



## NJR5-D Series Soft Starter

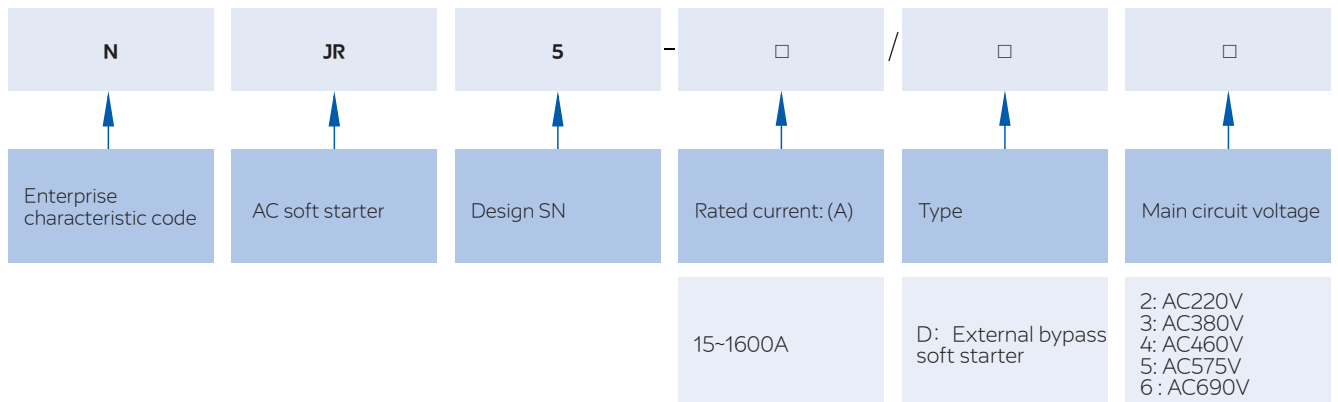
### 1. Product overview

NJR5-D series soft starter is an external bypass type soft starter. Its input power supply voltage (main circuit voltage) is divided into AC220V, AC380V, AC460V, AC575V and AC690V. It features strong load adaptability and stable and reliable operation, and is widely used in motor drive equipment in fields such as metallurgy, petroleum, fire protection, mining, water supply, municipal services, food, cement, petrochemicals, etc. It is the most ideal replacement product for traditional star-delta starting and autotransformer voltage reduction starting.

NJR5-D series soft starters are three-phase AC asynchronous motor soft starters designed based on power electronic technology, microprocessor technology and modern control theory technology. They achieve functions such as soft start and soft stop of the motor by controlling the three-phase parallel-connected thyristors connected in series between the power supply and the controlled motor. This product can effectively control the starting current and starting torque of the motor.

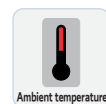
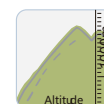
Standards: IEC60947-4-2

### 2. Type designation



### 3. Environmental conditions

- 3.1 Operation temperature: -10° C~+40° C, +40° C~+50° C should be derated for use, and the current will be derated by 2% for every 1° C increase.
- 3.2 Storage temperature: -25° C~+70° C.
- 3.3 Relative humidity: no more than 95% (20° C~65° C).
- 3.4 Altitude:
  - If it exceeds 1000m, it should be used with corresponding derating.
  - If it is above 1000m and less than 3000m, the current should be derated by 0.5% for each 100m increase. If it is above 3000m, it needs to be customized.
- 3.5 Water and dust proof:
  - No condensation, no flammable, explosive gas, no conductive dust.
- 3.6 Shock and vibration:
  - Do not drop the soft starter to the ground or suffer sudden impact, and do not install the soft starter where it may vibrate frequently.
- 3.7 Ventilation requirements:
  - When the soft starter is installed in the cabinet, it is required to install an exhaust fan on the cabinet to make the cabinet ventilated smoothly.
- 3.8 Long-term storage:
  - When the soft starter is stored for a long time, it should be energized once within two years, and then run after 1 hour.



## 4. Technical parameters and performance

- 4.1 Power supply voltage:
- 1) NJR5- □ / D2: AC220V (range: AC198V~AC264V);
  - 2) NJR5- □ / D3: AC380V (range: AC323V~AC437V);
  - 3) NJR5- □ / D4: AC460V (range: AC414V~AC504V);
  - 4) NJR5- □ / D5: AC575V (range: AC517V~AC633V);
  - 5) NJR5- □ / D6: AC690V (range: AC621V~AC759V).
- 4.2 Main power frequency: 50Hz  $\pm$  1.5Hz, 60Hz  $\pm$  1.8Hz.
- 4.3 Applicable motor: common squirrel-cage three-phase asynchronous motor
- 4.4 Pollution level: Level 3
- 4.5 Rated insulation voltage:
- 1) NJR5- □ / D2 and NJR5- □ / D3: AC660V;
  - 2) NJR5- □ / D4, NR5-D/D5, NJR5- □ / D6: AC1000V.
- 4.6 Rated impulse withstand voltage: 8kV.
- 4.7 Cooling method: forced air cooling.
- 4.8 Starting frequency: The starting frequency can be set in per hour, and it should be not to exceed 10 times per hour. For the heavier load, starting frequency should be set less.
- 4.9 Soft start time: (2~60) S.
- 4.10 Soft stop time: (2~60) S.
- 4.11 Starting modes: normal current mode, enhanced current mode, normal voltage mode, enhanced voltage mode, linear torque mode, square torque mode and frequency division mode, a total of 7 types.
- 4.12 Stop mode: free stop, brake stop and voltage ramp soft stop, a total of 3 types.
- 4.13 Initial voltage: (30~70)%  $U_e$ , where  $U_e$  represents the power supply voltage.
- 4.14 Jump time: (0.0~2.0) S.
- 4.15 Jump voltage: (50~100)%  $U_e$ , where  $U_e$  represents the power supply voltage.
- 4.16 Current limiting multiple: (50~500)%  $I_e$ , where  $I_e$  represents the rated current of the motor.
- 4.17 Torque limit level: (50.0~300.0)%  $T_e$ , where  $T_e$  represents the rated torque of the motor.

## 5. Main features

### 5.1 Performance aspects

- 7 starting modes: normal current mode, enhanced current mode, normal voltage mode, enhanced voltage mode, linear torque mode, square torque mode and frequency division mode, select different starting modes and starting parameter settings according to load characteristics, It can maximize the motor to achieve the best starting effect.
- Stable kick start: When switching from the kick process to the normal start mode, the current is seamlessly and smoothly connected without sudden changes, which prolongs the life of the transmission equipment.
- Equipped with torque control mode: real-time control of the output electromagnetic torque of the soft starter, so that the speed of the

motor rises more smoothly during the soft start process.

- With light-load energy-saving function: when the energy-saving mode is selected, when the motor is detected to be in a light- load running state, the output voltage of the soft starter will be appropriately reduced, the motor magnetic flux will drop, the excitation current will drop, the iron loss will decrease, the stator current will decrease, and the stator copper loss will decrease. Decrease - the output power of the soft starter decreases, thereby realizing energy saving.
- Possess low-speed forward rotation and reverse rotation functions: By adjusting the trigger angle of the thyristor, the product has the switching function of low-speed forward rotation and low-speed reverse rotation, which meets some application functions, such as water pump cleaning.
- With brake stop function: by injecting direct current into the motor, it can realize fast stop and meet some occasions that require fast braking.
- Wide power supply frequency: In current mode, the power supply frequency ranges from 35Hz to 60Hz, which is more suitable for generator power supply occasions.

### 5.2 Functional aspects

- With secondary current limiting function: in some heavy load occasions, when the motor cannot start after the primary current limiting is adopted, the secondary current limiting can be selected (the secondary current limiting multiple is larger than the primary current limiting multiple) to start the motor, and finally the motor reaches run at full speed.
- With the function of the 2nd and 3rd motor parameters: when starting 2-3 motors in sequence, through the logic input control of the external control terminal signal IN1IN2, if the 2nd and 3rd motor parameters are selected, start and stop according to the 2nd and 3rd motor parameters And running overload protection, especially suitable for one-to-two, one-to-three applications and the application of two-speed motors.
- With a variety of protections: input phase loss, output phase loss, three- phase unbalance, operating overload, starting current limit overtime, main circuit overvoltage, main circuit undervoltage, load stall/short circuit, excessive starting time, starting times Too many faults, etc., effectively protect the soft starter and the motor it carries.
- It has 4 kinds of analog current output: 4mA~20mA, 0mA, 20mA, 2mA~10mA and 0mA~10mA, which are better compatible with industrial automation equipment or instrumentation equipment.
- Built-in 485 communication interface: standard Modbus protocol is adopted to realize the communication between the soft starter and the upper computer.

