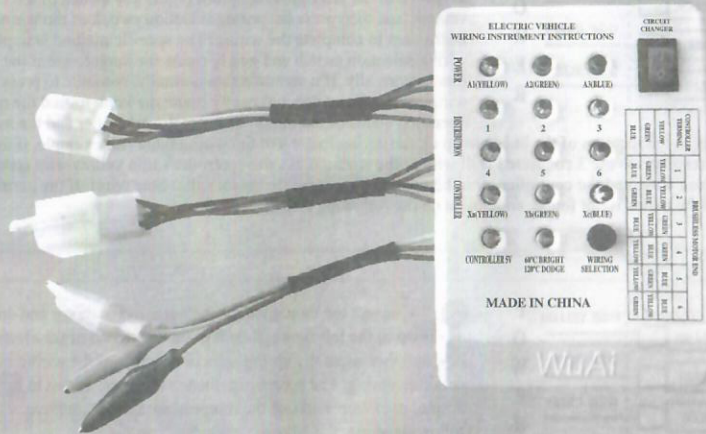


ELECTRIC VEHICLE WIRING INSTRUMENT INSTRUCTIONS



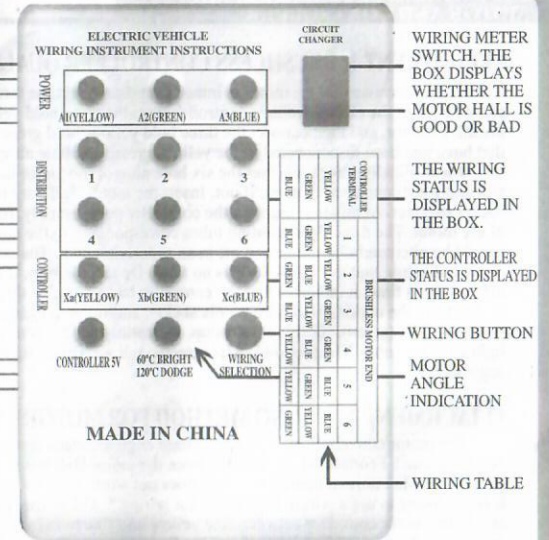
USING AN ELECTRIC VEHICLE WIRING INSTRUMENT TO DETECT THE BRUSHLESS MOTOR AND PHASE ANGLE ONLY TAKES 3 SECONDS; IT ONLY TAKES 5 SECONDS TO DETECT THE CONTROLLER AND PHASE ANGLE; COMPLETE THE WIRING BETWEEN THE CONTROLLER AND THE MOTOR QUICKLY AND ACCURATELY. FIND OUT THE WIRING METHOD OF THE 120° CONTROLLER IN 10 SECONDS, AND FIND OUT THE WIRING METHOD OF THE 60° CONTROLLER IN 20 SECONDS. IT ONLY TAKES 5 MINUTES TO REPLACE A CONTROLLER. IT IS WIDELY USED IN ELECTRIC VEHICLE MANUFACTURERS, CONTROLLER MANUFACTURERS, MOTOR MANUFACTURERS, ELECTRIC VEHICLE TRAINING SCHOOLS, AND ELECTRIC VEHICLE MAINTENANCE PERSONNEL.

PRODUCT INTRODUCTION

THIS IS CONNECTED TO THE HALL WIRE OF THE ELECTRIC VEHICLE MOTOR.

THIS IS CONNECTED TO THE HALL OF THE CONTROLLER OF THE ELECTRIC VEHICLE.

THIS IS CONNECTED TO THE MAIN PHASE LINE OF THE CONTROLLER OF THE ELECTRIC VEHICLE. NOTE: THE CONTROLLER IS CONNECTED DURING TESTING AND NOT CONNECTED DURING WIRING.

