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Model: X-Feed

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X-Feed User Manual

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Overview

1.1 Equipment Overview

Thank you very much for choosing our company's X-Feed Automatic Transfer Equipment!

Please read this user manual carefully before use to ensure proper operation. Please keep this manual in a safe place for quick reference at any time.

Due to variations in configuration, some machines may not include all the features listed in this manual. Please refer to your specific model's operational features for definitive details.

1.2 Safety Precautions

NOTICE



The manufacturer is not responsible for damage, injury, production loss, or other losses caused by improper operation, unauthorized modification, incorrect installation, incompatible parts, or service by unqualified personnel.

1.3 Operating Environment

- Indoor, dry, clean, and well-ventilated location
- Storage Ambient Temperature: 32–122°F;
- Storage Ambient Relative Humidity: Below 80% (non-condensing).
- Operating Ambient Temperature: 32–104°F;
- Operating Ambient Relative Humidity: Below 80% (non-condensing)
- Stable, level, heat-resistant work surface
- Keep away from water, excessive dust, corrosive gases, flammable materials, and explosive vapors

1.4 Grounding & Technical Parameters

1.4-1 Grounding Requirements:

To prevent electric shock or fire accidents caused by electrical leakage, overvoltage, or insulation breakdown, please ensure the power control system is reliably and securely grounded.

The grounding resistance must be less than 10 Ohms, the wire length must be within 20 meters, and the wire cross-sectional area must be greater than 4 mm².

Machines in motion present inherent dangers! It is the user's responsibility to design effective error-handling and safety protection mechanisms during production. This equipment carries no obligation or liability for any incidental or consequential damages resulting from operation.

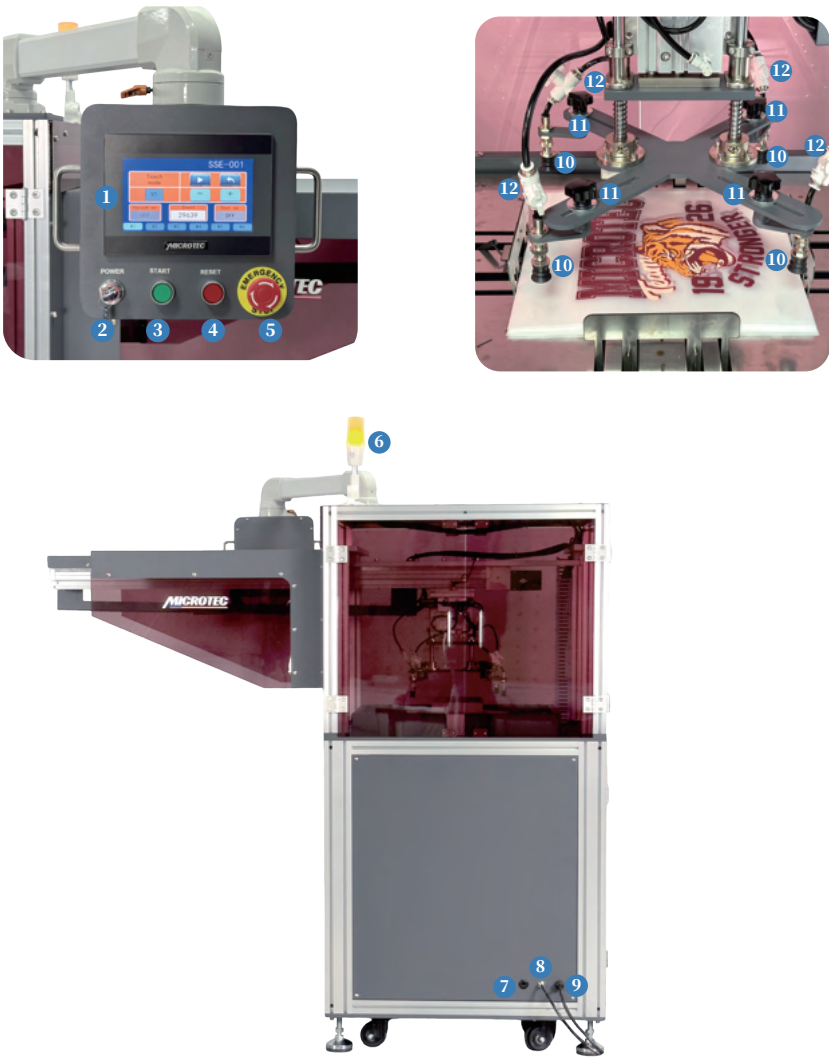
1.4-2 Technical Parameters:

Parameter	Specification
Model No.	X-Feed
Controller	PLC(MX310-32 + TK8072IP)
Amp \ Voltage \ Power \ Phase	9A\220V\2KW, 60HZ

Appearance and Functions

2.1 Exterior View

(Please refer to the images in your original document for labels 1 through12.)



