



INSTRUCTION MANUAL

MEC AdapTask-300 Series Lead-Acid Battery Charger

With 7 configurable charge profiles



MEC Art.-Nr.:

- 12V / 15A 161-06153-670
- 24V / 10A 161-12103-670

MEC Art.-Nr.:

- 12V / 20A 161-06203-670

Dear Customer!

Thank you very much for your trust in us and our product.
Please read these operating instructions carefully **before** start of operation.

Mainland Energy Conversion LTD

1. Safety Rules and General Warnings

- ATTENTION: 100-240 Volts AC voltage, device is not suitable for children – danger of life!!
- ATTENTION: The charger is exclusively designed for rechargeable lead /acid batteries and must not be used for other purposes.
- ATTENTION: Please consider the charging instructions from the battery manufacturer before charging!
- Never place the device on top of the battery while charging!
- EXPLOSION RISK! Avoid sparks or open flames while charging!
- Use the device only in dry rooms and protect against dust, heat (>40°C) and humidity (>80% rel.)
- Protect against direct solar radiation.
- No fluids of any kind must get into the device.
- In case of obvious damage or malfunction immediately disconnect the device from mains supply and protect against unintended reconnection.
- Clean with a dry cloth only.
- DO NOT OPEN! Repair work must only be accomplished by authorized companies or specialized technical staff.
- Disconnect from mains before connecting or disconnecting the battery.
- Do not recharge non-rechargeable batteries.

2. General Information

Chargers of the AdapTask-300 series are microprocessor controlled fully automated units capable of charging batteries. Any type of battery can be charged due to the possibility to change the charging parameters according to the specifications of the battery type. Because of the adaptive absorption-phase aging batteries are not being overcharged and therefore not destroyed. Batteries will always be charged safely and correct, also within a wide capacity-range and even under extreme temperature conditions.

It is possible to select 7 different battery characteristics:

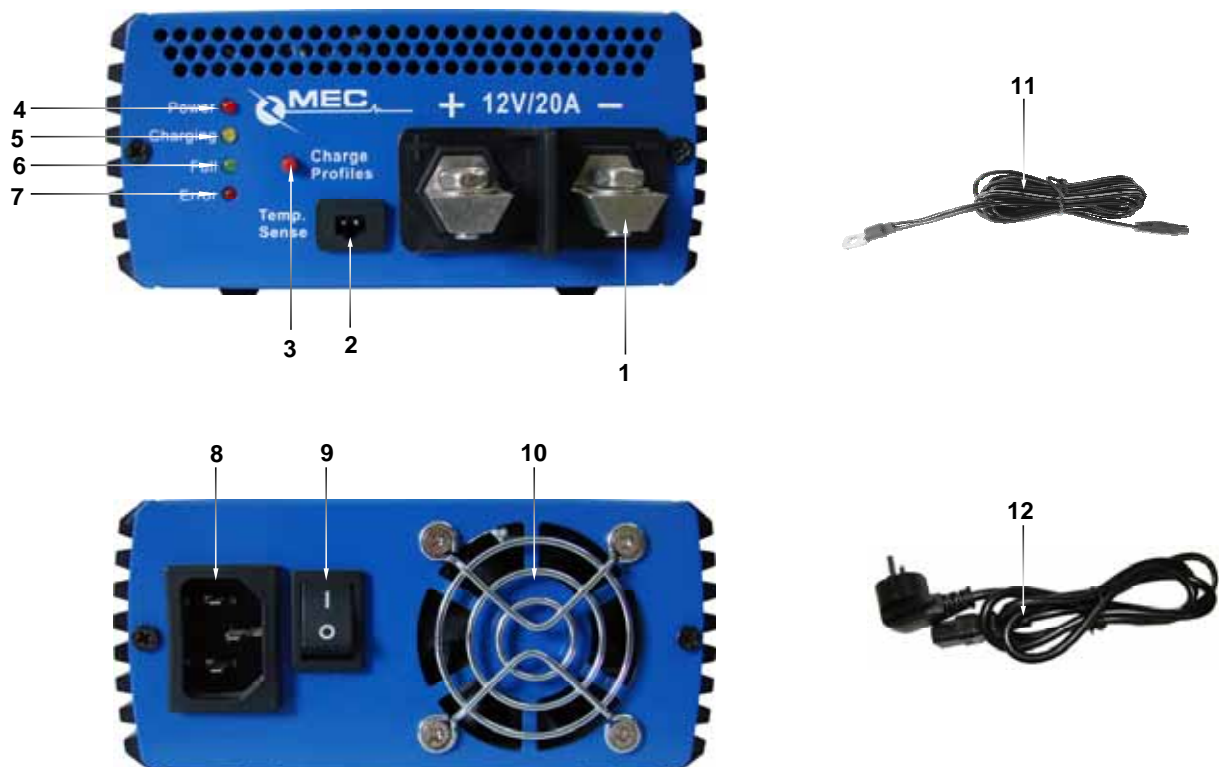
- M1: Yuasa/AGM/SLA battery (default), recommended for most applications
- M2: Gel Battery Spec., for Gel cell batteries requiring reduced charge voltage
- M3: Wet Battery Spec., for liquid (wet) electrolyte batteries requiring higher charge voltage
- M4: Float/PSU, starts without battery, for float-/standby applications
- M5: t/2+zero, opportunity charging, for applications where the charge or power may be interrupted
- M6: t/2+1, no override timer, when the battery size is large compared to the charger rating
- M7: t/2+1. no auto-restart from float, when heavy intermitted load is used in float mode.

