

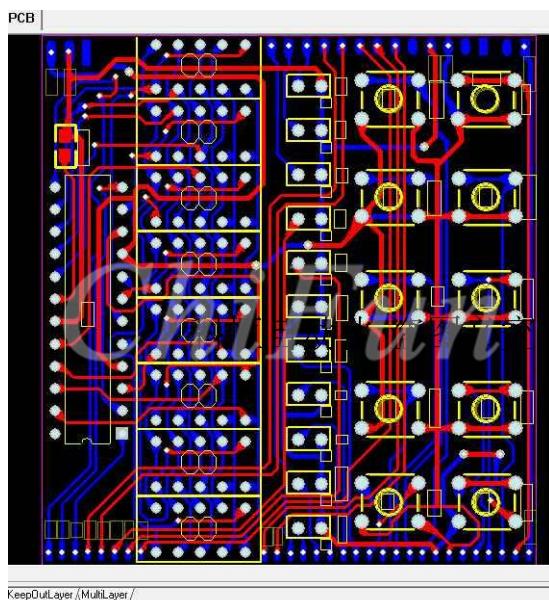
Upgrade products to switch mode power supply

Full isolation

Dual power supply, DC5V/DC24V, input and output power, full isolation. The output port drive voltage is raised from DC12V to DC24V. connection

The port is optimized again, and the wiring is more convenient.

Higher versatility and more stable performance!



- Instruction features: arbitrary programmable (can achieve a variety of complex operations: positioning control and non positioning control);
- Maximum output frequency:(40KHzParticularly suited for controlling subdivision drives);
- Output frequency resolution:1Hz;
- Number of programming bars:99A;
- Input point:6One (photoelectric isolation);
- Output point:3One (photoelectric isolation);
- **Single continuous displacement range:-7999999~7999999;**
- Working state: automatic running state, manual running state, program edit state, parameter setting state;
- Speed curve:2Bar (optimization);
- Display function bits:8Bit digital display, manual/Automatic status display and operation/Stop status display, steps/Numerical value/Program display, edit program, parameter display, input/ Output status display, CPPulse and direction display;
- Auto run function: can be edited, through the panel button and add to the level of the terminal, can control the automatic operation of start and stop;
- Manual operation function: adjustable position (manual inching speed and inching move number can be set);
- Parameter setting function: the frequency of take-off can be set, Speed curve, Reverse clearance, manual length, Manual speed, interrupted jump line number, and zero return speed;
- Program editing function: can be arbitrarily inserted, deleted, you can modify the program. The utility model has the functions of jumping line numbers, data zero judgment, long and short sentences, and ultra short sentences;
- Zero return function: bidirectional automatic return to zero;
- Programming instructions: common14Technical support
- External operation function: through parameter setting and programming AOperation and B The switch on the operation terminal can perform external interrupt operation;
- **Power Supply:AC220VThe error of power supply is not greater than.15%.**

Front panel drawing

Front panel drawings include:

- 1, Eight digital display
- 2, Six way input status indicator
- 3, Three way output status indicator
- 4, CPPulse signal indicator
- 5, CWDirectional level indicator

6, Button: common10One button, and most of the keys are compound buttons. They show different functions in different states. In the following instructions, we only go to one of the functions to indicate the key.

Rear panel drawings and signal instructions:

The rear panel is shown as wiring terminals, including:

1, CP, CW, OPTP For the stepper motor driver control line, the three ends are connected to the corresponding end of the drive Among them:

CP Step pulse signal

CW- motor steering level signal

OPTO- the common male end of the preceding two signals

CP, CW Corresponding to the indicator light on the panel

2, start-up The startup program is running automatically, equivalent to the panel **start-up** Key.

3, Stop it Pause the running program, which is equivalent to the panel **Stop it** Once the key is started again, the program continues to run.

