

Owner's Manual



EX-2000

The equipment is approved by following car manufacturers



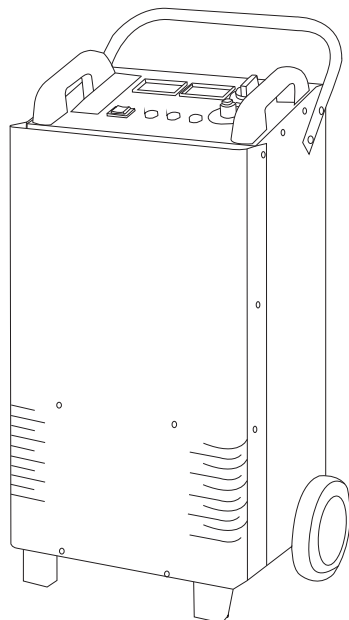
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Introduction

Introduction

These models battery charger/booster are intended for charging and starting batteries, EX-2000with jump-start function, that are usually used in cars, trucks, motorcycles, boats, etc.

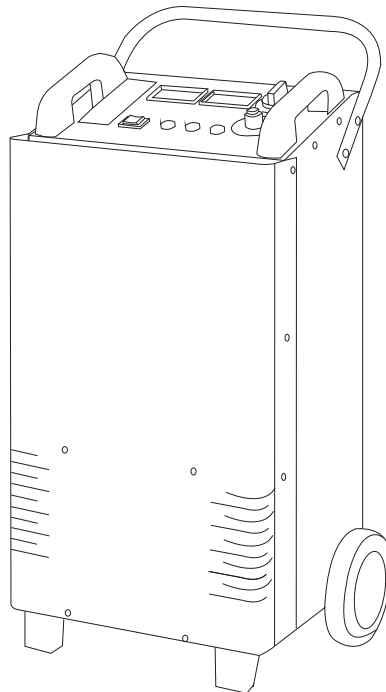


Specifications

Parameters \ Model	EX-2000
Input voltage (v)	220 Declare while ordering
Power(KVA)	2.5/20
Charge voltage (V)	12/24
Effective charge current (6gears)	20. 25. 35. 45. 55. 72
Chrging direction (N degree)	10
Instant current (A)	1800
Reference Capacitance	20/1500
Dimensions (mm)	410*350*795
Weight (kg)	60
Input cord length (mm)	3000
Work cable length (mm)	3000+3000

Installation

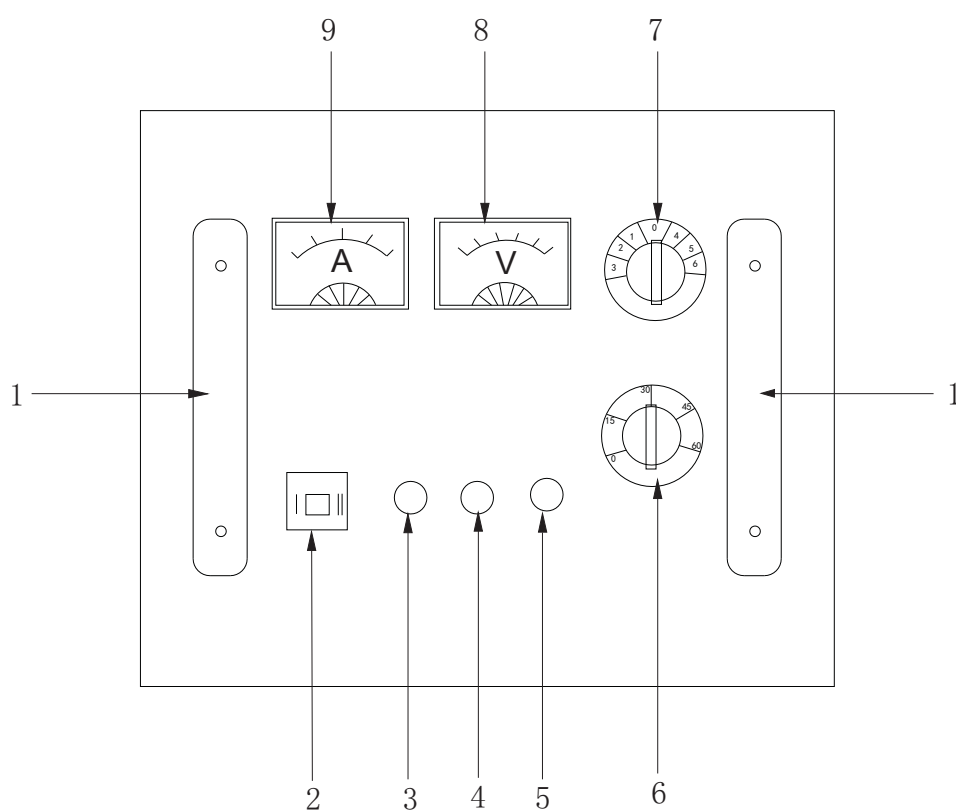
- 1、Open package and find out Owner' s Manual.
- 2、Check the supplied of accessories according to packing list that attached with Owner' s Manual.
- 3、Properly install this equipment as following diagram. Inspect the unit for any damage. If so, contact your local distributor or service agency.



