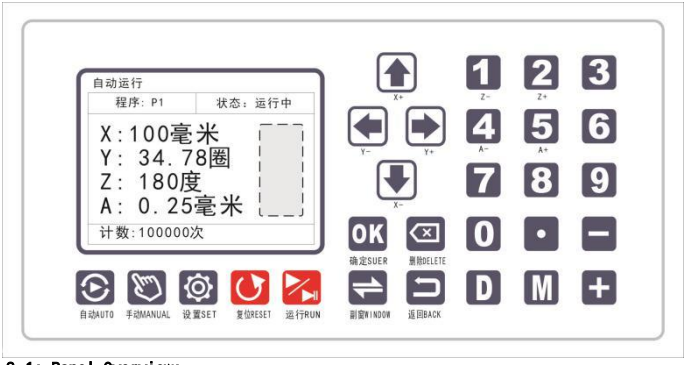
catalogue

I. Product overview

DKC-Y240, Y220 is a new Chinese and English intelligent stepping motor, servo motor controller independently developed by our company. It adopts imported industrial high-performance CPU chip to make the controller stable and reliable, with high control accuracy, smooth motor operation and low noise. The controller uses the most simple and clear commands to achieve the most practical functions, and can achieve a variety of complex positioning functions and non-positioning functions.

1. Input supply voltage: DC12-32V (DC 24V is recommended)
2. Multiple protection functions: reverse connection protection, overvoltage protection, overcurrent protection.
3. Instruction features: there is a very comprehensive Chinese instruction set, can meet a variety of simple or complex action processes.
4. Acceleration and deceleration: 1-100 level acceleration and deceleration setting, motor start more stable and fast, stop more accurate.
5. Output frequency: 1 HZ-50000Hz can be suitable for all variety of ultra-low frequency, high frequency applications.
6. Output: the optical coupling isolation output has a load capacity of 200MA per circuit and can be directly connected to the relay, etc.
7. Input: Optical coupling isolation input is arbitrarily defined as start, stop, reset, limit, and so on.
8. Password protection: can set the password protection function (the program will not be arbitrarily changed the intellectual property of the protection program).
9 Program capacity: up to 99 groups of programs, each program has 5 threads, each thread can have 99 instructions.
10. Others: USB computer programming, single and double pulse output, analog input, power off automatic save data and so on.
11. Units: millimeter, ring, pulse, degree, four unit modes of free choice (Y220 temporarily no "degree").

2. Panel introduction



2.1: Panel Overview:

Front panel figure as shown above, the panel is full numeric keyboard, and graphics + + Chinese + English keys, can meet the needs of customers at home and abroad, display adopted the color LCD display and pioneered the vice window display mode (i. e., the display dotted line part), make the display more vivid, can achieve more functions.

2.2: Main key button introduction:

[Automatic] This is to switch to the automatic operation mode key, edit the set program needs to switch to this mode.

[Manual] This is the switch to the manual test mode key, which can manually test the forward and reverse of each motor, manually shift the position of the motor, and test the status of each input and output port, as well as the actual value of the analog input.

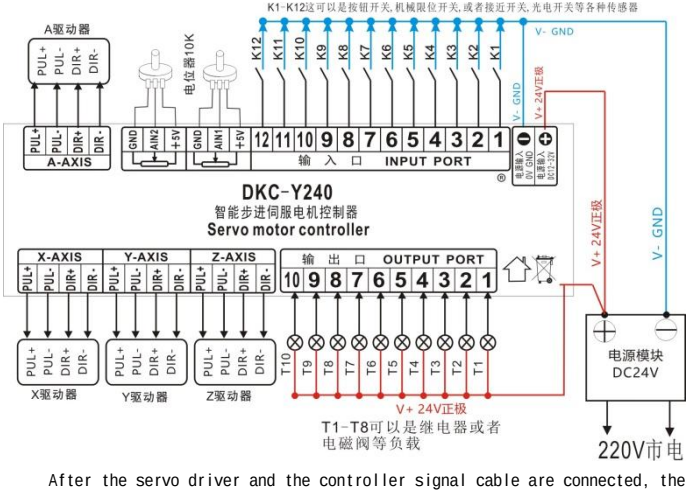
[Settings] This is to switch to the setting mode key, if the password is set to enter the page, and if the password is set to 0, there is no password. Press this key to enter setting mode. Control of all the settings, parameters, program editing and other pages need to be entered from the setting mode.

[Reset] This is the program reset key. After pressing this key, all programs will run new from NO1. Note that this is the program reset, not the motor back to the initial position, the motor back to the initial position is called back to the mechanical zero position.

[Run pause] This is the run / pause key, pressed to run a program or pause a program. Note that the operating program here does not mean that the electrical opportunity turns immediately. The operation here is to execute the function instructions set up in the control on behalf of the controller.

[Secondary window] This is the key to display / hide the secondary window. After the secondary window is displayed, you can press the left and right buttons to switch the secondary window screen.

