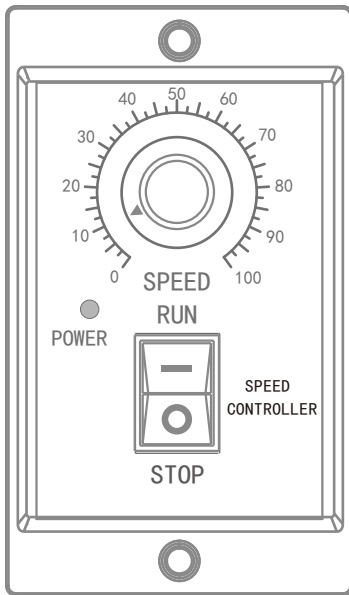


## US Series Panel-Type Speed Regulators

## Operating instruction



- ◆ **Characteristic**
- Manufactured using SMD technology, it offers high reliability, simple wiring, and ease of use.
  - **Built-in operating capacitor.**
  - Combining with a speed-regulating motor to achieve a wide range of stepless speed regulation.

To ensure safety and proper operation, please carefully read this instruction manual before installing and using the product.

## ◆ Instructions for Use

- Do not use in explosive atmospheres, atmospheres containing flammable gases, or corrosive environments.
- Also, do not use in areas prone to water contact or in the vicinity of flammable materials.○ Avoid continuous vibration and excessive impact.

- Under normal operating conditions, the surface temperature of the motor housing may occasionally exceed 70 °C. Therefore, in operating environments where the motor may come into contact with personnel,

Users are requested to affix the warning sign shown in the image below on their own initiative!

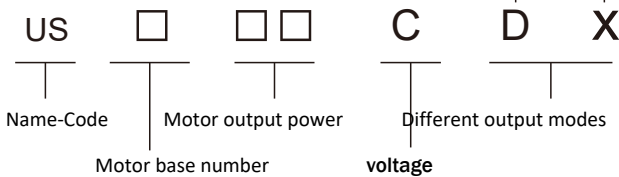


- The motor shall not be operated continuously under prolonged low-speed overload conditions.
- Be sure to connect the grounding terminal to ground.
- Installation, connection, inspection, and other related operations must be performed by qualified technical personnel.

## ■ Model definition rules:

## ● Panel-type

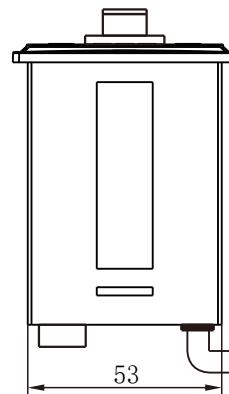
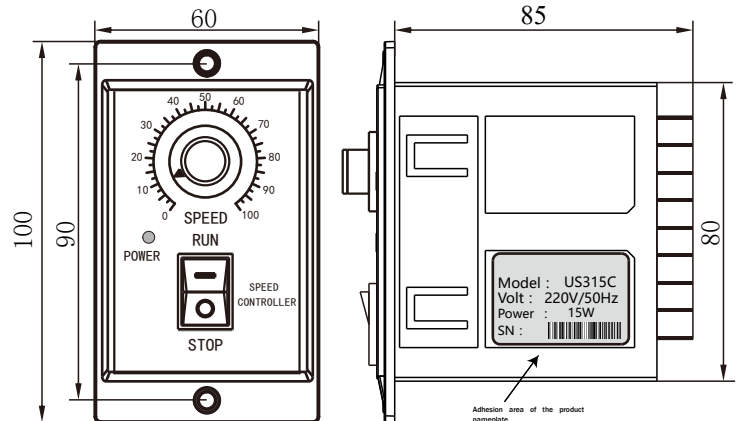
Output terminals of the terminal blocks and integrated wiring harnesses



