Technical specifications, YGC1509 European standard AC charging gun

• PRODUCT INSTRUCTIONS

(Diagram)

Application scenario

This series of charging gun is suitable for European standard electric vehicle charging, for the car end charging gun connected to the car end chassis on the electric vehicle.

Product features

- The charging gun shell features an integrated design, ensuring a lightweight product with high protection levels and safe usage, effectively mitigating the risk of damage to the two-half shell in harsh environments.
- The charging gun is equipped with a temperature sensor with higher accuracy and larger threshold to monitor the temperature inside the charging gun.
- The charging gun is designed with lightweight and flexible cables that have low hardness, making it easy to bend and operate over long distances.
- The cable is secured to the tail using a cable clamp, and the inverted concealed screw connection makes for a more aesthetically pleasing appearance.
- The use of surface-mounted resistors between terminals has lower assembly costs and a more stable structure compared to through-hole resistors.
- The 32A AC charging gun offers an ultrasonic welding process option with lower connection resistance.
- Family design style, black, white, gray three color schemes, with a clear identification logo, the overall shape is more in line with the needs of European users, the grip on both sides of the prism design, play a non-slip role.
- After 10,000 plugging and unplugging, the charging gun still meets IEC 62196-1:2022 *Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 1: General requirements*.
- Charging gun This product complies with the requirements of IEC 61851-1:2017 Annex B Figure B.2.
- Charging gun interface dimensions comply with IEC 62196-2 *Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility requirements for AC pin and contact-tube accessories.*

• ORDERING INFORMATIONS

1.YGC1509 AC charging interface model and details
1.1.YGC1509 AC charging port model naming rules:
1.1.1.Name naming convention:

YG-ENC-1AC13-GY-M3C1

Mode & Connection: M2(mode 2), M3(mode 2), M4(mode 2), B(connection mode B), B(connection mode C), 1(cable group 1, cable group 2.....)

Color and expansion: GY (gray), WT (white), BK (black)

Performance: 1AC13 (single-phase AC 13A), 3AC13 three-phase AC 13A).....

Product: EN (European standard charging), C (EV plug), P (vehicle connector), CP (double end)

Manufacturer: YG (Yonggui Technology)

Ordering information				
Specification	Product name	Product code	Line length(m)	Remark
16A three-phase	YG-ENC-3AC16-GY-M3C-C1 Plug and cable assembly	111000405819	5	
32A three-phase	YG-ENC-3AC32-GY-M3C-C1 Plug and cable assembly	111000405822	5	
16A single-phase	YG-ENC-1AC16-GY-M3C-C1 Plug and cable assembly	111000405818	5	
32A single-phase	YG-ENC-1AC32-GY-M3C-C1 Plug and cable assembly	111000405821	5	

• TECHNICAL DATA

Basic information		
Rated current	16A	32A
Rated voltage	250V(single-phase)/480V(three-phase)	250V(single-phase)/480V(three-phase)
Number of contacts	5core(single-phase)/7core(three-phase)	5core(single-phase)/7core(three-phase)
Cable outer diameter	Φ10.7±0.5(single-phase) Φ13.5±0.3(three-phase)	Φ13.5±0.5(single-phase) 16.5±0.5±0.3(three-phase)
Number of temperature sensors	1	
Termination mode	Insertion of pairs	
Wiring specification	2.5mm²	6mm²

Electrical performance							
Serial number	Group	Withstand voltage			Insulation resistance		
		Test voltage(DC)	Time	Leakage current	Test voltage(DC)	Time	Insulation resistance
1	Between L3, L2, L1, N，PE, respectively	2000V	1min	≤5mA	500V	1min	500MΩ
2	Between L3, L2, L1, N, PE and CP, respectively	1500V	1min	≤5mA			
Remark		a. PP and PE are connected. Select either b. Single-phase, without L3 and L2			a.P and PE are connected, choose one		