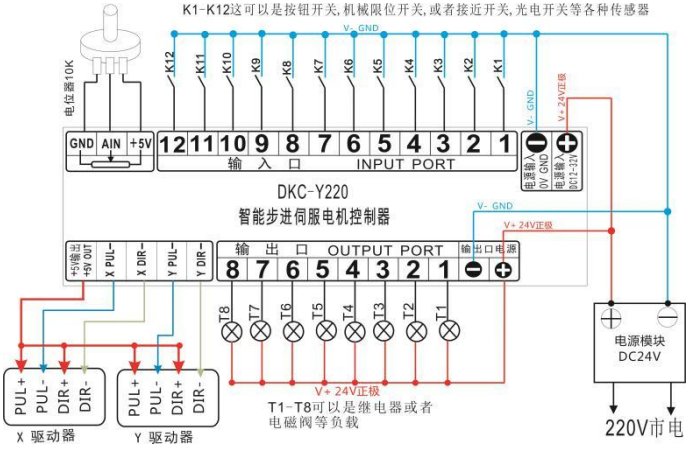
3. Typical wiring diagram example



After the servo driver and the controller signal cable are connected, the

servo drive shall also be set to:
Position controller mode, pulse + direction signal control mode, signal type selection differential input mode, automatic power and enabling, etc., the servo drive setting methods are not the same, the specific setting method needs to refer to the drive

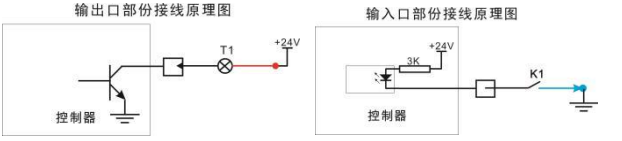
Use the instructi-
ons.



After the servo driver and the controller signal line are connected, the servo drive shall also be set to:

Position controller mode, pulse + direction signal control mode, signal type selected electrode open circuit input mode, power on automatic enabling, etc., each servo driver setting methods are different, the specific setting method needs to refer to the use instructions of the drive.

Input, output wiring schematic diagram:



IV. Interface operation instructions

4.1 Automatic operation mode:

4.1.1 Run the pause program:

Press the [Run] key to enter the automatic operation mode (as shown on the right picture), and run the user to edit and set the program instructions in this mode. In this mode, press the [Run pause] key to run the program. The display status bar displays [running] and press again

[Run pause] The key can pause the program, and the display status bar shows [in pause] when the program is running. Press the other keys is invalid and not appropriate. Only the [run pause] key program pause can be operated after the other.

4.1.2 Toggle the currently running program groups:

Press the [OK] key in the pause state, the program bar becomes the input state, at this time, you can directly press the number key to input the operation

The serial number of the line, modify and press [OK] to exit, the modification is complete. Note that the cursor cannot specify the secondary window position when you want to modify the program.

4.1.3 Display the hidden switch secondary window:

Press the [secondary window] button to display or hide the secondary window, and press the left and right button to switch the secondary window. In

automatic operation mode, there are 3 versions of the secondary window. The first screen is the current running line number and action of thread 1-5, the second screen is the data register of D0-D4, and the third screen is the data register of D5-D9. When the data register is displayed, you can press the upper and lower keys to move the cursor to a register and press the [OK] key to enter the editing state, and you can directly press the number key to enter the value and repair

Press [OK] to exit. This data register can be used directly to display certain parameters generated from the program run, or can be used to input parameters that need to be modified during the program run.

4.1.4 Counting bar:

This bar can display the value of a register in D0-D15 in real time. The specific specification is specified in [Settings-> Parameter Setting-> Counter], where D15, D14 this is the analog quantity, namely the value of the potentiometer.

4.1.5 Real-time position speed bar:

This is shown in real time for the actual location of the motor, and the currently set pulse frequency. Real-time positions of units with millimeters, circles, pulses, and degrees. Modifying these location units can be modified in [Settings-> Unit Settings-> Unit Name]. Note that this shows the pulse frequency, not the actual speed of the motor, which needs to be converted through the driver.

4.2 Manual test mode

4.2.1 Manual test of motor forward and reverse version:

Press [Manual] to enter manual test mode, press the upper and down keys to move the cursor. When the cursor is in the real-time position bar of the motor, press the [OK] key to enter the manual test motor state. The real-time position bar of the motor changes from blue to black. At this time, press the left and right keys to test the forward and reversal of X

motor, and press the up and down keys to test the positive and reversal of Y motor. Press [OK] to exit.

4.2.2 Modify manual distance

Press the upper and lower keys to move the cursor to the manual distance bar. Press the [OK] key to enter the manual distance edit state. At this time, you can directly input the value and press the [OK] key to exit. If the manual distance value is 0, when the motor is in point mode, press the motor turn and open the motor to stop. If the manual distance value is non-0, the length mode is the distance that is the manual distance value of the primary motor operation.

4.2.3 Modify manual speed

Press the upper and lower keys to move the cursor to the manual speed bar. Press the [OK] key to enter the manual speed editing state. At this time, you can directly input the value and press the [OK] key to exit. Note that this value is the pulse frequency. Not at the actual running speed of the motor. The actual running speed of the motor needs to be converted by the driver.

4.2.4 Modify the output port status

Press the up and down keys to move the cursor to the output bar press [OK] to enter the output port manual control state. At this time, press the left and right keys to move the cursor to a certain output port position, press the upper and lower keys to change the high / low level state of the output port, and press the [OK] key to exit.[X] represents that the output is high level, [O] represents that the output is low level. Note: If the output port is connected to the relay or the solenoid valve, the output high level relay is released, and the output low level relay is closed.

