



东莞市飞科自动化科技有限公司  
Dongguan Fineco Automation Technology Co.,Ltd

# INSTRUCTION MANUAL



Labeling machine

**Model: FK811**

**Name: Automatic Plane Labeling Machine**



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## Chapter 1 Statement

### 1.Matters need Attention

1. As this labeling machine is a customized industrial equipment, only trained workers are expected to operate it.
2. Operating this equipment need to be in accordance with the instructions in the manual or under our technicians' guidance. Notice that some mechanical parts described in this manual are used for instruction only, not included in the standard configuration.
3. This operation manual applies to FK810-A ONLY and aims to ensure correct operation and adjustment. And we hold the final explanation right of this manual.

### 2.Rights Reserved

1. We will provide service of updating the mechanical parts, electrical parts and the software, but charge fees accordingly.
2. We will not be responsible for any machine problem that caused by your arbitrarily movement, and you should not change the machine without our engineers' suggestion.
3. Optional function : hot stamp printer and other needed functions. We will provide technical support for you but hold no responsibility for the optional functions.
4. We hold intellectual property rights for this machine and machine



instruction, we will look into legal responsibility if copyright or something like that occurs.

### **3.Safety Considerations**

1.Electric shock Caution! Earth wire is indispensable for operating this machine, make sure you have one.

2.Caution! Voltage overloaded is dangerous.

3.Caution! Do not touch the circuit in the electric box without our technician's guidance.

4.Caution! Do not touch the running mechanical parts.

### **4.Operation Cautions**

Only trained worker are allowed to install, operate and maintain the equipment.

The operator should be equipped with these qualities:

——be able to operate the machine safely by himself.

——be able to fix the small mistakes by himself.

——there should be at least 2 people at hand to provide guidance for him .

### **5.Operating Environment**

Please do not use this machine in the following environment:

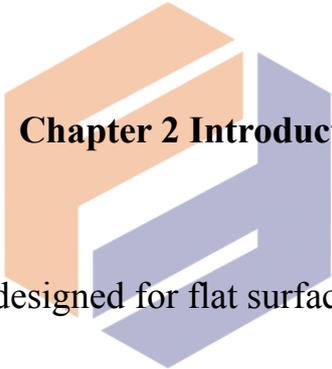
- with great temperature variation
- with high humidity
- with strong vibration or impact
- dusty



- where there is water, oil, chemical splashes
- Where there is a risk of explosive, flammable items

## 6.Run-in Period

This machine are tailor-made according to your product,being nonstandard equipment and the operator must be trained,so there would be a run-in period of 1 month or so.In the run-in period,you can ask us for technical support if the machine can not reach to your requirement.



## Chapter 2 Introduction

### 1.Application

This labeling machine is designed for flat surface labeling.

### 2.Technical Parameters

\* labeling accuracy:  $\pm 1$ mm (errors caused by product and label are not concerned);

\* labeling speed:40~100pcs/min, depends on the length and quality of the product);

\* Applicable Product Dimensions (length  $\times$  width  $\times$  height / thickness):

Length: 40mm - 400mm;Width: 40mm-200mm;Height: 0.2mm-120mm.

\* Applicable Label Size(mm): length: 6mm-150mm      width (the release paper) : 15mm-150mm;

\* Device dimensions (mm) (L  $\times$  W  $\times$  H): 1600\*780\*1400mm;

\*Packed Size (mm) (L  $\times$  W  $\times$  H): 1800\*880\*1500;



\* Voltage (V): 220V/50HZ;

\* Weight: about 180 KG.

\*Packed weight: about 300 KG.

### 3.Labeling Process Analysis

Put products in the feeding device→ The products are separated one by one

→ The products are transmitted by the conveyor belt → The product sensor

detects the product→ PLC receives the product signal and start labeling→

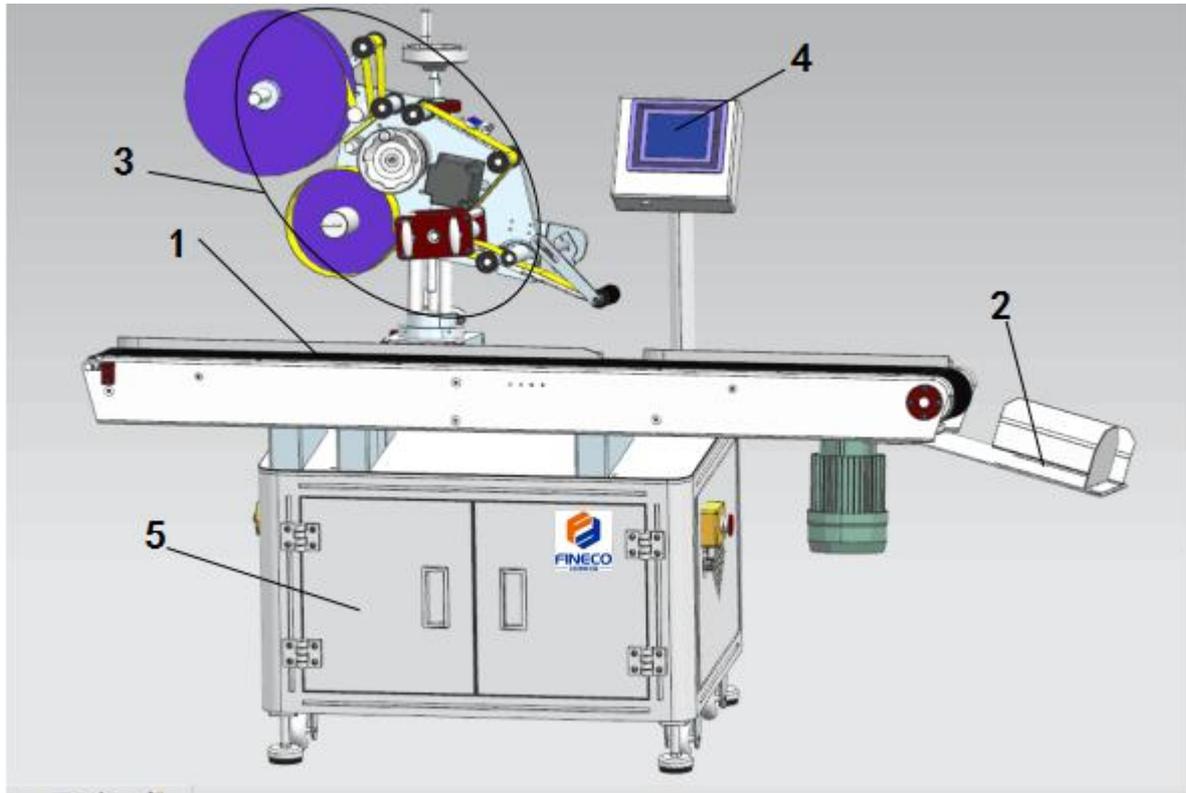
the conveyor belt send the labeled products to the collecting plate.



