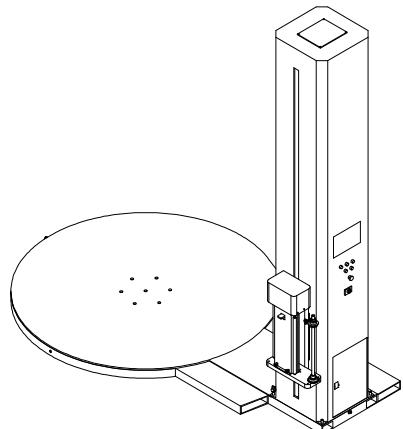




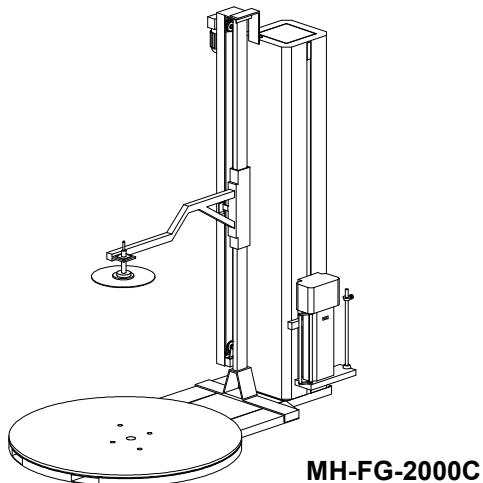
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MH-FG-2000 Series of Turntable Stretch Film Wrapping Machines

Use, Maintenance and Spare Parts Handbook



MH-FG-2000



MH-FG-2000C

Foreword

Thanks for purchasing and using our company's products. In order to ensure safe and correct use of our products, please read the user manual carefully before operation.

This user manual is applicable to the 2000 series of turntable stretch film wrapping machines.

This user manual contains main technical parameters of the products, safety cautions, operation methods, maintenance and the methods to deal with some common faults. We have tried our best to ensure the comprehensiveness and accuracy of this manual when we prepare it. If you have any question or find insufficient or incorrect contents during the use, welcome to contact our company or our authorized agents directly. If a user has a different understanding, it shall be subject to the explanations of the technical department of our company.

The brands and models of the electrical components, such as motors, photoelectric sensors, and micro switches, etc., used in this user manual are subject to the actual ones in the site, and those in the Parts List are for reference only.

The content of the user manual or part thereof may change without prior notice.

Please keep the user manual properly for your reference at any time to ensure the correct use of the machine.

Without the written permission of our company, the content of the manual shall not be copied or changed, otherwise it will be considered as infringement.

Rev.	Date
	Jan. 2018



The machine can only be operated by relevant trained and authorized personnel.

General safety regulations

To operate or maintain the machines, please refer to the following:

Before operation

- Read the user manual and be ready;
- Check all parts of the machines and immediately replace any worn or broken parts (original spares recommended);
- Make sure that no tools or other items on the machines and keep them clean;
- Read the user manual and spare parts handbook carefully;
- Read descriptive phrases about operation and important signs on the machines carefully.

During operation

- Do not wear loose-fitting clothes that could get tangled up in the moving parts of the machines;
- Do not carry out maintenance operations barefoot;
- Please keep your hands and other items away from their working area;
- Do not pack the machines with cartons, as the machines are beyond the bearing capacity of the cartons.

After operation

- Turn the master switch to OFF to stop the whole machines.



The machine can only be operated by relevant trained and authorized personnel.

Service and safety regulations

- Please keep this handbook;
- Please don't set up or add some lubricant during operation;
- Please cut off the power supply when open the protection cover;
- Do not install additional components without the authorization of our company;
- Please use original spare parts.

Useful hints

- Please use the appropriate power supply system;
- Do not remove or cover the specification on the machines;
- Please use the user manual when necessary.



The machine can only be operated by relevant trained and authorized personnel.

WARNING

For normal operation of the machines, please keep the machines and their parts clean. Periodically lubricate the parts needing lubrication and maintain pneumatic devices.



The machine can only be operated by relevant trained and authorized personnel.

Analysis of residual risks

- Be careful with the rotation of the machines;
- Be careful with the movement of the film carrier shaft and cantilever device.

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PART 1 DETAILED INTRODUCTION

1-1 Introduction

This MH-FG-2000 series of turntable stretch film wrapping machines adopts a PLC control system, characterized by automatic turntable reset and automatic object height detection by photoelectric sensors, etc., with reliable performance and convenient operation. With an LCD text controller, the wrapping way and wrapping parameters can be set according to needs.

This series of machines uses stretch/wrapping film as the packing material, and they are applied to tray and pallet packaging, using a wrapping method to pack various regular or irregular products. They wrap products together with a pallet by the shrinkage and stickiness feature of the stretch film, which can avoid baling off or falling of goods and with the advantage of dust-, damp- and damage-prevention. This packaging method is especially suitable for large cargos' storage and transport.

These equipments are not suitable for explosive environments. They shall be specially customized if they are used in explosive atmospheres.

If they are used for the wrapping of food or medicine products, it is recommended that they should be specially customized with stainless steel, and that they should be also cleaned and disinfected with disinfectants in accordance with industry regulations.

If they are used for the wrapping of corrosive goods, such as marine products, etc., pay attention to rust protection, and do not let corrosive liquid enter the machines. In case that it goes into the machines, it should be dried immediately to prevent the machines from rusting, which will result in motor overload.

In case of object or liquid spills, scattering on the ground around the machines, immediately remove these spills to avoid the risk of personnel slipping.

- **A wrapping machine with a top presser**

A wrapping machine equipped with a motor-driven top presser is suitable for those products light and unable to be fixed.

- **A wrapping machine with weighing device**

A wrapping machine equipped with a weighing sensor, LCD panel or printout device is suitable for recording the weight of a loaded pallet.

- **Working process of a standard wrapping machine:** Operations can be mainly divided into the following phases:

1. Put the object together with its pallet onto the turntable;
2. Put the stretch film around the surface of the object;
3. Start the machine, and the machine will automatically run and wrap the object.

- **Working process of a wrapping machine with a top presser:** Operations can be mainly divided into the following phases:

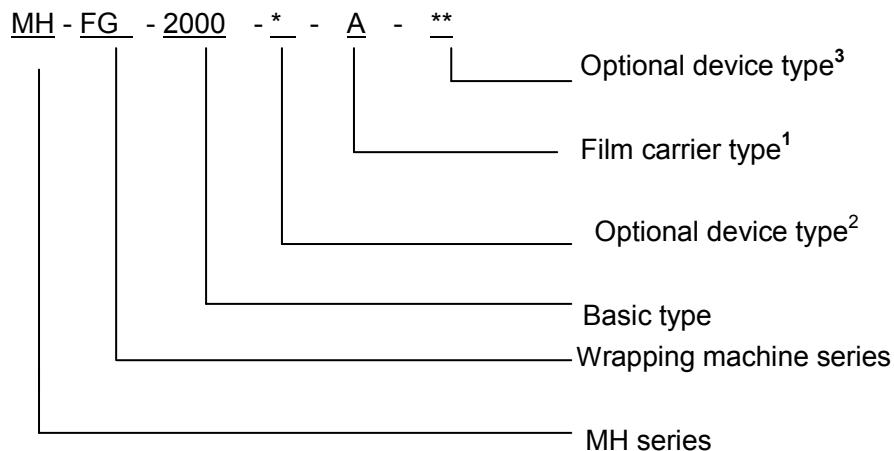
1. Put the object together with its pallet onto the turntable;
2. The platen falls and holds down the object;
3. Put the stretch film around the surface of the object;
4. Start the machine, and the machine will automatically run and wrap the object.

- **Working process of a wrapping machine with weighing device:** Operations can be mainly divided into the following phases:
 1. Put the object together with its pallet onto the turntable;
 2. The platen falls and holds down the object;
 3. Put the stretch film around the surface of the object;
 4. Start the machine, and the machine will automatically run and wrap the object;
 5. Record or print the weight of the loaded pallet.

1-2 Performance parameters

Item	Parameters	
	MH-FG-2000A turntable stretch film wrapping machine (Standard anti-stretch type)	MH-FG-2000B turntable stretch film wrapping machine (Standard pre-stretch type)
Power supply	1P, AC220V/110V, 50Hz/60Hz	
Power	1kW	1.25kW
Film-stretching unit	The tension of film can be controlled by adjusting the handle	Tension of film can be automatically adjusted through variable frequency regulation
Rotating speed	0-10r/min	
Dia. of turntable (mm)	$\Phi 1500$ mm (optional: $\Phi 1650/\Phi 1800/\Phi 2000/\Phi 2200$)	
Upright stanchion height (mm)	$H=2400$ mm (optional: 2000/2700/3000/3200/3400)	
Packing material	LLDPE stretch film, width \leq 500mm, external diameter $\leq\Phi 280$ mm	
Packaged objects	Load bearing: $\Phi 1500$ mm: 1500 kg; $\geq \Phi 1650$ mm: 2000 kg;	
	Max. package height: the upright stanchion height minus 400mm	
Machine weight	650kg-750kg	
Optional unit	Ramp	
Noise	≤ 75 dB(A)	
Environmental condition	Relative humidity \leq 90%, Temperature-10°C - 40°C	
Lubricating material	General-purpose grease No. 0	

1-3 MH-FG-2000 series wrapping machine model formation method



Note 1: Film carrier type

- A—Standard anti-stretch type
- AE—Magnetic powder anti-stretch type
- AX—12 anti-stretch type
- AS—S-shaped anti-stretch type
- B—Standard pre-stretch type
- BX—Two-section pre-stretch type
- BK—Pre-stretch film cutting type

Note 2: Optional device type

- P—Weighing unit

Note 3: Optional device type

- C-A—Top presser

For example: MH-FG-2000PAXC-A represents a turntable stretch film wrapping machine with a weighing unit and a motor-driven top presser, whose film carriage type is the 12 anti-stretch type.

1-4 Stretch film parameters

The machine can use different types of films with the following dimensions (FIG 1):

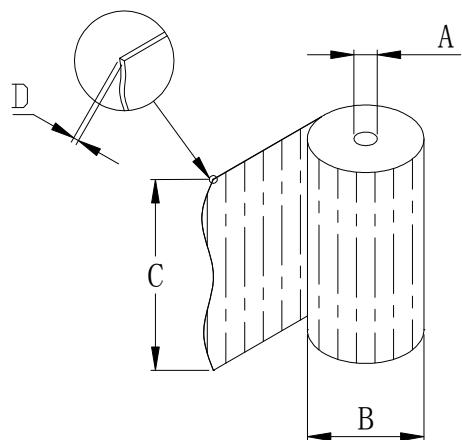
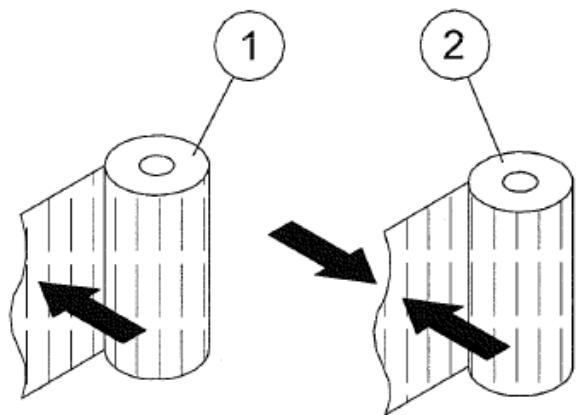
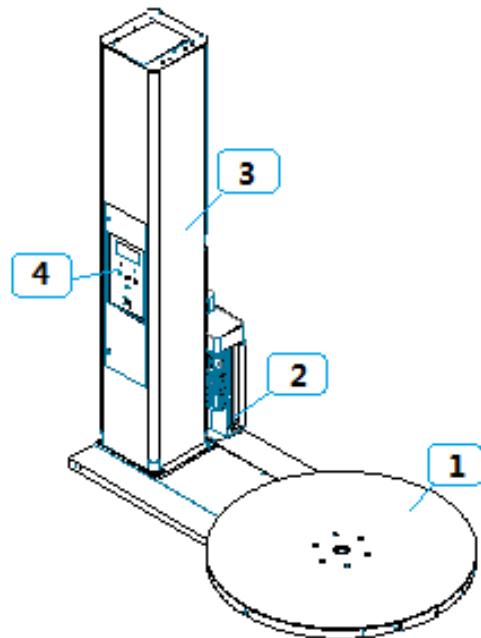
- A. Internal diameter of film reel: $\phi 50 - \phi 76\text{mm}$
- B. External diameter of film reel: $\leq \phi 280\text{mm}$
- C. Height of film reel: 100 - 500mm
- D. Film thickness: 17 - 25 μm (standard)
- E. Stretch rate: 100% - 300%
- F. Weight of film reel: appr. 17kg

Main types of films that can be used:

- A. Single-side-sticking stretch film (FIG 2, POS.1)
- B. Double-side-sticking stretch film (FIG 2, POS.2)

ATTENTION:

In order to obtain good effects both in terms of safety and wrapping tension, it is recommended to use films of good quality.

**FIG 1-1****FIG 1-2****1-5 Main parts of the machine (as shown in FIG 1-3)****Front View**

- 1) Base and turntable unit
- 2) Lifting assembly (film frame)
- 3) Upright stanchion unit
- 4) Control panel

Back View

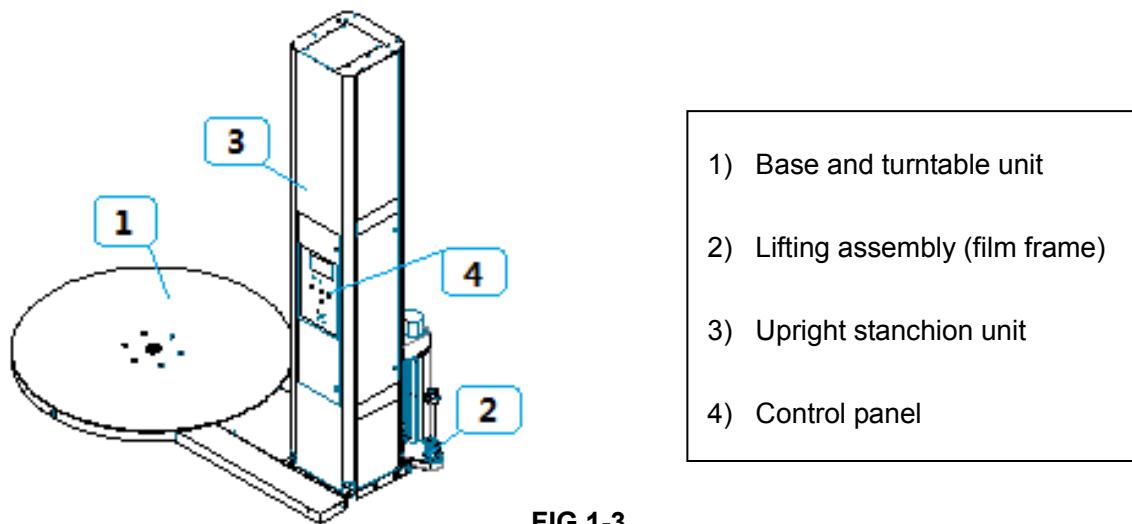


FIG 1-3

1-6 Differences of MH-FG-2000 series of turntable stretch film wrapping machines (see Table 1)

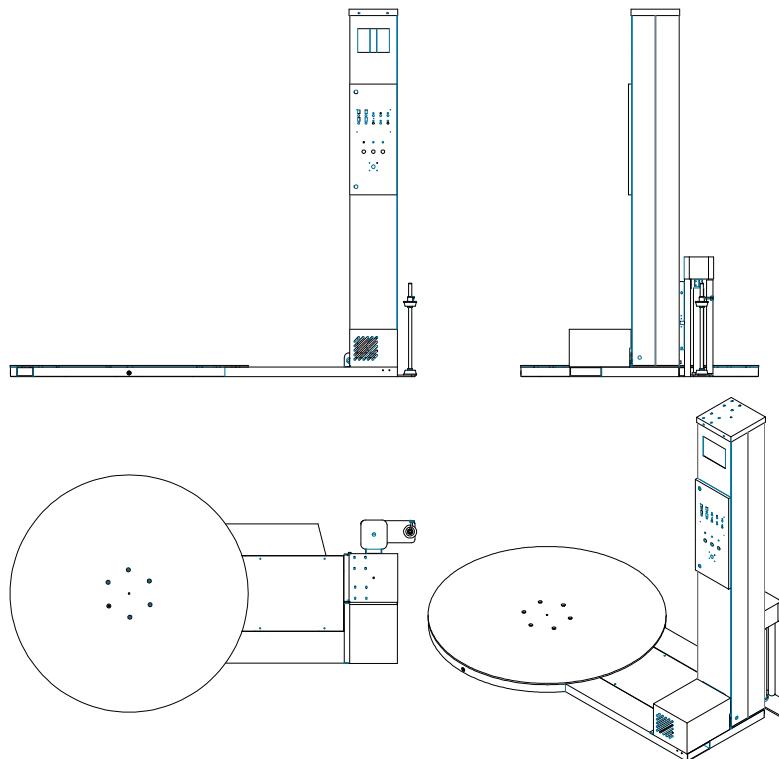
Table 1 Differences of MH-FG-2000 series of turntable stretch film wrapping machines

No.	Machine Model	Differences	Similarities
1	MH-FG-2000A	Standard anti-stretch type	
2	MH-FG-2000AE	Magnetic powder anti-stretch type	
3	MH-FG-2000AS	S-shaped anti-stretch type	
4	MH-FG-2000AX	12 anti-stretch type	
5	MH-FG-2000B	Standard pre-stretch type	
6	MH-FG - 2000BX	Two-section pre-stretch type	
7	MH-FG-2000BK	Pre-stretch film cutting type	
8	MH-FG-2000PA	Standard anti-stretch type Weighing unit	
9	MH-FG-2000PAE	Magnetic powder anti-stretch type Weighing unit	
10	MH-FG-2000PAS	S-shaped anti-stretch type Weighing unit	
11	MH-FG-2000PAX	12 anti-stretch type Weighing unit	
12	MH-FG-2000PB	Standard pre-stretch type Weighing unit	
13	MH-FG-2000PBX	Two-section pre-stretch type Weighing unit	
14	MH-FG-2000PBK	Pre-stretch film cutting type Weighing unit	
15	MH-FG-2000AC-A	Standard anti-stretch type Top presser unit	
1) Power supply: P/AC220V/50Hz			
2) Speed of turntable: 0-10 rpm			
3) Diameter of turntable: $\Phi 1500$ mm (optional: $\Phi 1650/\Phi 1800/\Phi 2000/\Phi 2200$)			
4) Upright stanchion height: 2400mm (optional 2000/2700/3000/3200/3400)			
5) Load bearing: 2000kg			

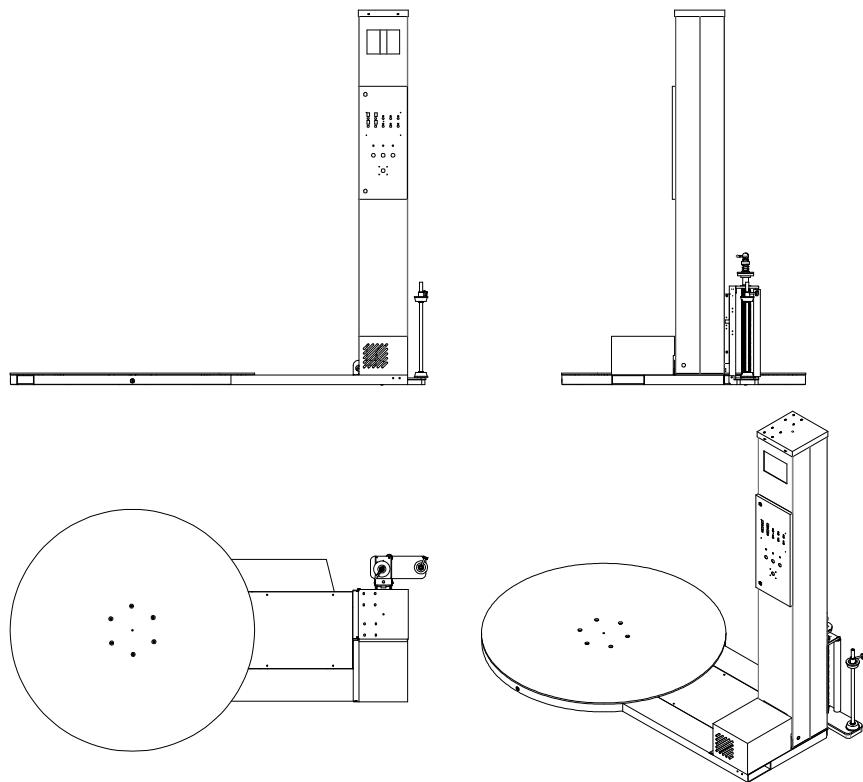
No.	Machine Model	Differences	Similarities
16	MH-FG-2000AEC-A	Magnetic powder anti-stretch type Top presser unit	6) Effective height: Upright stanchion height minus 400mm 7) Package material: width ≤500 mm, external diameter: ≤Φ280 mm, LLDPE stretch film 8) Optional attachment: ramp
17	MH-FG-2000ASC-A	S-shaped anti-stretch type Top presser unit	
18	MH-FG-2000AXC-A	12 anti-stretch type Top presser unit	
19	MH-FG-2000BC-A	Standard pre-stretch type Top presser unit	
20	MH-FG-2000BXC-A	Two-section pre-stretch type Top presser unit	
21	MH-FG-2000BKC-A	Pre-stretch film cutting type Top presser unit	
22	MH-FG-2000PAC-A	Standard anti-stretch type Weighing unit Top presser unit	
23	MH-FG-2000PAEC-A	Magnetic powder anti-stretch type Weighing unit Top presser unit	
24	MH-FG-2000PASC-A	S-shaped anti-stretch type Weighing unit Top presser unit	
25	MH-FG-2000PAXC-A	12 anti-stretch type Weighing unit Top presser unit	
26	MH-FG-2000PBC-A	Standard pre-stretch type Weighing unit Top presser unit	
27	MH-FG-2000PBXC-A	Two-section pre-stretch type Weighing unit Top presser unit	
28	MH-FG-2000PBKC-A	Pre-stretch film cutting type Weighing unit Top presser unit	

1-7 MH-FG-2000 series of turntable stretch film wrapping machines illustrations

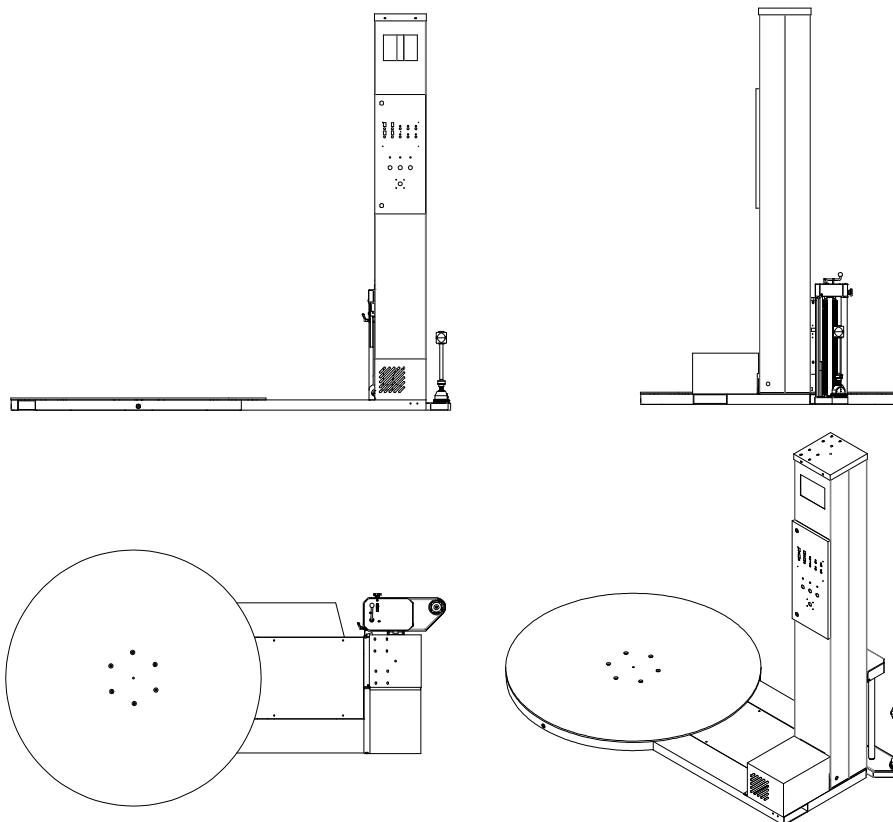
1-7-1 MH-FG-2000AE turntable stretch film wrapping machine (magnetic powder anti-stretch type)



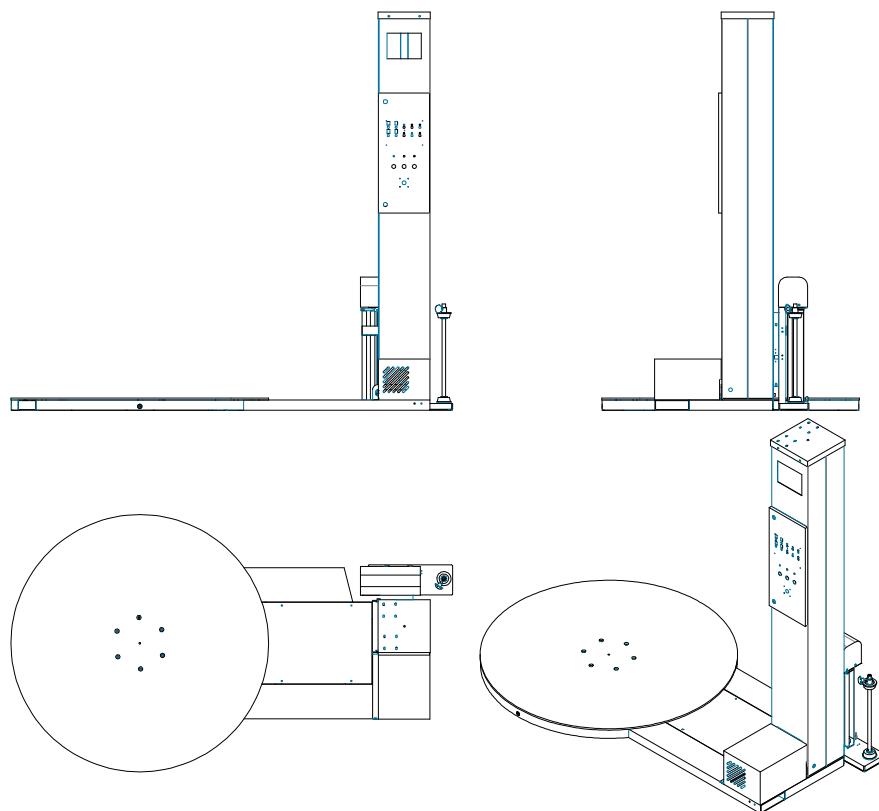
1-7-2 MH-FG-2000AS turntable stretch film wrapping machine (S-shaped anti-stretch type)



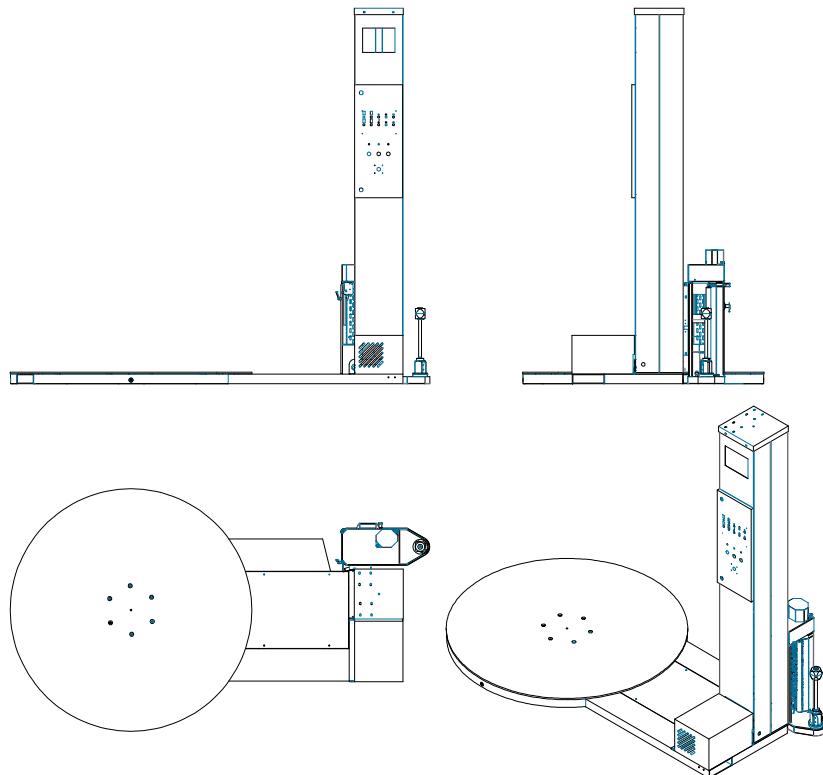
1-7-3 MH-FG-2000AX turntable stretch film wrapping machine (12 anti-stretch type)



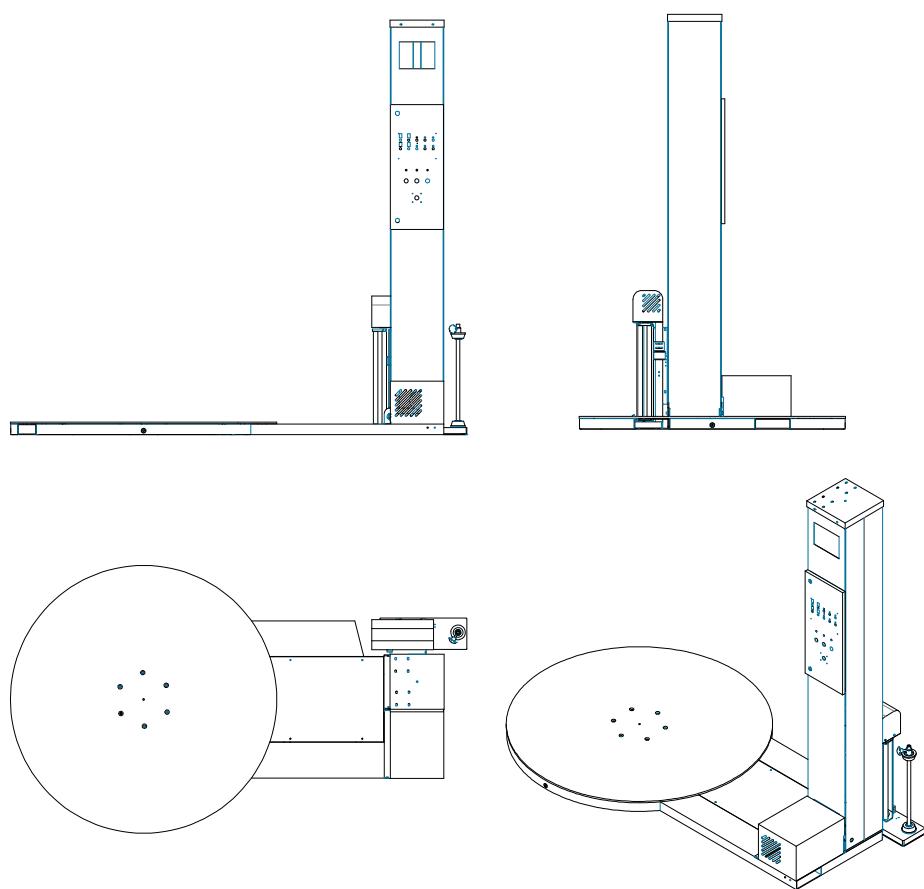
1-7-4 MH-FG-2000B turntable stretch film wrapping machine (standard pre-stretch type)



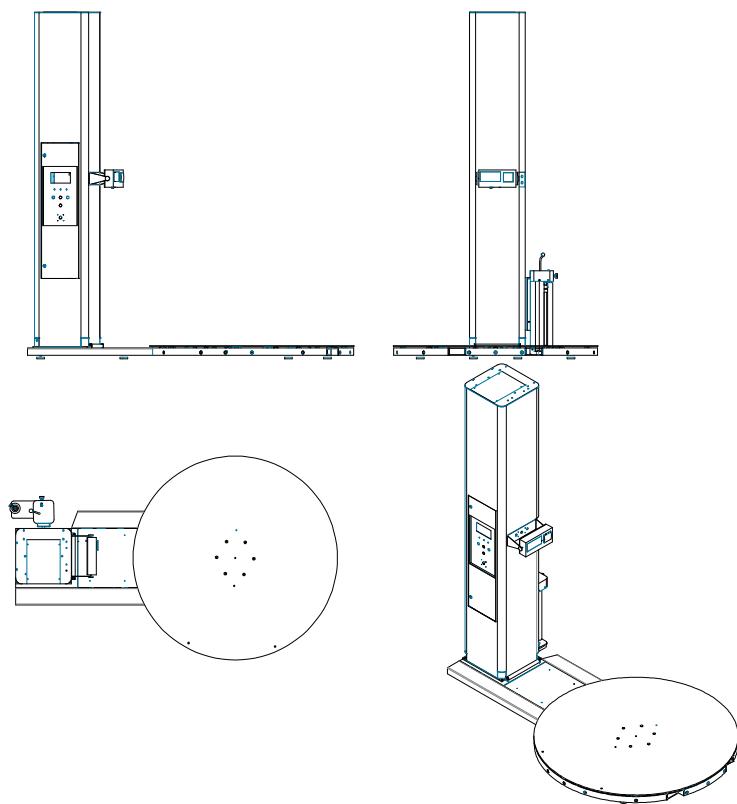
1-7-5 MH-FG-2000BX turntable stretch film wrapping machine (two-section pre-stretch type)



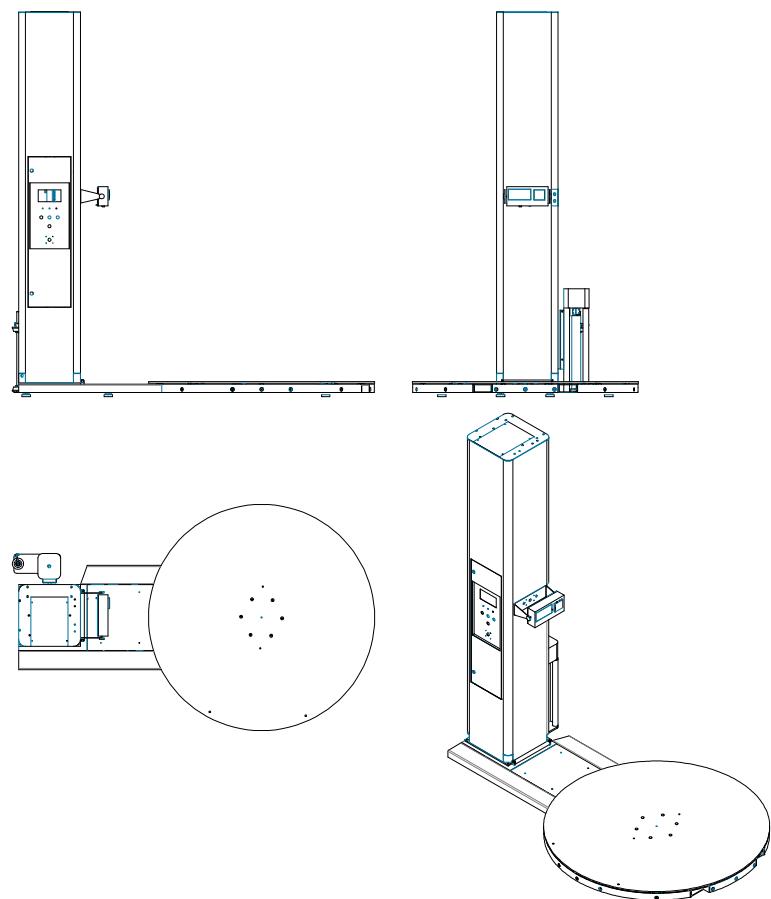
1-7-6 MH-FG-2000BK turntable stretch film wrapping machine (pre-stretch film cutting type)



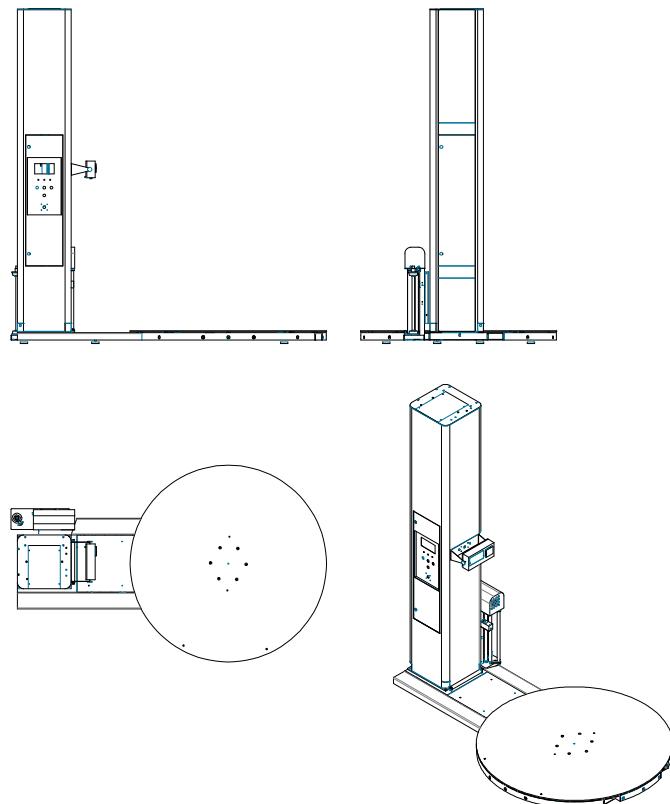
**1-7-7 MH-FG-2000PA turtable stretch film wrapping machine with weighing device
(standard anti-stretch type)**



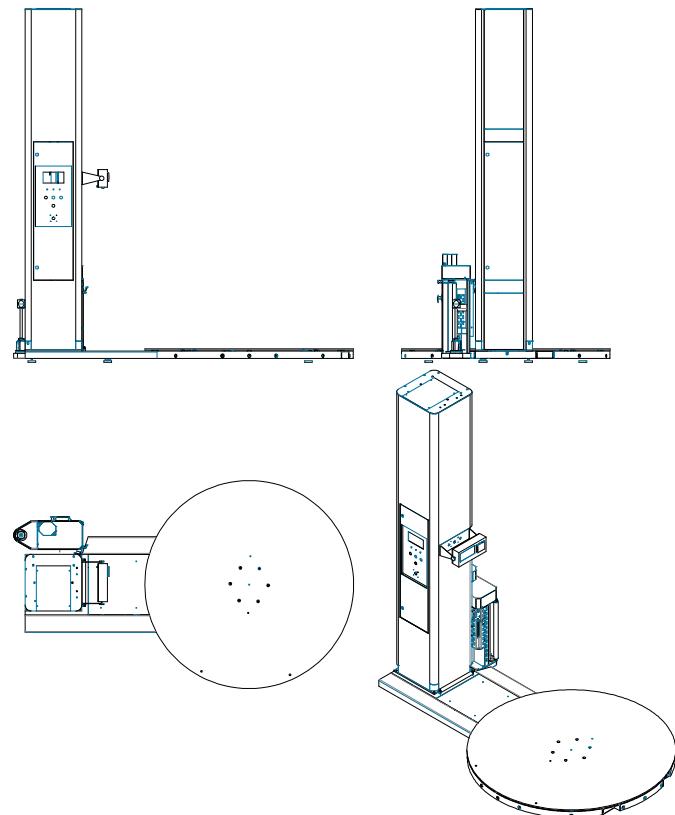
**1-7-8 MH-FG-2000PAE turtable stretch film wrapping machine with weighing device
(magnetic powder anti-stretch type)**



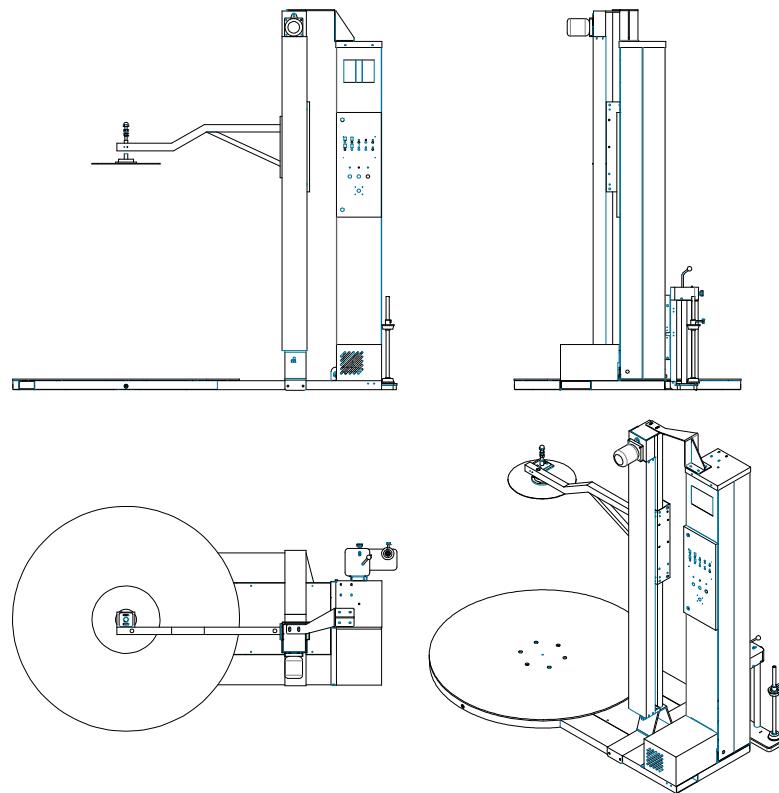
**1-7-9 MH-FG-2000PB turntable stretch film wrapping machine with weighing device
(standard pre-stretch type)**



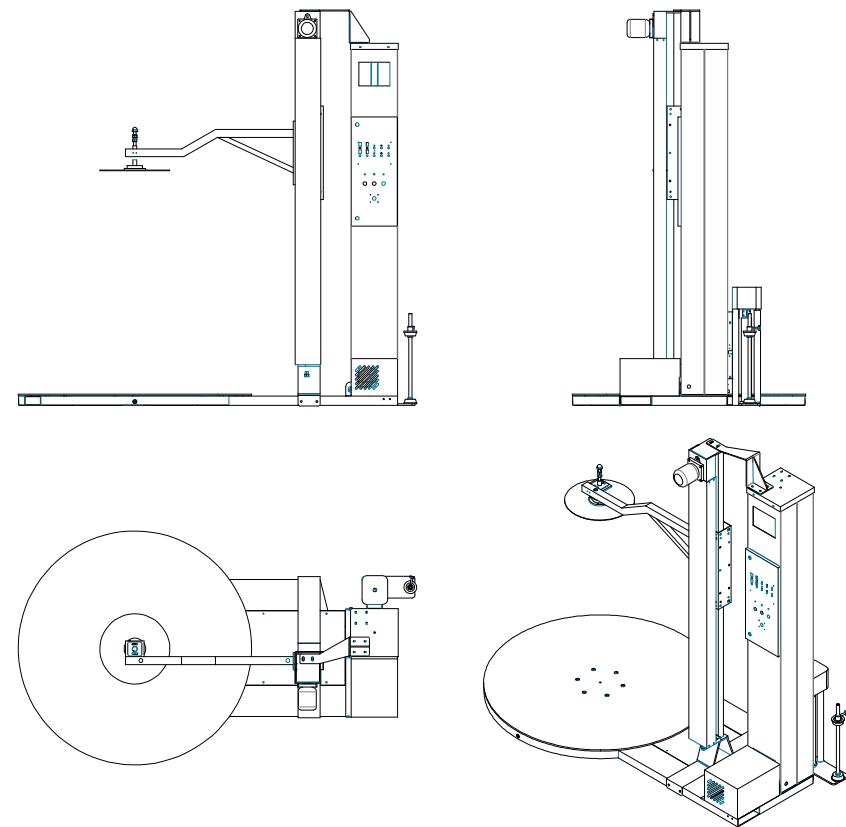
**1-7-10 MH-FG-2000PBX turntable stretch film wrapping machine with weighing device
(two-section pre-stretch type)**



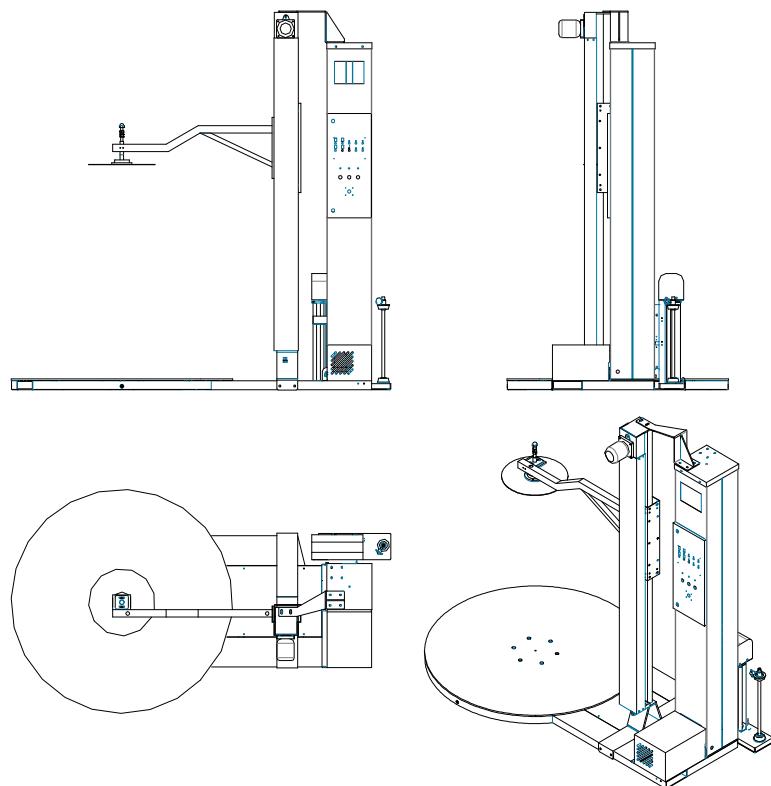
**1-7-11 MH-FG-2000AC-A turntable stretch film wrapping machine with a top presser
(standard anti-stretch type)**



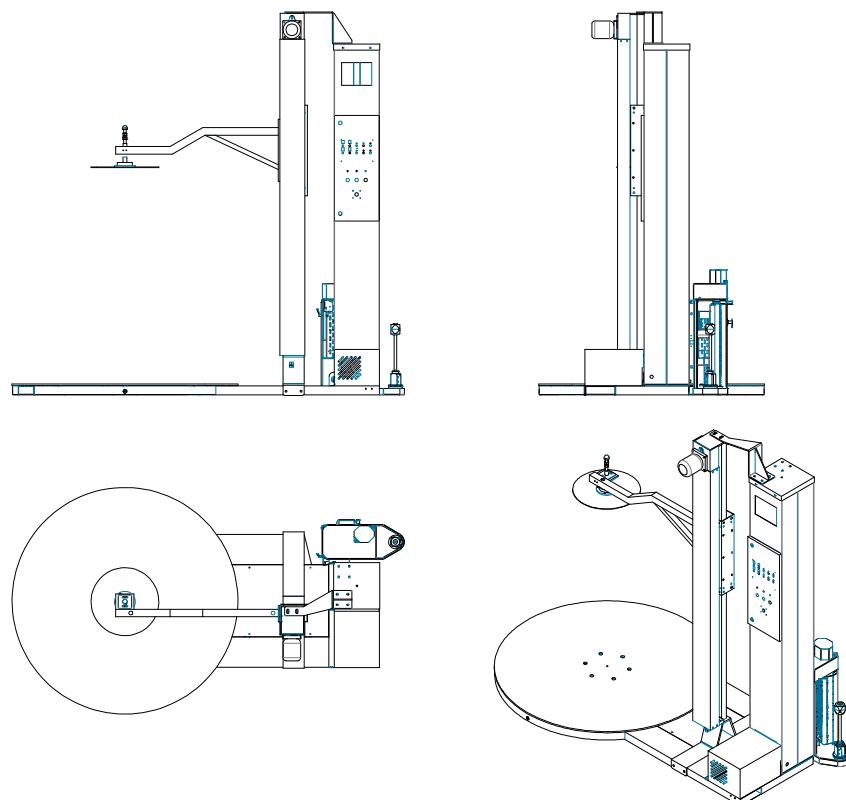
**1-7-12 MH-FG-2000AEC-A turntable stretch film wrapping machine with a top presser
(magnetic powder anti-stretch type)**



**1-7-13 MH-FG-2000BC-A turntable stretch film wrapping machine with a top presser
(standard pre-stretch type)**



**1-7-14 MH-FG-2000BXC-A turntable stretch film wrapping machine with a top presser
(two-section pre-stretch type with a top presser)**



Note: The appearance of the above machines is illustrative only, subject to the actual one in the site.

PART 2 PREPARATION BEFORE USE

2-1 Pretreatment

Before the package is removed (FIG 2-1), the machine is packaged with steel pipes and battens.

After removing the package (FIG 2-2), please check:

- No falling-off parts in the machine;
- Remove wrapping materials;
- Check the model of machine;
- A user manual with a declaration of conformity (FIG 2-2, POS.1);
- Tools and spare parts supplied with machine;
- Report any damage caused during transportation.

