

Motor Control & Protection

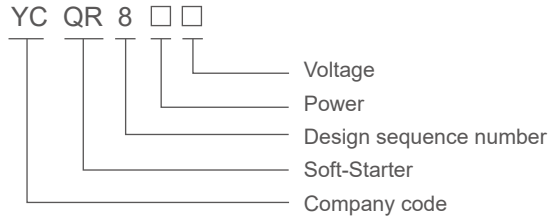
YCQR8 Bypass Soft Starter



General

The main function of the built-in bypass soft starter is to reduce the pressure on the motor during startup by controlling the voltage and current changes, thereby increasing startup efficiency and extending the motor's lifespan. The built-in bypass soft starter typically includes bypass contactors and control power supplies, enabling a smooth transition to bypass mode during startup to prevent the motor from experiencing excessive current and voltage shocks.

Type designation



Operating conditions

1. Incoming line power supply: AC 380V ± 5% 50/60 Hz
2. Power supply is applicable: mouse cage three-phase asynchronous motor
3. Cooling mode: forced air cooling
4. App licable temperature: -10°C ~ ± 40°C ,1°C,2%, + 50°C
5. App licable humidity: 90% without frost
6. Place of use: No corrosive gas without conductive dust indoor is well ventilated
7. Elevation vibration: The altitude is below 3000 meters, and the vibration power device is below 0.5G

Technical data

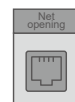
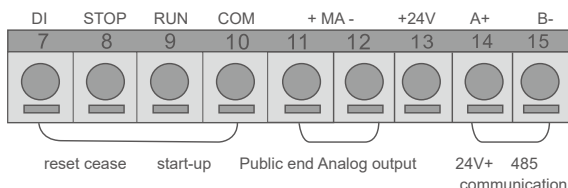
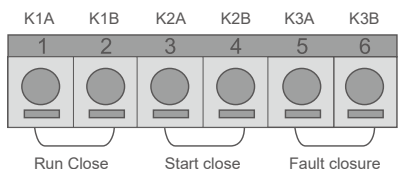
project name	performance index
Adaptation power range	The built-in bypass soft starter of YCQR8 series is adapted for power ranging from 5.5 to 630 kW.
Starting method	Supports multiple starting methods, including current-limiting start and voltage ramp start. It is also capable of applying programmable jog start and start current limiting under each method.
Protection functions	Equipped with various protection functions, including overcurrent protection, input/output phase loss protection, thyristor short-circuit protection, overheat protection, leakage detection, electronic thermal overload protection, etc.
Communication functions	Some built-in bypass soft starters support MODBUS-RTU communication, allowing connection with up to 32 devices, and enabling automatic communication through setting baud rate and communication address.
Adaptive power frequency	The built-in bypass soft starter features adaptive power frequency for 50/60Hz.
Other parameters	It has a 4-20mA current output function, suitable for various industrial environments, with strong anti-interference capabilities and easy adjustment methods

Motor Control & Protection

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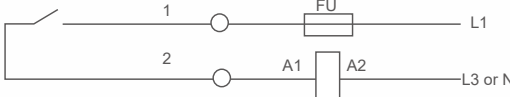
Function description