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## Chapter 3 Structure

### 1.Overview



1.Conveyor: conveying the products to the labeling position until to the collecting plate.

2.Collecting Plate: Collecting the already labeled products.

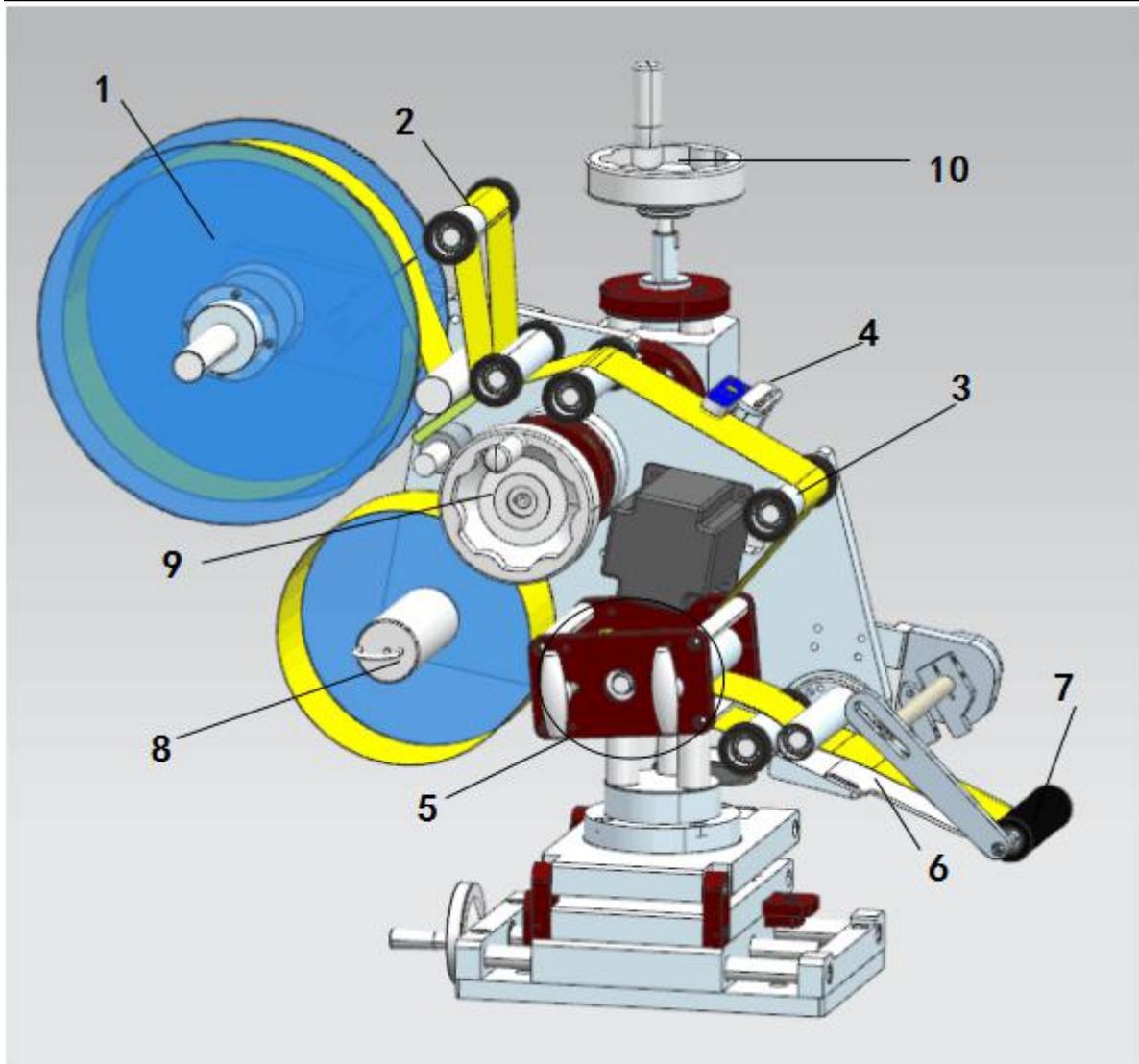
3.Labeling Head: The core of the labeler, complete labeling.

4.Touch Screen: Setting parameters and controlling the machine .

5.Electric Box: Installing the electronic devices here.

### 2.Detailed Drawing

#### 2.1 Labeling Head Structure



1 label tray:placing the label reel;

2 brake: keep tension of the label, make the label goes steadily .

3 rollers: winding label, keep the tension of label.

4 label sensor frame:placing the sensor,can be adjusted.

5 traction device: motivate the label reel .

6 label-peeling plate: peel the label from the release paper.