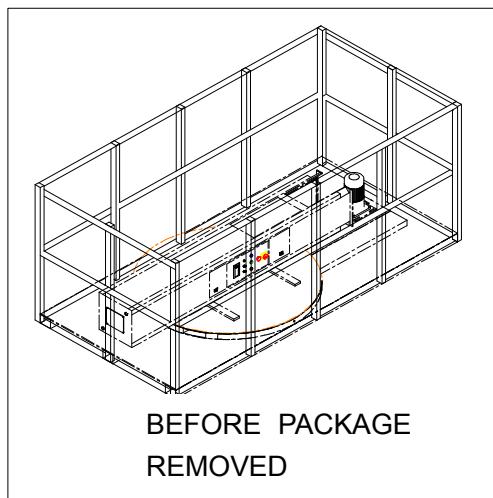
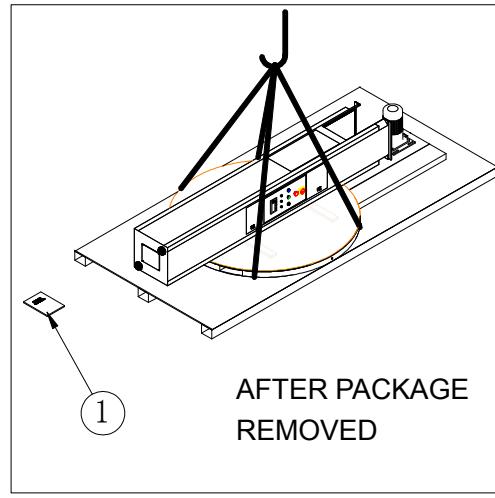


FIG 2-1



① User manual

FIG 2-2

2-2 Detailed introduction of machine

If you want to contact the manufacturer, please provide the serial number and model of the machine. (See FIG 2-3)

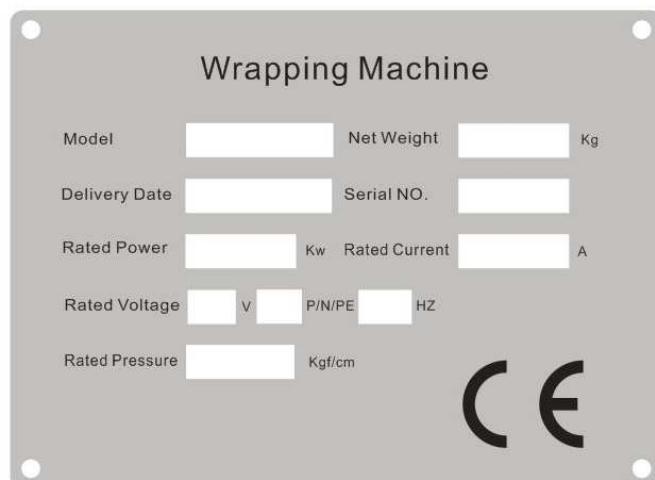


FIG 2-3

2-3 Space required for installing the machine

As shown in FIG 2-4

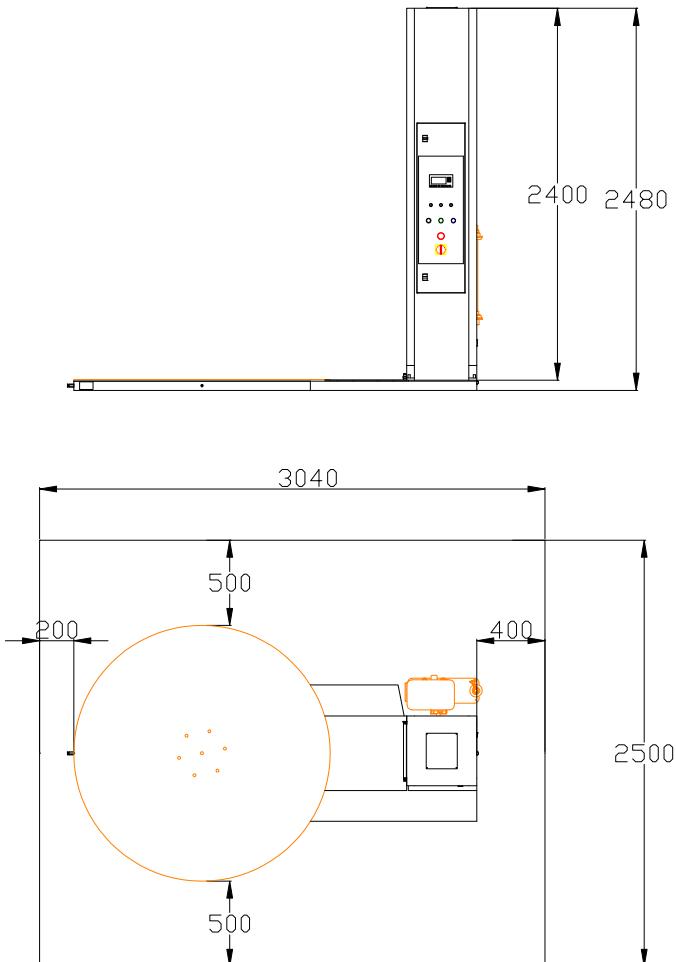


FIG 2-4

2-4 Safety

2-4-1 Safety cautions on using the machine

- 1) Please confirm the power supply used for the machine, don't plug in a wrong power supply. The machine adopts single-phase AC220V/110V power supply, and the double-color line is the grounding line for leakage protection.
- 2) Don't put your feet on the machine when it's running;
- 3) Don't install the machine in a soft site;
- 4) Don't put the object which is to be wrapped at the edge of the turntable, but at the center of turntable;
- 5) Don't wrap objects whose weight and height are beyond those specified in the technical parameters, to prevent the wrapping machine from failure to work normally and being damaged;
- 6) Cut off the power supply after finishing work;
- 7) Press the EMERGENCY STOP button to disconnect the motor power in case of emergency to stop the machine immediately;
- 8) Clean the machine once every day after finishing work;

- 9) Don't take electrical equipment apart at will for the sake of safety;
- 10) Only electrical technicians are allowed to inspect and repair electrical equipment.

2-4-2 Important signs

2-4-2-1 Mechanical hazards

- a) This warning sign can't be randomly removed or replaced. It's used in the position where chain wheels rotate. Make sure to disconnect power before repairing the machine. There are two positions where this warning sign is used, one is at the bottom of upright stanchion, and the other one is at the top of upright stanchion, see FIG 2-5.



FIG 2-5

- b) This warning sign is on the turntable, indicating no person is allowed to stand on the turntable when the machine is running, see FIG 2-6.



FIG 2-6

- c) The warning signs LABEL 1 and LABEL 2 are on the cover plate of chains. LABEL 1 indicates no person is allowed to stand on the cover plate; LABEL 2 indicates the rotation direction of turntable is clockwise, see FIG 2-7.





FIG 2-7

2-4-2-2 Electrical hazards

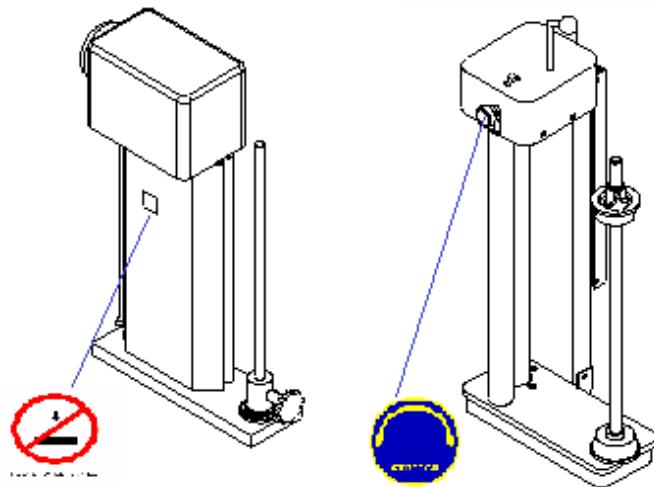
This warning sign is on the door of electrical cabinet. It indicates electric shock hazard will occur if the door is removed. It can't be randomly replaced or removed, see FIG 2-8.



FIG 2-8

2-4-2-3 Warning signs distribution as below:





2-5 Installation of upright stanchion

Please proceed as following instructions:

1. Carry the machine, with its package removed, to the installation site with a crane (FIG 2-9).
2. Slowly erect the upright stanchion with a crane by clasping the 2 M10 pull-tabs at the top of the upright stanchion with iron ropes, to keep it vertical to the base (FIG 2-10).



Attention: the crane and iron ropes should be able to bear the weight of wrapping machine in case that any accident happens during installation.

3. Connect the upright stanchion to the base cover with a long pin roll, and install the circlip (see FIG 2-11).
4. Then fix the stanchion and the cover onto the base with the four M10 screws supplied by manufacturer (see FIG 2-11).
5. Connect to turntable motor and photoelectric switch.

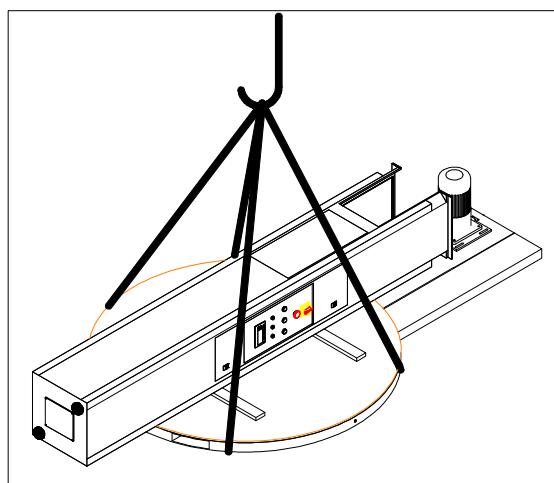


FIG 2-9

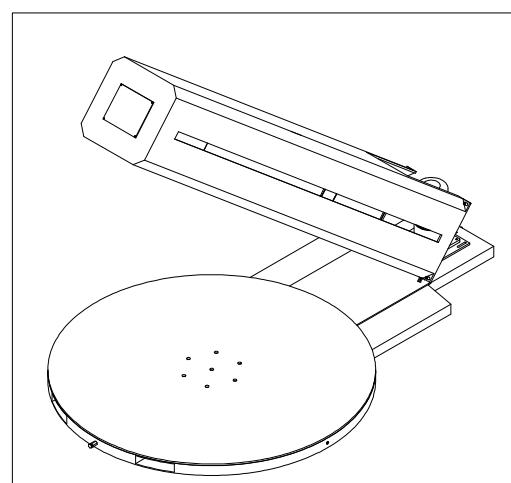


FIG 2-10

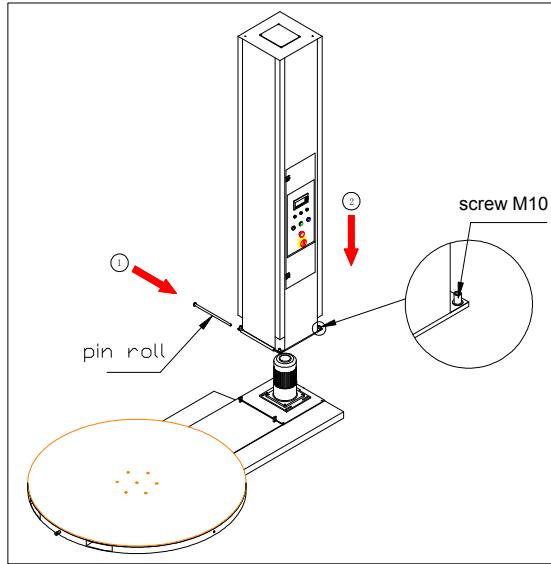


FIG 2-11

6. Assembly of the top presser and the upright stanchion: As shown in FIG 2-11-1, erect the whole top presser which has been installed, and connect the holes ① and ② on the upper bracket with the holes ③ and ④ on the top of the upright stanchion, with 2 M10 screws. Connect the holes ⑤ and ⑥ on the upper bracket with the holes ⑦ and ⑧ in the front of the upright stanchion, with 2 M10 countersunk head screws, thus the upper end installation of the top presser is finished.
7. Assembly of the top presser and the base: As shown in FIG 2-11-2, erect the whole top presser which has been installed, and connect the hole ⑪ on the mounting plate of the lower bracket with the holes ⑨ and ⑩ on the base, with 2 M8 screws. Connect the holes ⑬ and ⑭ on the mounting plate of the lower bracket with the holes ⑮ and ⑯ on the base, with 2 M8 screws, thus the lower end installation of the top presser is finished.

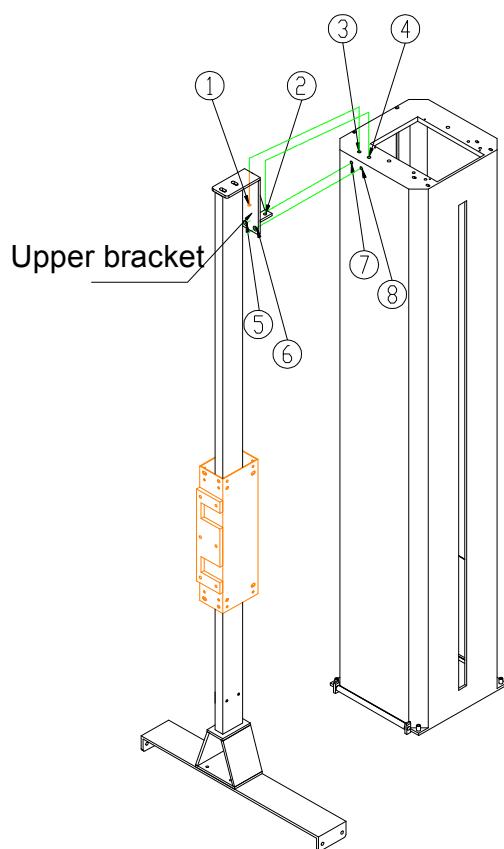


FIG 2-11-1

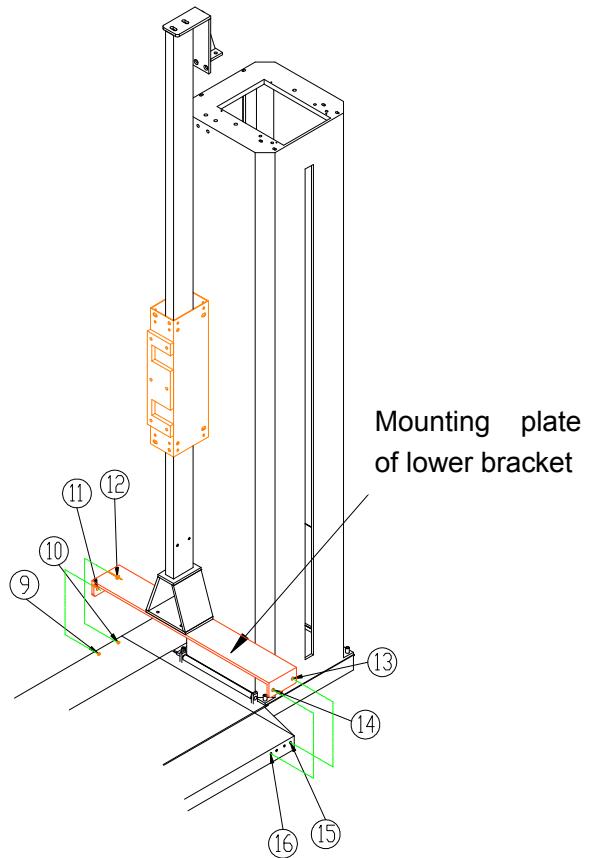


FIG 2-11-2

2-6 Control unit

2-6-1 Control unit (standard pre-stretch)

1. Pre-stretch film feed switch (FIG 1)



FIG 1

2. Photoelectric switch (for pallet height detection) (FIG 2)



FIG 2

**3. Pre-stretch bottom protection switch
(FIG 3) (two, at the pre-stretch bottom)**



FIG 3

**4. Pre-stretch door protection switch
(at the pre-stretch bottom) (FIG 4)**



FIG 4

**5. Pre-stretch travel switch
(in the upright stanchion) (FIG 5)**



FIG 5

**6. Turntable counting switch (under
the chassis) (FIG 6)**

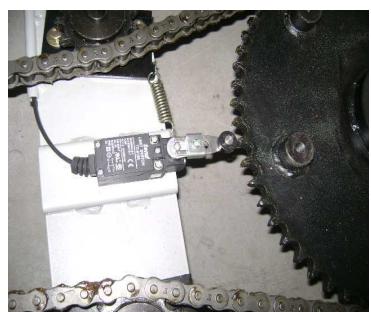


FIG 6

7. Top presser protection travel switch (FIG 7)

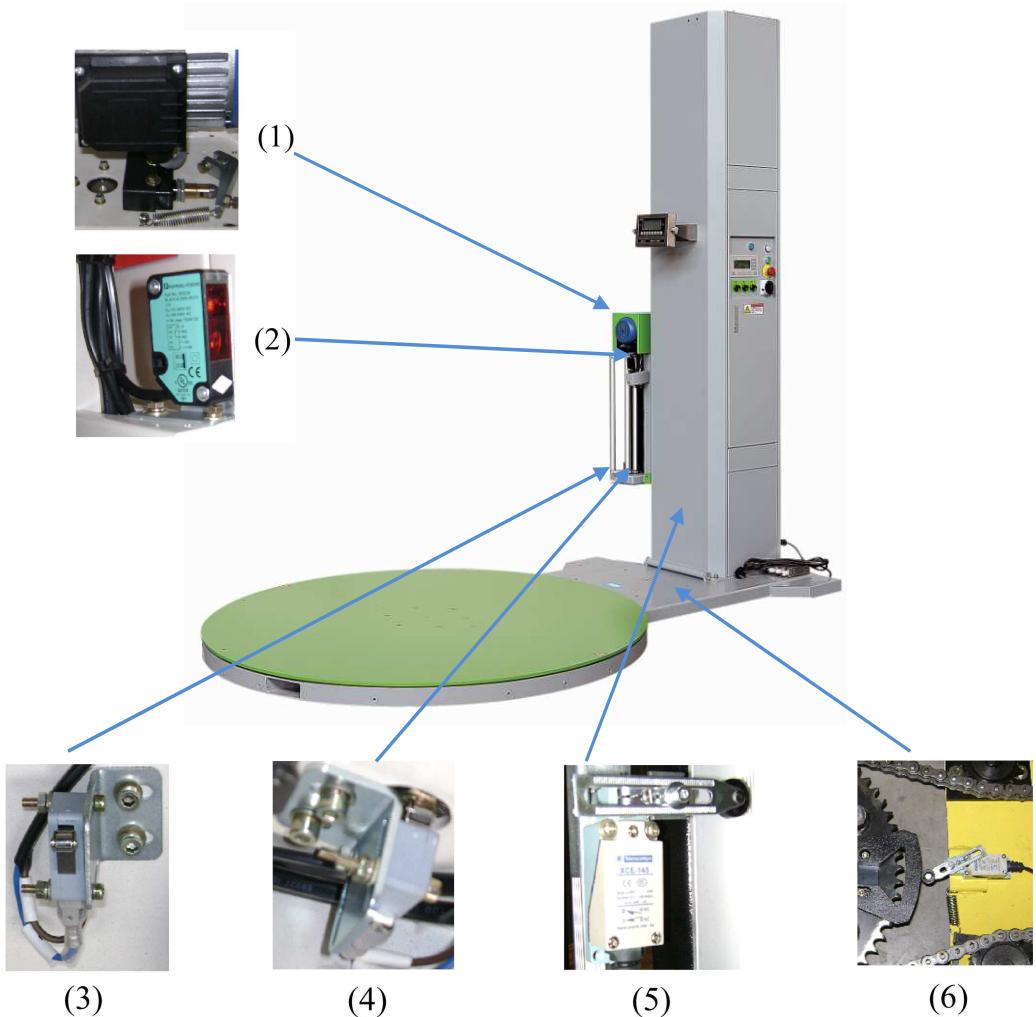


FIG 7

8. Top presser travel switch (FIG 8)

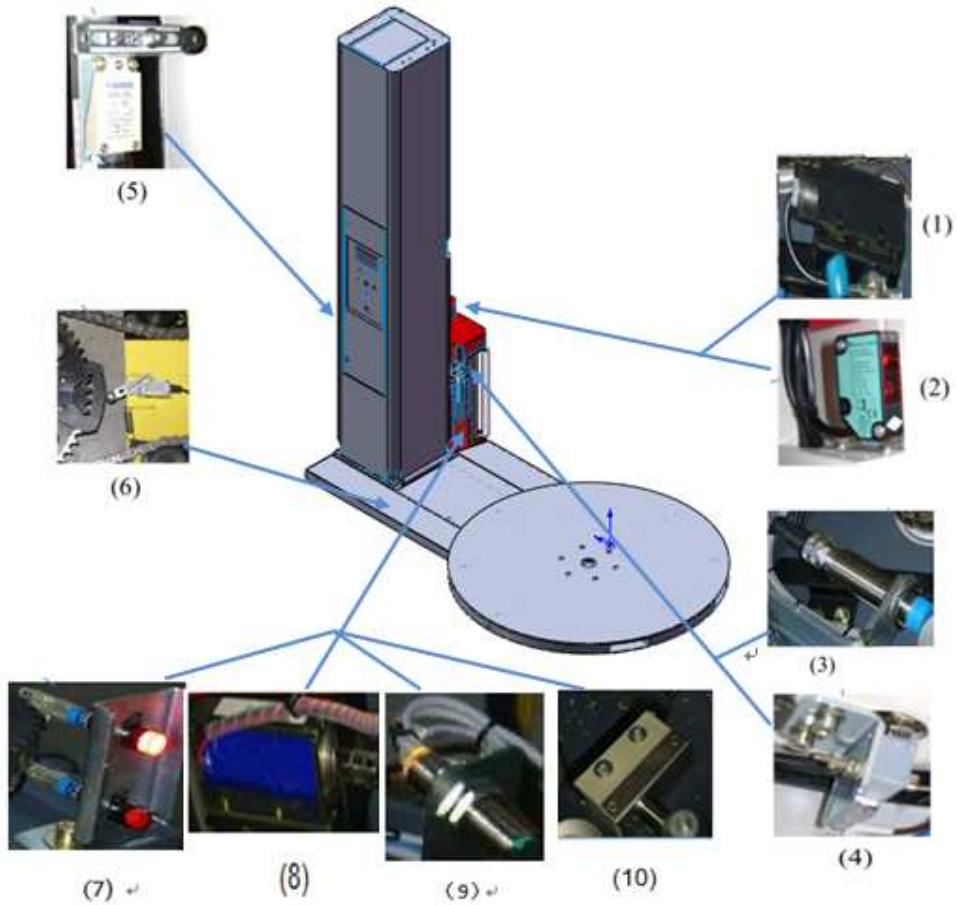


FIG 8



2-6-2 Control unit (two-section pre-stretch)

1. Pre-stretch film feed switch (FIG ①)
2. Photoelectric switch (for pallet height detection) (FIG ②)
3. Film-drawing tension sensor (at the pre-stretch position) (FIG ③)
4. Pre-stretch door protection switch (FIG ④)
5. Pre-stretch travel switch (in the upright stanchion) (FIG ⑤)
6. Turntable counter switch (under the chassis) (FIG ⑥)
7. Film withdrawing position indicator light (at the pre-stretch position) (FIG ⑦)
8. Film cutting suction tube (at the pre-stretch position) (FIG ⑧)
9. Film-drawing position proximity switch (at the pre-stretch position) (FIG ⑨)
10. Pre-stretch bottom protection switch (at the pre-stretch bottom) (FIG ⑩)



2-7 Description of control panel

2-7-1 Control panel 1

The control panel using a liquid crystal text controller, as shown in FIG 2-12-1:

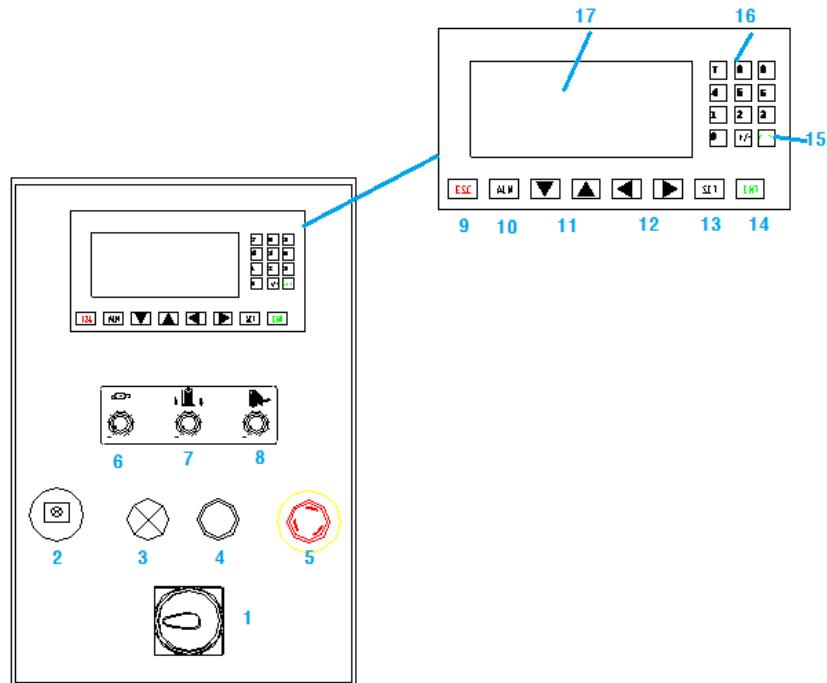


FIG 2-12-1

- | | |
|---|--------------------|
| 1. Master switch | 10. ALM key |
| 2. Buzzer | 11. Up/down key |
| 3. Button with light | 12. Left/right key |
| 4. Start button | 13. SET key |
| 5. Emergency stop button | 14. ENT key |
| 6. Turntable speed regulation switch | 15. CLR key |
| 7. Lifting speed regulation switch | 16. Number key |
| 8. Pre-stretch film feeding speed regulation switch | 17. LCD |
| 9. ESC key | |

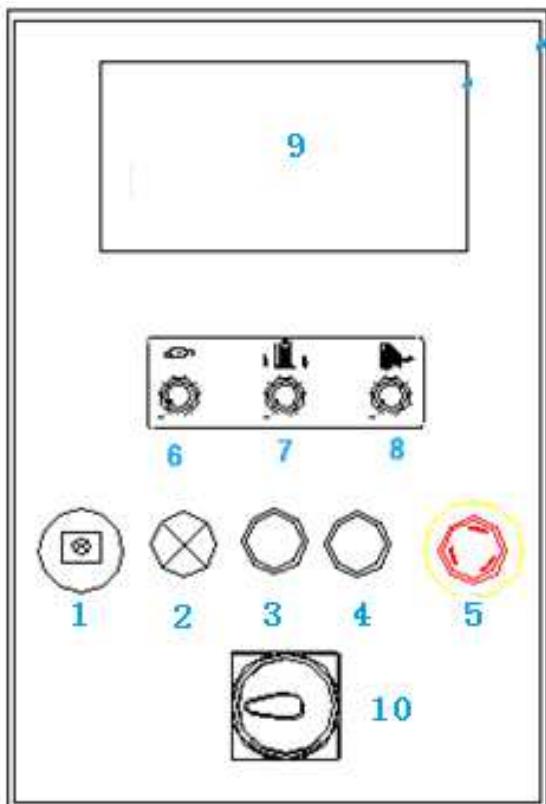


IMPORTANT!

The buttons on the control panel are subject to the actual ones in the site.

2-7-2 Control panel 2

The control panel using a touch screen, as shown in FIG 2-12-2:



1. Buzzer
2. Power indicator
3. Start button
4. Reset button
5. Emergency stop button
6. Turntable speed regulation switch
7. Lifting speed regulation switch
8. Pre-stretch film feeding speed regulation switch
9. Touch screen
10. Master switch

FIG 2-12-2



IMPORTANT!

The buttons on the control panel are subject to the actual ones in the site.

2-7-3 Operation control panel 3

As shown in FIG 2-12-3:



IMPORTANT!

The buttons on the control panel are subject to the actual ones in the site.

Note: For the detailed operating instructions of the control panels, please refer to Part 4.

2-8 Connecting to the motor

ATTENTION!

Before the machine is connected to a power supply, please make sure that the master switch is set to OFF, as shown in FIG 2-13.

- The machine uses three-phase motors. For different voltages and frequencies, please refer to the attached electrical diagrams.
- Confirm the voltage is correct. The voltage can be found on the nameplate.
- Check the turntable rotates in the right direction when operating in the manual mode. If the direction is wrong, exchange the two poles of the plug.

Three-phase motors shall be equipped with a neutral wire.

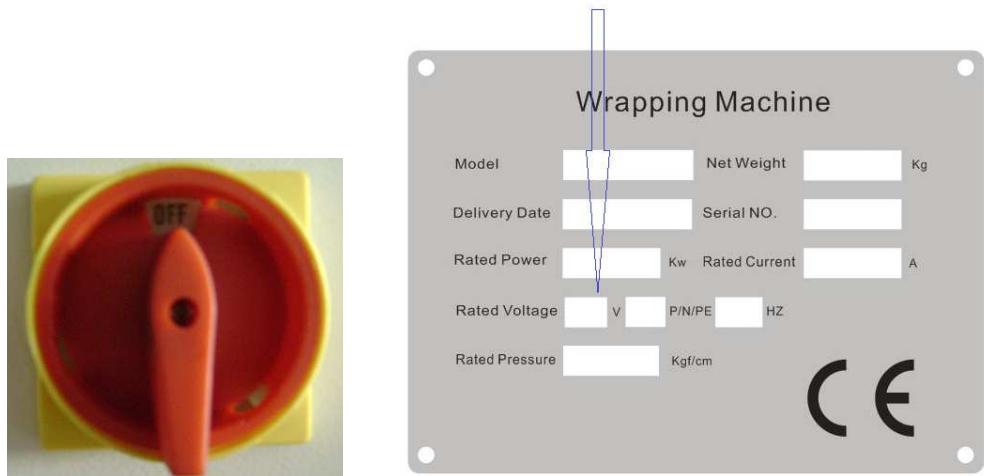


FIG 2-13

2-9 Installation of the pre-stretch lifting unit

Please proceed as follow instructions:

- Lift the pre-stretch lifting unit and vertically fit it to its corresponding position on the transition frame, as shown in FIG 2-14
- Fix the pre-stretch lifting unit on the transition frame with 4 M8 screws.
- Tighten the 4 M8 screws with an Allen driver, as shown in FIG 2-15.
- Tighten the aviation connector into its right holes (one bigger, the other smaller), as shown in FIGs 2-16, 2-17, 2-18, 2-19.

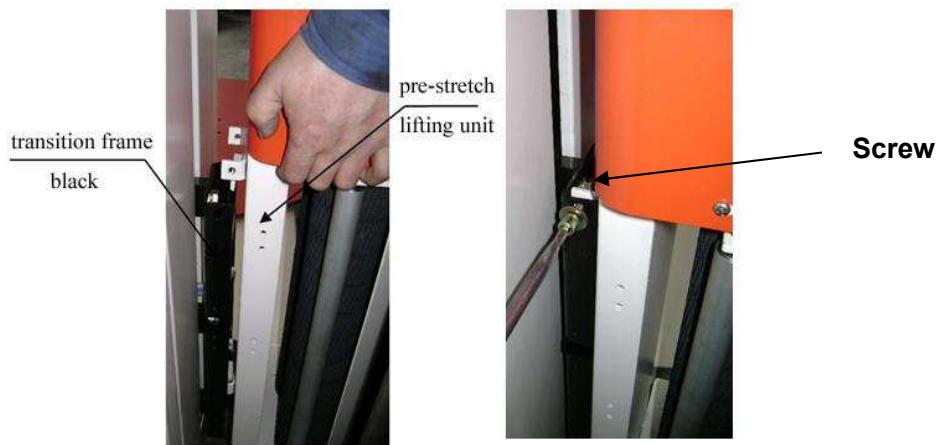


FIG2-14

FIG2-15



FIG2-16

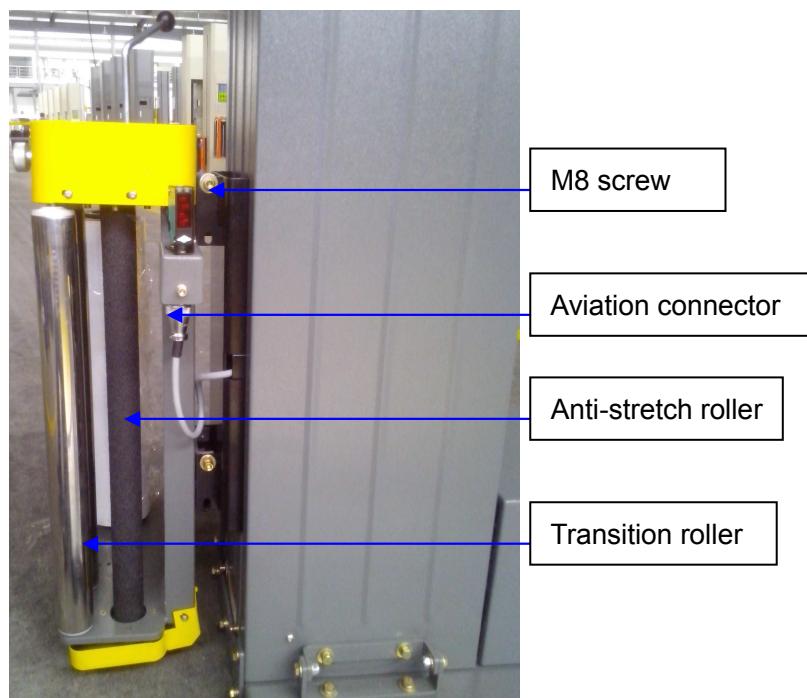
FIG2-17

FIG2-18

FIG2-19

2-10 Installation of the anti-stretch lifting unit

Please refer to the instructions of the installation of the pre-stretch lifting unit:



Installation diagram of the anti-stretch lifting unit

2-11 Film threading method and film tension adjustment

Loading the stretch film

- FIG 2-20: Loosen the screw with handle, and remove the straining ring and upper positioning plate:
- FIG 2-21: Sleeve a stretch film reel onto the reel shaft.
- FIG 2-22: Then install the upper positioning plate and straining ring, and lock the stretch film reel with screws (as shown in FIG 2-23).



FIG2-20



FIG2-21



FIG2-22



FIG2-23

2-11-1 Threading the stretch film (pre-stretch type)

- Open the pre-stretching door, pull down the rail to turn the transition roller seat by a certain angle as shown in 2-24;
- Then put in the film smoothly, which shall be stuck between the rollers correctly, as shown in FIG 2-25;
- After closing the pre-stretch door, apply the film onto an object, and pre-stretching is starting to work, as shown in FIG 2-26.
- The film tension can be changed by adjusting the speed of turntable and pre-stretching motor. For specifics, just turn the black rotary knob on the frequency converters that control the turntable and pre-stretch unit. The faster the turntable is, the slower the pre-stretching motor is, the greater the film tension will be, otherwise, it will be looser.



FIG2-24

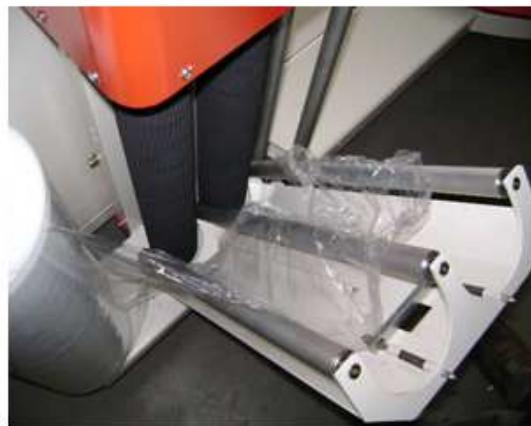


FIG2-25



FIG2-26

2-11-2 Threading the stretch film (anti-stretch)

As shown in FIG 2-27:

- Move the handle of eccentric wheel 1 to the position of **icon 1** (the direction to loosen it, easy to thread film);
- Pull out film from film shaft → bypass anti-stretch roller (3) → bypass transition roller (4) → Stick film to wrapped objects, then move the handle of eccentric wheel 1 to the position of **icon 2** (the direction to lock it, in the position when the machine normally works)
- Adjustment of blocking force: rotate adjusting handle 2, indicating block 5 moves, then the corresponding black block indicates the size of blocking force. The bigger the black block is, the stronger the blocking force will be. The smaller the black block is, the weaker the blocking force will be.

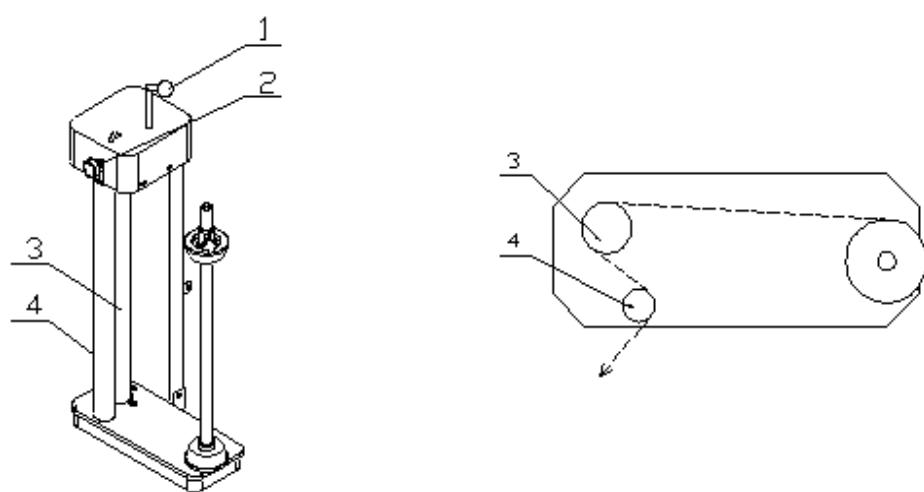
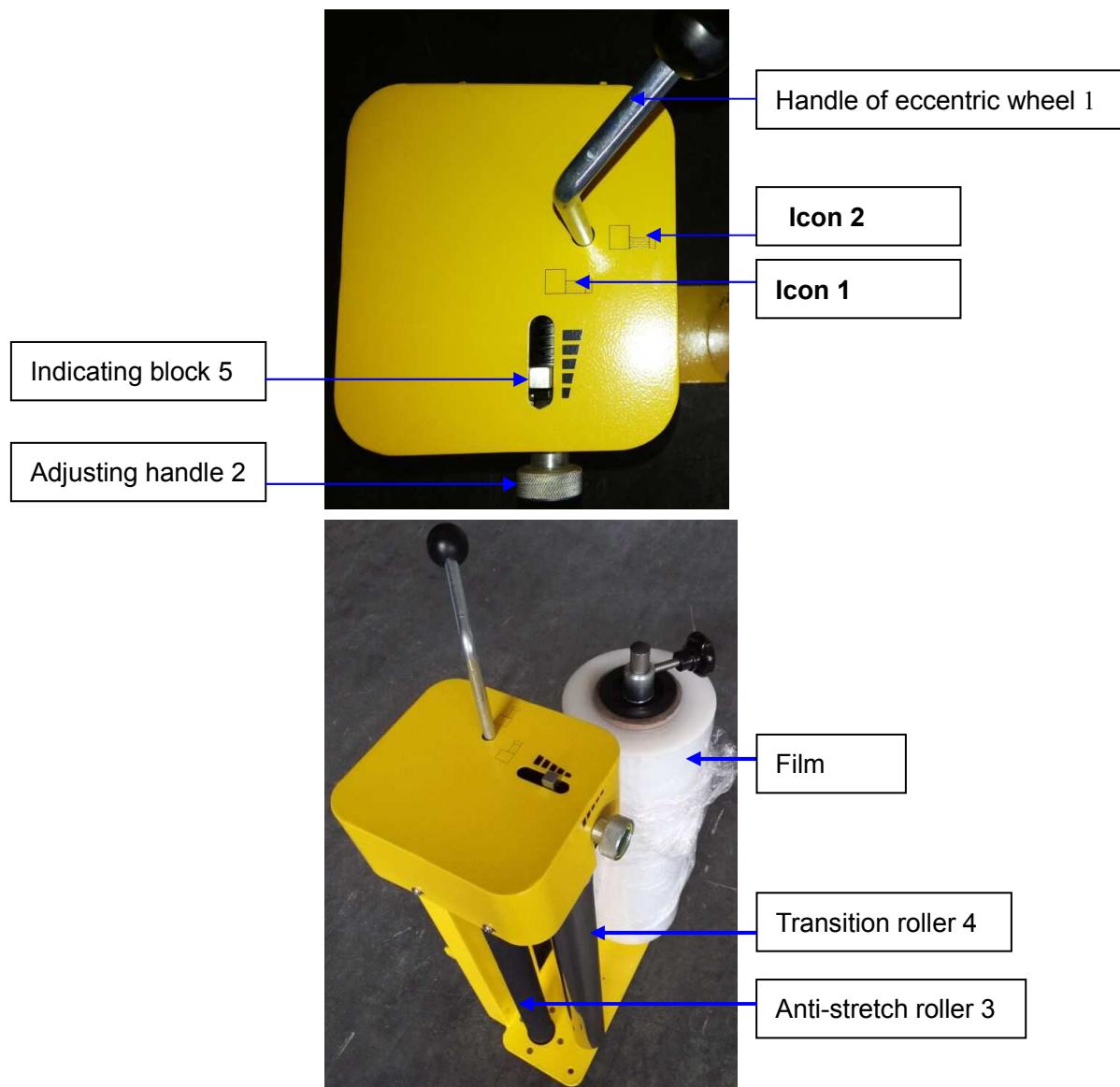
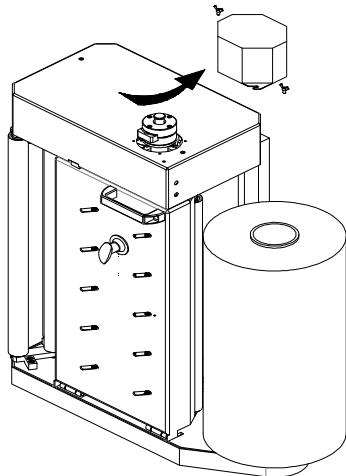


FIG 2-27

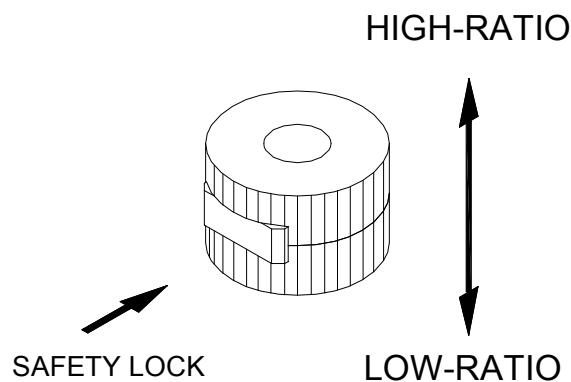
2-11-3 Threading the stretch film (two-section pre-stretch)

Change the pre-stretching percentage

- 1) Turn off the power and open the handle protective cover.

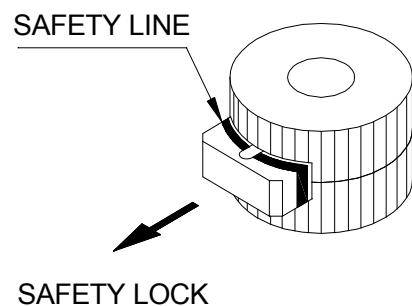


- 2) Push in the safety lock and adjust the pre-stretching percentage with the handle. Pull up the handle to a higher position, to use a higher pre-stretching percentage; push down the handle to a lower position, to use a lower pre-stretching percentage.

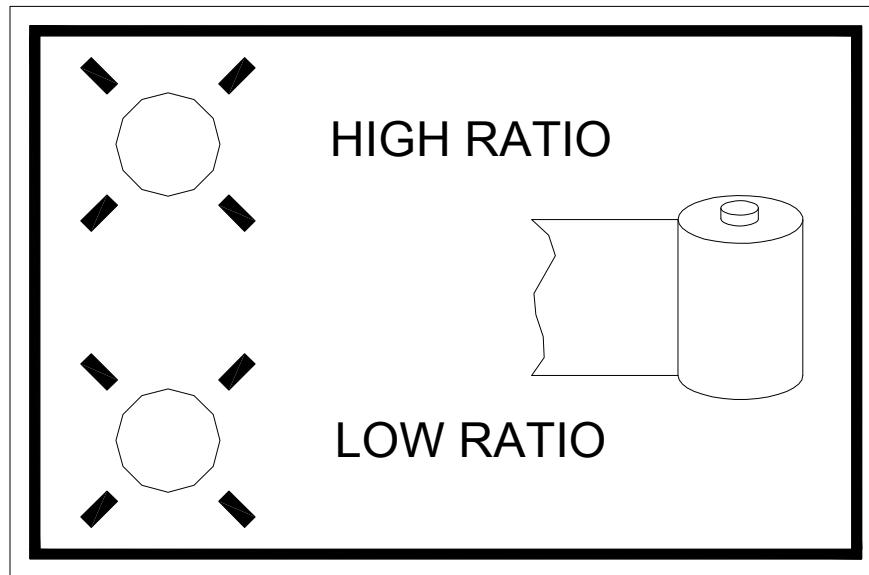


- 3) In order to ensure the operation is safe and correct, please check the following items:

- ① The safety line is back to its home position.



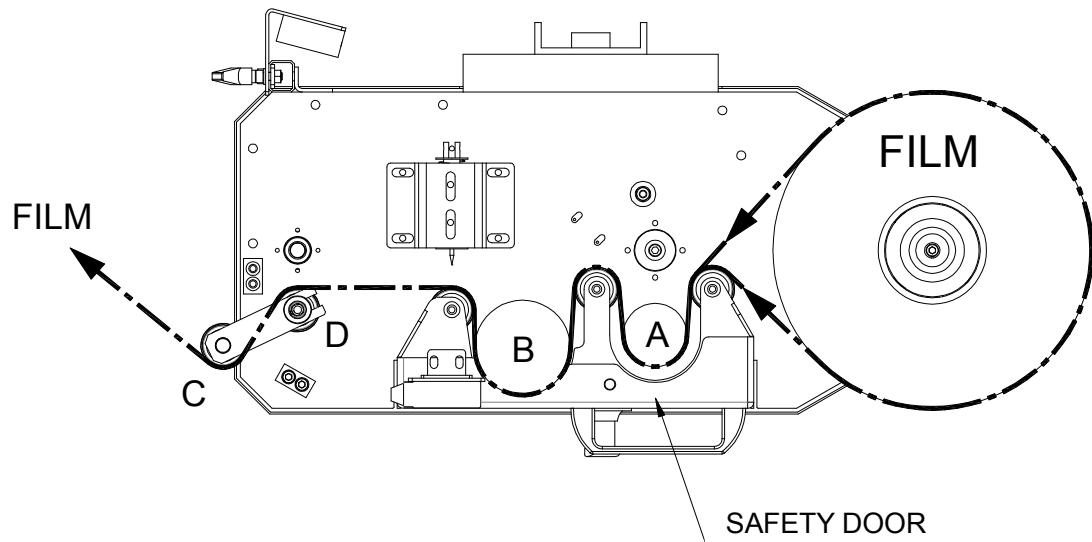
- ② The indicator shows the correct pre-stretching percentage.



Note: There are two groups of pre-stretching percentages, 300% & 230% and 250% & 200%.

Film threading instructions

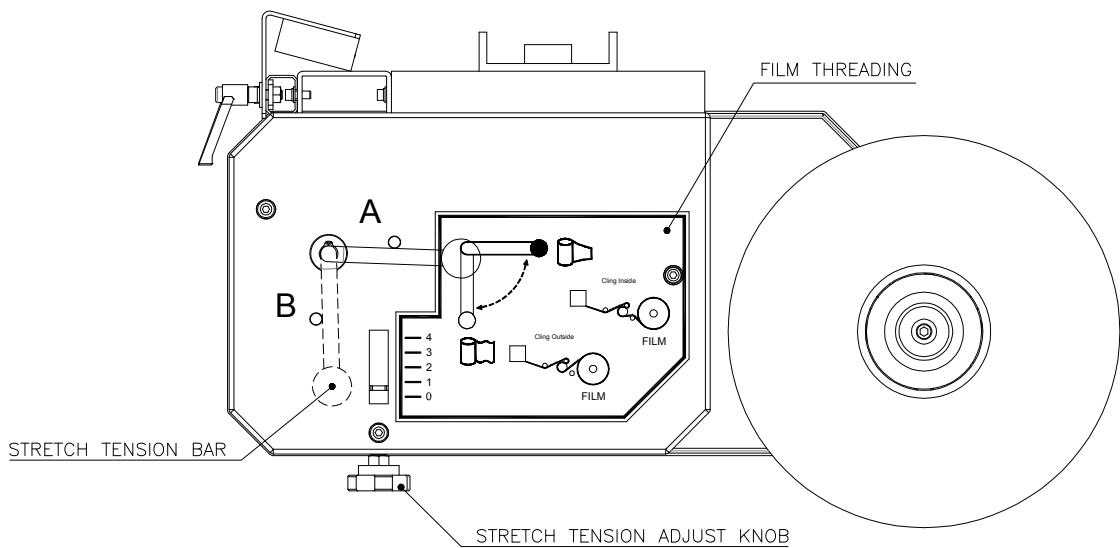
1. Open the safety door first.
2. Pass the film through the Rollers D and C as shown below.
3. Close the safety door.



2-11-3 Threading the stretch film (12 anti-stretch type)

Please thread the stretch film as shown below:

- 1) Thread the film.
- 2) Stretch the tension bar: Pull the tension bar to the A side to obtain the stretch tension; pull the tension bar to the B side to release the stretch tension.
- 3) Stretch tension adjustment knob: Turn the adjustment knob clockwise, and the tension increases; turn it anticlockwise, and the tension decreases. Adjust and set the indicating pointer between 2-3, so the stretch tension will be 1 meter, and the film will be stretched to 1.65 meters.



TIPS:

Pay particular attention to single-side-sticking adhesive film when threading. Correctly thread it, so that it can stick on packages. (FIG 2-28)

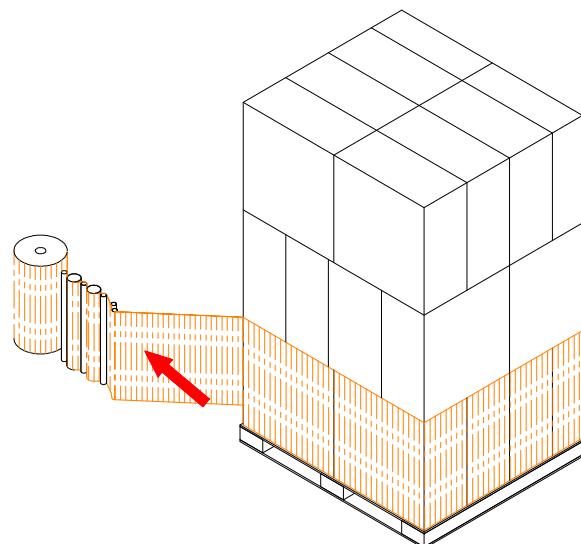


FIG 2-28

2-12 Starting the machine

- Operator's standing position is shown in FIG 2-29, in front of the control panel;
- Turn the master switch to ON (FIG 2-30 POS.1);
- The buzzer (FIG 2-30 POS.2) sounds for three times, and then the machine stops automatically;
- Press the button with light (FIG 2-30 POS.3), the light on, and the frequency converter starts;
- Eliminate possible emergency stop problems, and turn the emergency stop button clockwise to deactivate the emergency stop (FIG 2-30 POS. 5);
- Press the start button (FIG 2-30 POS.4), and wait for a few seconds until the power indicator light is on (FIG 2-30 POS.3); so the machine goes into the standby mode!

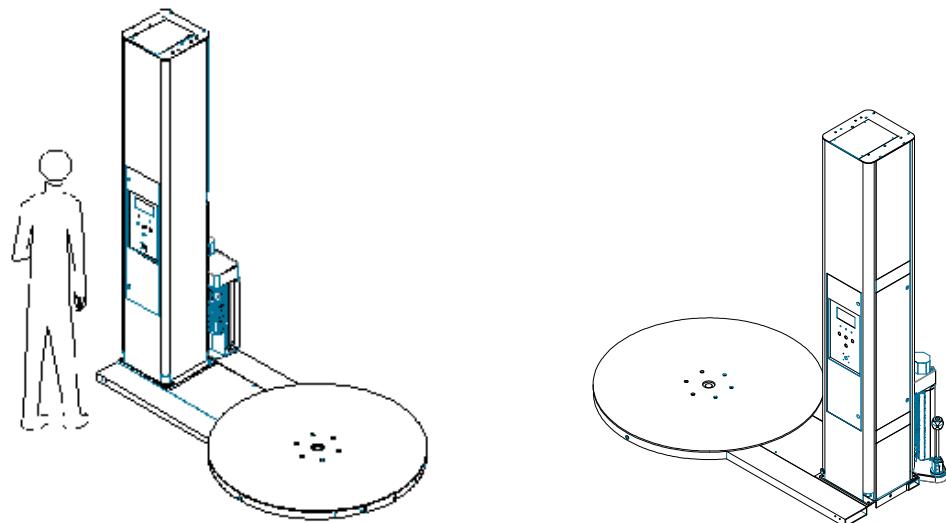


FIG 2-29

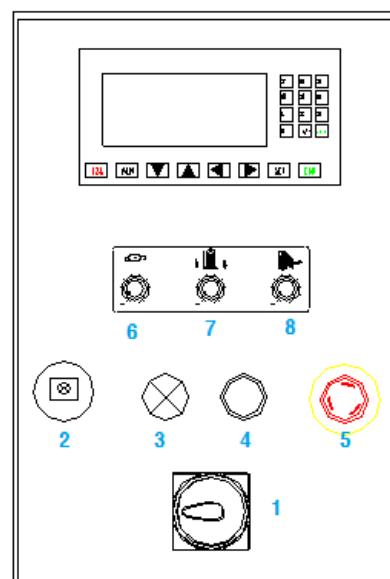


FIG 2-30



IMPORTANT!

Here takes the control panel 1 for example.

2-13 Transport of the machine

Carry the machine with a forklift or crane by inserting the two forks of the forklift into the corresponding slots of the machine (as shown in FIG 2-31), and then the machine can be easily carried.

