CNCPROM

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MK100

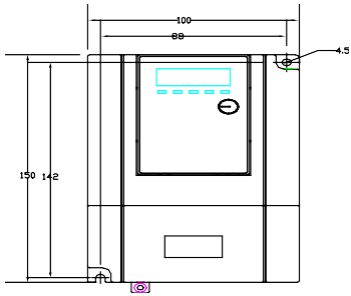
Special Frequency Inverter for High Speed Spindle Motor

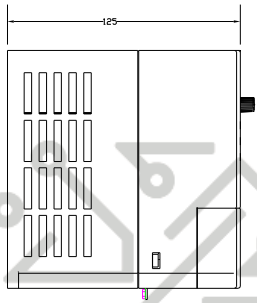
Simple manual

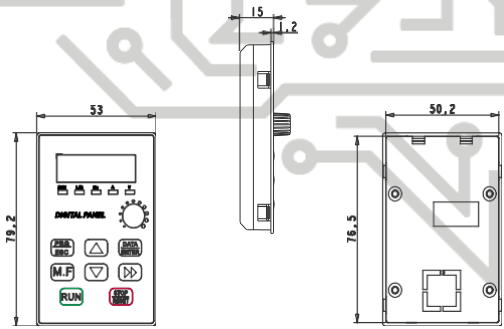
1. MK100 frequency converter selection:

Type	Rated capacity (kVA)	Rated input current (A)	Rated output current (A)	Adaptive motor (kW)
MK100-2S0.4	1.0	5.1	2.5	0.4
MK100-2S0.75	1.5	8.2	4.5	0.75
MK100-2S1.5	3.0	14.0	7.5	1.5
MK100-2S2.2	4.0	23.0	10.0	2.2
MK100-2S3.0	5.3	26.2	14.0	3.0
MK100-4T0.75	1.5	3.4	2.3	0.75
MK100-4T1.5	3.0	5.0	3.7	1.5
MK100-4T2.2	4.0	5.8	5.0	2.2
MK100-4T4.0	6.2	10.5	9.0	4.0

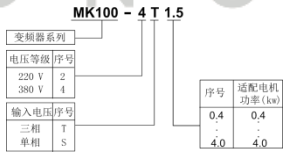
2. Profile size of MK100frequency inverter and keyboard







3. MK100 Nameplate description:



Main loop input and output terminal

(1)Terminal diagram

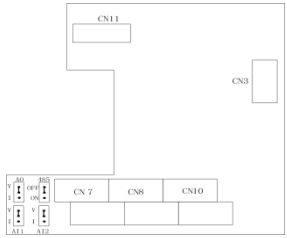
⏚	⏚	R/L	S	T/N	(+)	PB	U	V	W

(2)Main loop terminal description

Name of terminal	Function
R, S, T / L, N	Three-phase AC input terminal / single-phase AC input terminal
(+), PB	Brake resistance connecting terminal
U, V, W	Three-phase AC output terminal

⏚	earth terminal

5. Diagram of jumper switch position of control board



No	function	Factory value
CN4	AI1 current / voltage input mode selection I: 0 ~ 20mA Current signal; V: 0 ~ +10V Voltage	0 ~ +10V

No	function	Factory value
	signal	
CN2	AI2 current / voltage input mode selection I: 0 ~ 20mACurrent signal; V: 0 ~ +10VVoltage signal	0 ~ +10V
CN6	AO output current / voltage type selection 0/4 ~ 20mA: AO1terminal output current signal 0/2 ~ +10V: AO1Terminal output voltage signal	0 ~ +10V
CN5	485 terminal resistance selection： ON: 120 Ω terminal resistor; OFF: No terminal resistance	No terminal resistance

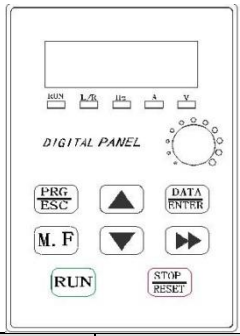
6. Control board terminal connection description:

GND	AI1	AI2	10V	X1	X2	X3	X4	X5

AO1	+485	485-	COM	SEL	24V	Y1	TA	TC

type	Terminal No.	Name	Function
communication	+485-	RS485 communication interface	RS485 Differential signal positive end
			RS485 Differential signal negative end
Imitated input	AI1-GND	Imitated input AI1	CN4 jumper selection determines voltage or current input. 1. Input voltage range：DC 0V~10V 2. Input impedance: 22kΩ
Imitated input	AI2-GND	Imitated input AI2	CN2 jumper selection determines voltage or current input. 1. Input voltage range: DC 0V~10V 2. Input impedance: 22k Ω
Imitated output	AO-GND	Imitated output	CN6 jumper selection determines voltage or current input. Output voltage range：0V~10V Output current range：0mA~20mA
Numeral input	X1 ~ X5	Multifunctional input terminal 1 ~ 5	1. Optical coupling isolation, compatible bipolar input 2. Input impedance: 2.4 k Ω 3. Voltage range when level input: 9V~30V
	SEL	External power input terminal	
	24V	+24V Power supply	Provide +24V power supply
	COM	+24V Common end of power supply	Internal isolation from GND
Numeral output	Y1-COM	Numeral output 1	Optical coupling isolation, compatible bipolar output Output voltage range: 0V~24V Output current range: 0mA~50mA
Power supply	10V-GND	External + 10V power supply	Provide+10VPower supply to external, maximum output current:10mA Generally used as external potentiometer working power supply, potentiometer resistance range: 1kΩ~5kΩ
Other	TA/ TC	relay output	Programable is defined as the programmable terminal of multifunctional switching output

6. Operation panel appearance and key function



Key	Name	Function
DATA/ENTER	Function / data key	Function code menu switch, data modification confirmation
▲	Incremental key	Increment of data or function code
▼	Descending key	Decrement of data or functional codes
▶▶	Shift key	Optional parameter modified bit
RUN	Running key	Used to start control in keyboard control
STOP/RESET	Stop / reset key	In keyboard control used to stop running; Reset, to end the fault alarm state; In terminal control: reset, to end failure alarm state
M.F	Multifunction selection key	Function switching selection according to P7-15

7. Digital tube and indicator light description:

Keyboard indicator:

Name	state	description
RUN	Always on	Frequency converter in operation
	Always off	Frequency converter stop output
Hz	Always on	Display as frequency
L/R	Always on	Indicating now in keyboard control;
	Always off	Indicating now in terminal control;
	Twinkle	Indicating now in communication control;
Hz	Always on	Display as frequency
A	Always on	Display as current
V	Always on	Display as voltage

Keyboard indicator combination description:

Combination mode	Description
Hz, A always on	rpm
Hz, V always on	%

8. Functional parameter table

"☆": This parameter can be changed when the inverter is in the state of shutdown and operation;

"★" : This parameter can not be changed when the inverter is running;

"●" : This parameter cannot be changed;

Function code	Name	Setting range	Factory value	change
P0 Basic function group				
P0-01	First motor control mode	0: no velocity sensor vector control (SVC) 1: remain 2: V/F control	2	★

Function code	Name	Setting range	Factory value	change
P0 Basic function group				
P0-02	Command source selection	0: operation panel command channel（LED off） 1: terminal command channel（LED on） 2: terminal command channel（LED twinkle）	0	☆
P0-03	Main frequency source X selection	0: number setting（no power-off memory） 1: number setting（Power-off memory） 2: AI1 3: AI2 4: keyboard potentiometer given 5: PULSE setting 6: multi-segment instruction 7: simplePLC 8：PID 9: communication given	1	★ ★
P0-04	Auxiliary frequency source Y selection	Same as P0-03（main frequency source X selection）	0	★
P0-05	Range selection of superposition auxiliary frequency source Y	0: relative to maximum frequency 1: relative to frequency source X	0	☆
P0-06	Range of superposition auxiliary frequency source Y	0%～150%	100%	☆
P0-07	Superposition selection of frequency source	The unit: frequency source selection 0: main frequency sourceX 1: main and auxiliary operation results(operational relationship is determined by decade) 2: switching between main frequency source X and auxiliary frequency source Y 3: switching between the main frequency source X and the main and auxiliary operation results 4: switching between auxiliary frequency source Y and main and auxiliary operation results The decade: frequency source main-auxiliary operation relation 0: main+auxiliary	00	☆
P0-08	Preset frequency	0.00Hz～maximum frequency（P0-10）	50.00Hz	☆
P0-09	Running direction	0: in the same direction 1: in the opposite direction	0	☆
P0-10	Maximun frequency	50.00Hz～600.00Hz	50.00Hz	★
P0-11	Upper limit frequency source	0: P0-12setting 1: AI1 2: AI2 4: PULSEsetting 5: communication given	0	★
P0-12	Upper limit frequency	Lower limit frequency P0-14 ～ Maximun frequenc P0-10	50.00Hz	☆
P0-13	Upper limit frequency offset	0.00Hz～Maximun frequency P0-10	0.00Hz	☆
P0-14	Lower limit frequency	0.00Hz～Upper limit frequency P0-12	0.00Hz	☆
P0-15	signal carrier frequency	0.5kHz～16.0kHz	Model determination	☆
P0-17	acceleration time 1	0.00s～65000s	Model determination	☆
P0-18	deceleration time 1	0.00s～65000s	Model determination	☆
P0-23	Digital setting frequency stop memory selection	0: no memory 1: memory	0	☆

