



说明书材质要求：105g 有光铜版纸	说明书成品尺寸：105*143mm
第一：专色用6级防晒油墨+CMYK油墨要求： 1.PANTONE137C专色油墨（专色用6级防晒油墨）： 如果自己配色，油墨配比为：酒联中黄（防晒）2000g 酒联金红（防晒）225g 2.C色油墨：酒联天蓝墨 3.M色油墨：酒联金红墨 4.Y色油墨：pantone123C专色油墨 5.K色油墨：酒联黑墨	第二：特别注意： 1.印刷时看样请参考我司提供的实物样品颜色。不得偏色 2.137C的专色不得参考C=0,M=35,Y=90,K=0对应的四色 色谱颜色来看样印刷 Pantone 137C Black（两色印刷）
折叠方式：风琴折（20P以下用风琴折）/ 骑马钉（20P以上用骑马钉） 特殊情况：16P/20P：风琴折 + 对折	备注：

特别注意：此页内容不印刷

风琴折 + 对折 页面顺序

16P 页面顺序

9	10	11	封面
12	13	14	封底

1	2	3	4
5	6	7	8

20P 页面顺序

11	12	13	14	封面
15	16	17	18	封底

1	2	3	4	5
6	7	8	9	10

更改记录	1. 改新风格			1. 增加内容 2. 彩色封面			1. 增加货号ING-CD2201-4		
	0124.V07	2024.1.15	GWY	0225.V08	2025.2.24	zara	0726.V09	2026.7.7	yilia
	版本号	日期	设计师	版本号	日期	设计师	版本号	日期	设计师

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**PRODUCT
MANUAL**

BATTERY CHARGER



**ING-CD2201 ING-CD2201-4
ING-UCD2201**



SCAN FOR VIDEO

THE SYMBOLS IN INSTRUCTION MANUAL

EN60335-2-29	The standard of battery charger in Europe.
	Please read the instruction manual carefully before using.
	Transformer in single phase—Rectifier.
	Using indoors only.
IP20	Level of protection.
	The anode and cathode of battery.

ADDITIONAL SAFETY WARNING

The purpose of these safety regulations is to assure the safety operations of the charger machine and prevent the damage of the property and the physical injury. The safety issues have been fully considered during the design and manufacturing of the charger. Thus the user shall read these safety rules carefully before using the charger.

The operation of the charger contains some dangerous factors and the operator shall strictly follow the correct operation procedures. In order to avoid the grievous bodily injuries, the operator shall strictly observe the following rules:

Non-related people shall not get into the site of the charging operations;

The charger shall be installed, operated and maintained by the professional or people with the relevant experience.

The charging operation shall be done by the people who are familiar with the related safety operation technology.

The charger shall not be used for the purpose other than charging.

The input voltage shall be in conformity with the rated voltage described on the name plate;

The charger shall be placed on the plane surface. If it is placed on tilted surface, measures shall be taken to prevent it from falling. In order to prevent the occurrence of fire, the user shall observe the following rules:

The cables for charging shall be fully insulated.

The accumulated dust may cause the deterioration of the insulation performance.

Thus the regular maintenance and repairing of the charger will be necessary.

Danger! In order to prevent the electric shock, the following rules shall be observed:

Touching the electrified body may cause death from electric shock.

Please don't contact the electrified parts.

The charger should be grounded by the technician in accordance with the related requirements before the charger is used.

Turn off and plug out the power for installing or repairing.

Please don't use the cables with insufficient capacity, damaged insulation.

Please don't operate the charger if the casing of the charger is dismantled.

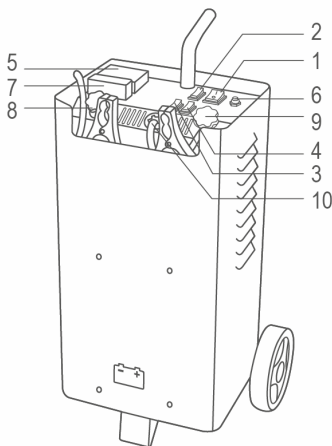
The power must be turn off after the charging operation is finished.

Please don't operate the charger in rain or humidity place.

INTENDED USE

A car battery charger is a device used to recharge the battery of a car when its voltage has dropped below a certain level. The main purpose of a car battery charger is to restore the battery to its full charge so that the car can start and run properly. The battery charger is designed for charging all types of lead-acid batteries.

SPECIFICATIONS



1.Power switch

Power switch, controls the charger on/off.

2.Battery Charging/Auxiliary Start Function Selector Switch

Function selection button. Pressing up is for battery charging mode, used to charge the battery; pressing down is for auxiliary start mode, used to jump-start a car battery.

3/4.Current Adjustment Switches

These two switches are for current adjustment, jointly controlling the charging current level. The four positions are 1+MIN, 1+BOOST, 2+MIN, and 2+BOOST, with charging current increasing in that order.

5.Ammeter

Ammeter displays the real-time charging current. When the value is 0, it means not charging or the battery is fully charged.

6.Input Overcurrent Protector

7.Output Fuse

8/9.Output Positive Terminal 24V/12V

Both are output positive terminals used to connect to the battery's positive terminal. Choose between 24V or 12V based on the battery's output voltage.