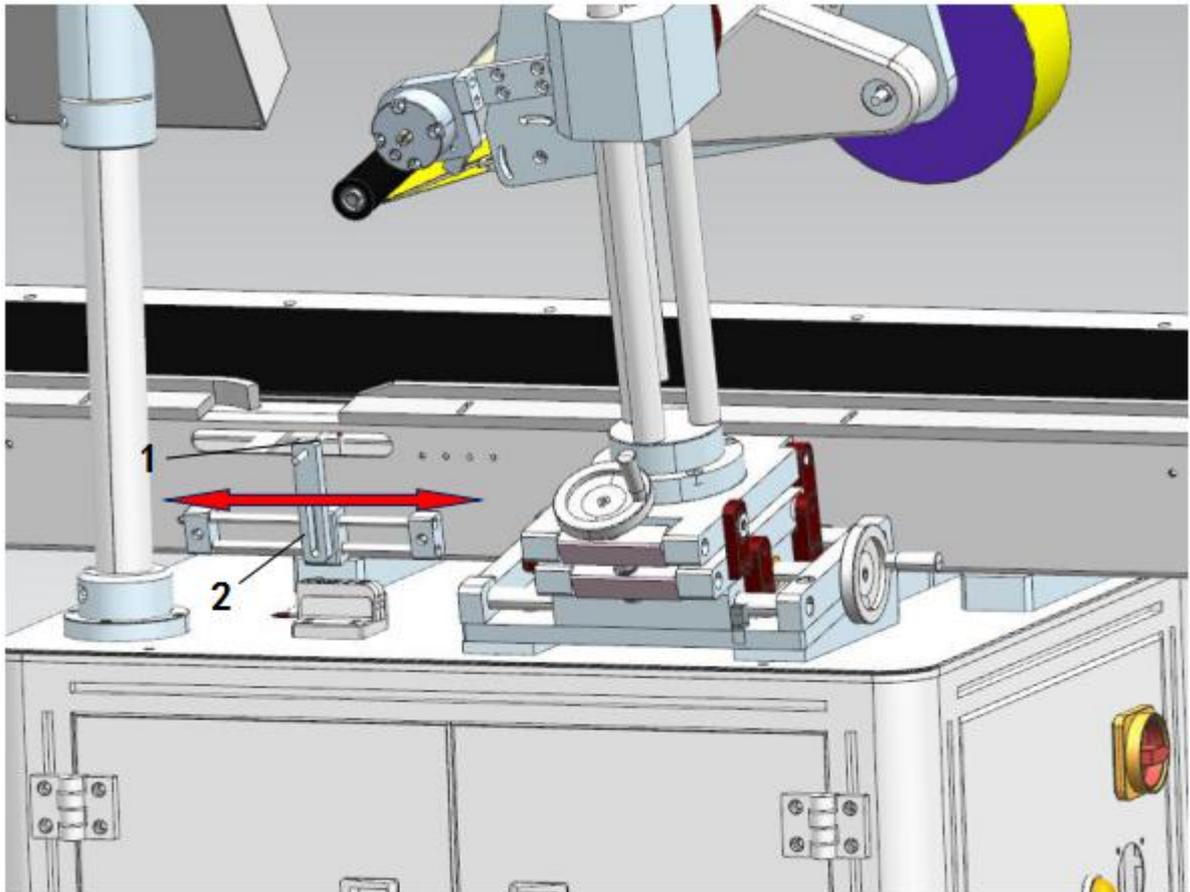
7 strengthening device: press the label to make it more tight after labeling.

8 recycling device: recycle the release paper.

9 horizontal adjuster : adjust the horizontal position of the labeling head.

10 vertical adjuster:adjust the vertical location of the labeling head.

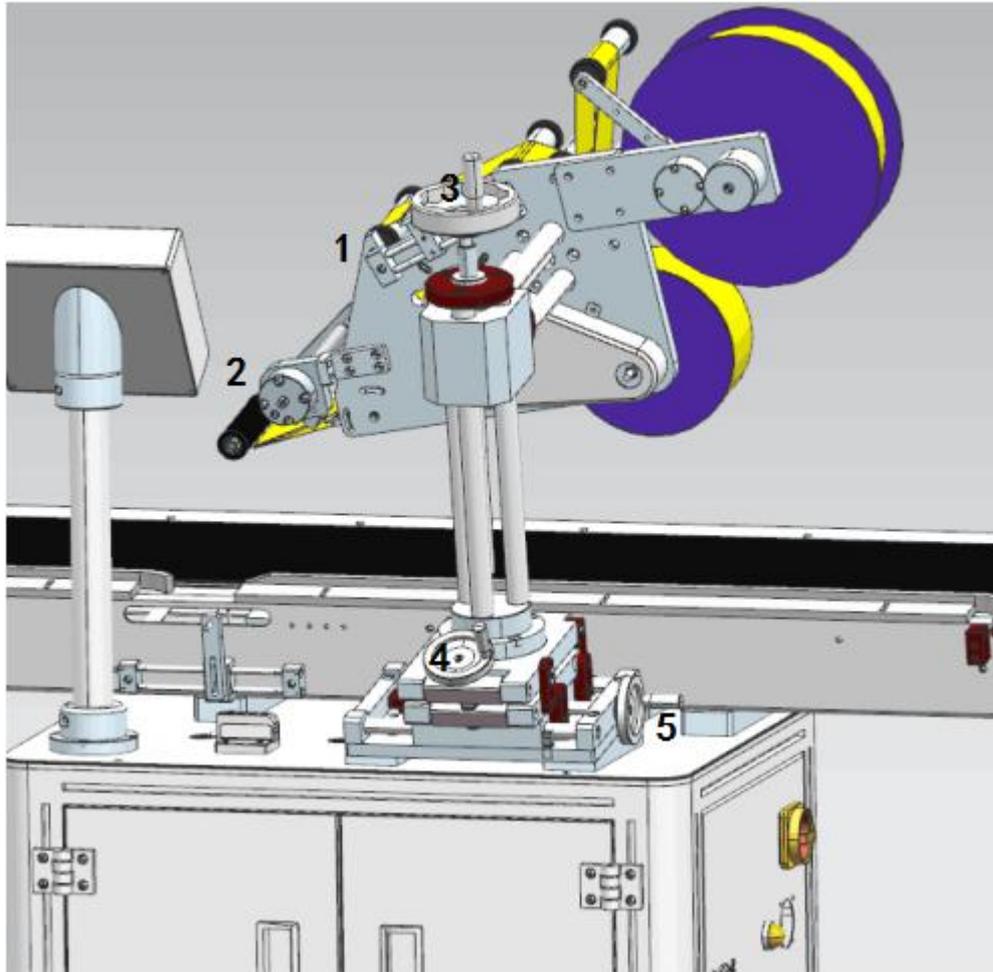
## 2.2 Product Sensor Frame



1 Product Sensor: assembled below the conveyor , detect products by the variation of the reflected light.

2. Product Sensor Frame:can be adjusted left and right to change the labeling position (with the parameter “labeling delay” in HMI) forward or backward.