Terminal wiring



External keyboard

C

Classification	Terminal markings	Terminal name	Function Description
Contact output (assive)	1,2	Start to the top No delay input Output (closed)	The built-in bypass soft starter of YCQR8 series is adapted for power ranging from 5.5 to 630 kW. 
	3,4	Initiate a mission Lingshi (closed)	Supports multiple starting methods, including current-limiting start and voltage ramp start. It is also capable of applying programmable jog start and start current limiting under each method.
	5,6	Fault occurs Time(closed)	Equipped with various protection functions, including overcurrent protection, input/output phase loss protection, thyristor short-circuit protection, overheat protection, leakage detection, electronic thermal overload protection, etc.
Contact input (Active)	7	Instantaneous stop input	Some built-in bypass soft starters support MODBUS-RTU communication, allowing connection with up to 32 devices, and enabling automatic communication through setting baud rate and communication address.
	8	Soft stop input	The built-in bypass soft starter features adaptive power frequency for 50/60Hz.
	9	Start Input	Supports multiple starting methods, including current-limiting start and voltage ramp start. It is also capable of applying programmable jog start and start current limiting under each method.
	10	Public end	Equipped with various protection functions, including overcurrent protection, input/output phase loss protection, thyristor short-circuit protection, overheat protection, leakage detection, electronic thermal overload protection, etc.
Analog quantity output	11,12	Analog output	11,12 can measure the current signal that changes with the load, output 4-20mA, or 0-20mA optional, calibration Value 100, calculation formula: $D = \frac{100}{16} (I_x - 4)$. Where I_x is the actual measured current value (mA), and D is the motor Load current (%)(can also be understood as the rated current corresponding to the soft start setting of 20mA)
DC voltage output	13(24V+) 10(COM)		Can carry a 0.2A DC load, with 13 (24V+) as the positive pole of the power supply and 10(COM) as the negative pole of the power supply
485 communication	14,15		Please refer to 485 communication protocol for details