### 5.3 User aspects

- User-friendly debugging: After selecting the load type (as shown in F200 or F300 or F400), the startup parameters related to the motor will be automatically configured, making it convenient for users to debug.
- Highly operable: Utilizing liquid crystal display, the interface is user-friendly and the operation is convenient.
- Record 10 pieces of fault information: Record the working status, product temperature, working current and working voltage at the moment of the fault occurrence, which is helpful for the troubleshooting, analysis and resolution of the faults.
- Contains function parameter modification records: Through the FE group, users can quickly view the modifications made to the function parameters, which is convenient for after-sales service support.

### 5.4 Stability aspects

- Coating the PCBA with anti-corrosion paint has significantly enhanced the stability of the product.
- Enhanced EMC design, resistant to higher EMS interference, with high stability.

**6. Selection table**

| Model        | Rated Voltage | Rated Current | Rated Power |
|--------------|---------------|---------------|-------------|
| NJR5-15/D2   | AC220V        | 15A           | 4kw         |
| NJR5-22/D2   | AC220V        | 22A           | 5.5kw       |
| NJR5-30/D2   | AC220V        | 29A           | 7.5kw       |
| NJR5-37/D2   | AC220V        | 36A           | 11kw        |
| NJR5-44/D2   | AC220V        | 42A           | 11kw        |
| NJR5-60/D2   | AC220V        | 57A           | 15kw        |
| NJR5-74/D2   | AC220V        | 70A           | 18.5kw      |
| NJR5-90/D2   | AC220V        | 84A           | 22kW        |
| NJR5-110/D2  | AC220V        | 103A          | 30kw        |
| NJR5-150/D2  | AC220V        | 140A          | 37kW        |
| NJR5-180/D2  | AC220V        | 167A          | 45kw        |
| NJR5-220/D2  | AC220V        | 207A          | 55kw        |
| NJR5-264/D2  | AC220V        | 248A          | 75kw        |
| NJR5-320/D2  | AC220V        | 300A          | 90kw        |
| NJR5-370/D2  | AC220V        | 349A          | 110kw       |
| NJR5-440/D2  | AC220V        | 404A          | 110kw       |
| NJR5-500/D2  | AC220V        | 459A          | 132kw       |
| NJR5-560/D2  | AC220V        | 514A          | 160kw       |
| NJR5-630/D2  | AC220V        | 579A          | 160kw       |
| NJR5-710/D2  | AC220V        | 634A          | 200kw       |
| NJR5-800/D2  | AC220V        | 720A          | 200kw       |
| NJR5-900/D2  | AC220V        | 810A          | 250kw       |
| NJR5-1000/D2 | AC220V        | 900A          | 250kw       |
| NJR5-1120/D2 | AC220V        | 1050A         | 280kw       |
| NJR5-1260/D2 | AC220V        | 1140A         | 315kw       |
| NJR5-1420/D2 | AC220V        | 1250A         | 355kw       |
| NJR5-1600/D2 | AC220V        | 1460A         | 400kw       |

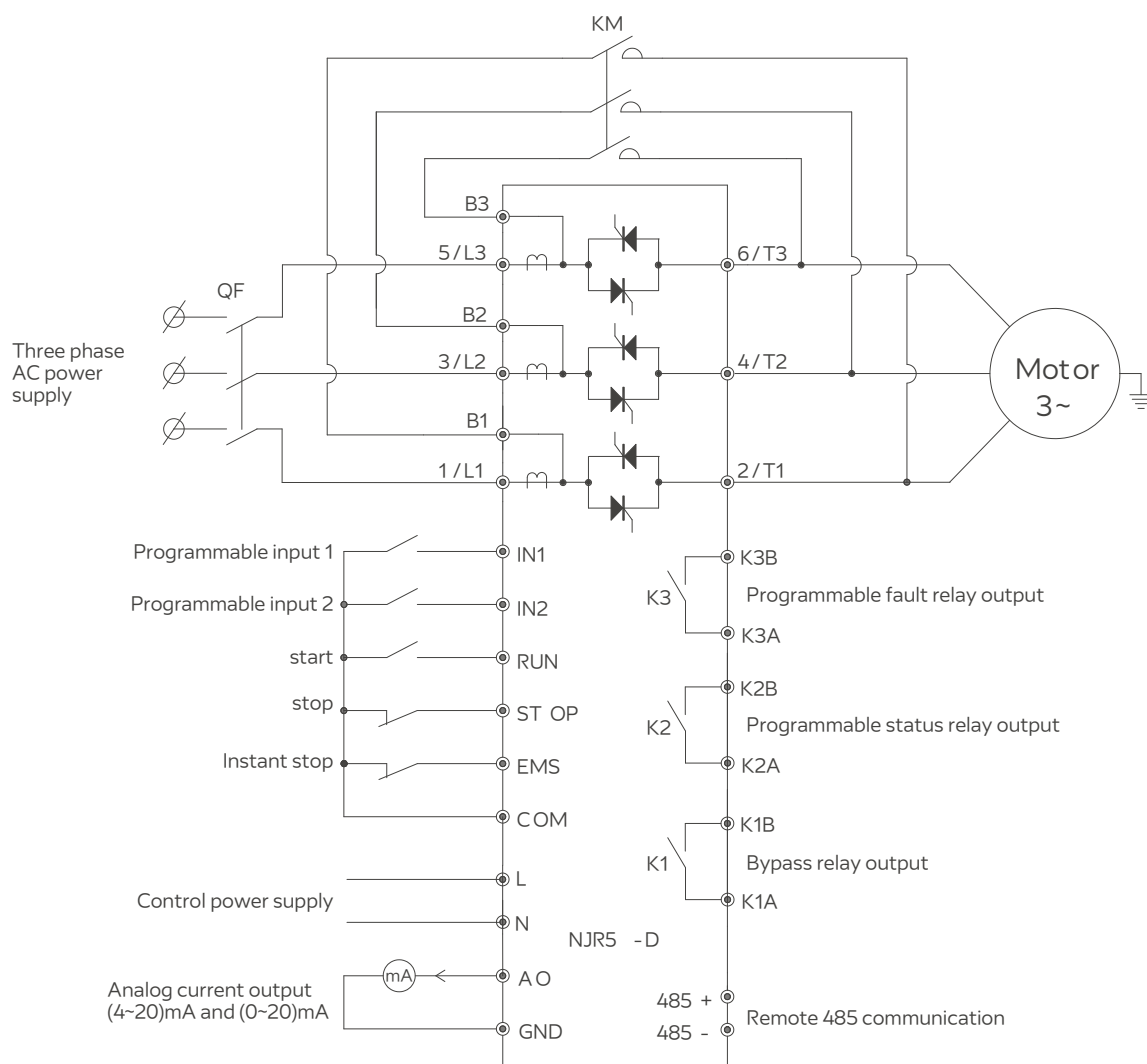
| Model        | Rated Voltage | Rated Current | Rated Power |
|--------------|---------------|---------------|-------------|
| NJR5-15/D3   | AC380V        | 15A           | 7.5kw       |
| NJR5-22/D3   | AC380V        | 22A           | 11kw        |
| NJR5-30/D3   | AC380V        | 29A           | 15kw        |
| NJR5-37/D3   | AC380V        | 36A           | 18.5kw      |
| NJR5-44/D3   | AC380V        | 42A           | 22kw        |
| NJR5-60/D3   | AC380V        | 57A           | 30kw        |
| NJR5-74/D3   | AC380V        | 70A           | 37kw        |
| NJR5-90/D3   | AC380V        | 84A           | 45kw        |
| NJR5-110/D3  | AC380V        | 103A          | 55kw        |
| NJR5-150/D3  | AC380V        | 140A          | 75kw        |
| NJR5-180/D3  | AC380V        | 167A          | 90kw        |
| NJR5-220/D3  | AC380V        | 207A          | 110kw       |
| NJR5-264/D3  | AC380V        | 248A          | 132kw       |
| NJR5-320/D3  | AC380V        | 300A          | 160kw       |
| NJR5-370/D3  | AC380V        | 349A          | 185kw       |
| NJR5-440/D3  | AC380V        | 404A          | 220kw       |
| NJR5-500/D3  | AC380V        | 459A          | 250kw       |
| NJR5-560/D3  | AC380V        | 514A          | 280kw       |
| NJR5-630/D3  | AC380V        | 579A          | 315kw       |
| NJR5-710/D3  | AC380V        | 634A          | 355kw       |
| NJR5-800/D3  | AC380V        | 720A          | 400kw       |
| NJR5-900/D3  | AC380V        | 810A          | 450kw       |
| NJR5-1000/D3 | AC380V        | 900A          | 500kw       |
| NJR5-1120/D3 | AC380V        | 1050A         | 560kw       |
| NJR5-1260/D3 | AC380V        | 1140A         | 630kw       |
| NJR5-1420/D3 | AC380V        | 1250A         | 710kw       |
| NJR5-1600/D3 | AC380V        | 1460A         | 800kw       |

