

**XC-2001 Position Control Series
(Single-Dual Electric Motor Set Length Control
System)**

**Operation Instructions
Step motor version**

Wenzhou Lianjie Electric Technology Co., Ltd.
Passed ISO9001: 2,000 quality control system authentication

I Brief introduction

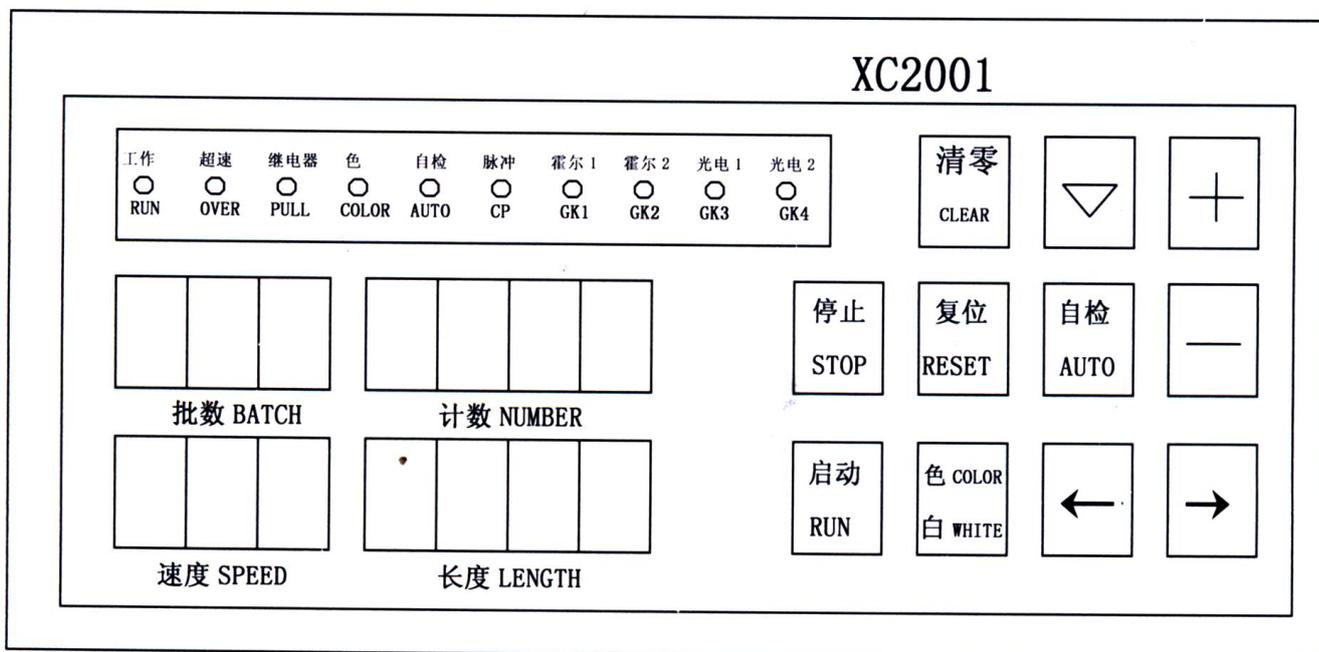
Wenzhou Lianjie control technology Company Inc. Is specialized in researching, designing, manufacturing and marketing of industrial automation technologies and products. The company aims at providing industry equipment manufacturers with advanced automatic control systems and products owing to the efforts of the company qualified personnel fully experienced in the fields of printing, food processing, medical equipment, etc.

XC-2001 Position Control System is designed on the bases of YXD-II Step motor controlling series and CN-II and XC-II position controlling series modifications. It's main features are integrative design, full functions, high performances and reliability, easy installation and maintenance. It incorporates advantages of the same kind systems from domestic as well as from foreign manufacturers. Now the products series have been selected by manufacturers and well received by the terminal users.