Function code	Name	Setting range	Factory value	change
P1 First motor parameter				
P1-00	Motor type selection	0: ordinary asynchronous motor 1: frequency conversion asynchronous motor	0	★
P1-01	Motor rated power	0.1kW ~ 1000.0kW	Model determination	★
P1-02	Motor rated voltage	1V ~ 2000V	Model determination	★
P1-03	Motor rated current	0.01A ~ 655.35A	Model determination	★
P1-04	Motor rated frequency	0.01Hz ~ maximum frequency	Model determination	★
P1-05	Motor rated speed	1rpm ~ 65535rpm	Model determination	★
P1-37	Tuning selection	0: no operation 1: asynchronous motor static tuning 2: asynchronous motor complete tuning	0	★

Function code	Name	Setting range	Factory value	change
P2 group: the vector control parameter group of the first group of motor				
P2-00	Velocity loop proportional gain1	1 ~ 100	30	☆
P2-01	Velocity loop integral time1	0.01s ~ 10.00s	0.50s	☆
P2-02	Switching frequency1	0.00 ~ P2-05	5.00Hz	☆
P2-03	Velocity loop proportional gain 2	1 ~ 100	20	☆
P2-04	Velocity loop integral time 2	0.01s ~ 10.00s	1.00s	☆
P2-05	Switching frequency 2	P2-02 ~ maximum frequency	10.00Hz	☆
P2-06	Vector control slip gain	50% ~ 200%	100%	☆
P2-07	Velocity loop filtering time	0.000s ~ 0.100s	0.000s	☆
P2-08	Vector controlled over-excitation gain	0 ~ 200	64	☆

Function code	Name	Setting range	Factory value	change
P3group V/Fcontrolling parameter				
P3-00	VF curve setting	0: straight line V/F 1: multiple spot V/F 2: square V/F 3: 1.2 power V/F 4: 1.4 power V/F 6: 1.6 power V/F 8: 1.8 power V/F	0	★
P3-01	Torque lifting	0.0%: (Automatic torque lifting) 0.1% ~ 30.0%	Model determination	☆
P3-02	Torque lift cutoff frequency	0.00Hz ~ maximum frequency	50.00Hz	★
P3-03	Multipoint VF frequency point 1	0.00Hz ~ P3-05	0.00Hz	★
P3-04	Multipoint VF voltage point1	0.0% ~ 100.0%	0.0%	★
P3-05	Multipoint VF frequency point 2	P3-03 ~ P3-07	0.00Hz	★
P3-06	Multipoint VF voltage point2	0.0% ~ 100.0%	0.0%	★
P3-07	Multipoint VF frequency point 3	P3-05 ~ motor rated frequency（P1-04）	0.00Hz	★
P3-08	Multipoint VF voltage point3	0.0% ~ 100.0%	0.0%	★
P3-09	VF Slip compensation gain	0.0% ~ 200.0%	0.0%	☆
P3-10	VF overexcitation gain	0 ~ 200	64	☆

Function code	Name	Setting range	Factory value	change
P4 group: input terminal control parameter group				