| Model        | Rated Voltage | Rated Current | Rated Power |
|--------------|---------------|---------------|-------------|
| NJR5-15/D4   | AC460V        | 15A           | 9kw         |
| NJR5-22/D4   | AC460V        | 22A           | 15kw        |
| NJR5-30/D4   | AC460V        | 29A           | 18.5kw      |
| NJR5-37/D4   | AC460V        | 36A           | 22kw        |
| NJR5-44/D4   | AC460V        | 42A           | 30kw        |
| NJR5-60/D4   | AC460V        | 57A           | 37kw        |
| NJR5-74/D4   | AC460V        | 70A           | 45kw        |
| NJR5-90/D4   | AC460V        | 84A           | 55kw        |
| NJR5-110/D4  | AC460V        | 103A          | 75kw        |
| NJR5-150/D4  | AC460V        | 140A          | 90kw        |
| NJR5-180/D4  | AC460V        | 167A          | 110kw       |
| NJR5-220/D4  | AC460V        | 207A          | 132kw       |
| NJR5-264/D4  | AC460V        | 248A          | 150kw       |
| NJR5-320/D4  | AC460V        | 300A          | 185kw       |
| NJR5-370/D4  | AC460V        | 349A          | 220kw       |
| NJR5-440/D4  | AC460V        | 404A          | 250kw       |
| NJR5-500/D4  | AC460V        | 459A          | 280kw       |
| NJR5-560/D4  | AC460V        | 514A          | 315kw       |
| NJR5-630/D4  | AC460V        | 579A          | 355kw       |
| NJR5-710/D4  | AC460V        | 634A          | 400kw       |
| NJR5-800/D4  | AC460V        | 720A          | 450kw       |
| NJR5-900/D4  | AC460V        | 810A          | 560kw       |
| NJR5-1000/D4 | AC460V        | 900A          | 560kw       |
| NJR5-1120/D4 | AC460V        | 1050A         | 630kw       |
| NJR5-1260/D4 | AC460V        | 1140A         | 710kw       |
| NJR5-1420/D4 | AC460V        | 1250A         | 800kw       |
| NJR5-1600/D4 | AC460V        | 1460A         | 900kw       |

| Model        | Rated Voltage | Rated Current | Rated Power |
|--------------|---------------|---------------|-------------|
| NJR5-15/D5   | AC575V        | 15A           | 11kW        |
| NJR5-22/D5   | AC575V        | 22A           | 18.5kw      |
| NJR5-30/D5   | AC575V        | 29A           | 22kw        |
| NJR5-37/D5   | AC575V        | 36A           | 30kw        |
| NJR5-44/D5   | AC575V        | 42A           | 30kw        |
| NJR5-60/D5   | AC575V        | 57A           | 45kw        |
| NJR5-74/D5   | AC575V        | 70A           | 55kw        |
| NJR5-90/D5   | AC575V        | 84A           | 75kw        |
| NJR5-110/D5  | AC575V        | 103A          | 90kw        |
| NJR5-150/D5  | AC575V        | 140A          | 110kw       |
| NJR5-180/D5  | AC575V        | 167A          | 132kw       |
| NJR5-220/D5  | AC575V        | 207A          | 160kw       |
| NJR5-264/D5  | AC575V        | 248A          | 185kw       |
| NJR5-320/D5  | AC575V        | 300A          | 250kw       |
| NJR5-370/D5  | AC575V        | 349A          | 280kw       |
| NJR5-440/D5  | AC575V        | 404A          | 315kw       |
| NJR5-500/D5  | AC575V        | 459A          | 355kw       |
| NJR5-560/D5  | AC575V        | 514A          | 400kw       |
| NJR5-630/D5  | AC575V        | 579A          | 450kw       |
| NJR5-710/D5  | AC575V        | 634A          | 500kw       |
| NJR5-800/D5  | AC575V        | 720A          | 560kw       |
| NJR5-900/D5  | AC575V        | 810A          | 630kw       |
| NJR5-1000/D5 | AC575V        | 900A          | 800kw       |
| NJR5-1120/D5 | AC575V        | 1050A         | 800kw       |
| NJR5-1260/D5 | AC575V        | 1140A         | 900kw       |
| NJR5-1420/D5 | AC575V        | 1250A         | 1000kw      |
| NJR5-1600/D5 | AC575V        | 1460A         | 1200kw      |

| Model        | Rated Voltage | Rated Current | Rated Power |
|--------------|---------------|---------------|-------------|
| NJR5-15/D6   | AC690V        | 15A           | 11kw        |
| NJR5-22/D6   | AC690V        | 22A           | 18.5kw      |
| NJR5-30/D6   | AC690V        | 29A           | 22kw        |
| NJR5-37/D6   | AC690V        | 36A           | 30kw        |
| NJR5-44/D6   | AC690V        | 42A           | 37kw        |
| NJR5-60/D6   | AC690V        | 57A           | 55kw        |
| NJR5-74/D6   | AC690V        | 70A           | 75kw        |
| NJR5-90/D6   | AC690V        | 84A           | 90kw        |
| NJR5-110/D6  | AC690V        | 103A          | 110kw       |
| NJR5-150/D6  | AC690V        | 140A          | 132kw       |
| NJR5-180/D6  | AC690V        | 167A          | 160kw       |
| NJR5-220/D6  | AC690V        | 207A          | 200kw       |
| NJR5-264/D6  | AC690V        | 248A          | 250kw       |
| NJR5-320/D6  | AC690V        | 300A          | 315kw       |
| NJR5-370/D6  | AC690V        | 349A          | 355kw       |
| NJR5-440/D6  | AC690V        | 404A          | 400kw       |
| NJR5-500/D6  | AC690V        | 459A          | 400kw       |
| NJR5-560/D6  | AC690V        | 514A          | 500kw       |
| NJR5-630/D6  | AC690V        | 579A          | 560kw       |
| NJR5-710/D6  | AC690V        | 634A          | 630kw       |
| NJR5-800/D6  | AC690V        | 720A          | 710kw       |
| NJR5-900/D6  | AC690V        | 810A          | 800kw       |
| NJR5-1000/D6 | AC690V        | 900A          | 900kw       |
| NJR5-1120/D6 | AC690V        | 1050A         | 900kw       |
| NJR5-1260/D6 | AC690V        | 1140A         | 1000kw      |
| NJR5-1420/D6 | AC690V        | 1250A         | 1200kw      |
| NJR5-1600/D6 | AC690V        | 1460A         | 1400kw      |

## 7. Basic Wiring Diagram



Note 1: For NJR5- □ /D2 and NJR5- □ /D3 products, there is no need to connect external control power supply terminals L and N, as control power is directly supplied internally from the main power supply; for NJR5- □ /D4, NJR5- □ /D5, and NJR5- □ /D6 products, the control power supply terminals L and N must be connected, as the control power needs to be supplied separately from an external source.

Note 2: Under default function parameter conditions, when external control terminals are used to control starting and stopping, with the STOP terminal and COM terminal closed, after power-up, a start command will only be issued when the RUN terminal and COM terminal transition from open to closed. If upon power-up the RUN, STOP, and COM terminals are always closed, no start command will be received.

Note 3: The circuit breaker QF must be installed and located inside the cabinet. The rated current of the circuit breaker is recommended to be 1.2 times the rated current of the soft starter model.

Note 4: By modifying the setting value of function parameter F500 about relay output valid state, you can confirm whether K2 and K3 relays are valid in closed state or in open state. See F500 parameter introduction for details.

