



MS-D347-BE&TL&TH Printer User Manual

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Overview

Special attentions:

1. MS-D347 series printer with paper roll bracket. Which have models, including MS-D347-BE , MS-D347-TL, MS-D347-TH.
2. this manual is aim to introduce three model kiosk thermal printers,so terminal user and developer can know them better , and help their development and usage.
3. *In the following descriptions, we think the operations of three model of printers have printing commonality,but please clearly distinguish their differences*

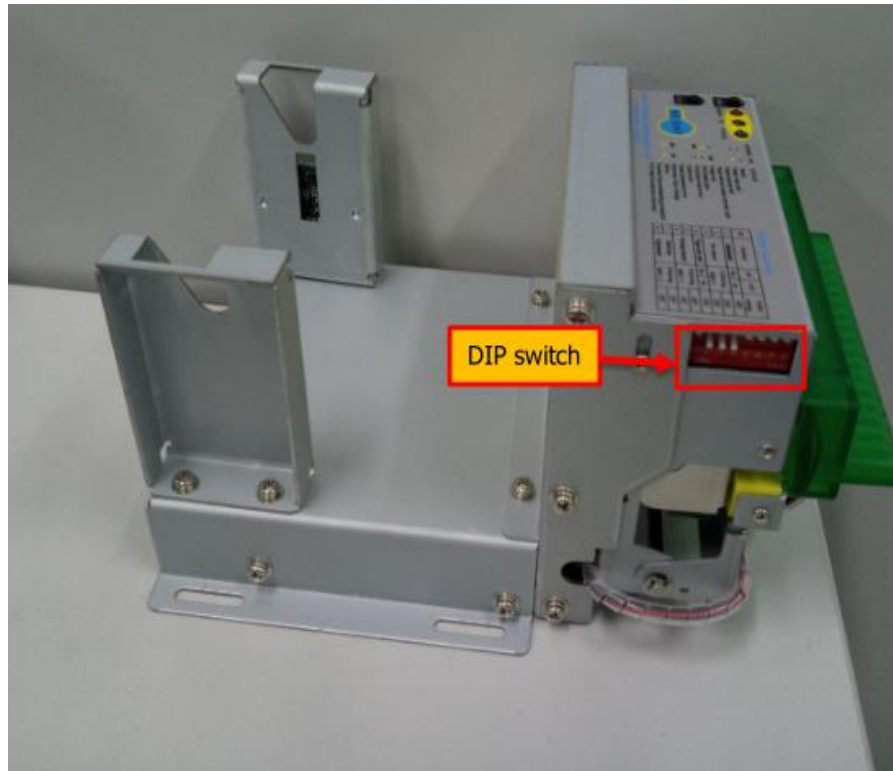
MS-D347-BE

Difference: More compact size and medium paper roll bracket, suitable paper roll specification : 80*80 mm (paper width * roll diameter)



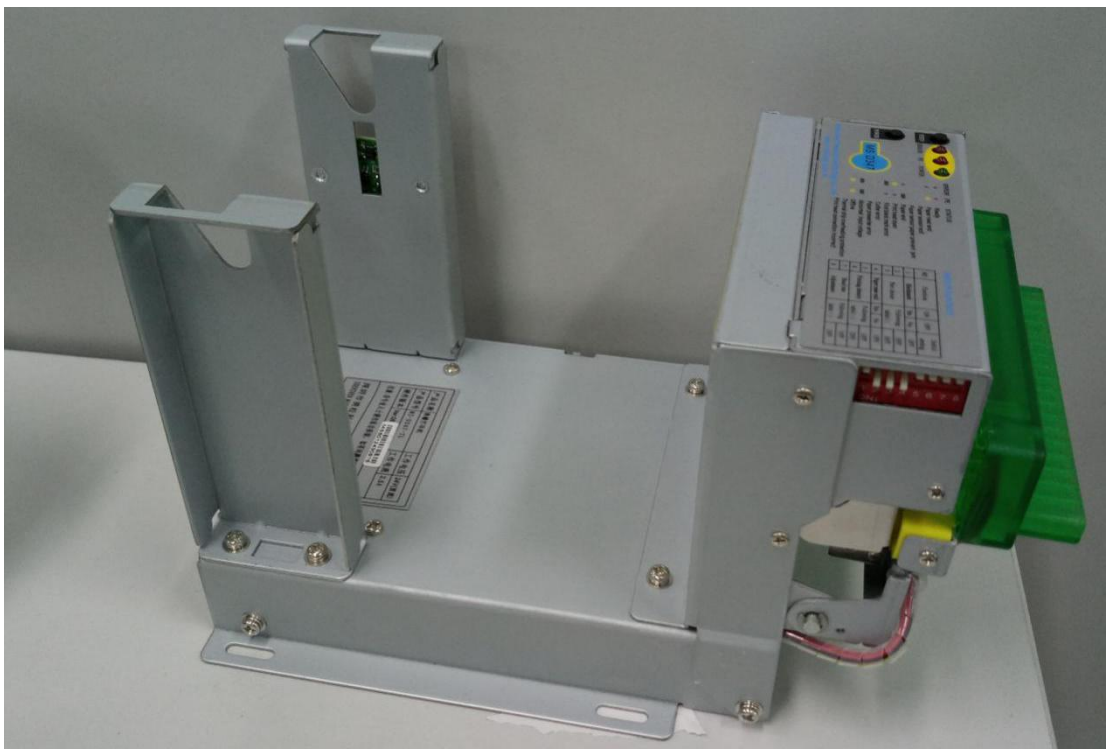
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MS-D347-TL

Difference: **big paper roll bracket**, suitable for paper roll specification: 80mm*160 mm (paper width * roll diameter)



MS-D347-TH

Sideways paper loading bracket, similar with CUSTOM K80, suitable for paper roll
specification: 80mm*160 mm (paper width * roll diameter)