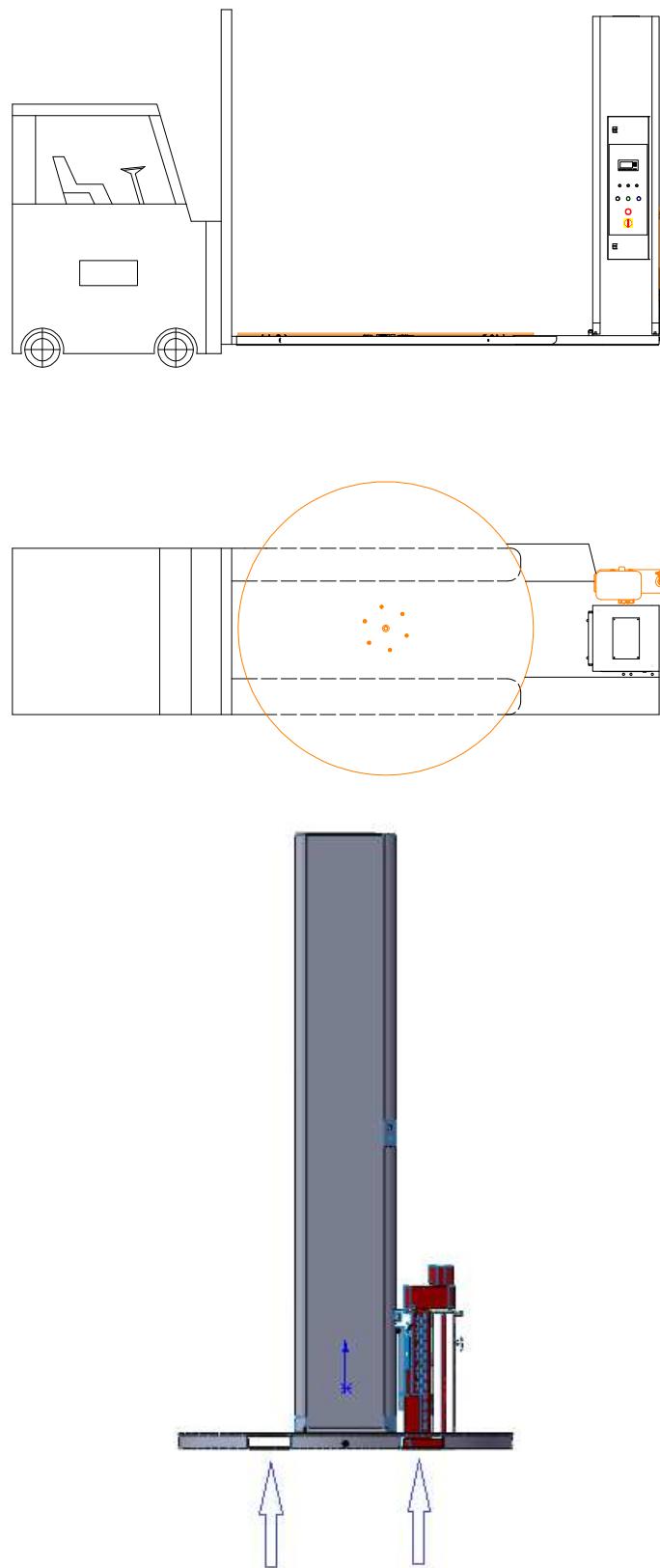


FIG 2-31

2-14 Manual operation

- If you want to operate the machine manually, select the manual mode in the text;
- Press the numeric key 2 in the main menu after machine starts (FIG 2-32, POS1);
- Select functions with the keys ↑↓ (FIG 2-32, POS 3);
- Activate or exit with the key ENT or ESC (FIG 2-32, POS 6/2).

Manual operation proceeds as following steps:

- Restart the automatic operation
- Reset the wrapping position
- Lift the support frame
- Manually rotate

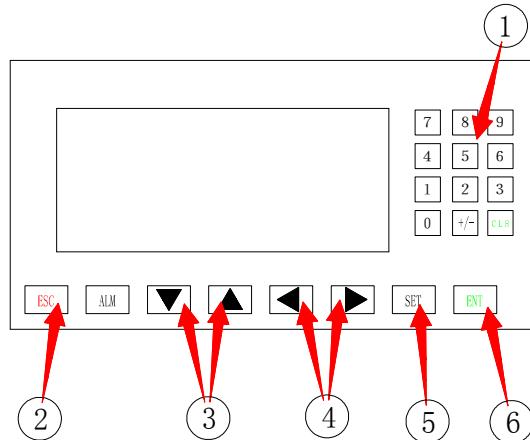


FIG 2-32

2-15 Automatic working cycle

- Through setting, you can select the circle numbers and the times for up- and downward wrapping. You can select the automatic operation mode with the selector switch and the machine is ready for receiving the objects to be wrapped horizontally. Check to make sure that the objects have been correctly stacked on the pallet. Make sure the weight and height of the objects do not exceed the bearable ones of the machine.

Work steps of the machine:

- 1) Put an object with its pallet on the turntable, and wrapping is activated by an photoelectric sensor;
- 2) The turntable turns clockwise, and the film carrier rises after it turns for one circle, until the photoelectric sensor detects the end of signal;
- 3) The machine will carry out wrapping at the top of the objects according to the preset parameters, then lowers the pre-stretch lifting unit;
- 4) If it carries out wrapping at the bottom, the rotation speed will get slow until it stops.
- 5) Remove the wrapped object, and the wrapping machine is ready for next one package.

PART 3 SETTINGS

3-1 Setting the drive shaft

An up travel switch and a down travel switch are installed inside the upright stanchion, and they are used for limiting the rise and drop of the film carriage, that is, when the film carriage rises along the upright stanchion and reaches the height of the up travel switch, it stops rising; when the film carriage drops to the height of the down travel switch, it stops dropping. The position of these two switches can be adjusted on the installing slide rail to fit the wrapping needs of different specifications of pallets.

Please follow the steps as follows:

- Loosen the nuts (FIG 3-1, POS 3).
- Slide the travel switch along the guide upwards to shorten the travel of the drop of the pre-stretch lifting body, and downwards to lengthen it.
- Tighten the loosened nuts.
- Nut (FIG 3-1, POS 2) can adjust the switch contacts leftward and rightward.
- Nut (FIG 3-1, POS 1) is a limit block nut used for locating when replacing the travel switch.

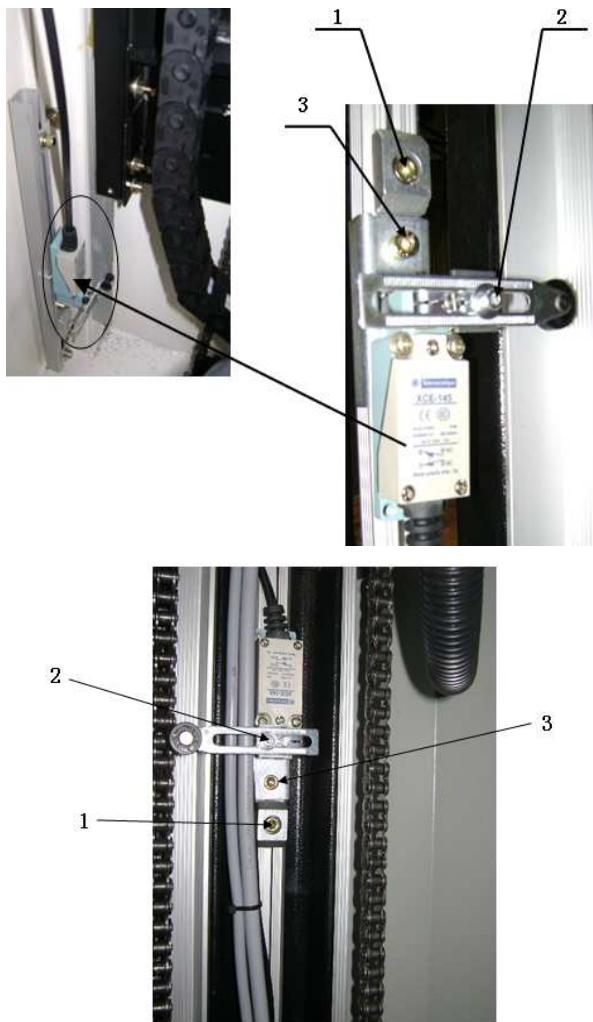


FIG 3-1

3-2 Troubleshooting

In case of malfunction and damages, it shall be repaired by professionals, who must be experienced in electrical, pneumatic and mechanical fields. Before repairing, make sure there is enough space around the machine to avoid other damage during the maintenance by professionals.

Please proceed as follows:

- Stop the machine;
- Turn the main switch to OFF to cut off the power;
- Remove the inner electrical wire connected to the panel;
- Remove the 4 M10 screws;
- Lay down the upright stanchion and place it on the base, backed with two wooden battens on the base.
- Put the machine, the upright stanchion and all moving parts into a transport case, getting ready.

If the machine is out of service, please also follow the above steps:

- Dispose the parts by materials (metal, plastic, rubber, etc) in accordance with regulations.

NOTE: If the machine is out of service, please refer to local regulations!

3-3 List of possible faults

3-3-1 The machine does not work

3-3-2 The power indicator does not light

3-3-3 The turntable does not rotate

3-3-4 The lifting unit frame does not move

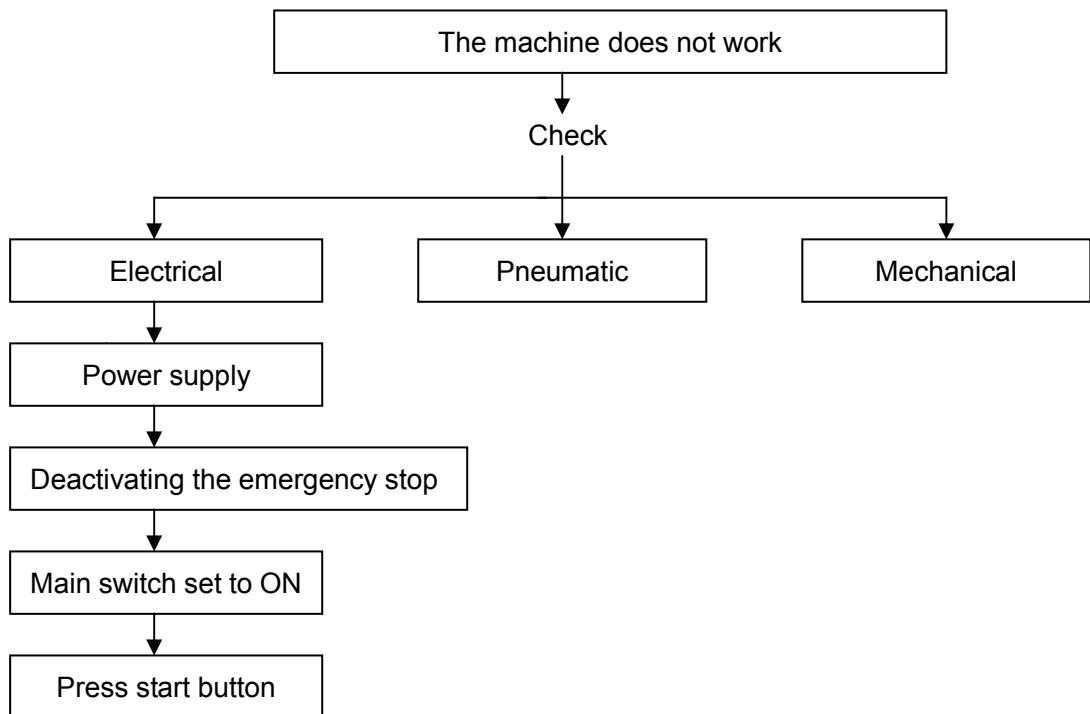
3-3-5 The stretch film damages due to tension

3-3-6 The top presser does not work

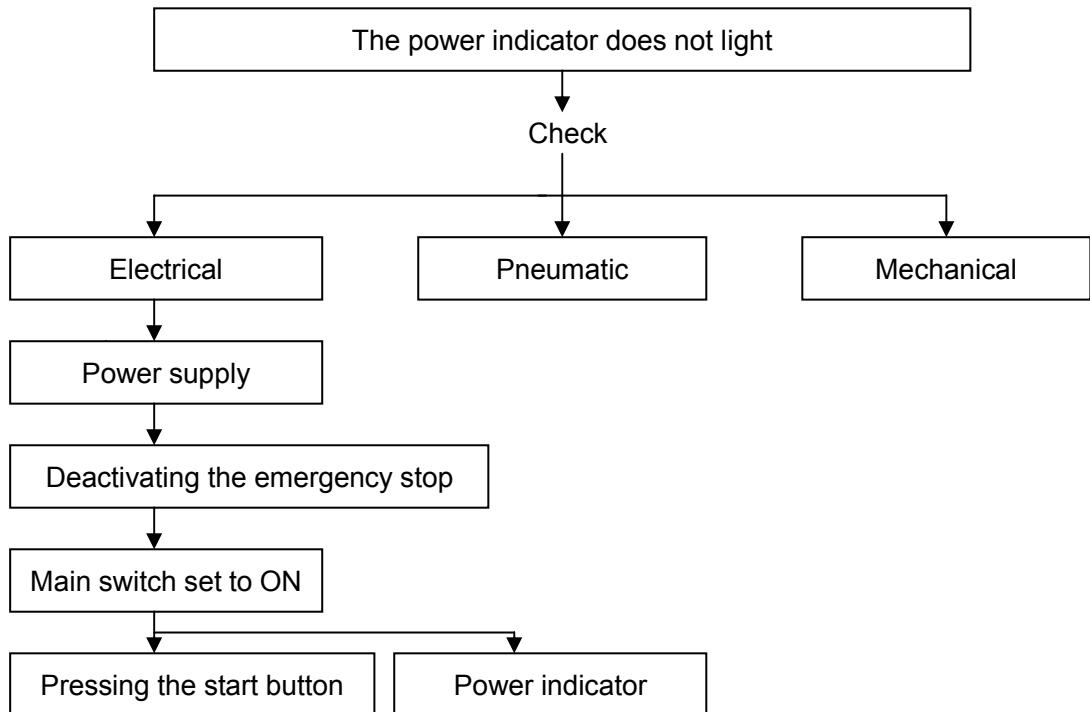
3-3-7 The automatic working model is interrupted

3-3-8 Pre-stretch percentage is not enough (Two-section pre-stretch film carrier)

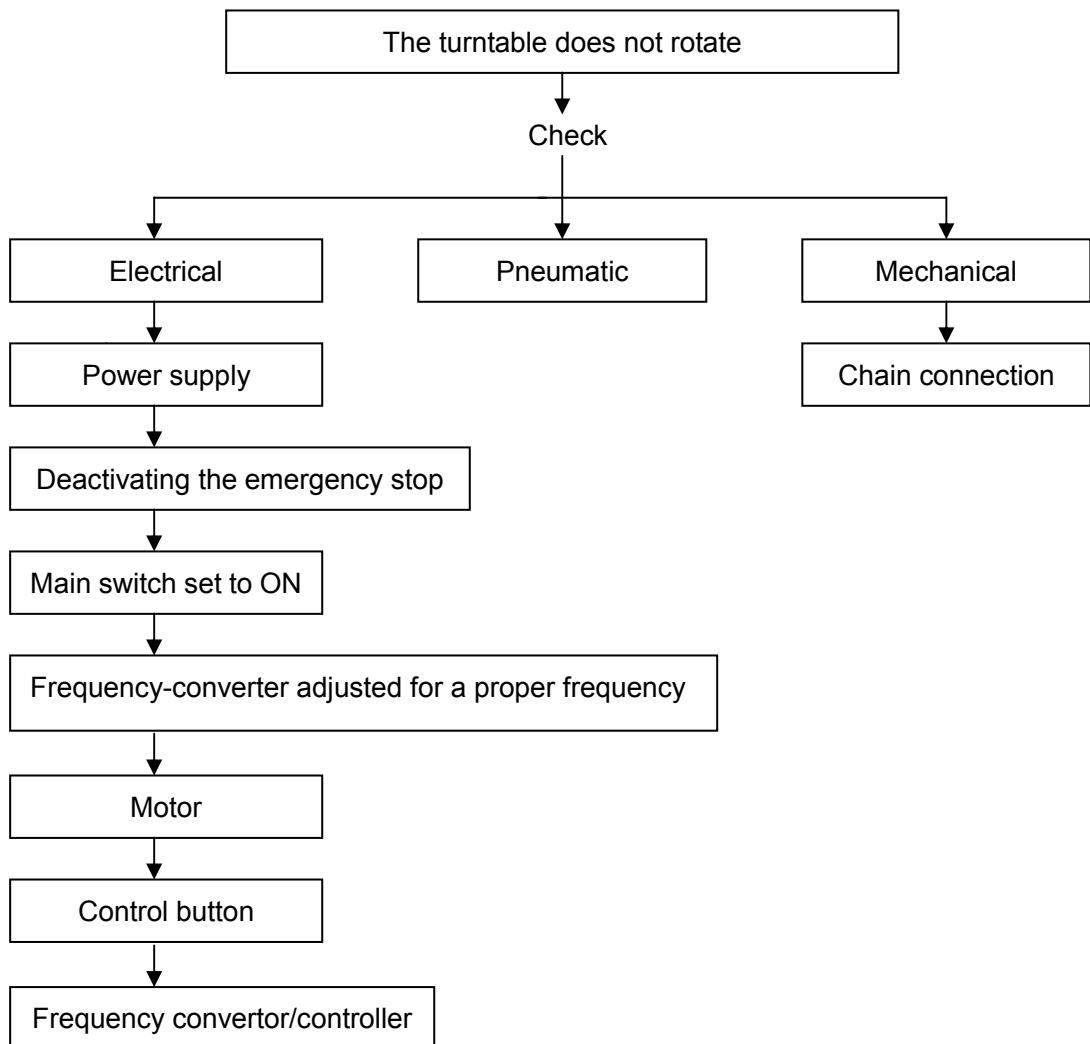
3-3-1 Fault description: the machine does not work



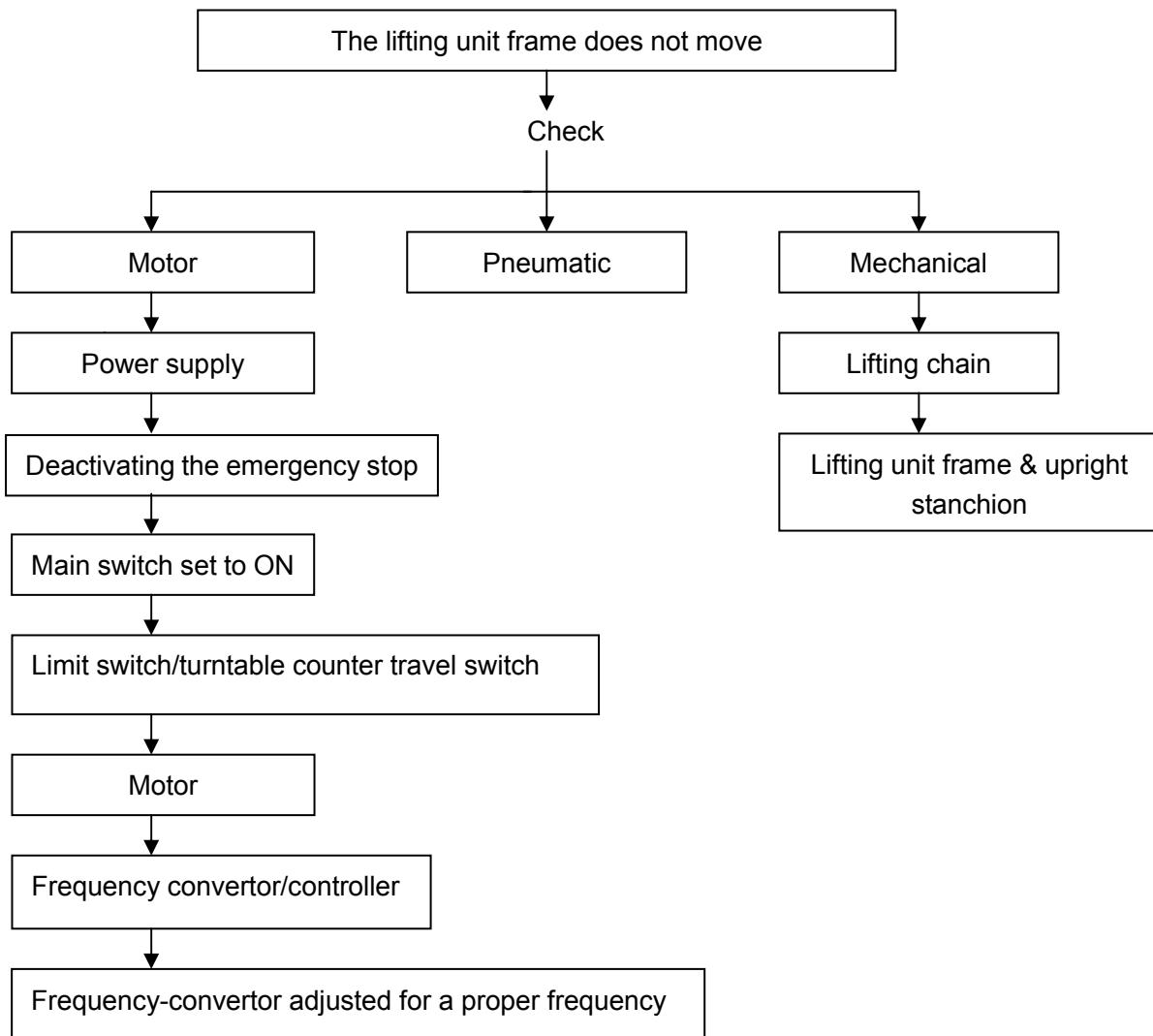
3-3-2 Fault description: the power indicator does not light



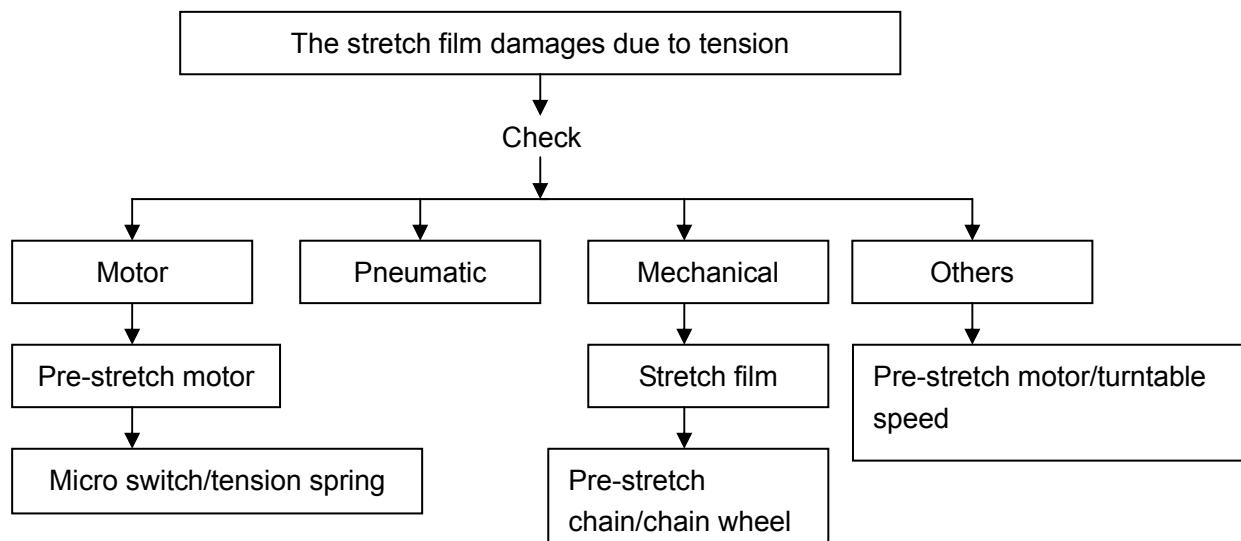
3-3-3 Fault description: the turntable does not rotate



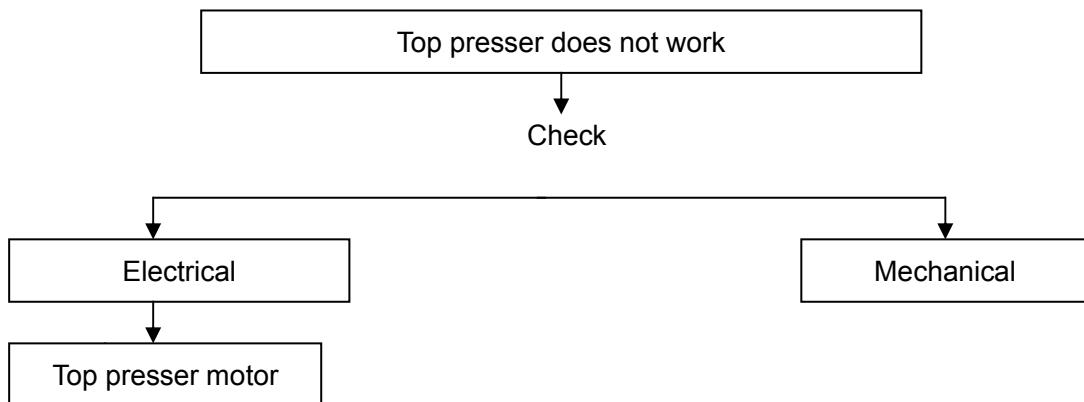
3-3-4 Fault description: the lifting unit frame does not move



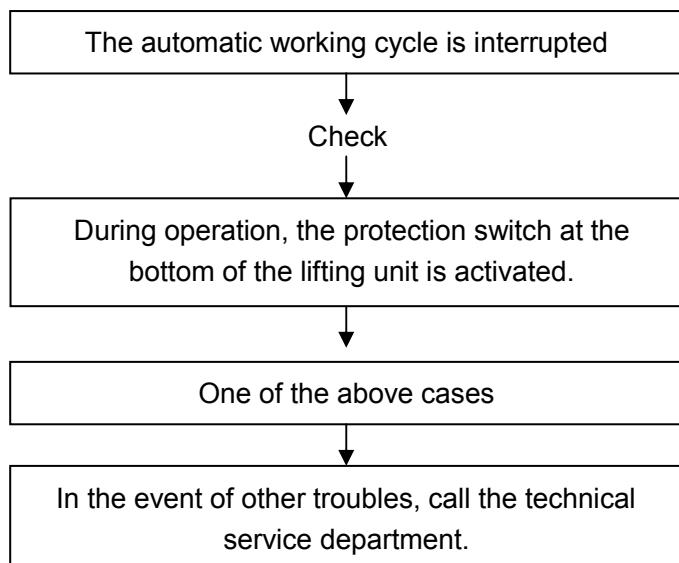
3-3-5 Fault description: the stretch film damages due to tension



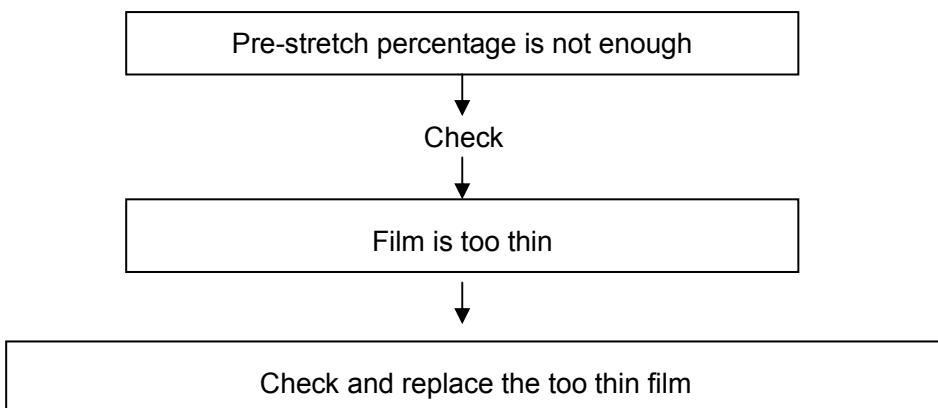
3-3-6 Fault description: top presser does not work



3-3-7 Fault description: the automatic working cycle is interrupted

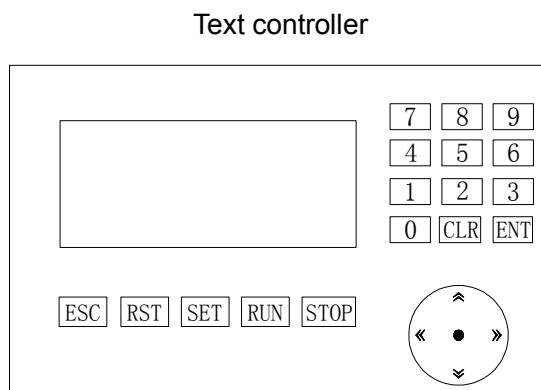


3-3-8 Fault description: Pre-stretch percentage is not enough

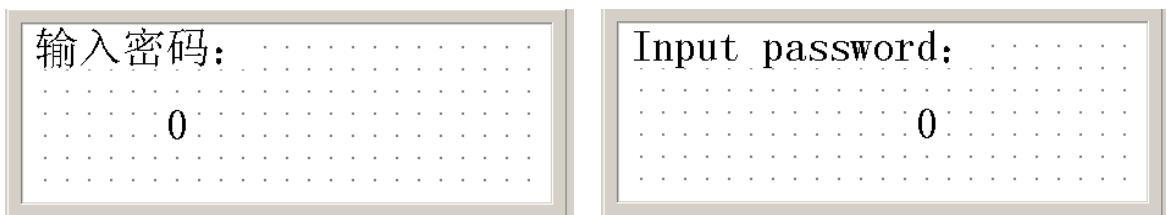


PART 4 OPERATION OF THE MACHINE

4-1 Operation of the text controller



Turn on the power, going to the Input password screen if there is a set password, or going to the automatic working mode directly if the password is 0. The initial password is 0.



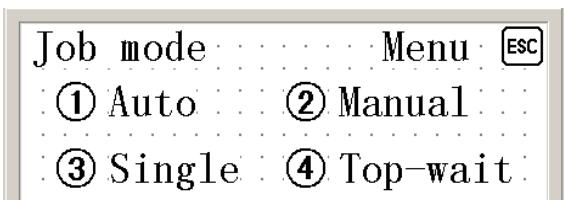
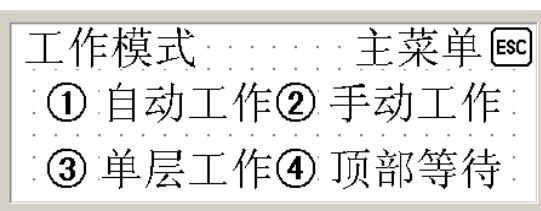
- ① When you want to wrap objects manually, turn on the power, and press **ESC** key, going to the **MAIN MENU** screen, where press **2**, going to the **Job mode** screen. Press **2** on the **Job mode** screen, going to the **Manual** screen, and then pull out the film for an appropriate length and wrap it onto the objects following the rotation direction of the turntable. Then press **5**, the turntable turning; and then press **9** for upward continuous wrapping after the objects are wrapped for an appropriate number of circles. At last, press **3** for downward continuous wrapping after the objects are wrapped to a required position.

Adjustment for the thickness of wrapping: Appropriately adjust the speed of the turntable and the lifting motor to achieve the wrapping of an appropriate thickness. The faster the turntable rotates, the slower the lifting is, and the thicker the wrapping will be; on the contrary the thinner will be.

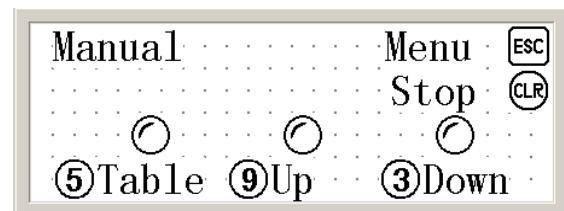
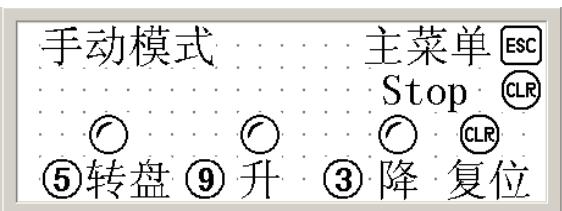
MAIN MENU



JOB MODE

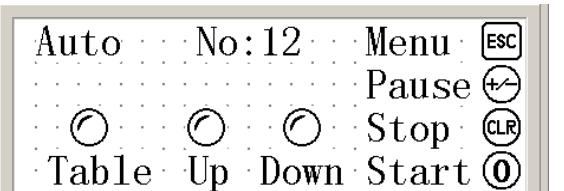


MANUAL MODE

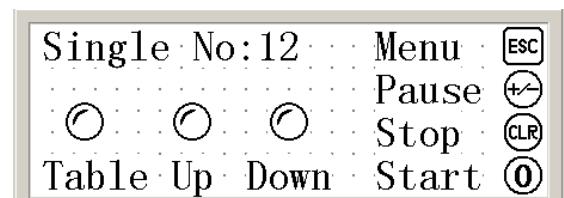


② Automatic wrapping: Turn on the power, and the text will show the **AUTO MODE** screen automatically, if not, press **[ESC]**, going to the main menu screen and press **2**, going to the job mode screen, where select **1**, going to the **AUTO MODE** screen, and then pull out the film for an appropriate length and wrap it onto the objects following the rotation direction of the turntable. Then press **0** for automatic operation. After the wrapping cycle is finished, the film will be cut off. If the film is tensioned too much by the brake device for stretching the film, the film may be damaged easily, so, for the pre-stretch type, it is necessary to adjust the speed of the pre-stretch motor before starting the next automatic wrapping operation; and for then anti-stretch type, to adjust the braking fine tuning screw to loosen the tension to reach a satisfactory wrapping result.

AUTO MODE



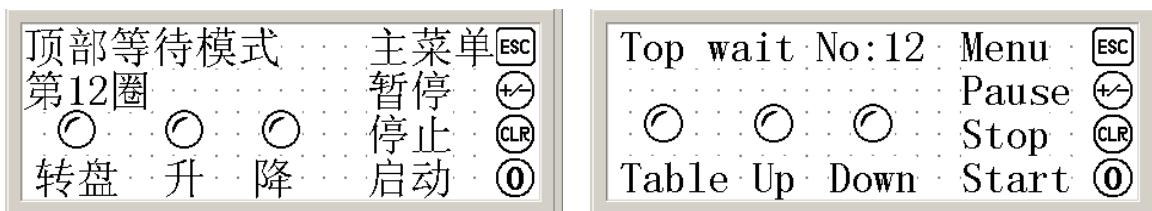
③ Single-layer wrapping: Go to the Job mode screen, where select **3**, going to the single-layer mode.



TOP-WAIT WRAPPING

Select 4 in the Job mode screen, going to the Top-wait mode, and press 0 to start. When the machine automatically wraps to the top position, both the turntable and the lifting unit stop, and after the top is covered, press the start button, and the machine will automatically complete the remaining actions.

TOP-WAIT MODE



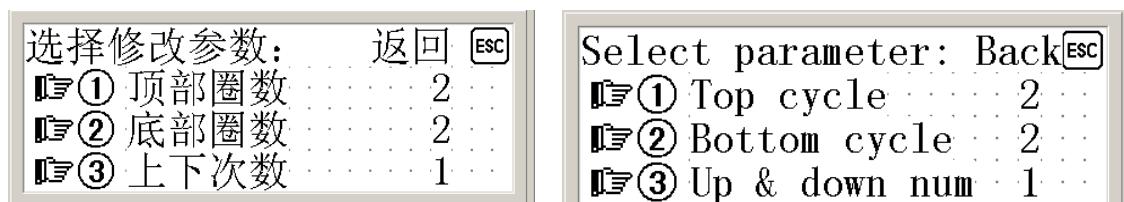
- ④ Yield inquiry: Press **ESC** key, going to the **MAIN MENU** screen, where press 3, going to the **YIELD INQUIRY** screen, where the current yield and sum yield appear, and you can clear the current yield to be zero by clicking .

YIELD INQUIRY



- ⑤ Parameter setting: Press 1 in the **MAIN MENU** screen, going to the **PARAM. SET** screen. If you need to adjust the number of top cycles, press 1, going to the **TOP CYCLE NUMBER MODIFICATION** screen, where first press **SET**, select a desired value with the key  or  on the screen when the figure flickers, and then press **ENT** to confirm it. The method for modifying the number of bottom cycles and up & down cycles is the same as that of the top one.

PARAM SETTING



TOP CYCLE NUMBER MODIFICATION (without a photoelectric sensor)

修改SET 确定ENT 返回 [ESC]
顶部圈数: 2

Modify SET Back [ESC]
OK ENT
Top cycle 2

TOP CYCLE NUMBER MODIFICATION (with a photoelectric sensor)

修改SET 确定ENT 返回 [ESC]
顶部圈数: 2
定位时间: 30

Modify SET Back [ESC]
OK ENT
Top cycle 2
positioning time 30

Positioning time is used to modify the height of the lifting unit.

BOTTOM CYCLE NUMBER MODIFICATION

修改SET 确定ENT 返回 [ESC]
底部圈数: 2

Modify SET Back [ESC]
OK ENT
Bottom cycle: 2

UP&DOWN CYCLE NUMBER MODIFICATION

修改SET 确定ENT 返回 [ESC]
上下次数: 1

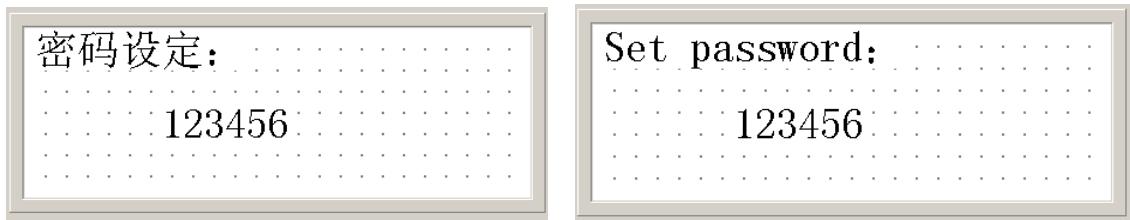
Modify SET Back [ESC]
OK ENT
Up and down num: 1

- ⑥ Param. inquiry: Press 4 in the **MAIN MENU** screen, going to the **PARAM. INQUIRY** screen, where you can see the corresponding parameters set above.

参数查询: 返回 [ESC]
顶部圈数 2
底部圈数 2
上下次数 1

Parameter: Back [ESC]
Top cycle 2
Bottom cycle 2
Up&down num 1

- ⑦ Password setting: Press 5 in the **MAIN MENU** screen, going to the **Set password** screen, and the number of figures for the password can be between 1 - 6.



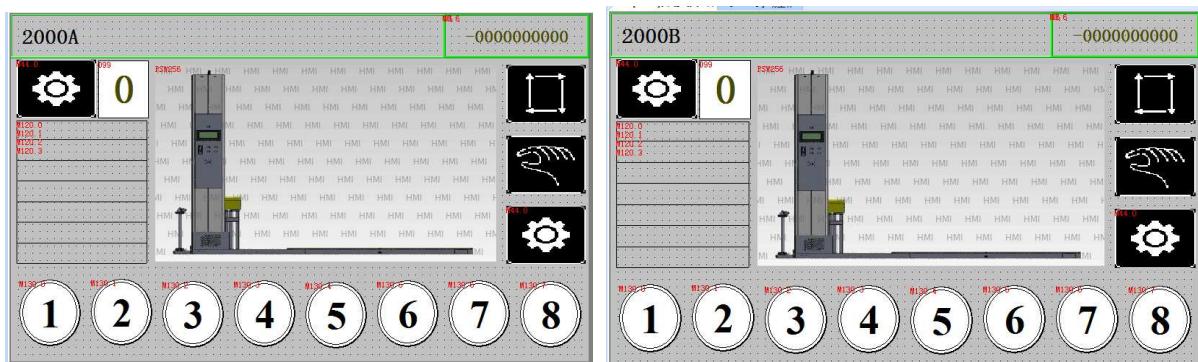
- ⑧ Language selection: Press **6** in the **MAIN MENU** screen, going to the **Select language** screen.



4-2 Touch screen operation

4-2-1 System start

The system automatically goes to the main screen after powering on:



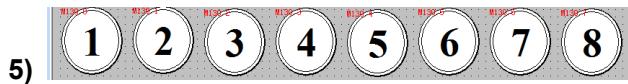
1) **0**: shows the current program number;

2) : press this button to switch to the main screen;

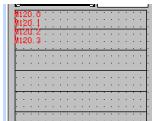
3) : press this button to switch to the manual screen;



4) : press this button to switch to the parameter setting screen;



5) : ① to ⑧ are eight program numbers, and press this keys in turn, you can go to the parameter setting screen of the corresponding program numbers.



6) : This area is the alarm information column, which displays the detailed information of alarms of the machine. There are 4 alarm prompts, according to which the alarms can be eliminated.

7) After setting the parameters, pull out the film for an appropriate length, and twine it around the object to be wrapped following to the direction of rotation of the turntable, and then press **Start**, the machine will work automatically.

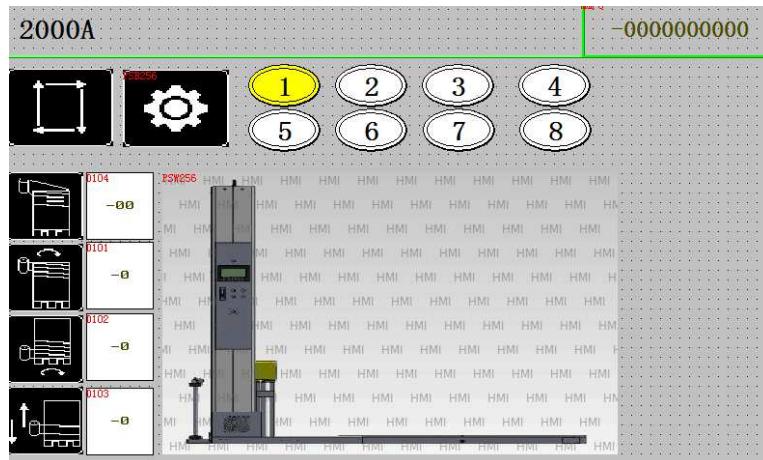
8) If the film stretching braking device tensions the film too strongly, it is easy to break the film, so (for the pre-stretch type), adjust the pre-stretch motor speed before twining the film around the object to be wrapped next time.

Note: The screens of the touch screen for MH-FG-2000A and MH-FG-2000B are the same, and here takes MH-FG-2000A screens as an example.

4-2-2 Screen switching



a) In the main screen, select , going to the following screen:



The parameters can be set accordingly.



1) : Top-wait mode setting: The stretch film automatically wraps to the top position of the object, the turntable and lifting stop, and after the top is capped, press the

Start button again, and the machine will automatically finish the remaining actions.



- 1) : Top cycle number;



- 2) : Bottom cycle number;



- 3) : Up & down cycle number.



Setting method: Click the corresponding value box of a parameter , a digital setting



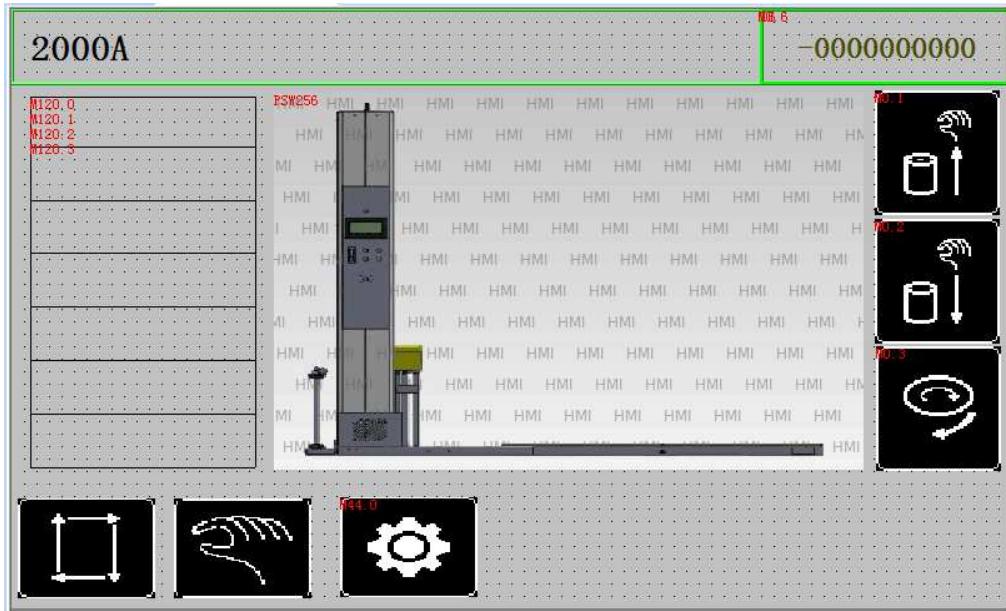
keyboard popping up , set the desired value, and press the button



to save it.



- b) Select in the main screen, going to the manual screen:



- 1) : Click this button, the turntable on;



- 2) : Click this button, the frame rising;



3) Click this button, the frame descending;

4) In the case of manually wrapping objects, pull out the film for an appropriate length, and twine it around the object to be wrapped following to the direction of rotation of the turntable.



Then press , the turntable rotating, and after the object is wrapped for an appropriate



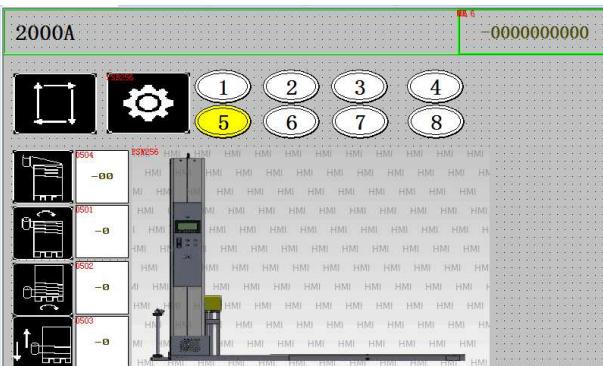
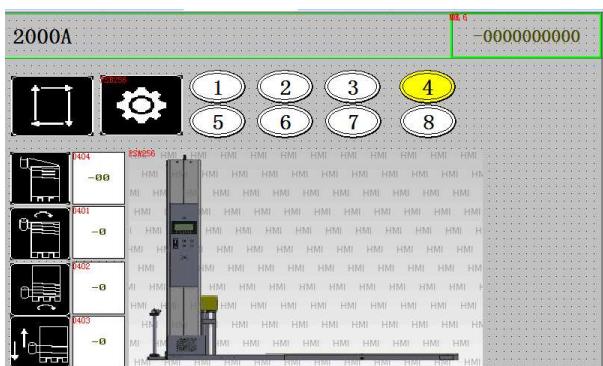
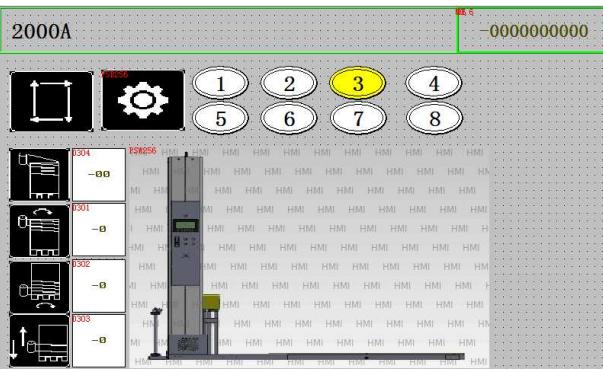
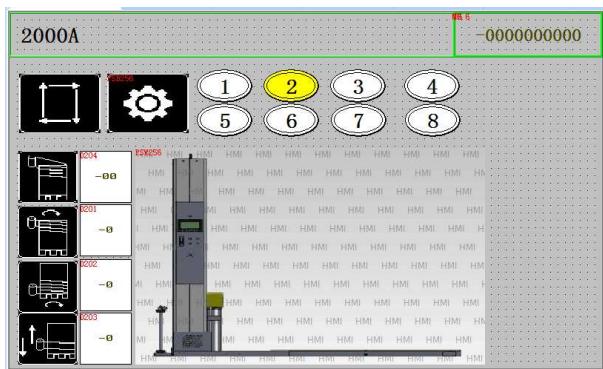
number of cycles, press , upward continuous overlapping wrapping will be carried out;

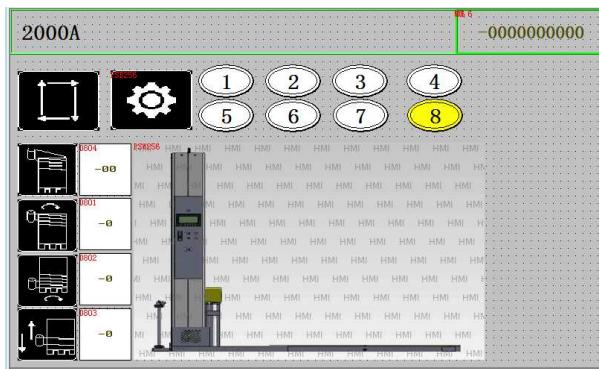
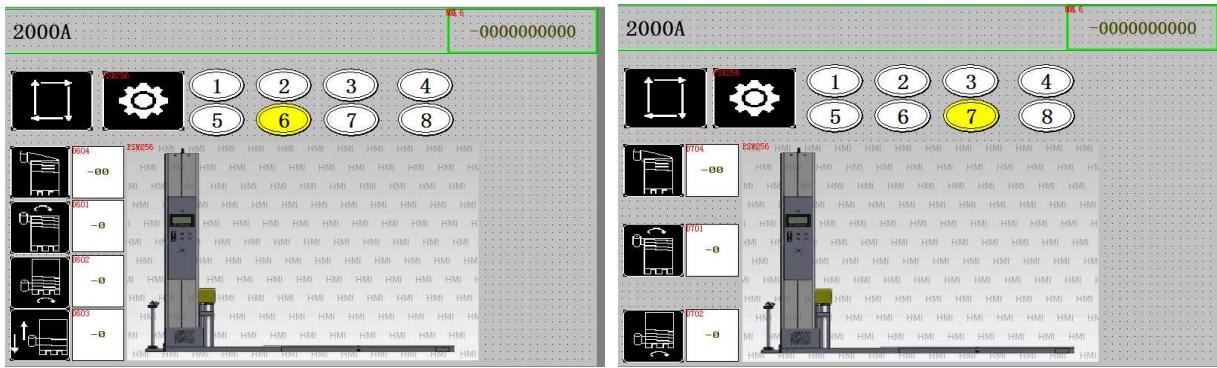


after the object is wrapped to the desired position, press , downward continuous overlapping wrapping will be carried out.

5) Wrapping thickness adjustment: Adjust the speed of the turntable and lifting motor properly, so that appropriate wrapping thickness will be achieved. The faster the turntable rotates and the slower the lifting is, the thicker the wrapping thickness will be, otherwise the thinner.

➤ Going to the setting screen of each program number for settings:





4-3 Control panel operation

As shown in FIG 4-1:

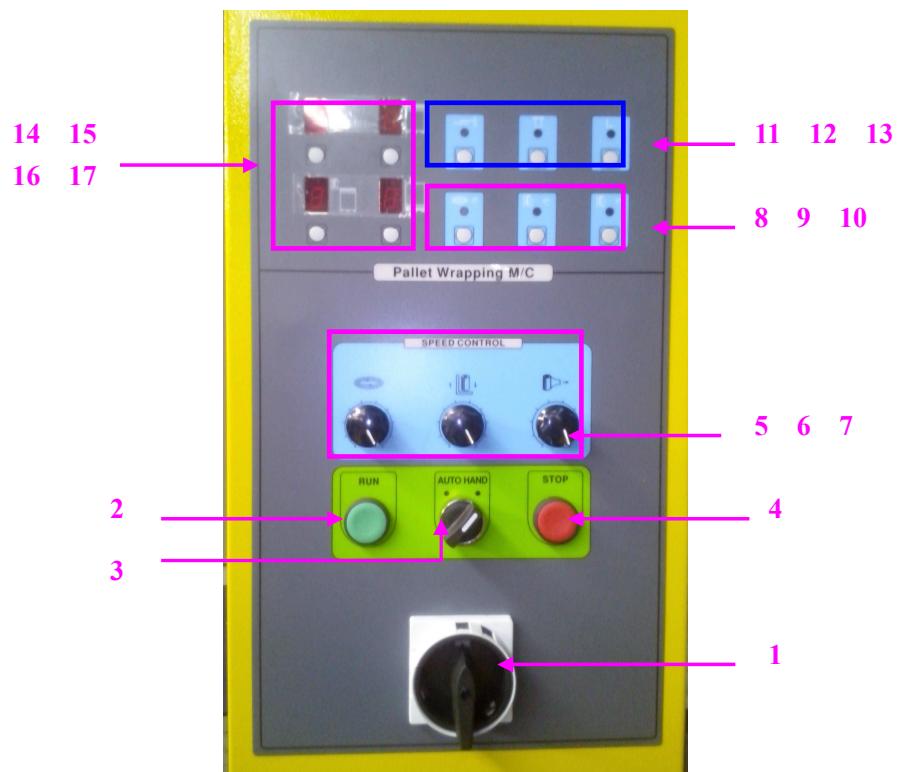


FIG 4-1

- (1) Main power switch: Turn to "ON" to turn on the power, and "OFF" to turn off the power;
- (2) Start button: The machine starts running after you press this button;
- (3) AUTO/HAND selection switch: "AUTO" for automatic mode, and "HAND" for manual mode;
- (4) Stop button: The machine stops working;
- (5) Turntable's rotation speed adjustment knob: Its speed will gradually accelerate when it is turned clockwise;
- (6) Lifting body's lifting speed adjusting knob: Its speed will gradually accelerate when it is turned clockwise;
- (7) Film carrier's film feeding speed adjusting knob: Its speed will gradually accelerate when it is turned clockwise;
- (8) Manual button for turntable: You can manually control the rotation of the turntable with it, which is generally used for operations during commissioning or maintenance;
- (9) Manual button for lifting body rising: You can manually control the rising of the lifting body with it, which is generally used for operations during commissioning or maintenance;
- (10) Manual button for lifting body descending: You can manually control the descending of the lifting body with it, which is generally used for operations during commissioning or maintenance;
- (11) Button for top presser mode: This button is applicable to machines equipped with the function of a top presser;
- (12) Top waiting button: This button is applicable to the operating mode where an object being wrapped shall be covered by a top plate;
- (13) Reset button: When a part of the machine, such as turntable, a lifting body, is not at its home position, you can make it back to its home position with this button;

NOTE: The following figure display windows 14-17 have the function of parameter setting.