## 8. Terminal definition

### 8.1 Definition of main circuit terminals

|                  |                                                                                                                    |
|------------------|--------------------------------------------------------------------------------------------------------------------|
| 1/L1, 3/L2, 5/L3 | This is the input terminal of the soft starter, and also the input terminal of the three-phase AC power supply     |
| 2/T1, 4/T2, 6/T3 | This is the output terminal of the soft starter, and also the input terminal of the three-phase asynchronous motor |
| B1, B2, B3       | This connects to the bypass device, and also serves as the input terminal of the bypass device                     |

## 8.2 Definition of external control terminals

| Terminal Name | Terminal Definition                             | Detailed Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| L             | Control power input terminal L                  | Input voltage is AC220V (-10%~+15%),<br>Only NJR5- □ /D4, NJR5- □ /D5, and NJR5- □ /D6 products have L and N control power supply terminals; NJR5- □ /D2 and NJR5- □ /D3 do not have these terminals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| N             | Control power input terminal N                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| K1A、K1B       | Bypass relay K1<br>(normally open)              | Contact capacity: 5A/250VAC<br>When the soft starter switches to bypass operation, the K1A and K1B terminals become closed.<br><b>Note: If the coil current of the controlled device exceeds 5A, be sure to add an intermediate relay.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| K2A、K2B       | Programmable status relay K2<br>(normally open) | Contact capacity: 3A/250VAC<br>This function is determined by function parameters F500 and F513. When the tens digit of F500 is 0, the state is valid when terminals K2A and K2B are closed; when it is 1, the state is valid when terminals K2A and K2B are open.<br><b>Example:</b><br>When the tens digit of F500 is set to 0 and F513 is set to 2 (Bypass State), terminals K2A and K2B will be closed when the soft starter enters bypass operation, and open in all other operating states; when the tens digit of F500 is set to 1 and F513 is set to 2 (Bypass State), K2A and K2B will be open in bypass operation and closed in any other operating state.<br><b>Note: If the coil current of the controlled device exceeds 3A, be sure to add an intermediate relay.</b>                                  |
| K3A、K3B       | Programmable fault relay K3<br>(normally open)  | Contact capacity: 3A/250VAC<br>This function is determined by function parameters F500 and F514. When the ones digit of F500 is 0, the state is valid when terminals K3A and K3B are closed; when it is 1, the state is valid when terminals K3A and K3B are open.<br><b>Example:</b><br>When the ones digit of F500 is set to 0 and F514 is set to 0 (Any fault), the K3A and K3B terminals will be closed when the soft starter has any fault, and open in the event of no fault; when the ones digit of F500 is set to 1 and F514 is set to 0 (Any fault or), the K2A and K2B terminals will be open when the soft starter has any fault, and K3A and K3B will remain closed if there is no fault.<br><b>Note: If the coil current of the controlled device exceeds 3A, be sure to add an intermediate relay.</b> |
| IN1           | Programmable input terminal IN1                 | Referenced to COM; function determined by parameter F501.<br><b>Note: This terminal is a dry contact; it is strictly forbidden to introduce external AC or DC power sources.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| IN2           | Programmable input terminal IN2                 | Referenced to COM; function determined by parameter F502.<br><b>Note: This terminal is a dry contact; it is strictly forbidden to introduce external AC or DC power sources.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| RUN           | Start terminal RUN                              | Referenced to COM.<br>When external control starting is allowed, if RUN, STOP, and COM terminals are all closed for a time longer than the values set in F507 and F509, a start command will be issued; when the STOP terminal opens for longer than the value set in F510, a stop command will be issued.<br><b>Note: This terminal is a dry contact; it is strictly forbidden to introduce external AC or DC power sources.</b>                                                                                                                                                                                                                                                                                                                                                                                    |
| STOP          | Stop terminal STOP                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| EMS           | Emergency stop terminal EMS                     | Referenced to COM. When EMS terminal and COM terminal are open for longer than the value set in parameter F512, "Emergency stop terminal open circuit" fault is reported.<br><b>Note: This terminal is a dry contact; it is strictly forbidden to introduce external AC or DC power sources.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| COM           | External control common terminal COM            | This is the common terminal for RUN, STOP, IN1, IN2, and EMS signal input.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| AO            | Analog output terminal AO                       | Referenced to GND.<br>The output type of the analog output AO is determined by parameter F600, and the output function of the analog output AO is determined by F601. For details, refer to the descriptions of function parameters F600, F601, and F602.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| GND           | GND of internal chip operation                  | The operating ground of the main chip of the product, which is also the ground for the analog output AO, and at the same time serves as the ground for RS485 communication.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 485+          | RS485 communication terminal 485+               | 485+ connects to the positive differential terminal of the host computer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 485-          | RS485 communication terminal 485-               | 485- connects to the negative differential terminal of the host computer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## 9. Appearance, mounting dimensions, and weight

### 9.1 Soft start appearance and mounting dimensions

Figure 9.1 NJR5-15/D2~NJR5-60/D2, NJR5-15/D3~NJR5-60/D3, NJR5-15/D4~NJR5-60/D4, NJR5-15/D5~NJR5-60/D, NJR5-15/D6~NJR5-60/D6 overall appearance and installation dimensions diagram

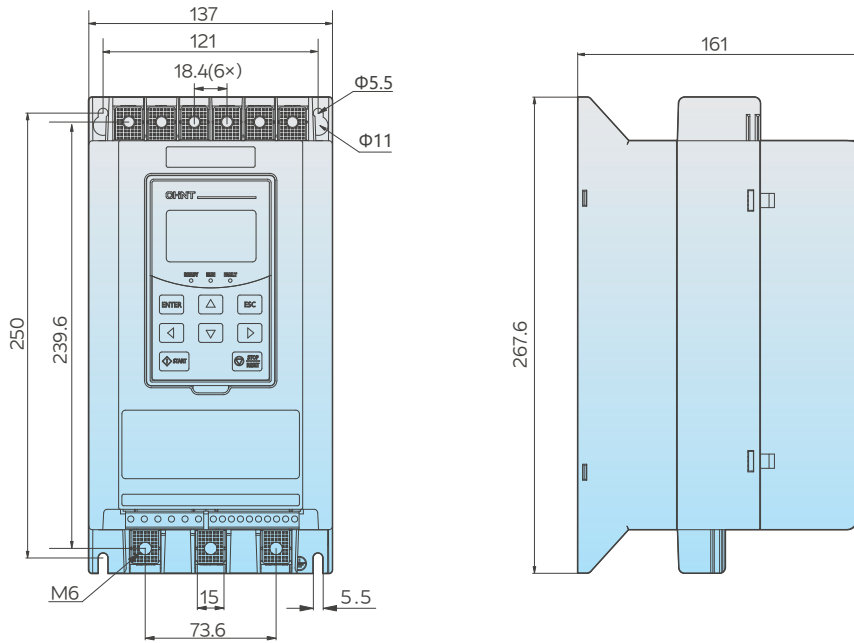


Figure 9.2 NJR5-74/D2~NJR5-110/D2, NJR5-74/D3~NJR5-110/D3, NJR5-74/D4~NJR5-110/D4, NJR5-74/D5~NJR5-110/D, NJR5-74/D6~NJR5-110/D6 overall appearance and installation dimensions diagram

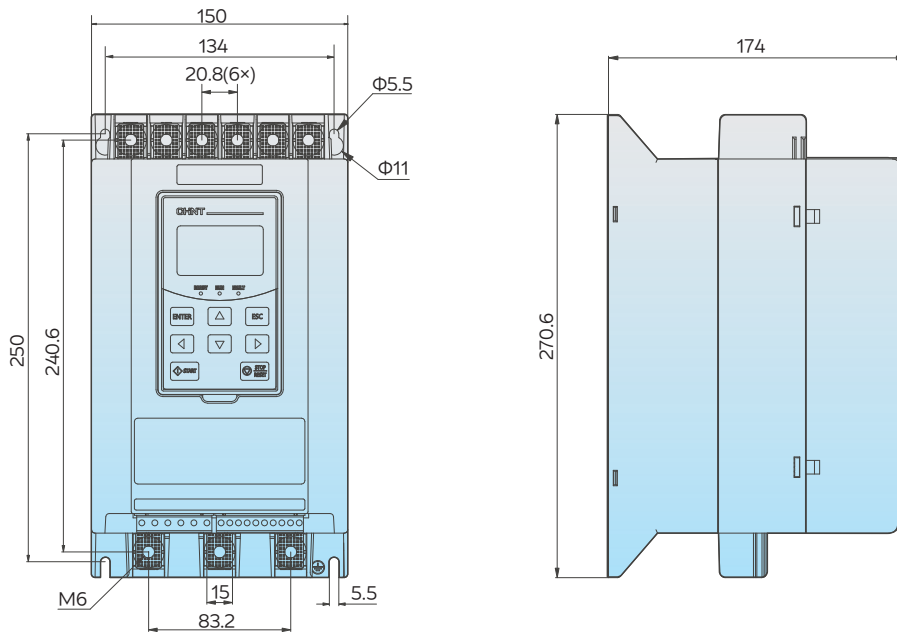


Figure 9.3 NJR5-150/D2~NJR5-180/D2, NJR5-150/D3~NJR5-180/D3, NJR5-150/D4~NJR5-180/D4, NJR5-150/D5~NJR5-180/D, NJR5-150/D6~NJR5-180/D6 overall appearance and installation dimensions diagram