II Main specifications

- 1 Electric power supply: 220V(AC) \pm 10%; 50Hz/60Hz; 2A.
- 2 Scope of application: Single-film, multiple-film bottom sealing, heat-cut & bottom sealing, fully automatic (including stand, zipper pockets) and other equipment for set length position controlling (e.x. medicine packing, etc.).
- 3 Roller diameter: 00.0---99.0mm.
- 4 Set length: 0000---9999mm.
- 5 Speed: 0---300 sections/min, varying according to set lengths.
- 6 Number of piles: 0---999 sections.
- 7 Number of lots: 9999 lots.
- 8 Overall dimensions: 335(width) \times 155(height) \times 200(depth)mm; Special size products are also available.
- 9 Mass: 2kg.

III Control system panel (the horizontal type panel is as shown below, the vertical type is the same as the horizontal one except for the buttons arrangement).



IV Operation

Controlling of the system is realized in real time. It will be performed immediately, once the parameters have been set. Do not press the button “reset”.

- 1 Turn on the electric power supply and put the system into “live” state.
 - 2 ▽ By upward and downward movement cyclically to set the following parameters:
 - 2.1 L Length setting, 4 digit displaying, mm.
 - 2.2 □ Integer presetting, 3 digit displaying, number of pieces.
 - 2.3 S Step motor high speed limiting. 2 digit displaying 00~99%.
 - 2.4 H Effective range of color scale optoelectronic detection used for printing. If the color scale optoelectronic tracing does not find out print color scale till the value of L+H, the system will take the item as finished by default and alarm. When the case has repeated 3 times, the machine would be stopped.
- When the hundred digit equals 0, GK3 is in effect for a low level.

The GK3 lamp's lighting shows locating of the color mark.
When the hundred digit equals 1, GK3 is in effect for a high level.
GK3 lamp's going out shows locating of the color mark.

- 2.5 F Password, 4 digit displaying. The following are submenus.
Only entering the correct password one would get the display. The password is "21".
- 2.6 □ Dragging roller dia. 3 digit displaying, i.e. 00.0~99.9mm.
- 2.7 ⊔ Pause time parameter: 0~9 (correspond to 1~10s). This parameter is in effect when b=2.
- 2.8 b = 0 (ordinary machine) First activate mainframe evacuations expected, the number of non-stop the whole machine;
= 1 (look for) Feeding first start after the mainframe, the whole of the shutter materials kept retreat;
= 2 (suspended mainframe) Feeding first start after the mainframe, the whole of the shutdown delay start;
= 3 (points off machine) to start mainframe evacuations expected, the whole of the few stands not activated and sent to a materials;
= 4 (retreat into fervent machine) first start after feeding mainframe, back to the first few shutter the entire retreat material constantly;
= 5 (fervently-2) launched two mainframe cut air evacuations expected, the whole of the expected retirement of running flap;
= 6 (General Machine 2) Feeding first start after host to the whole of the running.
- 2.9 E Step motor speed selection. 0~8. Step running speeds may be different due to variable values set. The slower the speed, the bigger the torque of step dragging. E values corresponding to the speeds from slow to fast are as follows: 8, 7, 6, 5, 4, 3, 2, 1, 0.
- 3.0 [(Plugging Material time):0-4 0= no material blocking function, not to set to 0; 1 - 4 hours of 0.5-2 seconds (unit: 0.5 seconds).

+ Increase correction. By pressing each time to increase by a natural number. The main motor speed increases when in the counting state.

3 - Decrease correction. By pressing each time to decrease by a natural number. The main motor speed decreases when in the counting state.

4 RUN, STOP Start the main motor or stop it in the higher position.

5 COLOR, WHITE "COLOR" means working off printing item, then the color scale optoelectronic tracing is necessary; "WHITE"---white item, i.e. working off to the set length.

