# YCQR7 Soft Starter

General

Read the ZR 900 installation instructions carefully before use. If you do not read the relevant instructions carefully, you will violate the relevant safety regulations, which may affect the normal use of the soft starter. To install the ZR900, please prepare the following tools : small word screwdriver, wire cutter, wrench, etc.

Type designation

YC QR 7 □ □

- Voltage
- Power
- Design sequence number
- Soft-Starter
- Company code
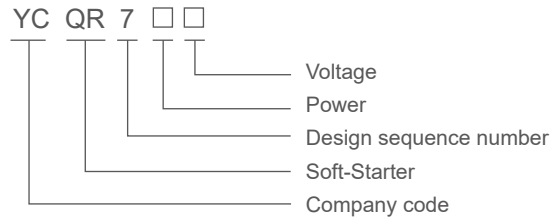
Operating conditions

Incoming line power supply: AC 380V ± 5% 50/60 HZ

Power supply is applicable: mouse cage three-phase asynchronous motor

Cooling mode: forced air cooling

App licable temperature: -10°C ~ ± 40°C ,1°C,2%, + 50°C

App licable humidity: 90% without frost

Place of use: No corrosive gas without conductive dust indoor is well ventilated

Elevation vibration: The altitude is below 3000 meters, and the vibration power device is below 0.5G

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YCQR7 Soft Starter

Technical data

project name		performance index
scope of application		3 phase rat cage asynchronous motor
power bracket		5.5-450kW
input voltage		380V ± 15%
supply frequency		50/60HZ ± 5%
overload capacity		400%60sec,120% continuous
Adjustable current multiple		From 1 to 5 times each time
Soft up time		1-90 Seconds
Module working mode		over a long period of time
cooling-down method		forced air cooling
Secondary interace terminal	on-off input	3 Road
	relay output	1 (programmable) or 3 (programmable)
	4-20MA	Route (extension is optional)
	RS485	1-way (extended as optional)
Protect		Short circuit speed break, overcurrent, overheat protection, reverse time overload, voltage phase deficiency, imbalance, Insient stop, undervoltage, overvoltage, underload, starting failure, phase sequence error.
Host overload protection		Overload and reverse time limit, level 1 -5 is optional
Host current imbalance protection		Unbalanced trip standard: 5- 100% any two-phase unbalanced trip delay: 1-60 seconds can be set
Host short circuit protection		Quick break time . 0.18, can be set
Bus function		Interface : RS485 protocol · ModbusRTU
human-computer interface		4 Line COG Screen
Language		Chinese, English