- (14) The times of rise and fall: It is used to set the times of rise/fall of a lifting body. If it is set as 1, it means the lifting body will finish a rise and fall;
- (15) Top laps: Set the number of wrapping laps that a lifting body will carry out at the top;
- (16) Height of residual film: When the height measurement photocell installed on the upper part of the lifting body (see FIG 4-2) cannot detect the object being wrapped, it means the lifting body has risen up to the top of the object being wrapped, at this time, if the "height of residual film" is set to 0 second, the lifting body will immediately stop, with no more film fed; if a certain extra length of stretch film shall be left on the object being wrapped to cover the top of the object, the "height of residual film" can be set to a corresponding value greater than 1 second according to needs.
- (17) Bottom laps: Set the number of wrapping laps that the lifting body will carry out at the bottom.

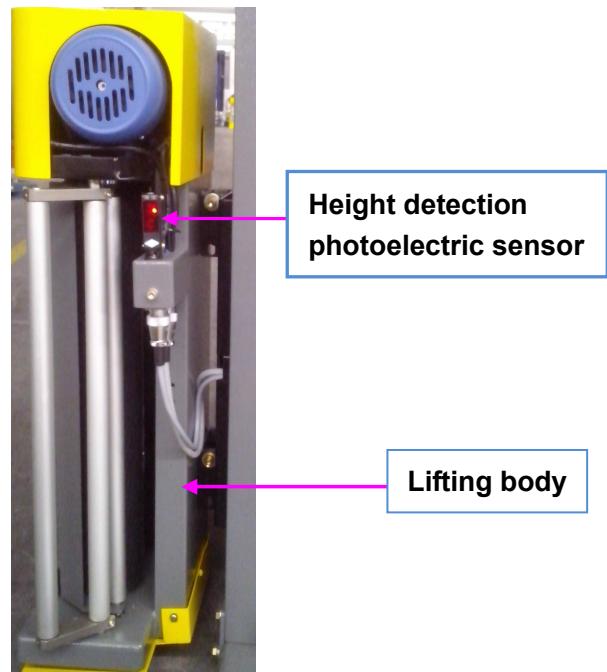


FIG 4-2

4-4 Introduction of weighing indicator

Weighing indicator is an optional device, which can display the weight of wrapped objects through LCD panel, and an indicator with printing function can be equipped (optional).

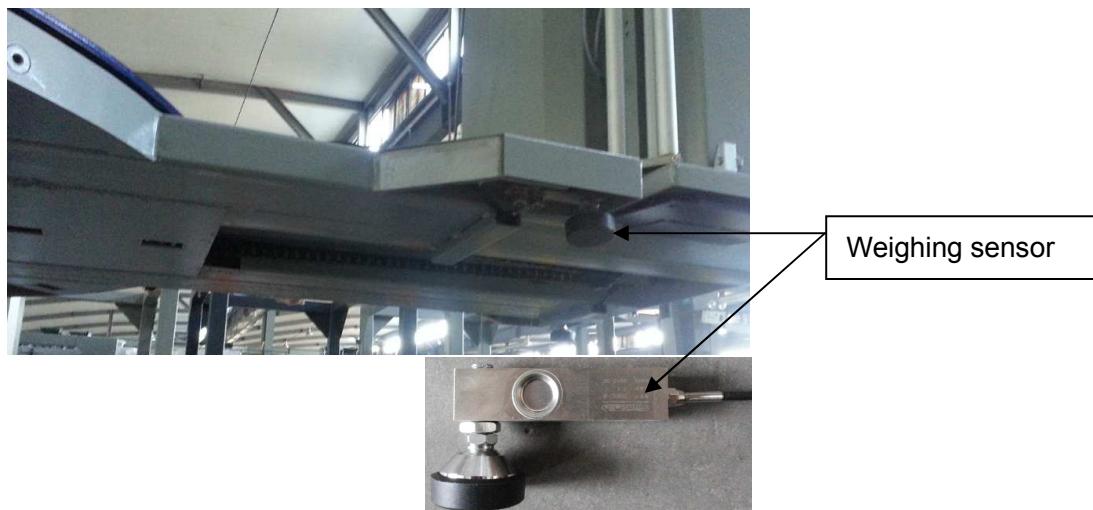


1) The above figure shows an electronic weighing instrument, LP7510 series. A weighing instrument with the function of printing and outputting data can be chosen.

Note: This electronic weighing instrument is optional according to your needs.

2) The following figure shows a weighing sensor installed under the turntable, model: SQB-AIT.

3)



PART 5 MAINTENANCE

5-1 Daily maintenance

5-1-1 Safety warnings on maintenance

- ① Make sure cut off the main power and air pressure device.
- ② Maintenance personnel cannot maintain the machine barefoot.

5-1-2 Regular maintaining and cleaning

- ① Periodically check the screws of each part are not loosened.
- ② Periodically lubricate the important parts of the machine.
- ③ Keep clean the surface of the machine.

5-1-3 Regular and proper maintenance for the machine can not only extend its service life, but also avoid some troubles, thereby enhancing production efficiency. Periodically check the main parts of the machine (lifting holder, chains, and turntable, etc).

The following parts need to be lubricated frequently:

- 1) Chains and sliding blocks in the upright stanchion
- 2) Turntable chains
- 3) Pre-stretch bottom chains

Specific operational method:

- 1.1) Open the motor cover, carefully lubricate the chain (wheel) A with lubricating grease, and lubricate the whole chain transmission mechanism. (FIG 5-1) (maintenance once every 3 months recommended)
- 1.2) Lubricate the slide rail B of the lifting unit (travel range of slide rail C) (Fig. 5-1) with an appropriate amount of lubricating grease. (maintenance once every month recommended)

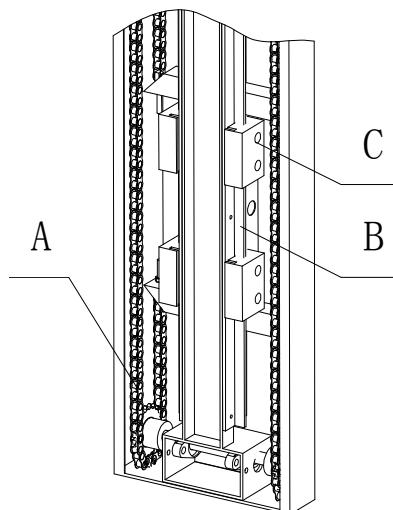


FIG 5-1

- 2.1) Open one cover plate between the turntable and the stanchion (fixed by four screws). Lubricate the transmission chain of the turntable with an appropriate amount of grease carefully. Coat lubricating grease on the whole chain transmission (Fig.5-2). (maintenance once every 3 months recommended)



FIG 5-2

- 3.1) Open the cover at the bottom of the lifting unit, lubricate the transmission chain of bottom of the lifting unit with an appropriate amount of grease carefully (FIG 5-3). (maintenance once every month recommended)



FIG 5-3

- 5-1-4** When the lifting unit of the machine is anti-stretch type, if the braking adjusting force goes down, check the triangle rubber belt abrasion is serious or not, if already badly worn, please replace it. (FIG 5-4) (maintenance once every half a month recommended)

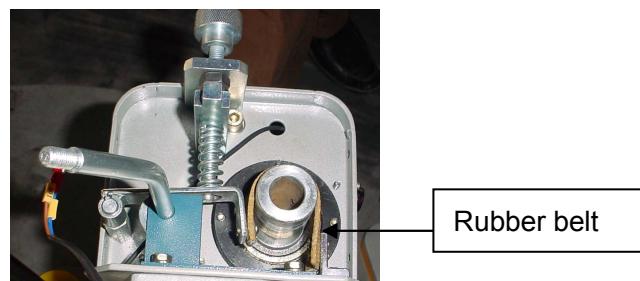


FIG 5-4

5-1-5 Check and fix the screws of the machine at any time.

5-1-6 If the load-bearing roller under the turntable as shown in the figure below is less than 53mm in diameter, or emits abnormal noises, please replace the whole roller. (You can remove the whole roller from the roller holder with a crowbar). (See FIG 5-5).

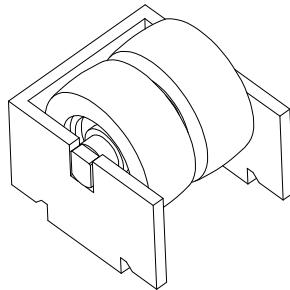


FIG 5-5

NOTE:

Please note the order when replacing the old parts and please change them according to the illustration.

In order to avoid faults and damages, please use original spare parts.

ATTENTION!

All maintenance must be carried out by professionals, during which all power supplies and pneumatic devices must be cut off.

5-2 Parts that need to be repaired or replaced by operators

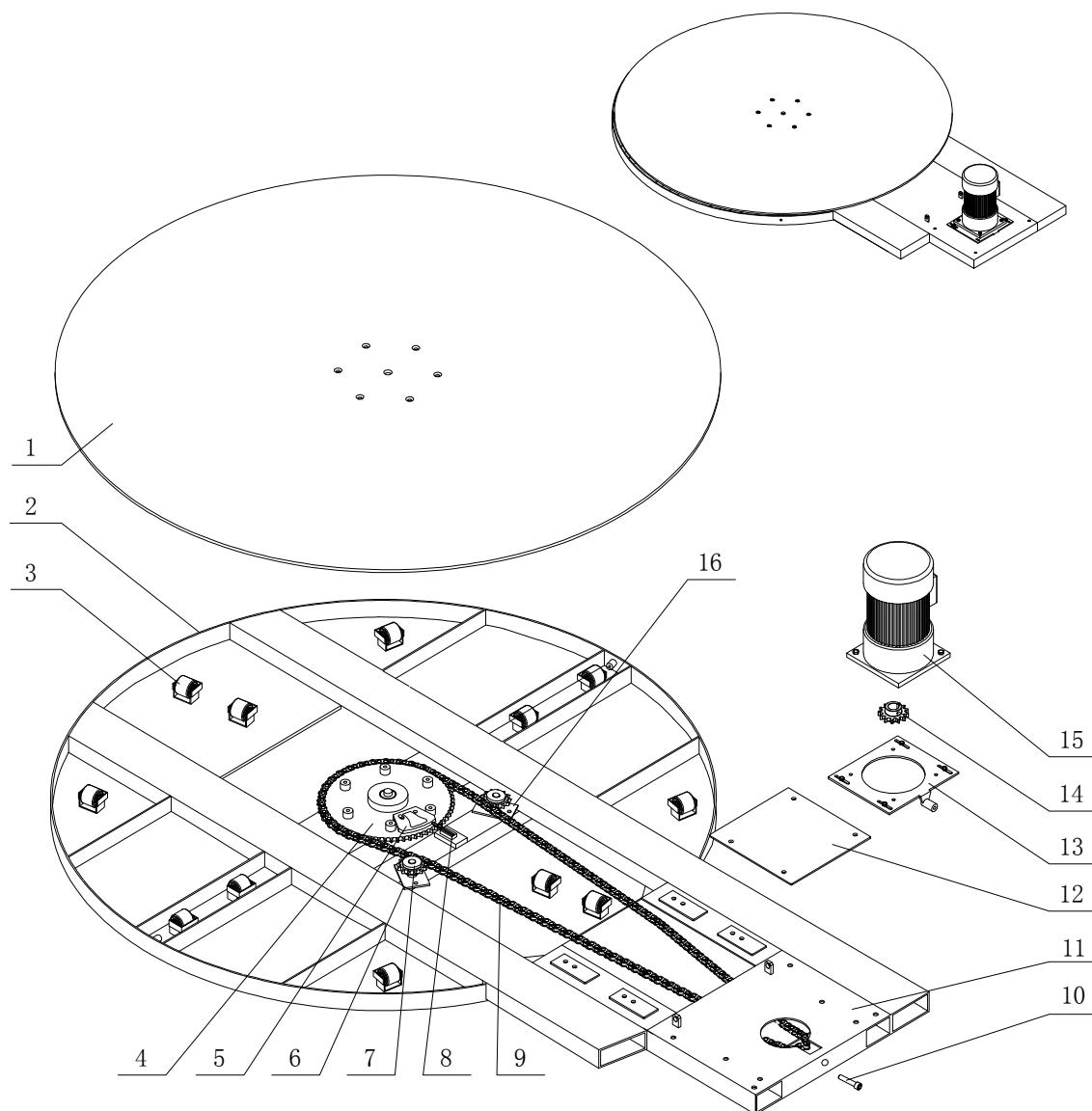
No.	Name of part to be replaced	Code	Remarks
1	Positioning plate	FGA50-001350000.000.6	
2	Straining ring	FGA50-001380000.000.9	
3	Micro switch (pre-stretch)		
4	Tension spring (pre-stretch)	FGA50-001300000.000.9	
5	Brake belt (anti-stretch)	M-L105	
6	Roller	FGB50-000130000.000.6	
7	Rough surface belt (pre-stretch)	40mm×δ5mm×3300mm	
8	Rough surface belt (anti-stretch)	40mm×δ2mm×3300mm	

5-3 Parts that need to be repaired or replaced by professionals

No.	Name of part to be replaced	Code	Remarks
1	Bearing (anti-stretch)	16007	
2	Bearing (pre-stretch)	6901	
3	Bearing (roller)	6202	
4	Chain		
5	Varistor		

PART 6 PARTS DIAGRAMS AND LISTS

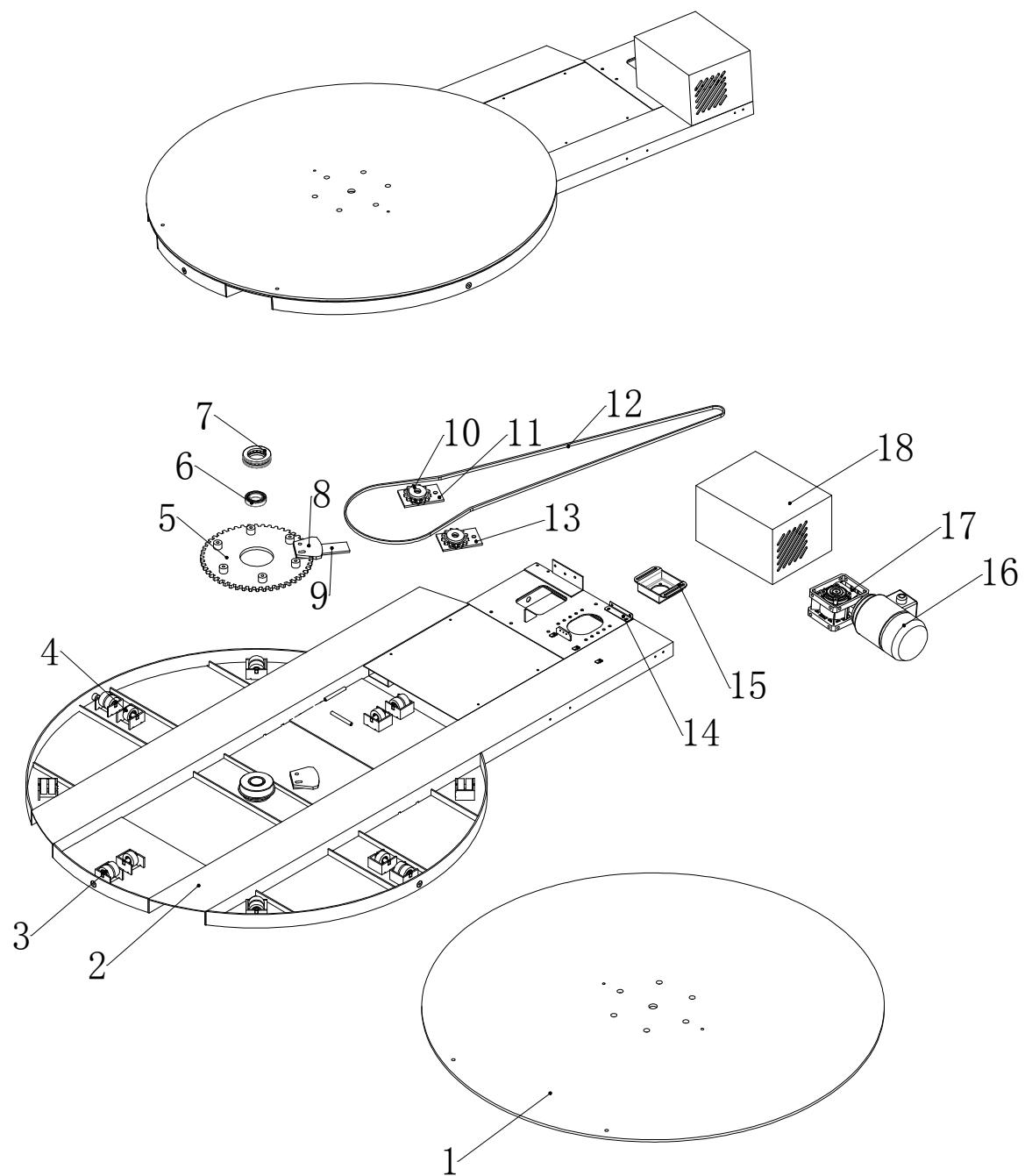
6-1 Base unit



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Turntable	FGD11-000000000.000.9	1	
2	Base	FGB50-000000000.000.9	1	
3	Roller assembly	FGB50-000130000.000.6	12	
4	Big chain wheel	FGB50-000080000.000.9	1	
5	Counting travel switch touch block	FGB50-000090000.100.9	1	
6	Elastic tensioning wheel seat	FGB50-000120000.000.9	1	
7	Tension chain wheel	FGB50-000210000.000.9	2	
8	Counting travel switch	TZ-918	1	TE
9	Chain	12A	1	
10	Main motor adjusting screw rod	M10×50	1	
11	Cover plate 1	FGB50-000020000.000.9	1	
12	Cover plate 2	FGB50-000030000.000.9	1	
13	Main motor base plate	FGB50-000050000.000.9	1	
14	Main turntable chain wheel	FGB50-000220000.000.9	1	
15	Turntable motor	CV750-30S	1	750W 1:30
16	Tension wheel base	FGB50-000110000.000.9	1	

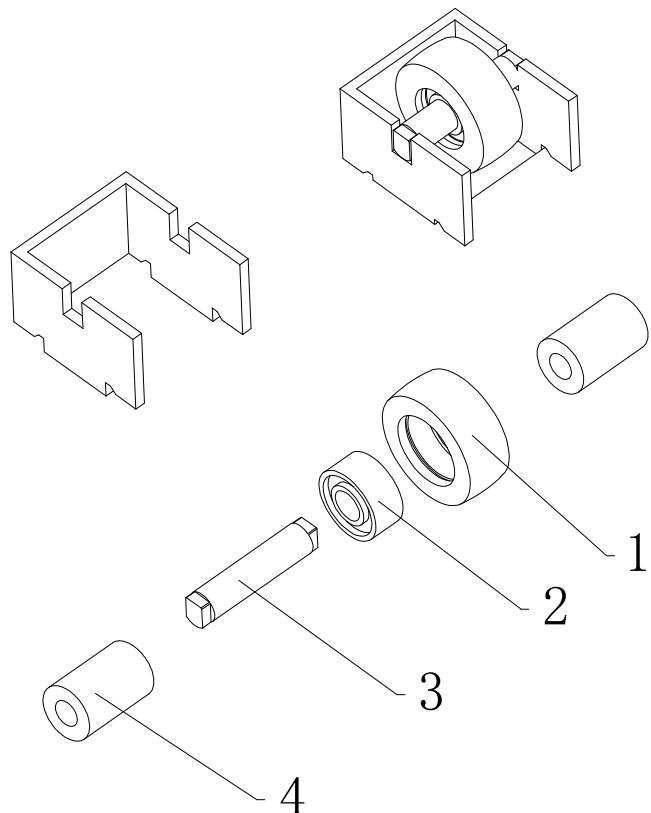
6-2 Base unit (horizontal type motor)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Turntable	FGD11-000000000.000.9	1	
2	Base	FGB30-000000000.000.9	1	
3	Roller assembly 1		4	See the diagram.
4	Roller assembly 2		8	See the diagram.
5	Big chain wheel	FGB50-000080000.000.9	1	
6	Bearing	6009		
7	Bearing block	FGB50-000080200.000.9		
8	Counting travel switch touch block	FGB50-000090000.100.9	1	
9	Counting travel switch	D4V-8108SZ-N	1	OMRON
10	Tension chain wheel	FGB50-000210000.000.9	2	
11	Tension wheel seat	FGB50-000110000.000.9	1	
12	Chain	12A	1	
13	Elastic tensioning wheel seat	FGB50-000120000.000.9	1	
14	Fixer of motor cover 2	FGC19-003760000.000.9	1	
15	Motor base	FGB90-000801000.000.9	1	
16	Motor	YS7124/B14	1	
17	Decelerator	NMRV050/30/71/B5	1	i=1:30
18	Motor cover	FGC19-003740000.000.9	1	

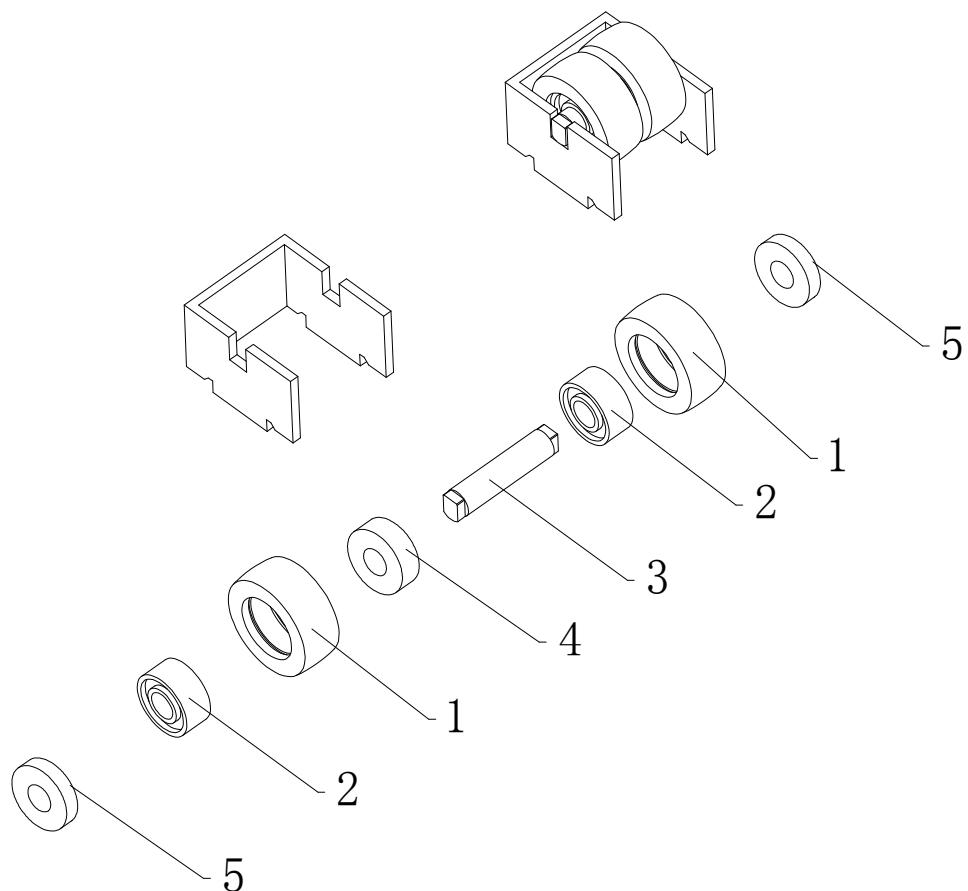
6-3 Roller assembly 1



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Roller body	FGB50-000130000.000.6	1	
2	Bearing	6202	1	
3	Roller shaft	FGB50-000140000.000.9	1	
4	Spacer ring	FGB50-000150000.003.9	2	L=23mm

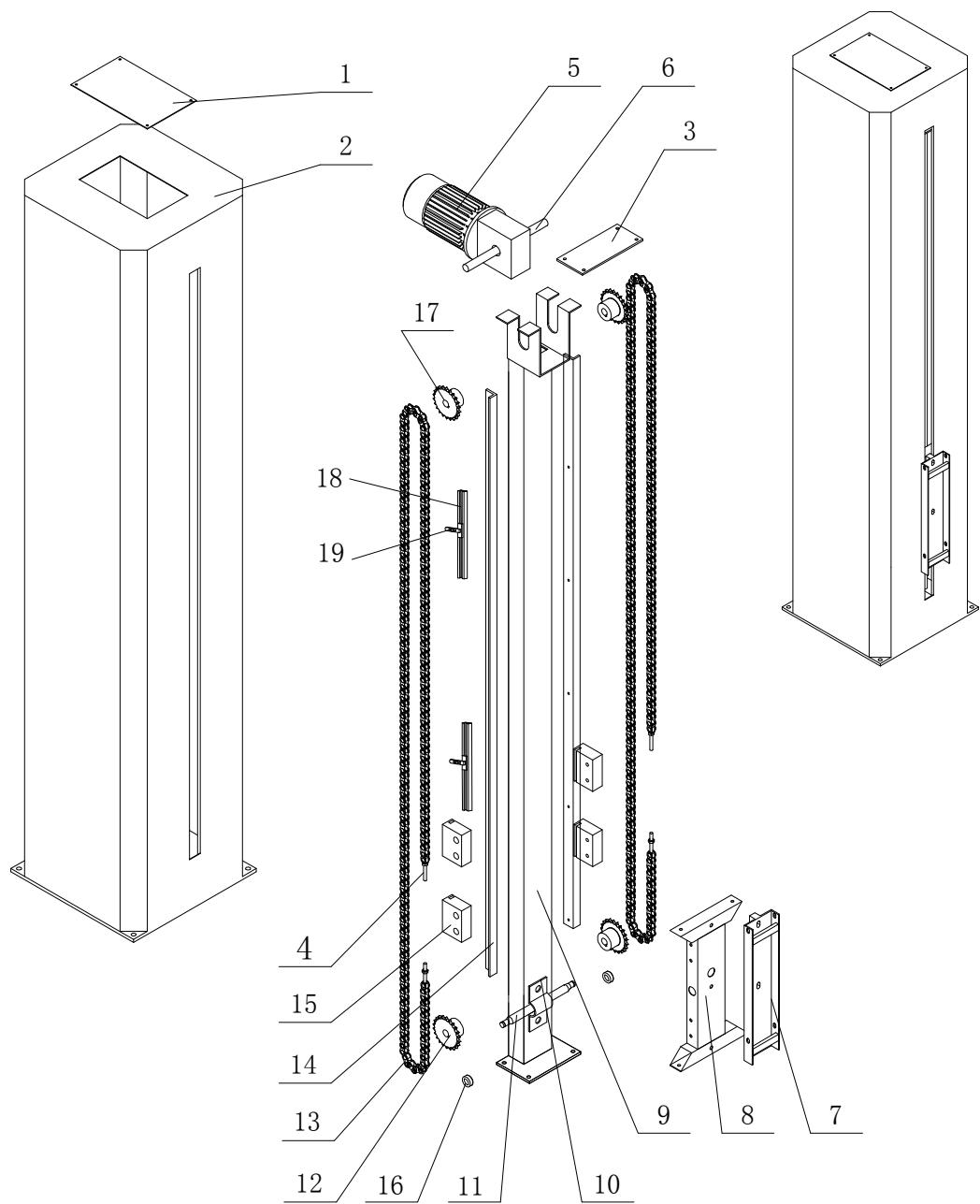
6-4 Roller assembly 2



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Roller	FGB50-000130000.000.6	2	
2	Bearing	6202	2	
3	Roller shaft	FGB50-000140000.000.9	1	
4	Spacer ring	FGB50-000150000.002.9	1	L=16mm
5	Spacer ring	FGB50-000150000.001.9	2	L=9.5mm

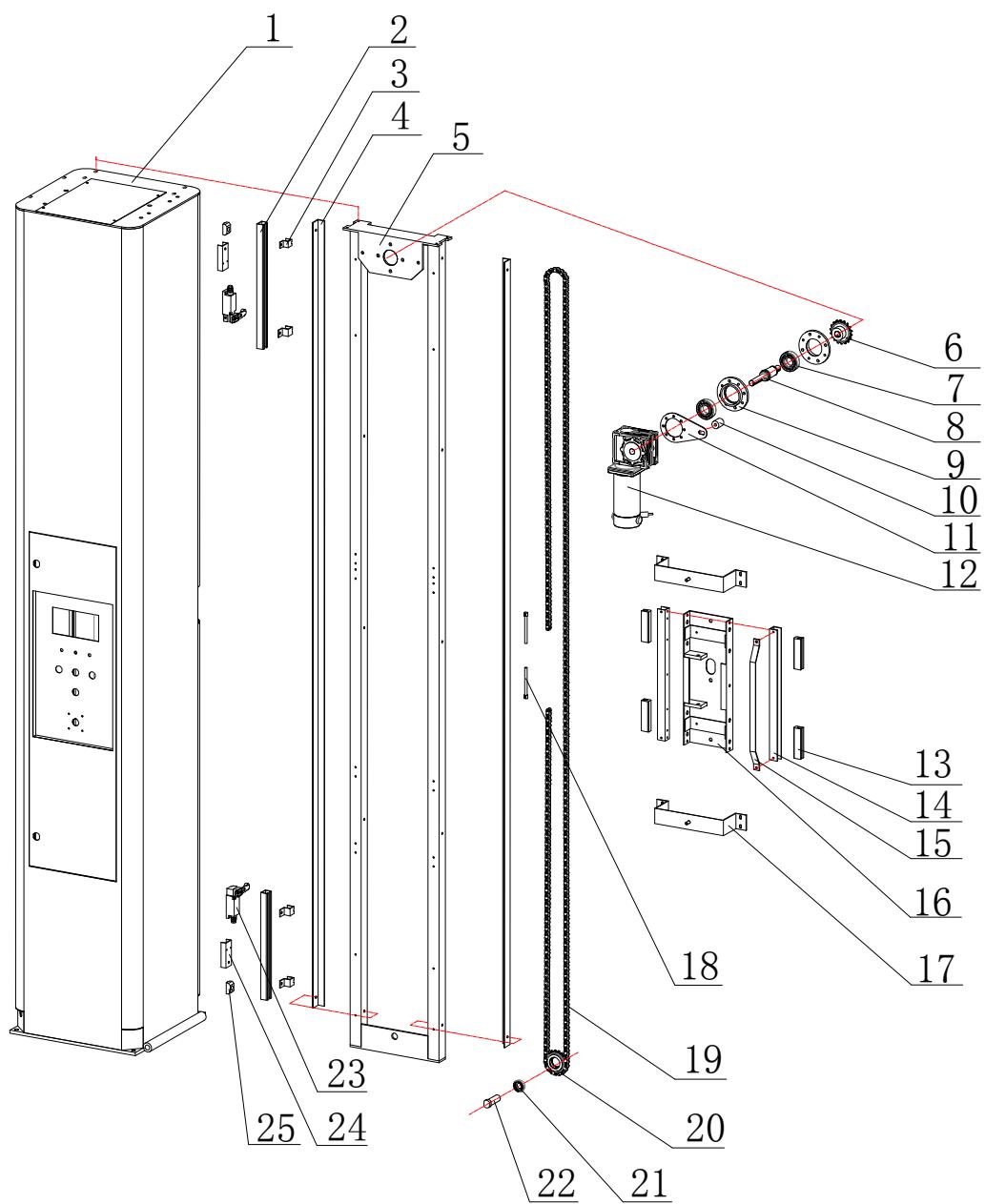
6-5 Upright stanchion unit (square stanchion-double chain)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Upright stanchion cap	FGC20-000210000.000.9	1	
2	Upright stanchion	FGC30-000000000.001.9	1	
3	Fixed board of U-steel frame	FGC20-000630000.000.9	1	
4	Chain adjusting screw rod	FGC20-000650000.200.9	4	
5	Lifting motor	YS6334 B14 with speed reducer NMRV040/60 63 B14/ i=1:60	1	250W
6	Motor shaft	FGC20-000580000.000.9	1	
7	Transition frame	FGC20-000750000.003.9	1	
8	Lifting frame	FGC20-000660000.005.9	1	
9	Lifting mechanism Mounting Rack	FGC20-000550000.000.9	1	
10	Fixed button of driven shaft	FGC20-000640000.000.9	1	
11	Driven shaft	FGC20-000590000.000.9	1	
12	Driven chain wheel	FGC20-000610000.000.9	2	
13	Chain	08B	2	
14	Slide rail	FGC20-010570000.000.3	1	
15	Plastic sliding block	FGC20-000680000.000.6	4	
16	Bearing	6904	2	
17	Motor chain wheel	FGC20-000600000.000.9	2	
18	Travel switch sliding groove	FGC20-010730000.000.3	2	
19	Travel switch	D4V-8108SZ-N	2	OMRON

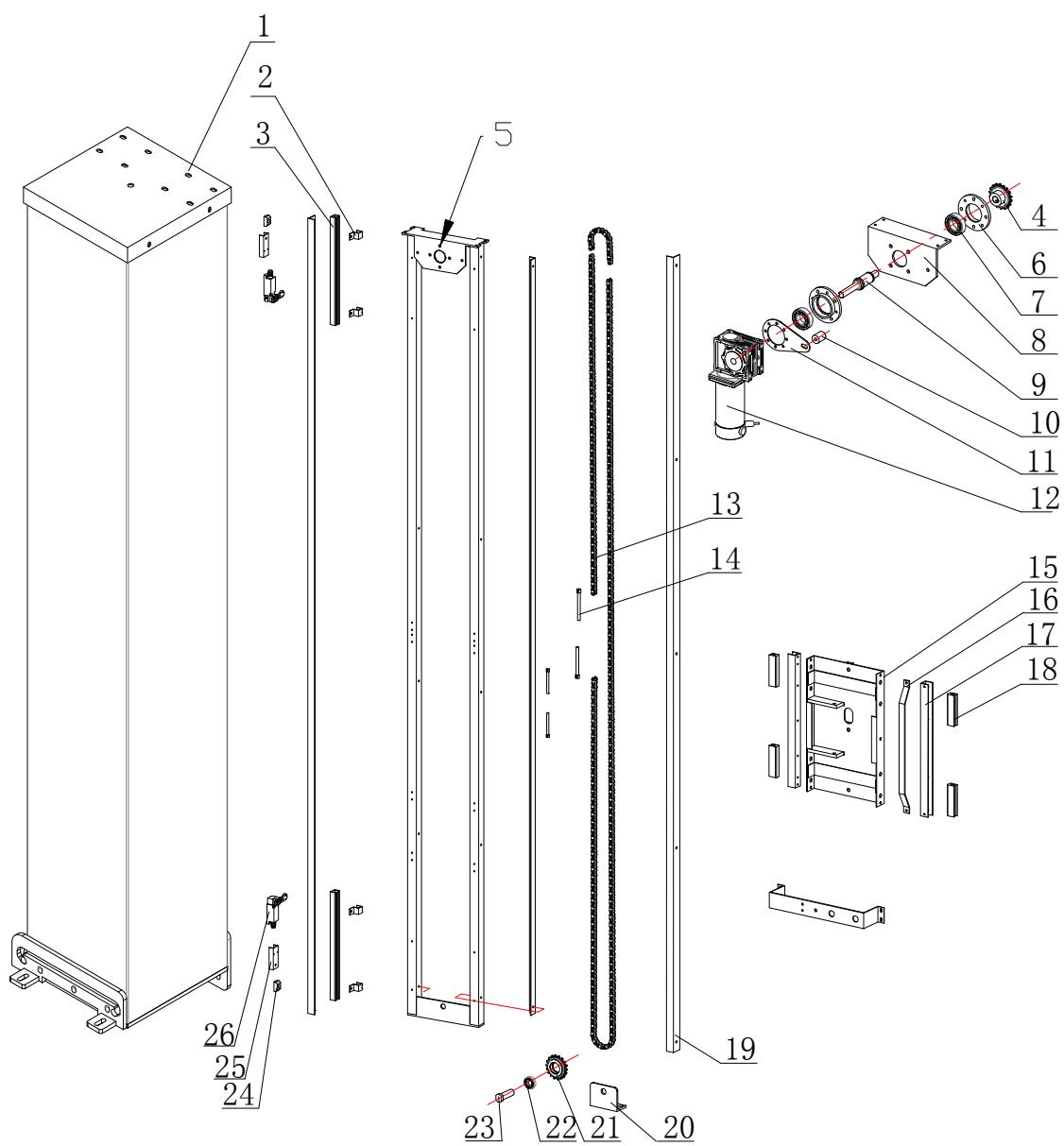
6-6 Upright stanchion unit (round corner - single chain)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Upright stanchion	FGC28-000000000.000.9	1	
2	Travel switch sliding groove	FGC20-010730000.000.3	2	
3	Lifting trunking support frame	FGC20-000730000.000.9	4	
4	Aluminum alloy slideway	FGC20-000570000.010.3	2	
5	Lifting mechanism mounting rack	FGC20-000550000.011.9	1	
6	Motor chain wheel	FGC20-000600000.000.9	1	
7	Bearing	6206	2	
8	Motor shaft	FGC20-006200000.000.9	1	
9	Bearing block	FGC20-007020000.001.9	2	
10	Main motor plate weldment	FGB50-000050200.000.9	1	
11	Torque arm	FGC28-005160000.000.9	1	
12	Lifting motor	YS6334 B14 with speed reducer NMRV040/60 63 B14/ i=1:60	1	250W 1:60
13	Plastic sliding block	FGC20-010680000.000.0	4	
14	Sliding block frame	FGC17-005140000.000.9	2	
15	Lifting touch block	FGC20-005150000.000.9	1	
16	Single chain lifting frame	FGC20-000660000.001.9	1	
17	Electrical baseboard mounting plate	FGC28-005130000.003.9	2	
18	Adjusting screw rod	FGC20-000650000.000.9	2	
19	Chain	08B	1	
20	Driven chain wheel	FGC20-000610000.000.9	1	
21	Bearing	6904	1	
22	Driven chain wheel shaft	FGC20-005120000.000.9	1	
23	Limit switch	D4V-8108SZ-N	2	
24	Lifting travel switch plate	FGC20-000720000.000.9	2	
25	Lifting travel limit block	FGC20-000740000.000.9	2	

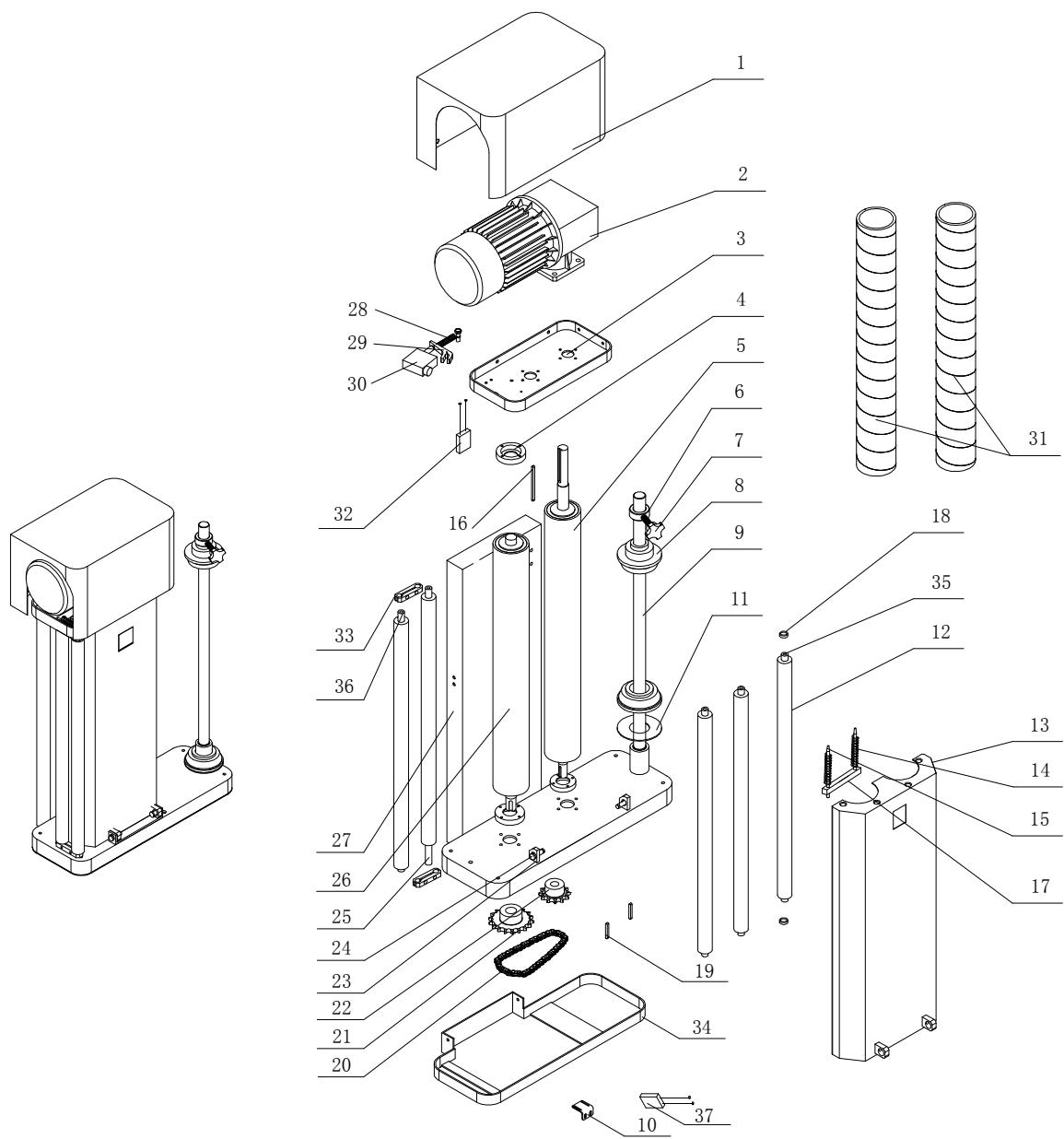
6-7 Upright stanchion unit (small square stanchion-single chain)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Upright stanchion	FGC39-000000000.002.9	1	
2	Lifting trunking support frame	FGC20-000730000.000.9	4	
3	Travel switch sliding groove	FGC20-010730000.000.3	2	
4	Motor chain wheel	FGC20-000600000.000.9	1	
5	Single-chain lifting mechanism mounting rack	FGC20-000550000.101.9	1	
6	Bearing block	FGC20-007020000.001.9	2	
7	Bearing	6206	3	
8	Lifting motor base board	FGC30-000140000.000.9	1	
9	Motor shaft	FGC20-006200000.000.9	1	
10	Main motor plate weldment	FGB50-000050200.000.9	1	
11	Torque arm	FGC28-000160000.000.9	1	
12	Lifting motor	YS6334 B14 配 減速机 NMRV040/60 63 B14/ i=1:60	1	250W
13	Chain	08B	1	
14	Adjusting screw rod	FGC20-000650000.000.9	2	
15	Single chain lifting carrier	FGC20-000660000.100.9	1	
16	Lifting touch block	FGC20-005150000.000.9	1	
17	Sliding frame	FGC17-005140000.000.9	2	
18	Plastic sliding block	FGC20-010680000.000.0	4	not used
19	Aluminum alloy slideway	FGC20-000570000.011.3	2	
20	Chain wheel mounting plate	FGC30-000170000.000.9	1	
21	Driven chain wheel	FGC20-000610000.000.9	1	
22	Bearing	6904	1	
23	Driven chain wheel shaft	FGC20-005120000.000.9	1	
24	Lifting travel limit block	FGC20-000740000.000.9	2	not used
25	Lifting travel switch plate	FGC20-000720000.000.9	2	
26	Limit switch	D4V-8108SZ-N	2	OMRON

6-8 Lifting assembly (pre-stretch type)

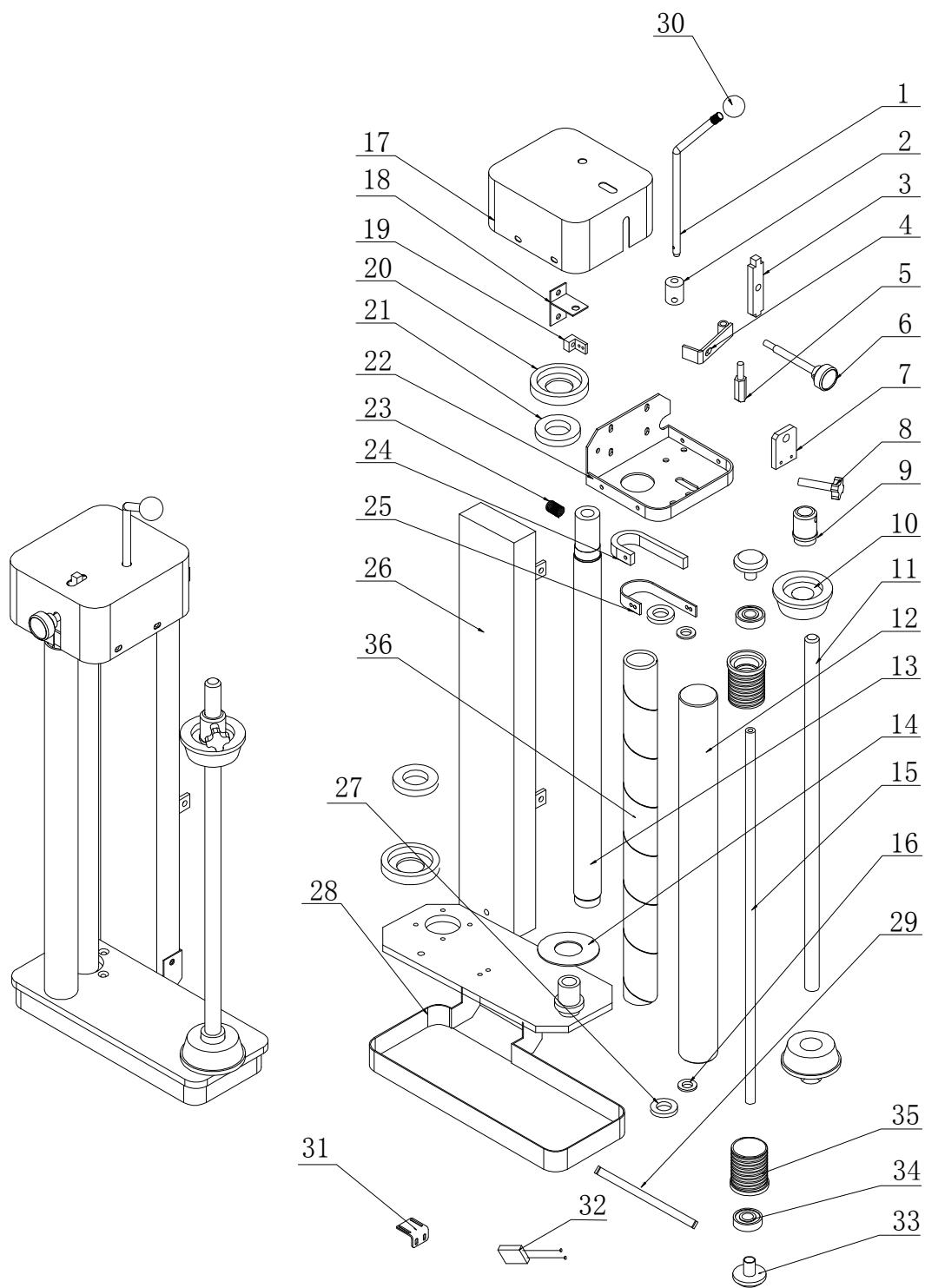


Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Motor cover	FGA50-001230000.000.9	1	
2	Pre-stretch motor	YS6334 B14 with speed reducer NMRV040/20 63 B14/ i=1:20	1	250W
3	Pre-stretch upper cover	FGA50-001110000.000.9	1	
4	Bearing block	FGA50-001320000.000.9	3	6904 bearing

No.	Name	Code	Qty	Remarks
5	Pre-stretch roller	FGA50-001140000.000.9	1	
6	Straining ring	FGA50-001380000.000.9	1	
7	Fastening screw	M10	1	
8	Film positioning plate	FGA50-001350000.000.6	2	
9	Film shaft	FGA50-001340000.000.1	1	
10	Micro switch frame	FGA52-001800100.000.9	1	
11	Positioning plate support	FGA50-005260000.000.9	1	
12	Transition roller	FGA50-001150000.000.3	5	
13	Transition roller base	FGA50-001120000.001.9	1	
14	Compressed spring	FGA50-001310000.000.9	2	
15	Locating pin	FGA50-001260000.000.9	2	
16	Key 1	6mm×6mm×60mm	1	
17	Rail	FGA50-001240000.000.9	1	
18	Bearing	6901	10	
19	Key 3	5mm×5mm×14mm	2	
20	Chain	06B	1	
21	Pre-stretch chain wheel	FGA50-001440000.000.9	1	
22	Main chain wheel	FGA50-001430000.000.9	1	
23	Lower hinge	FGA50-001280000.000.9	1	
24	Hinge pin	FGA50-001290000.000.9	2	
25	Swing support shaft	FGA50-001180000.000.9	1	
26	Main roller	FGA50-001130000.000.9	1	
27	Lifting body	FGA50-001100000.000.9	1	
28	Tension spring	FGA50-001300000.000.9	1	
29	Micro switch touch block	FGA50-001210000.000.9	1	
30	Micro switch	Z-15GQ22-B	1	OMRON
31	Rough surface belt	40mm×δ5mm×3300mm	2	
32	Photoelectric switch	RLK31-8-2500-1R/31/115	1	P+F
33	Pre-stretch connecting block 2	FGA50-001200000.000.1	2	
34	Pre-stretch protection frame	FGA50-001400000.000.9	1	
35	Transition roller shaft (short)	FGA50-001160000.000.9	3	
36	Swing shaft (short)	FGA50-001420000.000.9	1	
37	Micro switch	MQS-216	1	