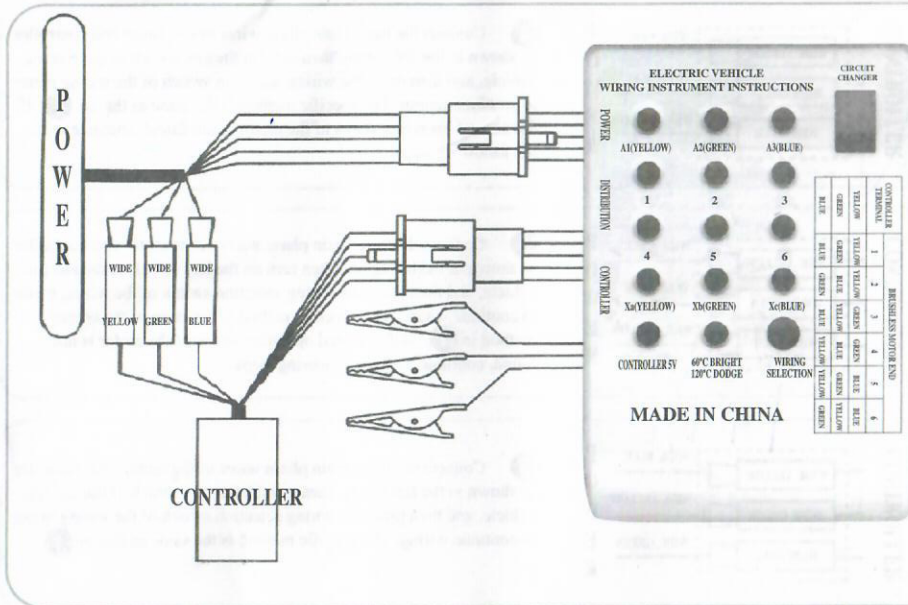


WARNING

1. THE WIRING AND DETECTION CONTROLLER DOES NOT NEED TO TURN ON THE WIRING METER SWITCH, AND ONLY THE GUN MEASUREMENT MOTOR HALL NEEDS TO BE TURNED ON.
2. THE WIRING INSTRUMENT SHOULD BE PLACED IN A VENTILATED, DRY, NON CORROSIVE PLACE TO MINIMIZE VIBRATION.
3. SPECIAL ATTENTION: PLEASE OPERATE CORRECTLY ACCORDING TO THE INSTRUCTIONS. THE SIX-HOLE PLUG OF THE WIRING INSTRUMENT MUST BE CONNECTED TO THE CONTROLLER HALL CABLE (RED, BLACK, YELLOW, GREEN, BLUE) SIX-HOLE SOCKET. IF THE MALFUNCTION OF THE WIRING INSTRUMENT CAUSED BY INCORRECT OPERATION IS NOT COVERED BY THE WARRANTY, PLEASE UNDERSTAND!

FAST DETECTION OF PHASE ANGLE AND HALL OF BRUSHLESS MOTOR

POUR: IN THE FOLLOWING FIGURE INDICATOR LIGHT, INDICATES THAT IT IS NOT LIT.



1 DISCONNECT THE HALL WIRE BETWEEN THE ORIGINAL ELECTRIC VEHICLE MOTOR AND THE CONTROLLER. (3 MAIN PHASE LINES CAN BE CONTINUOUSLY OPENED)

2 AS SHOWN IN THE LEFT FIGURE, CONNECT THE SIX HOLE SOCKET OF THE WIRING INSTRUMENT WITH THE SIX HOLE SOCKET OF THE MOTOR HALL WIRE, AND CONNECT THE SIX HOLE SOCKET OF THE WIRING INSTRUMENT WITH THE SIX HOLE SOCKET OF THE CONTROLLER HALL WIRE.

3 TURN ON THE ELECTRIC VEHICLE KEY SWITCH (AS SHOWN IN FIGURE A), POWER ON THE CONTROLLER, INITIALIZE THE WIRING TESTER FOR SELF TEST, AND THE WIRING 1FD IS LIT



AT THE SAME TIME, THE CONTROLLER 5V INDICATOR LIGHT IS ALSO LIT.