Specification

Model		MS-D347-BE/TL/TH
	Printing method	Thermal dot line printing

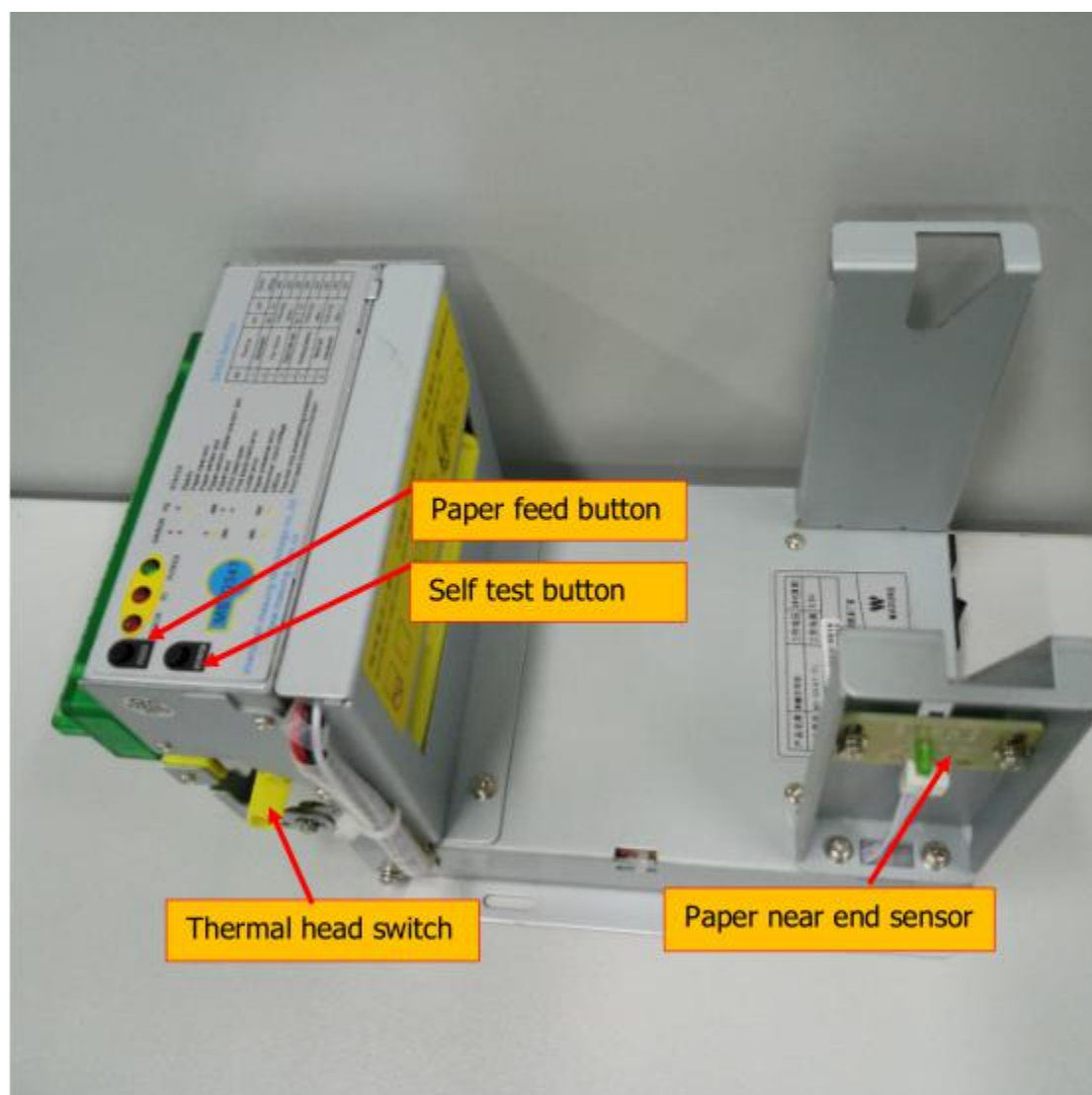
print	Total dots	576 dot/line
	Printing density	85%~130%
	Resolution	W 8 dots/mm*H 16 dots/mm
	Printing speed	170mm/s(max)
	Printing width	72mm
	Paper width	80mm
Detection	Thermal head temperature	Thermal sensors
	Thermal head switch	Mechanical switch
	Out of Paper detection	Reflective infrared light sensor
	Cutter detection	photoelectric sensor
condition	Working voltage	24V±10%
	Power consumption	Mean 1.75A (25% of maximum printing dots)
	Transient maximum current	6.0A(max)
	average	1.75A
Paper	Paper feed	Auto loading
	Paper cut	Full cut/partial cut
	Paper roll diameter	80mm (BE); 160 mm (TL/TH)
environment	Operation temperature	-10—60°C (no condensation)
	Storage temperature	-20—70°C (no condensation)
	humidity	10%—85%RH (40°C/85%RH)
Service life	Activation pulse resistance	100,000000
	Abrasion	Over 100km



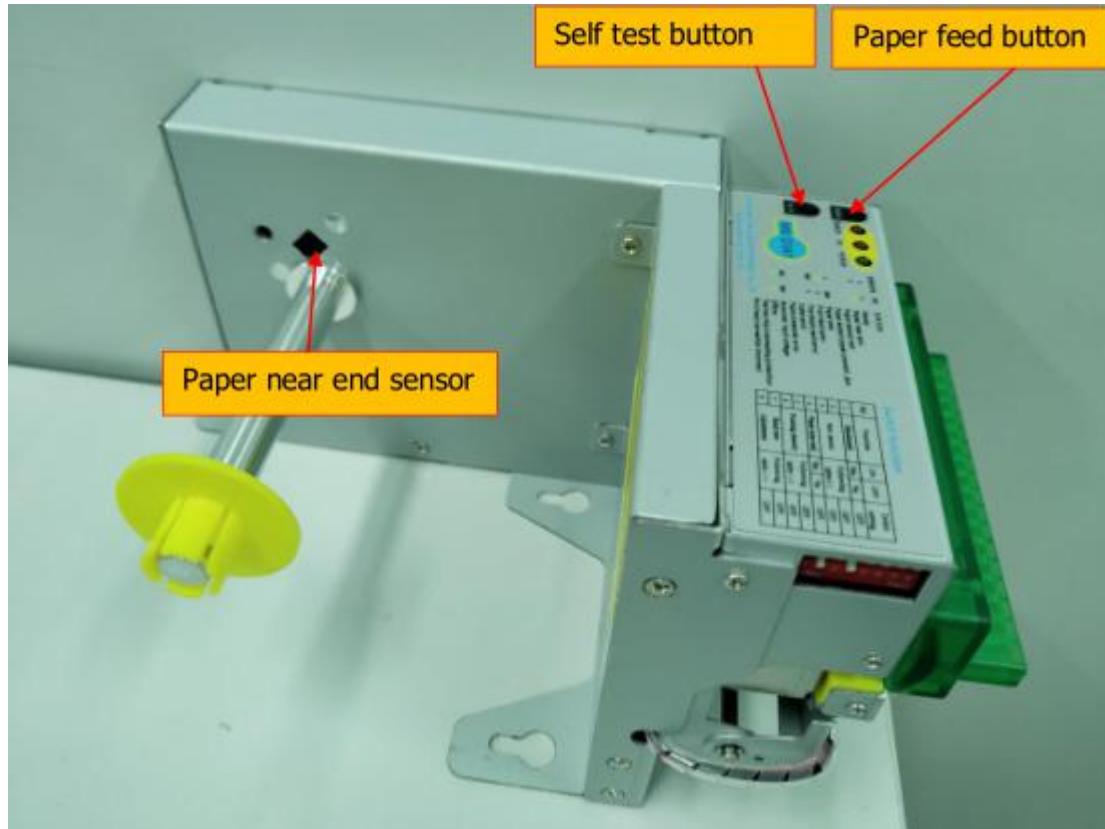
	resistance		
Dimension	MS-D347-BE	About W132mm*D200mm *H156mm	
	MS-D347-TL	About W207.3mm*D121.5 5mm*H127.2156m m	
	MS-D347-TH	130.5mm*227.5mm *112mm	
Unit weight	MS-D347-BE	1kg	
	MS-D347-TL	1.2kg	
	MS-D347-TH	1.1kg	
Communication interface		Serial /USB	