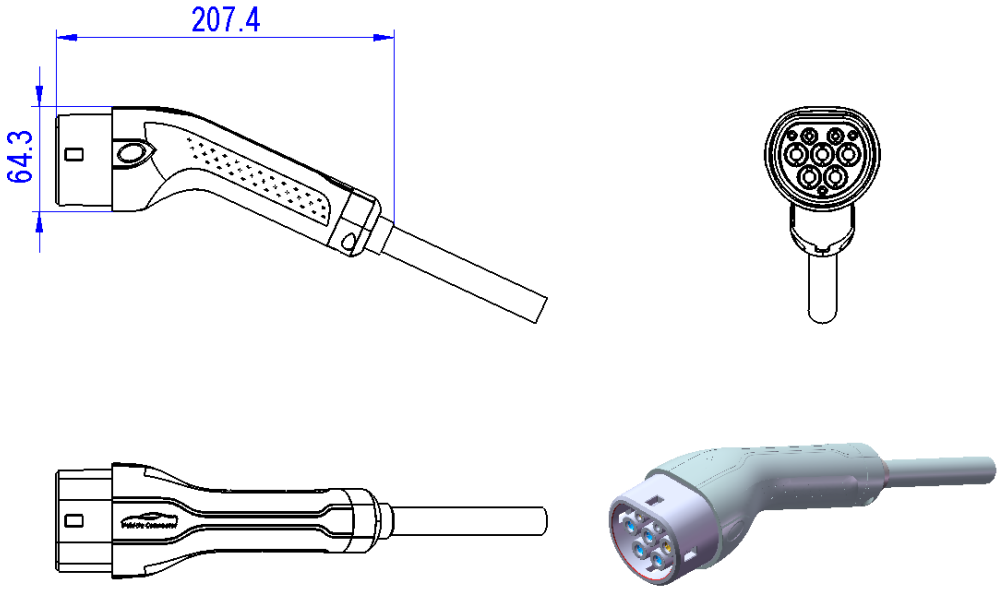
Mechanical property		
Rated current	16A	32A
Insertion and extraction force	＜100N	
Mechanical life	≥10000 times	
Fall	1m height drop, meet IEC 62196-1:222	
Rolling	Can withstand 11000N rolling, meet IEC 62196-1:222	

Environmental resistance		
Rated current	16A	32A
Operating ambient temperature	-30℃ ~ +50℃	
Operating temperature	-30℃ ~ +85℃	
Relative humidity	5% ~ 95%	
Corrosion resistance	Meet IEC 62196-1:2002	
Class of protection	The vehicle plug meets IP44 when inserted into the vehicle socket The protection level of the low-voltage circuit inside the vehicle plug meets 1P67	
Altitude requirement	≤3000 meters	