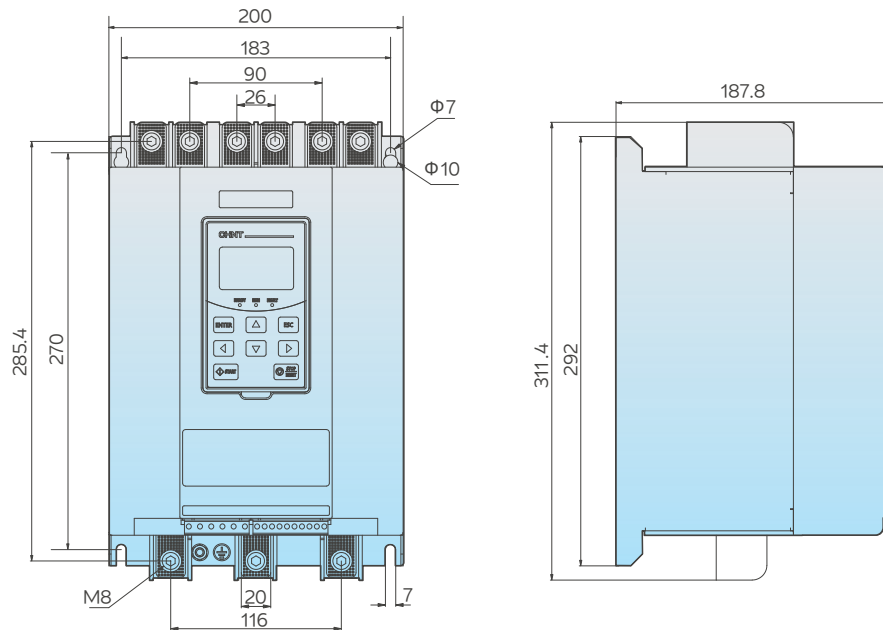


Figure 9.4 NJR5-220/D2~NJR5-440/D2, NJR5-220/D3~NJR5-440/D3, NJR5-220/D4~NJR5-440/D4, NJR5-220/D5~NJR5-440/D, NJR5-220/D6~NJR5-440/D6 overall appearance and installation dimensions diagram

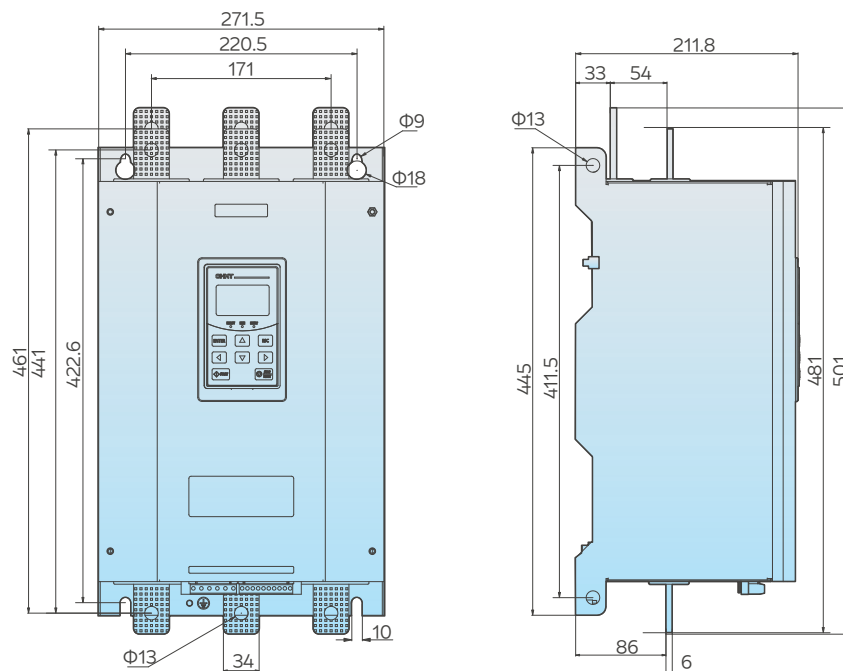


Figure 9.5 NJR5-500/D2~NJR5-630/D2, NJR5-500/D3~NJR5-630/D3, NJR5-500/D4~NJR5-630/D4, NJR5-500/D5~NJR5-630/D, NJR5-500/D6~NJR5-630/D6 overall appearance and installation dimensions diagram

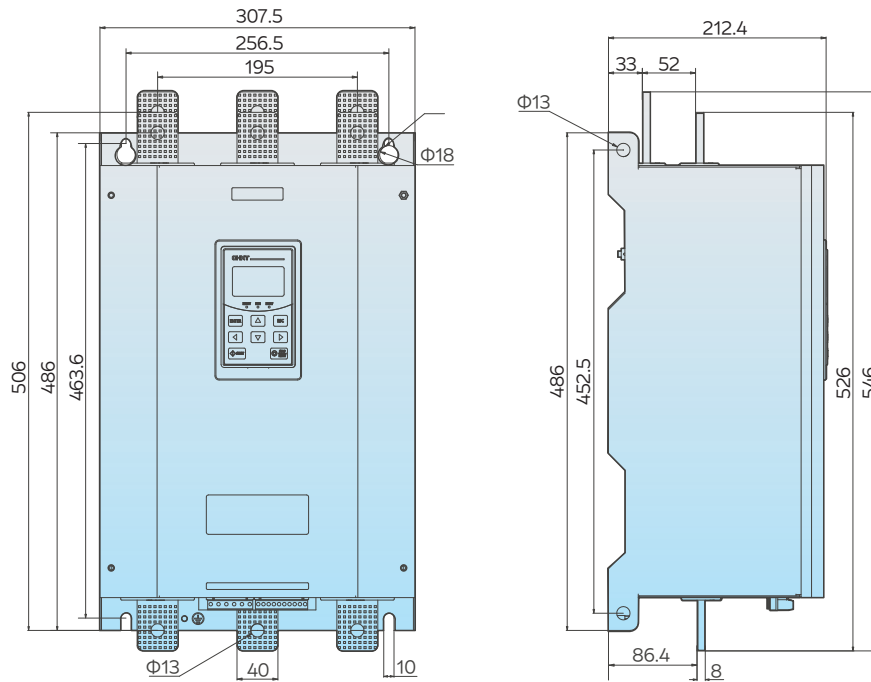


Figure 9.6 NJR5-710/D2~NJR5-800/D2, NJR5-710/D3~NJR5-800/D3, NJR5-710/D4~NJR5-800/D4, NJR5-710/D5~NJR5-800/D, NJR5-710/D6~NJR5-800/D6 overall appearance and installation dimensions diagram

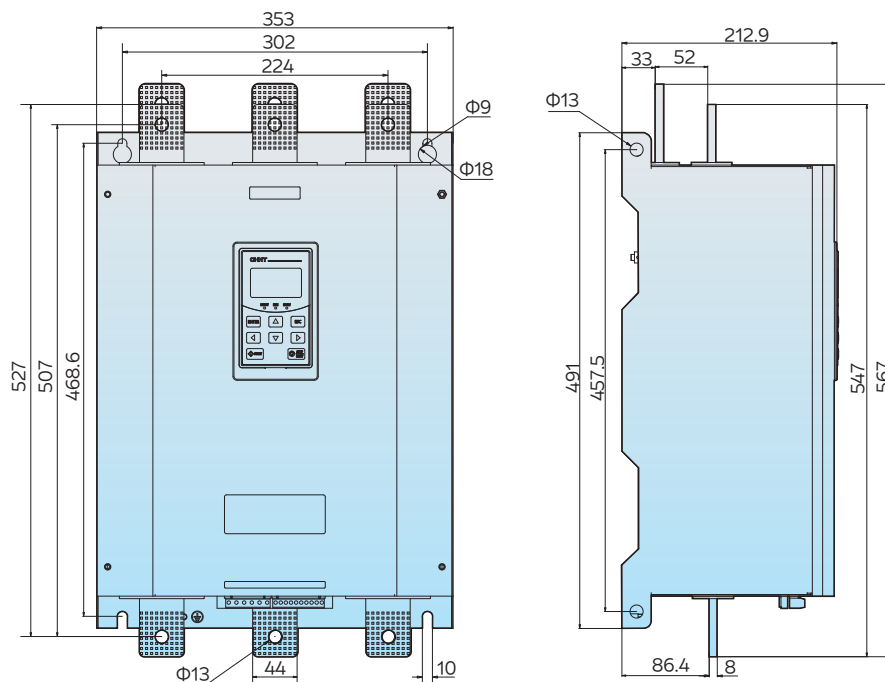


Figure 9.7 NJR5-900/D2~NJR5-1120/D2, NJR5-900/D3~NJR5-1120/D3, NJR5-900/D4~NJR5-1120/D4, NJR5-900/D5~NJR5-1120/D, NJR5-900/D6~NJR5-1120/D6 overall appearance and installation dimensions diagram