2.2 Component Names and Functions

1. PLC Touchscreen Controller: Controls machine movements and configures program settings.

2. Power Switch: Turns the machine power ON and OFF.

3. START Button: Press once to enter Automatic Mode; the status indicator light will turn green.

4. RESET Button: When the DTF film on the material tray is exhausted, the tray automatically lowers. After adding new material, press the RESET button; the tray will automatically rise to the sensing position and then automatically enter Automatic Mode.

5. Emergency Stop Button: In the event of an abnormality, press the Emergency Stop button to halt machine operation; the status indicator light will turn red.

6. Machine Status Indicator Light:

Green: The machine is running in Automatic Mode;

Yellow: The machine is in Teach Mode;

Red: Emergency Stop is pressed or an abnormal state exists. Please check the alarm prompts on the touchscreen controller.

7. Ethernet Interface: Communication connection port for X4/6/8.

8. Air Supply Interface: Provides the pneumatic supply required for the operation of the entire machine.

9. Power Cord: Provides the electrical power required for the entire machine.

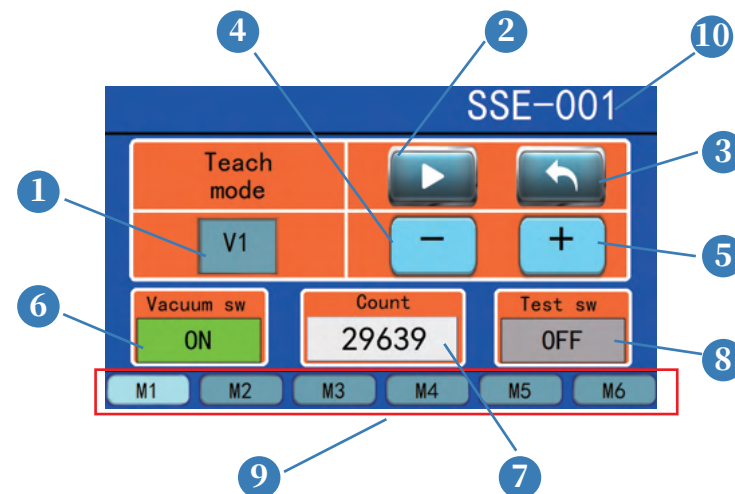
10. Vacuum Suction Cups: Use vacuum suction to secure the DTF film and place it in the designated position.

11. Quick-Adjust Nut: Used for independent micro-adjustments of the film-suction position of the vacuum suction cups.

12. Vacuum Switch: Independently controls the activation and deactivation of the vacuum for individual suction cups.

2.3 PLC Touchscreen Controller Interface and Functions:

2.3.1 Main Interface and Functions



1. Flashes when in Teach Mode. Press "+" and "-" to adjust the position where the suction cups pick up and release the film.

2. In Teach Mode, press once to confirm that the current action is complete.

3. Return Key: In Teach Mode, exits without saving.

4 & 5. In Teach Mode, adjusts the position where the suction cups pick up and release the film.

4. Enables or disables the suction function of the suction cups.

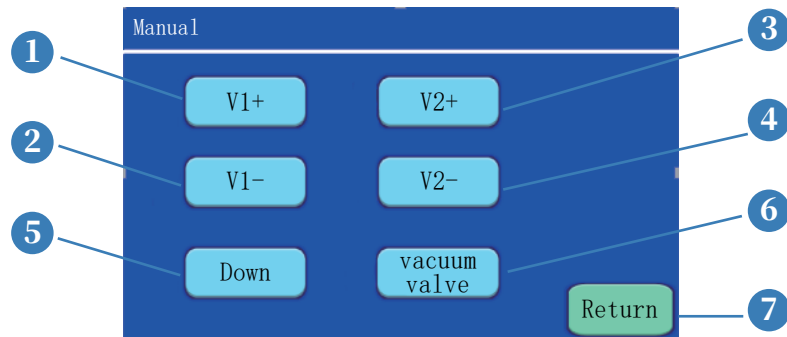
5. Counts up by 1 each time a film-release action is completed. Press and hold this area for 2 seconds to reset the counter to 0.