More details

MS-D347-BE & MS-D347-TL



MS-D347-TH



Power connection & power supply

Power connection

Outside of the plug is GND. So far MASUNG designed two type power port by terminal user option.

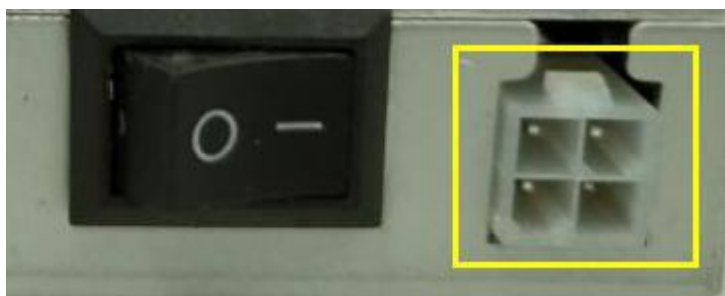
Type A printer power cord of inner pin is DC 2.5mm. As below . left switch is printer itself power switch.

Note: user can choose power adaptor DC24V/2.5A made by MASUNG.





Type B printer power code of inner pin is “Molex” standard.



Note: user can use power connector cable made by MASUNG. Then connect it to main power of kiosk, which can supply DC24V/3A to printer working.



Power supply

Attention: Before plug in or plug out any interface and sockets, please make sure the the printer power switch is off.

1. Make sure the printer power switch is off
2. Supplying power voltage should be $24 \pm 10\%V$
3. Plug in power cable
4. Turn on printer power switch , in the meantime , look at green LED on printer head panel, it will light on normally. Otherwise, please switch off power immediately .

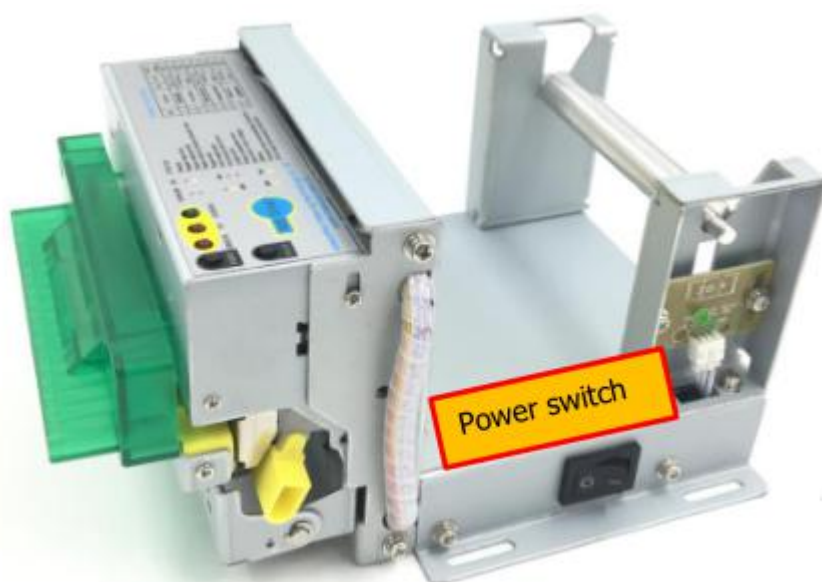
Interface

MS-D347-BE



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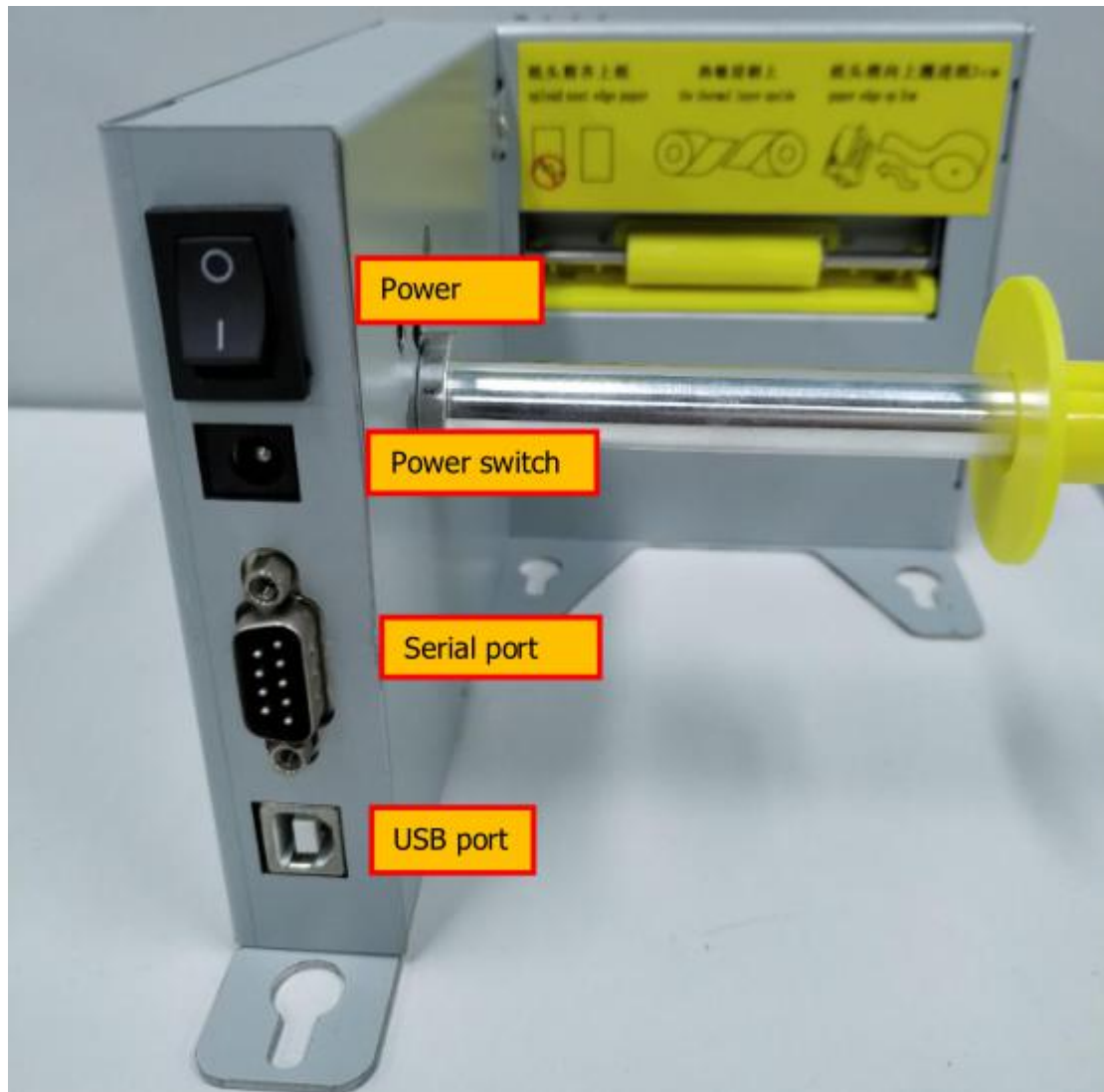