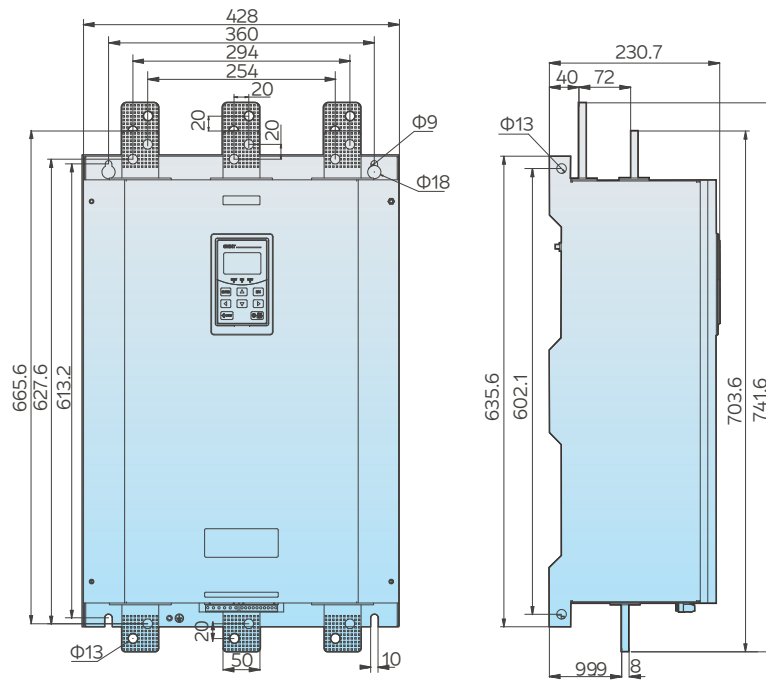
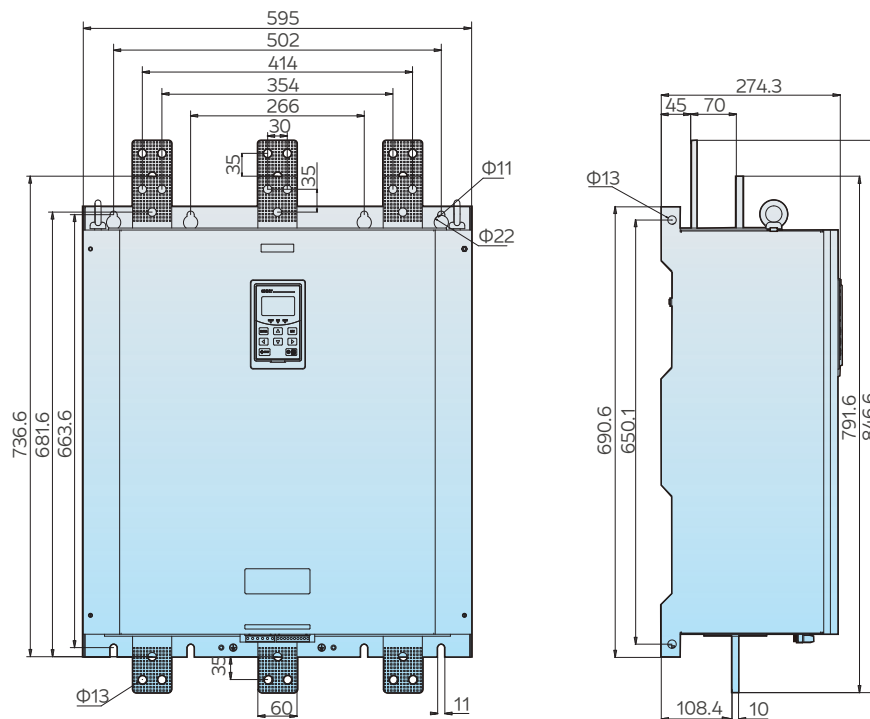


Figure 9.8 NJR5-1260/D2~NJR5-1600/D2, NJR5-1260/D3~NJR5-1600/D3, NJR5-1260/D4~NJR5-1600/D4, NJR5-1260/D5~NJR5-1600/D, NJR5-1260/D6~NJR5-1600/D6 overall appearance and installation dimensions diagram



## 9.2 Soft starter weight

Table 9.1 Soft starter weight and main terminal tightening torque

| Model              | Net Weight | Gross Weight | Main terminal screw specifications | Main terminal tightening torque (N·m) | Remarks    |
|--------------------|------------|--------------|------------------------------------|---------------------------------------|------------|
| NJR5-15/D2/D3      | 3.0kg      | 3.4kg        | M6                                 | 4 ~ 6                                 | Figure 9.1 |
| NJR5-22/D2/D3      |            |              |                                    |                                       |            |
| NJR5-30/D2/D3      |            |              |                                    |                                       |            |
| NJR5-37/D2/D3      |            |              |                                    |                                       |            |
| NJR5-44/D2/D3      | 3.4kg      | 3.8kg        |                                    |                                       |            |
| NJR5-60/D2/D3      |            |              |                                    |                                       |            |
| NJR5-15/D4/D5/D6   | 3.2kg      | 3.6kg        |                                    |                                       |            |
| NJR5-22/D4/D5/D6   |            |              |                                    |                                       |            |
| NJR5-30/D4/D5/D6   |            |              |                                    |                                       |            |
| NJR5-37/D4/D5/D6   |            |              |                                    |                                       |            |
| NJR5-44/D4/D5/D6   | 3.5kg      | 3.9kg        |                                    |                                       |            |
| NJR5-60/D4/D5/D6   |            |              |                                    |                                       |            |
| NJR5-74/D2/D3      | 3.9kg      | 4.5kg        | M6                                 | 4 ~ 6                                 | Figure 9.2 |
| NJR5-90/D2/D3      | 4.2kg      | 4.9kg        |                                    |                                       |            |
| NJR5-110/D2/D3     |            |              |                                    |                                       |            |
| NJR5-74/D4/D5/D6   |            |              |                                    |                                       |            |
| NJR5-90/D4/D5/D6   | 4.7kg      | 5.4kg        |                                    |                                       |            |
| NJR5-110/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-150/D2/D3     | 8.6kg      | 9.5kg        | M8                                 | 9.0 ~ 11                              | Figure 9.3 |
| NJR5-180/D2/D3     |            |              |                                    |                                       |            |
| NJR5-150/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-180/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-220/D2/D3     | 19.0kg     | 20.1kg       | M10                                | 18 ~ 23                               | Figure 9.4 |
| NJR5-264/D2/D3     |            |              |                                    |                                       |            |
| NJR5-320/D2/D3     |            |              |                                    |                                       |            |
| NJR5-370/D2/D3     |            |              |                                    |                                       |            |
| NJR5-440/D2/D3     |            |              |                                    |                                       |            |
| NJR5-220/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-264/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-320/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-370/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-440/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-500/D2/D3     | 24.0kg     | 25.5kg       | M10                                | 18 ~ 23                               | Figure 9.5 |
| NJR5-560/D2/D3     |            |              |                                    |                                       |            |
| NJR5-630/D2/D3     |            |              |                                    |                                       |            |
| NJR5-500/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-560/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-630/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-710/D2/D3     | 28.0kg     | 38.5kg       | M12                                | 31.4 ~ 39.5                           | Figure 9.6 |
| NJR5-800/D2/D3     |            |              |                                    |                                       |            |
| NJR5-710/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-800/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-900/D2/D3     | 52.1kg     | 68.0kg       | M12                                | 31.4 ~ 39.5                           | Figure 9.7 |
| NJR5-1000/D2/D3    |            |              |                                    |                                       |            |
| NJR5-1120/D2/D3    |            |              |                                    |                                       |            |
| NJR5-900/D4/D5/D6  |            |              |                                    |                                       |            |
| NJR5-1000/D4/D5/D6 |            |              |                                    |                                       |            |
| NJR5-1120/D4/D5/D6 |            |              |                                    |                                       |            |
| NJR5-1260/D2/D3    | 82.2kg     | 102.0kg      | M12                                | 31.4 ~ 39.5                           | Figure 9.8 |
| NJR5-1420/D2/D3    |            |              |                                    |                                       |            |
| NJR5-1600/D2/D3    | 83.4kg     | 103.9kg      |                                    |                                       |            |
| NJR5-1260/D4/D5/D6 |            |              |                                    |                                       |            |
| NJR5-1420/D4/D5/D6 |            |              |                                    |                                       |            |
| NJR5-1600/D4/D5/D6 |            |              |                                    |                                       |            |

## 10. Ordering Information

10.1 When ordering, please select the required model and specification according to the description of the model and its meaning.