4, A Operation and B The operation is a major feature of the controller for stepping motor, we quantitatively positioning control, such as the control of motor running at a certain speed displacement this way some very easy to solve, only the velocity and displacement can be programmed. But there are still a lot of controls that can't be positioned beforehand. For example, the control step motor starts at the starting point and runs in one direction until it hits a stroke switch, and then goes back to the starting point. For example, the stepper motor is required to run between the two stroke switches n Times, and so on. In these operations, we do not know the specific value of the displacement of the stepper motor, and how should we program it? This controller uses: "interrupt operation", we call it "A Operation" and "B Operate". In order to "A For example, when the program is running, if the program is "A" Operation" and signal input, the motor speed down to stop, the program in this interrupt, the program

remember the coordinates of the interrupt, the program jumped to "A Operate the program at the program where the entry address is specified.

5, input1And input2Switch input by switch

6, output1And output2And output3Through the output of the switch.

7, COM+, COMThe input and output switches, the external power supplyDC12V/0.3A, COM + is positive COM— is negative This power is isolated from the controller

8, ~220VController power input.

Input signal and output signal interface circuit:

This controller has "start", "stop", "A", "B", "enter 1", "enter 2" as input signal, and they have the same input interface circuit. "Output 1", "output 2", "output 3" is called the output signal. They have the same output interface circuit. The input and output circuit with photoelectric isolation, to ensure the internal controller without mutual interference, the internal power supply controller (+5V) and the external power supply (+12V) independent of each other, and no contact, the two group consists of two independent power supply transformer internal winding controller.

The status of the output signal of the input signal, corresponding to the indicator light on the panel. For the input quantity, enter the low level (switch closed) when the light is on, otherwise the lamp is out; for output, the output 0 is low, indicating the lights out, and the light is on.

Parameter setting

The status of the parameter setting mode is as follows: in manual mode, press and hold the key for more than 5 seconds until the parameter setting condition is released. After the parameter setting is complete, press the [exit] key to return to the manual state (the parameter will be automatically protected).

The arguments are shown in two lines, the first line shows the name of the parameter, and the second line shows the parameter data.

Parameter modification mode: After entering the parameter setting state, the first line [JF -----] is displayed first. And the first 2 digits of the parameter name flashing display: If you press [\wedge], [\vee], will display the next or previous parameter name. If you press [Enter], the first bit of the data will be displayed. If you press [\wedge], [\vee], the data will be changed. If you press [$<$], [$>$], you will move to the next bit to modify it, and so on. After the data is modified, press [Enter] to confirm and press [Cancel] to discard the modification.

In summary, the parameter setting is done by [\wedge], [\vee], [$<$], [$>$], [ENTER], [Cancel] six keys: Move the cursor to the corresponding bit by moving the left and right keys When the digital will be bouncing display, and then through the up and down keys to change the value; use the Enter key to enter the data modification state, data modification is completed, and then use the Enter key to confirm the exit or use the Cancel key to give up the changes. Please refer to the "Operation Flow Quick List".

No.	Name	Parameter Display form	Data range (units)	Parameter say bright
1	Take-off frequency	JF JFxxxxx	400--- 39999 (Hz)	If the setting value is less than 400HZ, the system will alarm prompts; users according to their actual conditions, set a different take-off frequency.
2	rising-falling contour	Rs Rs x	L,H ()	The controller has two optimized lift speed curve, L is slower curve, H is faster curve, different speed curve can be selected according to actual load condition.
3	Backlash compensation	CC CCxxxx	0---9999 Pulse number	The utility model is mainly used for compensating the error caused by the reverse gap of a rotating mechanism (such as a screw rod, a gear, etc.), and the compensation displacement level is not displayed on the controller
4	Manual increment	HL HLxxxxx	1---999999 Pulse number	In manual mode, the displacement of the stepper motor is manually operated. If the setting value is equal to 0, the alarm will be prompted.
5	Manual speed	HF HFxxxxx	1---39999 Hz	In manual mode, the speed of stepping motor is operated by hand; if the setting value is equal to 0, the system will alarm.
6	Return to zero speed	BF BFxxxxx	1---39999 Hz	The operation speed of the stepping motor when returning zero operation; if the setting value is equal to 0, the system will alarm.
7	A operation Entry address	NA NA xx	00---99 (Line	When the program is running, if the "A" end signal input, motor deceleration stop, this program interrupt, interrupt program and

			number)	remember the coordinates of the specified line number, the program jump this program to run the program at.
8	B operation Entry address	NB NB xx	00---99 ()	When the program is running, if the "B" end signal input, motor deceleration stop, this program interrupt, interrupt program and remember the coordinates of the specified line number, the program jump this program to run the program at.
9	Pulse mode	CP CPx	0,1	CP=0 represents a single pulse output, the CP output of the rear panel outputs a step pulse, and the CW side outputs the directional level; The CP=1 is a double pulse output, and the CP end of the rear panel outputs a positive step pulse, and the CW output reverses the step pulse