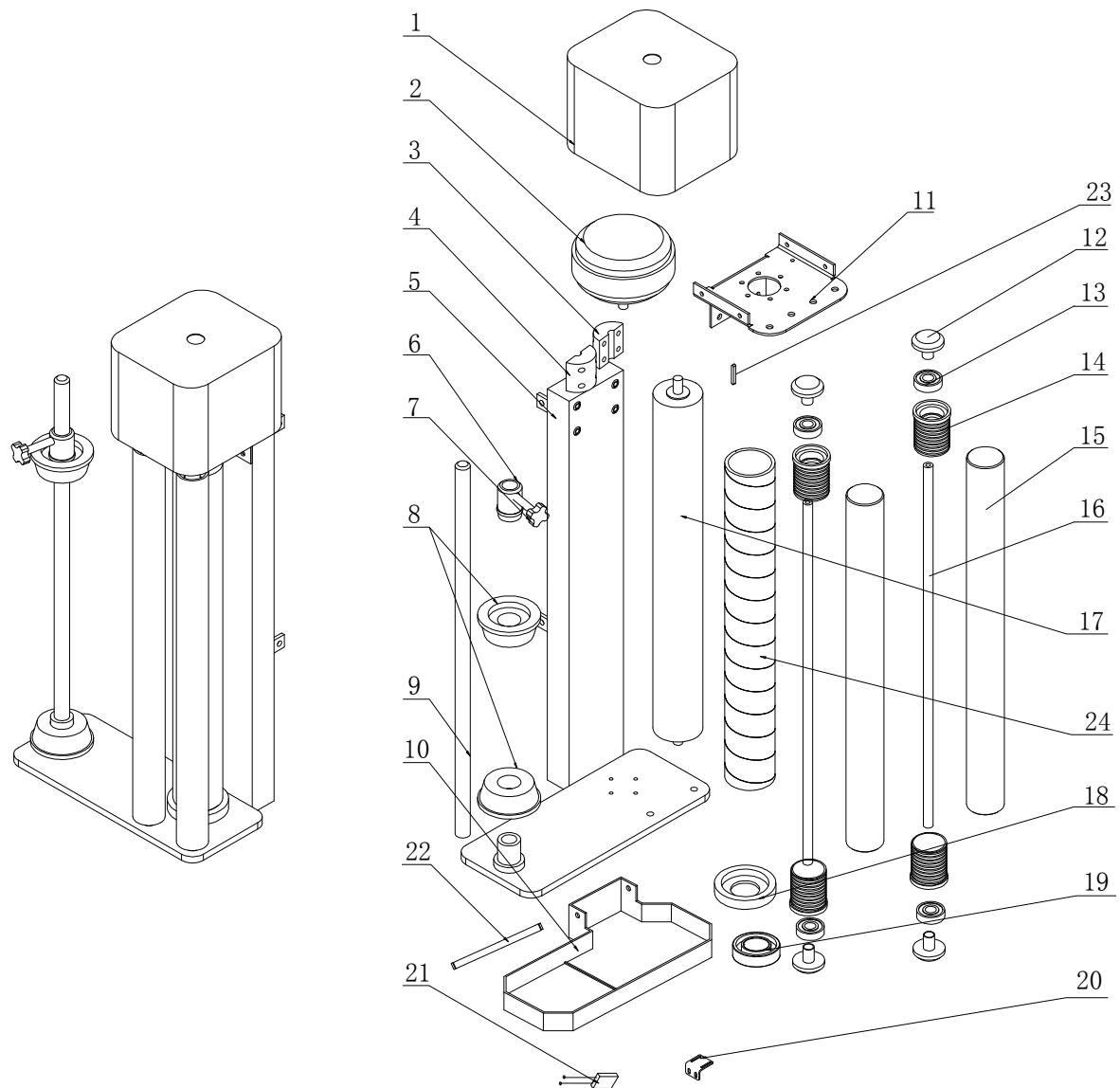
6-9 Lifting assembly (anti-stretch type)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Eccentric wheel shaft	FGA10-001640000.000.9	1	
2	Eccentric wheel	FGA10-001630000.000.9	1	
3	Indicating block	FGA10-001670000.002.9	1	
4	Tension block	FGA10-001610000.000.9	1	
5	Tension block rotating shaft	FGA10-001620000.000.9	1	
6	Regulating handle	FGA10-001580000.000.9	1	
7	Screw fixed block	FGA10-001590000.000.9	1	
8	Fastening screw	M10	1	
9	Straining ring	FGA50-001380000.000.9	1	
10	Film positioning plate	FGA50-001350000.000.6	2	
11	Film shaft	FGA50-001340000.000.1	1	
12	Transition roller	FGA10-001540000.000.1	1	
13	Anti-stretch shaft	FGA10-001520000.000.9	1	
14	Positioning plate support	FGA50-005260000.000.9	1	
15	Transition roller shaft	FGA10-001530000.100.9	1	
16	Retainer ring	FGA10-001550000.000.9	2	not used
17	Anti-stretch cover	FGA10-001570000.000.9	1	
18	Fixed mount of eccentric wheel	FGA10-001650000.000.9	1	
19	Fine tuning block	FGA10-001680000.000.9	1	
20	Upper bearing block	FGA10-001560000.000.9	1	
21	Bearing	16007	2	
22	Pre-stretch cover	FGA10-001570000.000.9	1	
23	Pre-stretch compressed spring	FGA10-001600000.000.9	1	
24	Brake belt	M-L105	1	
25	Steel ring of anti-stretch belt	FGA10-002390000.000.9	1	
26	Lifting body	FGA10-001500000.000.9	1	
27	Bearing	61904	2	
28	Protection frame	FGA10-001700000.000.9	1	
29	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
30	Internal thread ball	M8	1	purchased
31	Micro switch frame	FGA52-001800100.000.9	1	
32	Micro switch	MQS-216	1	
33	Transition roller external end cover	A50-106.1	2	
34	Bearing	6002	2	
35	Transition roller internal end cover	A50	2	
36	Rough surface belt	40mm×Ø2mm×3300mm	1	

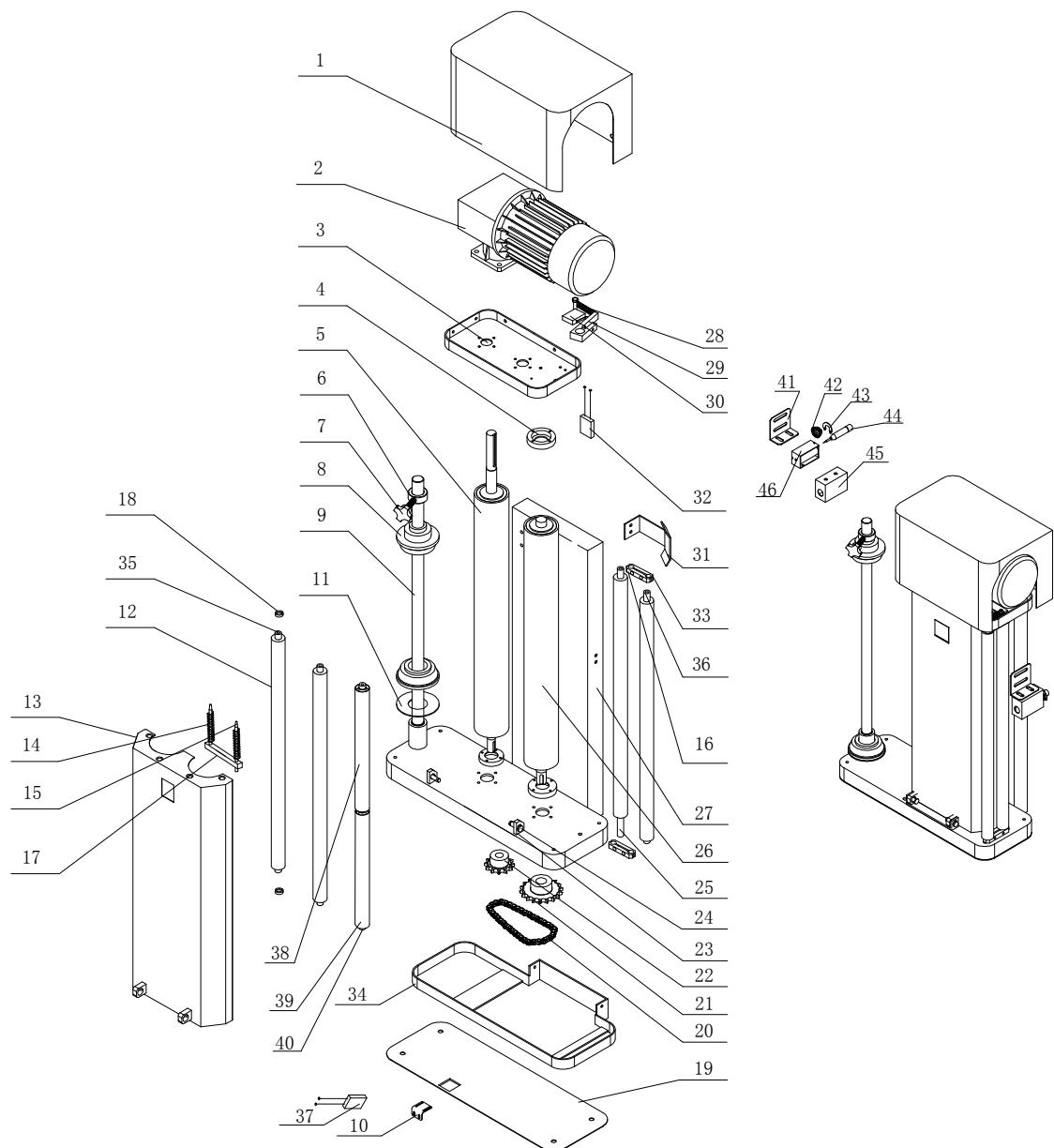
6-10 Lifting assembly (magnetic powder anti-stretch type)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Cover	FGA14-002020000.000.9	1	
2	Magnetic powder brake	FZ-6	1	
3	Clamping piece 1	FGA14-002060000.000.9	1	
4	Clamping piece 2	FGA14-002070000.000.9	1	
5	Anti-stretch lifting body	FGA14-002000000.000.9	1	
6	Straining ring	FGA50-001380000.000.9	1	
7	Screw with handle	M10×30	1	
8	Positioning plate	FGA50-001350000.000.6	2	
9	Film shaft	FGA50-001340000.000.1	1	
10	Protection frame	FGA10-001700000.000.9	1	
11	Upper cover	FGA14-002010000.000.9	1	
12	Transition roller external end cover	A50-106.1	4	
13	Bearing	6002	4	
14	Transition roller internal end cover	A50	4	
15	Transition roller	FGA14-001540000.000.1	2	
16	Transition roller shaft	FGA14-001530000.000.9	2	
17	Anti-stretch shaft	FGA14-002030000.000.9	1	
18	Bearing block	FGA50-001320000.000.9	1	
19	Bearing	6904	5	
20	Micro switch frame	FGA52-001800100.000.9	1	
21	Micro switch	MQS-216	1	
22	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
23	Key 5	4×4×16mm	1	
24	Rough surface belt	40×δ2×3300mm	1	

6-11 Lifting assembly (pre-stretch film cutting type)



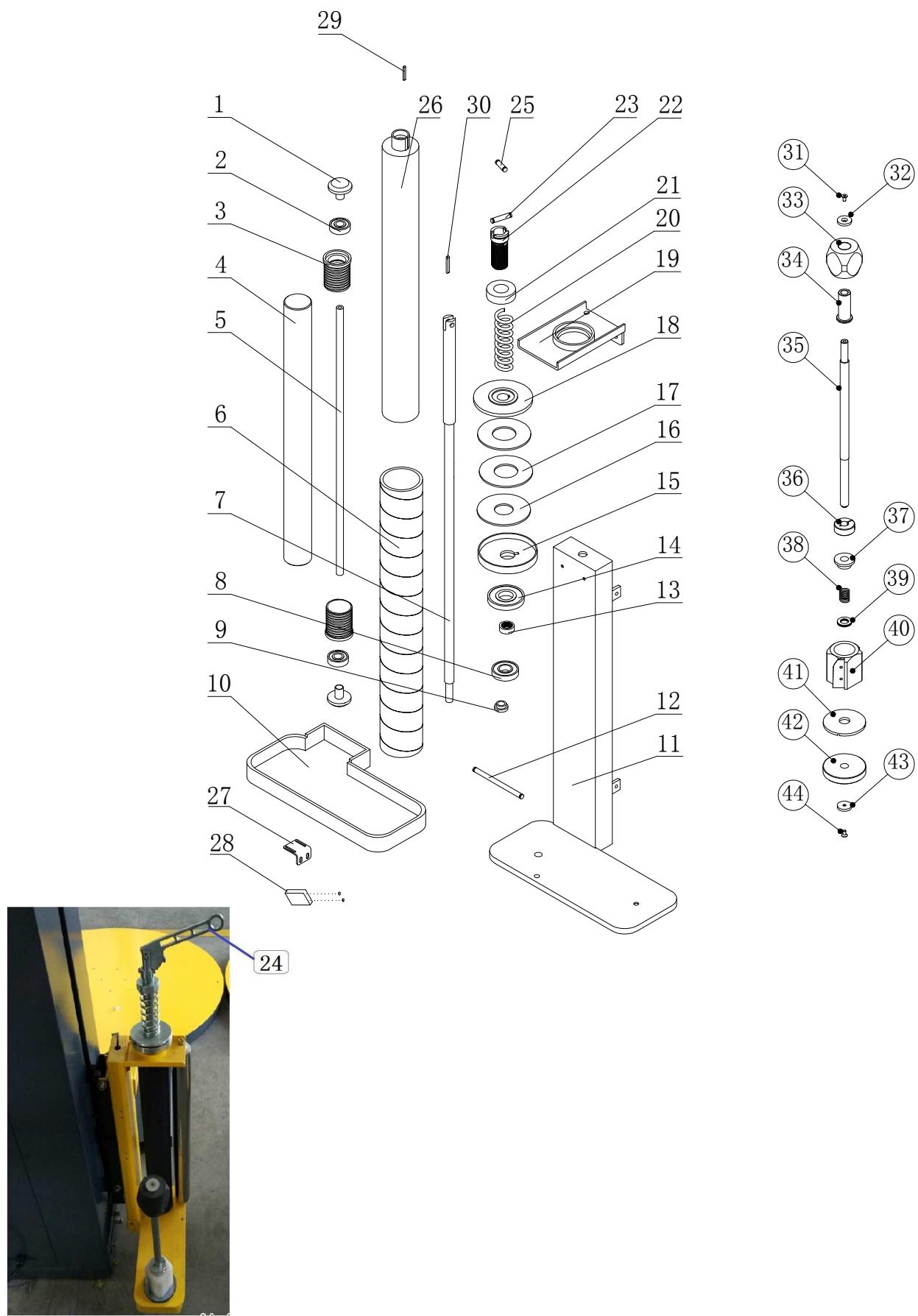
Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Motor cover	FGA50-001230000.000.9	1	
2	Pre-stretch motor	YS6334 B14 with speed reducer NMRV040/20 63 B14/ i=1:20	1	250W
3	Pre-stretch upper cover	FGA50-001110000.000.9	1	
4	Bearing block	FGA50-001320000.000.9	3	6904 bearing
5	Pre-stretch roller	FGA50-001140000.000.9	1	
6	Straining ring	FGA50-001380000.000.9	1	
7	Fastening screw	M10	1	

No.	Name	Code	Qty	Remarks
8	Film positioning plate	FGA50-001350000.000.6	2	
9	Film shaft	FGA50-001340000.000.1	1	
10	Micro switch frame	FGA52-001800100.000.9	1	
11	Positioning plate support	FGA50-005260000.000.9	1	
12	Transition roller	FGA50-001150000.000.3	4	
13	Transition roller base	FGA50-001120000.001.9	1	
14	Compressed spring	FGA50-001310000.000.9	2	
15	Locating pin	FGA50-001260000.000.9	2	
17	Rail	FGA50-001240000.000.9	1	
18	Bearing	6901	10	
19	Base plate	FGA50-001220000.000.9	1	
20	Chain	06B	1	
21	Pre-stretch chain wheel	FGA50-001440000.000.9	1	
22	Main chain wheel	FGA50-001430000.000.9	1	
23	Lower hinge	FGA50-001280000.000.9	1	
24	Hinge pin	FGA50-001290000.000.9	2	
25	Swing support shaft 1	FGA50-001180000.000.9	1	
26	Main roller	FGA50-001130000.000.9	1	
27	Lifting body	FGA50-001100000.000.9	1	
28	Tension spring	FGA50-001300000.000.9	1	
29	Micro switch touch block	FGA50-001210000.000.9	1	
30	Micro switch	Z-15GQ22-B	1	OMRON
31	Travel switch touch block	FGC20-000780000.000.9	1	
32	Photoelectric switch	RLK31-8-2500-1R/31/115	1	P+F
33	Pre-stretch connecting block	FGA50-001200000.000.1	2	
34	Protection frame	FGA50-001400000.000.9	1	
35	Transition roller shaft (short)	FGA50-001160000.000.9	3	
36	Swing shaft (short)	FGA50-001420000.000.9	1	
37	Micro switch	MQS-216	1	
38	Transition roller (K type)	FGK11-001150000.200.3	1	L=430mm
39	Transition roller (K type)	FGK11-001150000.100.3	1	L=80mm
40	Transition roller shaft (K type)	FGA50-001160000.100.9	1	
41	Suction tube support frame	FGA50-032930000.000.9	1	
42	Cone spring		1	
43	Jump spring	Φ11	1	
44	Suction tube mandrel	FGA50-032900000.000.9	1	
45	Fixed mount of suction tube	FGA50-032920000.000.9	1	
46	Film cutting suction tube	TAU-1358	1	

Note: The parts in Items 42, 43 and 44 shall be purchased in complete set.

6-12 Lifting assembly (S-shaped anti-stretch type)



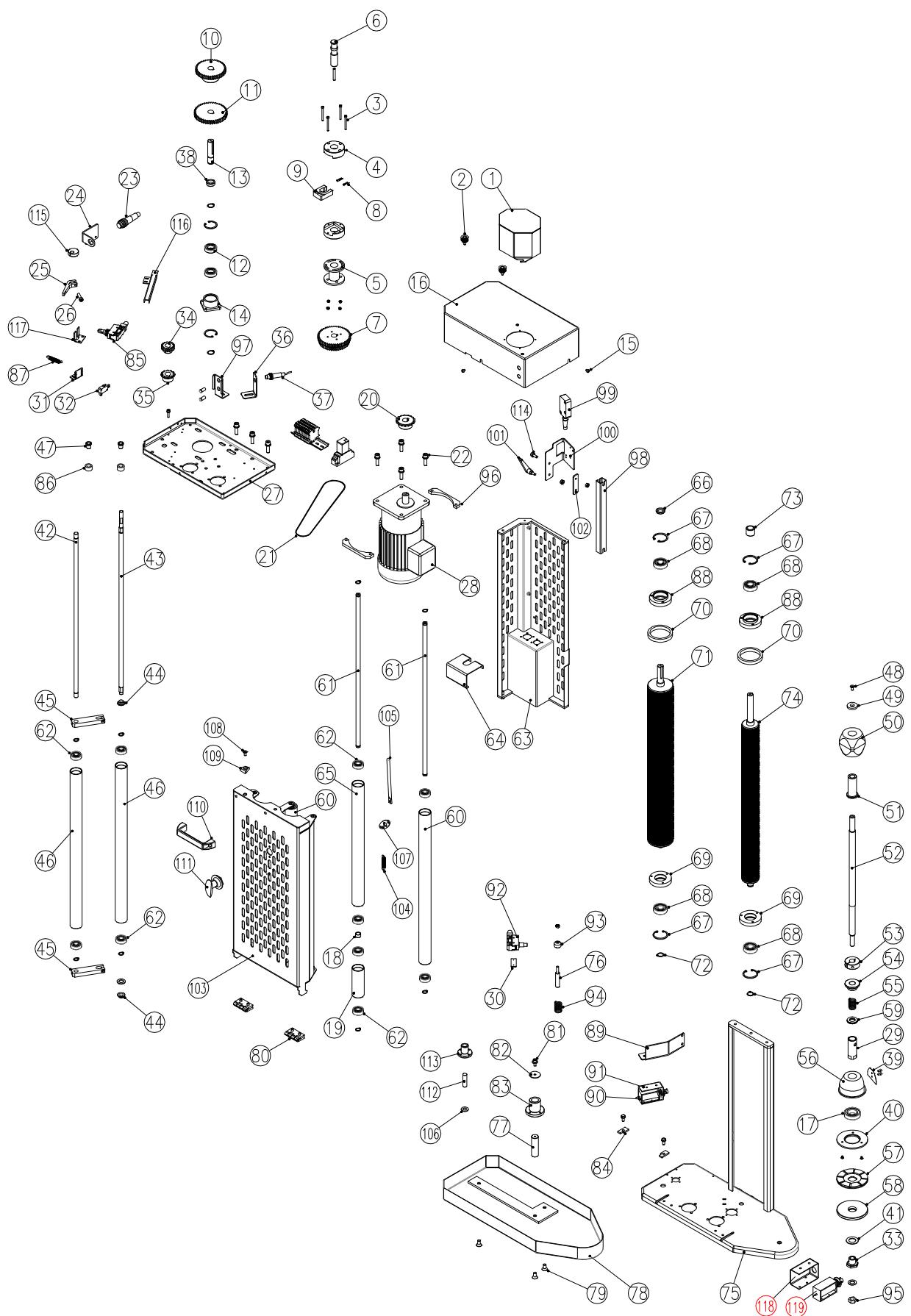
Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Transition roller external end cover	A50-106.1	2	
2	Bearing	6002	2	
3	Transition roller internal end cover	A50	2	
4	Roller	FGA10-001540000.000.1	1	
5	Roller shaft	FGA10-001530000.100.9	1	
6	Rough surface belt	40×δ2×3300mm	1	
7	Roller shaft	FGA12-000080000.000.9	1	
8	Bearing	6004	1	
9	Lower spacer bush	FGA12-000170000.000.9	1	
10	Protection frame	FGA10-001700000.000.9	1	
11	Lifting body	FGA12-001500000.000.9	1	
12	Protection frame shaft	FGA10-001410000.000.9	1	L=114mm
13	Needle roller bearing	HK.20.6	1	
14	Bearing	16007	1	
15	Lower friction disk	FGA12-000050000.000.9	1	
16	Flexible friction plate	φ90×δ5	1	
17	Friction plate	FGA12-000070000.000.9	2	
18	Upper friction plate	FGA12-000060000.000.9	1	
19	Support base	FGA12-000030300.000.9	1	
20	Compressed spring	FGA12-000090000.001.9	1	
21	Knurled nut	FGA12-000100000.000.9	1	
22	Adjusting thread insert	FGA12-000110000.000.9	1	
23	Long pin	FGA12-000120000.000.9	1	
24	Eccentric handle	FGA12-000140000.000.9	1	
25	Short pin	FGA12-000120100.000.9	1	
26	Roller	FGA12-000020000.000.9	1	
27	Micro switch frame	FGA52-001800100.000.9	1	
28	Micro switch	MQS-216	1	
29	Key 1	5×5×12mm	1	
30	Key 2	6×6×20mm	1	
31	Countersunk head screw	M6×12L	1	
32	Washer	FGP18A004900000000	1	
33	Film support ring (upper)	FGP18WG00200000006	1	
34	Bushing	FGP18A000800000000	1	
35	Film reel support shaft	FGP18A000700000010	1	
36	Adjusting ring	FGP18A001400000000	1	

No.	Name	Code	Qty	Remarks
37	Film support ring (lower)	FGP18A001300000004	1	
38	Spring	FGP18WG001000000000	1	
39	Flat-face needle roller bearing AX1730	FGP18WG004000000000	1	
40	Film reel mounting base	FGP18A000900000016	1	
41	Friction plate	FGR214002000000000	1	
42	Friction base	FGP18A004300000010	1	
43	Washer	FGR214001800000000	1	
44	Countersunk head screw	102506120000000000	1	



6-13 Lifting assembly (two-section pre-stretch)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Supporting cover	FGP18A000500000000	1	
2	Wing nuts M5×12L	FGP18WG003000000000	2	
3	Screw M4×50L	101304500000000000	4	
4	Handle	FGP18WG02100000006	2	
5	Gear pull wheel	FGP18WG01900000006	1	
6	Position shaft	FGP18A003200000000	1	
7	Slip gear 200% & 250%	FGP18A104800000000	1	
	Slip gear 230% & 300%	FGP18A004800000000	1	
	Slip gear 150% & 250%	FGP18A204800000000	1	
8	Spring	FGP18WG018000000000	2	
9	Safety button	FGP18WG02000000006	1	
10	Fixed gear 41T→250%	FGP18A104700000006	1	
	Fixed gear 42T→300%	FGP18A004700000006	1	
	Fixed gear 36T→250%	FGP18A204700000006	1	
11	Fixed gear 44T→200%	FGP18A104600000006	1	
	Fixed gear 46T→230%	FGP18A004600000006	1	
	Fixed gear 42T→150%	FGP18A204600000006	1	
12	Bearing 6003ZZ (CWB)	303000300000000000	2	
13	Fixed gear shaft	FGP18A004400000000	1	
14	Bearing seat	FGP18A002500000000	1	
15	Screw M5×10L	102405100000000000	3	
16	Top cover	FGP18A000400000000	1	
17	Bearing 6005zz (CWB)	303000500000000000	1	
18	Collar	FGP18A002600000000	1	
19	Roller	FGP18A002100000003	1	
20	Chain gear 17T	FGP18A004100000000	1	
21	Chain	3240S3570000000000	1	
22	Screw M8x30L	101108300000000000	4	
23	Analog switch (XS4-P18)	735500030000000000	1	
24	Resistance fixed seat	FGP18A005100000000	1	
25	Arm	FGP18A006800000000	1	
26	Screw M5×20L	120405200000000000	1	

Detailed Parts List

No.	Name	Code	Qty	Remarks
27	Carriage unit upper seat	FGP18A000300000020	1	
28	Motor SV-A10	FGP18WG009000000000	1	
29	Shaft tube	FGR214001600000010	1	
30	Fixing piece	FGP18A005900000000	1	
31	Limit fixed seat	FGP18A005300000010	1	
32	Limit switch MQS-216T	7350MQS02000000000	1	
33	Shaft nut	FGR214001700000000	1	
34	Gear → 200% &250%	FGP18A104500000000	1	
	Gear → 230% &300%	FGP18A004500000000	1	
	Gear → 150% &250%	FGP18A204500000000	1	
35	12T chain wheel	FGP18A004200000000	1	
36	Proximity switch seat	FGP18A005500000000	1	
37	Proximity sensor PM12-04N	7355N1050000000000	1	
38	Spacer ring	FGP18A002900000000	1	
39	Spring plate	FGP18A001000000010	1	
40	Friction seat	FGR214002000000000	1	
41	Washer	FGR214001800000000	1	
42	Shaft	FGP18A002400000000	1	
43	Swinging bar shaft	FGP18A001900000000	1	
44	Copper sleeve	FGP18A001800000005	2	
45	Moving shaft seat	FGP18A006700000000	2	
46	Roller	FGP18A002200000003	2	
47	Tube seat	FGP18A002700000000	1	
48	Screw M6×16L	1025061600000000000	1	
49	Washer	FGP18A004900000000	1	
50	Ring (upper)	FGP18WG00200000006	2	
51	Sleeve	FGP18A000800000000	1	
52	Film seat shaft	FGP18A000700000010	1	
53	Adjusting ring	FGP18A001400000000	1	
54	Ring (lower)	FGP18A001300000004	1	
55	Spring	FGP18WG001000000000	1	

Detailed Parts List

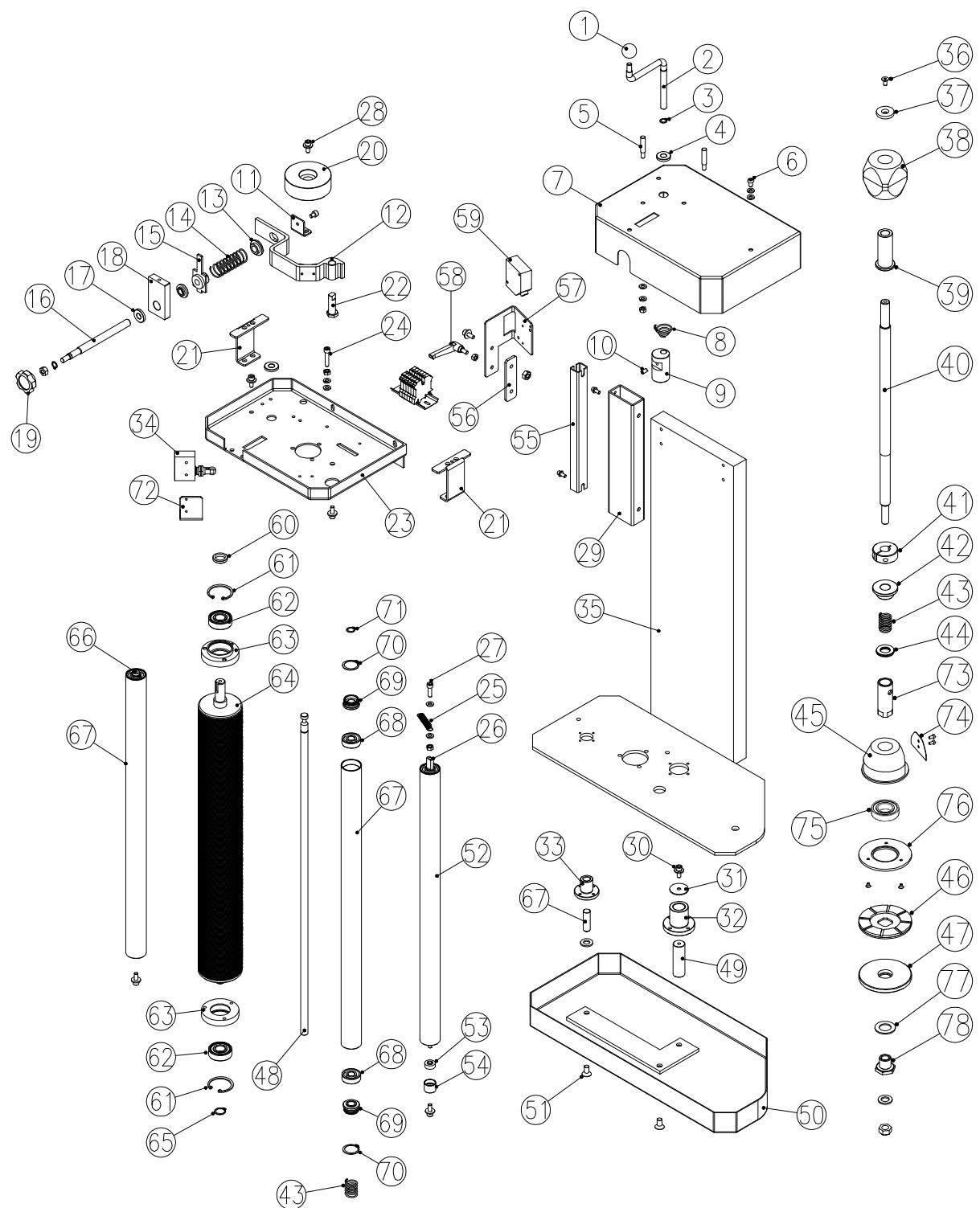
No.	Name	Code	Qty	Remarks
56	Film fixing seat	FGP18A000900000016	1	
57	Brake disc	FGP18A001200000000	1	
58	Friction seat	FGP18A004300000010	1	
59	Bearing NTB1730	FGP18WG00400000000	1	
60	Roller	FGP18A006400000003	2	
61	Shaft	FGP18A002300000000	3	
62	Bearing 6201ZZ	3030201200000000000	12	
63	Side plate	FGP18A000200000010	1	
64	Cover	FGP18A006200000000	1	
65	Roller	FGP18A002000000003	1	
66	Isolated ring	FGP18A002800000000	1	
67	C-ring R-42	1131420000000000000	4	
68	Bearing 6203ZZ	3030203000000000000	4	
69	Bearing seat	FGP18A001500000000	2	
70	Protection ring	FGP18WG00500000000	2	
71	Pre stretch shaft	FGP18A001600000000	1	
72	C-ring S-17	1130170000000000000	2	
73	Isolated ring	FGP18A004000000000	1	
74	Pre stretch roller	FGP18A001700000000	1	
75	Elevator unit seat	FGP18A000000000010	1	
76	Sensor idle	FGP18A003700000000	1	
77	Pedal shaft	FGP18A003300000000	1	
78	Pedal	FGP18A000100000000	1	
79	Screw M8×20L	1014082000000000000	3	
80	Hinge	FGP18WG006000000000	2	
81	Screw M6×16L	1025061600000000000	1	
82	Safe plate	FGP18A005800000000	1	
83	Linear bushing	FGP18WG008000000000	1	
84	Fixing piece	FGP60A007100000000	2	
85	Limit switch Z-15GQ22	7350TZ0400000000000	1	
86	Block	FGP18A003600000000	2	

Detailed Parts List

No.	Name	Code	Qty	Remarks
87	Spring	FGP18WG022000000000	1	
88	Bearing seat	FGP18A001500000010	2	
89	Bracket	FGP18A006300000000	1	
90	Solenoid 24 VDC TAU-1358T	FGP18WG017000000000	1	
91	Solenoid cover	FGP18A006900000000	1	
92	Limit switch TZ-7110	7350TZ020000000000	1	
93	Ring	FGP18A003800000000	1	
94	Spring	FGP18WG001000000000	1	
95	Self locking nut M12	103312000000000000	1	
96	Plate	FGP18A006100000000	2	
97	Bracket	FGP18A005000000000	1	
98	Slot rail	FGP18A003500000003	1	
99	Photo sensor /RLK31-8-2500-1R/31/115	FGP60WG018000000000	1	
100	Photo sensor seat	FGP18A005700000000	1	
101	Handle bar 6×13	FGP18WG012000000000	1	
102	Fixed piece	FGP18A005600000000	1	
103	Safety door	FGP18A000200000010	1	
104	Spring	FGP18WG022000000000	1	
105	Door bolt	FGP18A003900000000	1	
106	Washer M10×25×2T	105010010000000000	1	
107	Plate	FGP18A006000000000	1	
108	Screw	101406100000000000	1	
109	Security key	FGP18A003000000000	1	
110	Door knob	FGP18WG014000000000	1	
111	Handle bar	FGP18WG013000000000	1	
112	Pedal shaft	FGP18A003400000000	1	
113	Linear bushing	FGP18WG007000000000	1	
114	Screw M6×16L	102506160000000000	1	
115	Cam	FGP18A003100000000	1	
116	Cover	FGP18A007000000000	1	
117	Bracket	FGP18A005200000010	1	
118	Electromagnet fixed base	FG-3292	1	
119	Electromagnet (TAU-1358 DC24V)	PG303710	1	



6-14 Lifting assembly (12 anti-stretch type)



Detailed Parts List

No.	Name	Code	Qty	Remarks
1	Handle - M8 teeth	FGP38WG02500000000	1	
2	Handle	FGP61A007800000000	1	
3	C-shaped ring S-10	11301000000000000	1	
4	Ring	FGP18WG00200000006	2	
5	Spring locating pin	FGP38A008100000000	2	
6	Screw M6×10L	102406100000000000	2	
7	Cover	FGP61A000400000000	1	
8	Spring	FGP38WG02800000000	1	
9	Wheel	FGP61A007700000000	1	
10	Screw M6×10L	101806100000000000	1	
11	Fixed plate	FGP38A005400000000	1	
12	Brake plate	FGP38A000500000000	1	
13	Block ring	FGP38A008300000000	1	
14	Stretch spring	FGP38WG02700000000	1	
15	Tension adjusting base	FGP61A000600000000	1	
16	Tension adjusting screw	FGP38A007500000000	1	
17	Ring	FGP18WG00200000006	2	
18	Fixed seat of G gear screw	FGP61A007600000000	1	
19	Handle	FGP61A007800000000	1	
20	Brake wheel	FGP38A007900000000	1	
21	Cover plate	FGP61A000400000000	2	
22	Brake shaft	FGP38A008000000000	1	
23	Upper seat of lifting assembly	FGP61A000300000000	1	
24	Screw M5×45L	101805450000000000	2	
25	Roller spring	FGP18WG00100000000	2	
26	Roller shaft	FGP38A006600000000	1	
27	Screw M6×20L	101806200000000000	1	
28	Screw M6×12L	101806120000000000	1	
29	Side bracket	PJ35030B	1	
30	Screw M6×16L	102506160000000000	1	

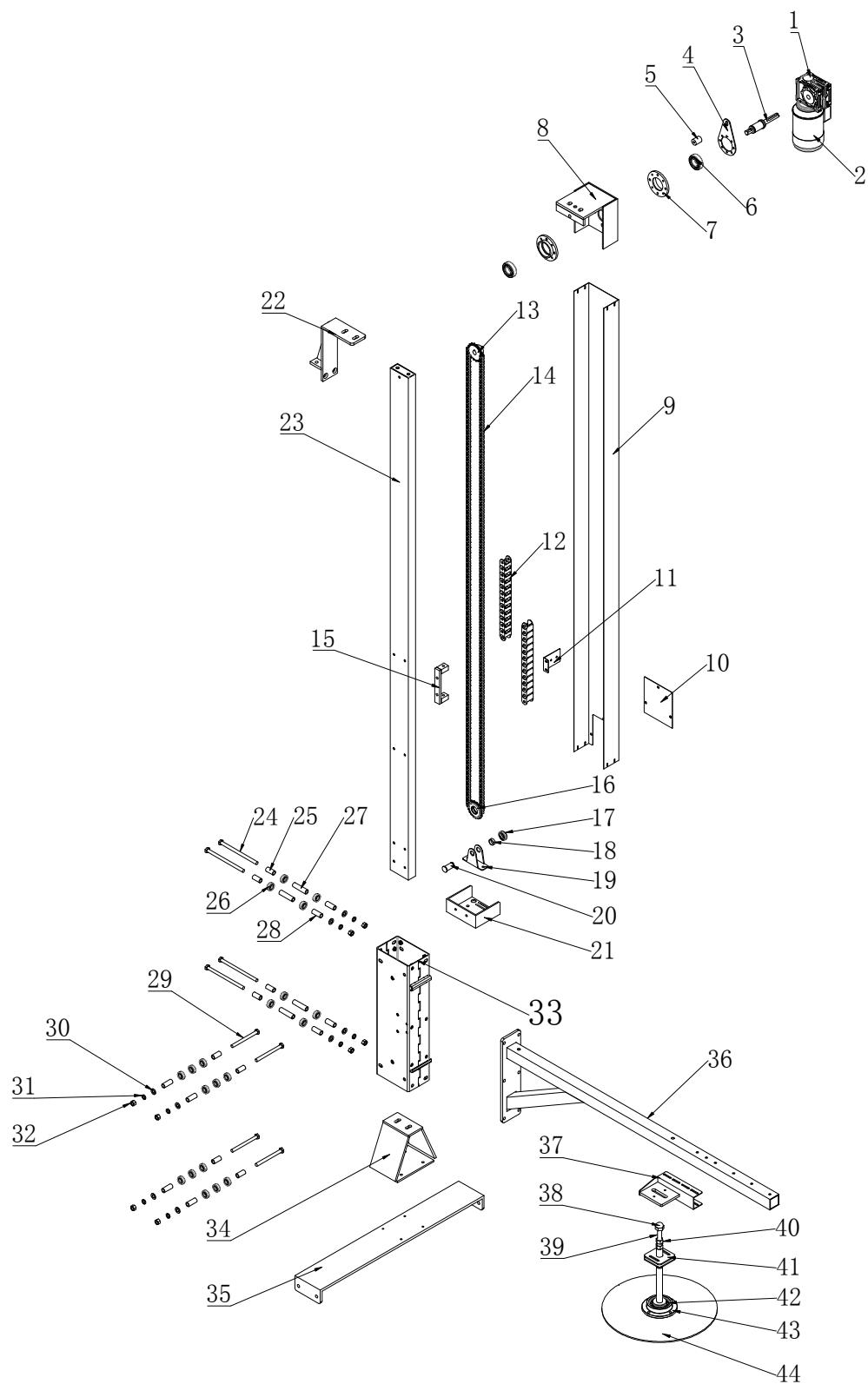
Detailed Parts List

No.	Name	Code	Qty	Remarks
31	Gasket	φ21*2	1	
32	Linear bearing	FGP18-WG0070000.000.0	1	
33	Linear bearing	FGP18-WG0070000.000.0	1	
34	Limit switch Z-15GQ22	7350TZ040000000000	1	
35	Lifting unit	FGP61A0000000000000	1	
36	Screw M6×16L	102506160000000000	1	
37	Protective device	FGP18A005000000000	1	
38	Upper fixed ring	FGP18WG0020000006	1	
39	Ring	FGP18WG0020000006	1	
40	Film seat shaft	FGP18A000700000010	1	
41	Adjusting ring	FGP18A001400000000	1	
42	Lower fixed ring	FGP18A001300000004	1	
43	Spring	FGP18WG00100000000	2	
44	Bearing NTB1730 (TPX)	303617300000000000	1	
45	Film fixed seat	FGP18A000900000016	1	
46	Film brake plate	FGP18A001200000000	1	
47	Friction base	FGR214002000000000	1	
48	Sensor idle shaft	FGP18A006200000000	1	
49	Pedal shaft	FGP18A003400000000	1	
50	Safety pedal (P-308)	FGP18A000100000000	1	
51	Screw M8×20L	101408200000000000	1	
52	Roller tube	FGP18A006400000003	2	
53	Ball bearing	303020120000000000	1	
54	Universal bearing seat	FGP18A002500000000	2	
55	Slot rail	FGP18A003500000003	1	
56	Fixed piece	FGP60A007100000000	1	
57	Photoelectric sensor base	FGP18A005700000000	1	
58	Handle bar 6×13	FGP18WG01200000000	1	
59	Photoelectric sensor RLK31-8-2500-1R/31/115	73602M050000000000	1	

Detailed Parts List

No.	Name	Code	Qty	Remarks
60	Insulated ring	FGP18A002800000000	1	
61	C-shaped ring R-42	113142000000000000	1	
62	Bearing 6203ZZ	303020300000000000	2	
63	Bearing seat	FGP18A001500000000	2	
64	Pre-stretch roller	FGP38A001600000000	1	
65	C-shaped ring S-17	113017000000000000	1	
66	Roller shaft	FGP38A006600000000	1	
67	Roller tube	FGR214001600000010	1	
68	Bearing 6201ZZ	303020100000000000	6	
69	Nylon bush	FGP38A008400000000	2	
70	C-shaped ring S-25	113025000000000000	2	
71	C-shaped ring S-12	113012000000000000	5	
72	Limit switch base	7350TZ040000000000	1	

6-15 Top presser device



Detailed Parts List

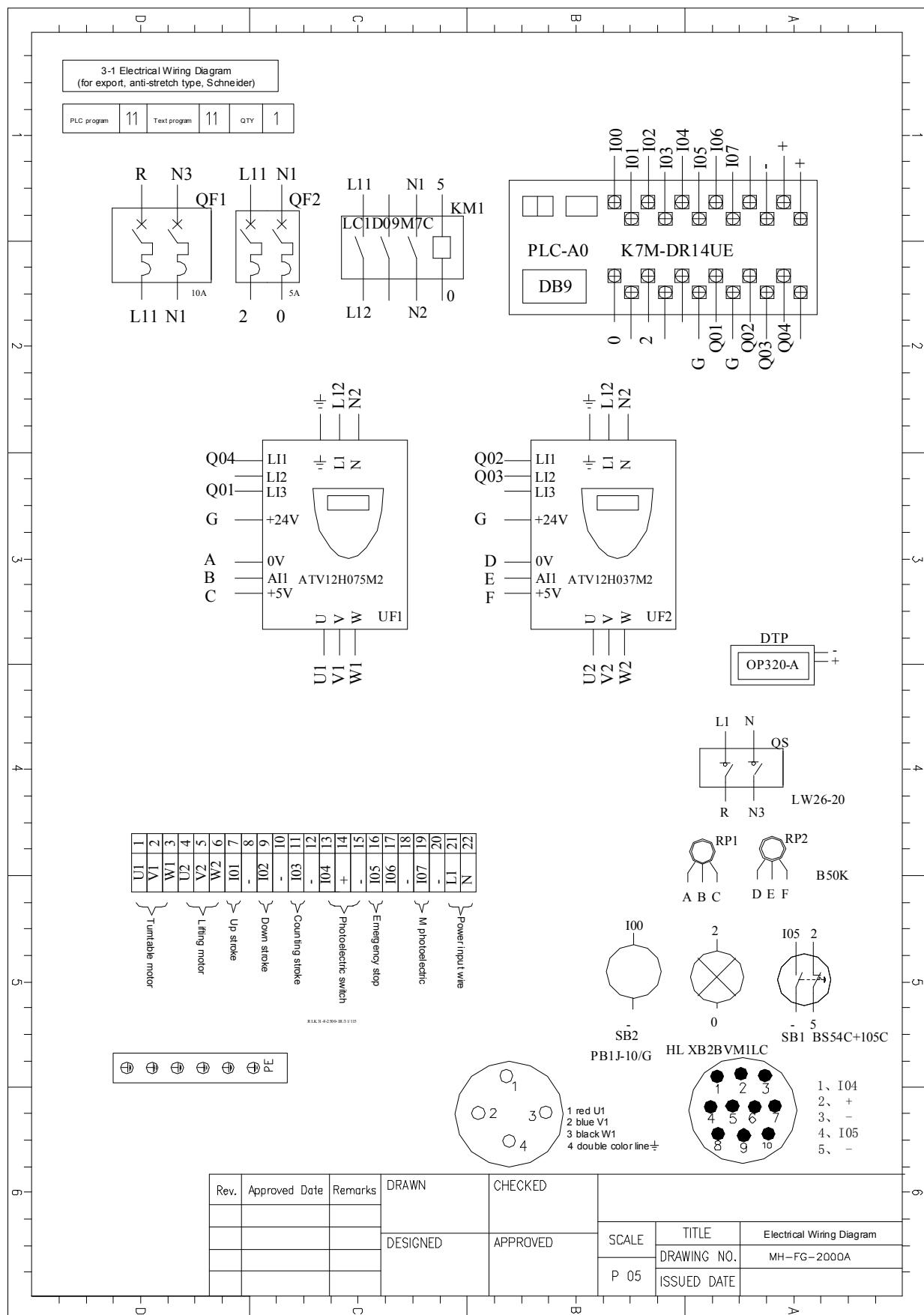
No.	Name	Code	Qty	Remarks
1	Speed reducer	NMRV040/60 63 B14	1	
2	Lifting motor	YS6334 B14	1	
3	Motor shaft	FGC20-006200000.000.9	1	
4	Torque arm	FGB50-000160000.000.9	1	
5	Main motor plate weldment	FGC28-000050200.000.9	1	
6	Bearing	6206	2	
7	Bearing block	FGC20-007020000.000.9	2	
8	Top presser motor plate	FGG21-000030000.000.9	1	
9	Chain guard	FGG21-006400000.000.9	4	
10	Guard cover plate	FGG21-006430000.000.9	1	
11	Tank chain rack	FGG21-000500000.000.9	1	
12	Tank chain	TP18-25	1	
13	Lifting motor chain wheel	FGC20-000600000.000.9	1	
14	Chain	08B	1	
15	Chain connecting piece	FGG21-006410000.000.9	1	
16	Driven chain wheel	FGC20-000610000.000.9	1	
17	Bearing	6904	1	
18	Spacer bush	FGC20-000052400.001.9	1	
19	Chain wheel bracket	FGG21-006230000.000.9	1	
20	Chain wheel shaft	FGC20-005190000.000.9	1	
21	Lower support plate	FGG21-006040000.000.9	1	
22	Upper bracket	FGG21-006030000.000.9	2	
23	Square tube	FGG21-000010000.000.2	1	
24	Small shaft (202)	FGG21-000150000.001.9	4	
25	Sleeve	FGG21-000160000.001.9	8	L=37mm
26	Bearing	6201	20	
27	Sleeve	FGG21-000160000.003.9	4	L=70mm
28	Sleeve	FGG21-000160000.002.9	8	L=44mm
29	Small shaft (142)	FGG21-000150000.000.9	4	
30	Flat washer	Φ12	8	
31	Spring washer	Φ12	8	
32	Hexagon nut	M12	8	
33	Slide rack	FGG21-000050000.000.9	1	
34	Lower support	FGG21-000040000.000.9	1	
35	Lower support mounting plate	FGG21-000200000.000.9	1	

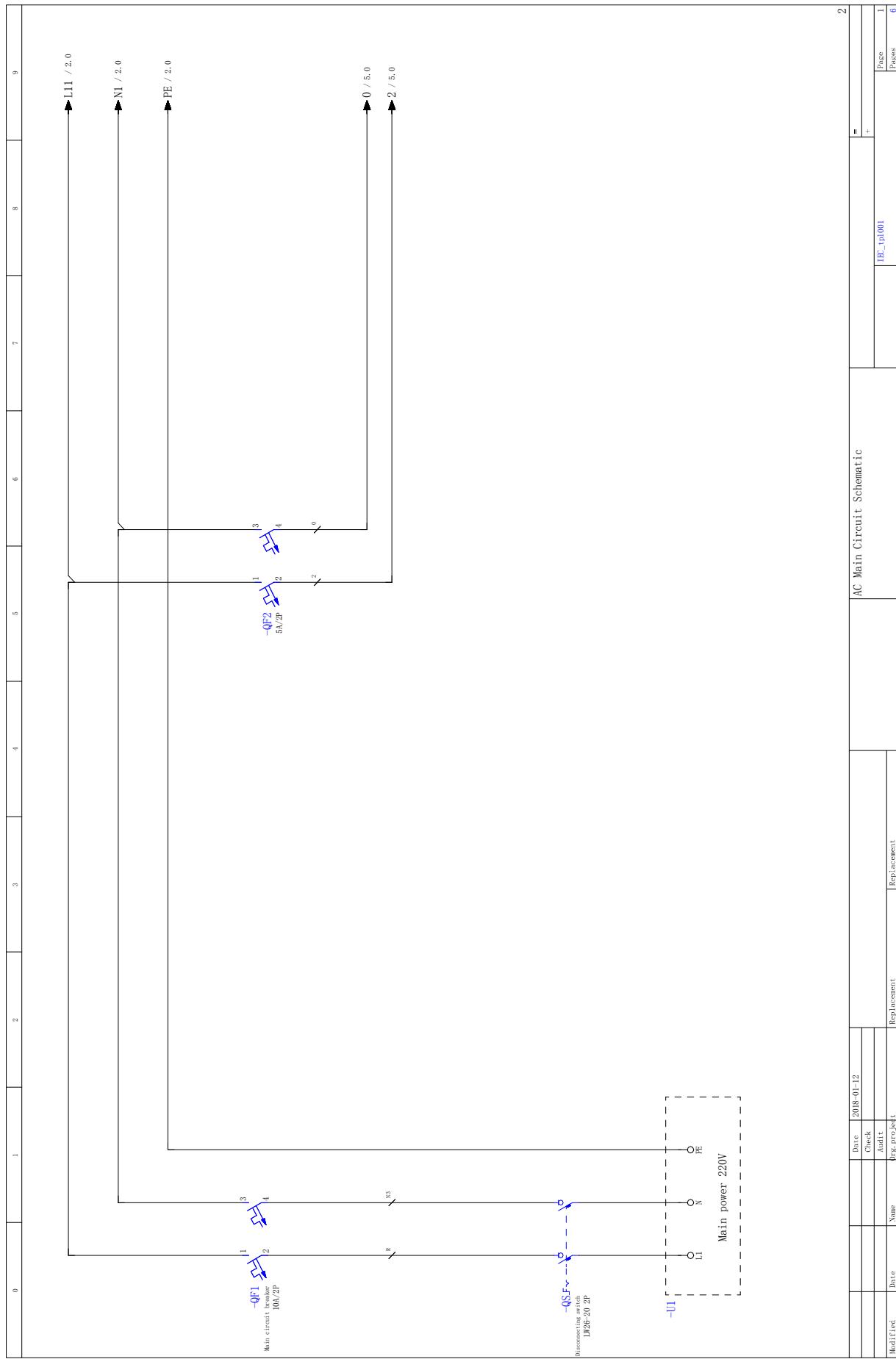
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36	Cantilever	FGG21-000000000.000.9	1	
37	Cantilever chuck	FGG21-000300000.000.9	1	
38	Round head nut	M16	1	
39	Pull rod	FGG21-000080000.000.9	1	
40	Nut	M16	2	
41	Positioning plate	FGG21-000100000.000.9	2	
42	Bearing	6209	1	
43	Bearing block	FGG21-000110000.000.9	1	
44	Top presser disk	FGG21-000170000.000.9	1	