4.2.5 Live status of the input port

The input port status bar reflects the status of the input port in real time, and cannot be manually modified in the panel. Display [O] when the input port is high level [X] Display [O] when the input port is low level.

4.2.6 The simulated quantity is displayed in real time

The analog measuring bar displays the analog measuring value in real time, which cannot be modified manually in the panel.

4.2.7 Manual test mode secondary window

The manual test auxiliary window has four function keys, respectively [Zero], [zero] keys for X, Y, Z and A. Back to zero means Motor goes back to the system zero position. Zero clearing means setting the current situation Position is the system zero bit.

Press [Secondary Window] to pop up the secondary window in the manual test

mode,

Press up and down to move the cursor to select the corresponding function key, and press [OK] to perform the corresponding function. Complete the operation, press the [secondary window] key to hide the secondary window.

4.3 Set the mode

Press [Settings]. If the system has set a password, the password input page will be displayed. After entering the correct password, press [OK] to enter the Settings home page. If there is no password, go directly to the Settings home page (as shown on the right).

The setting home page belongs to the secondary submenu page. Press the upper and lower keys to select the required Settings subpage press [OK] to enter the corresponding setting subpage.

4.3.1 Program editor:

The cursor selects [Program Edit] Press [OK] to enter the input state of selecting program group, press the number key to enter the program group to edit, press [OK] to enter the thread selection menu page, press the upper and lower keys to move the cursor to select the thread to be edited, and then press the [OK] key to enter the program editing page.

The program editing page column 1 is program line number, column 2 is program function, column 3 is para-

meter 1, column 4 is parameter 2, and column 5 is parameter 3.

Press up and down keys to move the cursor to the line to be edited, and press [OK] for the cursor to automatically move right to the selection program function State, press the up and down key to select the required function, press [OK] the key cursor moves right to enter the setting parameter 1 state can press the number value, press [OK] the key the cursor to move right to enter the setting parameter 2, press the above steps to set all parameters press [OK] the cursor automatically jump to the next line. Complete the editing setting for one instruction. Edit the setup from the above steps.

In the program editing page mode, you can press the [secondary window] key to pop up the secondary window, and the secondary window has the function key of [insert], [delete] lines. Press [Return] to return to the thread selection page, and select other threads. Repeat the above steps to edit all program functions.

Press [Return] to return to the Settings home page.

4.3.2 parameter setting:

Set the home page cursor Select [Parameter Settings] Press [OK] key to enter the parameter Settings page, press the upper and lower keys to move the cursor, the cursor select press [OK] key to enter the modification parameter, the modification is complete, press OK [OK] key to exit. Complete all the parameter settings from the above steps, and press the [Return] key to return to the Settings home page.

Electric operation	Yes / no	Set whether the controller is in automatic operation or suspended when powered on
Pulse mode	Single-pulse / double-pulse pulse	Set up the pulse output mode of the controller
Counter	D0-D13	Set the value selection D0-D13. Note that D0-D13 is a normal register.
Show LOGO	Shows / does not show	Select whether to display the company name when starting up
Voice setting	Chinese language / English	Select the displayed language in either Chinese or English
Autosave	Save / not save	Select whether to automatically save the data, including the data of the D0-D13 register, and the motor when the real-time position.
Toggle speed	1-50000Hz	Set the pulse frequency when the motor is started, which generally does not exceed 10000 HZ, otherwise it may be difficult to start the motor. Generally, it is not recommended not to

		modify the default value
Plus and minus speed	1-100Hz	Set the speed of the acceleration and subtraction process of the motor. This is generally recommended not to exceed 30 HZ, otherwise it may cause difficulty in starting the motor. It is generally recommended to use the default values

Simulation factor	0.01-50.00	Set the analog rate, namely display value = simulated measured value * rate (Y220 rate only supports 1-50)
Set a password	0-999999	Set a password.0 is no password.
Trial times (password xxx)	0 / 1-999999	Set up the number of trials taken.0 is unlimited. Non-0 indicates a finite number of uses. After setting this value, the opening opportunity is automatically reduced by 1. When the number of use reaches the set times, the startup cannot enter the automatic operation mode. You must go to the [parameter settings] page or set to 0.[Password XXX] To unlock the password, which is randomly generated by each machine and cannot be changed. The password of each controller is different. If you set the trial times, be sure to remember the unlock password.
Factory data reset		Restoring the factory settings will empty all programs and all settings.

4.3.3 Unit Settings:

Press the [Setup] key to enter the unit Settings page, press the upper and lower keys to move the cursor and press the [OK] key to enter the modification, the modification is

completed [OK] key to exit.

Pulse per ring: This means the number of pulses required for the motor to turn around.(If it is a stepper motor is a fine fraction of the driver's setting. If it is a servo motor, it is the ratio of the electronic gear setting)

Distance per lap: this means the distance that the slider moves around the slide platform (if the screw slide platform is the pitch of the wire rod, if the roller or the synchronous belt slide platform is the circumference of the roller)

When the unit name is selected [mm]: set [pulse per loop], [distance per lap].
When the unit name is selected [circle]: [per circle pulse] needs to be set.
When the unit name is selected [pulse]: [per lap pulse], [per lap distance] is not set. When the unit name is selected [degree]: [per loop pulse] needs to be set.