4 TURN ON THE SWITCH ON THE WIRING METER, SLOWLY ROTATE THE MOTOR, AND OBSERVE THE MOTOR ANGLE INDICATOR. AS SHOWN IN THE LEFT FIGURE, UNDER NORMAL HALL CONDITIONS, THE MOTOR ANGLE INDICATOR LIGHTS UP, INDICATING THAT THE MOTOR IS A 0° PHASE ANGLE MOTOR; THE MOTOR ANGLE INDICATOR LIGHT FLASHES, INDICATING THAT THE MOTOR IS A 120° PHASE ANGLE MOTOR.

5 IF THE MOTOR ANGLE INDICATOR DOES NOT LIGHT UP, THERE IS A FAULT WITH THE MOTOR HALL. AT THIS TIME, OBSERVE THE THREE INDICATOR LIGHTS IN THE FIRST ROW, AND DETERMINE WHETHER THE CORRESPONDING HALL IS DAMAGED OR THE INTERNAL WIRING OF THE MOTOR IS IN POOR CONTACT BASED ON THE CHANGES IN THE LIGHTS OF THE THREE INDICATOR LIGHTS, A1 YELLOW, A2 GREEN, AND A3 BLUE.

ATTACHMENT 1: BRUSHLESS CONTROLLER QUALITY AND PHASE ANGLE DETECTION:

On the premise that the motor is intact, first disconnect the three bold yellow, bold green, and bold blue main phase wires of the electric vehicle controller from the three bold yellow, bold green, and bold blue wires of the brushless motor, and then connect the three bold yellow, bold green, and bold blue main phase wires of the controller that have just been disconnected to the yellow, green, and blue alligator clip wires of the electric vehicle wiring instrument. Finally, check whether the six hole plug of the motor hall cable and the six hole socket of the controller hall cable are connected in pairs, if not, insert the motor Hall wire 6-hole socket and the controller Hall wire 6-hole socket together. At this time, turn on the controller power supply, rotate the knob, and slowly pull out the rear wheel of the motor. The three light emitting tubes corresponding to the controller, XA (yellow), XB (green), and XC (blue), should be alternately lit and turned off in an orderly manner. The brightness is related to the rotation angle of the knob, indicating that the controller has no fault; On the contrary, if one, two, or three light emitting tubes stay on or off for a long time, it indicates that the controller has a fault; At this time, disconnect the controller's Hall wire 6-hole socket from the motor's Hall wire 6-hole socket, and rotate it again. None of the three light emitting tubes XA (yellow), XIB (green), XC(blue) lights up, indicating that the controller has a phase angle of 120°. If one of the three light emitting tubes XIA (yellow), XIB (green), and XC (blue) lights up, it indicates that the controller has a phase angle of 60°.

ATTACHMENT 2: WIRING METHOD FOR MOTOR CONVERTER:

The motor converter can match the phase angle between the motor and the controller. Generally, the motor converter can be connected in series between the motor Hall wire 6-hole plug and the controller Hall wire 6-hole socket to ensure normal operation; "This does not work properly, indicating that the wiring is incorrect. At this point, it is necessary to use a wiring instrument for wiring.". The wiring is performed by first swapping the six hole plug end of the motor converter between fine yellow and fine blue (after swapping, the six hole plug end has a fine yellow line below the fine red line, and a fine blue line below the fine black line) and connecting it to the six hole socket of the wiring instrument. One end of the six hole socket of the motor converter is connected to the six hole socket of the motor hall wire, and then connecting the six hole socket of the wiring instrument to the six hole socket of the controller hall wire. When conducting wiring alignment, refer to the wiring table, and the controller end does not move (as a basis), Adjust the yellow, green, and blue thin wires inserted into the six holes of the motor converter.