MS-D347-TL

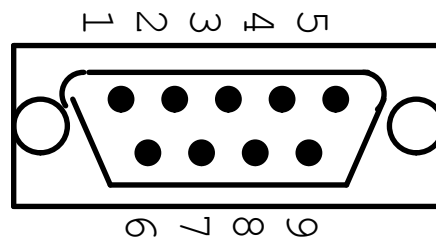


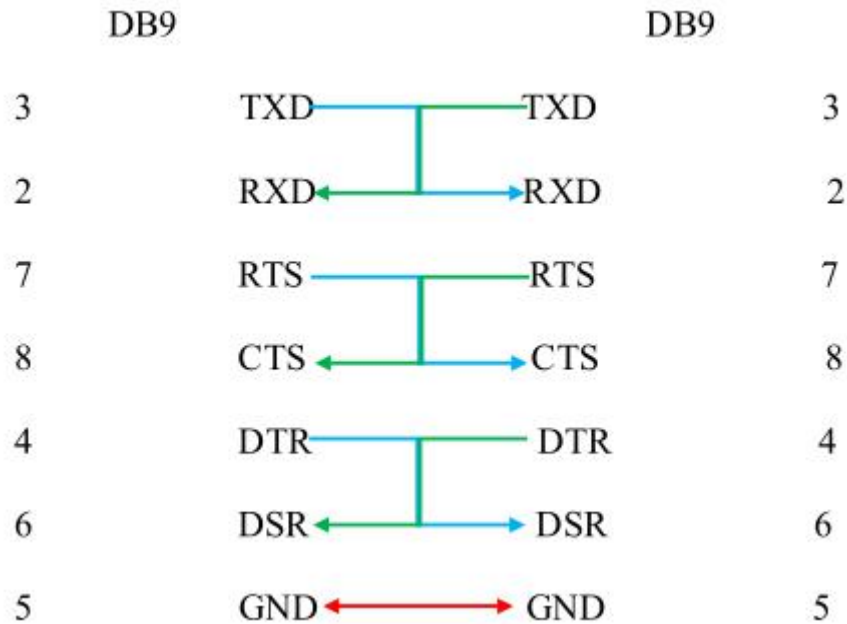
MS-D347-TH



Serial

RS-232C cable





Notice: the RS-232C cable provided by MASUNG. Which its pin definition is not international standard. User can't user any other normal serial cable for replacement. Or we won't take any printer usage problem.

USB

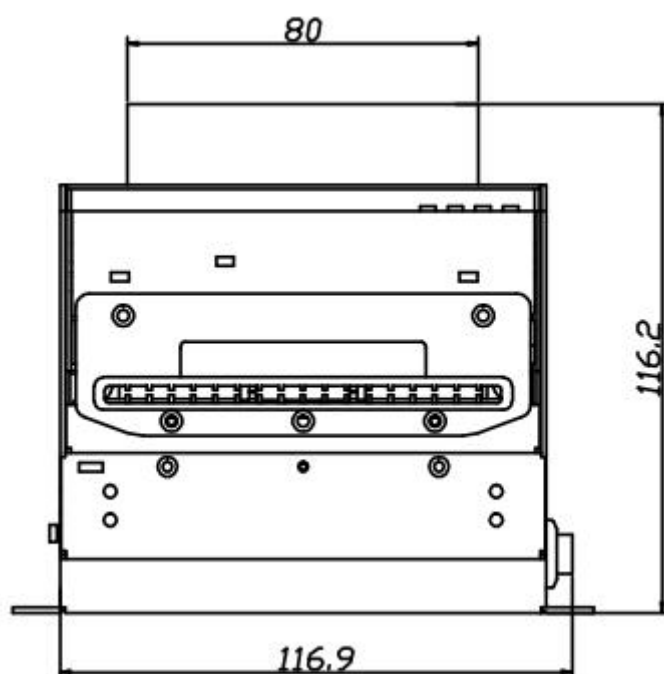
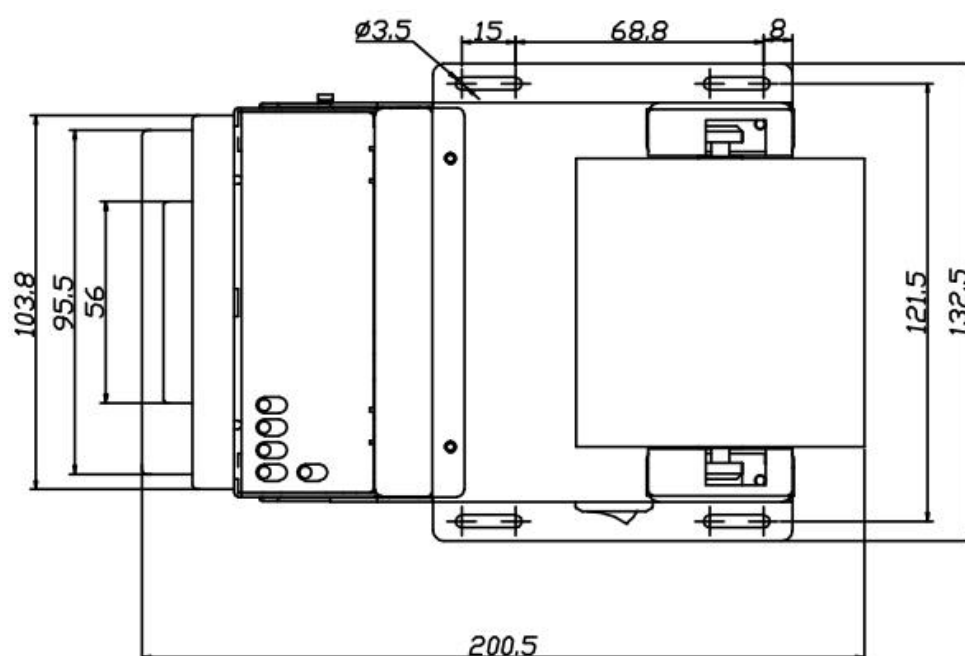
USB cable



