Application

AC induction-motor has advantages of low-cost,high reliablity and infrequent maintainance.
Disadvantages:
1.starting current is 5-7 times higher than rated current.And it requires that power prid has large margin,and it also would reduce the working life of electrical control device,improving maintainance cost.
2.starting torque is doule-time of normal starting torque to cause the load shock and drive components damage.
The RDJR6 soft-starter adopts the controllable thyistor module and phase shift technology to improve the voltage of motor regularly.And it can realize the requirement of motor torque,current and load by control parameter.
RDJR6 series soft-starter adopts microprocessor to control and realize functions of soft-starting and soft-stopping of AC asynchronous motor,has complete protection function,and widely used in Motor drive equipment in the fields of metallurgy,petroleum,mine,chemical industry.

Model No.

RD J R 6 - □ □

- Non:for install type, G for cabinet type
- Rated power(applicative power:kW)
- Design code
- Soft-starter
- AC motor
- Company code

production feature

Adopts the Microprocessor digital auto control,it has great electromagnetic performance.
soft starting,soft stoping or free stoping.The starting voltage,current,soft-start and soft-stop time can be adopted according to different loads for reducing the shock of starting current.
stable performance,easy operation,direct display,small volume,digital set,has telecontrol and external control functions.
has protection against phase-loss,overvoltage,overload,overcurrent,overheating.
has functions of input voltage display,operating current display,failure self-inspection,fault memory.
has 0-20mA simulation value output,can realize motor current monitoring.

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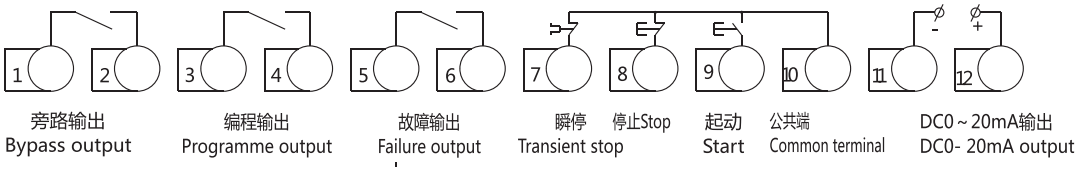
External control terminal



External control terminal definition

Switch value	terminal code	terminal function	instruction
relay output	1	Bypass output	control bypass contactor,when soft starter starts successfully, it is NO contact without power supply,capacity:AC250V/5A
	2		
	3	Programmable relay output	output type and functions are setted by P4 and PJ, it is NO contact without power supply,capacity:AC250V/5A
	4		
	5	Failure relay output	when soft starter has failures, this relay closed, it is NO contact without power supply,capacity:AC250V/5A
	6		
input	7	Transient stop	soft-starter starting normally,this terminal must be shorten with terminal10.
	8	Stop/reset	connects with terminal 10 to control 2-line,3-line, according to connection method.
	9	Start	
	10	Common terminal	
analog output	11	simulation common point(-)	output current of 4 times rated current is 20mA,it also can be detected by external DC meter, It can output load resistance Max is 300.
	12	simulation current output(+)	

Display panel

indicator	instruction
READY	when power on and ready state,this indicator is light
PASS	when bypass operating,this indicator is light
ERROR	when failure is happening,this indicator is light
A	setting data is current value,this indicator is light
%	setting data is current precentage,this indicator is light
s	setting data is time,this indicator is light

state indicator instruction

RDJR6 series soft-starter has 5 kinds operational state:ready,operation,failure,start and stop.ready,operation,failure has relative indicator signal.Instruction see above Table.

Button instruction instruction

Mark	button name	instruction
RUN	start	for starting operation.If PD set is external terminal control,this button is invalid.
STOP	stop/reset	for stopping operation and for resetting system under failure state.
SET	set	for enter the functional data group and data alter.
△	up	for increasing data
▽	down	for decreasing data
ENT	enter	for save the amended data,inquiry the information of model and failure and quit.

In the soft-starting and soft-stopping proceessing,it can not set data,only if it is under other state.