6. Test Switch: In Teach Mode, turn this switch ON and press the START button once to preview and verify the currently taught action sequence.

7. Press and hold any button for 2 seconds to independently execute the teach-in and storage for 6 sets of film-release positions.

8. Engineering Mode Access: Press and hold this position for 2 seconds to enter the Engineering Mode settings interface.

2.3.2 Engineering Mode Interface and Functions



1 & 2. In Manual Mode, adjusts the positions for film pickup and film release.

3 & 4. In Manual Mode, adjusts the tray position.

5. In Manual Mode, press once to actuate the suction cup cylinder downward once, allowing you to check the height of the suction cups relative to the platform.

6. Vacuum switch for the suction cups.

7. Returns to the Main Interface.

2.4 Preparation for Startup

1. Confirm that the equipment is connected to a power supply that meets the specified requirements.

2. Confirm that a dry air supply is connected.



3. Turn on the main breaker, then press the power switch on the operation panel "POWER". The equipment will power up and enter the Main Interface as shown in the figure.

2.5 Automatic Machine Operation



1. Press and hold to select the desired parameter profile.



2. Press the "START" button (the tray must contain material) to enter the Automatic state. As shown in the figure below, the tray will automatically rise, and the status indicator light will change to green.



3. Wait for the multi-station machine to send the material feed signal.
4. Tray material shortage prompt, as shown in the figure.



4. Please wait until the tray reaches its lowest position and load the material before pressing the "RESET" button. The machine will resume automatic operation after resetting.

2.6 How to Teach



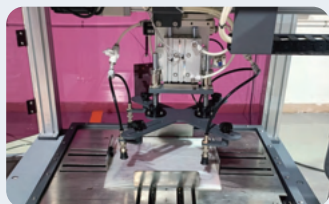
Note: Teach Mode must be initiated from a non-automatic running state (when the status indicator light is yellow). If the machine is in the Automatic state (when the status indicator light is green), please press the "Emergency Stop" button on the panel and rotate it to reset, then enter Teach Mode.



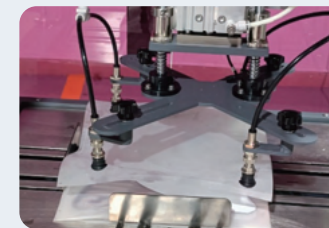
1. First, press and hold for 2 seconds to select the profile number to save (for example, select "M1").



2. Tap the button on the touchscreen "►"; "V1" will begin to flash. Touch the buttons "-" and "+" to move V1 to the position on the tray where the DTF film is picked up, as shown below:



3. Tap the button "►"; the suction cups will descend and initiate the DTF film pickup action, as shown below:



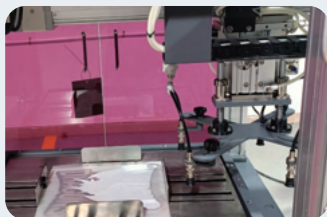
4. Wait for "V1" to flash, then press the buttons "-" and "+" to move V1 to the position where the DTF film is to be released, as shown below:



5. Press the button "►"; V1 will execute the DTF film release action.



6.Wait for "V1" to flash, then press the buttons "-" and "+" to move V1 to the standby position, as shown below:



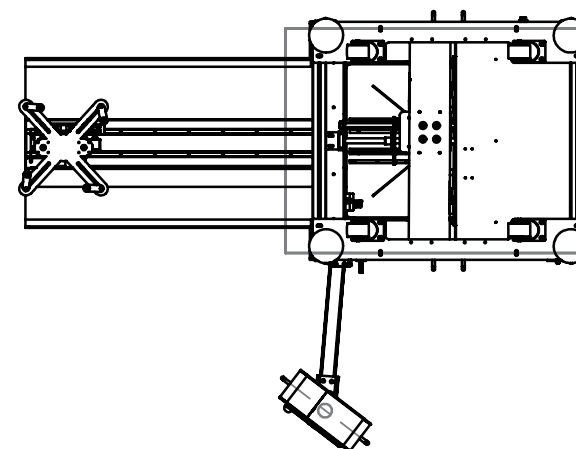
7.Tap the button "►", and a save confirmation window will pop up, as shown in the figure.