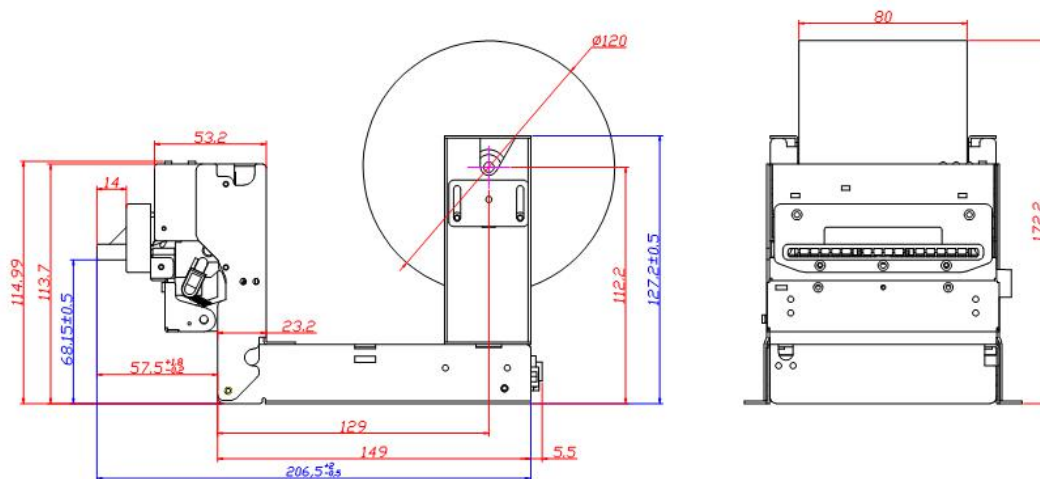
USB	Definition
1	VCC
2	DATA-
3	DATA+
4	GND

Dimension

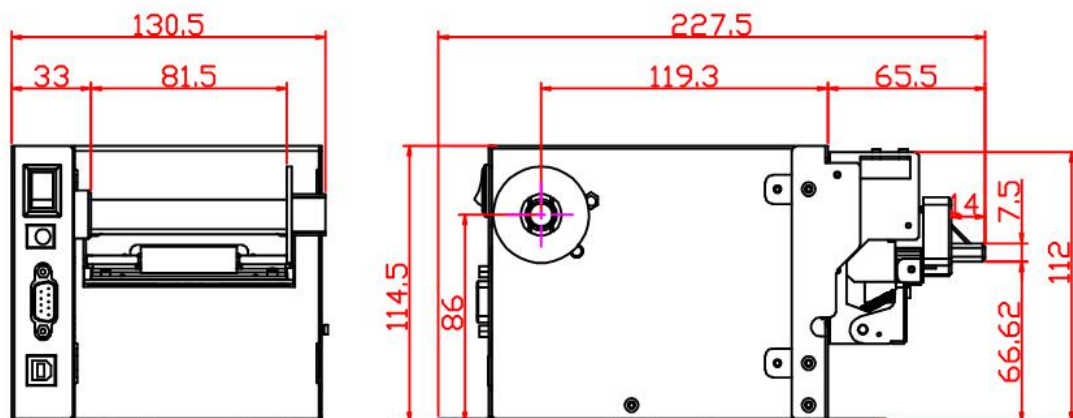
MS-D347-BE

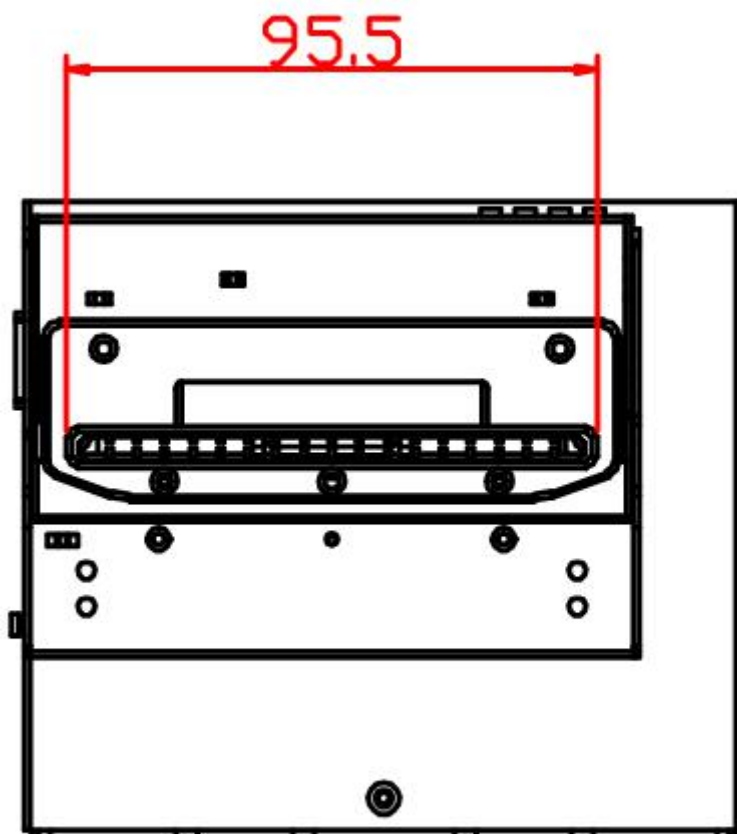


MS-D347-TL



MS-D347-TH







Step1. Refer to printer dimension, please pay much attention on screw holes as below