Under setting state,setting state would quit the setting state without any operating after 2mins.

First press on "enter" button,then charged andstarting starter.After listening the alert sound,then it can reset the data back factory value.

Functional parameter

code	function name	setting range	default	instruction
P0	initial voltage	(30-70)	30	PB1=1,Voltage slope model is effective;when PB setting is current mode, initial voltage default value is 40%.
P1	soft-starting time	(2-60)s	16s	PB1=1,Voltage slope model is effective
P2	soft-stopping time	(0-60)s	0s	setting=0,for free stop.
P3	program time	(0-999)s	0s	After receiving commands,using countdown type to delay start after P3 setting value.
P4	start delay	(0-999)s	0s	programmable relay action delay
P5	programm delay	(0-999)s	0s	After overheat removing and P5 setting delay,it was into ready state
P6	interval delay	(50-500)%	400%	be related with PB setting,when PB setting is 0,default is 280%,and amend is vaild. when PB setting is 1,limiting value is 400%.
P7	limited start current	(50-200)%	100%	use to adjust the motor overload protection value,P6,P7 input type depends on P8.
P8	Max operatinal current	0-3	1	Use to setting current value or percents
P9	current display mode	(40-90)%	80%	lower than setting value,failure display is "Err09"
PA	undervoltage protection	(100-140)%	120%	higher than setting value,failure display is "Err10"
PB	starting method	0-5	1	0 current-limited,1 voltage,2 kick+current-limited,3 kick+current-limit,4 current-slope, 5 dual-loop type
PC	output protection allow	0-4	4	0 primary,1 min load,2 standard,3 heavy-load,4 senior
PD	operational control mode	0-7	1	use to select panel,external control terminal settings.0,only for panel operating, 1 for both panel and external control terminal operating.
PE	auto-reboot choice	0-13	0	0:forhibid,1-9 for auto-reset times
PF	parameter amend allow	0-2	1	0:fohibid,1 for allowable part amended data,2for allowable all amended data
PH	communication address	0-63	0	use to communication of multiply soft-starter and upper device
PJ	program output	0-19	7	use to programmable relay ouput(3-4)setting.
PL	soft-stop current limited	(20-100)%	80%	use to P2 soft-stopping current-limited setting
PP	motor rated current	(11-1200)A	rated value	use to input motor nominal rated current
PU	motor undervoltage protection	(10-90)%	forbid	use to seting motor undervoltage protection functions.

Failure instruction

code	instruction	problem and solution
Err00	no failure	Failure of undervoltage,overvoltage,overheating or transient stop terminal open had been fixed. And the panel indicator is lighting,press "stop" button to reset,then starts the motor.
Err01	external transient stop terminal is open	check if external transient terminal7 and common terminal10 are short-circuit or NC contact of other protection devices are normal.
Err02	soft-starter overheating	radiator temperature is exceed 85C,overheating protection,soft-starter starts the motor too frequent or motor power is not applicable to soft-starter.
Err03	starting overtime	starting setting data is not applicative or load is too heavy,power capacity is too small
Err04	input phase-loss	check if input or major loop has fault,or if bypass contactor can break and make circuit normally,or if the silicon control is open.
Err05	output phase-loss	check if input or major loop has fault,or if bypass contactor can break and make circuit normally,or if the silicon control is open, or if motor connection has some faults.
Err06	imbalanced three-phase	check if input 3-phase power and motor has some errors,or if current-transformer gives signals out.
Err07	starting overcurrent	if load is too heavy or motor power is applicatble with soft-starter,or setting value PC(output protection allowed)setting falut.
Err08	operational overload protection	if load is too heavy or P7,PP setting falut.
Err09	undervoltage	check if input power voltage or setting date of P9 is error
Err10	overvoltage	check if input power voltage or setting date of PA is error
Err11	setting data error	amend setting or press on "enter" button to start for resetting
Err12	short-circuit of loading	check if the sillicon is short-circuit,or load is too heavy,or motor coil is short-circuit.
Err13	restart connecting error	check if external starting terminal9 and stop terminal8 are connecting according to two-line type.
Err14	external stop terminal connection error	when PD setting is 1,2,3,4(allow to external control),external stop terminal8 and common terminal10 are not short-circuit.Only they were short-circuit,motor can be started.
Err15	motor underload	check motor and load error.