3. Special Features

- Microprocessor controlled for optimized charging for different type of batteries
- 7 user selectable charge profiles
- Short circuit and reverse polarity protection
- Power Factor Correction
- Battery temperature compensation
- Automatic shutoff
- Overheat protection
- Spark suppression

4. Scope of delivery

- | | | |
|------------------------------------|---|-------------------|
| 1. Connecting terminal | 2. Temperature sensor socket | 3. Mode button |
| 4. Red Power-LED | 5. Yellow Charging-LED | 6. Green Full-LED |
| 7. Error-LED | 8. Mains connector | 9. On/Off Switch |
| 10. Fan | 11. Temperature sensor connector (optional) | |
| 12. Power cable (country-specific) | | |



5. How to select the charge modes

Switch the charger off and disconnect from battery, press & Hold the mode button(3) on the front panel, then switch on the AC mains, the LED will be on sequentially Yellow(charging)-Green(Full)-Red(Error), and then all LED light on, at this moment, release the mode button(3), there will be only yellow(Charging) and red(Error) LED on, it indicates that the mode-selection can be started, press the button briefly, the yellow, green, red LED will light on simultaneously, and the blinking times of LED indicates the mode selected, i.e., blink 3 times means mode 3 selected. Press the mode button (3) again, it will turn to the next mode, and be cycling as such.

After selecting the mode needed, you can press & hold the button for more than 1 second, all the three LED will be light off and it indicates the selected-mode is fixed and turns to be ready for charging.

6. Operation

I. Connect the charger to the battery:

First make sure that the charger is disconnected from the mains supply.

Variant a - battery is built in the vehicle:

The battery terminal which is not connected to the chassis has to be connected first. The other connection is to be made to the chassis, remote from the battery and fuel line.

Variant b - battery is not built in the vehicle:

First connect the positive terminal (+) of the battery with the red clamp of the charging cable (+).

After that, connect the negative terminal (-) of the battery with the clamp of the black charging cable (-).

Connect the charger to the mains supply; make sure that the charger is only plugged into an earthed socket outlet.

II. Start charging:

The charging process starts automatically and runs through the following three charging phases: (standard setup, up to 5 distinctive phases with alternating LED-signals possible!)

1. charging phase: constant current (CC)

This charging step is indicated by **constant lighting of the yellow Charging LED (5)**.

During the constant current phase, the battery is being charged to 80% of its capacity.

2. charging phase: constant voltage (CV)

This charging step is indicated by **blinking of the yellow Charging LED (5)**.

During the constant voltage phase the battery is being charged to its maximum capacity.