## 2.3 Adjustment Device



\*TIP: Before adjustment, don't forget to loose screw of the corresponding part and lock it after adjustment done.

1. label sensor frame: move to adjust the label length that stretches out from the label-peeling plate.

2. strengthening device: strengthening the labeling effect.

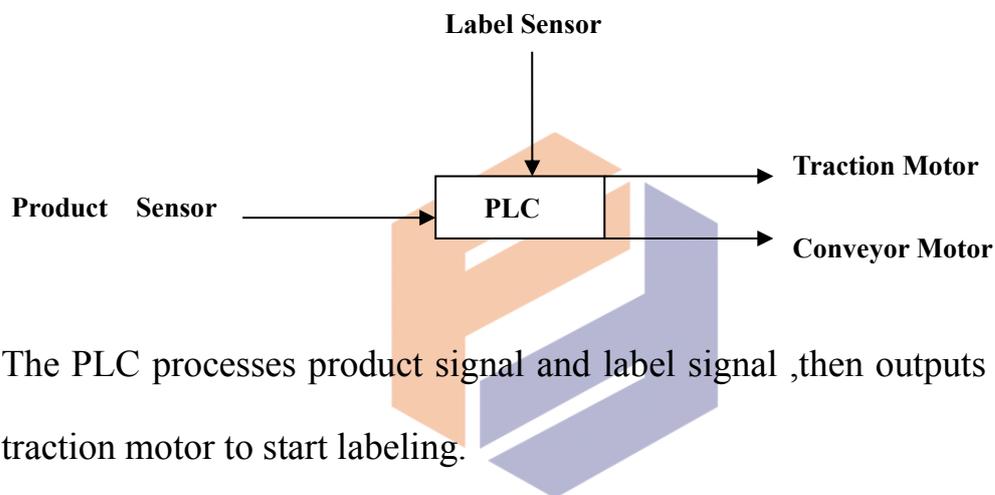
3. vertical adjuster: adjust the height of the labeling head to adapt to different products.

4. inclination adjuster: make the labeling head be paralleled to the product which have uneven surface.

5.horizontal adjuster: move the labeling head forward or backward.

## Chapter 4 Electric Configuration

### 1.The principle of electric control



The PLC processes product signal and label signal ,then outputs signal to the traction motor to start labeling.

### 2.Touch Screen

2.1 Welcome Page:some basic information of the manufacture.click to redirect to the home page.

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Dongguan Fineco Automation Technology Co.,Ltd



Dongguan Fineco Automation Technology Co.,Ltd

Welcome to use

Automatic Plane Labeling Machine

Tel:0769-33354884

Fax:0769-85829481

[www.finecolabeler.com](http://www.finecolabeler.com)

Add:No 11, Zhenchang Road, Wusha, ChangAn Town, Dongguan City,  
Guangdong Province, China.

12. 03. 20

Sunday

18:30

2.2 Home Page: there are FOUR sections,click to enter the different operation pages.

## Home Page

Manual  
Operation

Production  
Page

Parameter  
Setting

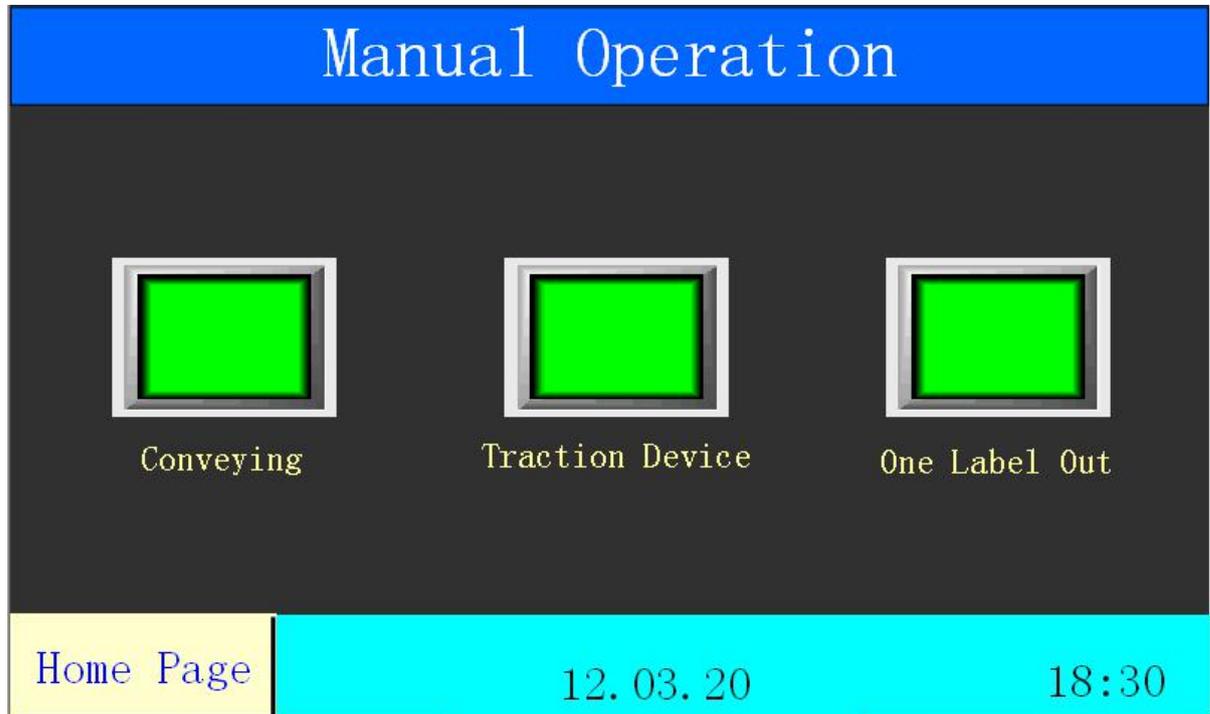
Online  
Monitoring

Contact us

12. 03. 20

18:30

2.3 Click “[Manual Operation](#)” to enter this page. Click the buttons to turn on/off the corresponding motors for test and adjustment.