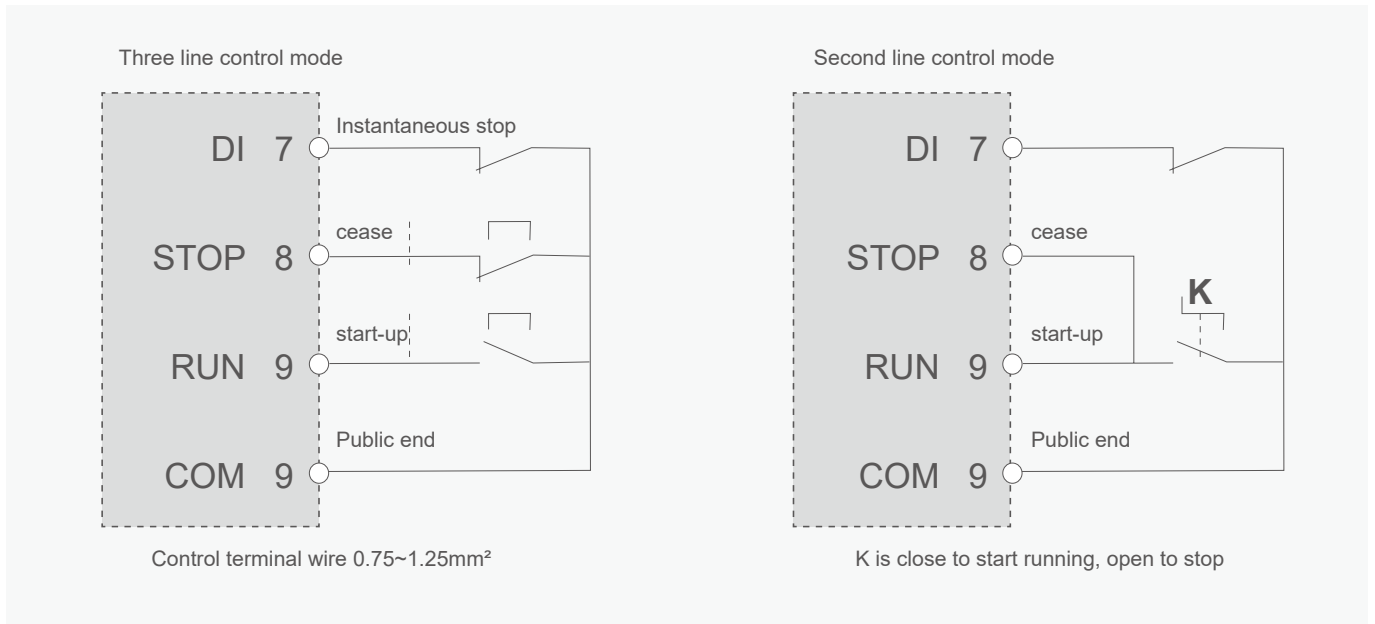
Motor Control & Protection

YCQR8 Bypass Soft Starter

(1). Contact input terminal

- a. Use external terminals to control the start and stop fuctions of the soft starter. Please set the start stop control to I (keyboard+terminal).
- b. If remote control requirements are required, it is recommended to use the (second line) control method.
- c. The input terminal and common terinal of the contact signal are generally in an ON/OrF action, which can cause interference in soft start-ersmotors, and wiring, therefore wiring is necessaryPlease use shielded wires for cables that are as short as possible (less than 20m).
- d. The wiring of control terminals must be as far away as possible from the wiring of the main circuit. Otherwise, it may cause erroneous actionsdue to interference.

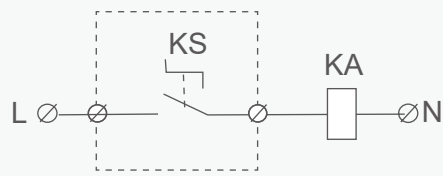
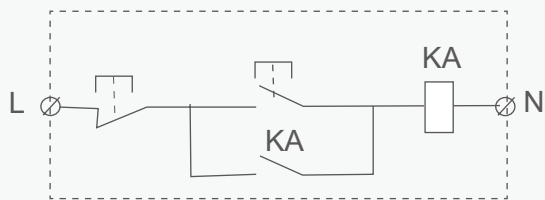
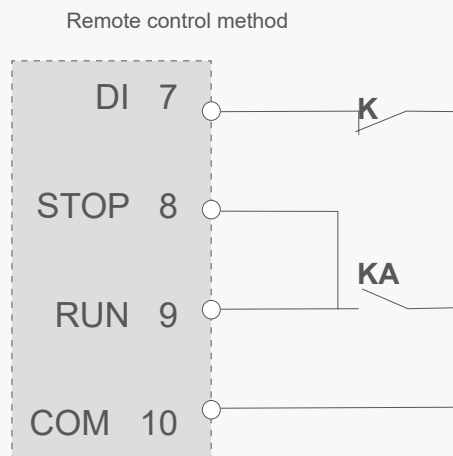
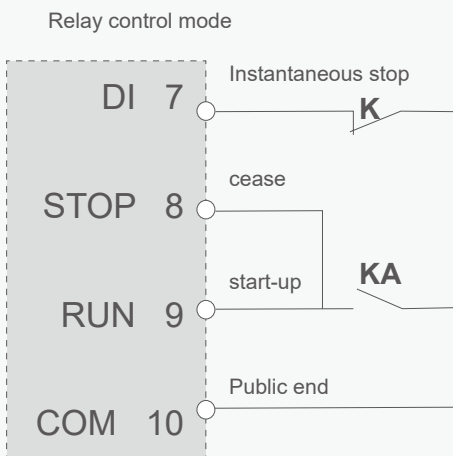
2. External control wiring method