3. charging phase: float charge / battery is fully charged

This charging step is indicated by **constant lighting of the green Full LED (6)**.

As soon as the battery has reached its full capacity, the charger switches into float-charge mode. The charger can now be disconnected from the battery (see pt. V disconnect the charger) or remain at the battery in float-charge mode. This guarantees a full battery at any time and therefore an instant operational readiness.

III. Connection of the temperature sensor (optional):

1. Connect the temperature sensor with the charger according to image 1.
2. Place the sensor close to the battery according to image 2.

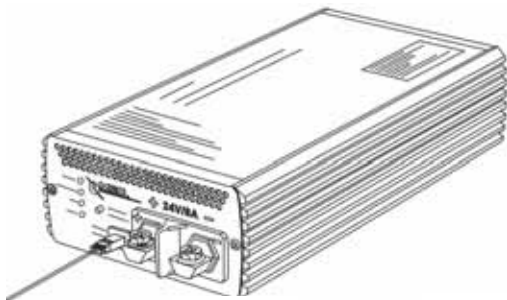


Image 1

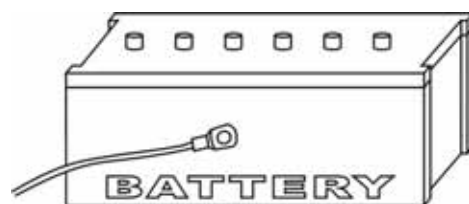


Image 2

(Representative images)

V. Disconnect the charger from the battery:

After charging, disconnect the battery charger from the supply mains. Then remove the chassis connection and then the battery connection.

7. Errors and Troubleshooting

Red Power-LED does not light:

- Check if the mains plug is correctly plugged in
- Check if mains cable is defective

Constant lightning of red Error-LED:

- Check the polarity of the battery
- Check the voltage of the battery
- Check if a defect or deep discharged battery is connected

8. Technical Specifications

AdapTask-300 Series			
Version	12V / 15A	12V / 20A	24V / 10A
Input (VAC)	100-240V / 50-60Hz		
Charging voltage (V)	12	12	24
Charging current (A)	15	20	10
Output power max. (W)	233	310	310
Temperature range	0°C – 40°C		
Certifications	CE		
Dimensions / Weight	238 x 130 x 58mm / ~1.7kg		
Rec. battery capacity (Ah)	45 - 190	60 - 250	30 - 125
MEC Art-No.:	161-06153-670	161-06203-670	161-12103-670

Mode	M1	M2	M3	M4	M5	M6	M7
Nominal voltage (V)	12 / 24	12 / 24	12 / 24	12 / 24	12 / 24	12 / 24	12 / 24
Absorption voltage (V)	14.7 / 29.4	14.2 / 28.4	15.5 / 31.0	13.8 / 27.6	14.5 / 29.0	14.5 / 29.0	14.5 / 29.0
Float voltage (V)	13.6 / 27.2	13.8 / 27.6	13.8 / 27.6	13.8 / 27.6	13.8 / 27.6	13.8 / 27.6	13.8 / 27.6

9. Advice for Disposal



It is prohibited to dispose the charger into the house- and residual waste removal (WEEE-Richtlinie 2002/96/EG und EAG-VO) , it must be disposed at the according collection points. For the protection of our environment please inform yourself at your communal administrative agency about your nearest disposal point.



The charger equates to the RoHS-directive 2002/95/EG, for the restriction of the use of certain hazardous substances in electrical and electronic equipment.



10. Disclaimer of Warranty

- Mainland Energy Conversion Ltd guarantees replacement or repair of chargers that are recognized as defective within 2 years under common environmental conditions. The validation of the warranty time starts with the delivery date from the manufacturer. Mainland Energy Conversion Ltd is limiting the free guaranteeing to working hours and spare parts only.
- For damages caused by non-observance of the operating instructions, inappropriate start up or handling as well as reconstructions and modifications of the device, the warranty claim expires and Mainland Energy Conversion Ltd assumes no liability for consequential damage to property or persons!
- Repair work must only be accomplished by authorized companies or professional staff!

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