6 DETECT When in "stop" state, press "touch-movement", the system set the dragging length automatically.

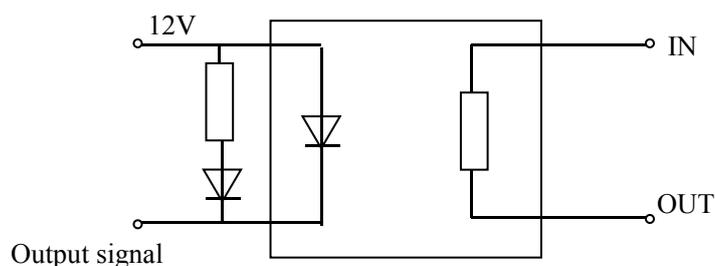
7 CLEAR Press this button for a short time, clear the count number to "Zero"; Press this button for 3 second, clear the lot number to "Zero".

8 RESET Recover the system to the initial state. **This button is not recommended for the system performs controlling in real time.**

9  Touch-movement forward. For slow feeding of the item material, when adjusting for the first time.

10  Touch-movement backward. For slow returning of the item material, when adjusting for the first time.

V Output signal external connection mode



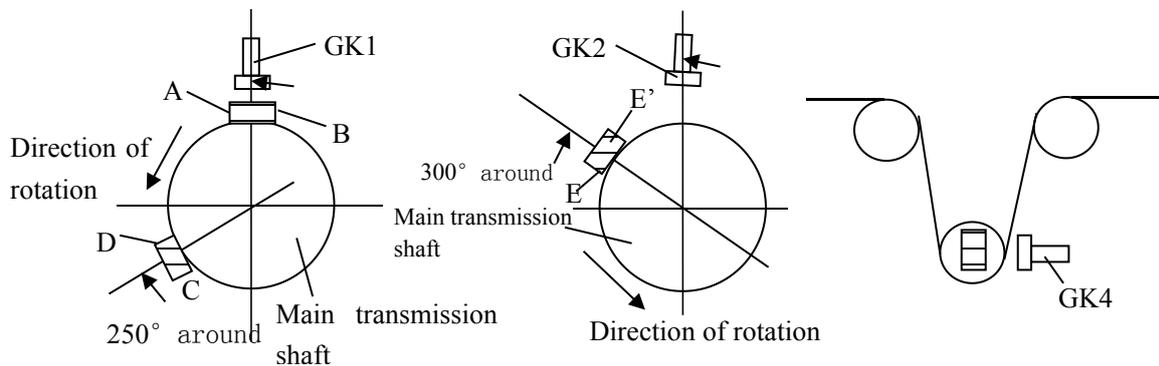
VI External wiring

1. Controlling box external wiring.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1													27													
Mark num	Function											Mark num	Function													
1、 2	Normally open contact of main motor relay(JD1)											17	Releasing analogue signal(DACB)													
3、 4	Electric power supply AC220V											18	Main motor analogue signal(DACA)													
5	24V ground											19	CCW step direction signal													
6	+24V											20	CP2 second step impulse signal													
7、 8	12V Ground											21	CP1 first step impulse signal													
9、 10	+12V											22	Stark K4,stop receiving external signal,normally open connecting with 12Vground													
11	Buzzer output signal(JD7)											23	GK5 second color scale optoelectronic signal													
12	Punching output signal(jd6)											24	GK4 floating roller signal													
13	Punching output signal(jd5)											25	GK3 first color scale optoelectronic signal													
14	Multiple feeding output signal(jd4)											26	GK2 Logic sampling2													
15	Multiple feeding output signal(jd3)											27	GK1 Logic sampling1													
16	Multiple feeding output signal(jd2)											Note:num.17and18 should be indicated in the order,when required,otherwise they are not to be provided														

(Load is connected between the signal end and +12V.)

VII Logic sampling sensor (Ho-type switch) connections



A Dragging starting position. At this time the cutting blade moves upward just away from bottom blade, the step motor smoothly gives out the material to be worked. (Fig. 1)

B Machine stopping position. At this time the cutting blade moves upward near the max. Height. Machine stopping prevents the

material from damage by the heat-cutting blade. (Fig. 2)

C Dragging limiting position. At this time the cutting blade moves downward just to the bottom blade, the step motor does not give out the material further, otherwise the material may be jammed between the blades or broken away. (Fig. 3)

D Whole pile bag shedding position. At this time the cutting blade moves downward just to the lowest point. The machine in this position pulls out the pulling needle, then pushes the whole pile of the item outwards. (Fig. 4)

E Logic sampling position between the positions A and D. It helps the system to determine GK1 positions.