2.4 Click “[Production Page](#)”, turn ON/OFF the traction motor and conveyor motor, check the work status of the electric parts. Besides, you can set labeling quantity here.

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NO. Product NO		88		
Product Detection	Conveying Motor OFF	Conveying		
Label Detection	Traction Motor OFF	Traction		
Production Number	88888 PCS	Plan Number	99999 PCS	
Reset	Home Page	Parameter Setting	Start	Stop



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**2.5 Parameter Loading Page:** input correct password to set or change the parameters.

**System Parameter Page**

PLS modify the password with care

Password	9999
New Password	9999

OK

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Home Page	12. 03. 20	18:30
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**2.6 Parameter Setting :**

NO. Product NO 99

Manual traction speed	99999	HZ	Automatic Labeling Speed	99999	HZ
Automatic Pre-peeled Length	999.99	mm	Labeling Delay	99.99	S
Automatic Pre-peeling Speed	99999	HZ	Filter Product Signals	99.99	S

Save Parameter

Select Parameters

Production Page

Home Page

**Meaning of the parameters:**



1.Product: NO.XX: you can mark your product with a number,and set a group of parameters special for this product. You can save 50 parameter groups for 50 different products.

2.Manual Traction Speed:adjust the label-peeling speed in manual mode.

3.Automatic Pre-peeled Length : Before the product be conveyed to the labeling position,part of the label has been already peeled .This part is called automatic pre-peeled length,which usually be 2mm.

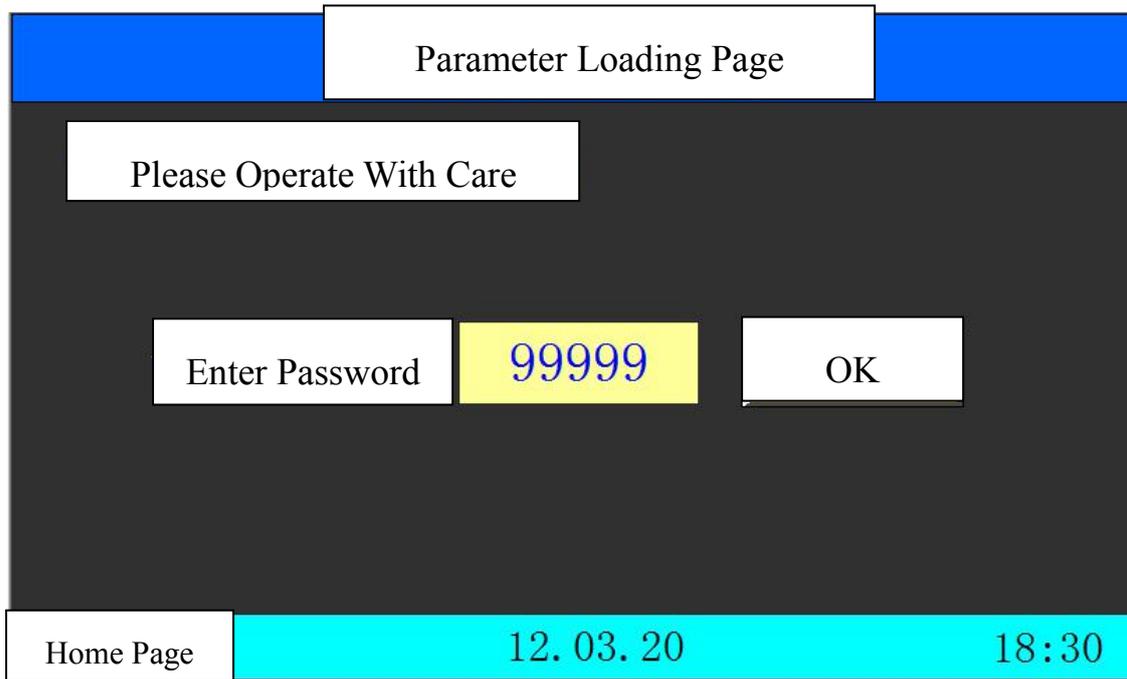
4.Automatic Pre-peeling Speed: adjust the speed of the pre-peeling process.  
(setting range 200—32000HZ)

5.Automatic Traction Speed : the speed of labeling. ( setting range 200 — 32000HZ)