WIRING PRINCIPLE

A: THE MOTOR AND CONTROLLER MUST BE CHECKED TO ENSURE THAT THEY ARE IN GOOD CONDITION AND THAT THEIR PHASE ANGLES ARE CONSISTENT BEFORE PERFORMING THE FAST WIRING FUNCTION.
B: THE CONTROLLER HALL WIRE 6-HOLE SOCKET (RED, BLACK, YELLOW, GREEN, AND BLUE) MUST BE CONNECTED TO THE WIRING INSTRUMENT 6-HOLE SOCKET (RED, BLACK, YELLOW, GREEN, AND BLUE) ACCORDING TO THE COLOR, AND THE MOTOR HALL WIRE 6-HOLE SOCKET (RED, BLACK, YELLOW, GREEN, AND BLUE) MUST ALSO BE CONNECTED TO THE WIRING INSTRUMENT ONLY 6-HOLE SOCKET (RED, BLACK, YELLOW, GREEN, AND BLUE) ACCORDING TO THE COLOR.

INSTRUCTIONS FOR USE OF WIRING INSTRUMENT

1. SELF INSPECTION METHOD OF WIRING INSTRUMENT:

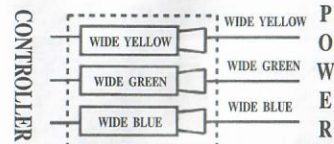
Connect the 6-hole plug of the wiring instrument to the 6-hole socket of the controller (note that the wires of various colors should correspond), turn on the wiring instrument switch, then turn on the electric vehicle key switch, turn on the controller power, and initialize the wiring instrument for self inspection. All lights are on except Xa, Xb, and Xc, which are not lit. After a few seconds, the lights on the wiring instrument: A1, A2, A3, 1, and the controller 5V indicator lights are on, while other indicators are off, indicating that the wiring instrument self-test is normal. During self inspection, do not connect other lines to avoid interference.

2. THE WIRING INSTRUMENT DOES NOT REQUIRE A 9-VOLT BATTERY:

The power supply is provided by a 5V voltage between the thin red line and the thin black line of the controller Hall wire.

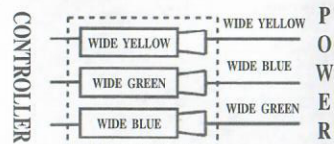
3. HIGH PRESSURE CHIP BURNING OF CONTROLLER:

It is good to use a repair kit to detect the old controller first, or use a multimeter to measure the voltage between the thin red and thin black lines of the controller. The voltage should **not be greater than 5V** (greater than 5V will burn the wiring instrument chip, and the new controller does not need to measure it). When wiring, please slowly rotate the knob to the maximum speed.



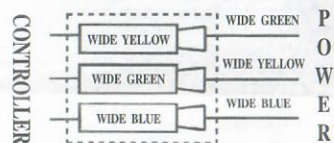
Hall wire according to the location of the lit LD lamp on the wiring meter and the wiring table (for example, if the LED lamp 3 is lit, it corresponds to the 3 connected Hall wire in the wiring table, the controller's thin yellow wire connects to the motor's thin green wire, and the controller's thin blue wire connects to the motor's thin blue wire). If the normal operation status of the motor is not found, continue with the following steps.

1 Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring instrument to complete the wiring. The specific method is to press the wiring selection switch and gently rotate the knob to see if the motor rotates normally. If it cannot rotate normally, continue to press the wiring selection switch and gently rotate the knob to find the normal operation status of the motor. Connect the controller and the motor's



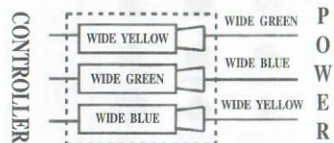
Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**. If the normal operation status of the motor is not found, continue with the following steps.

2 Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the switch of the electric vehicle key, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**. If the normal operation status of the motor is not found, continue with the following steps.



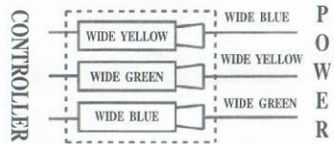
Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**. If the normal operation status of the motor is not found, continue with the following steps.

4 Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**. If the normal operation status of the motor is not found, continue with the following steps.



Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**.

5 Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as the county method in **1**. If the normal operation status of the motor is not found, continue with the following steps.



6 Connect the three main phase wires of the motor and controller as shown in the left figure, then turn on the key switch of the electric vehicle, and then press the wiring selection switch of the wiring meter to continue wiring. The specific method is the same as that in **1**.