Motor Control & Protection

YCQR8 Bypass Soft Starter

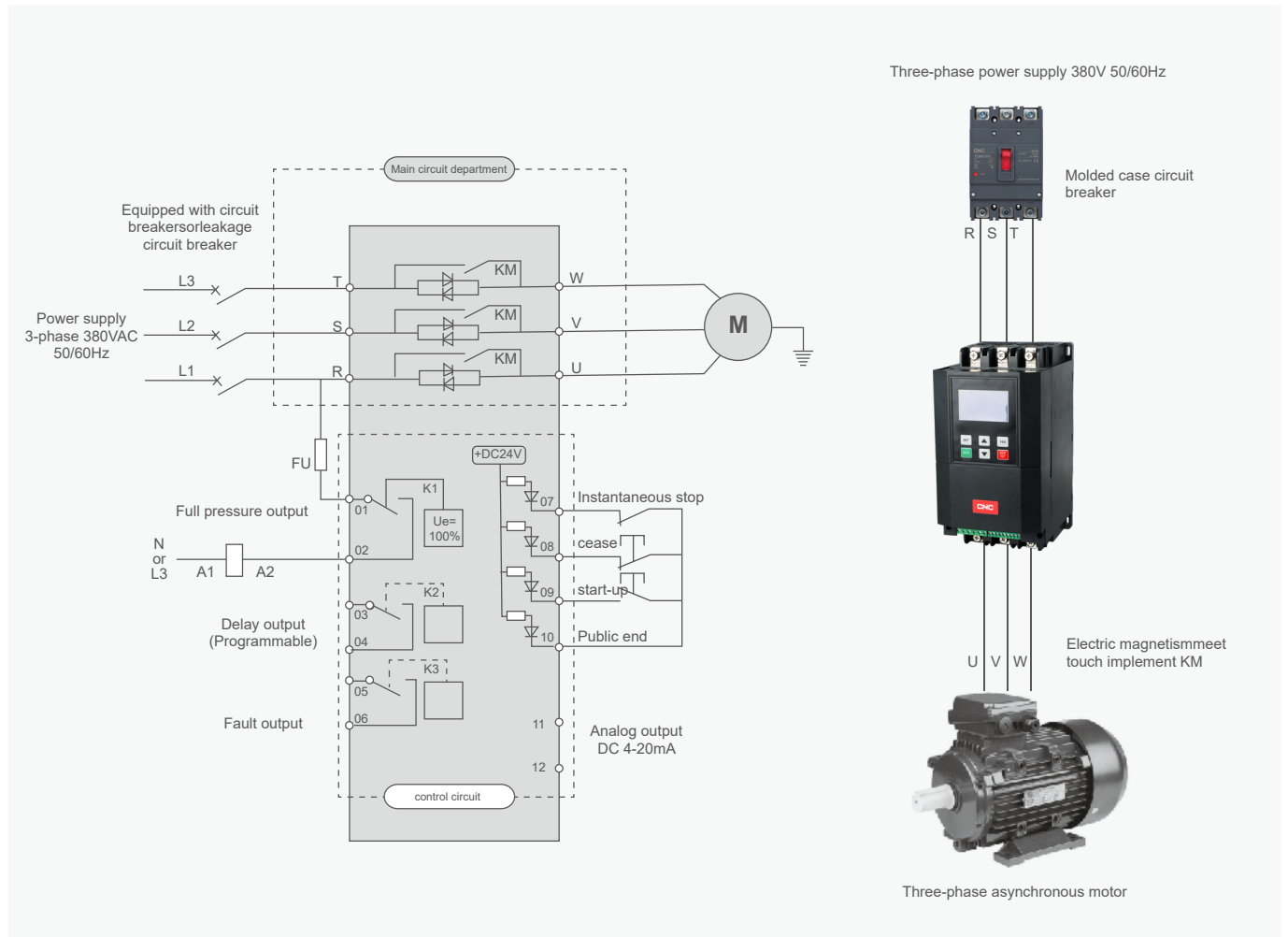
3. Relay and remote control wiring diagram



K is the normally closed point for connecting other protective devices (such as thermal protectors), which is short circuited when leaving the factory.