Appearance and mounting dimension

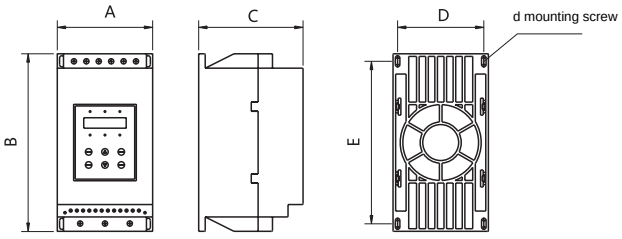


Fig1 RDJR6-5.5 to 55

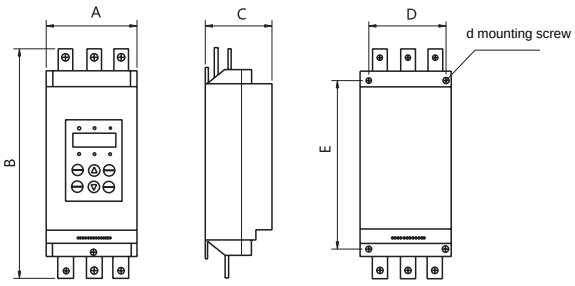


Fig2 RDJR6-75 to 200

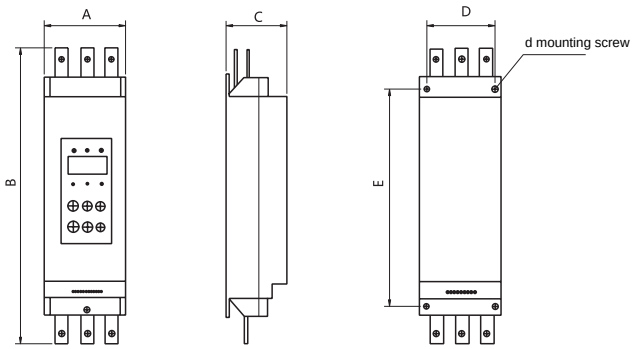
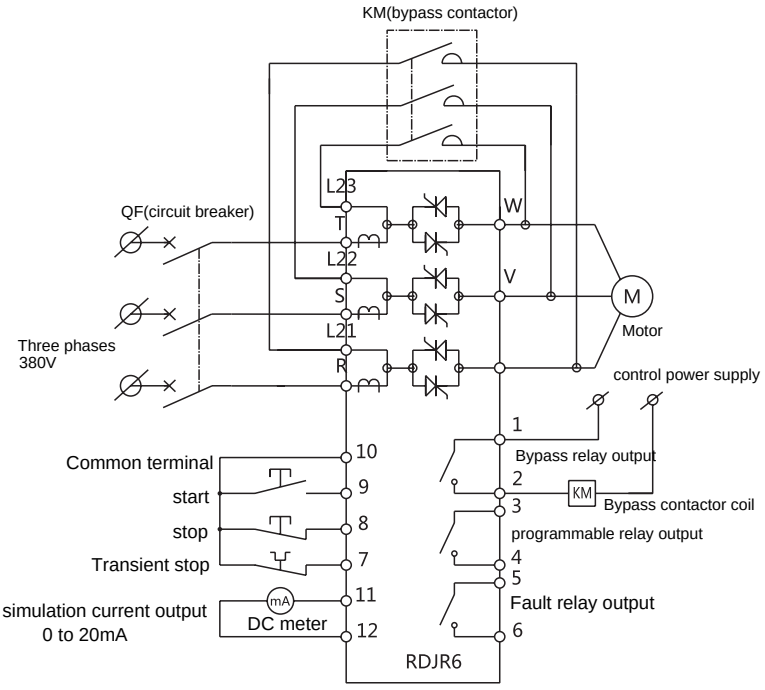