Precautions

- 1、 Select a correct location to place the unit
- 2、 Do not move or operate unit where it could tip
- 3、 Use cart or unit handle to move unit
- 4、 Charging produces explosive gases, Never smoke or allow a spark or flame in vicinity of battery or engine.
- 5、 Operate charger indoor with good ventilation .Do not operate charger to rain or snow or use when wet.
- 6、 Disconnect input power before using charging clips.
- 7、 Electricity arc and spark exist in some electrical component parts of charger such as power switch and relay during normal charging batteries. Keep charger away from inflammables and explosives
- 8、 Do not stop charging suddenly before battery fully charged. Also, never allow clips touch each other.
- 9、 Do not operate charger with damaged cord or plug—replace the cord or plug immediately
- 10、 Never charge a frozen battery.
- 11、 Use only qualified fuse.
- 12、 Clean the battery which will be charged before charging. And check the initial voltage of the battery.
- 13、 Never set Mode switch to “0” position for charging batteries.
- 14、 Do not charge damaged battery , otherwise it will damage the built-in protection
- 15、 Do not switch charging current while battery is being charged.

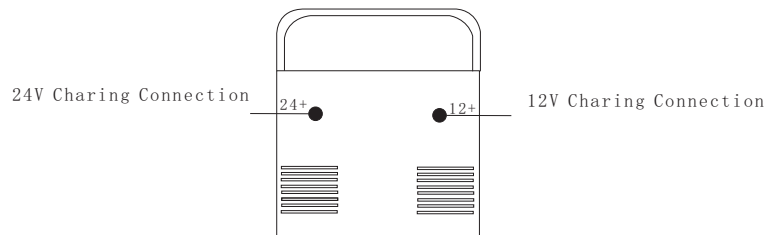
Controls



- 1、 Handle
 - 2、 12V/24V Selection
 - 3、 12V indicator
 - 4、 24V indicator
 - 5、 Power indicator
 - 6、 Timer
 - 7、 Current
 - 8、 Voltmeter
 - 9、 Ammeter
- Circuit breaker must be installed

Operation

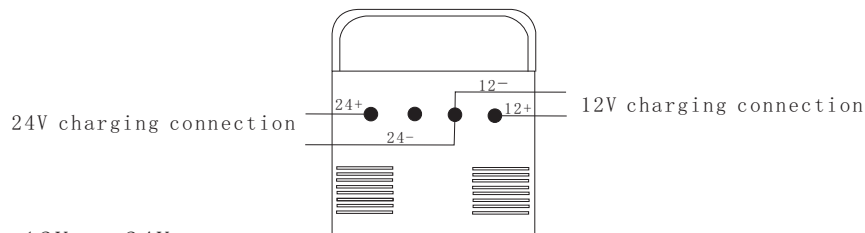
Charing Connections:



Charging:

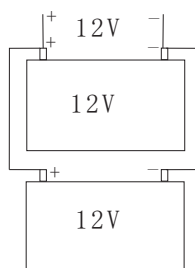
- 1) Select 12V or 24V.
- 2) Connect work cables to battery terminals.
The work cable from front of machine is a 12V and 24V cathode cable, connect this cable to the negative terminal of battery. And then, connect another work cable from 12V or 24V Positive terminal of charger to the positive terminal of battery.
- 3)、Select charging time and current. The position 1, 2, 3 of current adjustment knob are slow charge , and 4, 5, 6 are fast charge. usually, time for fast charge is 60 mins.
- 4)、Connect input power, charging time can be set within 60 mins by timer , The charger stops automatically when it reaches pre-set time.