4.3.4 IO port settings:

Press [OK] for [IO port Settings] to enter the IO port Settings page, where the special functions of any IO port can be set. Note that triggering the special function is low level effective

General entry (input command control)	Indicates that no special function is specified that can be controlled using the input instructions
Move	Set to the program run function
Run / pause	Represents run, pause function together, namely press run, then press pause
Suspend	Set to the pause function.
Jerk	Set for the emergency stop function, pay attention to the difference between emergency stop and pause is that the pause is a slow stop process, no emergency stop.
Program reset	Set to the program reset function
X positive limit	Set to X positive limit function, X motor cannot turn forward after the limit
X negative limit	Set to X negative limit function, the X motor cannot be

	reversed
Y positive limit	Set to the Y positive limit function, the Y motor cannot turn positive
Y negative limit	Set to Y negative limit function, the Y motor cannot be reversed
Z positive limit	Set to the Z positive limit function, the Z motor cannot turn forward after the limit
Z negative limit	Set to Z negative limit function, the Z motor cannot be reversed

A positive limit	Set to the positive limit function, the motor cannot turn forward
A negative limit	Set to A negative limit function, the A motor cannot be reversed
X point is moving	Set to X motor point function. This feature is valid in the manual mode
X point moving negative	Set to X motor point function. This feature is valid in the manual mode
Y point is moving	Set to Y motor point function. This feature is valid in the manual mode
Y point dynamic negative	Set to Y motor point function. This feature is valid in the manual mode
Z point is moving	Set to the Z motor point touch function. This feature is valid in the manual mode
Z point dynamic negative	Set to the Z motor point touch function. This feature is valid in the manual mode
A point is moving	Set to A motor point function. This feature is valid in the manual mode
A point moving negative	Set to A motor point function. This feature is valid in the manual mode
Automatically execute	Set to switch to the Auto Run mode button
Manual test	Set to switch to the manual test mode button

Note: When an input port is set to a special function. It can no longer read the instruction state with the input instruction, or when the input instruction reads the state of an input port in the program, the port must be set to [general

entry] in the IO port setting, otherwise an error will be prompted.

5. Programming instructions instructions

D register declaration:

D0-D13 is a ordinary 32-bit data register, which can record positive and negative numbers and values within two decimal points. D14, D15 is the input value of the analog quantity (0 -5V).

D16, D17, D18, and D19 are the current position values of X, Y, Z, and A. This value can only be read and cannot be modified by the M register description:

The M register belongs to the soft contacts inside the controller. The closing and opening of the M register can be controlled using output instructions. You can use the input instruction to read the state of the M register, which is generally applied to the mark coordination between threads and so on. The default state of the M register is the high-level state.

5.1 end directive

Directive name	Finish	For the end of the thread or the pause
Parameter 1	[0-6]	[0] Select the current thread [1-5] selects the corresponding thread [6] Represents the selection of all of the threads
Parameter 2	[0-1]	[0]: Close the thread [1]: Open the thread
Parameter 3	/	

5.2Is the transfer instruction

Directive name	Corotation	Used to control the motor rotation, the instruction can only be run according to the relative coordinate system
Parameter 1	[0-99999] [D0-D19]	[0] Represents that the motor is running indefinitely without the pulse when the next line cannot be the end command [1-999999] directly set the value of positive rotation distance [D0-D19] is set using a register
Parameter 2	[1-4]	[1] Represents the X axis run [2] indicates the Y axis

		run [3] Represents the selected Z axis run [4] indicates the selection A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before executing the line [0] Do not wait, the motor starts directly after the next line of program

5.3 Reverse instructions

Directive name	Reversal	Used to control the motor reversal, the instruction can only be run in the relative coordinate system
Parameter 1	[0-99999] [D0-D19]	[0] Represents that the motor is running indefinitely without pulse when the next line cannot be the end command [1-999999] directly set the positive rotation distance value [D0-D19] is set using a register
Parameter 2	[1-4]	[1] Select the X axis run [2] indicates select the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before executing the line [0] Do not wait, the motor starts directly after the next line of program

5.4 The XY displacement instruction

Directive name	XY displacement	The XY axis can be run in absolute or relative coordinates
Parameter 1	[+/-0-999999] [D0-D19]	[+/ -0-999999] directly set the X position value [D0-D15] is set using a register
Parameter 2	[+/-0-999999] [D0-D19]	[+/ -0-999999] directly set the Y position value [D0-D15] to set using the register
Parameter 3	[0-1]	[0] Represents an absolute coordinate system run [1] Represents the relative coordinate frame run.