Program edit status of the way out: in the manual state, press [Edit] Key. You can enter the program editing state. When the program is finished editing, press [Exit] to return to the manual state (the parameter will be saved automatically).

The program area of the controller can edit up to 99 instructions, each of the instructions has a line number. The line numbers are numbered automatically, starting at 00, and you can insert or delete a line in the program, but the line number is reassigned.

The program format is: each program is displayed in two lines (except the no parameter program), the first line shows the line number and Instruction name, and the second line shows the instruction data. The last instruction of the program is fixed to "END".

In short, the program changes through the [\wedge], [\vee], [$<$], [$>$], [insert], [delete], [enter], [cancel] eight keys to complete; by moving the left and right keys Move to the corresponding bit, then the digital will be bouncing display, and then through the up and down keys to change the value: enter the data with the Enter key to modify the state, after the completion of data modification, and then use the Enter key to confirm or use the Cancel key to give up the changes. Please participate in the "Operation Flow Speedometer".

Program editor operation instructions

Program editor	Operation procedure
Enter edit status	In the manual mode, press the [EDIT] button.
Exit edit status	Press the [Exit] key to return to the manual state when the line number of the program edit state is flashing. The program will be saved automatically.
Clear the program area	Press the [CALIBRATION] button for more than 2 seconds while the line number of the program editing state is flashing, until the END instruction of the 00th line can be released.
Enter the new program	First clear the program area, then only one program, that is, the 00th line of the END instruction, and then press the [insert] key, the first 00 line program instructions become PAUSE, and flashing display; press [\wedge], [\vee], Instruction name is changed; until you find the required instruction, press [Enter] to enter the data area of the instruction (for the No parameter instruction, enter the entry procedure after the carriage return), press the up and down arrows to modify, change After pressing the Enter key, the entry is completed. You can see the next line into the END instruction, and then press the [Insert] button, the same way into the program, until all the program entry is completed. The new program's entry process is the process of inserting new programs on the last program (END). Special attention: In the entry of new procedures obviously is a very correct procedure, the controller has alarm error, this situation appears in the transfer order; such as JUMP instruction, J-BIT instruction, J-CNT. If the jump number in the three instructions is greater than the current line number where this instruction is located, the controller will misjudge the entry line number because the destination of the jump has not been entered. In order to avoid this situation, we require the entry of new procedures, the three instructions appear in the jump line number is replaced by 00, and other procedures to complete and then modify the entry.
Modify the program	Refer to "Entering New Program" above to modify the current trip.
Insert the	Press the [Insert] key to insert a new program at the top of the current line and modify the new

program	program.
Remove the program	In the program edit state of the line number flashing state, press the [delete] button, the program is deleted, the following program automatically move up.
Browse the program	Press [\wedge], [\vee] to scroll through the command name of each line, but you want to take a quick look at the instruction parameters. What should I do? You just press the [$<$] key and the line parameters will flash 1Second.

Instruction detail (HH----- line number, X * * * * data)