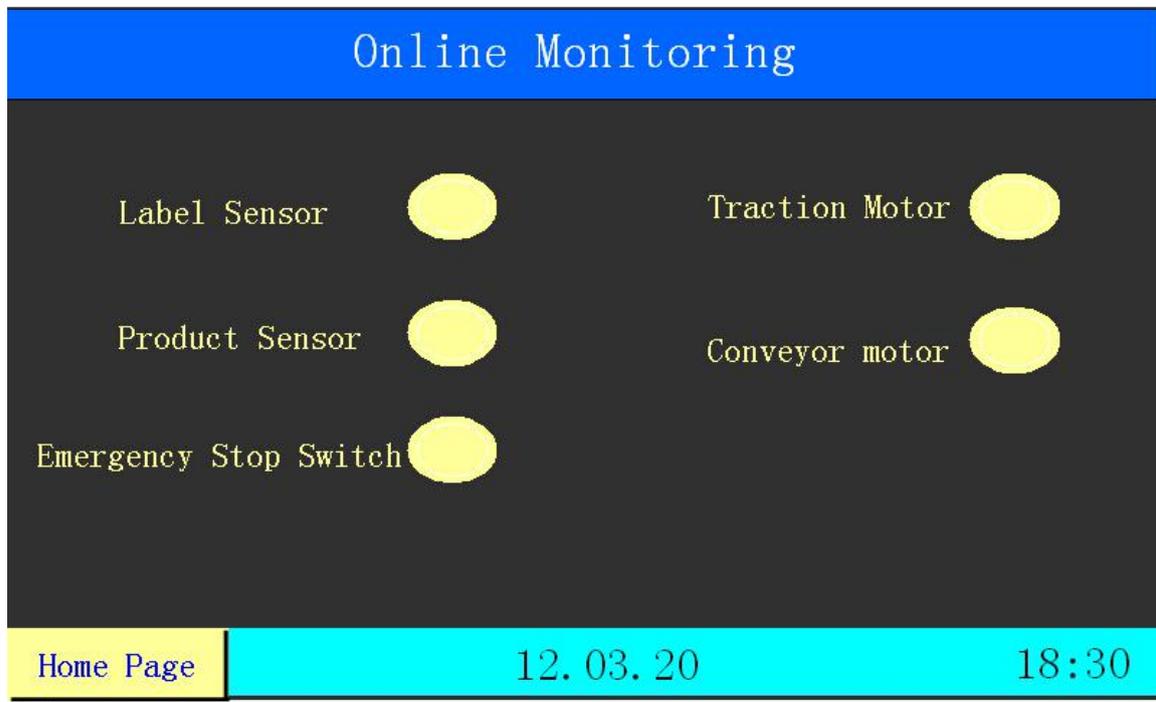
6.Labeling Delay: typically be “0”.With this parameter ,the labeling process will not start immediately after receiving the product sensor ’ s signal,but delayed.Can be used under the condition that either moving the product sensor or using the position adjusters can not make the label be pasted to the designated position.

7.Filter Product Signal:sometimes products stay in the induction zone after labeling for strengthening.In order to prevent labeling the same product again ,we use this parameter to filter the product signal for a short time.

## **2.7 Password Modification:**



**2.8 On-line Monitoring:** On-line Monitoring: Indicating the status of each configuration,if the signal light turns blue,it means the corresponding configuration is working,this page is used in problem checking;





## **1.Mechanical Adjustment**

### **1.1 Label-covering Device Adjustment**

Points:

1. the labeling strengthening device should be parallel to the conveyor belt in order to make sure the product will be uniformly forced and steadily labeled.
- 2.the labeling strengthening device should be neither too low(hinder the product) nor too high (can not touch product).

### **1.2 Labeling Head Adjustment**

Points:Loose the locking screw before adjusting and lock it after adjustment done.Turn the adjusters to achieve forward/backward,vertical/horizontal adjustment.

### **1.3 Label-peeling Plate Adjustment**

Loose the screw in the joint of the plate to adjust.The label-peeling plate can swing in a certain range to adapt to different products.

## **2.Sensors Adjustment**

This machine is equipped with 2 electric sensors:product sensor and label sensor,you can adjust them according to your product and labeling requirement.

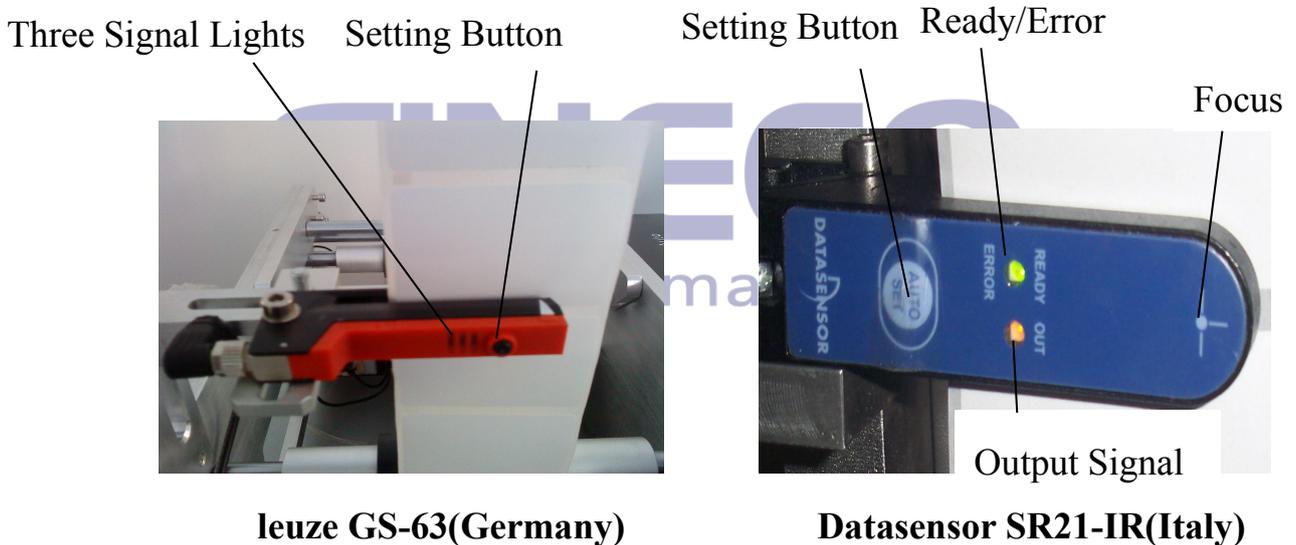
### **2.1 Position Adjustment**

You can adjust them by adjusting the sensor frame,we have talked about this in the mechanical configuration part.

## 2.2 Setting of the Label Sensor

The standard configuration of this machine is Datasensor SR21 , other kinds of sensor are optional.