Function code	Name	Setting range	Factory value	change
P4 group: input terminal control parameter group				
P4-00	X1 terminal function selection	0: no function 1: forward run (FWD) 2: reverse run (REV) 3: three wire operation control 4: positive runing inching（FJOG） 5: reverse running inching（RJOG） 6: terminal UP 7: eerminal DOWN 8: free stop 9: fault RESET 10: running pause 11: external failure normally open input 12: multistage instruction terminal 1 13: multistage instruction terminal 2 14: multistage instruction terminal 3 15: multistage instruction terminal 4 16: acceleration and deceleration time selection terminal 1 17: acceleration and deceleration time selection terminal 2 18: frequency source switching 19: UP/DOWN Setting zero(Terminal, keyboard) 20: run command switch terminal 21: acceleration and deceleration prohibition 25: counter input 26: counter reset 30: PULSE Frequency input(Valid only for X5) 32：Immediate DC brake 33：External fault normally closed input 36: external stop terminal 1 37: control command switch terminal 2 39: frequency source X and preset frequency switching 40: frequency Source Y and preset frequency switching 41: motor selection terminal 1 47：emergency out-off 48: external stop terminal 2 49: deceleration DC brake 50: zero clearing of this running	1	★
P4-01	X2 terminal function selection		2	★
P4-02	X3 terminal function selection		0	★
P4-03	X4 terminal function selection		0	★
P4-04	X5 terminal function selection		0	★
P4-10	X filtering time	0.000s ~ 1.000s	0.010s	☆
P4-11	Terminal command mode	0: two-wire type 1 1: two-wire type 2 2: three-wire type 1 3: three-wire type 2	0	★
P4-12	Terminal UP/DOWN change rate	0.001Hz/s ~ 65.535Hz/s	1.00Hz/s	☆
P4-13	AI curve1 minimum input	0.00V ~ P4-15	0.00V	☆
P4-14	AI curve 1Minimum input corresponding setting	-100.0% ~ +100.0%	0.0%	☆
P4-15	AI curve1 maximum input	P4-13 ~ +10.00V	10.00V	☆
P4-16	AI curve1maximum input corresponding setting	-100.0% ~ +100.0%	100.0%	☆
P4-17	AI1 filtering time	0.00s ~ 10.00s	0.10s	☆
P4-18	AI2 filtering time	0.00s ~ 10.00s	0.10s	☆
P4-33	AI Curve selection	The unit: AI1 Curve selection 1: curve1（2points, seeP4-13 ~ P4-16） 2: curve2（2 points, seeP4-18 ~ P4-21） The decade: AI2Curve selection（ditto）	321	☆
P4-34	AI Lower than minimu input setting selection	The unit: AI1Lower than minimum input setting selection 0: corresponding minimum input setting 1: 0.0% The decade:AI2 Lower than minimum input setting selection	000	☆
P4-35	X1 delay time	0.0s ~ 3600.0s	0.0s	★
P4-36	X2 delay time	0.0s ~ 3600.0s	0.0s	★

Function code	Name	Setting range	Factory value	change
P4 group: input terminal control parameter group				
P4-37	X3 delay time	0.0s ~ 3600.0s	0.0s	★

Function code	Name	Setting range	Factory value	change
P5 group: Output terminal control parameter group				
P5-01	DO as collector open circuit output	0: no-output 1: frequency converter in operation 2: fault output（stop due to fault） 3: frequency level detection FDT1 output 4: frequency reached 5: zero speed running (no output at halting) 6: motor overload prewarning 7: frequency converter overload prewarning 8: set number reached 9: upecified number reached 11: PLC circulation complete 12: cumulative operating time reached 17: upper limit frequency reached 19: undervoltage state output 20：Communication setting 23: in zero speed running 2(output at halting) 24: cumulative power on time reached 25: frequency level detection FDT2 output 26: frequency 1 reaches output 27: frequency 2 reaches output 28: current 1 reaches output 29: current 2 reaches output 30: timing reaches output 31: AI1 Input overrun 32: in drop load 33: in reverse running 34: zero current state 35: module temperature reached 36: output current overrun 37: lower limit frequency reached（halting aslo output） 38: alarm output (continue running) 40: this running time reached	0	☆
P5-02	Relay output function selection (TA-TC)			
P5-07	AO output function selection	0: running frequency 1: set frequency 2: output current 3: output torque 4: output power 5: output voltage 6：PULSE input (100.% corresponds 100.0kHz) 7：AI1 8：AI2 13: motor speed 14: output current（100.0% corresponds1000.0A） 15: output voltage（100.0% corresponds1000.0V）	0	☆
P5-10	AO zero deviation coefficient	-100.0% ~ +100.0%	0.0%	☆
P5-11	AO gain	-10.00 ~ +10.00	1.00	☆
P5-18	Relay output delay time	0.0s ~ 3600.0s	0.0s	☆
P5-20	Y1 output delay time	0.0s ~ 3600.0s	0.0s	☆