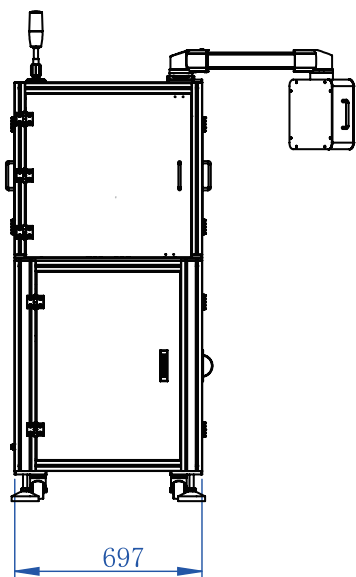
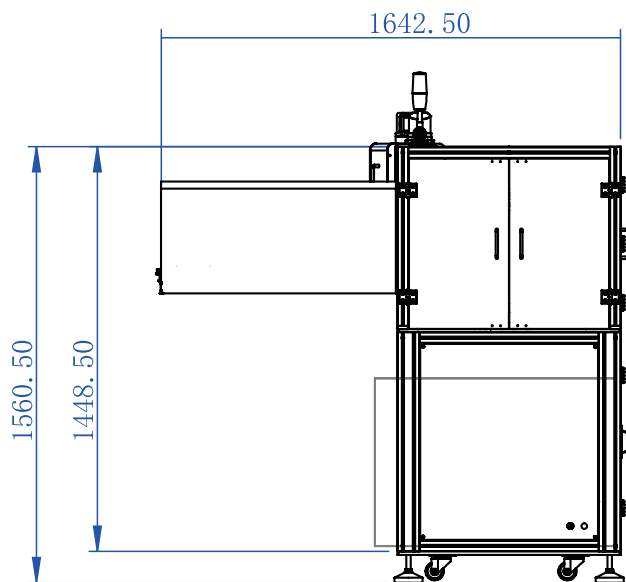


8. Tap the "Save" button to save the data and complete the teach-in process. At this point, tapping the "X" button will exit Teach Mode without saving.

2.7 Equipment Dimension

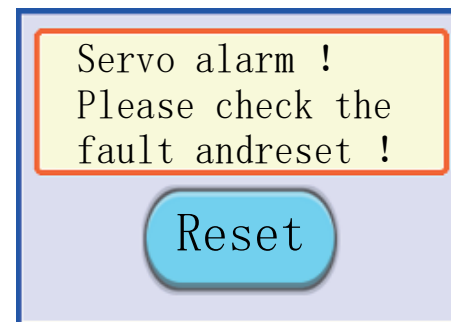
(Refer to the technical drawings in your original document for specific measurements.)



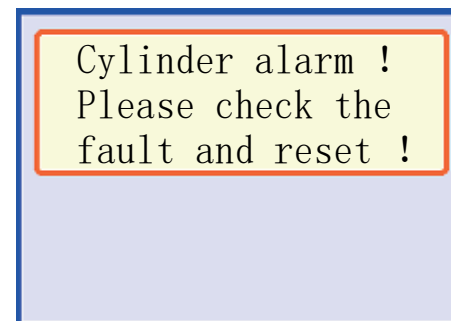


Troubleshooting

1. If the fault window shown in the figure appears, please turn off the power. Check whether the axis home/origin switch is disconnected or if there is a mechanical jam. Once confirmed normal, restart the power.