Fig3 RDJR6-250 to 320

Production specification

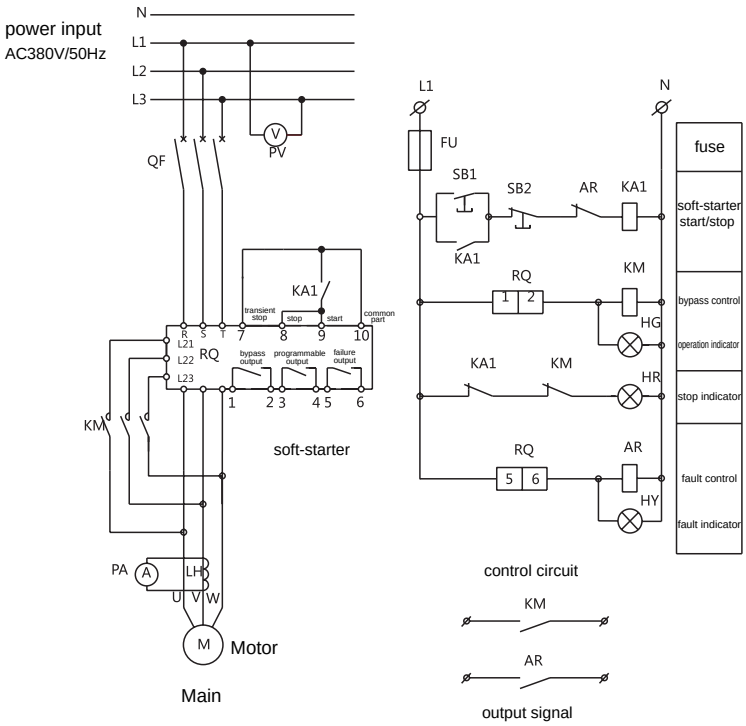
Model No.	Ratedd power (kW)	Rated current (A)	Applicative motor power(kW)	Shape size(mm)						Weight (kg)	Note
				A	B	C	D	E	d		
RDJR6-5.5	5.5	11	5.5	145	278	165	132	250	M6	3.7	Fig2.1
RDJR6-7.5	7.5	15	7.5								
RDJR6-11	11	22	11								
RDJR6-15	15	30	15								
RDJR6-18.5	18.5	37	18.5								
RDJR6-22	22	44	22								
RDJR6-30	30	60	30								
RDJR6-37	37	74	37								
RDJR6-45	45	90	45								
RDJR6-55	55	110	55								
RDJR6-75	75	150	75	260	530	205	196	380	M8	18	Fig2.2
RDJR6-90	90	180	90								
RDJR6-115	115	230	115								
RDJR6-132	132	264	132								
RDJR6-160	160	320	160								
RDJR6-185	185	370	185								
RDJR6-200	200	400	200								
RDJR6-250	250	500	250	290	570	260	260	470	M8	25	Fig2.3
RDJR6-280	280	560	280								
RDJR6-320	320	640	320								