Function code	Name	Setting range	Factory value	change
P6 Start and stop control				
P6-00	starting mode	0: direct starting 1: speed tracking start 2: Pre-excitation start	0	☆
P6-01	Speed tracking mode	0: tracking from stop frequency 1: tracking from zero speed 2: tracking from maximum frequency	0	★
P6-02	Speed tracking range	1 ~ 100	20	☆
P6-03	Startup frequency	0.00Hz ~ 10.00Hz	0.00Hz	☆
P6-04	Start frequency holding time	0.0s ~ 100.0s	0.0s	★
P6-05	Starting DC brake current / pre-excitation time	0% ~ 100%	0%	★
P6-06	Starting DC brake current / pre-excitation time	0.0s ~ 100.0s	0.0s	★

Function code	Name	Setting range	Factory value	change
P6 Start and stop control				
P6-07	Acceleration and deceleration mode	0: Linear acceleration and deceleration 1: S curve acceleration and deceleration A 2: S curve acceleration and deceleration B	0	★
P6-10	Halting mode	0: decelerate stop 1: free stop	0	☆
P6-11	Halting DC brake starting frequency	0.00Hz ~ maximum frequency	0.00Hz	☆
P6-12	Halting DC brake waiting time	0.0s ~ 100.0s	0.0s	☆
P6-13	Halting DC brake current	0% ~ 100%	0%	☆
P6-14	Halting DC brake time	0.0s ~ 100.0s	0.0s	☆
P6-15	Brake utilization rate	0% ~ 100%	100%	☆

Function code	Name	Setting range	Factory value	change
P7-03	LED display running parameter1	0000 ~ FFFF Bit00: running frequency 1 (Hz) Bit01: set frequency (Hz) Bit02: bus voltage (V) Bit03: output voltage (V) Bit04: output current (A) Bit05: output power (kW) Bit06: output torque (%) Bit07: X input status Bit08: DO output state Bit09: AI1 voltage (V) Bit10: AI2 voltage (V)	17	☆
P7-04	LED running display parameter2	0000 ~ FFFF Bit00: PID feedback Bit01: PLC segment Bit02: PULSE input pulse frequency (kHz) Bit03: operating frequency 2 (Hz) Bit04: remaining running time Bit05: AI1 pre-correction voltage (V) Bit06: AI2 pre-correction voltage (V) Bit07: reservation Bit08: linear velocity	0	☆
P7-05	LED halting display parameter	0000 ~ FFFF Bit00: set frequency (Hz) Bit01: bus voltage (V) Bit02: X input status Bit03: DO output state Bit04: AI1 voltage (V) Bit05: AI2 voltage (V)	33	☆
P7-07	Inverter module cooling temperature	0.0℃ ~ 100.0℃	-	●
P7-09	Cumulative running time	0h ~ 65535h	-	●
P7-11	Software version No.		-	●
P7-13	Cumulative power on time	0h ~ 65535h	-	●

Function code	Name	Setting range	Factory value	change
P8 group: additional function				
P8-00	Inching operating frequency	0.00Hz ~ maximum frequency	2.00Hz	☆
P8-01	Inching acceleration time	0.0s ~ 6500.0s	20.0s	☆
P8-02	Inching deceleration time	0.0s ~ 6500.0s	20.0s	☆
P8-03	Acceleration time 2	0.0s ~ 6500.0s	Model determination	☆
P8-04	Deceleration time2	0.0s ~ 6500.0s	Model determination	☆
P8-12	Positive and reverse dead zone time	0.0s ~ 3000.0s	0.0s	☆
P8-13	Reverse control enable	0: allow 1: prohibition	0	☆

Function code	Name	Setting range	Factory value	change
P8 group: additional function				
P8-18	Start protection selection	0: no protection 1: protection	0	☆
P8-19	Frequency detection value (FDT1)	0.00Hz ~ maximum frequency	50.00Hz	☆
P8-20	Frequency detection lag value (FDT1)	0.0% ~ 100.0% (FDT1electrical level)	5.0%	☆
P8-21	Frequency reaches detection width	0.0% ~ 100.0% (maximum frequency)	0.0%	☆
P8-27	Terminal inching priority	0: invalid 1: valid	0	☆