Motor Control & Protection

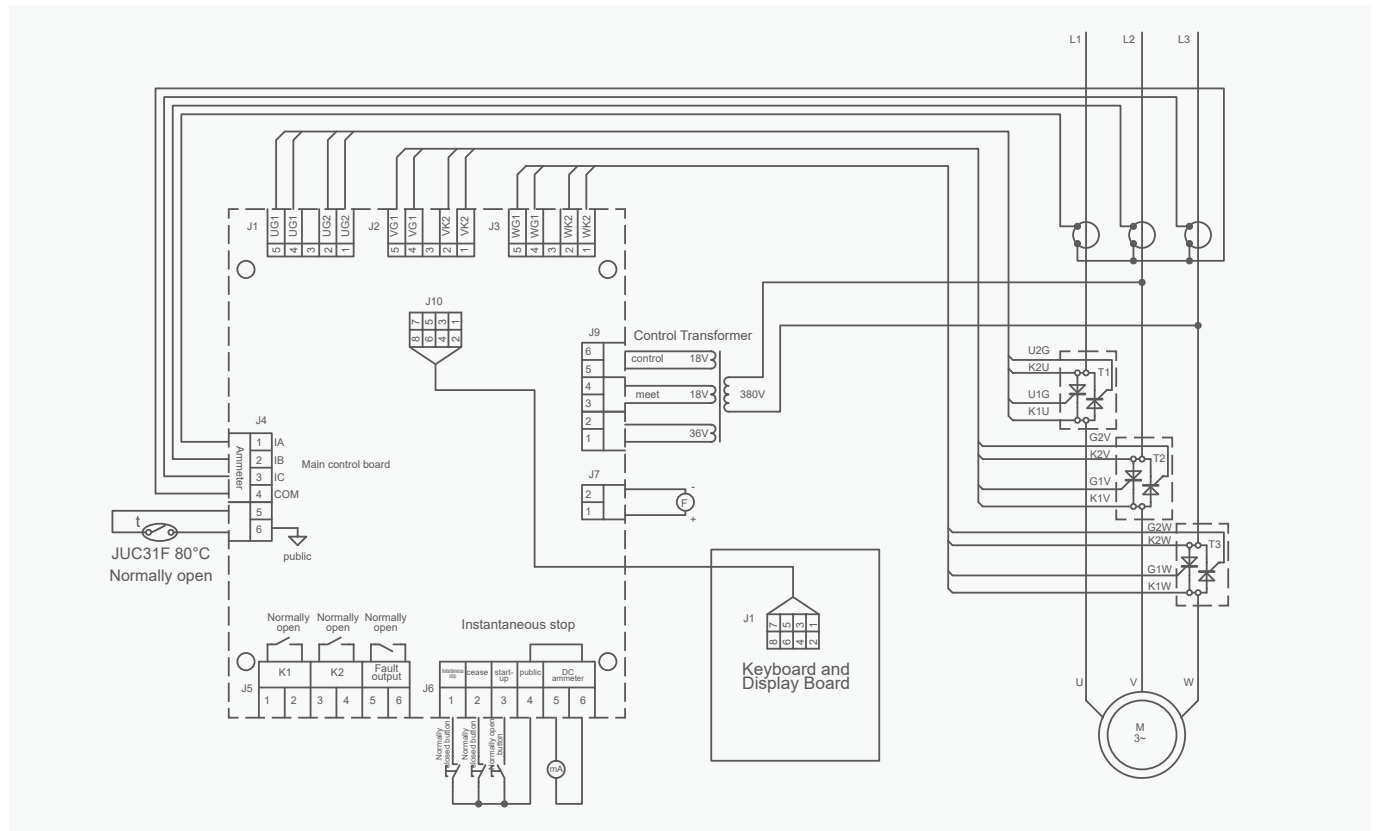
YCQR8 Bypass Soft Starter



Motor Control & Protection

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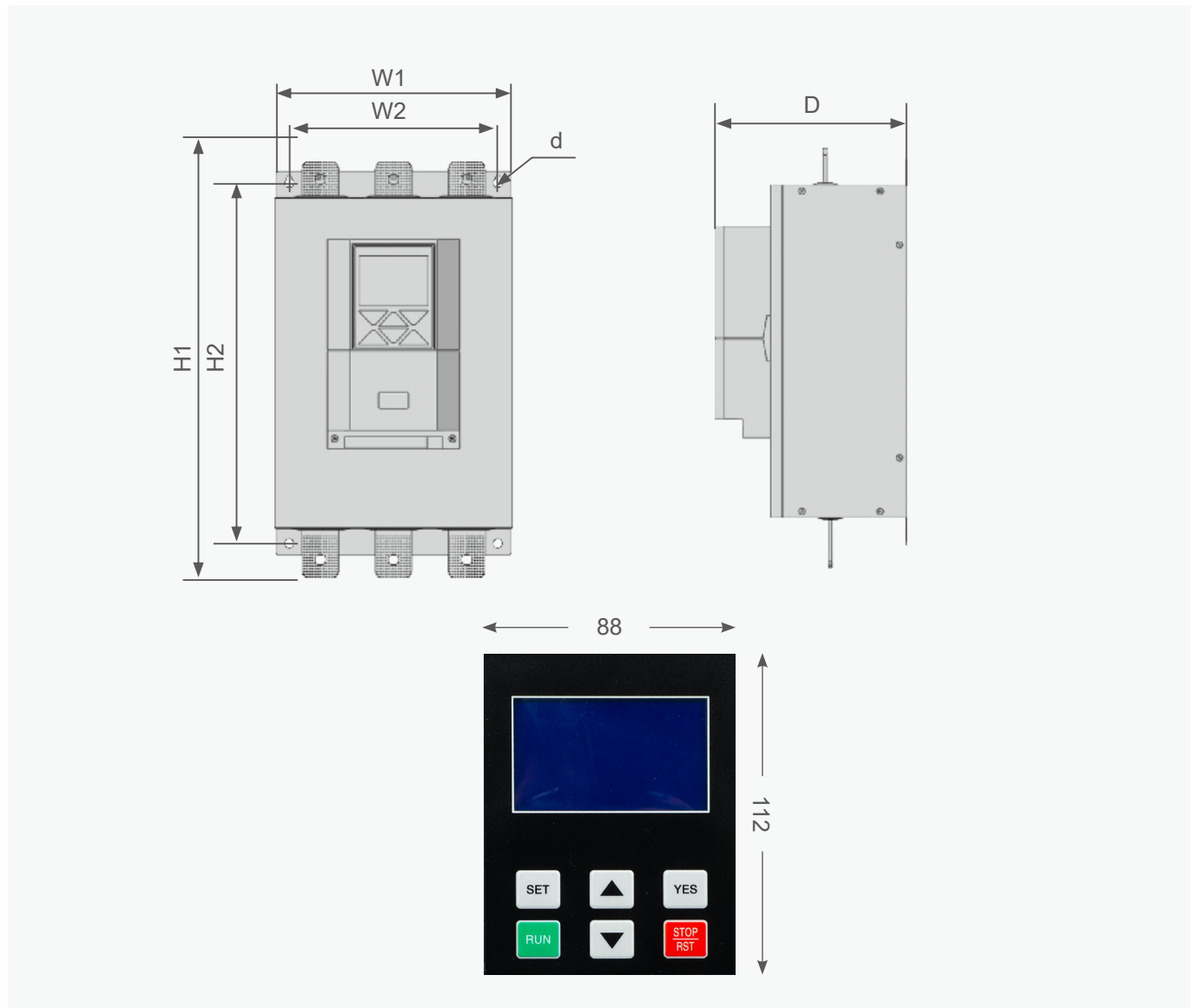
Wiring diagram



Motor Control & Protection

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Overall and mounting dimensions(mm)



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Model number	W1	H1	D
YCQR8-22KW-37KW AC220V	150	285	195
YCQR8-45KW-55KW AC220V	210	370	240
YCQR8-75KW-115KW AC220V	260	540	255
YCQR8-132KW-160KW AC220V	300	635	275
YCQR8-185KW-220KW AC220V	400	730	295
YCQR8-22KW-75KW AC380V	150	285	195
YCQR8-90KW-115KW AC380V	210	370	240
YCQR8-132KW-220KW AC380V	260	540	255
YCQR8-250KW-350KW AC380V	300	635	275
YCQR8-400KW-500KW AC380V	400	730	295