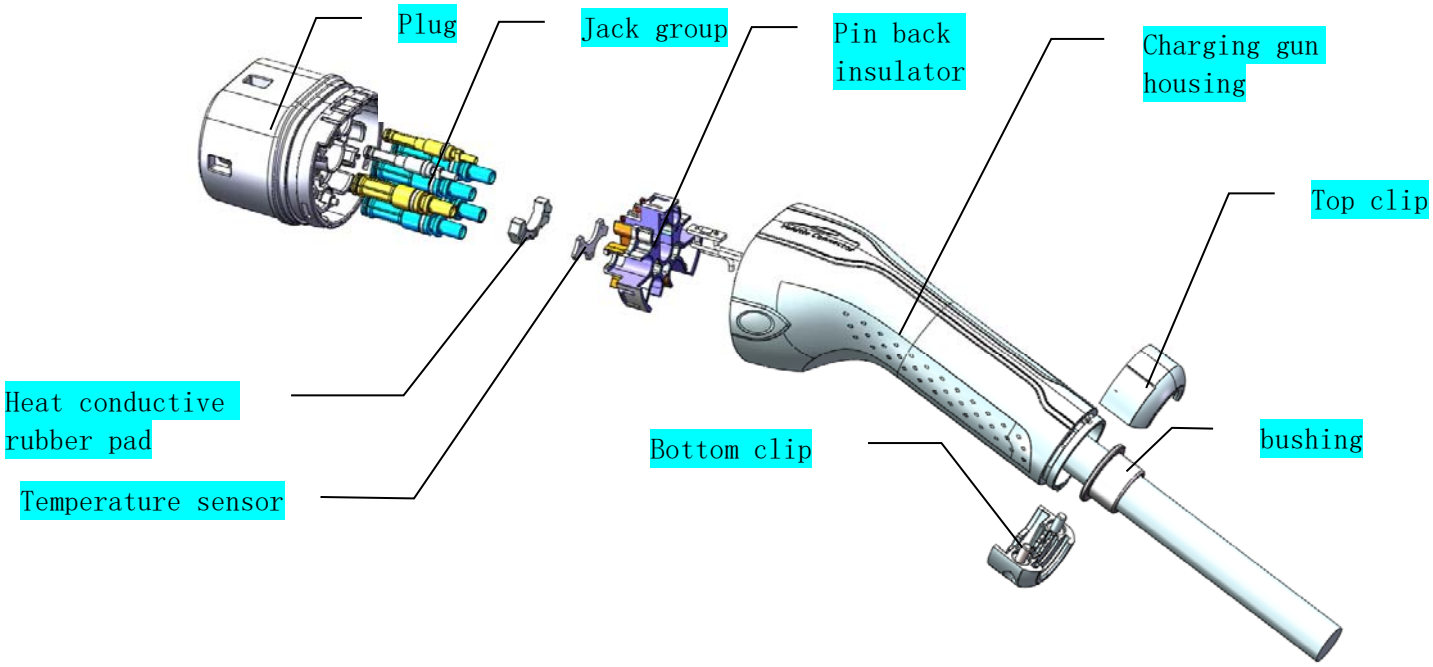
Standards and certification	
Flame retardant rating	UL94 V-0
Environmental protection requirement	ROHS2.0 and REACH
Product certification	TUV
Executive standard	IEC 62196-1:2022
	IEC 62196-2:2022
	IEC 62196-3:2022

• PRODUCT SIZE

Charging gun overall: (schematic diagram)

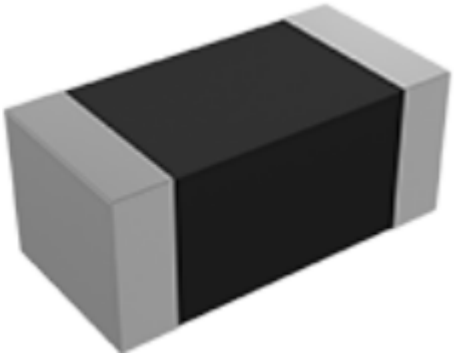


Charging gun explosion: (schematic)



- key component

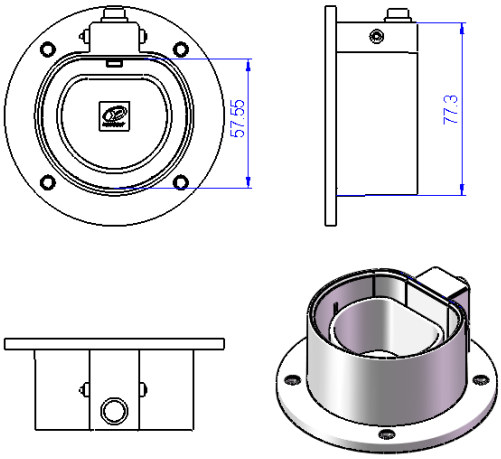
Component detail	
Name	Temperature sensor
Quantity	2
Specifications	10KΩ
Accuracy	±1%
Rated power	100mW



(Temperature sensor diagram)