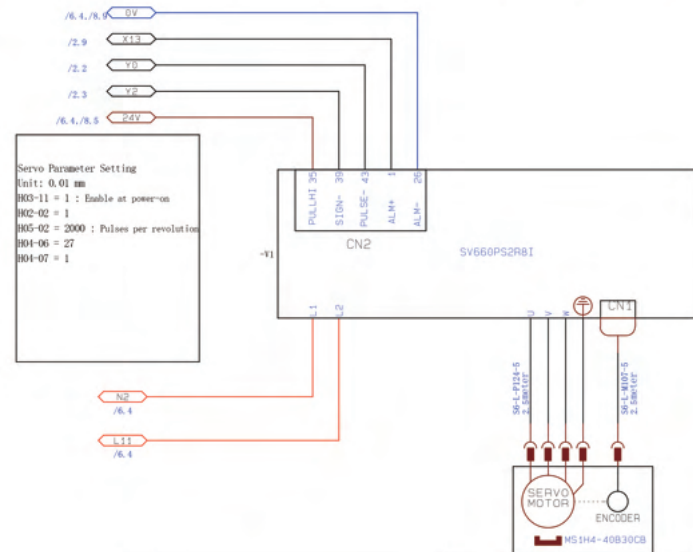
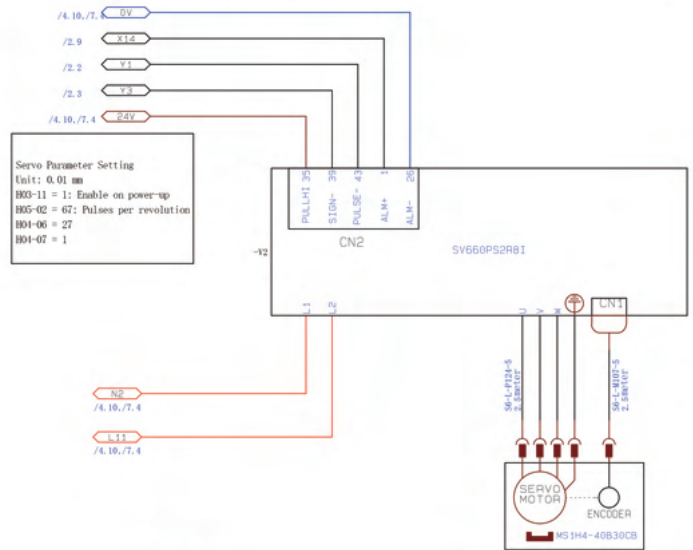
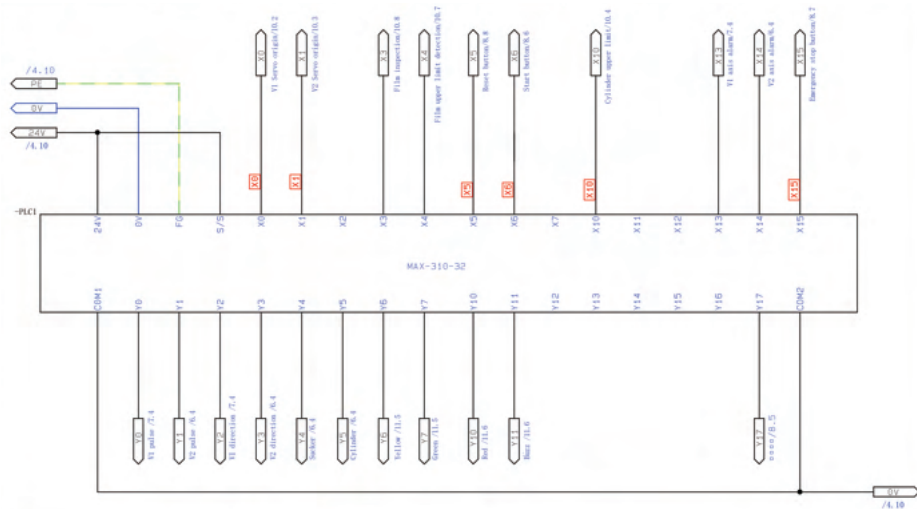
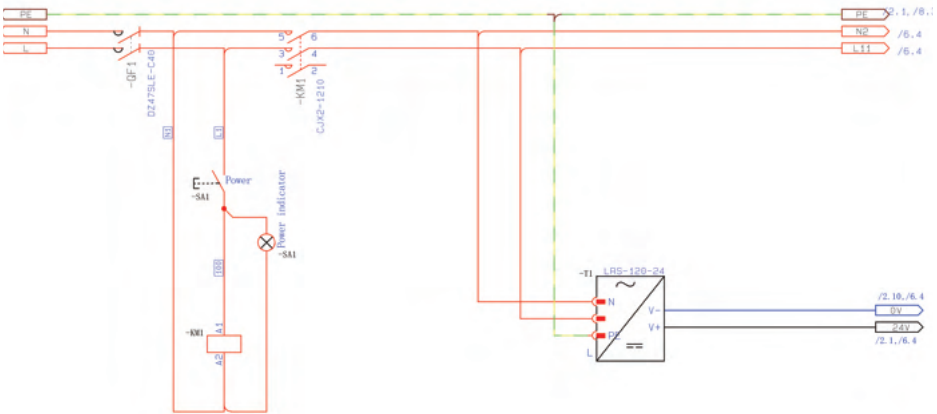