5.5 Stop transfer instructions

Directive name	Stall	Used to stop operation without pulse operation
Parameter 1	[0-999999] [D0-D19]	[0] Represents an immediate stop [1-999999] Set the number of pulses required for a deceleration stop [D0-D19] is set using a register
Parameter 2	[1-4]	[1] Select the X axis run [2] indicates select the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before executing the following line command [0] Do not wait, and directly execute the next line of instruction after the motor starts

5.6 Wait for the stop instruction

Directive name	Wait to stop	For waiting for the motor to stop
Parameter 1	[1-5][D0-D19]	[1] Select the X axis run [2] indicates select the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run [5] Represents waiting for all axes to stop.
Parameter 2	/	
Parameter 3	/	

5.7 Waiting for instructions

Directive	Wait	Waiting for a thread to run to a line
name		

Parameter 1	[1-5][D0-D19]	[1-5] Set the thread to wait for [D0-D19] using a register
Parameter 2	[1-99] [D0-D19]	[1-99] Set the line number to wait for [D0-D19] to set using a register
Parameter 3	/	

5.8Speed instruction

Directive name	Velocity	Uses to set the pulse frequency of the motor
Parameter 1	[1-50000] [D0-D19]	[1-50000] HZ setting the pulse frequency value of the motor [D0-D19] for setting using the register [D15, D14] belongs to the analog quantity input
Parameter 2	[1-5]	[1] Represents the X-axis velocity [2] indicates the Y-axis velocity [3] Represents the choice of Z axis velocity [4] indicates the choice of A axis velocity [5] That means all axis speed is set simultaneously
Parameter 3	/	

5.9input order

Directive name	Import	Command for detecting the input port and a command for detecting the M register
Parameter 1	[1-12][M1-M100]	[1-12] Used to set the input slogan [M1-M100], which is used to set the M register for requiring detection
Parameter 2	[0-1]	[0] Represents detecting a low level [1] Represents the detection of a high-level level
		level

		Note: The default state of the controller is the high level
Parameter 3	[0-99]	[0] indicates that the program is waiting to detect the input port signal [1-99] indicates the corresponding level signal of the input port Later jump to the set line to start running otherwise sequential execute the next row

5.10put instruction

Directive name	Output	A command to control the output port and to control the M register
Parameter 1	[1-10][M1-M100]	[1-10] Used to set the output port to be controlled [M1-M100] is used to set the M register requiring control
Parameter 2	[0-1]	[0] Represents the output at a low level [1] Represents the output high level Note: The default state of the controller is the high level
Parameter 3	[0-1]	[1] Represents the synchronous operation pause state [0] Represents an unsynchronized running pause state Note: Sync is that the output port returns to a high level when it is suspended

5.11time-delay command

Directive name	Delayed	For a certain time delay
Parameter 1	[1-999999]	[1-999999] MS for delay time [D0-D19] using register
Parameter 2		

Parameter 3	/	

5.12recurssion instruction

Directive name	Recurrence	A cyclic execution action for a certain program
Parameter 1	[1-99] [D0-D19]	[1-99] Set the line number The line number must be smaller than the current command line [D0-D19] is set using a register
Parameter 2	[0-65000] [D0-D19]	[0] The loop data record [1-65000] for the reset parameter 1 sets the number of return cycles [D0-D19] is set using a register
Parameter 3	/	

5.13jump instruction

Directive name	Skip	For the jumps of the program
Parameter 1	[1-99] [D0-D19]	[1-99] Set jump to the corresponding row [D0-D19] using register
Parameter 2	/	
Parameter 3	/	

5.14 operational command

Directive name	Operation	There are addition, subtraction, value transfer, multiplication, and division
Parameter 1	[D0-D19]	[D0-D19] Data 1 must be a data register and a simultaneous operation result

		Saved in the data register for this setting.
Parameter 2	[D0-D19]	[D0-D19] Data 2 can be either a data register or a direct value setting
Parameter 3	[1-5]	[1] Addition function [2] subtraction function [3] value transfer function, [4] Multiplication function [5] division function, (support decimal points, support positive and negative numbers)

Note: Y220 only supports [1] addition function [2] subtraction function [3] transfer function.

5.15 compare instruction

Directive name	Compare	There are greater than, less than, equal, three functions
Parameter 1	[D0-D19]	[D0-D19] The data 1 must be a data register
Parameter 2	[1-99999] [D0-D19]	[D0-D19] Data 2 can be either a data register or a direct value setting.
Parameter 3	[1-3]	[1] Greater than the function.[2] Less than the function.[3] Results of equal function comparison, true execution N + 2 lines, false execution N + 1 lines (support decimal point, support positive and negative numbers)

5.16 Set the origin instruction

Directive name	Set the origin	Used to set the current position to the system zero, or the system position zero
Parameter 1	[1-5]	[1] Represents the setting X axis origin [2] represents the setting Y axis origin

		[3] Represents setting the Z axis origin [4] means setting the A axis origin [5] Represents setting all axis origin simultaneously.
Parameter 2	/	

Parameter 3	/	

5.17 Returns the origin instruction

Directive name	Return to origin	Used to return the mechanical origin command until the limit switch closes
Parameter 1	[1-4]	[1] Represents return to the X axis origin [2] indicates return to the Y axis origin [3] Represents return to the Z axis origin [4] indicates return to the A axis origin
Parameter 2	[0-12]	[1-12] Set the origin limit switch input port position [0] indicates back to the origin of the system, no limit switch is required.
Parameter 3	[0-1]	[0] Represents the inversion back to the origin, [1] Represents a positive turn back to the origin

5.18 Equal positive transfer instructions

Directive name	Equal split positive turn	Used to control the equal rotation of the circumference, the instruction can only be run in the relative coordinate system
Parameter 1	[1-256] [D0-D19]	[1-256] The equal fraction of turn [D0-D15] is set using a register
Parameter 2	[1-4]	[1] Represents the X axis run [2] means the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before exec-

		uting the line [0] Do not wait, the motor starts directly after the next line of program