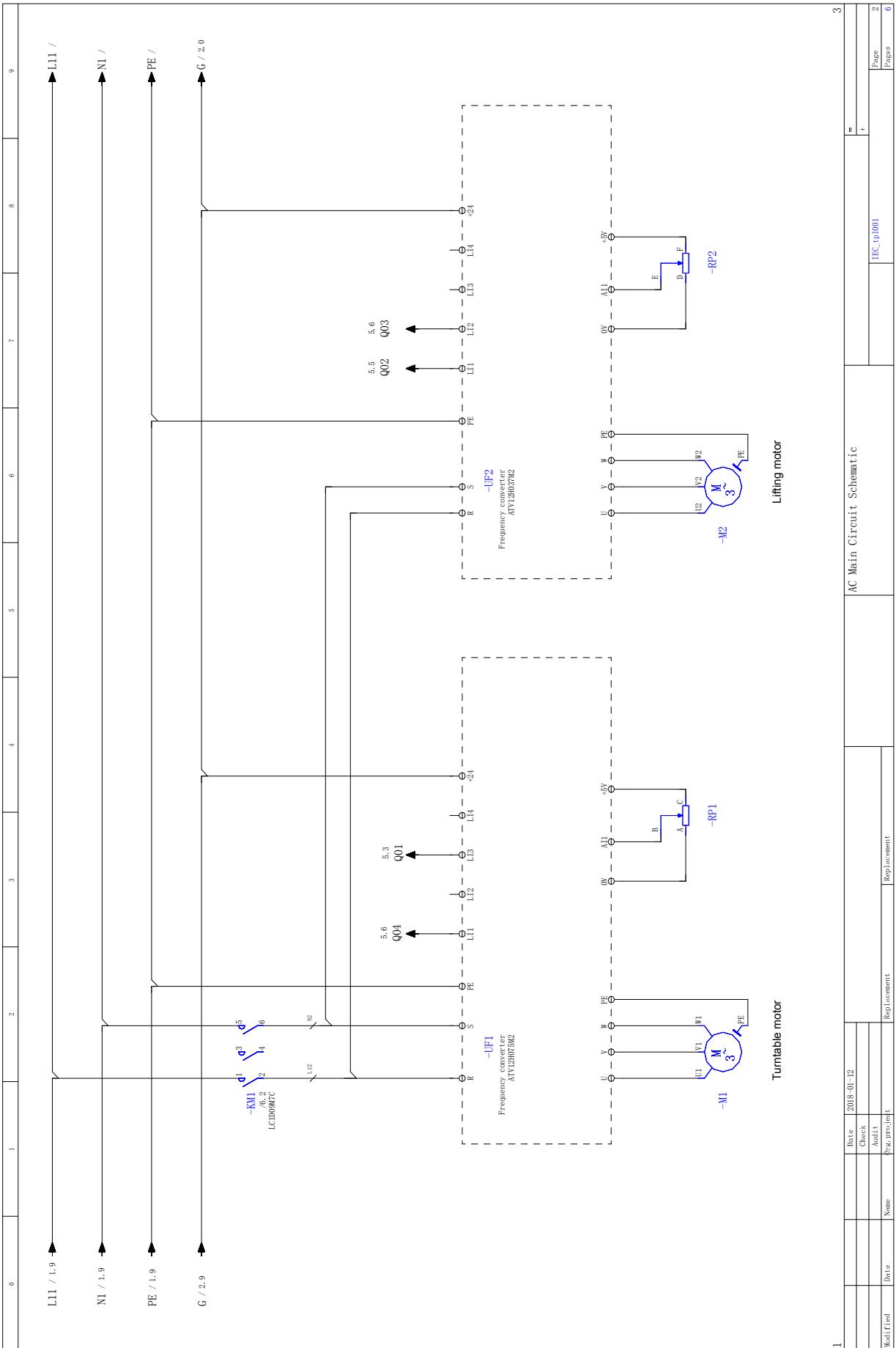
PART 7 ELECTRICAL WIRING AND SCHEMATIC DIAGRAMS

7-1 MH-FG-2000A/B

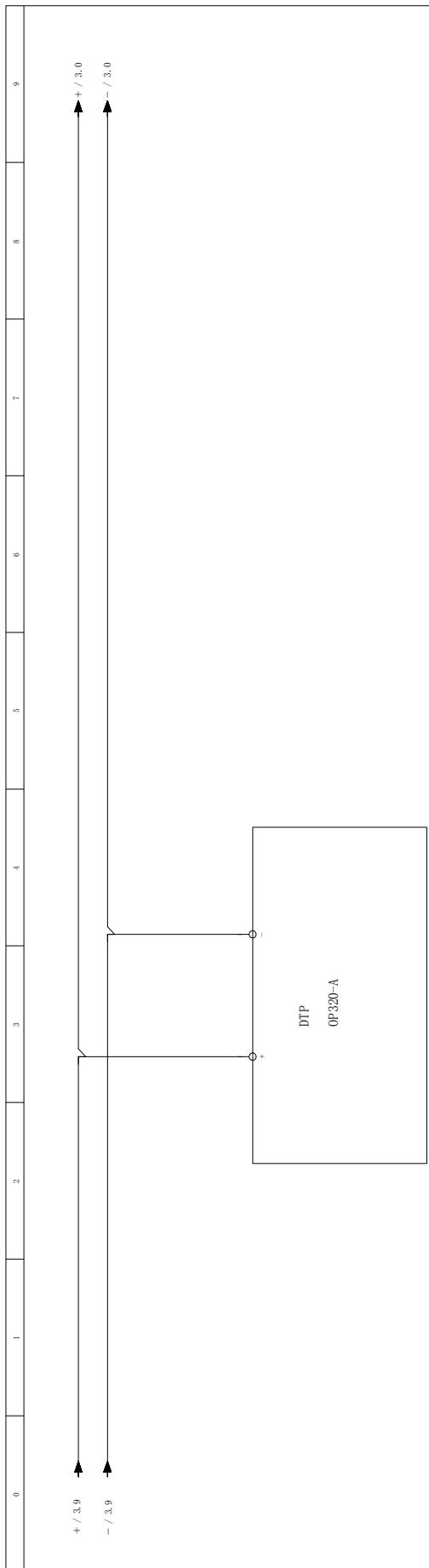
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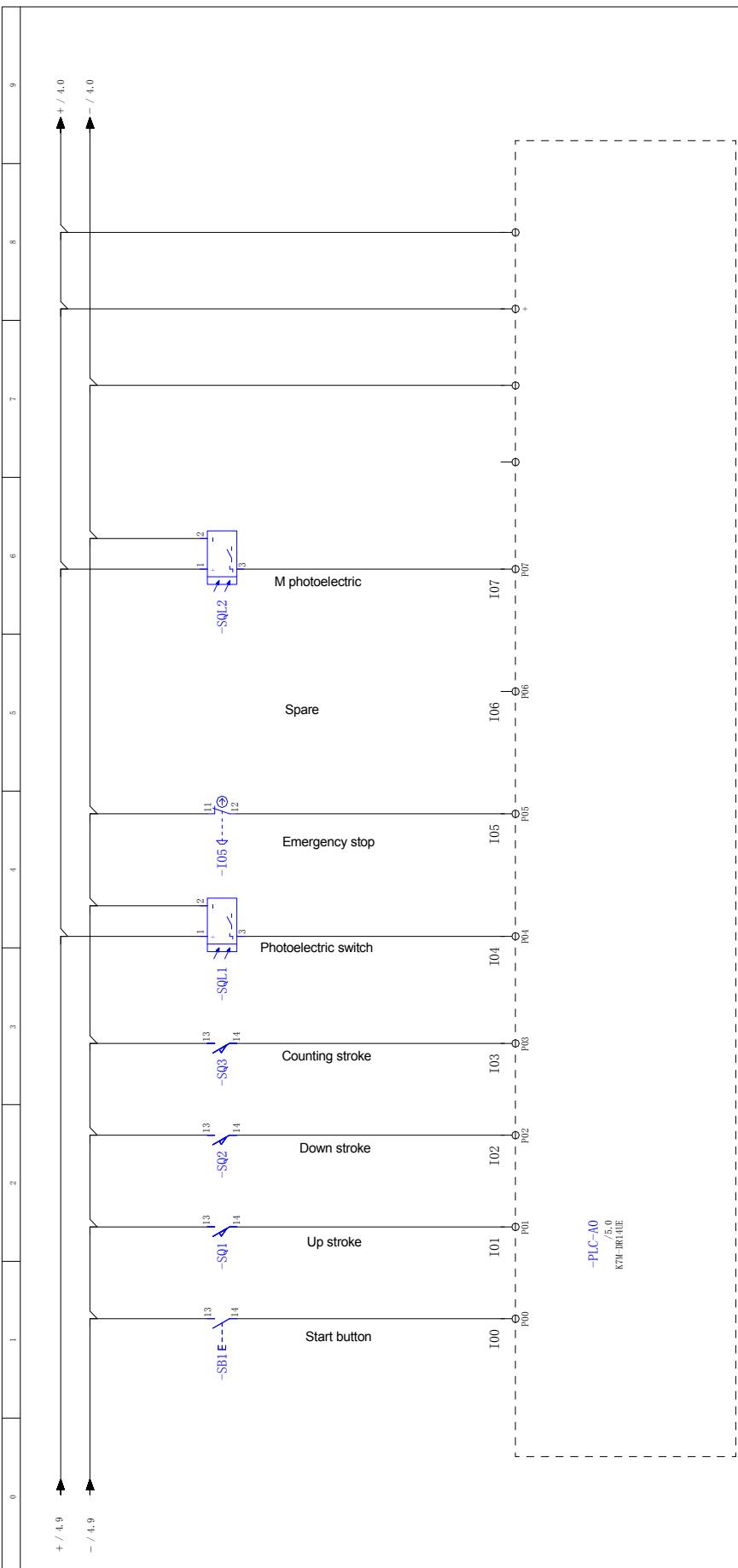




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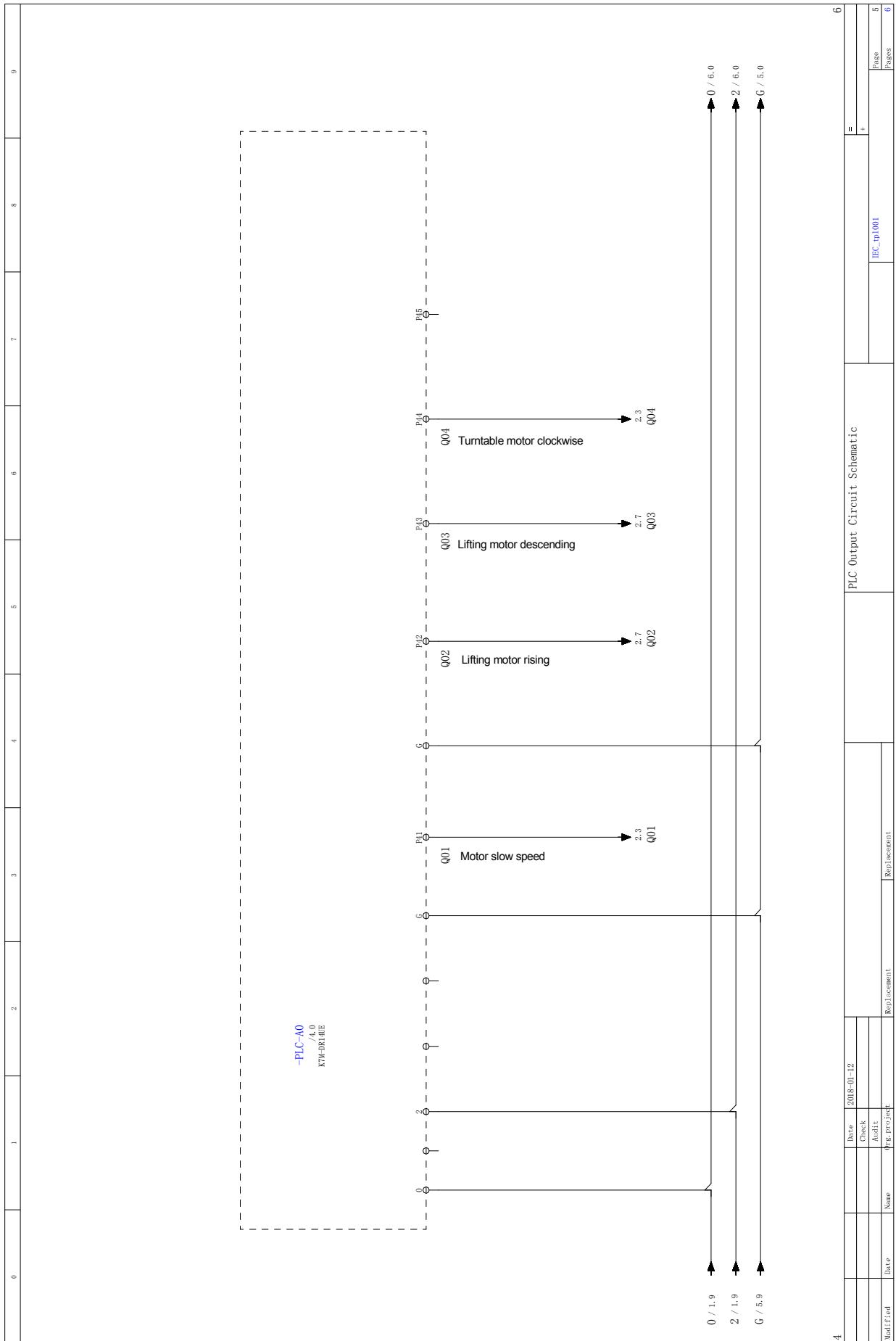


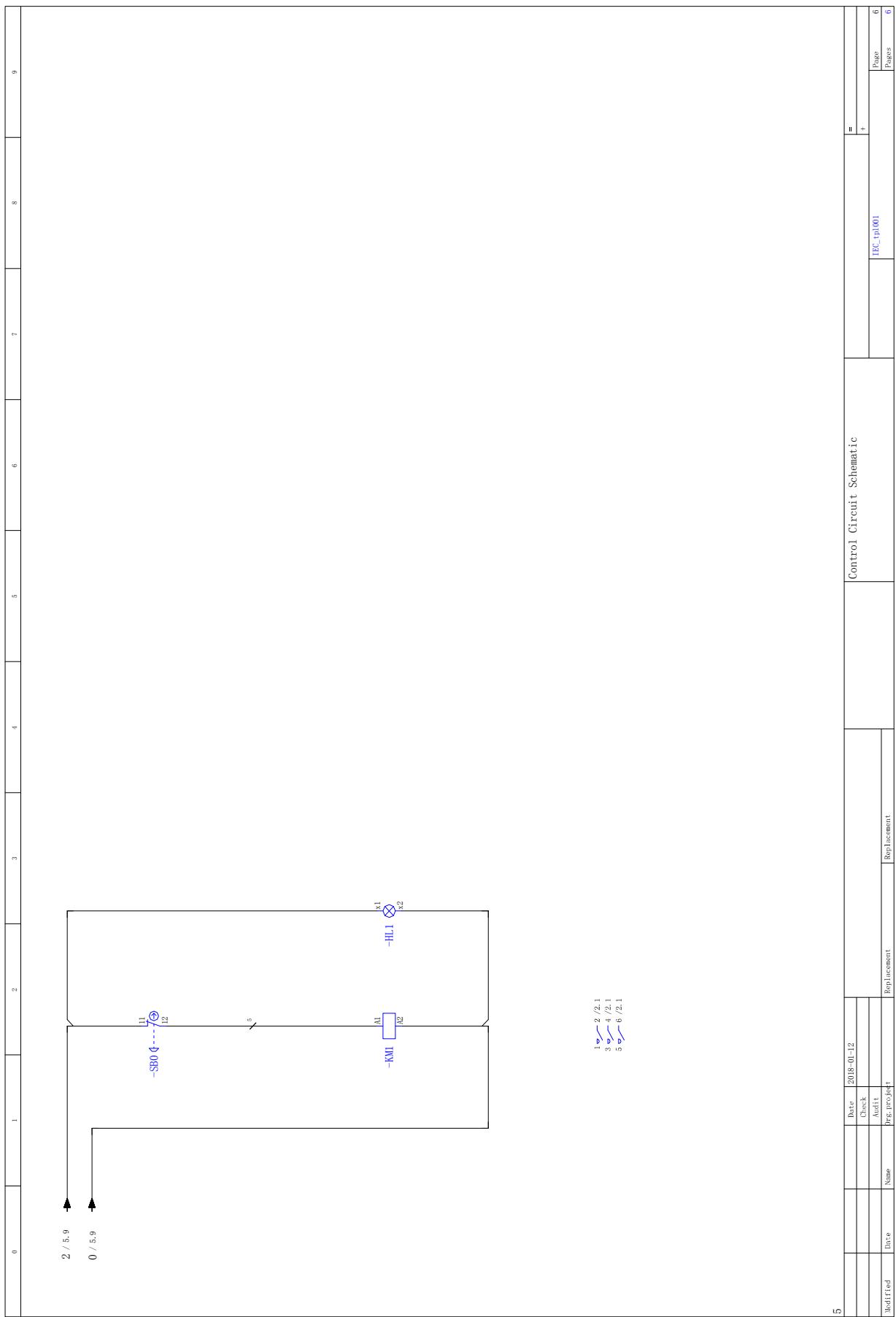
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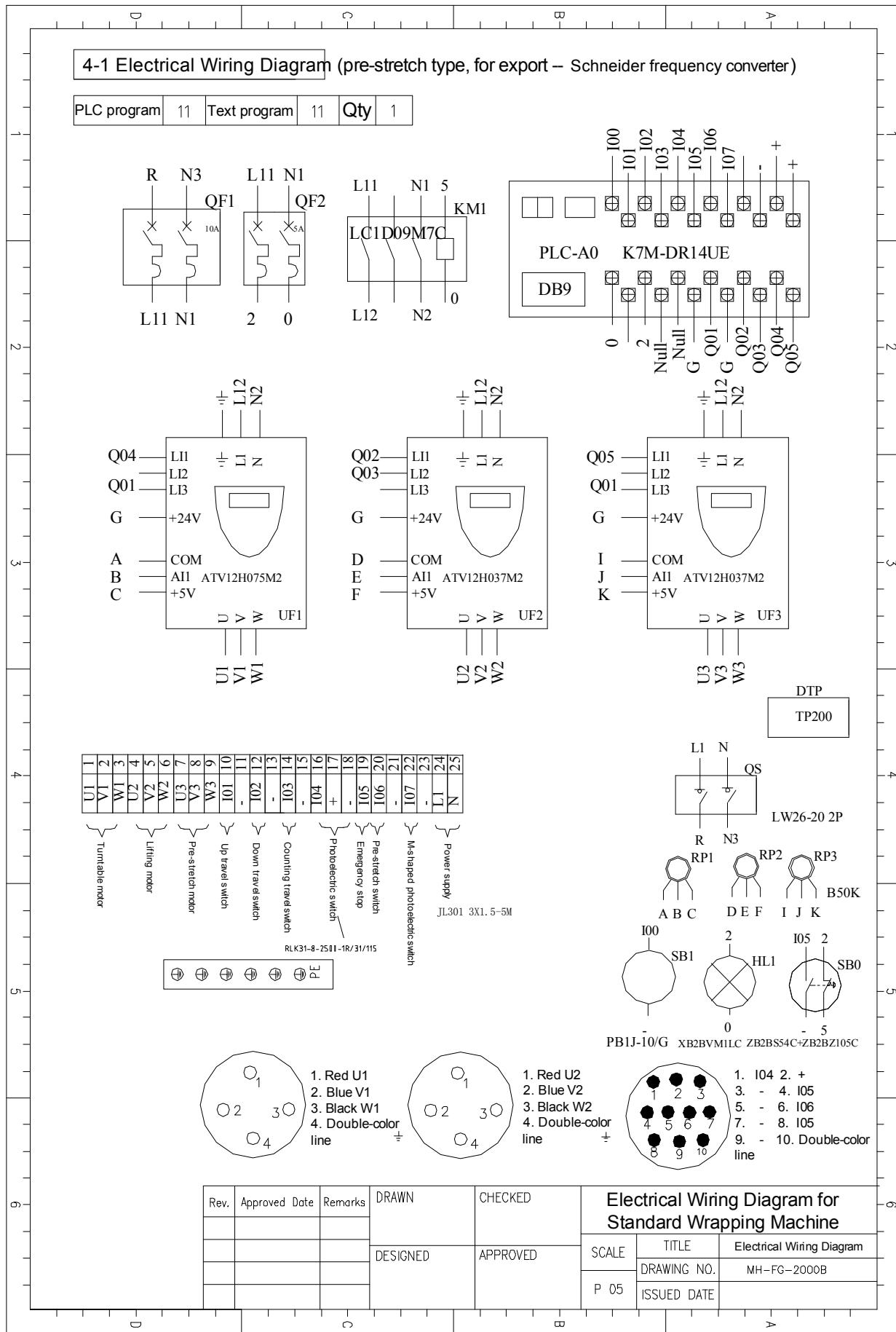
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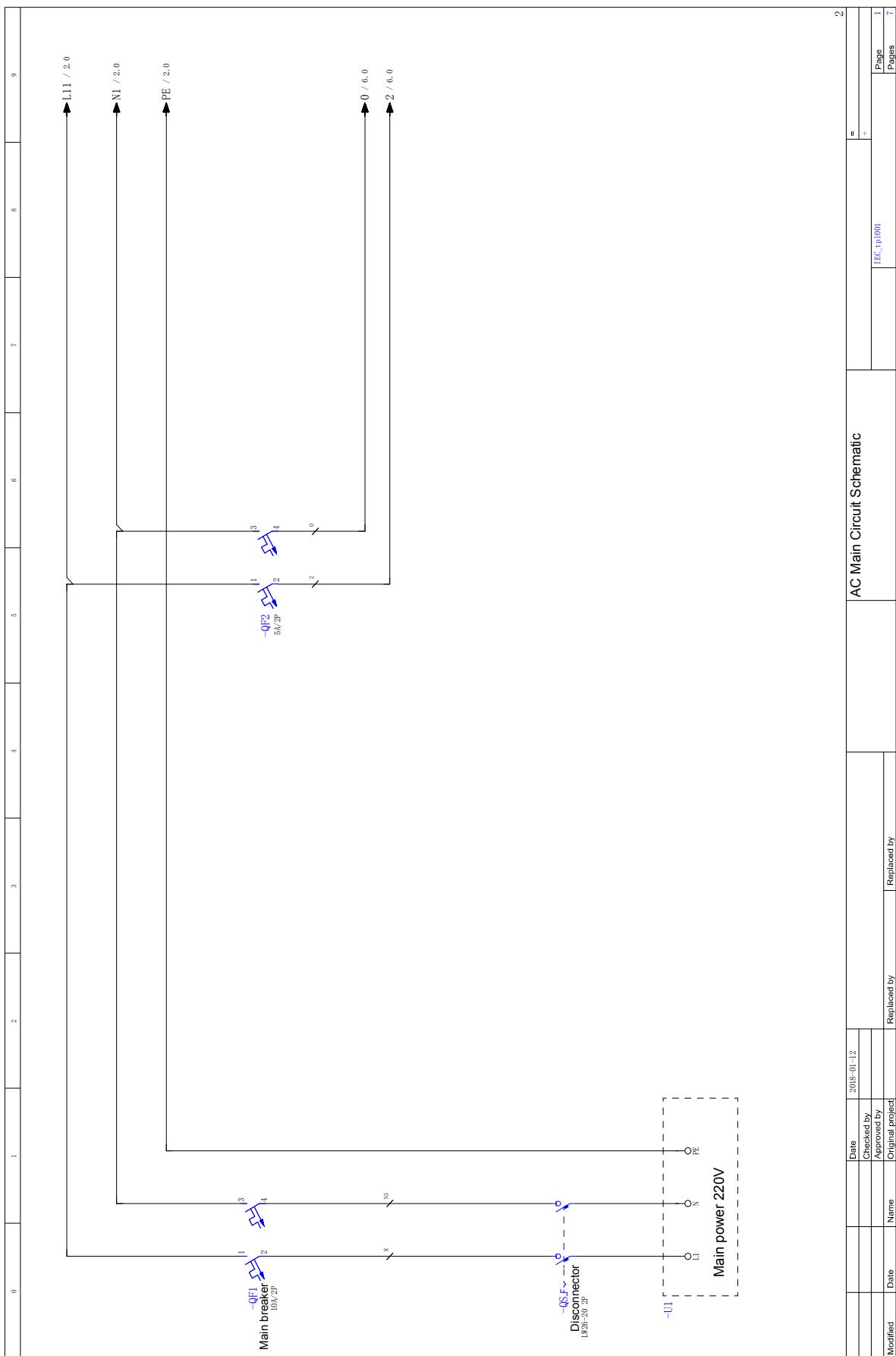
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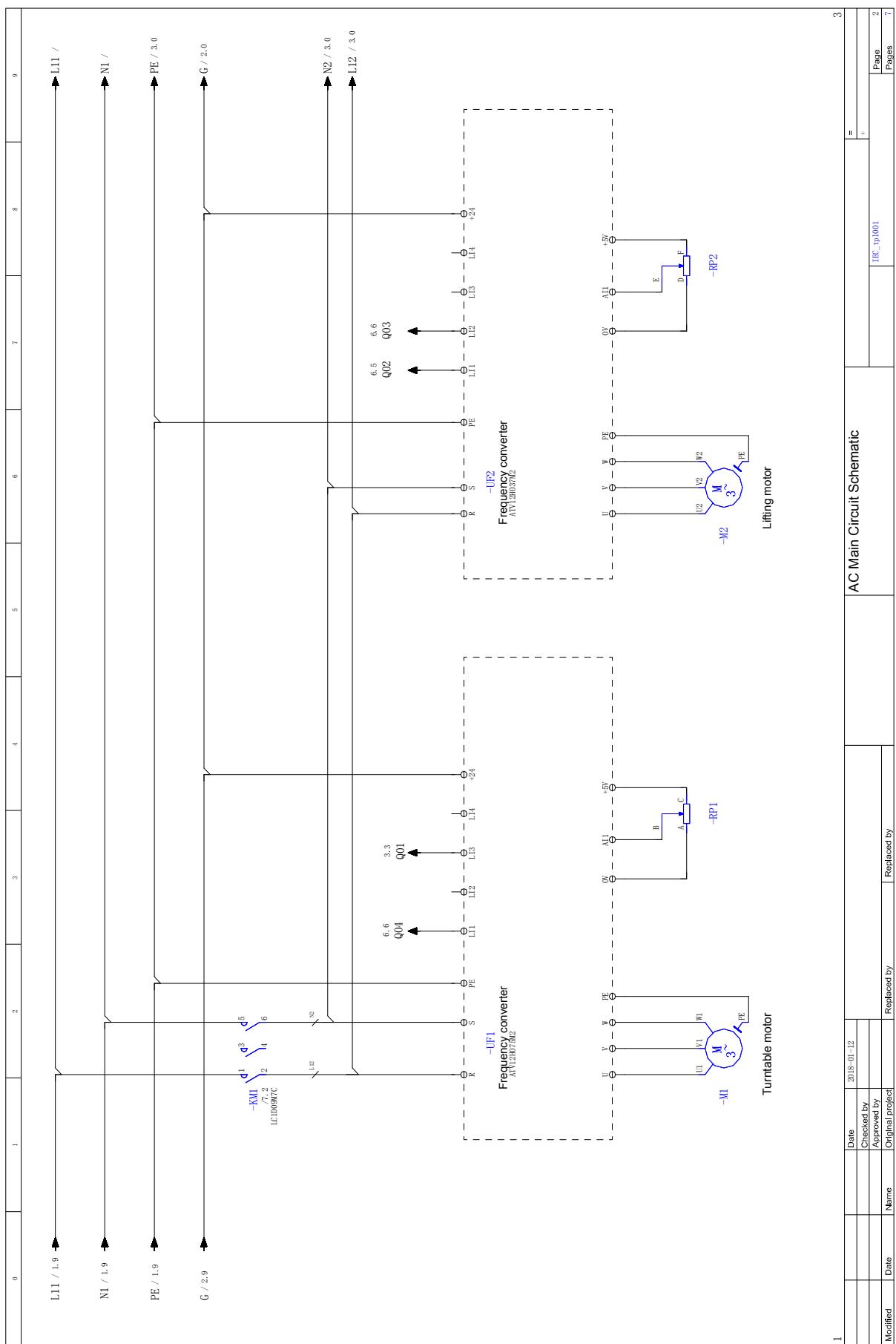




7-1-2 MH-FG-2000B

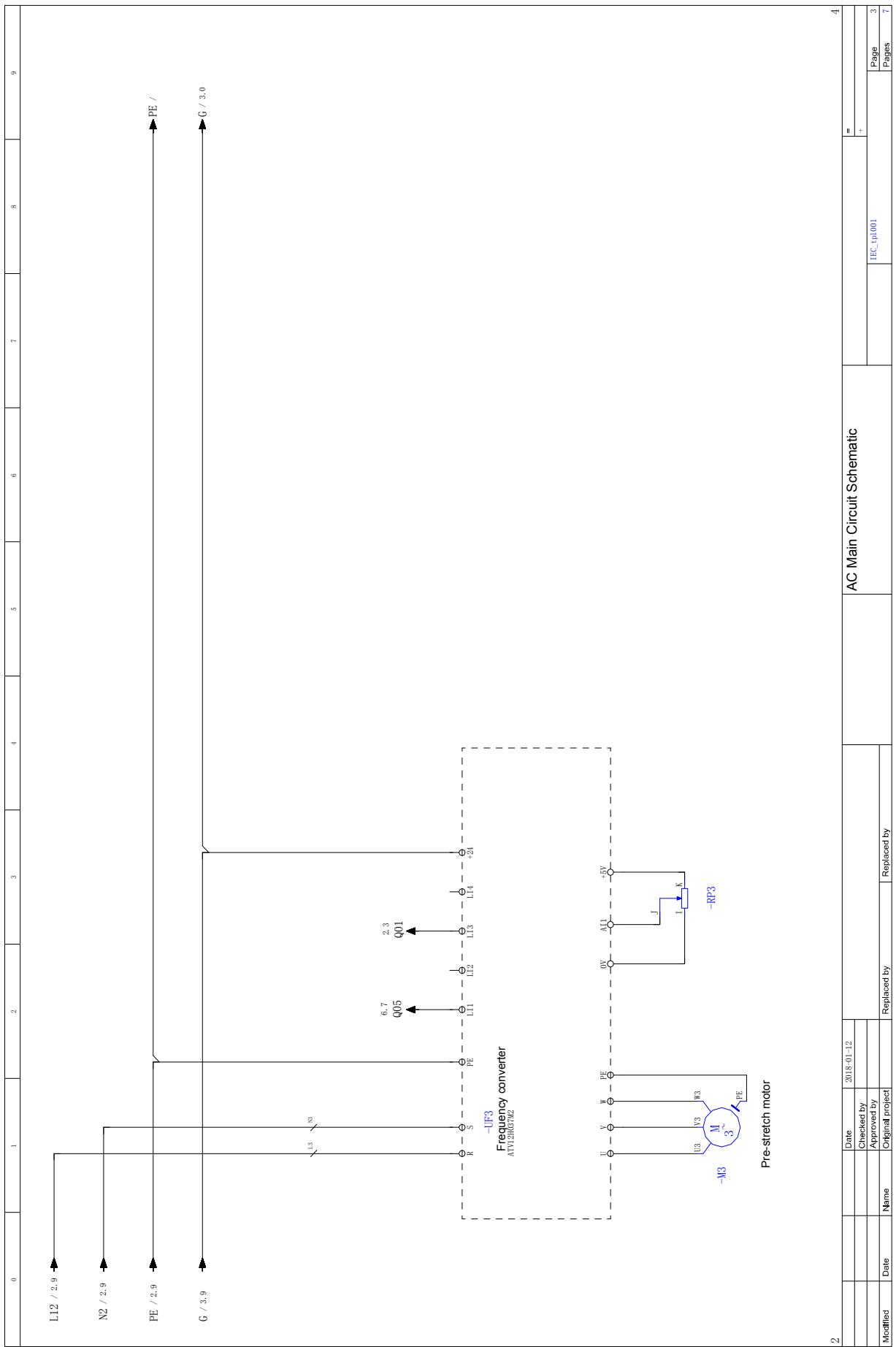


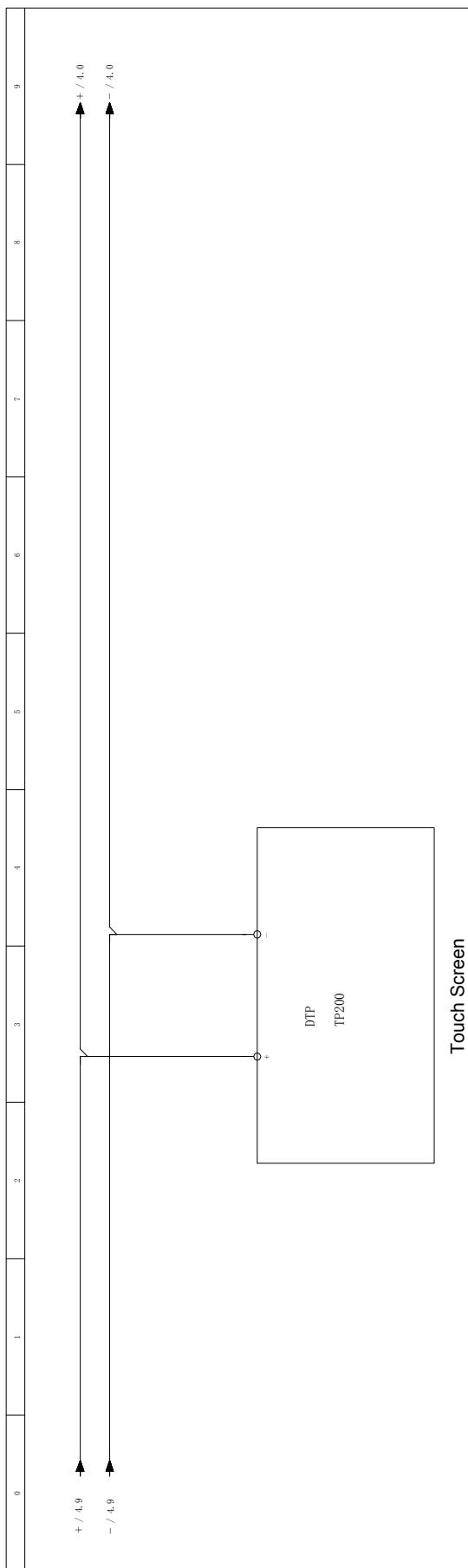




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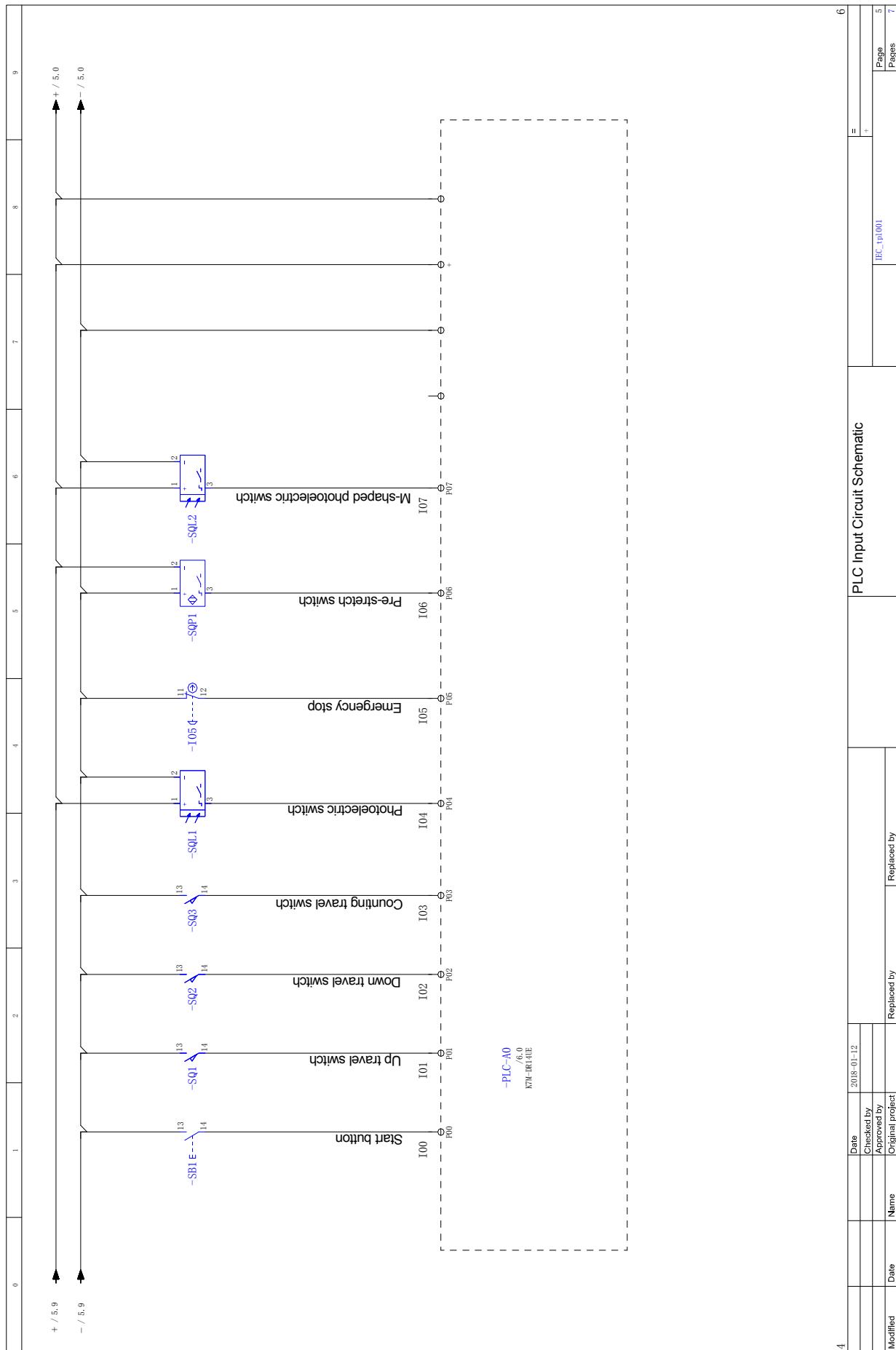
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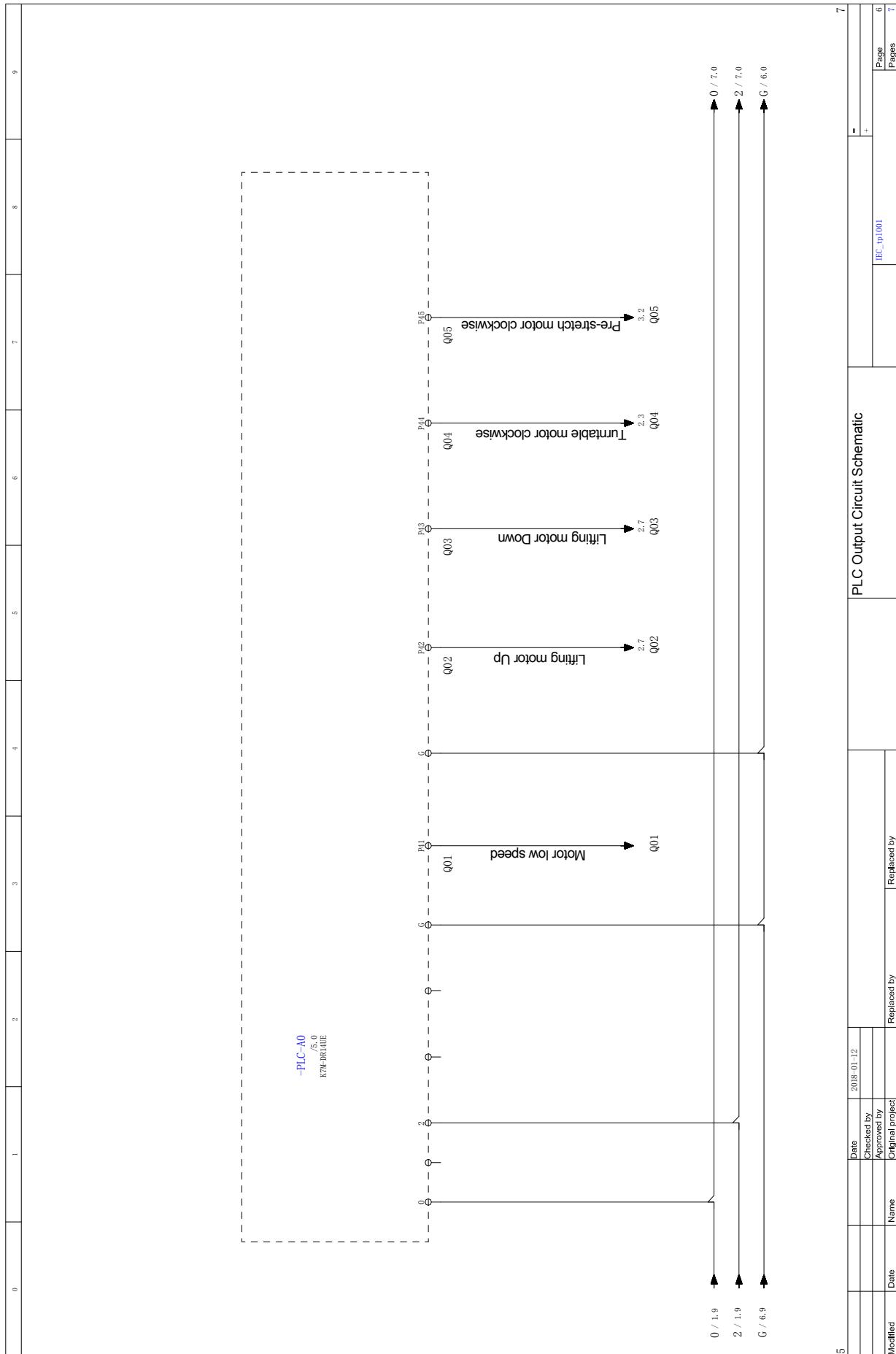




Touch Screen

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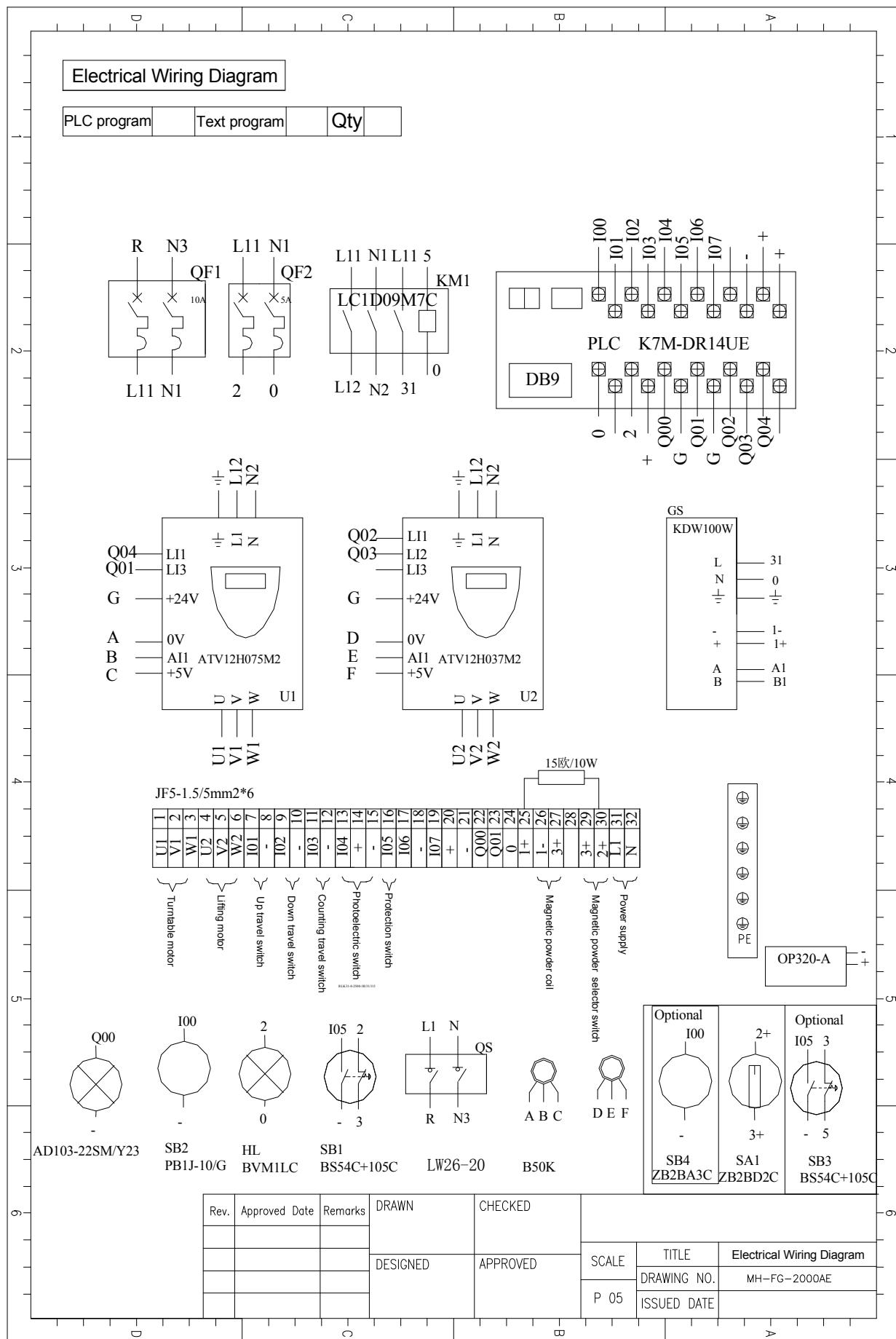


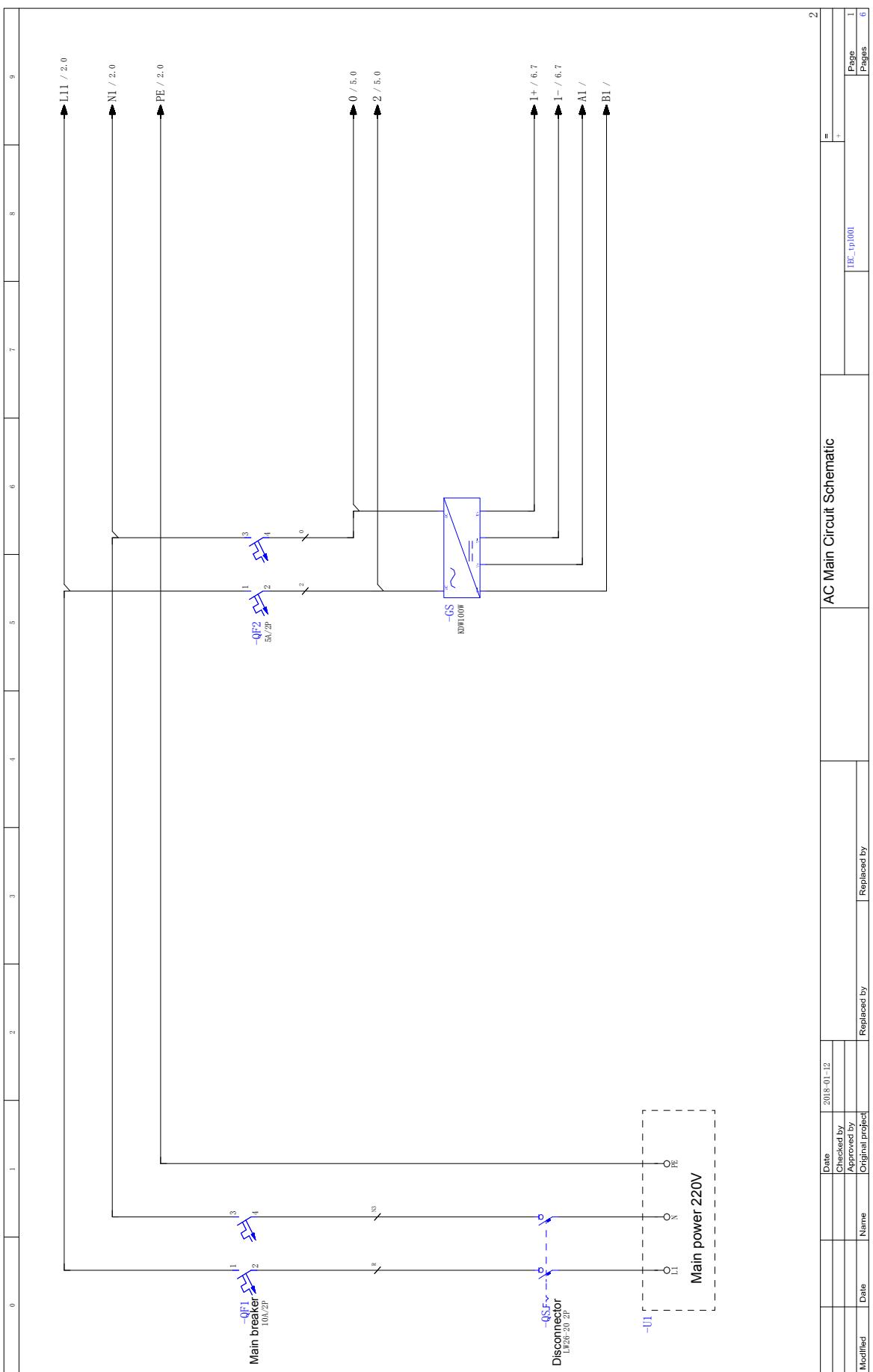
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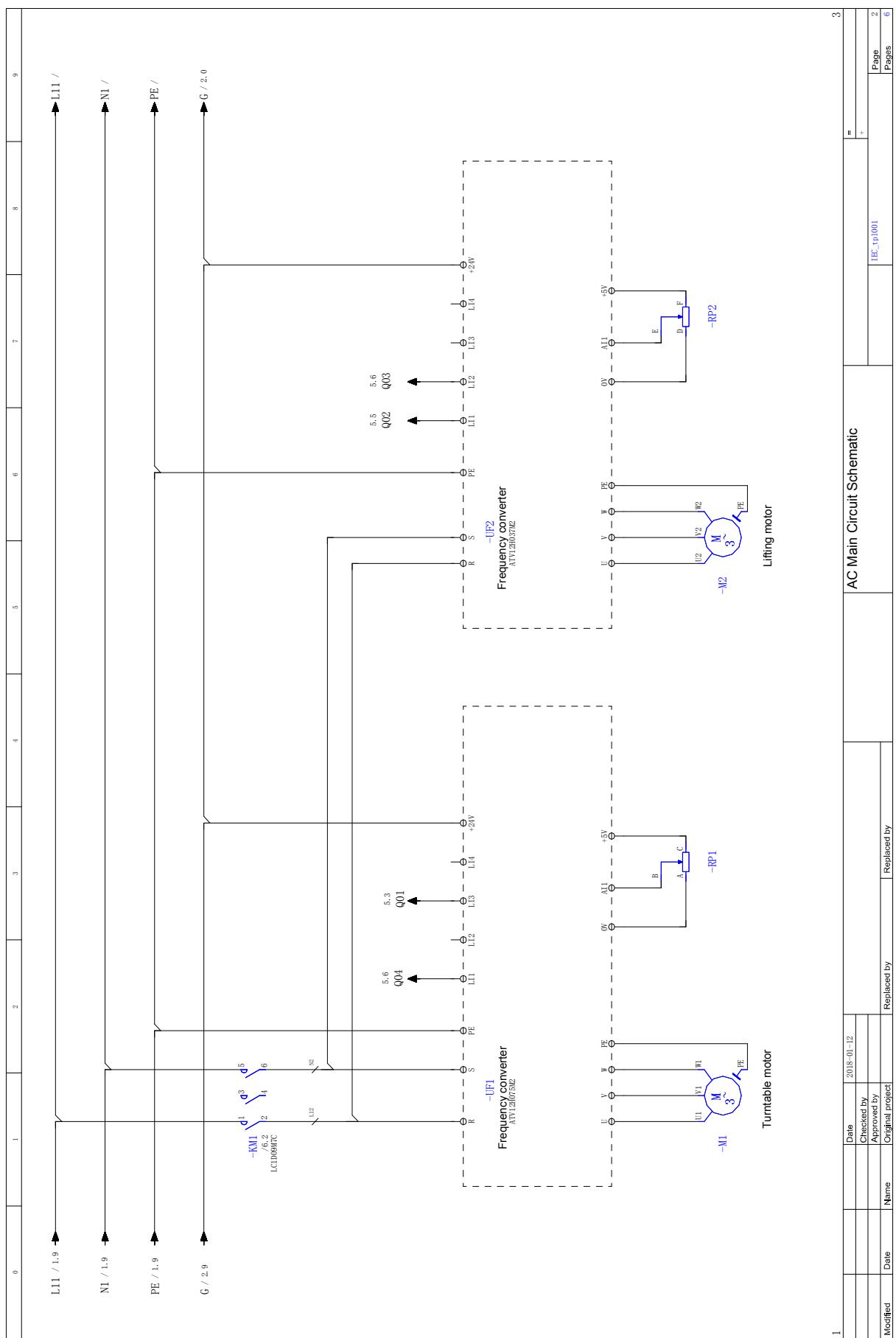
The circuit diagram shows a power source terminal block SB0 4 -/⊕ connected to ground (5). A switch -KM1 is connected in series with the power source. The circuit then branches into two parallel paths. One path goes through a relay coil -HL1 (terminals A1 and A2) and its contacts. The contacts are numbered 1 through 6. The second path goes through a light bulb X1. Arrows indicate current flow from the power source through the switch, then branching to the relay and the bulb.