| Model                  | Single-phase 220V | US206C                                                      | US315C                     | US425C                     | US540C                     | US560C                     | US590C                     | US5120C                    | US6120C                    | US6140C                    | US6200C                    |
|------------------------|-------------------|-------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|                        | Output Method     | <input type="checkbox"/> D                                  | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D |
|                        |                   | <input type="checkbox"/> X                                  | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X |
|                        | Single-phase 110V | US206A                                                      | US315A                     | US425A                     | US540A                     | US560A                     | US590A                     | US5120A                    | US6120A                    | US6140A                    | US6200A                    |
|                        | Output Method     | <input type="checkbox"/> D                                  | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D | <input type="checkbox"/> D |
|                        |                   | <input type="checkbox"/> X                                  | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X | <input type="checkbox"/> X |
| Use motor power        |                   | 6W                                                          | 15W                        | 25W                        | 40W                        | 60W                        | 90W                        | 120W                       | 120W                       | 140W                       | 200W                       |
| Motor type used        |                   | Speed-regulating motor                                      |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Way to install         |                   | Panel-type                                                  |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Speed control method   |                   | Panel potentiometer                                         |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Operating capacitor    |                   | Built-in (integrated within the speed regulator)            |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Speed regulation range |                   | 50Hz: 90~1350r/min; 60Hz: 90~1550r/min                      |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Supply frequency       |                   | 50Hz - 60Hz                                                 |                            |                            |                            |                            |                            |                            |                            |                            |                            |
| Service environment    |                   | -10 °C to +45 °C (no freezing), below 85% (no condensation) |                            |                            |                            |                            |                            |                            |                            |                            |                            |

## ◆ Appearance and Installation:

Unit: mm

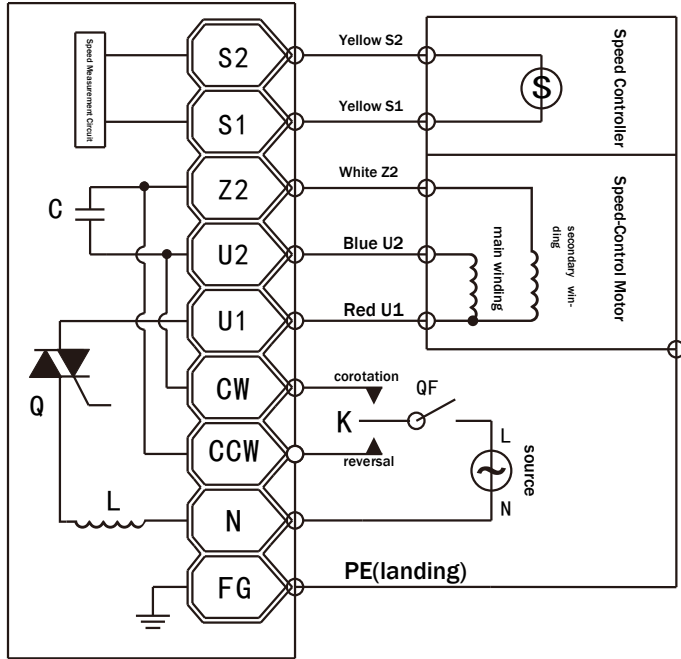


## Matters Need Attention:

1. Fix using M4 combination screws at the two mounting holes;
2. Fastening torque: 0.4 - 0.7 N·m.

redLan | whiteHuang | HuangGreen

### ◆ Regulator connection diagram



### ◆ rotation direction:

To set the motor to forward rotation: connect "L" to "CW";

To reverse the motor direction: connect "L" to "CCW";

For forward or reverse rotation: select "L", "CW", or "CCW".

Connect the forward/reverse control switch "K". Note: The contact rating of switch "K" shall be no less than 10 A.

◆ The rated power of the speed-regulating motor must match the rated power of the speed regulator; please verify that the rated power indicated on the speed regulator's model label matches that of the motor.

### ◆ Operating capacitor C specification table:

| Power supply voltage and motor power | 220V       | 110V      |
|--------------------------------------|------------|-----------|
| 6W                                   | 0.8μF/450V | 3μF/250V  |
| 15W                                  | 1.2μF/450V | 5μF/250V  |
| 25W                                  | 1.8μF/450V | 7μF/250V  |
| 40W                                  | 2.5μF/450V | 10μF/250V |
| 60W                                  | 4μF/450V   | 15μF/250V |
| 90W                                  | 5μF/450V   | 20μF/250V |
| 120W                                 | 8μF/450V   | 30μF/250V |
| 140W                                 | 10μF/450V  | 35μF/250V |
| 200W                                 | 10μF/450V  | 40μF/250V |

Note: The operating capacitor is selected according to the motor model and is integrated within the speed controller.

◆ The power supply voltage must comply with the voltage specifications of the speed controller. QF is a circuit breaker, which protects the speed controller and the speed-controlled motor in the event of a short circuit. K is the forward/reverse switch, with a current rating of  $\geq 10$  A.

| Supply voltage | Power of motor | QF Current Rating |
|----------------|----------------|-------------------|
| 220V           | 6–90W          | 1 A               |
| 220V           | 120–200W       | 2 A               |
| 110V           | 6–90W          | 3 A               |
| 110V           | 120–200W       | 4 A               |