Technical drawing of a mechanical assembly, likely a pump or motor housing, showing dimensions and highlighted features. The drawing includes the following dimensions and features:

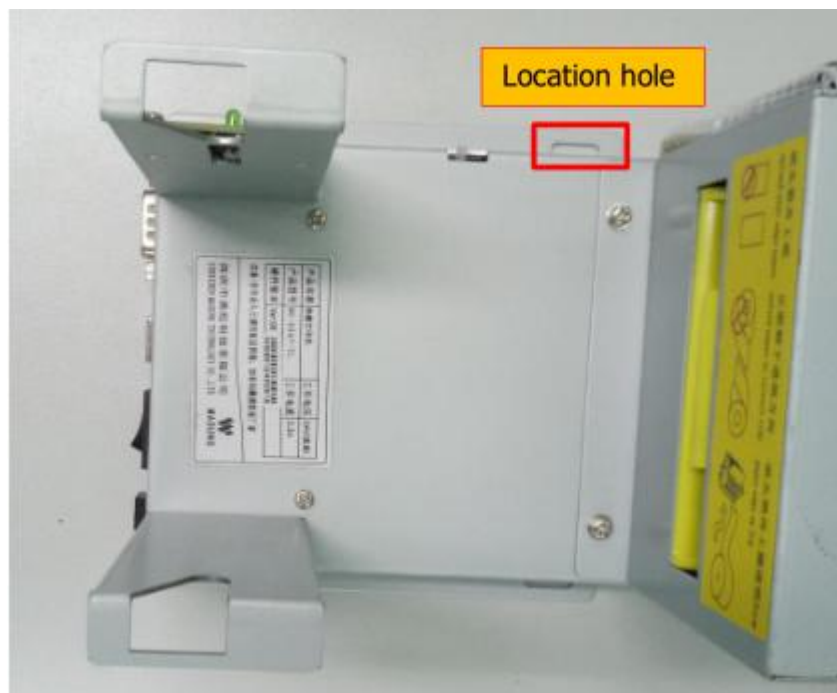
- Dimensions:**
 - Overall width: 200.5
 - Overall height: 103.8
 - Internal height (top section): 95.5
 - Internal height (bottom section): 56
 - Distance between mounting holes (top): 68.8
 - Distance between mounting holes (bottom): 121.5
 - Overall height (bottom section): 132.5
 - Mounting hole diameter: $\varnothing 3.5$
 - Mounting hole spacing (top): 15
 - Mounting hole spacing (bottom): 8
- Highlighted Features (Red Circles):**
 - Top mounting hole.
 - Bottom mounting hole.
 - Internal mounting hole.

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Step2. Fix the printer.

Tip :this step is suitable for MS-D347-BE & MS-D347-TL.

When user gets the printer , user will see the four screw holes on both sides of the printer chassis as below. Install the printer on kiosk cabinet tray .

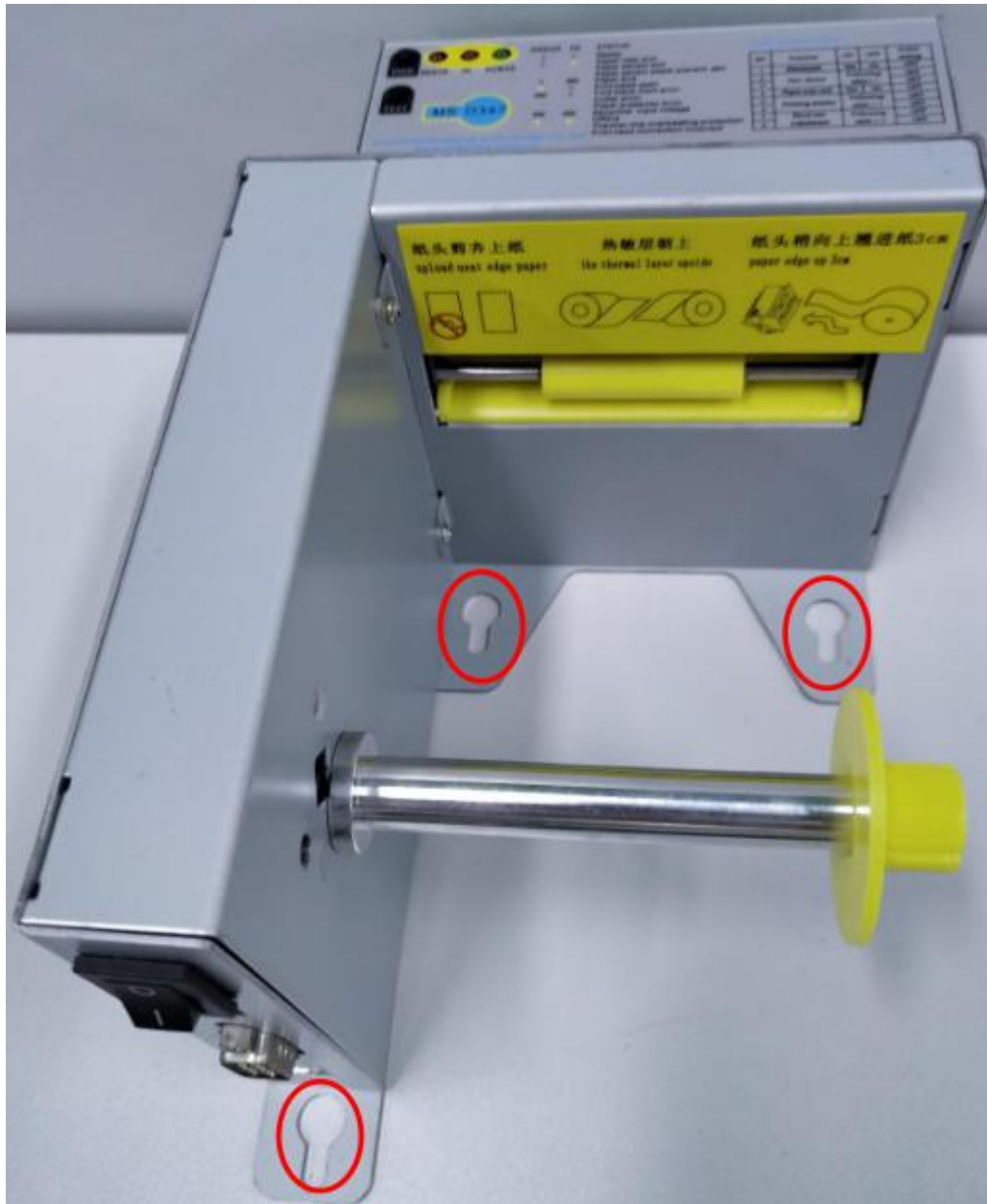


Tighten the four screws on both sides of the printer chassis.