5.19 Equal reversal instruction

Directive name	Equal reversal	Used to control the circumference equal part reversal, the instruction can only be run in the relative coordinate system
Parameter 1	[1-256] [D0-D19]	[1-256] The equal fraction of turn [D0-D15] is set using a register
Parameter 2	[1-4]	[1] indicates Select the X axis run [2] indicates select the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before executing the line [0] Do not wait, the motor starts directly after the next line of program

5.20 Single machine displacement instruction

Directive name	Single-machine displacement	Used for the absolute coordinate operation of each motor forward and reverse motion.
Parameter 1	[+,- 0~999999] [D0-D19]	[+, -0-999999] Set the absolute coordinate distance value of the motor forward or reverse directly [D0-D19] is set using a register
Parameter 2	[1-4]	[1] indicates Select the X axis run [2] indicates select the Y axis run [3] Represents Select the Z axis run [4] selects the A axis run
Parameter 3	[0-1]	[1] Wait for the instruction to run before exec-

		uting the line [0] Do not wait, the motor starts directly after the next line of program

Note: Y220, this function is not currently available

5.21 decision instruction

Directive name	Judge	Have judgment greater than, less than, equal, three functions,
Parameter 1	[D0-D19]	[D0-D19] The data 1 must be a data register
Parameter 2	[1-99999] [D0-D19]	[D0-D19] Data 2 can be either a data register or a direct value setting.
Parameter 3	[1-3]	[1] Greater than the function.[2] Less than the function.[3] Equal function If the result is true, run the next line sequentially, otherwise wait

Note: Y220, this function is not currently available

Six: programming examples

6.1 Example 1: the button is closed once, and the X motor is reversed once.

Operation requirements: the starting frequency of 3 Khz increase and decrease speed is slow, and there is no need to return to the mechanical zero position after electrification.

Functional requirements: input 1 to connect with a push-button switch. Switch close the primary motor at 10 KHZ, 10 turns and 10.5 turns at the speed of 5 KHZ. Stop and repeat the above process by waiting for the switch to close again.

Wiring: Enter one end of the 1 connector switch button. The other end is connected to the common end, the COM.

System parameter setting: startup speed 03000. Increase and subtraction speed of 03. Power-on back to zero no. Other parameters are slightly

Program List: Set up-> Program Edit-> P1-> Thread 1

```
    N01 [input] [1][0][0]    (Wait for the switch connected to the input 1 to
  close, namely the low level
N02 [Speed] [10000] [1][0]
(a a speed value of 10KHz N03 [turn] [20][1][1
] (20 turns
```

N04 [speed] [5000] [1][0] (define a speed value of 5KHz for the run below
N05 [inversion] [10.5] [1][1] (motor reversal 10.5 turns
N06 [input] [1][1][0] (Wait for the switch of input 1 to open, which is the high level
N07 [jump] [1][0][0] (Jump to the first line and repeat it
N08 [End] [0][0][0] (end of program

Unit setting: (adopt the default setting, no move. Drive setup 1600 subdivision)

Connection description:

Input port 1 is connected to the start button

The motor only needs to the X motor.

sum up:

1 Get the controller first according to the drawings first connect the controller and driver motor, power supply and other most basic parts. The input port part and the output port part are not connected temporarily. Connect good repeatedly check to confirm that there is no problem.set up an electric circuit. The controller has a test program by default. If they all are connected correctly. Press the [operation pause] key to rotate automatically. If the motor does not turn, it is not wired correctly or the drive is not set correctly. Note that the motor is not set before the normal operation. After wiring, the electric motor does not turn, generally there is no correct wiring or the driver is not set correctly. After normal rotation, you can enter the next editing program and set the parameters.

2. Edit the program, and other Settings according to their own functional requirements, and switch to the automatic operation mode. Press the [reset] key, and then press the [operation pause] key, the display shows 'running' indicates that the program is running

In the above example, the signal is at the input port. 1. Then we can first

touch the input port with the power supply negative GND end of the wire. 1. Close the input port with the wire simulation button. This shows you how to see if the program is running normally. If the action is not normal into the setting from the new modification adjustment program. If normal. It can be connected to the actual push button switch and tested again. This action is completed without a problem and then assembled to the machine and equipment on the actual debugging.

Through this example, we can roughly understand some basic operations of the controller, basic instruction programming and setting concepts, and simple test purposes.

Example 2: A typical feed cutting procedure, potentiometer dynamic speed regulation

Action process: start button press, cylinder tightening, motor 1 feeding, motor 2 cut, motor 1 return, cylinder release, output count 1 time, the action is completed, wait for the next repeated action.