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YCQR7 Soft Starter

Technical data

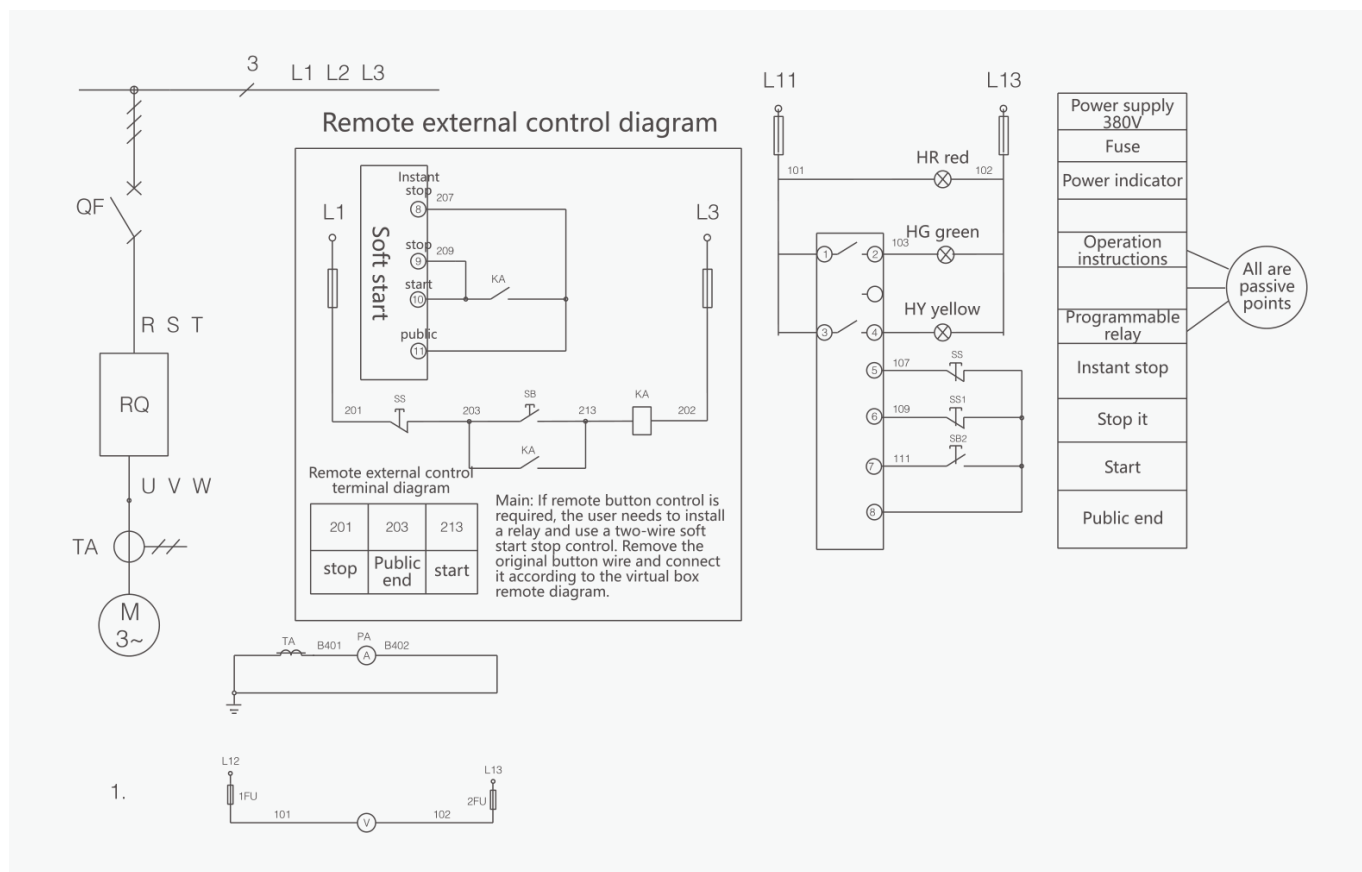| Order number	Name	Set the scope	Windows default	Explain
Soft-up parameters				
A1	Start way	0~3	3	0: aging 1: voltage ramp 2: constant current3:current ramp
A2	Starting voltage	0~100%	45%	0,1,2 The starting mode is effective
A3	Initial current	0~2.5 Times	2.0 Times	Method 3 valid
A4	Flow limit multiple	1.8~6.0 Times	3.5 Times	Method 1,2,3 valid
A5	Sudden jump peak	0~100	90%	
A6	The jump cycle	0~2.0S	0.4S	
A7	Start delay	0~240.0S	0.0S	Delayed start time
A8	Soft up time	0~90.0S	20.0S	All starting modes are valid
A9	Soft stop time	0~60S	0S	Set to 0 no soft stop function, non-0 valid
A10	Joint control delay	0~240.0S	0.0S	Start the delay relay output, use with programmable relay
A11	mode of operation	0~6	3	0: Full open 1: keyboard 2: external control 3: keyboard + external control 4: Communication 5:Communication + keyboard 6:communication + external control
A12	Rated current	0~Current limit	100A	Set according to the rated current on the motor nameplate
A13	Upper limitcurrent	0~200%	120%	The relay is set to feed effectively
A14	Lower limit current	0~120%	90%	The relay is set to feed effectively
A15	actuation time	0~10.0S	1.0S	The relay is set to feed effectively
A16	Soft startplus time	0~60.0S	0	"Soft start time" does not complete the start, automatic extra time
A17	Soft strength	2.0 Times	0	"Soft start time" does not complete the start, automatic extra time
Protection parameters				
A18	Short circuit multiple	0~12.0 Times	5.5 Times	Set greater than (current limit multiple + soft starting force + 0.5), the whole process is effective
A19	Speed break time	0~2.00S	0.20S	Short circuit block (break) time
A20	Overflow multiple	0~8.0	1.2	Bypass effective
A21	Overflow time	0~60.0S	10.0S	If the overflow exceeds this value, block the silicon
A22	Overheat time	0~60.0S	10.0S	When oyerheating exceeds this value, blocking the SCR,the whole process is effective
A23	Overload curve	1~6	1	Motor reverse time limit protection, reverse time limit curve number, the larger the value, the longer the time, bypass (full pressure) after the effective
A24	Lack of phase time	0~60.0S	10.0S	If the voltage phase deficiency exceeds this value,the SCR is blocked, and the whole process is effective
A25	Current imbalance	0~100%	30%	Current imbalance ratio, soft rise, bypass, soft stop effective
A26	Imbalance time	0~60.0S	5.0S	If the accumulated time of imbalance exceeds this value, block the silicon controller
A27	Underpress ure lower limit	0~100%	70%	Full effective
A28	Overpressure time	0~60.0S	2.0S	If the accumulated time of underpressure exceeds this value, the thyristor is blocked
A29	Overpressure upper limit	0~150%	120%	Full effective
A30	Overpressure time	0~60.0S	2.0S	If the cumulative time of overpressure exceeds this value,the thyristors is blocked
A31	Under-load current	0~100%	50%	Lower undercurrent, bypass and full pressure effective
A32	Adue time	0~30.0s	2.0s	If the cumulative time exceeds this value, the thyristor is blocked