EX-2000Charing Connections:

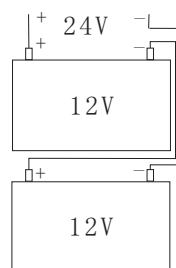


1、Charging

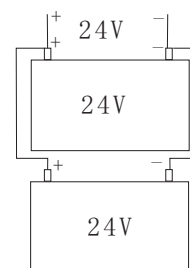
- 1)、Select 12V or 24V
- 2)、Connect work cables to battery charger terminals as above diagram, and then connect clips from battery charger to the terminals of battery
- 3)、Select charging time and current. The position 1, 2, 3 of current adjustment knob are slow charge , and 4, 5, 6 are fast charge. usually, time for fast charge is 60 mins.
- 4)、Connect input power, charging time can be set within 60 mins by timer , The charger stops automatically when it reaches pre-set time.
- 5)、The charger can be charge more than one battery at the same time , but the charging time will be extended



(1)

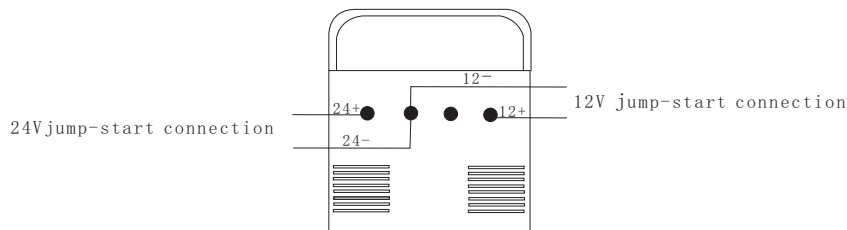


(2)



(3)

EX-2000 jump-start connection:



2、 Jump-starting

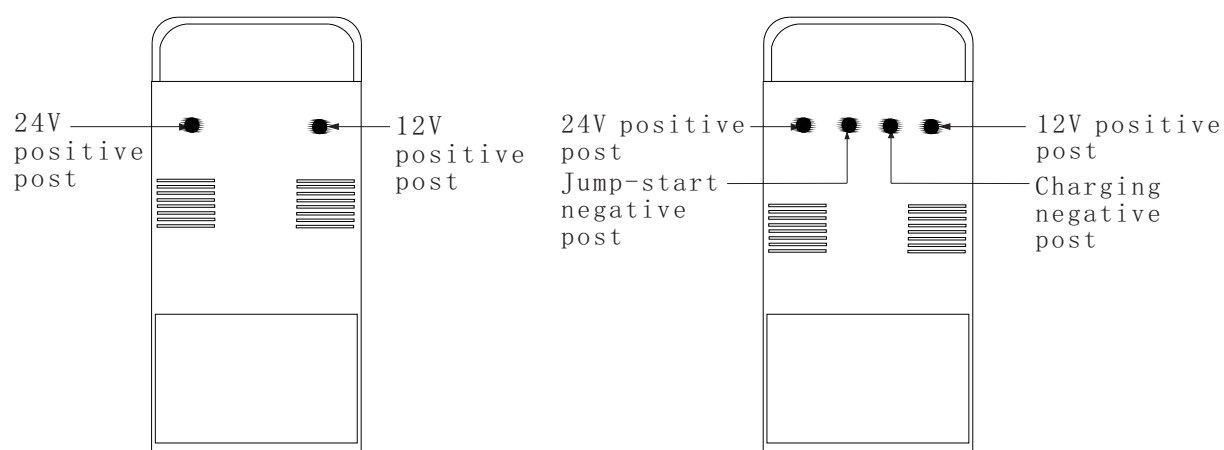
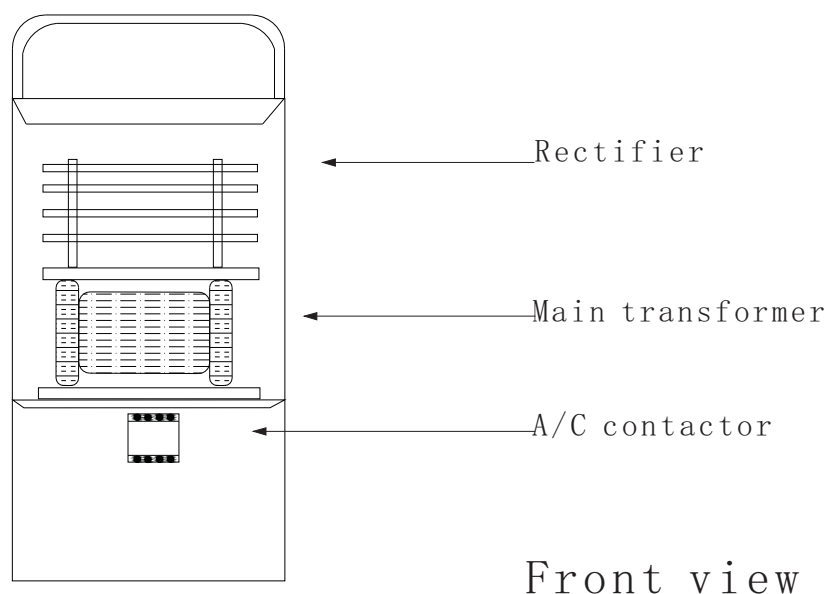
- 1)、 Select 12V or 24V
- 2)、 Connect work cables to battery charger terminals as above diagram, and then connect clips from battery charger to the terminals of battery
- 3)、 Connect input power.
- 4)、 For high power engines, fast charge the battery for 15mins before jump-starting to get the best result .For diesel engines, pre-heat spark plug before jump starting. For cables connections, connect negative post(-) first, and then positive post(+).
- 5)、 Connect work cables to battery charger terminals while current adjustment knob in " 0 " position, and then turn current adjustment knob to max. position to jump-start the engine. If car engine cannot start after 3-4 times jump-start operations. Please speedy charge the battery for 15 mins before jump-start again.

Note:

- 1、 The positive clip from battery charger must connect to positive post (+) of battery, and connect negative clip to negative post(-)
- 2 、 Do not use the connections of charging to jump-start engine, otherwise it will damage ammeter and fuse
- 3 、 If charger can not jump start engines check input power cord to meet manufacturer' s requirements. or the connections of work cables.