Example: The power level of the grid is AC380V, the power of the controlled motor is 45kW, and the rated current is 84A. It is necessary to use the soft starter together with the soft starter cabinet or power distribution cabinet.

The order model is: NJR5-90/D3

Example: The power level of the grid is AC690V, the power of the controlled motor is 90kw, and the rated current is 84A. It is necessary to use the soft starter together with the soft starter cabinet or power distribution cabinet.

The order model is: NJR5-90/D6

10.2 When using a soft starter for a motor with more than four poles, it is recommended to use a larger size.

10.3 When using a soft starter for a two-pole motor, due to the large starting current, please set the parameters correctly according to the instruction manual before using it.

10.4 For occasions with heavy loads, it is recommended to use a soft starter with a larger gear.

| SAP No           | Model        | Type                 | Power supply | Rated power kW | Ordering code |
|------------------|--------------|----------------------|--------------|----------------|---------------|
| G710968900000163 | NJR5-15/D2   | External bypass type | 3 phase 220V | 4              | 639829        |
| G710968900000164 | NJR5-22/D2   | External bypass type | 3 phase 220V | 5.5            | 639830        |
| G710968900000165 | NJR5-30/D2   | External bypass type | 3 phase 220V | 7.5            | 639831        |
| G710968900000166 | NJR5-37/D2   | External bypass type | 3 phase 220V | 11             | 639832        |
| G710968900000167 | NJR5-44/D2   | External bypass type | 3 phase 220V | 11             | 639833        |
| G710968900000168 | NJR5-60/D2   | External bypass type | 3 phase 220V | 15             | 639834        |
| G710968900000169 | NJR5-74/D2   | External bypass type | 3 phase 220V | 18.5           | 639835        |
| G710968900000170 | NJR5-90/D2   | External bypass type | 3 phase 220V | 22             | 639836        |
| G710968900000171 | NJR5-110/D2  | External bypass type | 3 phase 220V | 30             | 639837        |
| G710968900000172 | NJR5-150/D2  | External bypass type | 3 phase 220V | 37             | 639838        |
| G710968900000173 | NJR5-180/D2  | External bypass type | 3 phase 220V | 45             | 639839        |
| G710968900000174 | NJR5-220/D2  | External bypass type | 3 phase 220V | 55             | 639840        |
| G710968900000175 | NJR5-264/D2  | External bypass type | 3 phase 220V | 75             | 639841        |
| G710968900000176 | NJR5-320/D2  | External bypass type | 3 phase 220V | 90             | 639842        |
| G710968900000177 | NJR5-370/D2  | External bypass type | 3 phase 220V | 110            | 639843        |
| G710968900000178 | NJR5-440/D2  | External bypass type | 3 phase 220V | 110            | 639844        |
| G710968900000179 | NJR5-500/D2  | External bypass type | 3 phase 220V | 132            | 639845        |
| G710968900000180 | NJR5-560/D2  | External bypass type | 3 phase 220V | 160            | 639846        |
| G710968900000181 | NJR5-630/D2  | External bypass type | 3 phase 220V | 160            | 639847        |
| G710968900000182 | NJR5-710/D2  | External bypass type | 3 phase 220V | 200            | 639848        |
| G710968900000183 | NJR5-800/D2  | External bypass type | 3 phase 220V | 200            | 639849        |
| G710968900000184 | NJR5-900/D2  | External bypass type | 3 phase 220V | 250            | 639850        |
| G710968900000185 | NJR5-1000/D2 | External bypass type | 3 phase 220V | 250            | 639851        |
| G710968900000186 | NJR5-1120/D2 | External bypass type | 3 phase 220V | 280            | 639852        |
| G710968900000187 | NJR5-1260/D2 | External bypass type | 3 phase 220V | 315            | 639853        |
| G710968900000188 | NJR5-1420/D2 | External bypass type | 3 phase 220V | 355            | 639854        |
| G710968900000189 | NJR5-1600/D2 | External bypass type | 3 phase 220V | 400            | 639855        |
| G710968900000190 | NJR5-15/D3   | External bypass type | 3 phase 380V | 7.5            | 639856        |

Continued from previous table

| SAP No           | Model       | Type                 | Power supply | Rated power kW | Ordering code |
|------------------|-------------|----------------------|--------------|----------------|---------------|
| G710968900000191 | NJR5-22/D3  | External bypass type | 3 phase 380V | 11             | 639857        |
| G710968900000192 | NJR5-30/D3  | External bypass type | 3 phase 380V | 15             | 639858        |
| G710968900000193 | NJR5-37/D3  | External bypass type | 3 phase 380V | 18.5           | 639859        |
| G710968900000194 | NJR5-44/D3  | External bypass type | 3 phase 380V | 22             | 639860        |
| G710968900000195 | NJR5-60/D3  | External bypass type | 3 phase 380V | 30             | 639861        |
| G710968900000196 | NJR5-74/D3  | External bypass type | 3 phase 380V | 37             | 639862        |
| G710968900000197 | NJR5-90/D3  | External bypass type | 3 phase 380V | 45             | 639863        |
| G710968900000198 | NJR5-110/D3 | External bypass type | 3 phase 380V | 55             | 639864        |
| G710968900000199 | NJR5-150/D3 | External bypass type | 3 phase 380V | 75             | 639865        |
| G710968900000200 | NJR5-180/D3 | External bypass type | 3 phase 380V | 90             | 639866        |
| G710968900000201 | NJR5-220/D3 | External bypass type | 3 phase 380V | 110            | 639867        |
| G710968900000202 | NJR5-264/D3 | External bypass type | 3 phase 380V | 132            | 639868        |
| G710968900000203 | NJR5-320/D3 | External bypass type | 3 phase 380V | 160            | 639869        |
| G710968900000204 | NJR5-370/D3 | External bypass type | 3 phase 380V | 185            | 639870        |
| G710968900000205 | NJR5-440/D3 | External bypass type | 3 phase 380V | 220            | 639871        |
| G710968900000206 | NJR5-500/D3 | External bypass type | 3 phase 380V | 250            | 639872        |
| G710968900000207 | NJR5-560/D3 | External bypass type | 3 phase 380V | 280            | 639873        |