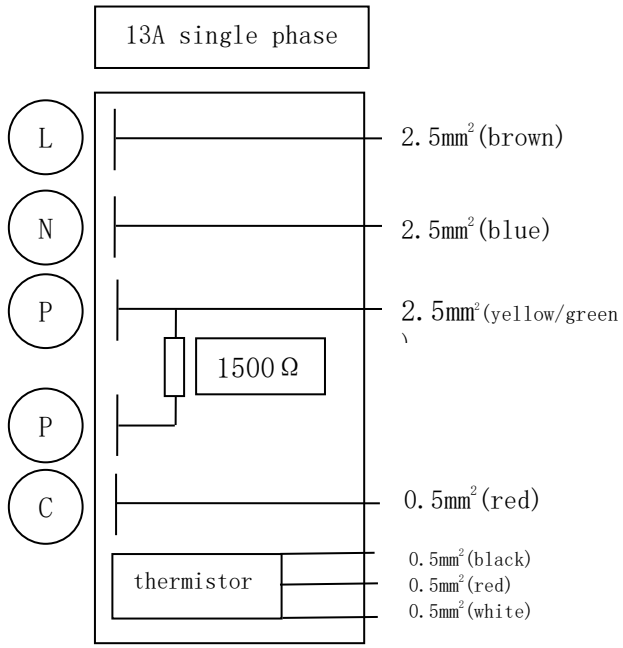
- Supporting product

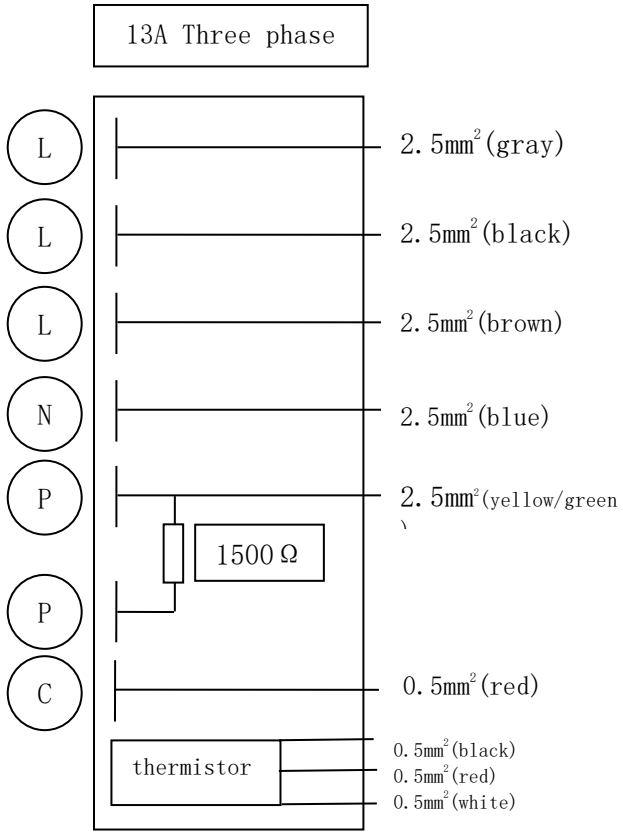
The empty seat is used to fix the charging gun when it is not in use