### 2.2.1 Label Sensor: (just for instruction use,not means the it being the sensor of your machine)



#### (1) the Adjustment of Leuze GS-63:

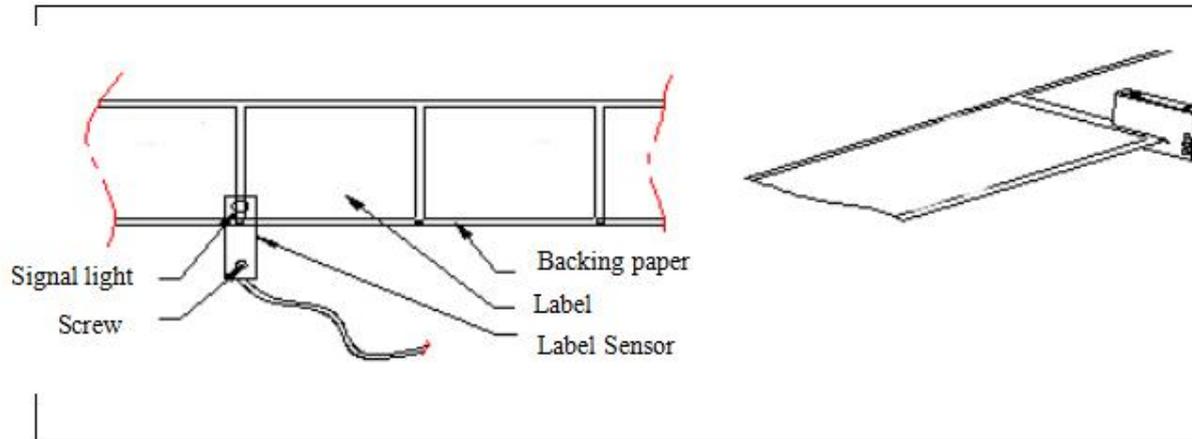
**a. Work principle:**Make use of light penetrability.The light penetrability of the label is different from the gap between two labels,suitable for paper label or the label has certain thickness.

**b. About the signal lights and the adjustment button:**

Green signal light : power light;

Yellow signal light: detection signal light ( it lights up when detecting label ) ;

Setting Button:used for setting different labels;



**c. Setting Method:**

Test :Make the label pass through the slot of the sensor and pull the release paper,if the **yellow** signal light up when the label gaps pass and put out when labels pass,it means the label sensor works well and can be put into use directly.If not,you need to reset the label sensor:

- ① Put label in the focus of the slot, press the setting button for about 3 seconds until the yellow signal light flickers,then release the button.
- ② Pull the label to make the **gap** between two labels in the focus of the slot,press the setting button again for about 8 seconds,then release.
- ③ Pull the label,let labels and gaps go through the focus alternately.Check if the yellow signal light up and put out when the gaps and the labels alternately appear.

## (2) the Adjustment of Datasensor SR21-IR(Italy)

**a. Work principle:** Detect label by the intensity of light,suitable for the label that made of different material from the release paper.One side of the sensor launch light and the other side receives ,the intensity of the received light changes when the label and the label gaps alternately appears,by setting a threshold level, the sensor can detect if there is a label.

### **b. Setting Method:**

① When the “ ready ” signal lights up,put the label on the focus of the sensor,pull the label to make the gaps and labels go through the focus alternately to see if the output signals change.If so,the sensor can be put into use directly.If not,pls set the sensor as following steps:

(1) Make sure label reel goes through the sensor slot, ‘focus’ on label.Press the ‘auto set’ button, the Ready/Error and Output lights would put out, it means the sensor is capturing the signal of the label on its focus. Do not move the label until the Ready/Error light flickers.

(2) When Ready/Error light flickers, draw the label to make the ‘focus’ on the gap between 2 labels..

(3) Press the ‘AUTO SET’ button again, Ready/Error light puts out. It means the sensor is capturing the gap signal. Do not move the label until the Ready/Error lights up.

(4) Pull the label back and forth to see if the ‘out’ signal lights up when ‘focus’ on the border of gap and label. Thus adjustment done.

(5) “Ready/Error” signal lights up shows that the sensor is working.

**2.3.Product Sensor:** (just for instruction use,not means the it being the sensor of your machine)

**a. the connection method of FX-301series:** please connect the product detect sensor as the picture.



**b. Work Principle:**

The detect sensor identifying objects by light reflection.it launches light on the object and the object reflects light to the sensor.When the reflection light reaches to your set number,the sensor can detect the object and send signal out.

**c. Status Switching:**

Press the “mode/cancel” button, the green signal changes among the “L/D”、“CUST” 、 “PRO” , representing different working status.

**d Settings:**

-Clear the induction zone,press the “+”button and adjust the green number to at least twice bigger than the red number.just as the following picture.



-Put a product in the induction zone(labeling position),make sure that the product stays close to the sensor frame on the left.You can adjust the labeling location of the product by adjusting the frame.

-Close the lid,setting finished.

-When the product be conveyed to the labeling position,the product detect sensor sends signals to PLC,then the PLC direct the relevant parts to operate,labeling start.



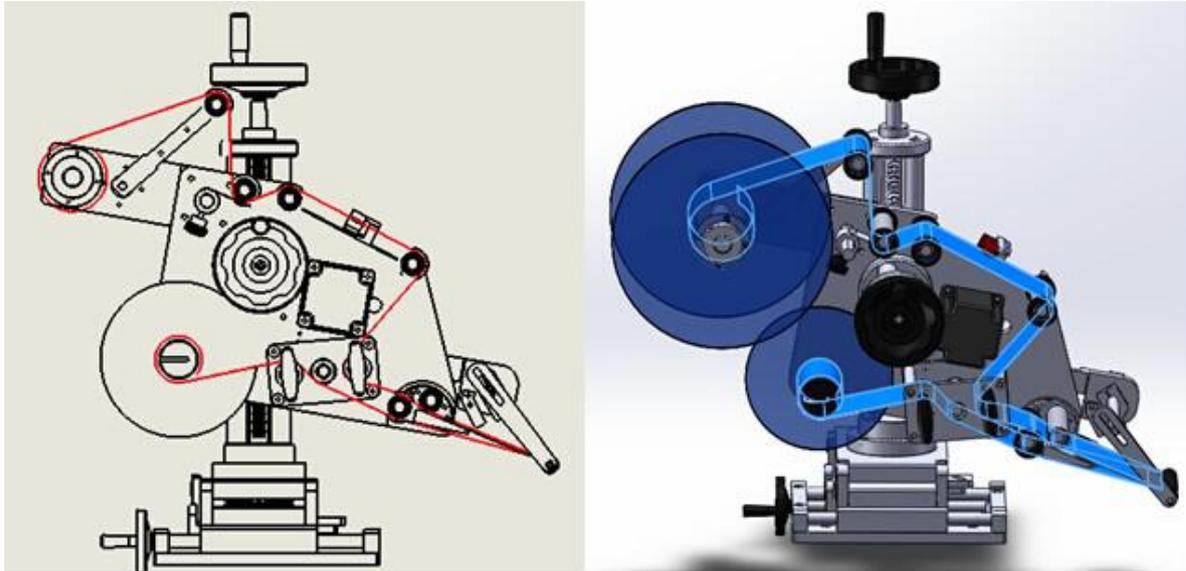
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## Chapter 6 Operation