Operation requirements: the feed length should be adjusted at any time. The speed should be adjusted at any time, and the power automatically returns to the mechanical zero

Program List: Set up-> Program Edit-> P1-> Thread 1

N01 [speed] [5000] [3][0] (simultaneously set X, Y speed 5000 HZ

N02 [return to the origin] [1][1][0] (X motor back to the origin, limit the input 1

N03 [return to origin] [2][2][0] (Y motor back to origin, limit connected to input 2

N04 [speed] [D15] [1][0] (Set the X motor speed, set by the D15 register

N05 [speed] [10000] [2][0] (set Y motor speed at 10000Hz

N06 [input] [3][0][0] (Wait for the start button to press

N07 [Output] [1][0][0] (Output port 1 output low level, the solenoid valve is closed

N08 [positive turn] [D0] [1][1] (X motor is positive, the distance is set by D1 register

N09 [positive turn] [10][2][1] (Y motor is turning 10 ring cutting knife

N10 [Inversion] [D0] [1][1] (X motor reversal, the distance is set

by the D1 register

N11 [Output] [1][1][0] (Output port 1 output high level, the solenoid valve open

N12 [operation] [D4] [1][1] (Counter add 1, store in D4 register

N13 [jump] [6][0][0] (The program jumps to 6 lines to starts

N14 [End] [0][0][0] (Program completed

Settings-> Parameter settings:

The upper electric operation is

Counter

D4

Settings- ->

Unit Settings:

Unit name is mm MM

X pulse 1600 per loop (drive subdivision should also be set to 1600)

X 10.00 per lap (distance of actual displacement of

the slider) Y 1600 per loop (drive subdivision should

also be set to 1600)

Y distance 10.00 (distance of actual displacement of the input motor)

Connection description:

The input port 1 is connected to the X motor origin limit

The input port 2 is connected to the Y motor origin limit

Input port 3 is connected to the start button

Connect put 1 to solenoid valve

The analog volume interface is connected to 10k, the potentiometer

sum up:

1. Power back to mechanical zero, the controller automatically enters the program. Start the initial zero program, the origin limit is connected to the input port 1 and the input port 2

2. D0, D15, D4 data register are used in the program, D0, which can be directly input parameters in the secondary window page of the automatic running interface. Modify at any time. D15 belongs to the analog register, that is, D 15 stores the real value collected by the analog value. D15 register assigns the instruction parameter and the parameter can obtain the analog value. D4 is used to store the yield counts.

In the [counter] Settings project in the AutoRun page.
3 Output port 1 is connected to the solenoid valve. The closing and release of the solenoid valve are controlled by the output instruction.
Note: After setting the program and various parameters, switch to the automatic operation mode, and press the [reset] key first. Reset the contr-oller's program before pressing [Run Pause]. The display shows 'running' which indicates that the program is running, when the external start button is effective. The " running'displayed on the display represents the program running, does not represent the motor rotation, this must be clear.

Through this example, we can understand the basic control method of X motor, Y motor, the use of D register, operation instructions, the use of input and output instructions and so on

Example 3 shear er rapid positioning program. The 5 keys correspond to 5 positions

Requirement 1: to power on automatically back to the origin. Speed using potentiometer,

Program List: Set up-> Program Edit-> P1-> Thread 1

```
NO1 [speed] [5000] [3][0] (simultaneously set X, Y speed 5000 HZ
NO2 [return to the origin] [1][6][0] (X motor back to the origin,
limit connection input 6
NO3 [speed] [D15] [1][0]    (Set the X motor speed, set by the D15
register
NO4 [Output] [M1] [0][0]       (Set the M1 register to be 0
NO5 [Input] [1][0][0]        (Wait for the start button to press
NO6 [Displacement] [100][0][0]    (Displace the X motor to the
specified position
NO7 [jump] [5][0][0]      (Jump to repeat the start
NO8 [End] [0] [0] [0]
```

Settings-> program editing-> P1-> Thread 2

NO1 [input] [M1] [0][0] (Wait for M1 to register 0

NO2 [input] [2][0][0] (Wait for the start button to press

NO3 [Displacement] [200][0][0] (Displace the X motor to the specified position

NO4 [jump] [2][0][0] (Jump to repeat the start

NO5 [End] [0] [0] [0]

Settings-> program editing-> P1-> Thread 3

NO1 [input] [M1] [0][0] (Wait for M1 to register 0

NO2 [input] [3][0][0] (Wait for the start button to press

NO3 [Displacement] [300][0][0] (Displace the X motor to the specified position

NO4 [jump] [2][0][0] (Jump to repeat the start

NO5 [End] [0] [0] [0]

Settings-> program editing-> P1-> Thread 4

NO1 [input] [M1] [0][0] (Wait for M1 to register 0

NO2 [input] [4][0][0] (Wait for the start button to press

NO3 [Displacement] [400][0][0] (Displace the X motor to the specified position

NO4 [jump] [2][0][0] (Jump to repeat the start

NO5 [End] [0] [0] [0]

Settings-> program editing-> P1-> Thread 5

NO1 [input] [M1] [0][0] (Wait for M1 to register 0

NO2 [input] [5][0][0] (Wait for the start button to press

N03 [Displacement] [(Displace X motor to
500] [0] [0] N04 the specified posit-
[Jump] [2] [0] [0] N ion (jump start
05 [End] [0] [0] [0]

Settings-> Unit settings:

Unit name is mm MM

X pulse 1600 per loop (drive subdivision should also be set to 1600)

X distance 10.00 per lap (distance of actual displacement of the input motor) Y pulse 1600 per loop (drive subdivision should also be set to 1600)

Y distance 10.00 (distance of actual displacement of the input motor)

Connection description:

Input port 1-5 and connect 5 buttons respectively

Connect put 6 to the origin limit of the X motor

sum up:

This example goes for five threads. Each thread detects one button. Thread 1 adds some functions back to the origin at the beginning. At the same time, in order to produce misoperation when the motor does not return to the origin, M1 register is used to do the internal electronic switch, as a judgment signal, only M1 is equal to 0, the action can be performed. This avoids the case that the motor does not return to the origin, pressing the switch is a misoperation. Speed is also set in thread 1. Set the speed to bit D15 (D15 represents the external analog quantity). This speed is dynamically controlled by the external potentiometer at any time. Once set, there is no need to set it again. So the other threads do not need to repeat the settings.