No.	Instruction name	instructions Display form	Explain
1	Pause instruction	HH_PAUSE No parameter	Program pause, wait for panel start button or terminal start signal, or A Operate, B Operating signal.
2	Shift instruction	HH_G-LEN * * * * * *	When this command is executed, the controller will press the latest SPEED The speed assigned by the instruction, the displacement parameter specified in this instruction, the take-off frequency, the speed rising curve and the gap compensation set in the parameter setting, control the operation of the motor; If this instruction is not available SPEED Statement, the jump frequency is used as the default value; The first bit of the parameter is the symbol bit, 0Positive displacement, negative displacement; Parameter range: -7999999~+7999999 Unit: pulse number If the parameter is 0 The alarm will be prompted.
3	Velocity assignment instruction	HH_SPEED xxxxx	All of the following actions will run at the speed set by this instruction until the next rate assignment instruction appears; Parameter range: 1 - 39999 Unit: pulse number/(seconds HZ) If the parameter is 0 The alarm will be prompted.
4	Delayed instruction	HH_DELAY xxxxx	Delay time; parameter range: 1---7999999 Unit: millisecond; If the parameter setting value is 0 The system will alarm prompt.
5	Unconditional jump turn instructions	HH_JUMP xx	Unconditional jump instruction, parameter * means the number of program lines to jump END When the line number is given, the alarm will be prompted.
6	Cyclic instruction	HH_LOOP xxxxx	Performs a loop from the current row to the specified row; the first two are line numbers (the requirement is less than the current row), and the latter five is the number of cycles 0Defined as infinite times. When the line number exceeds the current line number, the system will alert the police.
7	Run to A certain position	HH_GOTO * * * * * *	Run to the specified location, in the actual application, this location system is usually the reference point; the first parameter is the sign bit, this is positive for the direction, at zero negative said this point in the negative direction of zero; If parameter value=0 Indicates zero return; Parameter range: -7999999~+7999999 Unit: pulse number
8	Output instruction	HH_OUT xxxx	The first three bits of the parameter correspond to the output terminals in turn from left to right OUT1 - OUT3 Meanwhile, three output indicating lamps corresponding to the front panel are matched 1---3. Each person has three options: 01N 0----The corresponding output terminal is high, the load is not connected, and the panel indicates the lamp is out 1----The corresponding output terminal is low, the load is switched on, and the panel indicator light is on N----Maintain the last state The last bit of the parameter is designed for the buzzer inside the controller: 0----When this instruction is executed, the buzzer sounds short; (Note: the end of the sound can be followed by the next program) 1----When the instructions are executed, the buzzer sounds long; (Note: the end of

			the sound can be followed by the next program) N----When this command is executed, the buzzer does not ring.
9	Bit jump	HH_J-BIT xxxx	The first two are line numbers indicating the location of the jump, and the fifth bit is the input portIN1 - IN2One of them; the eighth bit is the jump condition01) when the measured input is in the set state, jump to the instruction line number, otherwise it will execute sequentially. Line number exceeds END When the line number is given, the alarm will be prompted.

No.	instruction name	Instruction display format	Description
10	Count jump	HH_J - CNT xxxxxx	This instruction is the counter instruction, the first two is the line number, indicating the position where the program jumps, and the last five bits are the set values. When the counter counts to or greater than the set value, it jumps to the specified line number, otherwise it executes sequentially. Line number exceeds END When the line number is given, the alarm will be prompted.
11	Variable displacement	HH_GO - AB + *	This instruction is shift instruction, mode of operation and HH_G--LEN+ * * * * * * * the same, the difference is the displacement of this instruction is not a fixed and known constant, but a variable, this variable to interrupt the operation, the controller has the latest interrupt operation, step motor deceleration stop after this is recommended because of this variable AB Two interrupt operations, so the eighth bit of this instruction is AB Representing the variables produced by each operation respectively, CA variable is expressed as the amount of displacement remaining in the displacement instruction that is interrupted when the latest interrupt occurs. This variable is signed, and the seventh bit of this instruction is a signed bit,0Indicates that the parameter is the same as the variable - which means the parameter and the variable sign are the opposite.
12	Counter plus1	HH_CNT - 1 No parameter	This instruction is a counter instruction, and there is always a counter unit in the controller999999The value of the counter can be counted in real time and displayed in the display state. The value of the counter will not be stored automatically when the power is off, unless you manually click the counter storage key[]After the controller is powered on, the newly stored values are automatically transferred into the counter unit, and the instruction is added to the counter1Operate.
13	Counter reset	HH_CNT - 0 No parameter	This instruction is a counter instruction; This instruction cleared the counter. In addition to this directive, you can also reset the counter by clearing the counter at any time:[V]
14	Coordinate clearing	HH_CLR	The implementation of these instructions and display the current coordinates have been cleared, with some new zero position for motor.
15	End instruction	HH_END	