### 1.Label winding

Please winding the label as following:(key point:keep the intensity and balance of the label)

### Label Winding Diagram



### 2.Mechanical Operation

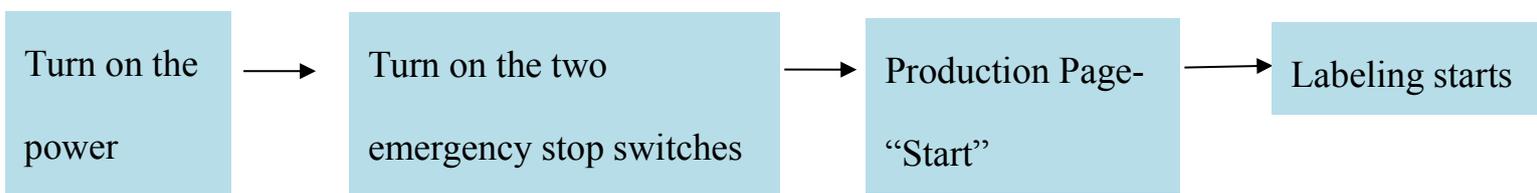
Preparation :Turn on the power,choose the “Manual Operation”.

1.Conveyor Mechanism Adjustment: please refer to the adjustment section we talked before.

2 .Labeling Position Adjustment: laying the product below the label-peeling plate,adjust the labeling head or the product sensor frame to make the plate fixed at the designated labeling position.

3 .Labeling Position Adjustment:There are three methods :a. moving the product sensor forward or backward,thus advance/delay the detection;b.setting “labeling delay” time; c.setting the “automatic pre-peeled length”.

### 3.Electrical Operation



## Chapter 7 Product Maintenance

### 1.Maintain and Clean

1.1 This machine is powered by AC power, so it needs to replace the fuse for overload protection .

1.2 Please use alcohol to clean the machine; and use commercial neutral cleaning fluid to clean the electric box.

Matters need attention:

Do not use cleaning tool that would damage the surface of the machine.

Do not use corrosive plastic utensils;

Do not use acid soluble liquid.

### 2. Routine Maintenance

Regular inspection is necessary ,especially the following parts:

- 1.The conveyor belt's speed and accuracy (after extended periods of use )
- 2.Clean up waste paper scraps and pieces.
- 3.Remove oil residue from the rollers and the machine edges.
- 4.Clean the sensor lens with a soft brush or cloth.

### 3.Surface Maintenance

This machine has chrome plating processed, equipped with anti-rust function. However, you still need to pay attention to rust in the plating processes, using anti-rust oil to spray the stainless steel and iron parts from time to time.

## Chapter 8 Common Problem Solution

### 1.Release Paper Broken

Possible causes: poor quality of the release paper;mechanical parts scratches the release paper;label adhesion.

①:Check the release paper,if it is already broken or cut heavily during label production,contact your label provider to improve their craftsmanship.Glassine material is recommended as release paper.

②:Check if there any part scratch the label in the traction process and adjust them.

③:Adjust the pre- peeled length in case label stick to the already pasted product.

### 2.Labeling deviation more than 2 mm

Possible causes:Label-winding deviation;the label-peeling plate is not parallel to the conveyor belt;the traction wheel skid;Unqualified product.

①Label-winding deviation: Loose the traction device,pull the label back and forth,correct the label route automatically.Then mark the right route with the equipped circles on roller.

②The label-peeling plate is not parallel to the labeling surface:Adjust the labeling head to make it be paralleled to the labeling surface.

③The traction wheel skid:Fasten the traction device.

④Unqualified product:Tolerance happens in the product manufacture process also bring about labeling deviation,so the product quality must be strictly



controlled.

### **3.Labels come out incessantly at a time**

①Label Sensor:reset the sensor according to the instruction manual.If the problem still exists,maybe the sensor is not applicable to the label or it has broken,contact your labeler supplier in this situation.

②Label- winding:If label bypasses the label sensor's focus the sensor would not be able to detect labels.

### **4.The Release Paper is Loose at the Label-peeling Plate**

①Slow traction speed:Speed up the traction speed;

②The traction device loosed:Fasten the traction device and check if the drive belt behind the release paper recycling axis is broken.

A large, light blue watermark logo for FINECO Labeling machine, featuring the word "FINECO" in a large, bold, sans-serif font above the words "Labeling machine" in a smaller, regular sans-serif font.

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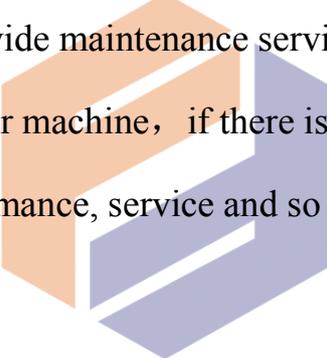


### Service Commitment

Fineco based on the principle of customer first,dedicated to provide thorough pre-sales and after-sales service.

- 1.Professional technical consultation service
- 2.Professional training service.
- 3.Responsible for providing technical support.
- 4.One year warranty, provide maintenance services.

Thank you for using our machine, if there is any dissatisfaction with equipment quality, performance, service and so on, welcome to put forward valuable suggestions!



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