| SAP No           | Model        | Type                 | Power supply | Rated power kW | Ordering code |
|------------------|--------------|----------------------|--------------|----------------|---------------|
| G710968900000208 | NJR5-630/D3  | External bypass type | 3 phase 380V | 315            | 639874        |
| G710968900000209 | NJR5-710/D3  | External bypass type | 3 phase 380V | 355            | 639875        |
| G710968900000210 | NJR5-800/D3  | External bypass type | 3 phase 380V | 400            | 639876        |
| G710968900000211 | NJR5-900/D3  | External bypass type | 3 phase 380V | 450            | 639877        |
| G710968900000212 | NJR5-1000/D3 | External bypass type | 3 phase 380V | 500            | 639878        |
| G710968900000213 | NJR5-1120/D3 | External bypass type | 3 phase 380V | 560            | 639879        |
| G710968900000214 | NJR5-1260/D3 | External bypass type | 3 phase 380V | 630            | 639880        |
| G710968900000215 | NJR5-1420/D3 | External bypass type | 3 phase 380V | 710            | 639881        |
| G710968900000216 | NJR5-1600/D3 | External bypass type | 3 phase 380V | 800            | 639882        |
| G710968900000217 | NJR5-15/D4   | External bypass type | 3 phase 460V | 9              | 639883        |
| G710968900000218 | NJR5-22/D4   | External bypass type | 3 phase 460V | 15             | 639884        |
| G710968900000219 | NJR5-30/D4   | External bypass type | 3 phase 460V | 18.5           | 639885        |
| G710968900000220 | NJR5-37/D4   | External bypass type | 3 phase 460V | 22             | 639886        |
| G710968900000221 | NJR5-44/D4   | External bypass type | 3 phase 460V | 30             | 639887        |
| G710968900000222 | NJR5-60/D4   | External bypass type | 3 phase 460V | 37             | 639888        |
| G710968900000223 | NJR5-74/D4   | External bypass type | 3 phase 460V | 45             | 639889        |
| G710968900000224 | NJR5-90/D4   | External bypass type | 3 phase 460V | 55             | 639890        |
| G710968900000225 | NJR5-110/D4  | External bypass type | 3 phase 460V | 75             | 639891        |
| G710968900000226 | NJR5-150/D4  | External bypass type | 3 phase 460V | 90             | 639892        |
| G710968900000227 | NJR5-180/D4  | External bypass type | 3 phase 460V | 110            | 639893        |
| G710968900000228 | NJR5-220/D4  | External bypass type | 3 phase 460V | 132            | 639894        |
| G710968900000229 | NJR5-264/D4  | External bypass type | 3 phase 460V | 150            | 639895        |
| G710968900000230 | NJR5-320/D4  | External bypass type | 3 phase 460V | 185            | 639896        |
| G710968900000231 | NJR5-370/D4  | External bypass type | 3 phase 460V | 220            | 639897        |
| G710968900000232 | NJR5-440/D4  | External bypass type | 3 phase 460V | 250            | 639898        |
| G710968900000233 | NJR5-500/D4  | External bypass type | 3 phase 460V | 280            | 639899        |
| G710968900000234 | NJR5-560/D4  | External bypass type | 3 phase 460V | 315            | 639900        |
| G710968900000235 | NJR5-630/D4  | External bypass type | 3 phase 460V | 355            | 639901        |
| G710968900000236 | NJR5-710/D4  | External bypass type | 3 phase 460V | 400            | 639902        |
| G710968900000237 | NJR5-800/D4  | External bypass type | 3 phase 460V | 450            | 639903        |
| G710968900000238 | NJR5-900/D4  | External bypass type | 3 phase 460V | 560            | 639904        |
| G710968900000239 | NJR5-1000/D4 | External bypass type | 3 phase 460V | 560            | 639905        |
| G710968900000240 | NJR5-1120/D4 | External bypass type | 3 phase 460V | 630            | 639906        |
| G710968900000241 | NJR5-1260/D4 | External bypass type | 3 phase 460V | 710            | 639907        |
| G710968900000242 | NJR5-1420/D4 | External bypass type | 3 phase 460V | 800            | 639908        |
| G710968900000243 | NJR5-1600/D4 | External bypass type | 3 phase 460V | 900            | 639909        |
| G710968900000244 | NJR5-15/D5   | External bypass type | 3 phase 575V | 11             | 639910        |
| G710968900000245 | NJR5-22/D5   | External bypass type | 3 phase 575V | 18.5           | 639911        |
| G710968900000246 | NJR5-30/D5   | External bypass type | 3 phase 575V | 22             | 639912        |
| G710968900000247 | NJR5-37/D5   | External bypass type | 3 phase 575V | 30             | 639913        |
| G710968900000248 | NJR5-44/D5   | External bypass type | 3 phase 575V | 30             | 639914        |
| G710968900000249 | NJR5-60/D5   | External bypass type | 3 phase 575V | 45             | 639915        |
| G710968900000250 | NJR5-74/D5   | External bypass type | 3 phase 575V | 55             | 639916        |
| G710968900000251 | NJR5-90/D5   | External bypass type | 3 phase 575V | 75             | 639917        |
| G710968900000252 | NJR5-110/D5  | External bypass type | 3 phase 575V | 75             | 639918        |

| SAP No           | Model        | Typel                | Power supply | Rated power kW | Ordering code |
|------------------|--------------|----------------------|--------------|----------------|---------------|
| G710968900000253 | NJR5-150/D5  | External bypass type | 3 phase 575V | 110            | 639919        |
| G710968900000254 | NJR5-180/D5  | External bypass type | 3 phase 575V | 132            | 639920        |
| G710968900000255 | NJR5-220/D5  | External bypass type | 3 phase 575V | 160            | 639921        |
| G710968900000256 | NJR5-264/D5  | External bypass type | 3 phase 575V | 185            | 639922        |
| G710968900000257 | NJR5-320/D5  | External bypass type | 3 phase 575V | 250            | 639923        |
| G710968900000258 | NJR5-370/D5  | External bypass type | 3 phase 575V | 280            | 639924        |
| G710968900000259 | NJR5-440/D5  | External bypass type | 3 phase 575V | 315            | 639925        |
| G710968900000260 | NJR5-500/D5  | External bypass type | 3 phase 575V | 355            | 639926        |
| G710968900000261 | NJR5-560/D5  | External bypass type | 3 phase 575V | 400            | 639927        |
| G710968900000262 | NJR5-630/D5  | External bypass type | 3 phase 575V | 450            | 639928        |
| G710968900000263 | NJR5-710/D5  | External bypass type | 3 phase 575V | 500            | 639929        |
| G710968900000264 | NJR5-800/D5  | External bypass type | 3 phase 575V | 560            | 639930        |
| G710968900000265 | NJR5-900/D5  | External bypass type | 3 phase 575V | 630            | 639931        |
| G710968900000266 | NJR5-1000/D5 | External bypass type | 3 phase 575V | 800            | 639932        |
| G710968900000267 | NJR5-1120/D5 | External bypass type | 3 phase 575V | 800            | 639933        |
| G710968900000268 | NJR5-1260/D5 | External bypass type | 3 phase 575V | 900            | 639934        |
| G710968900000269 | NJR5-1420/D5 | External bypass type | 3 phase 575V | 1000           | 639935        |
| G710968900000270 | NJR5-1600/D5 | External bypass type | 3 phase 575V | 1200           | 639936        |
| G710968900000271 | NJR5-15/D6   | External bypass type | 3 phase 690V | 11             | 639937        |
| G710968900000272 | NJR5-22/D6   | External bypass type | 3 phase 690V | 18.5           | 639938        |
| G710968900000273 | NJR5-30/D6   | External bypass type | 3 phase 690V | 22             | 639939        |
| G710968900000274 | NJR5-37/D6   | External bypass type | 3 phase 690V | 30             | 639940        |
| G710968900000275 | NJR5-44/D6   | External bypass type | 3 phase 690V | 37             | 639941        |
| G710968900000276 | NJR5-60/D6   | External bypass type | 3 phase 690V | 55             | 639942        |
| G710968900000277 | NJR5-74/D6   | External bypass type | 3 phase 690V | 75             | 640001        |
| G710968900000278 | NJR5-90/D6   | External bypass type | 3 phase 690V | 90             | 640120        |
| G710968900000279 | NJR5-110/D6  | External bypass type | 3 phase 690V | 110            | 640121        |
| G710968900000280 | NJR5-150/D6  | External bypass type | 3 phase 690V | 132            | 640122        |
| G710968900000281 | NJR5-180/D6  | External bypass type | 3 phase 690V | 160            | 640123        |
| G710968900000282 | NJR5-220/D6  | External bypass type | 3 phase 690V | 200            | 640124        |
| G710968900000283 | NJR5-264/D6  | External bypass type | 3 phase 690V | 250            | 640125        |
| G710968900000284 | NJR5-320/D6  | External bypass type | 3 phase 690V | 315            | 640126        |
| G710968900000285 | NJR5-370/D6  | External bypass type | 3 phase 690V | 355            | 640127        |
| G710968900000286 | NJR5-440/D6  | External bypass type | 3 phase 690V | 400            | 640128        |
| G710968900000287 | NJR5-500/D6  | External bypass type | 3 phase 690V | 400            | 640129        |
| G710968900000288 | NJR5-560/D6  | External bypass type | 3 phase 690V | 500            | 640130        |
| G710968900000289 | NJR5-630/D6  | External bypass type | 3 phase 690V | 560            | 640131        |
| G710968900000290 | NJR5-710/D6  | External bypass type | 3 phase 690V | 630            | 640132        |
| G710968900000291 | NJR5-800/D6  | External bypass type | 3 phase 690V | 710            | 640133        |
| G710968900000292 | NJR5-900/D6  | External bypass type | 3 phase 690V | 800            | 640134        |
| G710968900000293 | NJR5-1000/D6 | External bypass type | 3 phase 690V | 900            | 640135        |
| G710968900000294 | NJR5-1120/D6 | External bypass type | 3 phase 690V | 900            | 640136        |
| G710968900000295 | NJR5-1260/D6 | External bypass type | 3 phase 690V | 1000           | 640137        |
| G710968900000296 | NJR5-1420/D6 | External bypass type | 3 phase 690V | 1200           | 640138        |
| G710968900000297 | NJR5-1600/D6 | External bypass type | 3 phase 690V | 1400           | 640139        |