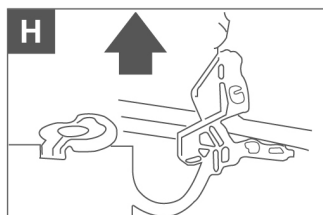
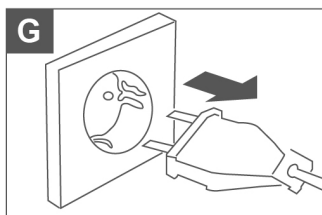
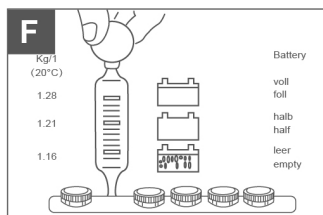
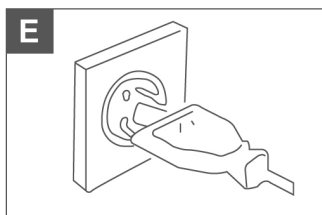
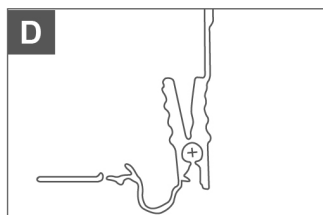
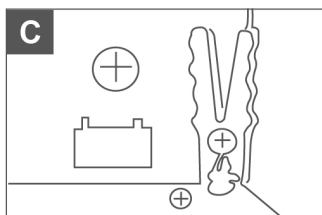
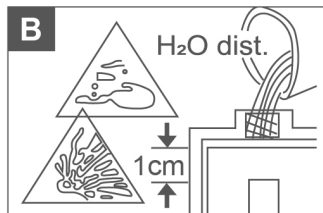
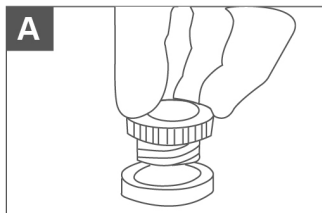
10.Output Negative Terminal

Output negative terminal used to connect to the battery's negative terminal.

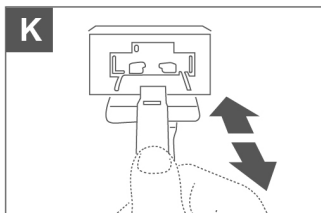
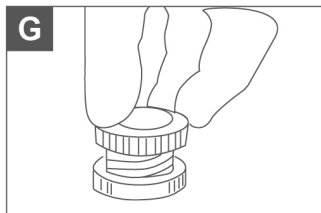
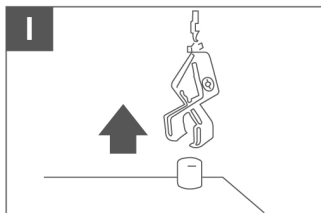
Technical specifications

Model No.	ING-CD2201 ING-CD2201-4	ING-UCD2201
Rated input voltage (V)	220-240~	110-120~
Voltage frequency (Hz)	50/60	60
Charging voltage(V)	12/24	12/24
Rated current(A)	1.7/3.1	1.7/3.1
Rated capacity(Ah)	70-300	70-300
Rated output current(A)	16/18	16/18
Rated output fuse	2×80A	2×80A

OPERATION PICTURE



PERATION PICTURE



OPERATION

1. Set the charger's power switch to OFF position.
2. Connect the red clamp to the machine's output positive terminal (choose between 12V or 24V interface based on battery specifications).
3. Connect the red clamp to the battery's positive terminal.
4. Connect the black clamp to the battery's negative terminal.
5. Plug into a power source.
6. Turn the charger's power switch to ON position.
7. Set the function selector switch to battery charging mode.
8. Select desired charging current level.
9. When there is a reading on the ammeter, it indicates that charging has started.

To charge the battery, proceed as follows

Figure A undo or remove the battery plug

Figure B check the level of acid in your battery. Top up with distilled water if necessary

CAUTION

Battery acid is corrosive, wash off acid splashes immediately and thoroughly with plenty of water and consult a doctor if necessary.

DANGER

Hazardous electrolytic gas may arise during charging. It is imperative, therefore, to avoid sparking and open flames during charging. Risk of explosion!

Figure C first connect the red charging lead to the positive pole of the battery.

Figure D then connect the black charging lead to the negative pole of the battery.

Figure E Once the battery is connected to the charger you can connect the charger to a 220-240V/50-60Hz and 110-120V/60Hz socket-outlet. It is prohibited to connect the charger to a socket-outlet with any other supply voltage.

NOTE

Gases are released during the charging.

Figure F The only way to determine the exact condition of the battery (level of charge) is to measure the acid density with an acidimeter.

Operating as follows

Acid density values (kg/at 20°C)

1.28 battery charged

1.21 battery half charged

1.16 battery empty

Figure G pull the power plug out of the socket-outlet.

Figure H first disconnect the black charging lead from the negative pole of the battery.

Figure I then disconnect the red charging lead from the positive pole of the battery.

Figure J screw or press the battery plug back in place. Overload protection.

Figure K the flat fuse provides protection from polarity reversal and short-circuiting.

A defective fuse has to be replaced by one of identical.

DANGER

At automatic circuit-breaker interrupts the charging in the event of thermal overloading. The circuit-breaker switches on again automatically after a cooling interval.

MAINTENANCE & MALFUNCTIONS

Servicing and cleaning the battery and charger

- Make sure that your battery is always fitted securely in the vehicle.
- Check that the battery is properly connected to the vehicle's electric system.
- Keep the battery clean and dry. Apply a little acid-free and acid-resistant grease (Vaseline) to the terminals.
- The level of acid in non-maintenance-free batteries should be checked about every 4 weeks. Top up with distilled water as necessary.
- Keep the charger in a dry room. Remove any signs of corrosion from the charging terminals.



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