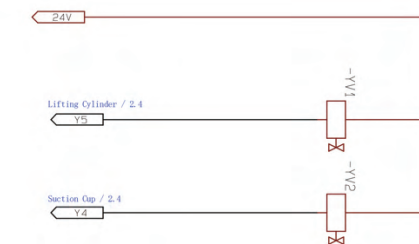
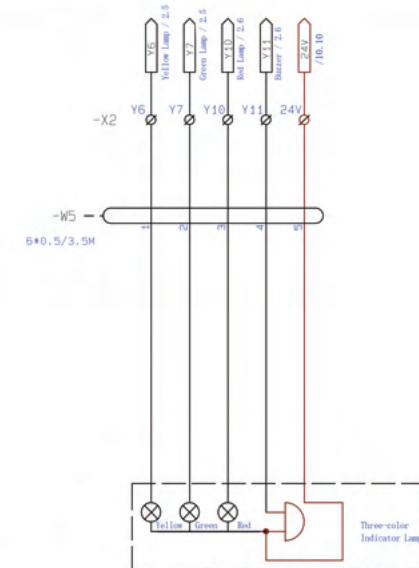
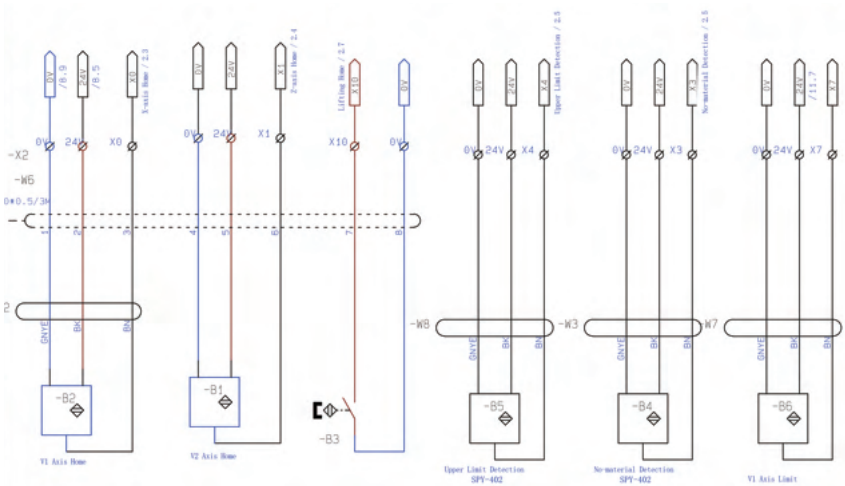
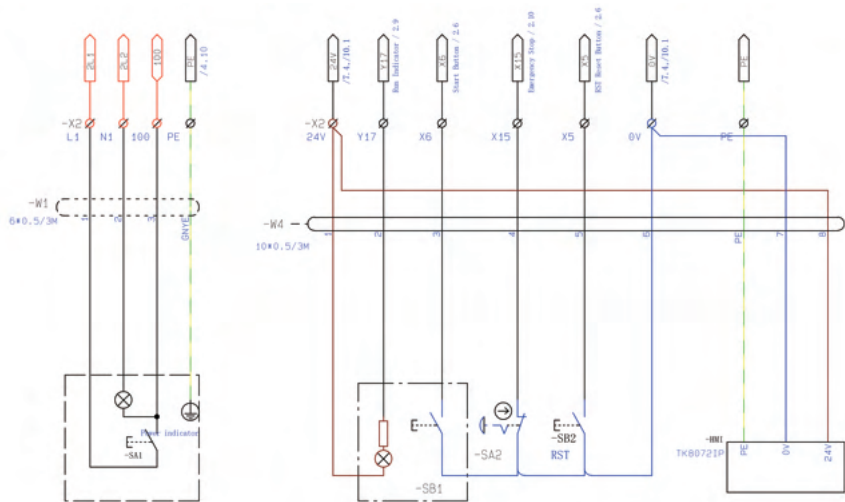
2. If the fault window shown in the figure appears, please check the air supply pressure and verify whether the cylinder upper limit switch is displaced or disconnected.



Circuit Diagram

(Refer to your original document for the diagram layout.)





Pneumatic Diagram

(Refer to your original document for the diagram layout.)

