has received a sharp blow, been dropped or otherwise damaged in any way. Take it to an approved service centre.
- 1.8. Do not disassemble the unit. Take it to an approved repair centre when repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- 1.9. To reduce risk of electric shock, unplug the charger from the AC outlet and disconnect DC output leads before attempting any maintenance or cleaning. Turning off the controls will not reduce this risk.
- 1.10. Connect and disconnect the battery leads only when the AC supply cord is disconnected.
- 1.11. Never place articles on or around the unit or locate the unit in a way that will restrict the flow of cooling air through the enclosure.
- 1.12. An extension cord should not be used unless absolutely necessary.

- 1.13. Have a damaged cord or plug replaced immediately.
- 1.14. Do not expose the unit to rain or snow. Use the charger in a dry area.
- 1.15. Risk of explosive gasses. Batteries generate explosive gasses. Charge the battery in a well-ventilated area. Do not overcharge the battery.
- 1.16. This equipment is for use in a commercial or industrial environment only.
- 1.17. This equipment is NOT suitable for use in locations where children are likely to be present.

2. Personal Precautions

2.1. Warning – California Proposition 65.

Battery port and related items contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects of other reproductive harm. Wash hands after handling.

- 2.2. Wear complete eye protection, clothing protection, and wear rubber soled shoes. Place damp cloth over battery to protect against acid spray. When ground is very wet or covered with snow, wear rubber boots. Avoid touching eyes while working near battery.
- 2.3. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters the eye, immediately flush with cold running water for at least 10 minutes and seek medical attention. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes
- 2.4. Always have someone within range of your voice, or close enough to come to your aid, when working around flooded batteries.
- 2.5. NEVER smoke or allow a spark or flame near a battery or engine.
- 2.6. Before working with a flooded battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A flooded battery can produce a short circuit current high enough to weld such items causing a severe burn.


- 2.7. Be extra cautious to reduce risk of dropping a metal tool onto the battery. It might spark or short circuit the battery or other electrical part that may cause an explosion.

3. Charging a Battery.

- 3.1. Be sure the area around the battery is well ventilated while the battery is being charged. Gas can be forcefully blown away by using a piece of cardboard or other non-metallic material as a fan.
- 3.2. If it is necessary to remove the battery from vehicle to charge it, always remove the grounded terminal from the battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
- 3.3. Study all battery manufacturer's specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.
- 3.4. Add distilled water in each cell until the battery acid reaches the level specified by the manufacturer. This helps purge excessive gas from the cells. Do not overfill. For a battery without caps, carefully follow the manufacturer's recharging instructions
- 3.5. Make sure that the charger output voltage and battery type is correct for the battery voltage and battery type you wish to charge.
- 3.6. Clean the battery terminals. Be careful to keep corrosion from coming into contact with your eyes.

4. Grounding and AC Power Cord Connection.

- 4.1. The charger must be grounded to reduce risk of electric shock. The charger is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

 DANGER
Hazardous voltage.
An improper connection can result in electric shock

To avoid electrical shock or burn, never alter the charger's original AC cord and plug. Disconnect plug from outlet when charger is idle.

4.2. This battery charger is for use on a nominal 115-230 volt circuit with a grounding circuit.

Do not use with an adapter.

4.3. If the plug does not fit the outlet have the correct outlet installed by a qualified electrician. The outlet must be earthed.

4.4. An extension cord should not be used unless absolutely necessary. Use of an improper

extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:

a) That the pins on plugs of the extension cord are the same number, size, and shape as those of the plug on the charger;

b) That the extension cord is properly wired and in good electrical condition;

c) That the wire size is large enough for the AC ampere rating of charger as specified in the following table

Recommended minimum AWG size for extension cords for battery support units				
AC input rating Amperes	AWG size of cord			
	Length of cord, M			
	7.5	15	30	45
8-10	18	14	12	8
10-12	16	14	10	8
12-14	16	12	10	8
14-16	16	12	10	8
16-18	14	12	10	8

5. Connecting to a vehicle

Please follow dealer standards guidelines for connection methods.

Traction units are supplied with vehicle specific adapters that should be used at all times. Failure to use the adapters in the positions prescribed could result in excessive heat being generated in the lead set leading to premature failure of leads and low voltage output.

Output leads are connected using the polarised connectors on the unit and lead set.

The primary method for powering the charger is via the AC power cord.

6. Warranty and Service.

For technical support call +44 (0)330 022 7822 or email traction@tractionservice.com

For repair service, email admin@tractioncharger.com or call +44(0)330 022 7822

7. Manufacturer Information

Traction products are manufactured by:
Traction Chargers
Roundway Hill Business Centre
Devizes
Wiltshire
SN10 2LT UK

+44(0)330 022 7822

admin@tractioncharger.com



This symbol is used on products that contain a hazardous element and therefore cannot be thrown away in the normal way. It appears on Electrical and Electronic Equipment (EEE) as part of the WEEE (Waste EEE) directive – separate collection facilities will be set up to divert WEEE away from landfill; funded by producers and retailers of EEE

8. Symbols Explained:



Please refer to these instructions.