Diagram



Application diagram

12.1 Normal control diagram

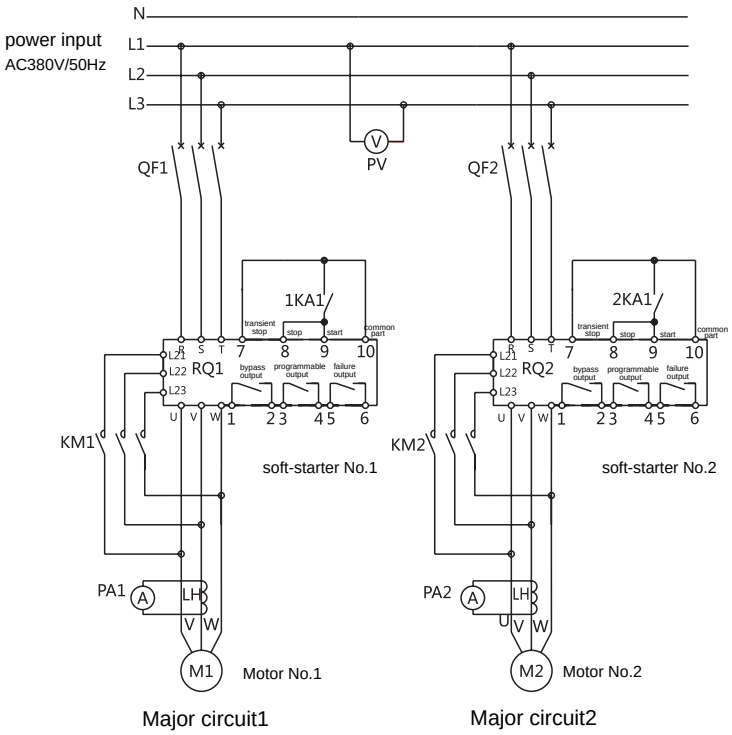


instruction:

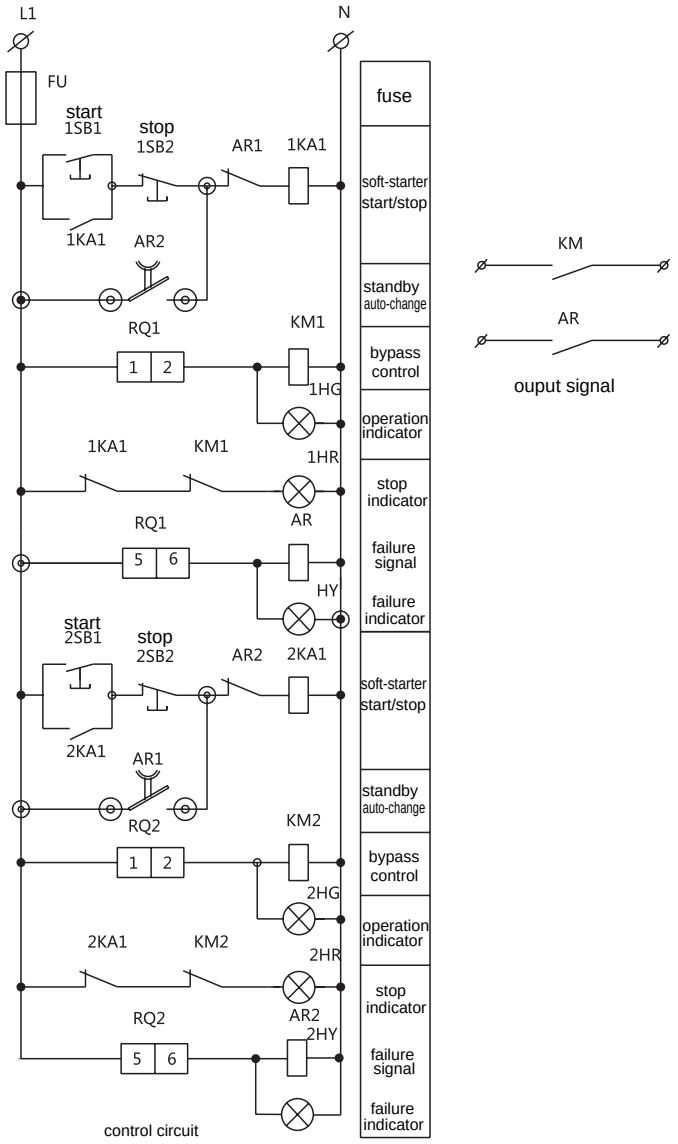
1.External terminal adopts two line tcontrol type.when KA1 closed for starting,open for stopping.

2. soft-starter which above 75kW needs to control bypass contactor coil by middle relay,because of limited drive capacity of soft-strater internal relay contact.

12.2 one common and one standby control diagram



12.3 one common and one standby control diagram



Instruction:

1.In the diagram,external terminal adopts two-line type
(when 1KA1 or 2KA1 is closed,it starts.when they are breaking,it stops.)
2.Soft-starter above 75kW needs to control bypass contactor coil by middel relay because of limited drive capacity of soft-starter internal middle relay contact.