Through this example, we can learn some basic use methods of multithreading, and the absolute coordinates of the displacement instruction, M

The usage of the memory, and the basic usage of analog analog.

Example 4: A simple dividing disk control program

Requirements: X motor controls the dial 12 equal rotation, Y motor rotates the workpiece one circle, output port 1 controls the pneumatic clamp, clamp the workpiece

Action process: after energon, the X motor will automatically return to the origin and wait for the start button. After the button press, the X motor turns 1 / 12 for 1 second, pick up the workpiece, the Y motor rotates one circle, put the workpiece, and the X motor turns 1 / 12 after repeating the above action process 12 times. Wait until the start button is pressed again.

Program Edit: Set up-> Program Edit-> P1-> Thread 1

N01 [speed] [5000] [3][0] (simultaneously set X, Y speed 5000 HZ

N02 [return to the origin] [1][1][0] (X motor back to the origin, limit the input 1

N03 [speed] [8000] [1][0] (Set the X motor speed,

N04 [speed] [D15] [2][0] (Set Y motor speed is set by the D15 register

N05 [Input] [2][0][0] (Wait for the start button to press

N06 [aliquot turn] [12][1][1] (X motor turn 1 / 12 turn

N07 [delay] [1000] [0][0] (delay 1000MS

N08 [Output] [1][0][0] (Output port 1 output low level, the solenoid valve is closed

N09 [positive turn] [1][2][1] (The Y motor is turning around

N10 [Output] [1][1][0] (Output port 1 output high level, the solenoid valve open

N11 [cycle] [6][12][0] (12 cycles from N06

N12 [jump] [5][0][0] (The program jumps to 5 lines repeatedly

N13 [End] [0][0][0] (Program completed

Settings- -> Unit Settings:

Unit name is mm MM

X pulse 1600 per loop (drive subdivision should also be set to 1600)

The distance of X per lap is 10.00 (when the name of the parameter can be set) Y pulse 1600 (drive subdivision should also be set to 1600)

The distance of Y per ring is 10.00 (when the name of the unit is set as the circle, this parameter can be ignored or set.)

The input port 1 is connected to the X motor origin limit

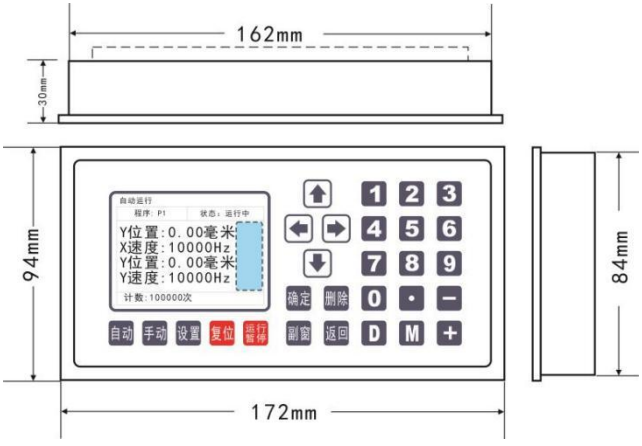
Input port 2 is connected to the start button

Output port 1 is connected to the cylinder solenoid valve

Summary: The above examples can mainly master the basic usage of equal division instructions, as well as the difference between loop instructions, jump instructions, loop is a number of repeated operation, jump is an infinite number of repeated operation. Note that no matter what unit name is set. Both need to set the number of pulses per ring. Iliqupartition instructions are calculated based on this parameter.

The controller contains simple simple instructions and powerful operation instructions can satisfy simple action process, also can cope with the complex logic action process, the above instance has basically contains most of the use of the basic instructions, as long as the manual average people can quickly master using these basic instructions can meet the application requirements, over the 90% there are more advanced function usage need to have certain programming basis slowly research familiar and application, limited space cannot explain.

Seven: size chart



Eight: other

1 After the wiring is completed, you should confirm it repeatedly to ensure that the wiring is correct. Positive and negative can not be connected back, the maximum voltage can not exceed the maximum voltage, the motor line must not be connected to the wrong phase. (Failure to follow the operation instructions and cause the controller damage is not covered by the warranty)

2 After using power for the first time, you can advanced start with the dynamic mode, use the manual mode to test whether the motor can run normally, manually test the input and whether the output is normal.

3, It is required to use the environment without a large amount of dust, humidity without condensation, the ambient temperature is lower than 60 degrees, higher than-10 degrees.

Controller free warranty for 5 years.

4 If this specification is inconsistent with the system function, the

system software function shall prevail. The function will be changed or upgraded without further notice

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