Function code	Name	Setting range	Factory value	change
P9 group: Fault and protection parameters				
P9-00	Selection of motor over load protection	0: prohibition 1: allow	1	☆
P9-01	Motor overload protection gain	0.20 ~ 10.00	1.00	☆
P9-02	Motor overload early warning coefficient	50% ~ 100%	80%	☆
P9-03	Overpressure stall gain	0 ~ 100	5	☆
P9-04	Overvoltage stall protection voltage	120% ~ 150%	130%	☆
P9-05	Overcurrent stall gain	0 ~ 100	20	☆
P9-06	Overcurrent stall protection current	100% ~ 200%	150%	☆
P9-09	Failure automatic reset times	0 ~ 20	0	☆
P9-10	Failure automatic reset interval	0.1s ~ 100.0s	1.0s	☆
P9-11	Selection of terminal output action during automatic reset of failure	0: no action 1: action	0	☆
P9-14	First failure type		-	●
P9-15	Second fault type		-	●
P9-16	Third (latest) failure type		-	●
P9-17	Third (latest) failure frequency		-	●
P9-18	Third (latest) fault current		-	●
P9-19	Third (latest) fault bus voltage		-	●
P9-27	Second failure frequency		-	●
P9-28	Second fault current		-	●
P9-29	Second fault bus voltage		-	●
P9-37	First failure frequency		-	●
P9-38	First fault current		-	●
P9-39	First fault bus voltage		-	●

Function code	Name	Setting range	Factory value	change
PA group PID function				
PA-00	PID given source	0: PA-01setting 1: AI1 2: AI2 5: communication given 6: multistage instruction given	0	☆
PA-01	PID given value	0.0% ~ 100.0%	50.0%	☆
PA-02	PID feedback source	0: AI1 1: AI2 5: communication given	0	☆
PA-03	PID action direction	0: positive action 1: reaction	0	☆

Function code	Name	Setting range	Factory value	change
PA group PID function				
PA-04	PID given feedback range	0～65535	1000	☆
PA-05	Proportional gain Kp1	0.0～100.0	20.0	☆
PA-06	Integration time Ti1	0.01s～10.00s	2.00s	☆
PA-07	Differential time Td1	0.000s～10.000s	0.000s	☆
PA-08	PID reverse cutoff frequency	0.00～maximum frequency	2.00Hz	☆
PA-09	PID deviation limit	0.0%～100.0%	0.0%	☆
PA-10	PID differential limiting	0.00%～100.00%	0.10%	☆
PA-11	PID given variation time	0.00～650.00s	0.00s	☆
PA-12	PID feedback filtering time	0.00～60.00s	0.00s	☆
PA-13	PID output filtering time	0.00～60.00s	0.00s	☆
PA-21	PID initial value	0.0%～100.0%	0.0%	☆
PA-22	PID initial value holding time	0.00～650.00s	0.00s	☆
PA-26	PID feedback loss detection value	0.0%：not judge feedback loss 0.1%～100.0%	0.0%	☆
PA-27	PID feedback loss detection time	0.0s～20.0s	0.0s	☆
PA-28	PID halting operation	0: no halting operation 1: halting operation	0	☆

Function code	Name	Setting range	Factory value	change
PC group Multistage instruction parameter				
PC-00	Multistage instruction 0	-100.0%～100.0%	0.0%	☆
PC-01	Multistage instruction 1	-100.0%～100.0%	0.0%	☆
PC-02	Multistage instruction 2	-100.0%～100.0%	0.0%	☆
PC-03	Multistage instruction 3	-100.0%～100.0%	0.0%	☆
PC-04	Multistage instruction 4	-100.0%～100.0%	0.0%	☆
PC-05	Multistage instruction 5	-100.0%～100.0%	0.0%	☆
PC-06	Multistage instruction 6	-100.0%～100.0%	0.0%	☆
PC-07	Multistage instruction 7	-100.0%～100.0%	0.0%	☆
PC-16	Simple PLC operation mode	0: Single run ends and halts 1. Single run ends and keeps the final value 2: Keeps circulating	0	☆
PC-17	Simple PLC power-down memory selection	The unit: Power-down memory selection 0: No power-down memory selection 1: Power-down memory The decade: Halting memory selection 0: No halting memory 1: Halting memory	00	☆
PC-18	Simple PLC stage 0 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-19	Simple PLC stage 0 acceleration and deceleration time selection	0～3	0	☆
PC-20	Simple PLC stage 1 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-21	Simple PLC stage 1 acceleration and deceleration time selection	0～3	0	☆
PC-22	Simple PLC stage 2 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-23	Simple PLC stage 2 acceleration and deceleration time selection	0～3	0	☆
PC-24	Simple PLC stage 3 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-25	Simple PLC stage 3 acceleration and deceleration	0～3	0	☆