E' Whole pile bag shedding recovering position. In special states, the whole pile pocket shedding signal would be recovered in this position.

Note: All the positions may be used for other purposes depending on various operating states.

 Sensor Ho-switch magnetic steel, note: there are positive and negative directions.

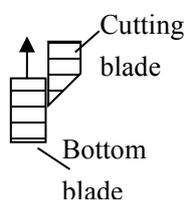


Fig.1

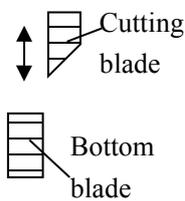


Fig. 2

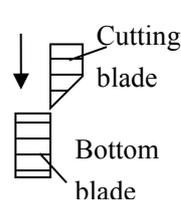


Fig. 3

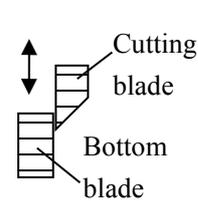


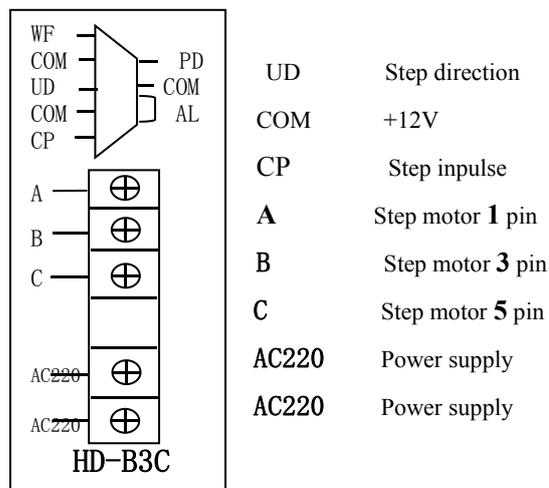
Fig. 4

VIII Accessories externally connected

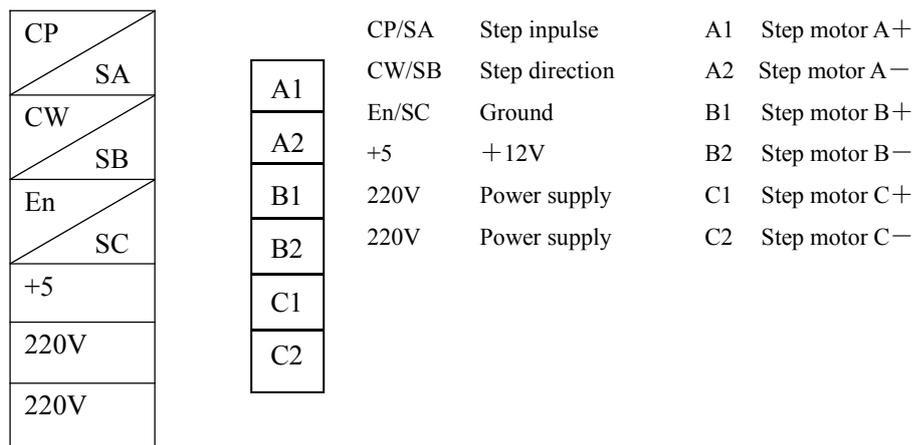
- 1 Ho-type switch: red +12V ; black GND; yellow output
- 2 Color-scale optoelectronic element: red +12V ; black GND; white output
- 3 Solid state relay: CTRL input (controlling); LDAD output
- 4 Buzzer: red +12V ; green buzzer signal