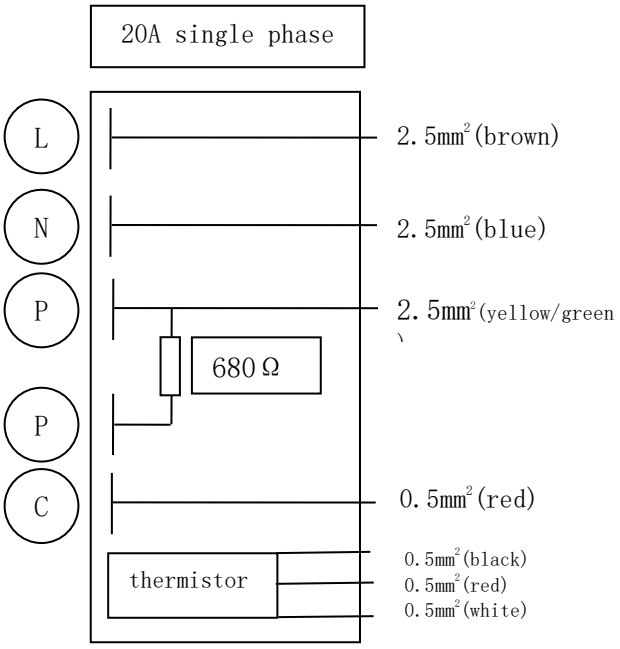


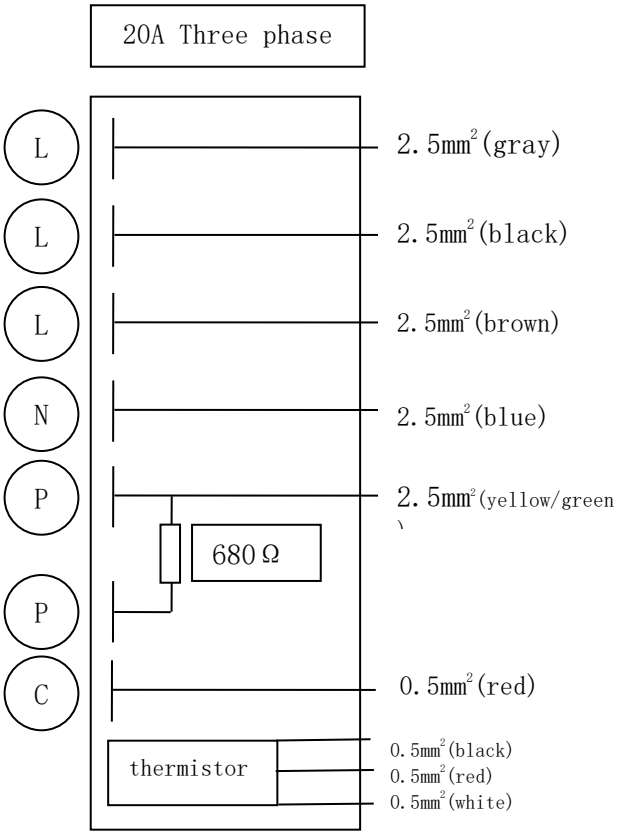
（The empty seat diagram）

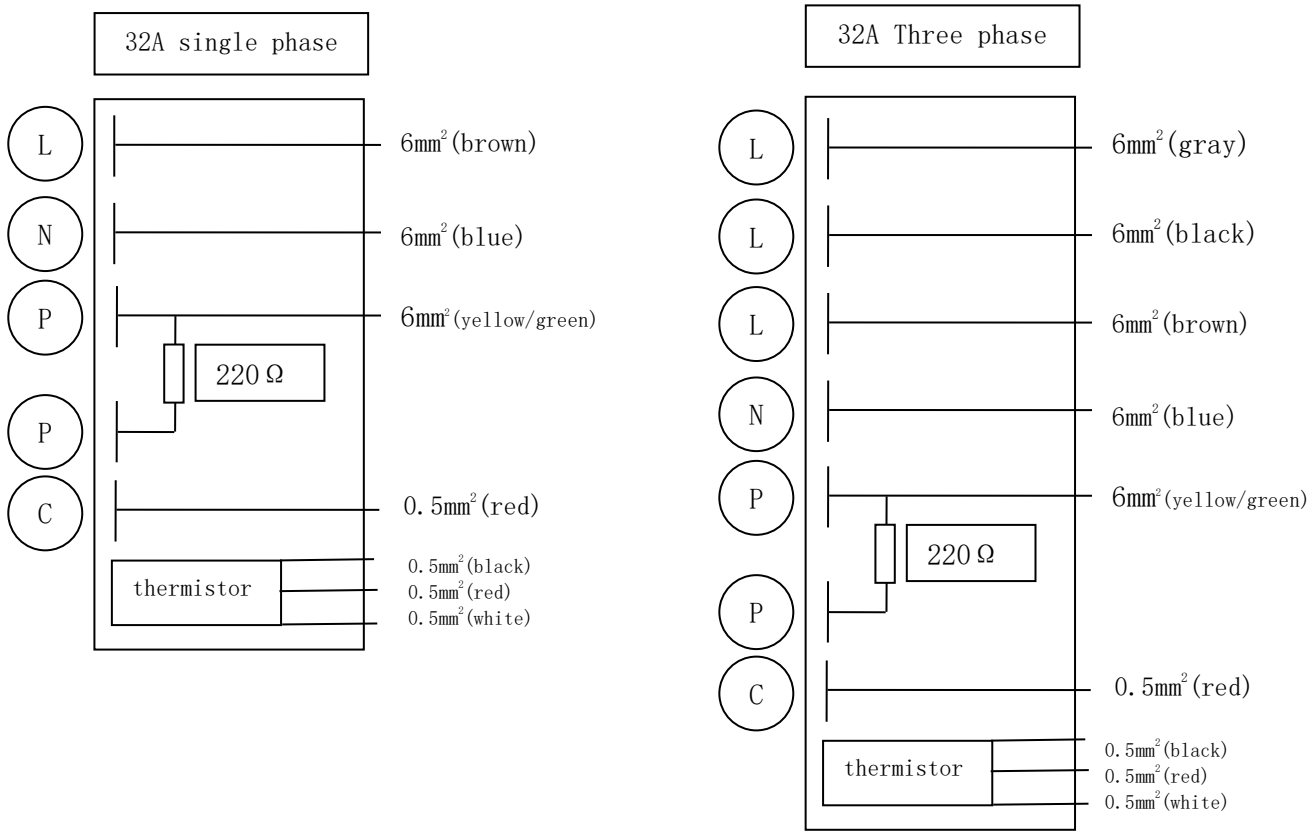
- electrical schematic diagram











（electrical schematic diagram）

• PACKING INSTRUCTIONS

Packing and storage instructions	
Packing Method	Foam plastic bags are wrapped and packed into cartons. The gaps are filled with foam boards
Transport requirements	can be specified
Storage requirements	The charging gun contains parts (gold-plated and silver-plated), and the storage environment should be kept clean and ventilated. The humidity of the storage environment should be less than 60%, and the temperature should be 5 to 30 ℃. The storage period is 6 months.

• operation specification

1. Product structure: This product is an AC charging cable with European standard vehicle plug and free outlet, which is only used to connect to AC charging equipment and charge electric vehicles. The vehicle plug of this product meets IEC 62196-1, IEC 62196-2 and IEC 62196-3, and is only suitable for use with vehicle sockets under this standard.
2. Safety: Only professional electrical engineers are allowed to install the charging cable. Incorrect wiring may lead to electric shock risk and charging failure.

3. Make sure to cover the gun head protection cover when not using the vehicle plug;
4. Do not modify or disassemble the charging gun, otherwise it may lead to charging failure, and cause fire in serious cases; It is recommended to stop charging the vehicle during thunderstorms. Lightning may damage the charging device.
5. Before plugging in and charging, observe whether there are water beads or foreign bodies in the charging socket at the end of the car, and whether the reed of the jack is broken; Whether there are strange things inside the charging gun head, whether the terminals are complete;
6. Before charging, it is necessary to confirm whether the charging gun has been inserted in place and whether the hook has been fully worked in place;
7. Please do not touch the charging gun during the charging process, so as to avoid charging interruption caused by misoperation;
8. During the charging process, the cable naturally falls to the ground. Do not place the cable at the cable hanging point of the charging pile to charge the entire cable. After the charging is complete, place the cable natural tray at the cable hanging point of the charging pile or the ground beside the charging pile.
9. After charging, please swipe the card and settle the bill before pulling out the charging gun. If it cannot be pulled out, please contact the operator and do not pull it out forcibly to avoid unnecessary hardware damage;
10. After charging, if the charging seat locks the charging gun, please use the emergency unlocking device on the car.After charging, please close the socket flap and close the charging port door on the car.
11.

- Version update

版本	变更信息	编制人	时间
S 0.0	初版	段小虎	20240119
S 0.1	修改名称，电阻，绝缘耐压	段小虎	20240226