Ca/Ca	Calcium/Calcium battery
Ca/Ag	Calcium/Silver battery
AGM	Absorbent Glass Mat
GEL	Gel maintenance free battery
LiFePO4	Lithium Ion
A	Amps

9. **Technical Specification**

Environmental Information	
Working Temp. °C	+0 to +40
Working Humidity	20 – 90% non-condensing
Storage Temp. °C	-40 - +85
Storage Humidity	10 – 95% RH
Input Voltage Range	115 – 240VAC
Input Current(Typ)	8.2A/115VAC 3.9A/230VAC
O/P Rated Current	50A
O/P Rated Power	750W
Dimensions WxHxD	280 x 260 x 47mm
Suitable for use only up to 2000 meters	

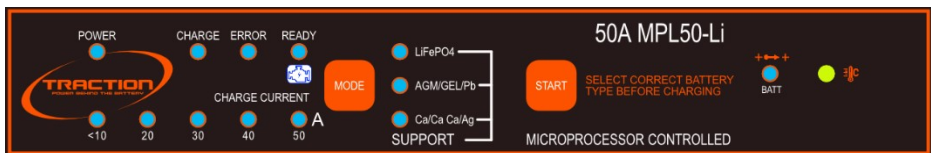
BATTERY CHARGER MODEL MPL50-Li

INSTRUCTIONS FOR USE

WARNING

1. DO NOT USE THIS BATTERY CHARGER OUTSIDE, FOR INDOOR USE ONLY.
 2. DO NOT USE THIS BATTERY CHARGER IF IT BECOMES WET OR IF THE OUTPUT OR INPUT LEADS ARE DAMAGED.
 3. DO NOT OBSTRUCT THE VENTILATION SLOTS IN THE CHARGER CABINET.
 4. THE BATTERY MUST BE CHARGED IN A WELL-VENTILATED AREA.
 5. WHEN THE BATTERY IS REQUIRED, DISCONNECT FROM THE MAINS BEFORE DISCONNECTING FROM THE BATTERY.
 6. THE PLUG IS THE PRIMARY DISCONNECT AND SHOULD BE READILY ACCESSIBLE AT ALL TIMES.
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- A. CONNECT THE OUTPUT LEAD (RED) TO THE POSITIVE (+) TERMINAL.
 - B. CONNECT THE OUTPUT LEAD (BLACK) TO THE NEGATIVE (-) TERMINAL.
 - C. CONNECT THE BATTERY CHARGER MAINS LEAD TO A SUITABLE ELECTRICAL SUPPLY. (SEE REAR OF CHARGER)
 - D. IF REQUIRED, SWITCH ON THE ELECTRICAL SUPPLY FOLLOWED BY THE CHARGER "ON" SWITCH (IF FITTED).
 - E. MAKE SURE THAT THE MAINS POWER LED IS ILLUMINATED.
 - F. THE CHARGING AMBER LED WILL ILLUMINATE FOLLOWED BY THE FIVE RED LED'S SHOWING PERCENTAGE OF CHARGE.
 - G. WHEN THE CHARGE IS COMPLETE THE GREEN LED WILL ILLUMINATE. THE BATTERY. CHARGER CAN BE LEFT CONNECTED TO THE BATTERY UNTIL REQUIRED FOR USE. THERE IS NO DANGER OF OVERCHARGING THE BATTERY.
 - H. THE MPL50 CHARGER HAS BEEN SET TO SUIT VARIOUS BATTERY TYPES FROM 80 TO 500 AMP/HOUR.

CHARGE INDICATION



- BATT** - Illuminated Green when a battery is connected correctly. Red if incorrect.
- CHARGE On** Bulk charge / Flashing = Top off
- READY Blue** Battery able to start engine (LiFePO4 and Li-ion only)
- READY Green** Charge complete

Battery Charger Temperature Control (optional)

The charger can use an external temperature probe for measurement of battery temperature.

The charging voltage for Li is 13.6V

The charging voltage for Lead is 14.5V

Li charging current is profiled to allow safe charging.

Charging out of vehicle

To select out of vehicle Li battery charging (LiFePO4 and Li-ion):

Press the 'Mode' switch to select the correct battery chemistry. **WARNING:** Only charge a Lithium battery using the 'LiFePO4' setting other damage to the battery may occur.

Connect the battery to the charger. Ensure the 'BATT' light is green. If it is red, check the connections are the right way around.

To start charging, press and hold the 'Start' switch for more than 2 seconds.

When complete the 'READY' light will come on.

Charging in vehicle

To select in vehicle Li battery charging (LiFePO4 and Li-ion):

Press the 'Mode' switch to select the correct battery chemistry. **WARNING:** Only charge a Lithium battery using the 'LiFePO4' setting other damage to the battery may occur.

Connect the battery to the charger. Ensure the 'BATT' light is green. If it is red, check the connections are the right way around.

To start charging, press the 'Start' switch. The 'CHARGE' light should come on. It will flash if the battery is nearly fully charged.

The 'CHARGE' light will flash off to indicate In vehicle charging is in progress. It will flash if the battery is nearly fully charged.

When complete the 'READY' light will come on.

Current indication

The 'CHARGE CURRENT' lights indicate the battery charging current.

Support mode 13.6V

Connect to the vehicle battery. Press the 'Mode' switch until all 'Mode' lights (Li/Pb/AGM) are on. Press the 'Start' switch to enable battery support at 13.6V. Pressing 'Start' again will turn support mode off.

Be aware that automatic battery disconnection is disabled in support mode.

Recovery mode (LiFePO4 and Li-ion only)

Connect to the vehicle battery, ensure that the connection is the correct way around, 'Red' to battery +positive, 'Black' to battery- negative.

With all the 'Mode' LEDs off (press the 'Mode' switch until all mode LEDs are off), press and hold the 'Mode' switch for more than 5 seconds to enable the recovery output. Press 'Mode' or 'Start' to turn the recovery output off.

Error Light

The Error light will come on If the battery is connected in reverse, or when the 'Start' switch is pressed with no battery connected.

It will flash code 3 if a faulty battery is detected. Code 1 is a general error.