Motor Control & Protection
YCQR7 Soft Starter

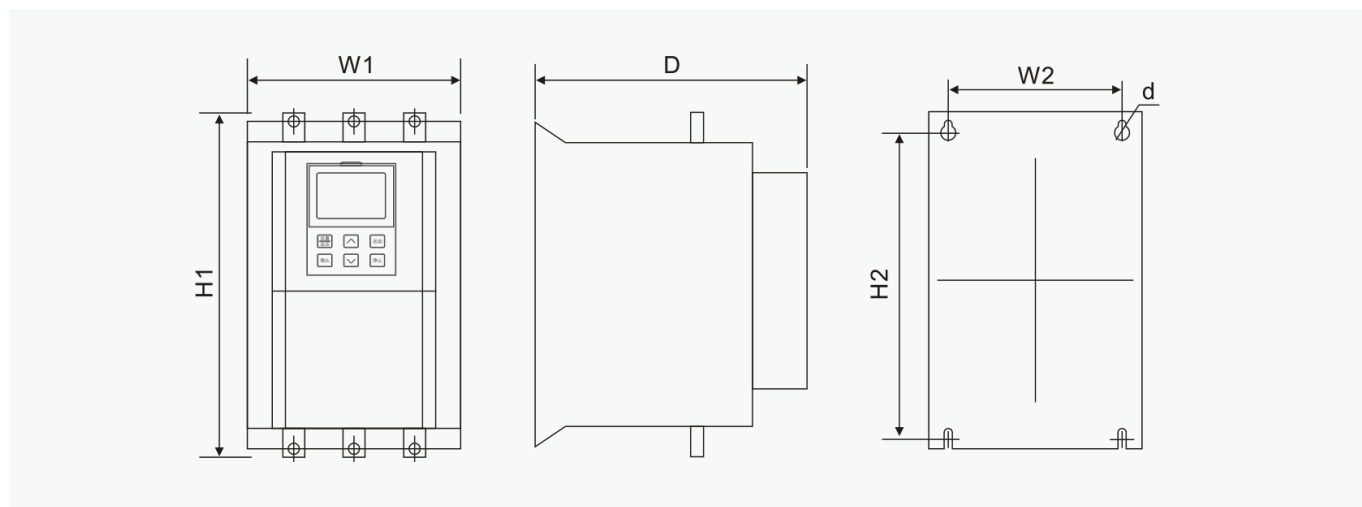| Order number	Name	Set the scope	Windows default	Explain
Protection switch				
A33	Short-circuiting switch	Close, open	Open	Output short-circuit protection is enabled or prohibited
A34	Overflow switch	Close, open	Open	Overcurrent protection enables or forbids
A35	Overheat awitch	Close, open	Open	Overheat protection enables or prohibited
A36	overload cut-out	Close, open	Open	Motor overload protection is enabled or prohibited
A37	Lack of phases witch	Close, open	Open	Input voltage phase absence protection enabled or prohibition
A38	Imbalance switch	Close, open	Open	Current imbalance (output phase deficiency) protection enabled or prohibition
A39	Instantaneo us stop switch	Close, open	Open	External instantaneous stop fault protection enabled or prohibited, enabling can be set to self-recovery
A40	Undervoltag e switch	Close, open	Open	Input voltage protection enabled or prohibited
A41	Overvoltage switch	Close, open	Open	Input voltage overvoltage protection enable or prohibited
A42	Starting failure	Close, open	Open	Motor is not enabled or prohibited by full speed protection during bypass (or full pressure)
A43	Underload switch	Close, open	Open	Underload protection is enabled or prohibited
A44	Phase sequence switch	Close, open	Open	Phase order error protection enables or prohibition
Communication parameters : not considered when not used				
A45	principal and subordinate	0,1,2	0	0:Close 1:Host 2:slave
A46	Stop number	0~32	1	
A47	Digit capacity	0~12	8	Usually set to 8
A48	Stop bit	0~2	0	Usually set to 1
A49	Even-odd check	0~2	1	Usually set to 0
A50	Baud rate	0~96	8	Actual baud rate-baud rate*1200
A51	Current range	0~6000	1000	4 mA corresponds to 0 and 20 macorresponds to range values
Control				
A52	Customer privilege			Password 10, go to the customer privilege menu
A53	Manufacturer setting			Password 111,enter the manufacturer setting menu

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Wiring diagram

Remote external control diagram

Main: If remote button control is required, the user needs to install a relay and use a two-wire soft start stop control. Remove the original button wire and connect it according to the virtual box remote diagram.

201	203	213
stop	Public end	start

Power supply 380V

| Fuse |
| Power indicator |
| Operation instructions |
| Programmable relay |
| Instant stop |
| Stop it |
| Start |
| Public end |

All are passive points

Overall and mounting dimensions(mm)

Specifications and models	Overall dimensions(mm)			Installation size(mm)		
	W1	H1	D	W2	H2	D
18.5kW-37kW	105	240	170	85	214	M6
45kW-75kW	150	280	179	117	240	M6
90kW-115kW	200	370	214	168	328	M6