MS-D347-TH

Use the specified three screws to fix printer on kiosk cabinet tray .



Loading paper roll

- Use paper roll spindle to support thermal paper roll.

MS-D347-BE & MS-D347-TL





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MS-D347-TH



- Make sure the thermal coating layer upward and load paper to printer. (*The printer will feed paper automatically when it is power on*)



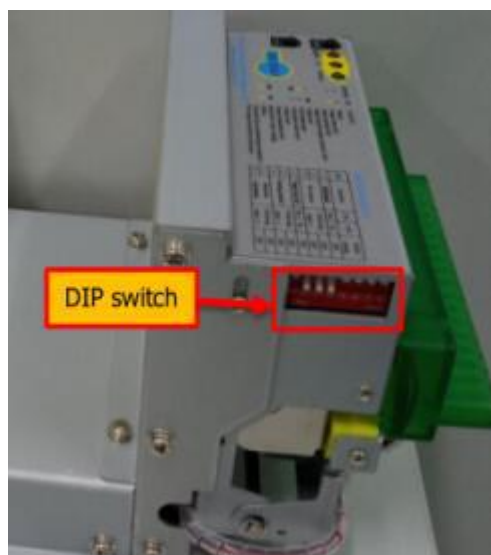
LED

Indicators

- Green power LED on : power on
- The two Red LED flash fast: power voltage is at a wrong level
- Red Error LED off ,PE LED flash: out of paper.



DIP switch



1. location : this DIP switch is located at printer head, user can adjust different switch number to reset different printer configuration.

2. Notice: once user changed any number on this DIP switch. User need to reload printer power to activate printer into corresponding configuration.

3. DIP number function table

Switch number	function	ON	OFF	default
1	Black mark	enable	disable	Off
2	Communication port	Refer to table 1		On
3				Off
4	Paper near end	enable	disable	Off
5	Printing density	Refer to table 2		Off
6				Off
7	Baud rate	Refer to table 3		Off(*)
8				Off(*)

(*)They are activated when serial was selected.

Table 1 communication port

Interface	DIP switch number	
	2	3
parallel	OFF	OFF
Serial	OFF	ON
	ON	OFF
USB	ON	ON

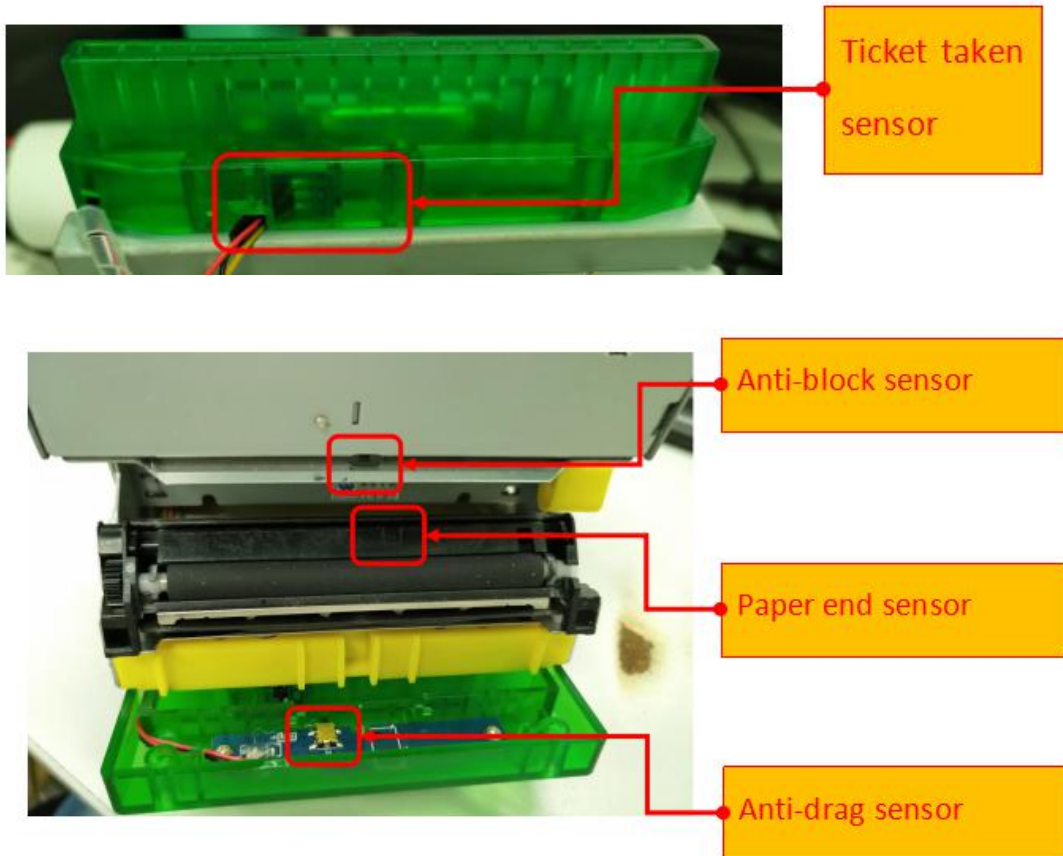
Table 2 printing density

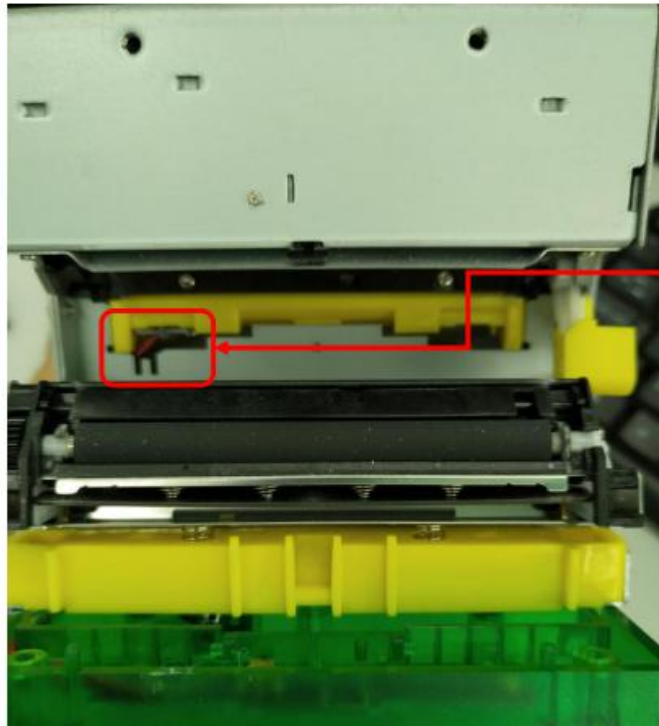
Density level	Printing density	DIP Switch number	
		5	6
1	130%	ON	ON
2	115%	ON	OFF
3	100%	OFF	ON
4	85%	OFF	OFF