Control Circuit Schematic		IEC_1p1001		Page
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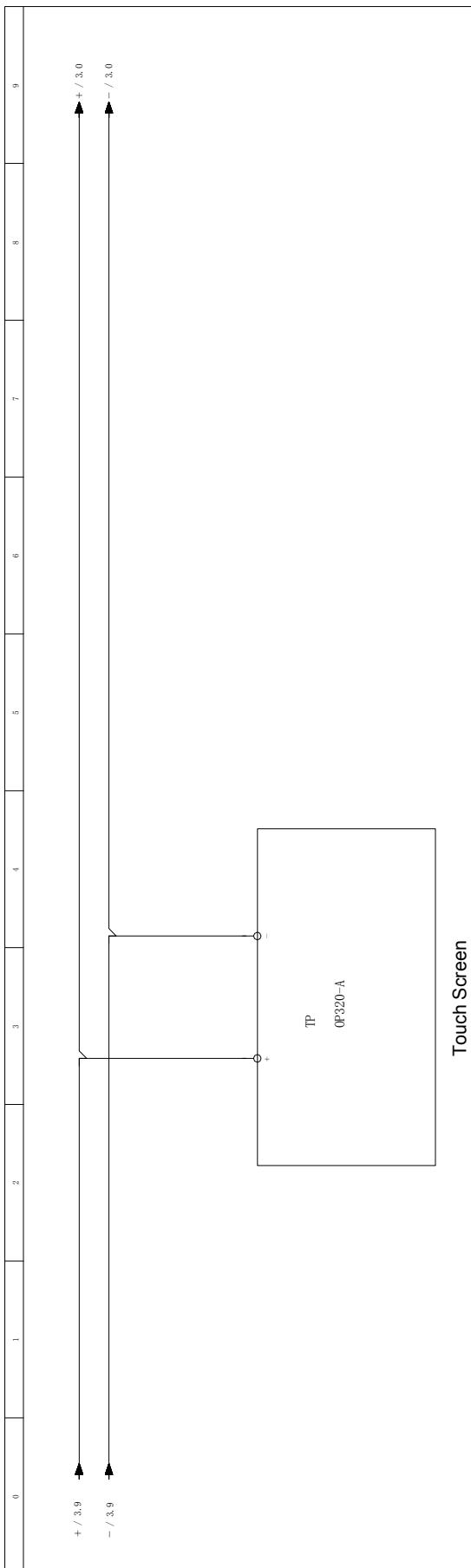
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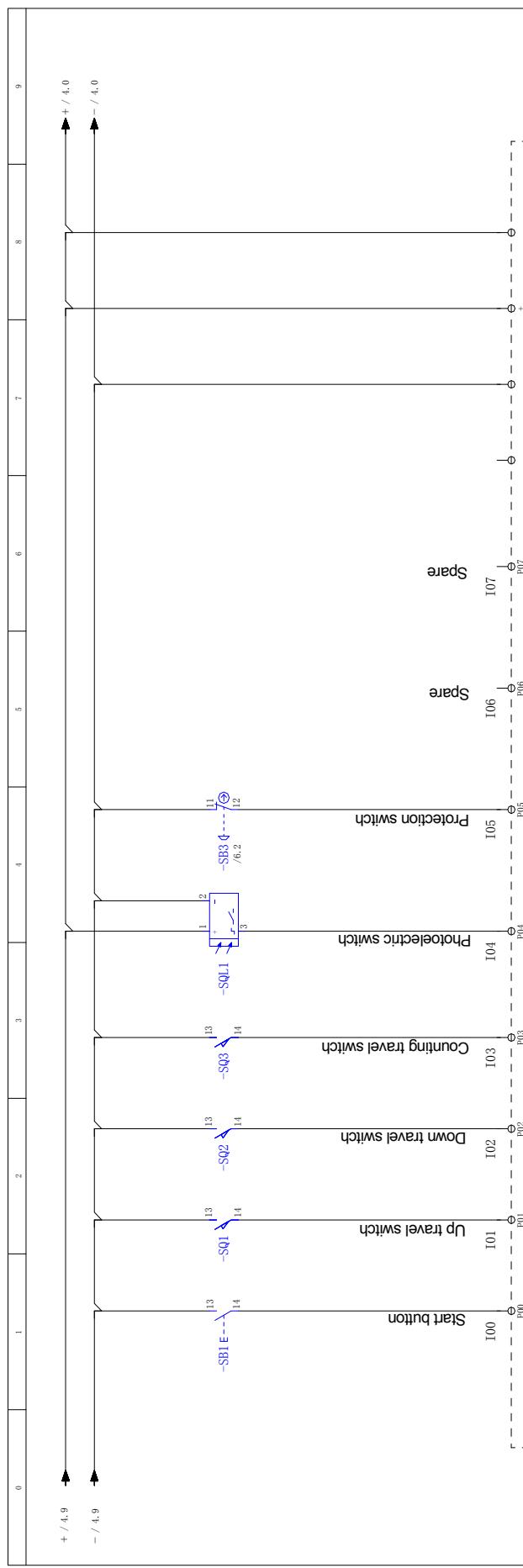




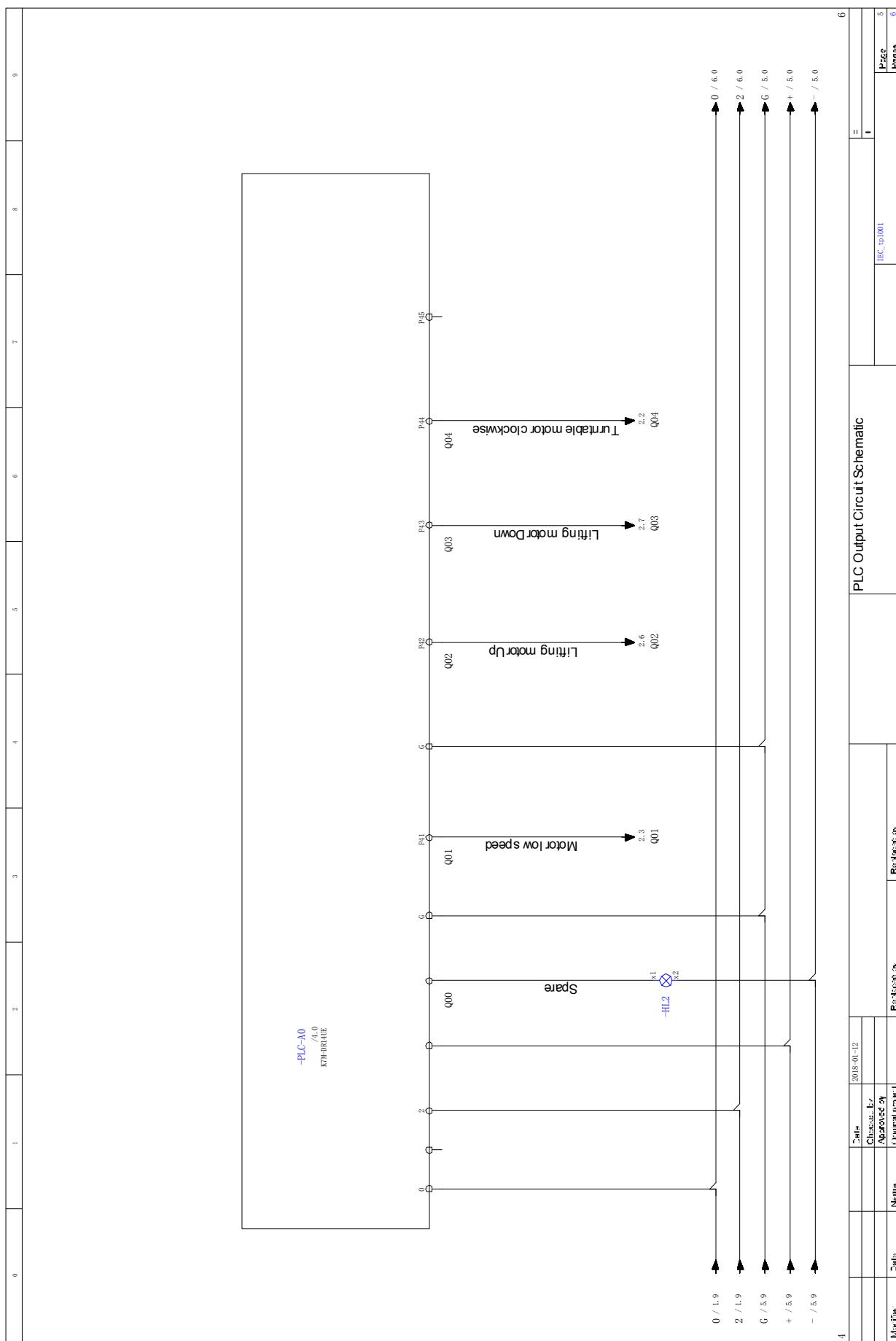


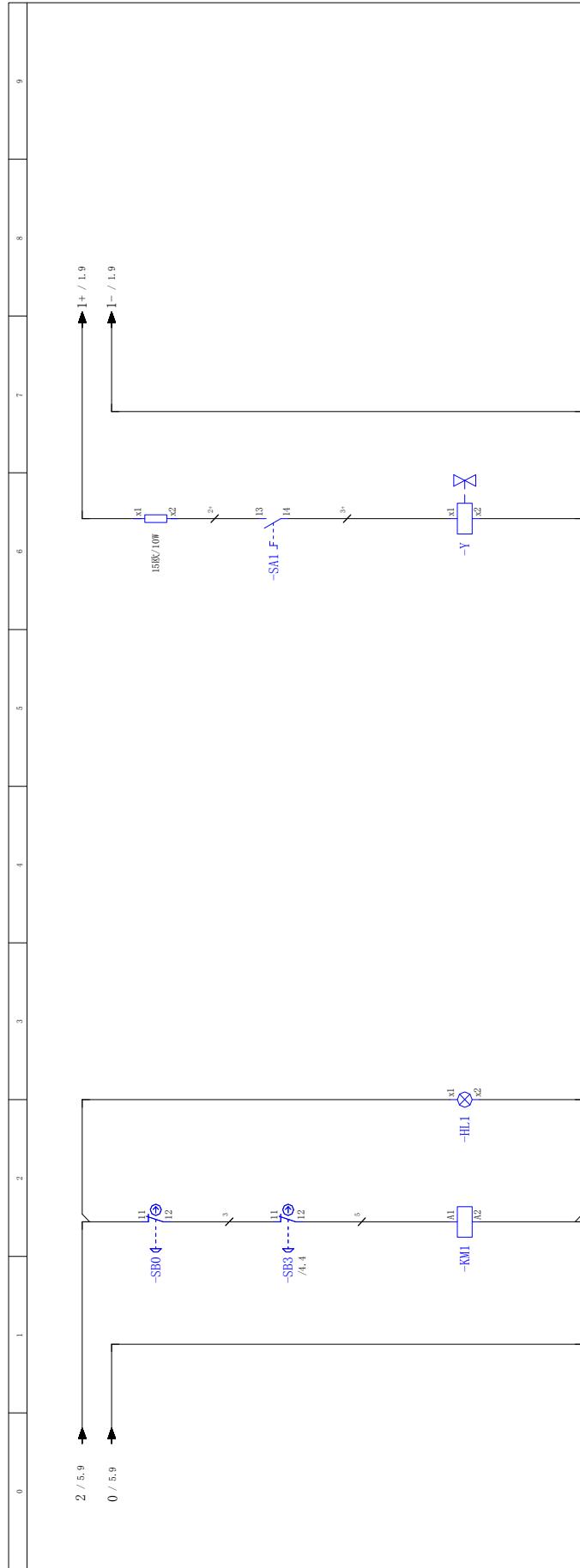
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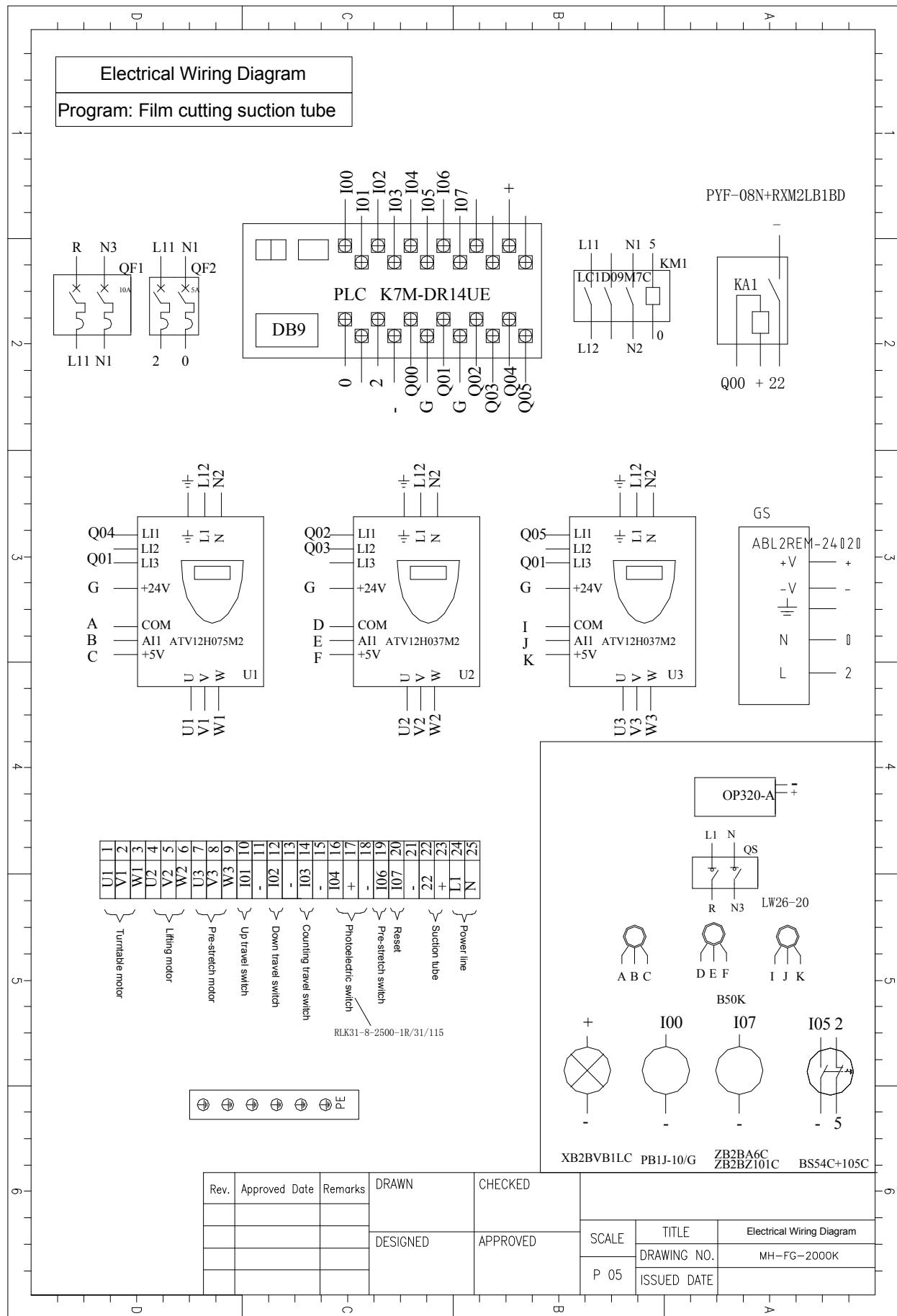
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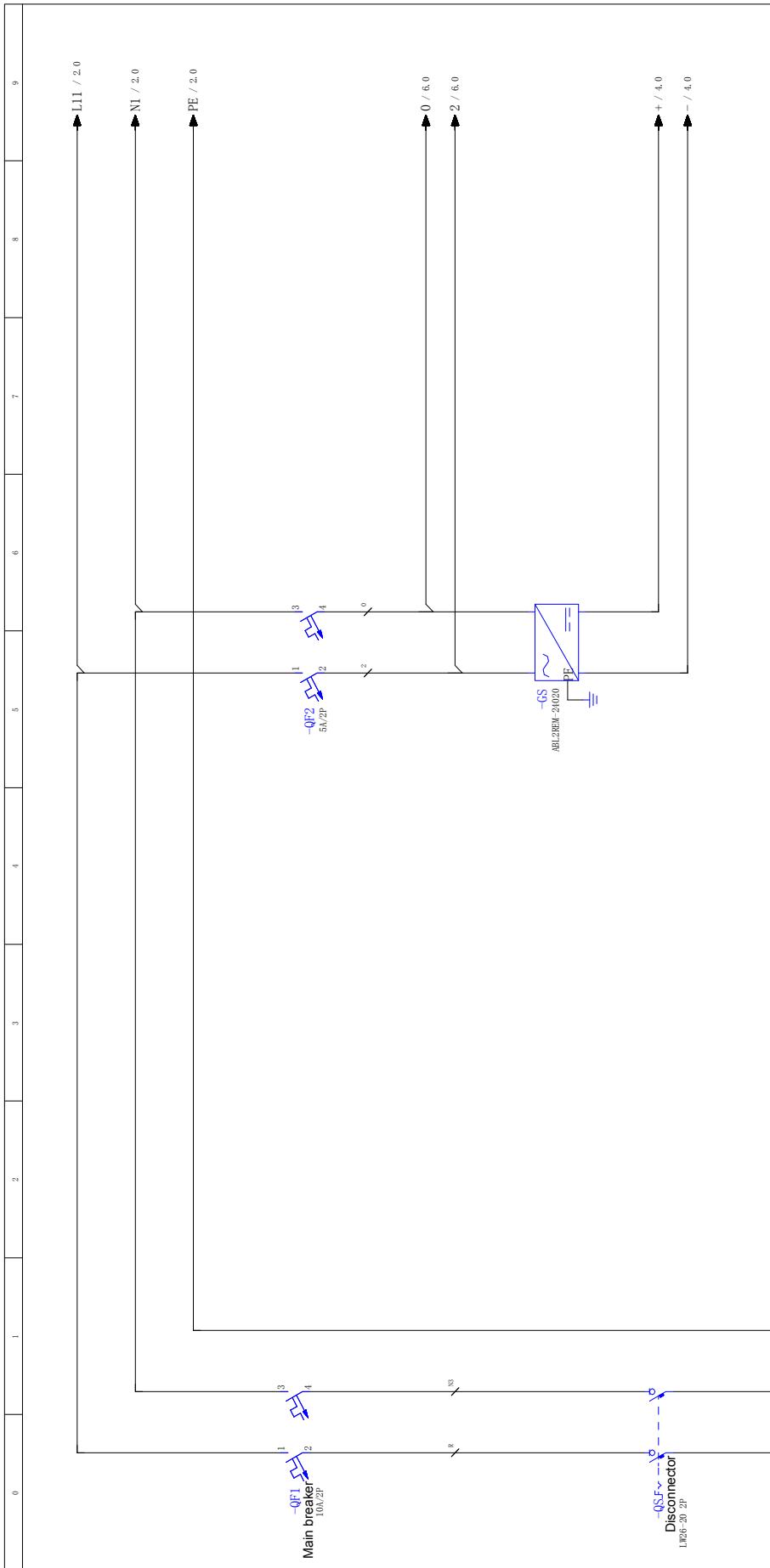




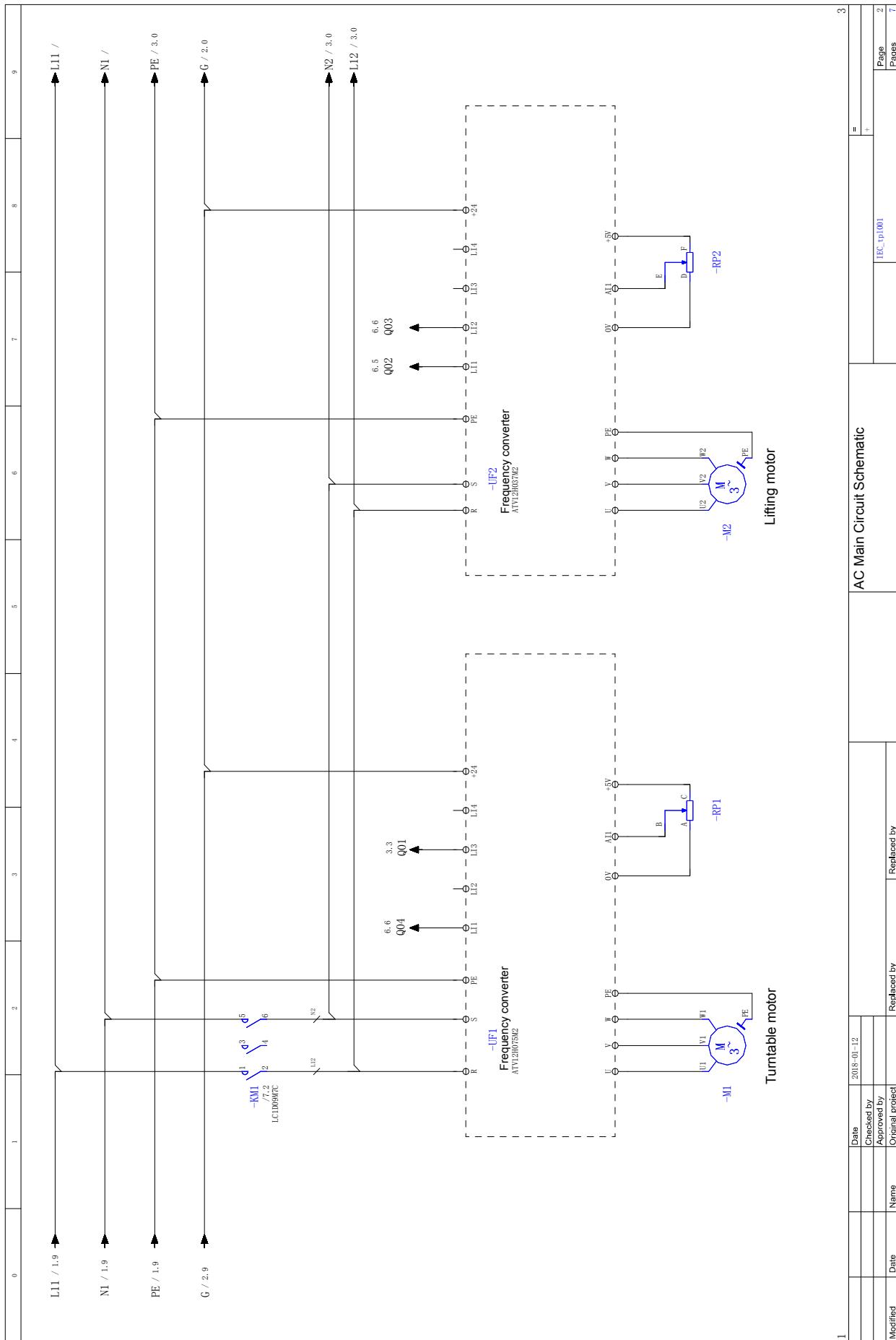
Control Circuit Schematic				TRC-1p1001		Page 6 of 6	
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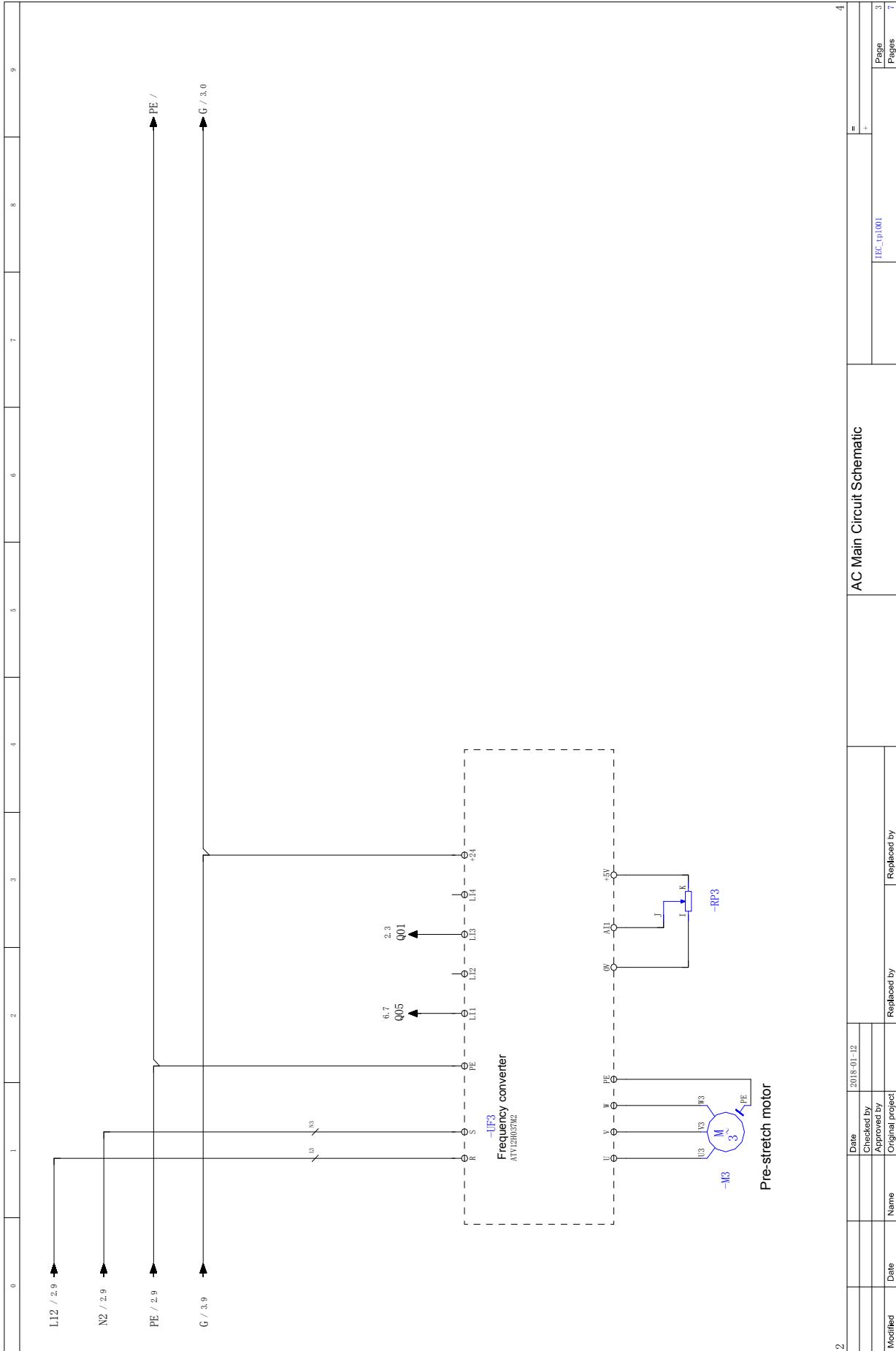
7-3 MH-FG-2000K





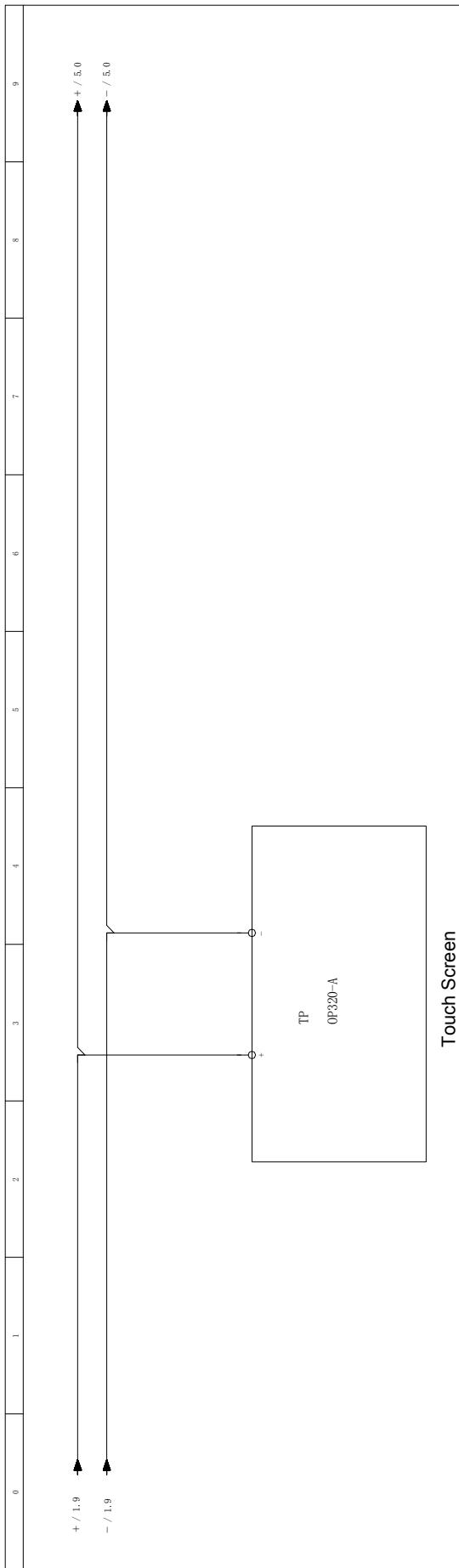
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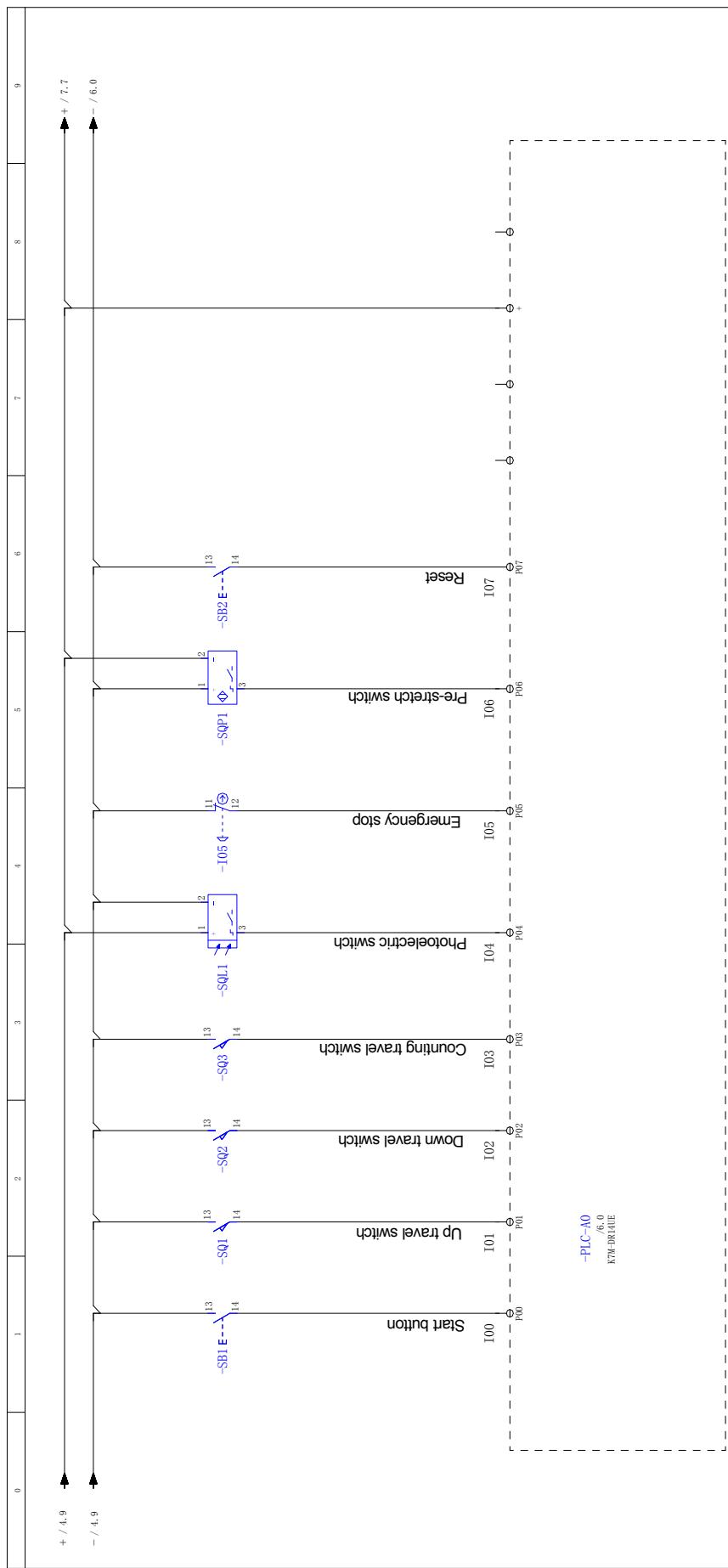


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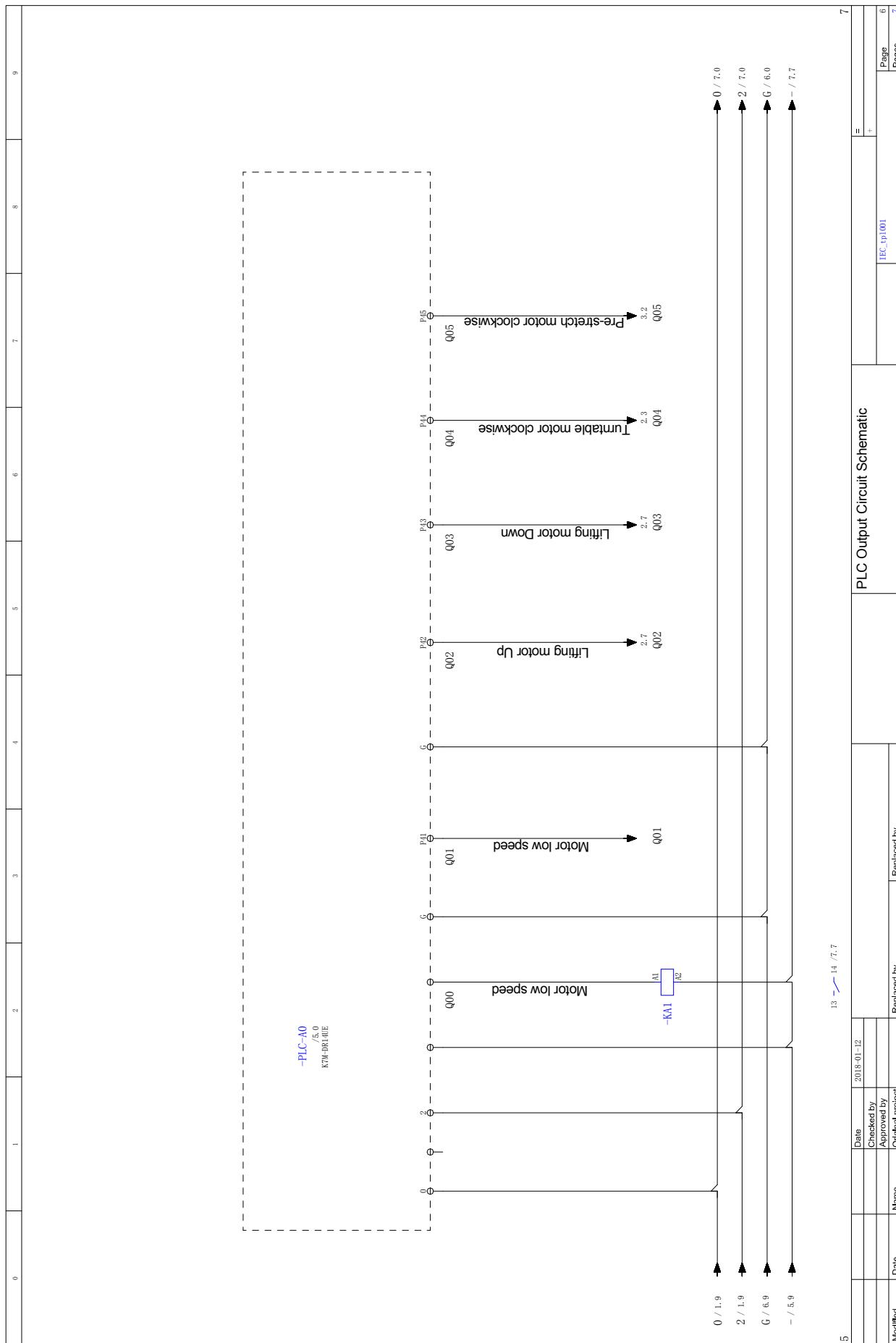
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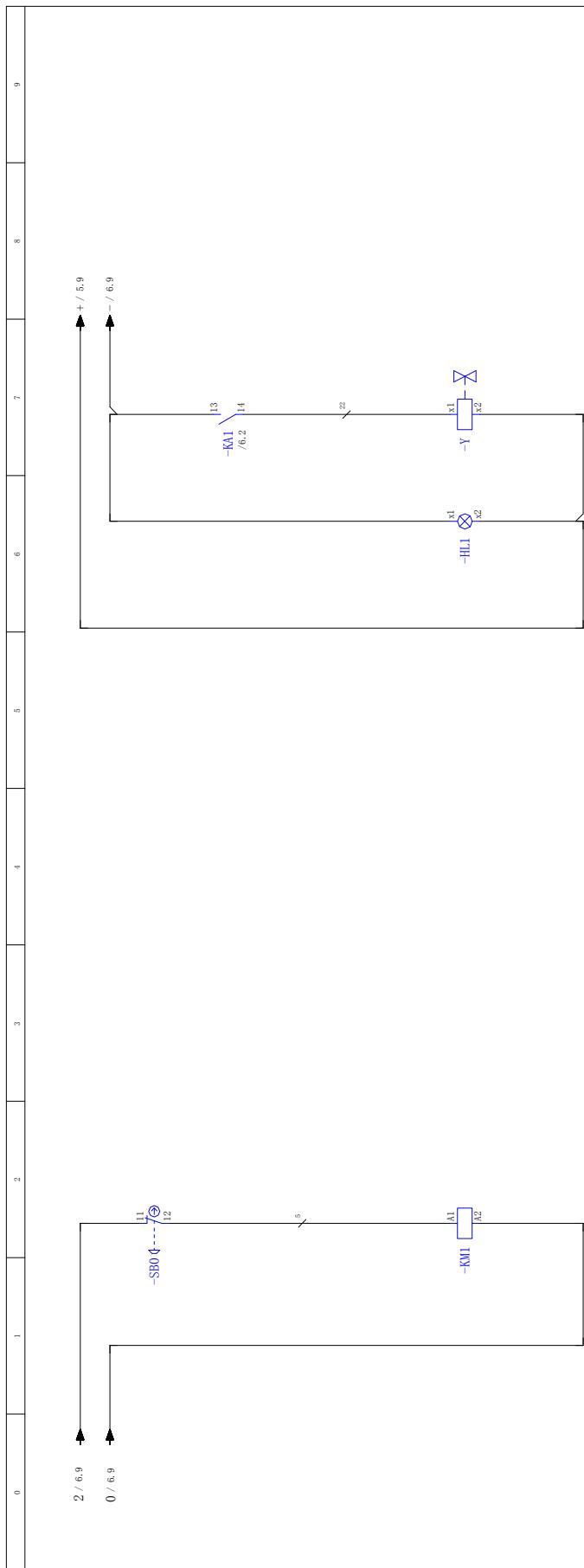


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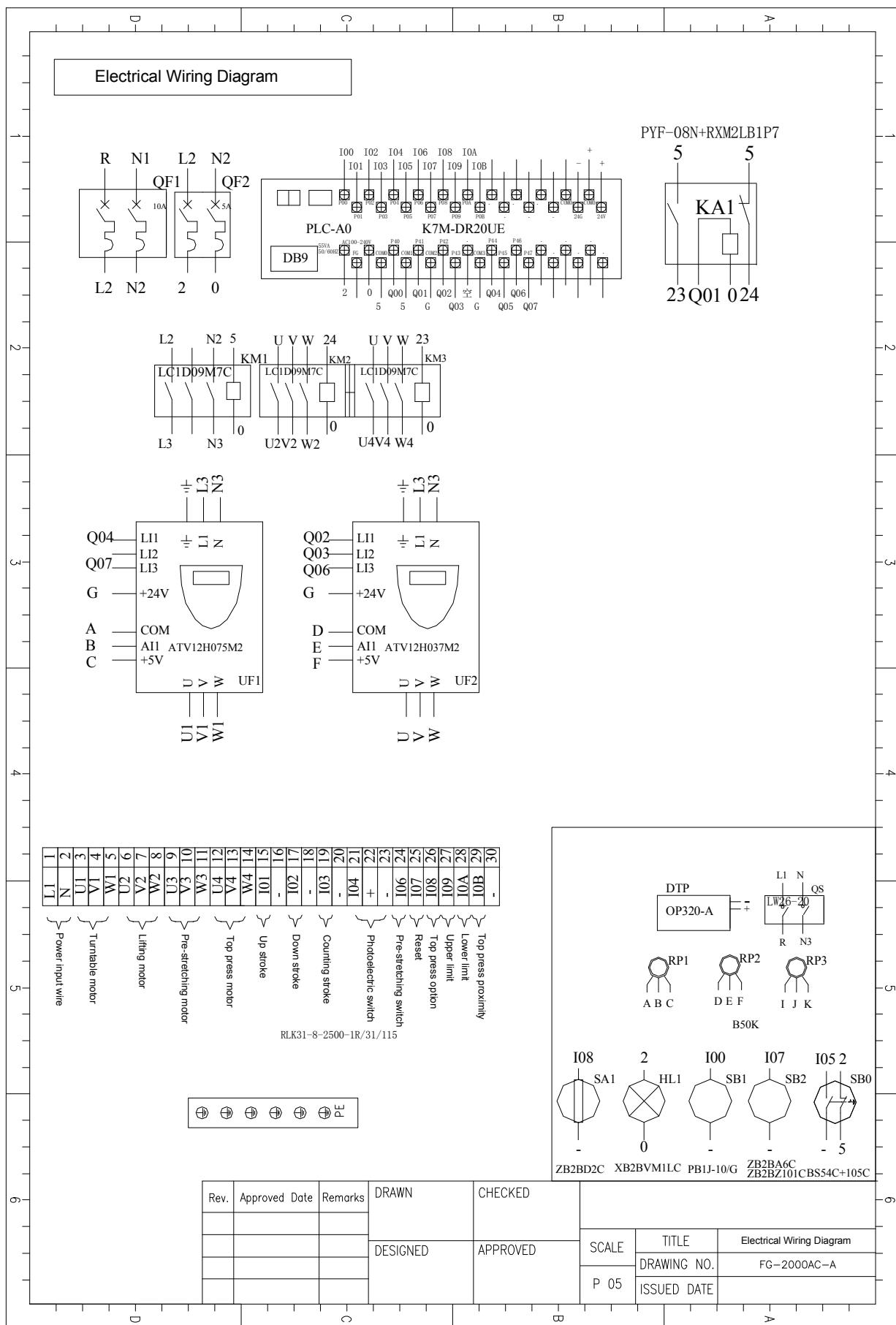


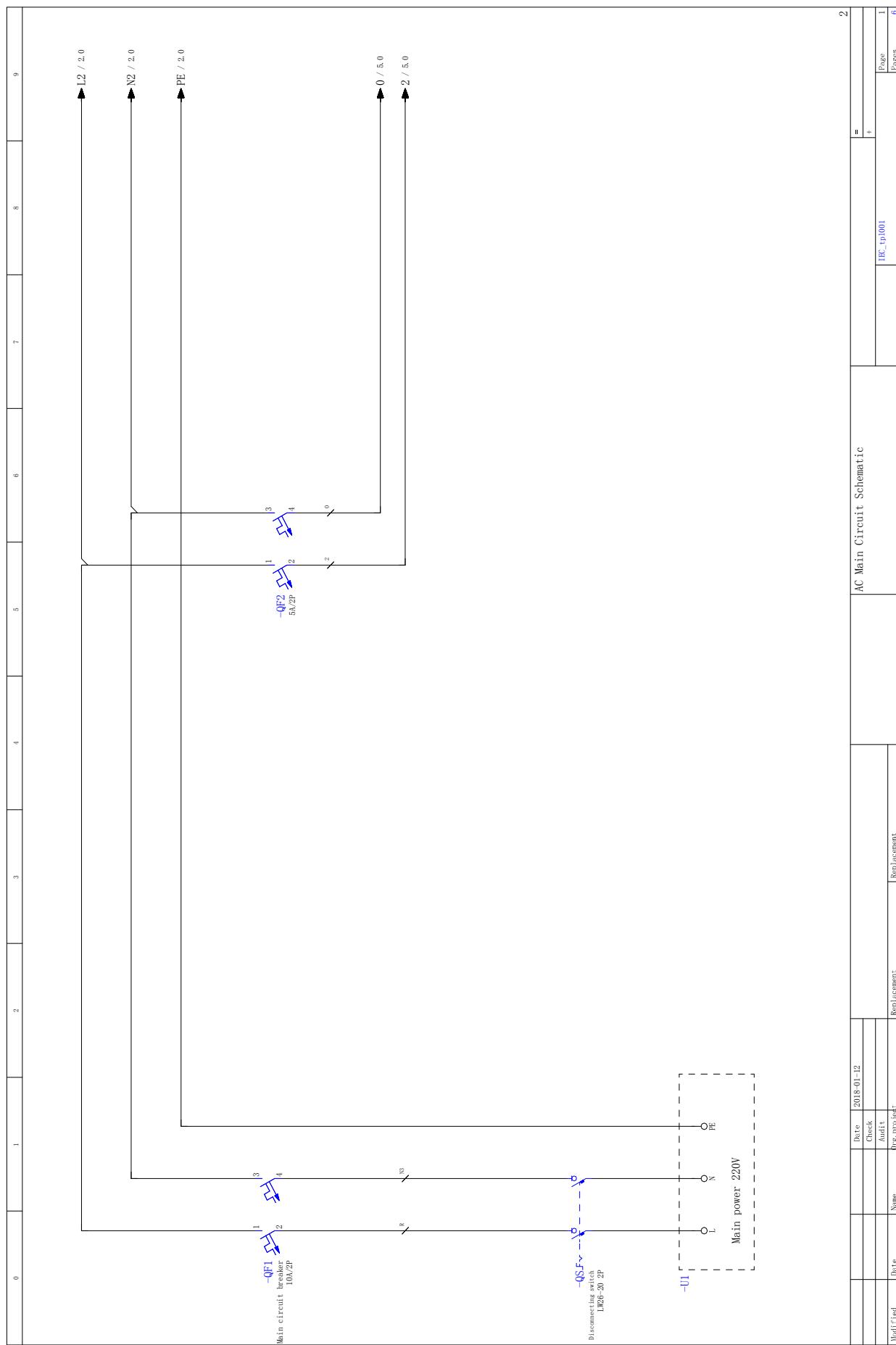


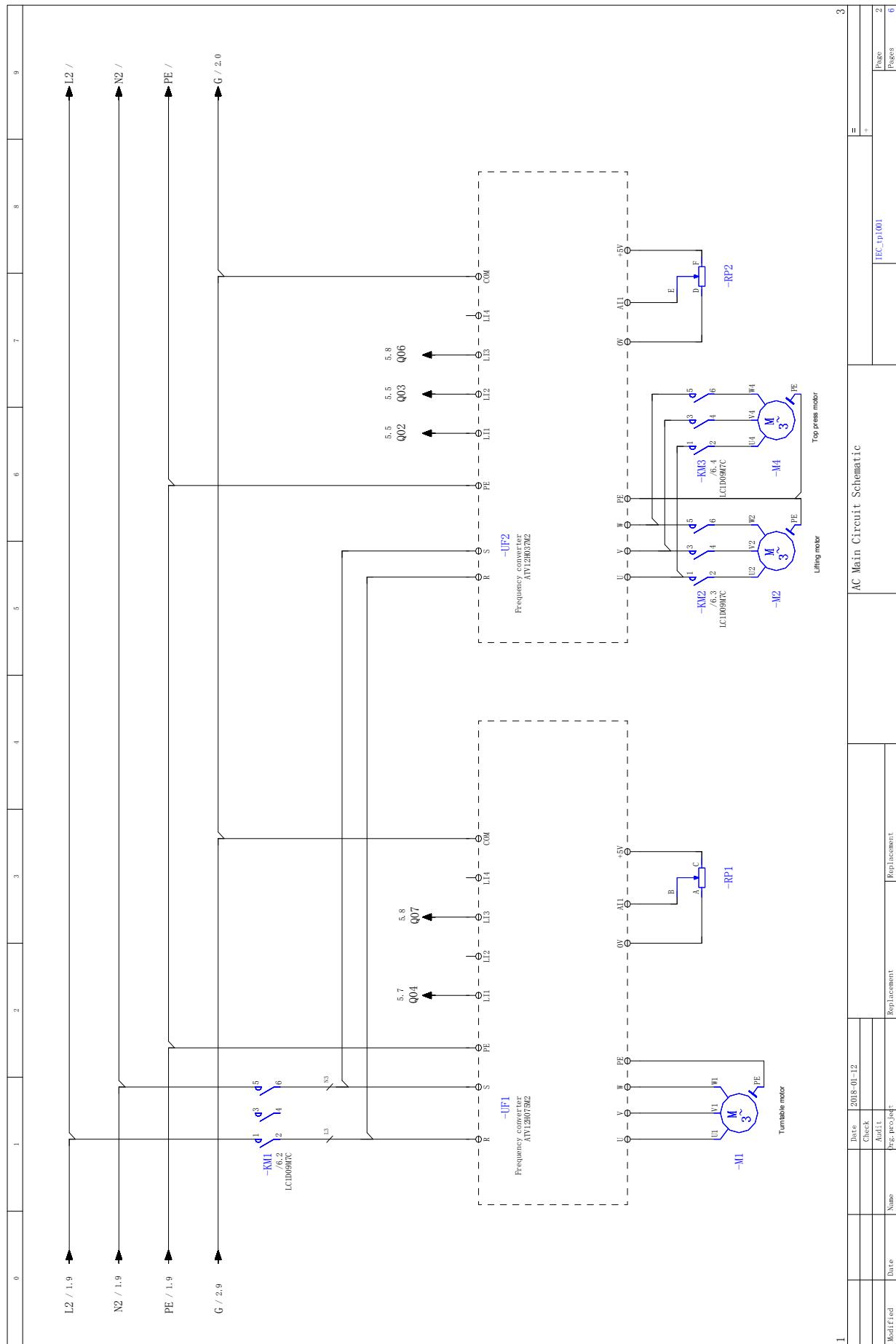
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7-4 MH-FG-2000AC/BC