2 Step motor driver wiring

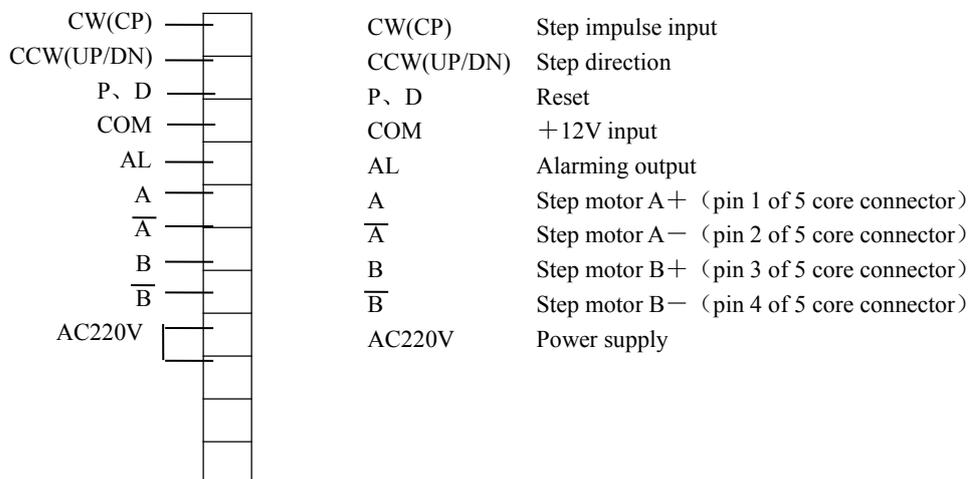
2.1 3-phase compounding mode HD-B3C



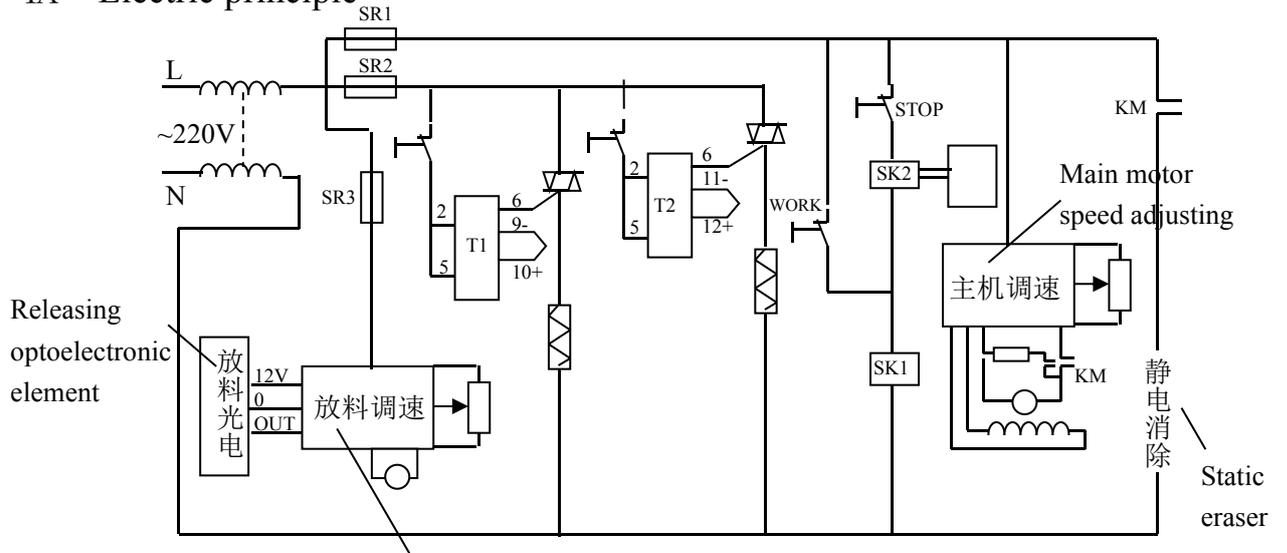
2.2 3-phase reaction mode II BD-36N



2.3 2-phase (4-phase) compounding mode BD-28N



IX Electric principle



X Overall dimensions (basic type)