Repair and Maintenance

1、Exploded view



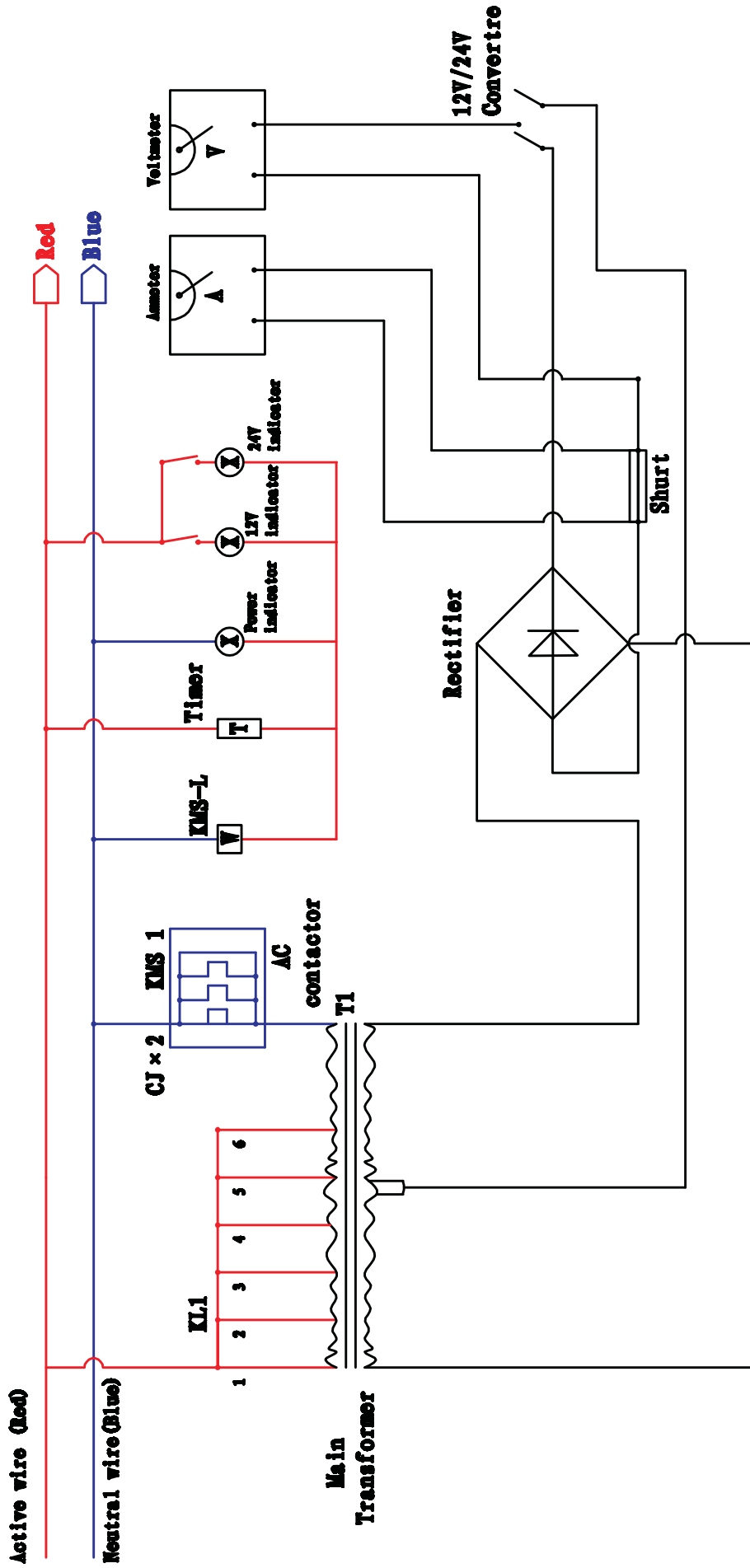
EX-2000

Rear view

2、Troubleshooting

Trouble	Probable cause	Remedy
No input power	(1) incorrect input power connection (2) Power switch in "off" position	(1) Check input power connection (2) Turn power switch to "on" position
Timer does not work	(1) Charging time has not adjusted (2) Timer damaged	(1) Adjust charging time (2) Replace timer
Not enough electricity power of charged Battery	(1) Improperly connect work cables or clamps (2) Not enough charging current (3) Not enough charging time (4) Excess charge rate of battery capacity	(1) Check cables connections and tighten clamps (2) increase charging current (3) increase charging time (4) Check correct charge rate for the battery being charged
Charger stops working while operating	(1) Timer reaches preset time (2) Charger over heat	(1) Adjust timer (2) Wait for charger temperature cool down
Voltmeter does not work	(1) Switches in "off" position (2) 12V/24V switch in neutral	(1) Turn on power, adjust timer and current (2) Select 12V or 24V
Ammeter does not work	(1) No output current	(1) Ammeter works while under loading only
Cannot charging battery	(1) Incorrect cables connections (2) Switches in "off" position (3) Battery had been damaged	(1) Check cables connections (2) Adjust switches to correct position (3) Check battery

Circuit Diagram



Accessories and spareparts list

Accessories and spareparts list



Front stand NO. S001



Handle NO. S002



Amperage switch NO. S003



Rectifier NO. S004



Power switch NO. S005



Timer NO. S006



Voltmeter NO. S007



Wheel NO. S008



Ground clamp NO. S09



Ammeter NO. S010



Output cord NO. S011

Remarks:

- 1) Optional orders for above accessories and spareparts are available.
- 2) Model and parts number required when ordering parts from your local distributor or service agency.