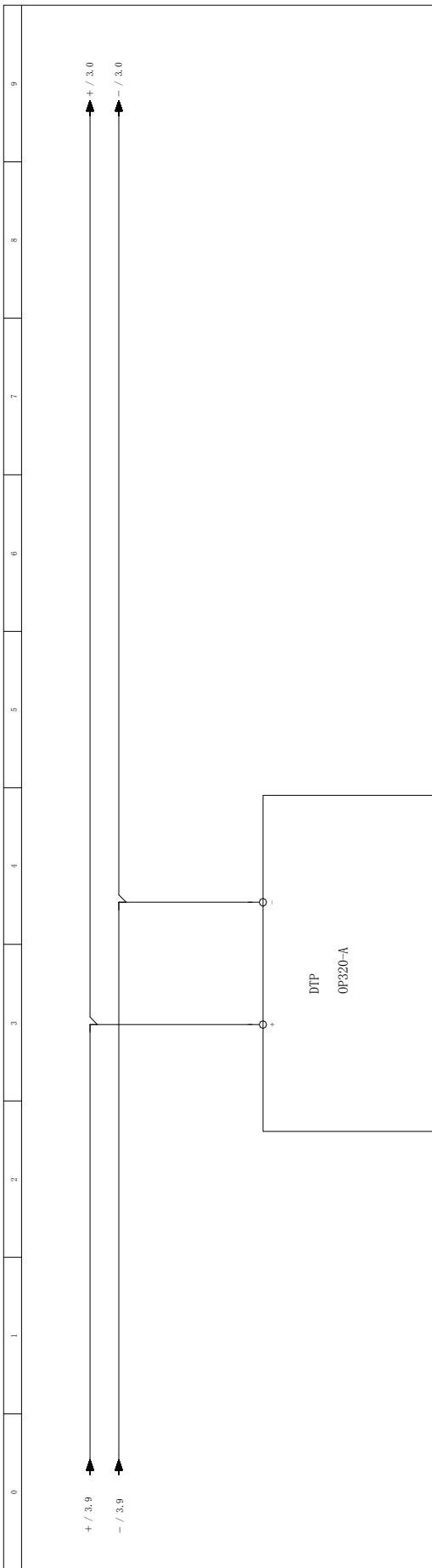
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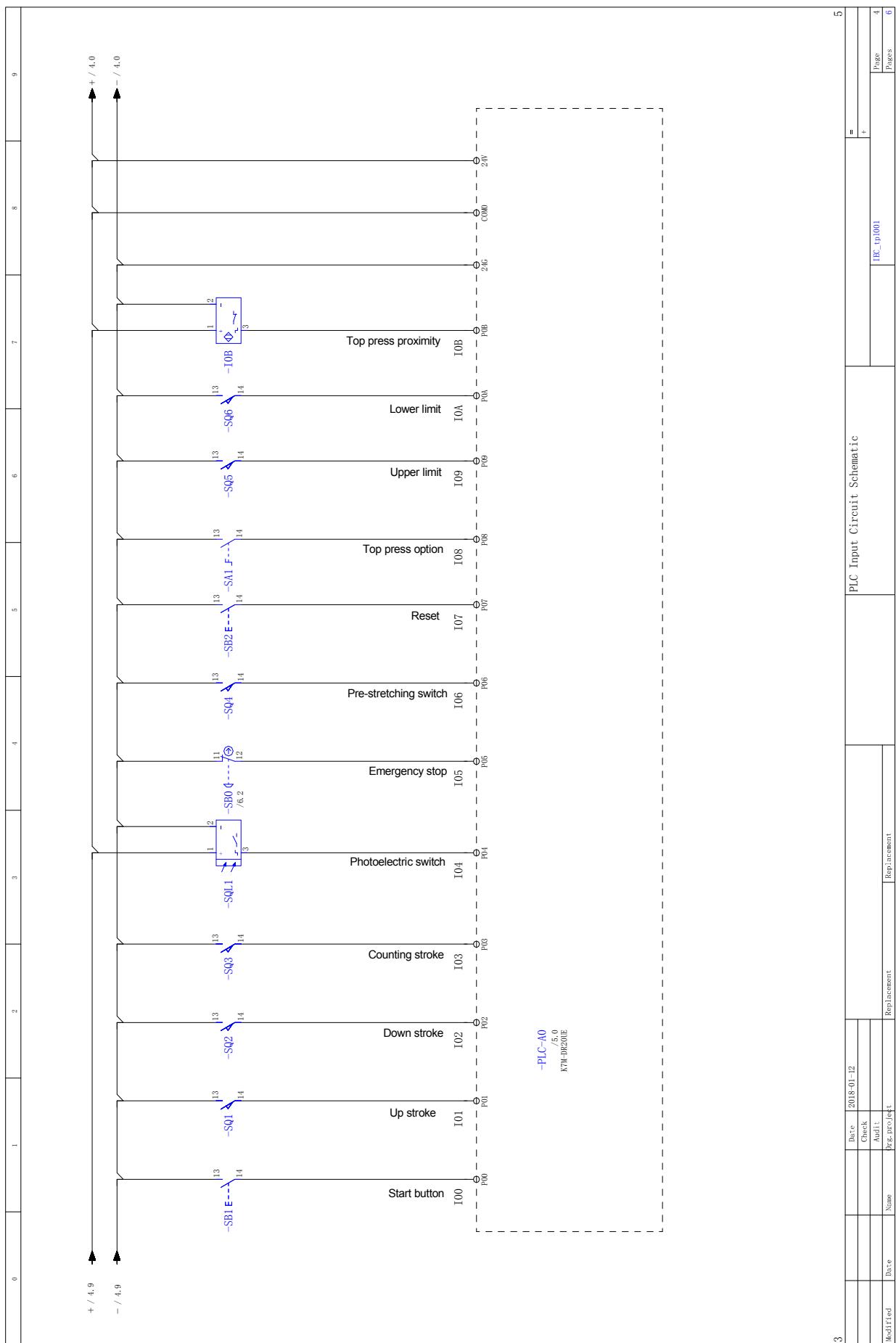


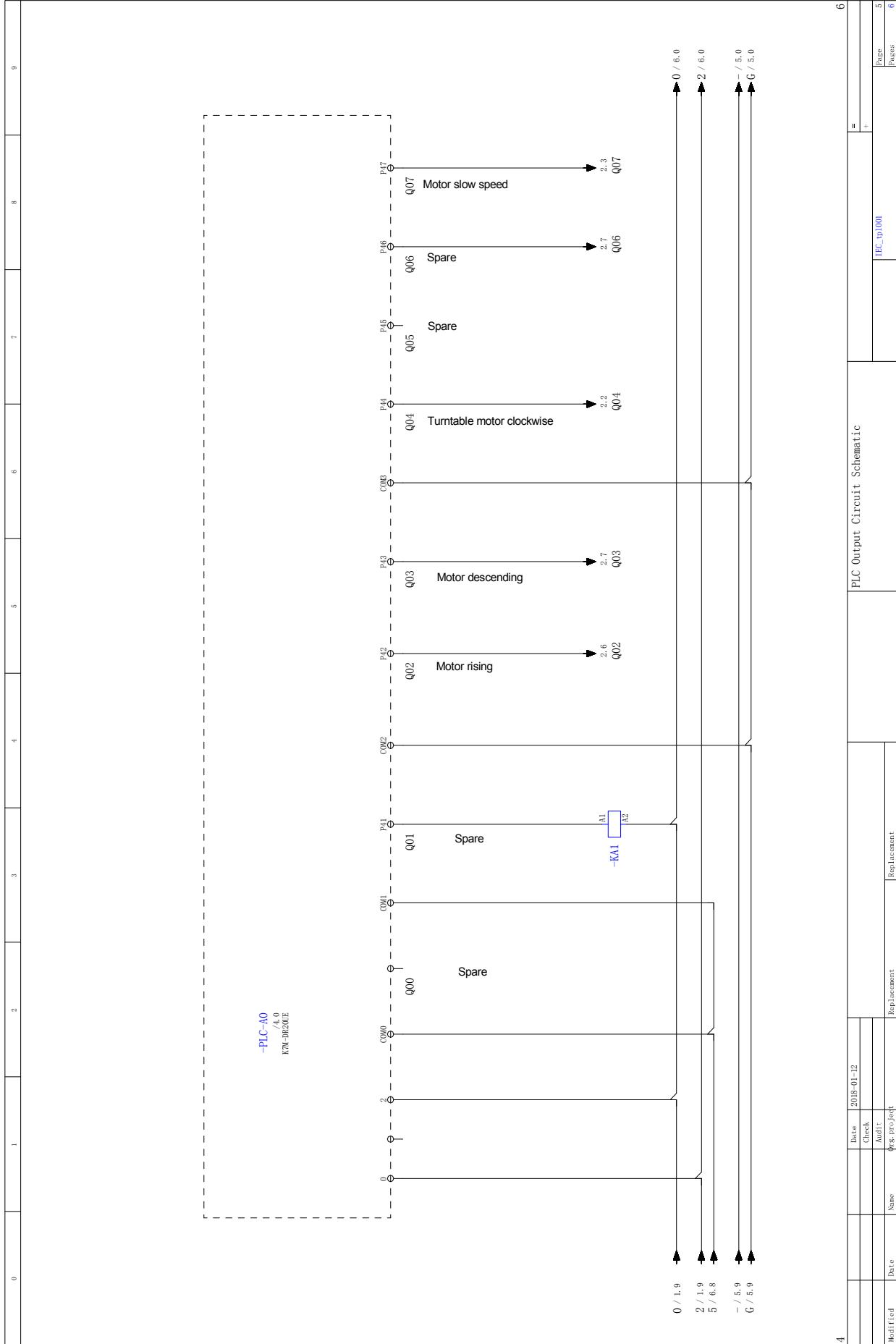
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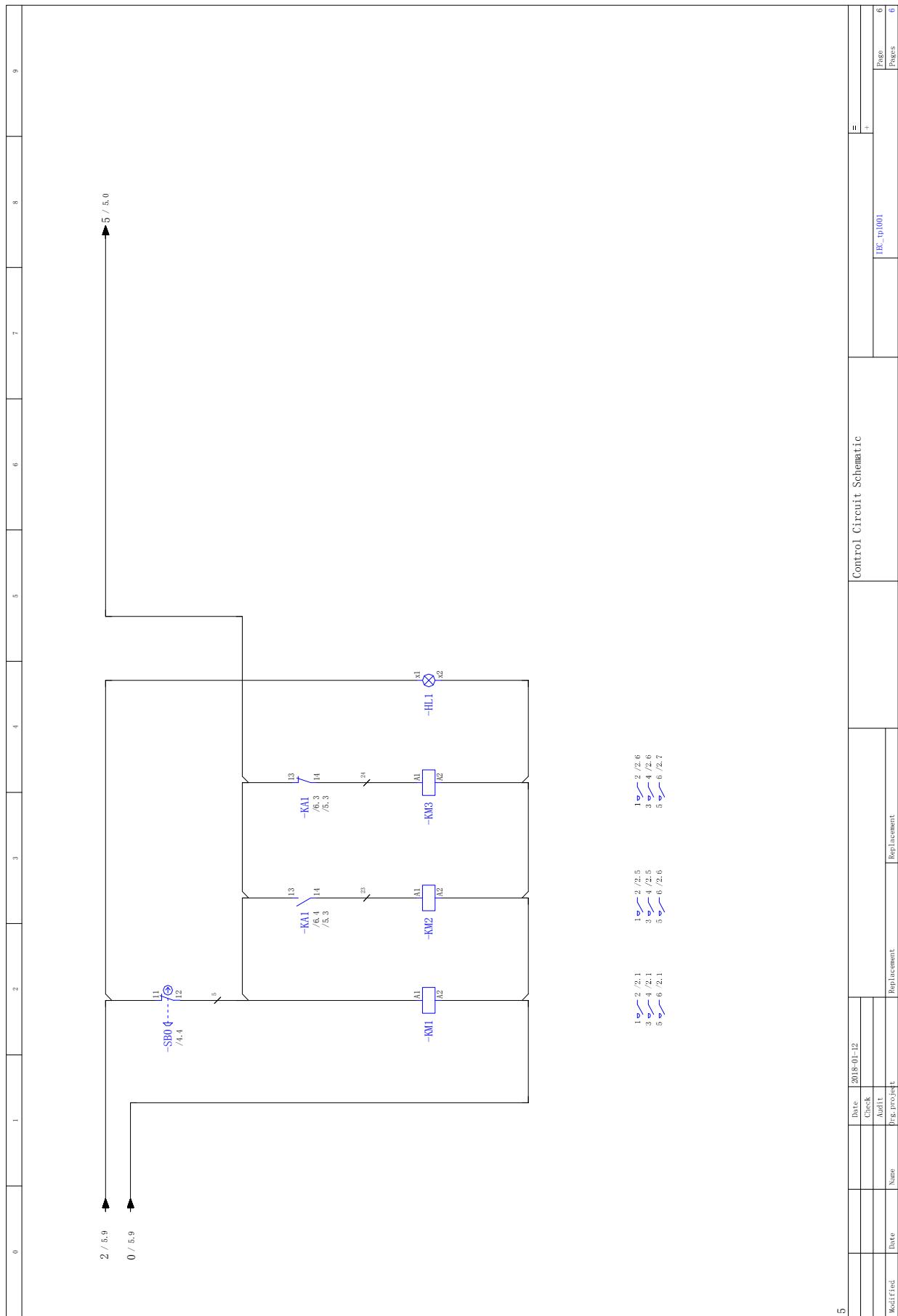


Touch screen

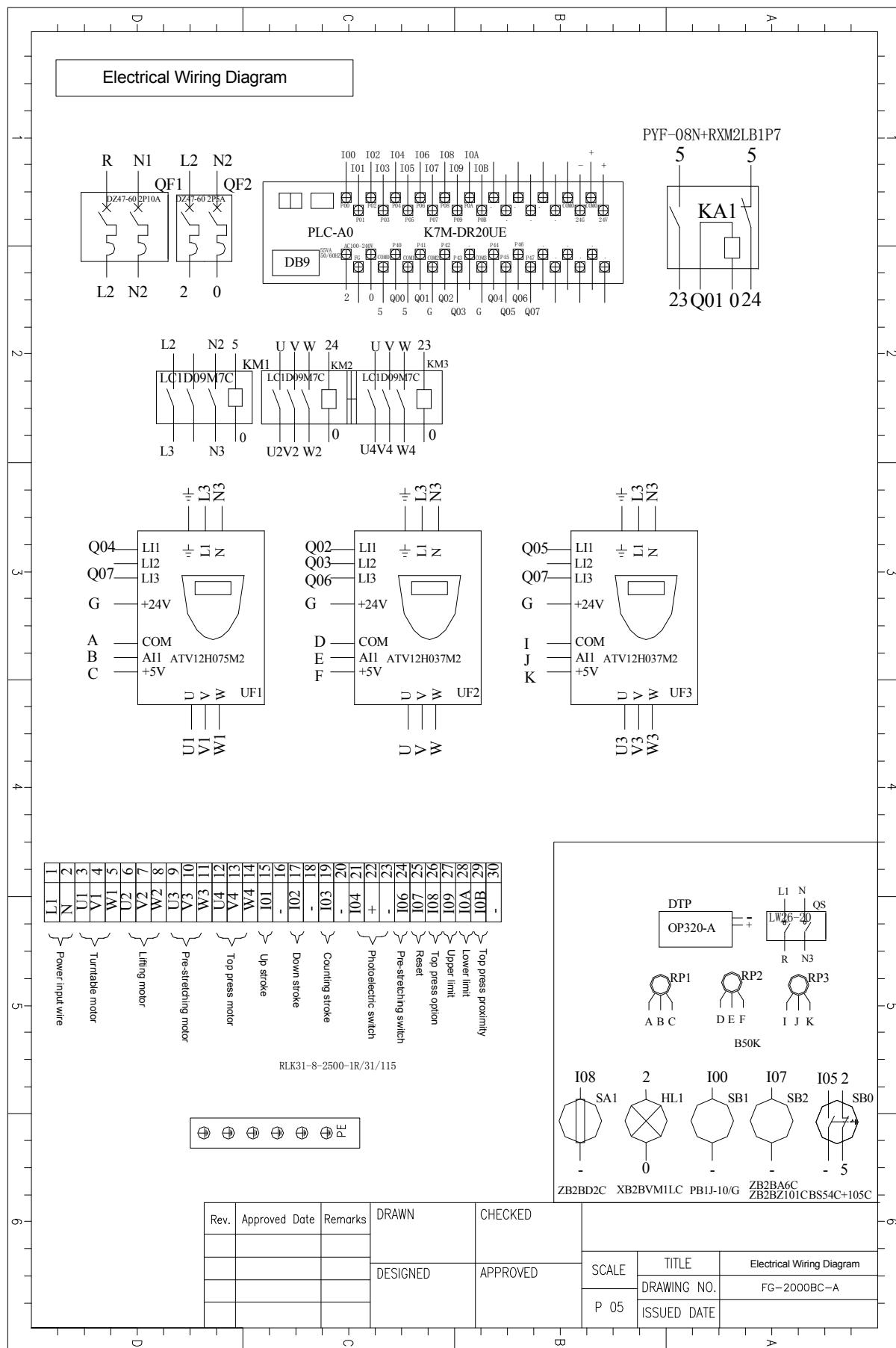
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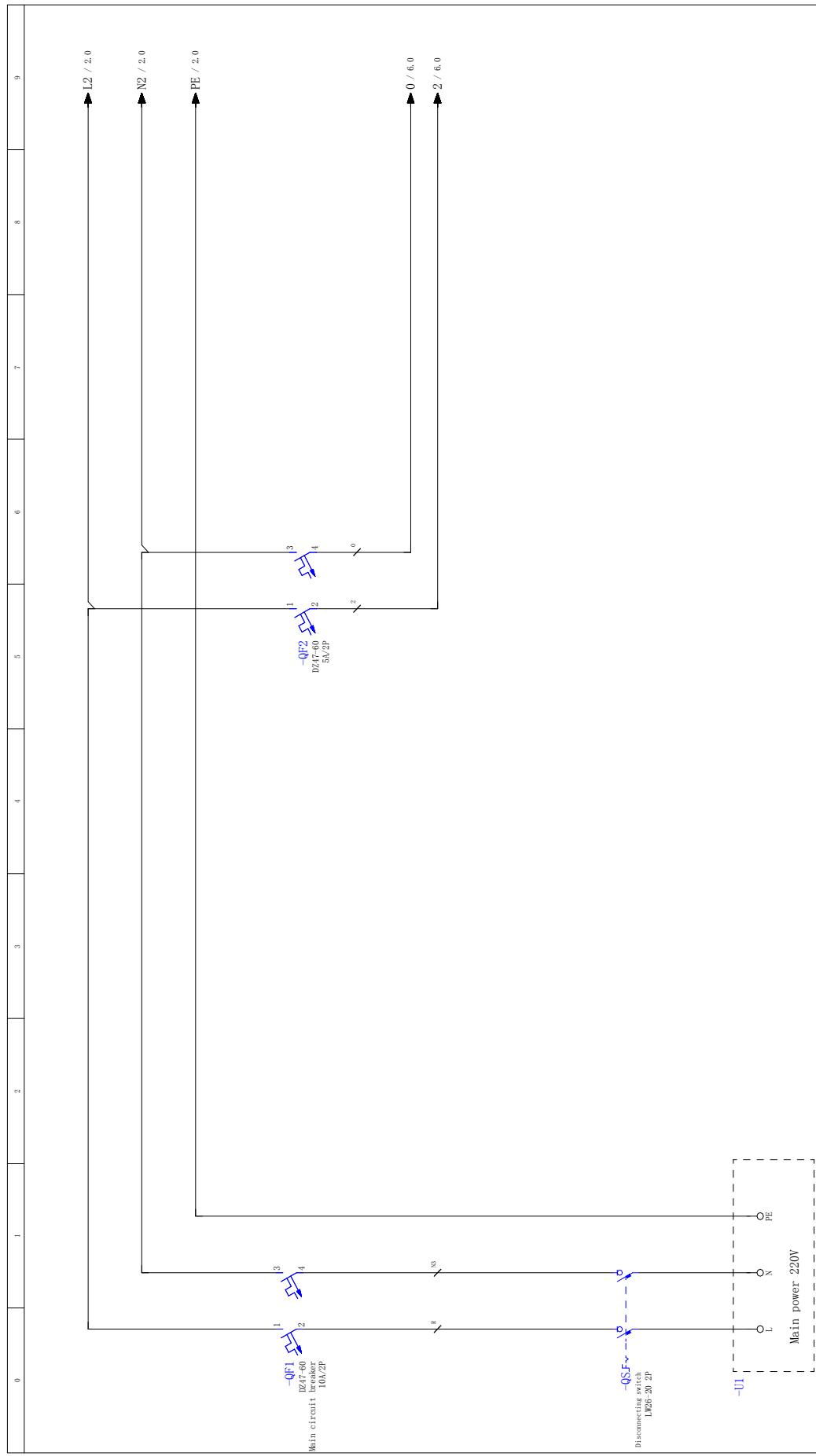


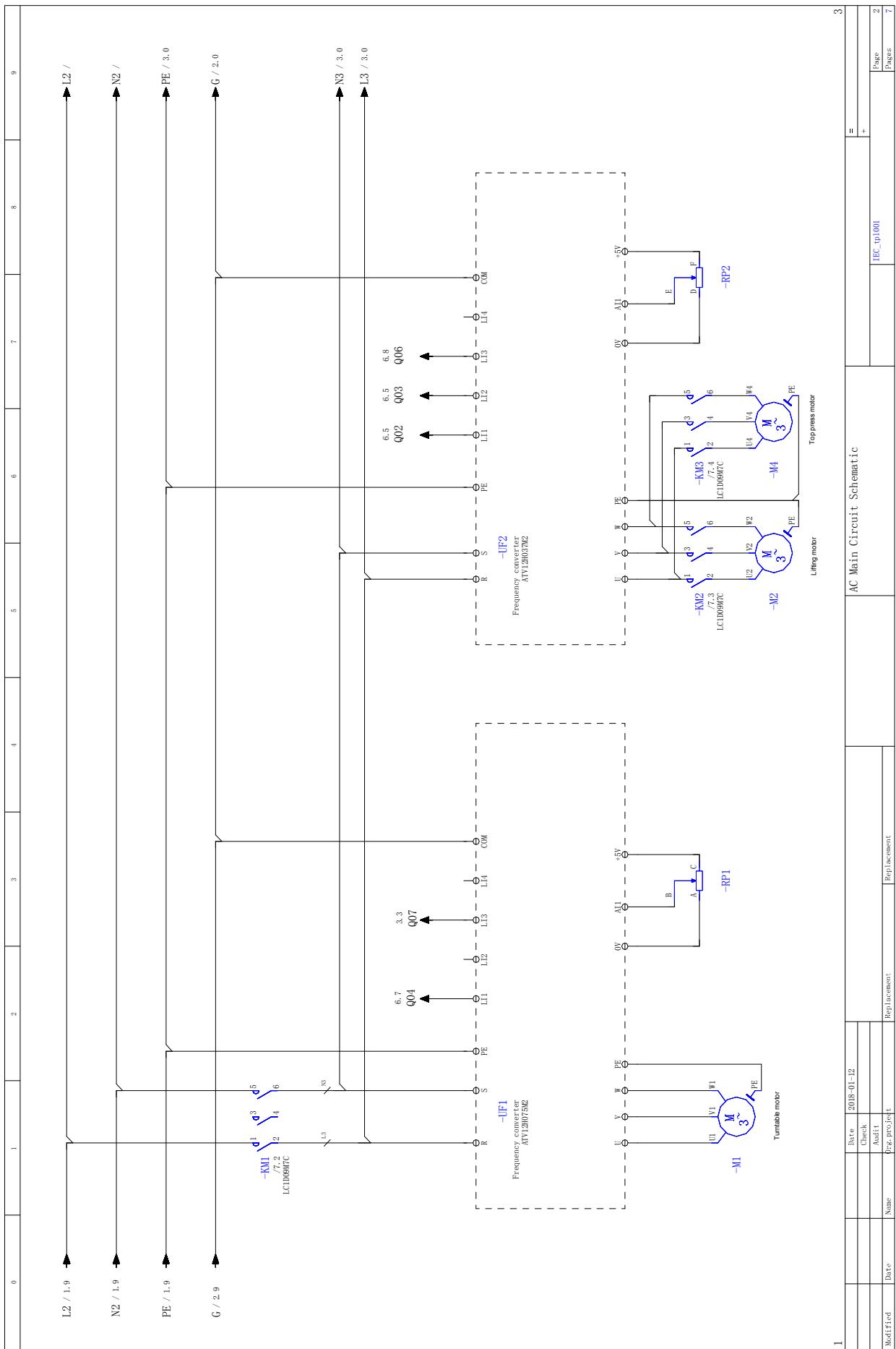




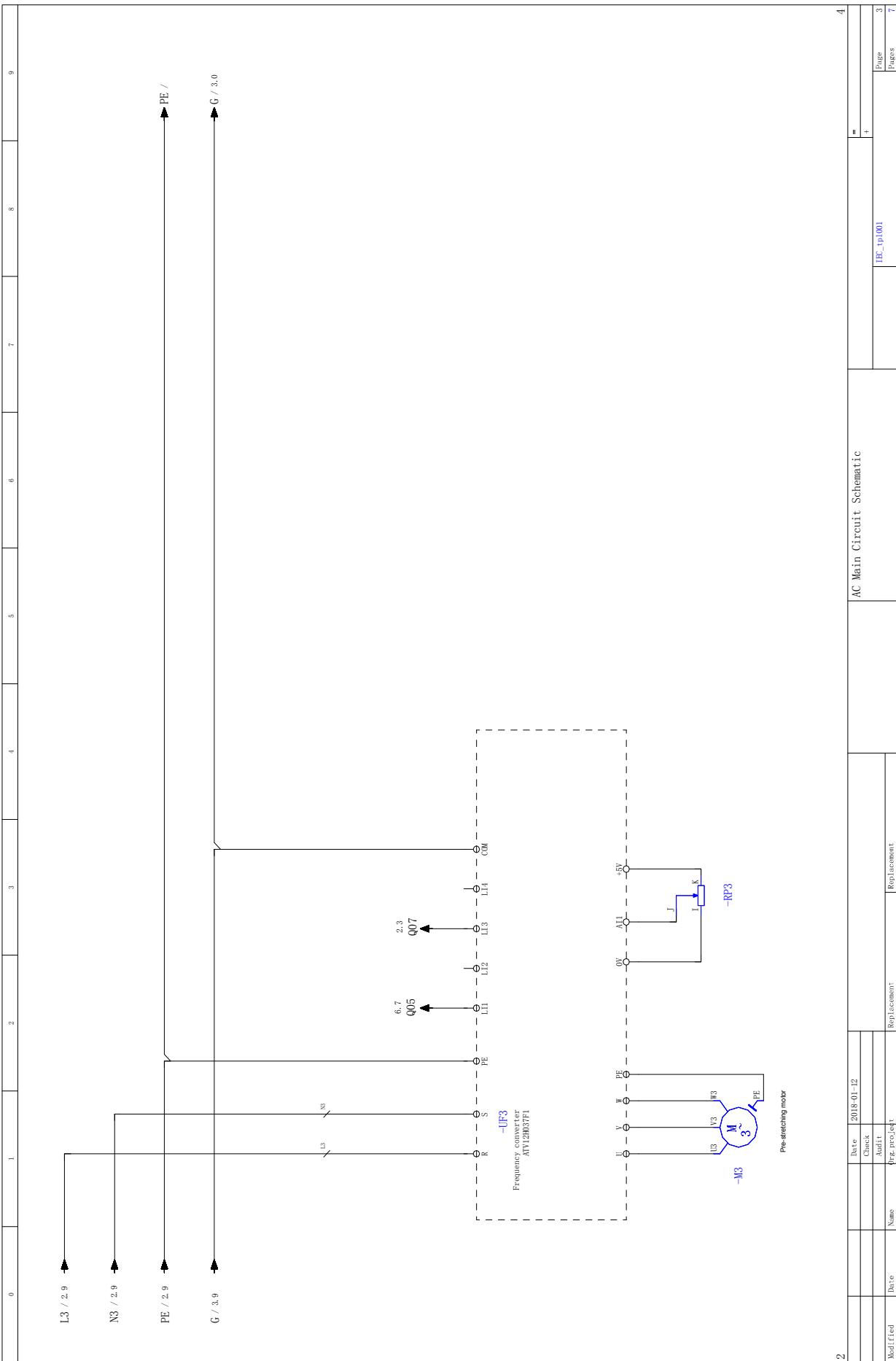
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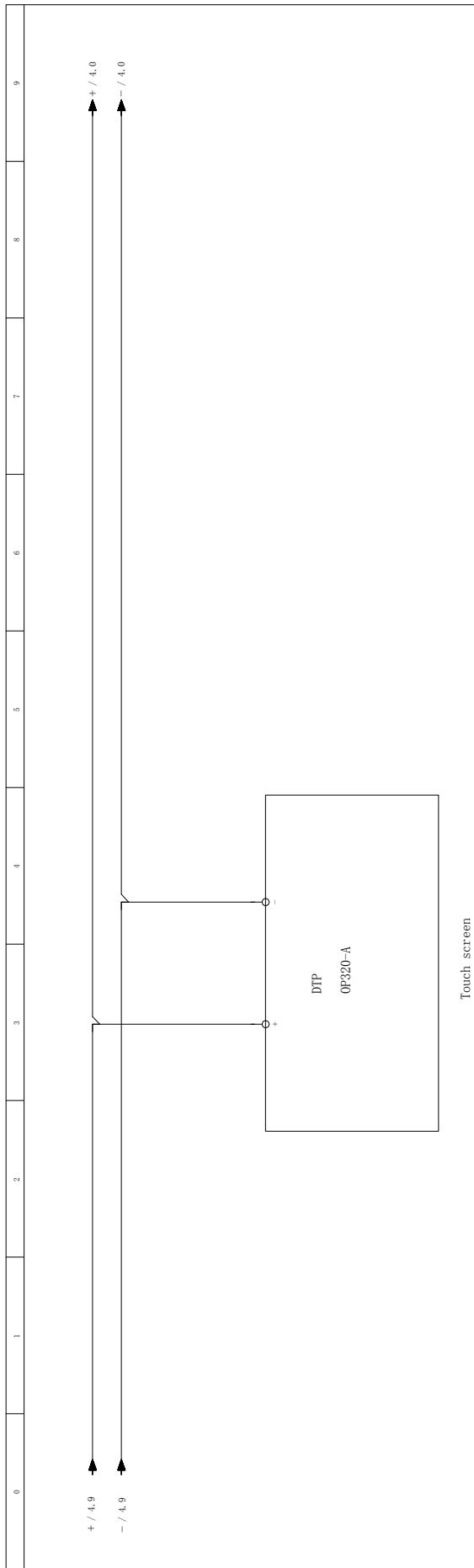


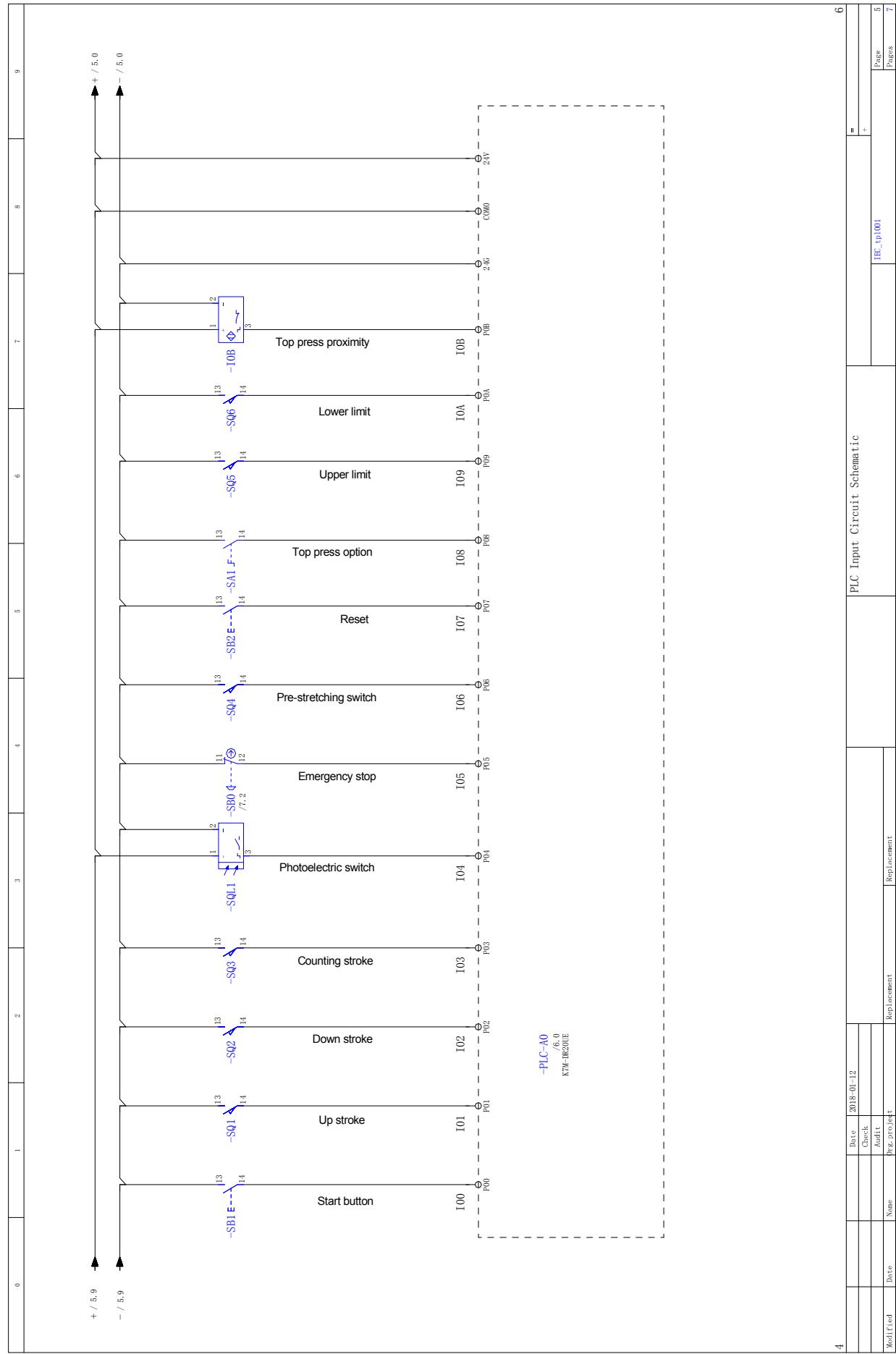


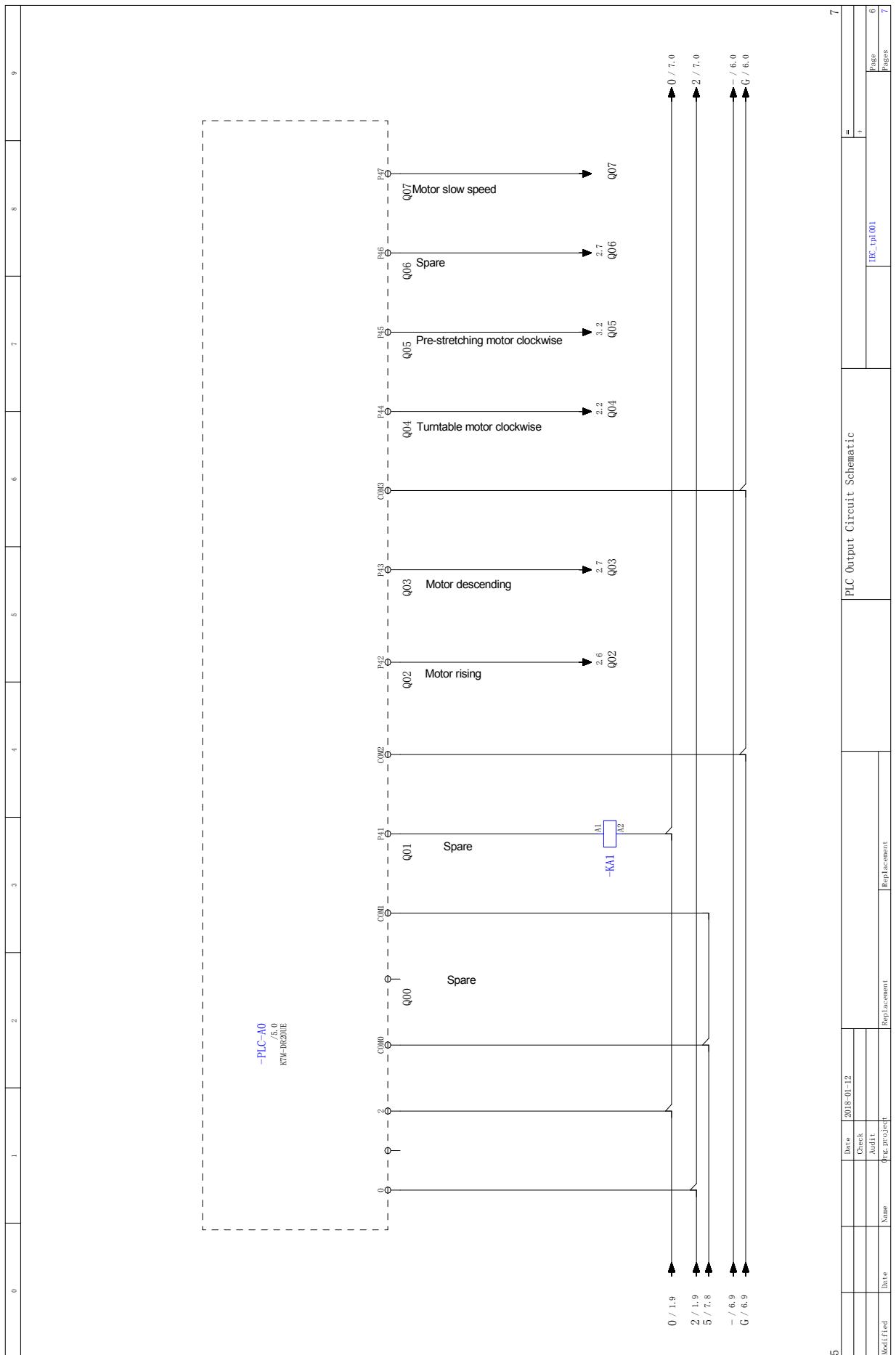


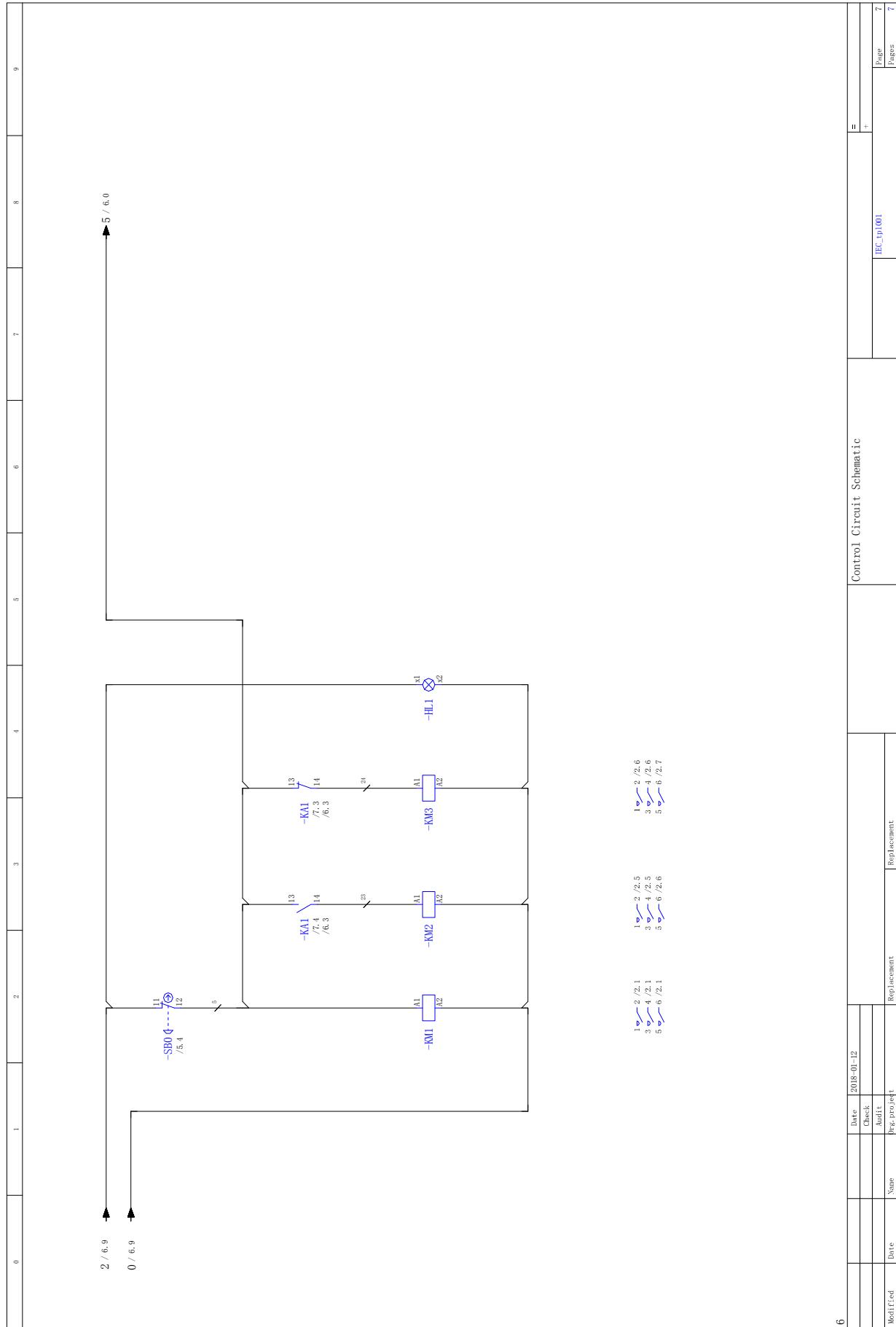
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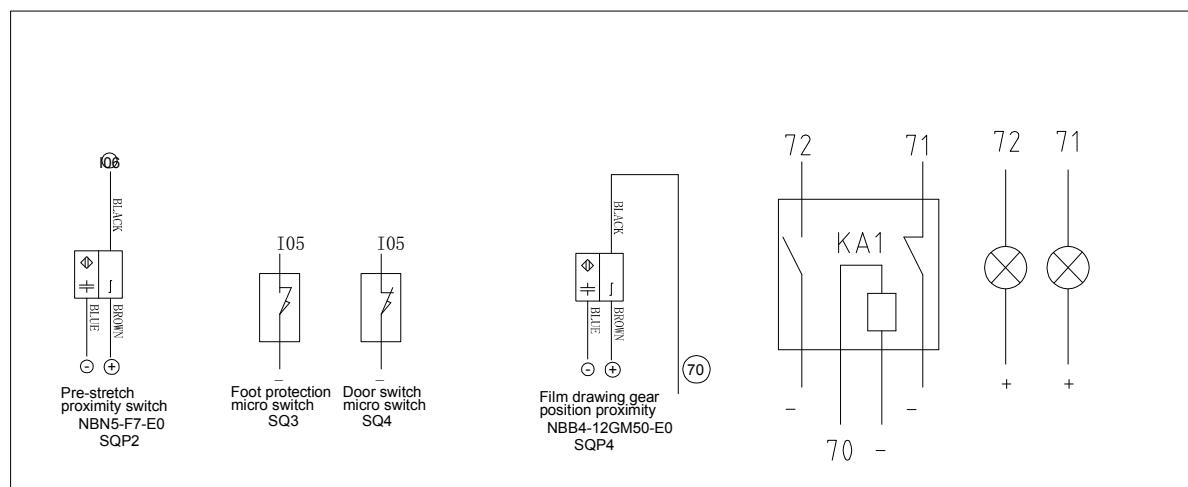


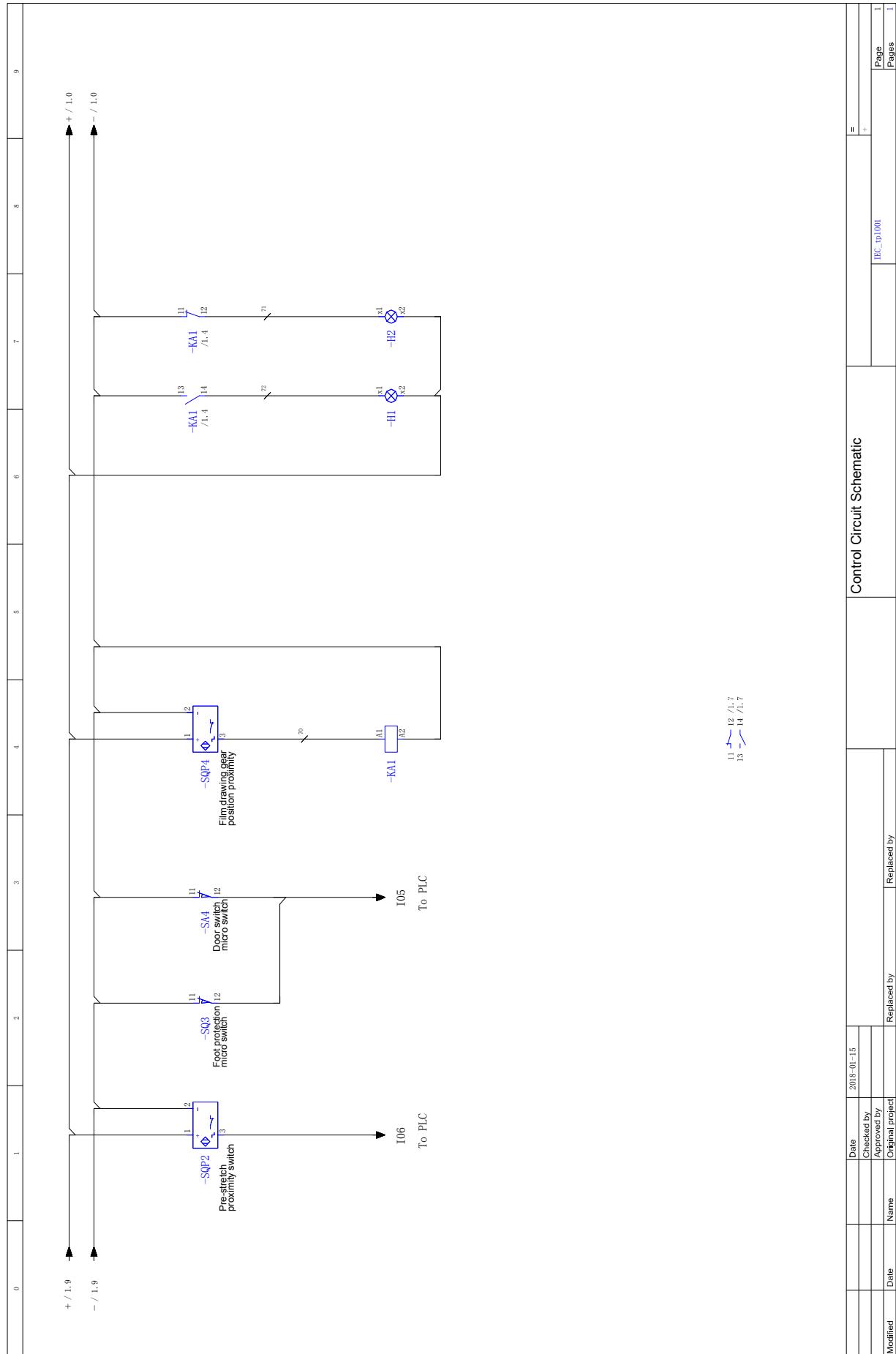




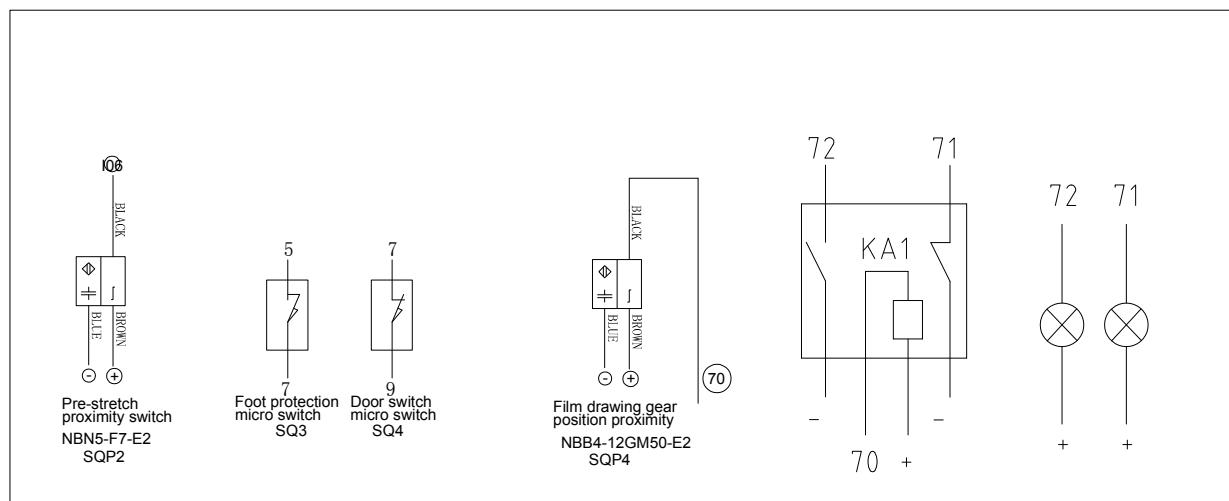
7-5 Two-section pre-stretch film carrier

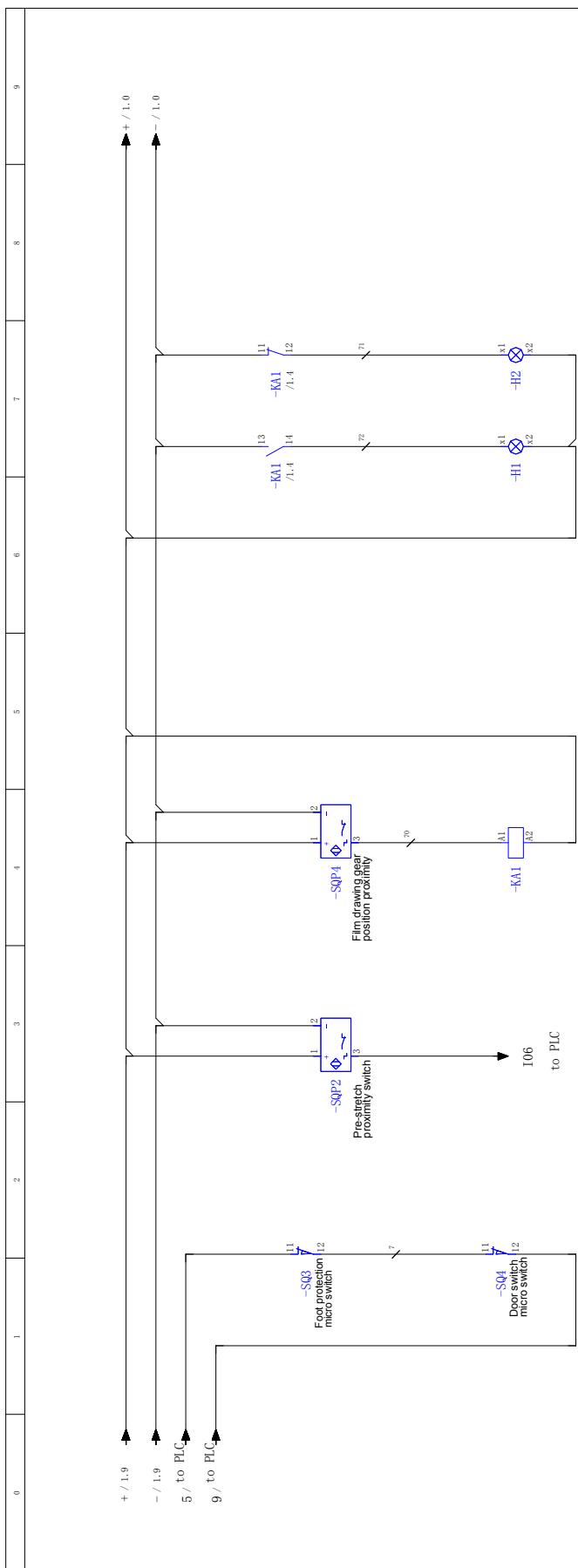
7-5-1 Low level type





7-5-2 High level type





Control Circuit Schematic				IHC_1pl001	
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APPENDIX A MAIN COMPONENTS LIST

No.	Name	Model	Machine Name
1	Circuit breaker	DZ47-60 2P10A/OSMC32N 2D10A	Wrapping Machines
2	Circuit breaker	DZ47-60 1P10A/OSMC32N 1D4A	
3	PLC - LG	K7M-DR14UE	
4	Schneider frequency converter	ATV12H075M2	
5	Schneider frequency converter	ATV12H037M2	
6	AC contactor	LC1E0910M5N	
7	Text controller	OP320-A-S	
8	Power indicator	XB2EV164C	
9	Start button	PB1J-10/G	
10	Emergency stop button	PB1M-AAZR/R	
11	Isolating switch	LW26-20 2P	
12	Travel switch	XCE-145/SF-8108M	
13	Diffuse reflection photoelectric	RLK31-8-2500-1R/31/115	
14	Film cutting suction tube	TAU-1358	
1	Proximity switch	NBB4-12GM50-E2	
2	Proximity switch	NBN5-F7-E2	



IMPORTANT!

The configuration of the electrical components shall be subject to the actual one in the site.