Function code	Name	Setting range	Factory value	change
PC group Multistage instruction parameter				
	time selection			
PC-26	Simple PLC stage 4 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-27	Simple PLC stage 4 acceleration and deceleration time selection	0～3	0	☆
PC-28	Simple PLC stage 5 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-29	Simple PLC stage 5 acceleration and deceleration time selection	0～3	0	☆
PC-30	Simple PLC stage 6 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-31	Simple PLC stage 6 acceleration and deceleration time selection	0～3	0	☆
PC-32	Simple PLC stage 7 running time	0.0s（h）～6553.5s（h）	0.0s（h）	☆
PC-33	Simple PLC stage 7 acceleration and deceleration time selection	0～3	0	☆
PC-51	Multistage instruction 0 given mode	0: function code PC-00 given 1: AI1 2: AI2 4: PULSE 5: PID 6; preset frequency (P0-08) given	0	☆

Function code	Name	Setting range	Factory value	change
Pd group: communication parameters				
Pd-00	Baud rate	The unit: MODBUS 0: 300BPS 1: 600BPS 2: 1200BPS 3: 2400BPS 4: 4800BPS 5: 9600BPS 6: 19200BPS 7: 38400BPS 8: 57600BPS 9: 115200BPS	6005	☆
Pd-01	data format	0: no check (8-N-2) 1: even check (8-E-1) 2: odd check (8-O-1) 3: 8-N-1	0	☆
Pd-02	Local address	1～247, 0 are broadcast address	1	☆
Pd-03	Answering delay	0ms～20ms	2	☆
Pd-04	Communication timeout	0.0（invalid） 0.1s～60.0s	0.0	☆
Pd-05	Data transfer format selection	The unit: MODBUS 0: non-standard MODBUS protocol 1: standard MODBUS protocol	31	☆

Function code	Name	Setting range	Factory value	change
PP-00	User password	0～65535	0	☆
PP-01	Parameter initialization	0: no operation 01: restore ex-factory parameters, excluding motor parameters 02: clear record information	0	★
PP-04	Function code modification attribute	0: modifiable 1: not modifiable	0	☆

Function code	name	Minimum unit
U0 组基本监视参数		
U0-00	Running frequency （Hz）	0.01Hz
U0-01	Set frequency（Hz）	0.01Hz
U0-02	Bus voltage （V）	0.1V
U0-03	Output voltage （V）	1V

Function code	name	Minimum unit
U0 组基本监视参数		
U0-04	Output current（A）	0.01A
U0-07	X terminal input state	1
U0-08	DO terminal output state	1
U0-09	AI1voltage（V）	0.01V
U0-10	AI2 voltage（V）	0.01V
U0-15	PID setting	1
U0-16	PID feedback	1
U0-20	Residual running time	0.1Min
U0-21	AI1 pre-correction voltage	0.001V
U0-22	AI2 pre-correction voltage	0.001V
U0-24	Linear velocity	1m/Min
U0-25	Current power on time	1Min
U0-26	Current running time	0.1Min
U0-28	Communication setting value	0.01%
U0-41	X input state visual display	1
U0-42	Visual display of multifunctional terminals output state	1

9. Fault diagnosis and Countermeasures

No.	Fault code	Fault type	Possible cause	countermeasure
2	Err02	Acceleration overcurrent	1. Too short acceleration time 2. Low voltage 3. Small frequency converter selection	1. Increase acceleration time 2. Set the voltage to the normal range 3. Frequency converter power increase
3	Err03	Deceleration overcurrent	1. Too short deceleration time 2. Low voltage 3. No additional brake resistor	1. Increase deceleration time 2. Set the voltage to the normal range 3. Install brake resistor
4	Err04	Constant speed overcurrent	1. Low voltage 2. If a sudden load added 4. Small frequency converter selection	1. Set the voltage to normal 2. Cancel sudden load 3. Frequency converter power increase
5	Err05	Acceleration overvoltage	1. High input voltage 2. In acceleration, an external force driving motor running 3. The acceleration time is too short. 4. No brake resistor	1. Set the voltage to normal 2. Cancel external force or install brake resistor 3. Increase acceleration time 4. Add brake resistor
6	Err06	Deceleration overvoltage	1. High input voltage 2. An external force driving motor running in deceleration 3. The deceleration time is too short. 4. No brake resistor	1. Set the voltage to normal 2. Cancel external force or add brake resistor 3. Increase deceleration time 4. Add brake resistor
7	Err07	Constant speed overvoltage	1. High input voltage 2. An external force driving motor running in running	1. Set the voltage to normal Cancel external force or add brake resistor
8	Err08	Control power fault	The input voltage is not within the specified range	Set the voltage to normal
9	Err09	Undervoltage	1. The input voltage of the inverter is not within the specified range 2. Abnormal bus voltage 3. Abnormal rectifier bridge and buffer resistance anomaly 4. Abnormal control board	1. Reset failure 2. Adjust the voltage to the normal range 3. Seek technical support
10	Err10	Frequency converter overload	1. Too large load or the motor shutoff 2. Small frequency converter selection	1. Reduce the load and check the motor and machinery 3. Select a higher power inverter
11	Err11	Motor overload	1. Motor protection parameter P9-01 set properly? 2. Too large load or motor shutoff 3. Small frequency converter selection	1. Set this parameter correctly 2. Reduce load and check motor and machinery 3. Select higher power frequency converter
12	Err12	Input missing phase	1. Abnormal input power supply 2. Abnormal driver board 3. Abnormal main control board	1. Check and remove faults in outer lines 2. Seek technical support
13	Err13	Output missing phase	1. Abnormal lead from frequency converter to motor 2. In motor running, the three-phase output of the inverter unbalanced 3. Abnomal driver board	1. Remove outer faults 2. Check motor three-phase winding and remove faults 3. Seek technical support

No.	Fault code	Fault type	Possible cause	countermeasure
14	Err14	Inverter module overheating	1. High ambient temperature 2. Air duct obstruction 3. Fan damage 4. Module thermal resistor damage	1. Reduce the ambient temperature 2. Clear the air duct 3. Replace fan 4. Replace thermal resistor
15	Err15	External equipment fault	1. Input external fault signal through multifunction terminal X 2. Input the external fault signal through the virtual IO function	1. Reset operation 2. Reset operation
16	Err16	Communication fault	1. Abnormal upper computer 2. Abnormal communication line 3. Incorrectly set communication Pd group parameter	1. Check the upper computer wiring 2. Check the communication connection 3. Correctly set the communication parameters
17	Err17	Contactor fault	1. Abnormal driver board and the power supply 2. Abnormal contactor	1. Replace drive or power board 2. Replace contactor
18	Err18	Current detection fault	1. Check the abnormal Hall device 3. Abnormal driver board	1. Replace Hall device 2. Replace drive board
19	Err19	Motor tuning fault	1. Motor parameters are not set according to nameplate 3. Timeout parameter identifying	1. Set the motor parameters correctly according to the nameplate 2. Check lead from frequency converter to motor
21	Err21	EEPROM reading and writing fault	1. EEPROM chip damage	1. Replace main control board
26	Err26	Running time reach fault	1. The cumulative run time reaches the set value	1. Using the parameter initialization function to clear the record information
29	Err29	Power on time reach fault	1. The cumulative power on time reaches set value	1. Using the parameter initialization function to clear the record information
30	Err30	Load drop fault	1. Inverter running current less than P9-64	1. Confirm if the load is separated or if the P9-64P9-65 parameters are in accordance with the actual running conditions
31	Err31	PID running feedback loss	1. PID feedback less than PA-26 set value	1. Check the PID feedback signal or set the PA-26 to an appropriate value
40	Err40	Wave-by-wave limiting current fault	1. Too large load or the motor shutoff	1. Reduce load and check motor and mechanical conditions
41	Err41	Running switching motor fault	1. Change present motor selection by terminal during inverter running	1. Motor switching operation after frequency converter stops