Table 3 baud rate

Baud rate	DIP switch number	
	7	8
115200	ON	ON
9600	OFF	ON
19200	ON	OFF
38400	OFF	OFF

Sensors





Black Mark sensor



Paper near end sensor

- Ticket taken sensor :

The sensor detects whether ticket is taken away or not by terminal user

- Anti-block sensor :

Anti-block sensor can detect paper blocked status and remind terminal user to check kiosks ticket exit outside environment.

- Paper end sensor:

Paper end sensor is used to detect whether there is paper in printer mechanism

- **Anti-drag" sensor**

this feature can help user to prevent largely ticket jam issue if there happened people "dragging unfinished ticket" during printing job

- **Black mark sensor:**

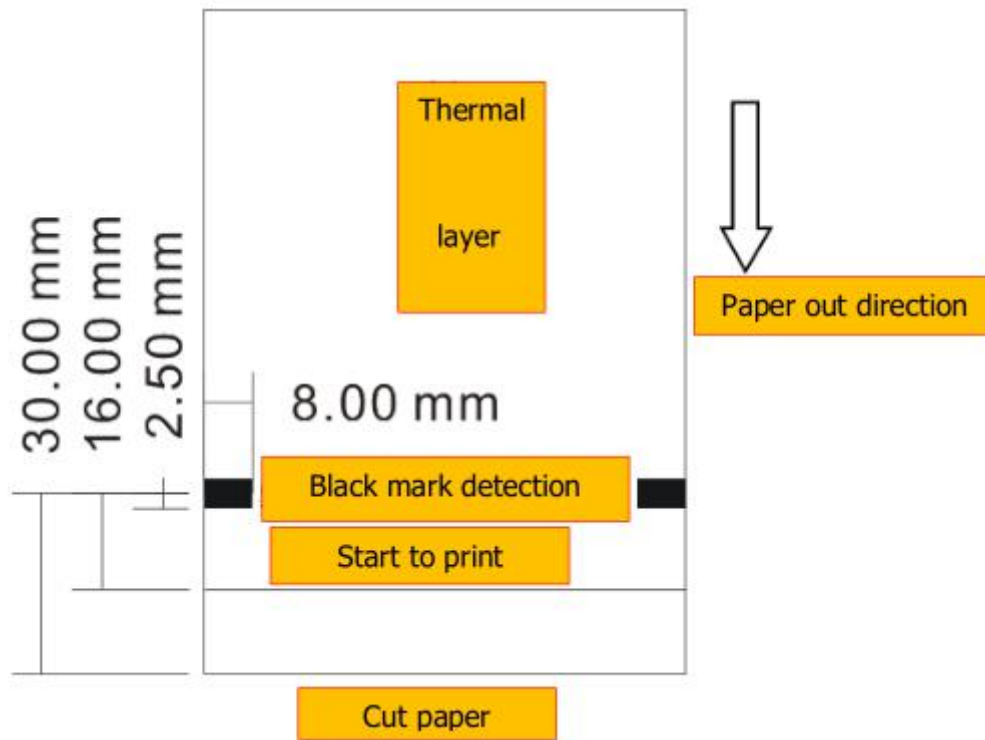
Black-mark sensing has a black mark on thermal paper, and the printer searches for the black bar to determine when to stop feeding paper, printing and cutting.

- **Paper near end sensor**

Paper near end sensor is used for detecting whether the paper roll is sufficient or not. The PE red indicator will lighten on if the paper is near end. (note: this sensor can be adjusted for adapting different size paper roll)

Black mark

When DIP switch number 1 is ON, the black mark function will be activated. So that user need to use thermal paper with black mark .



Self test page

MS-D347-BE & MS-D347-TL & MS-D347-TH

Self-test page includes basic configuration information. user can refer it to adjust different parameters.

how to print self-test page:

Method A:

As picture shows below, these three model printers have been designed a “TEST” button to get self-test page, when user wants to

printer a self-test page, then press this button for 2 seconds after loading paper.



Method B:

Send hex command: 1D 28 41 02 00 00 02 via printer communication ports.

Sample “ self-test page”, as below



How to open printer head and clear jam paper

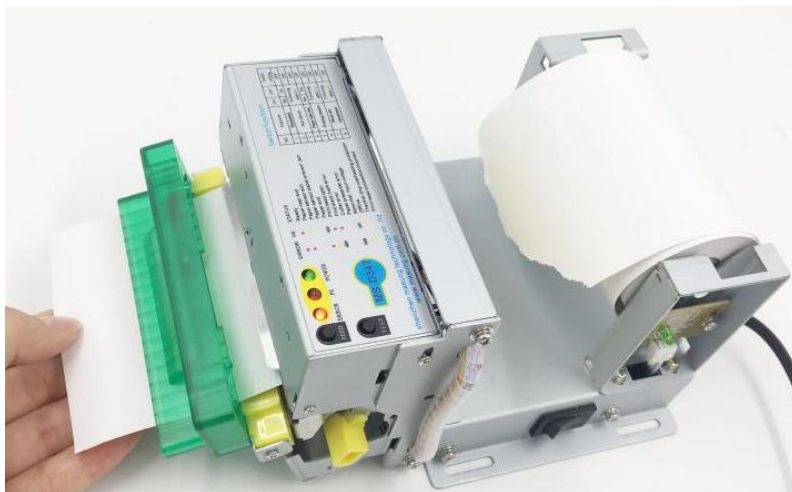
- turn off printer power , tear paper at roll end.



- press the yellow knob to open printer thermal head



- Take away jam paper and clear printer head



Matters need to attention

Safety matters

1. Do not apply voltage or current to any pins excess of the absolute maximum ratings.If voltage or current in excess of the absolute maximum ia applied,excess current will flow through the device,which may lead to printer damage.
2. Do not short-circuit any output pins with the power supply.
3. Do not drop conductive material onto the circuit board.Short circuiting pins on the board may cause heat damage due to excess current or may melt the bonding wire.
4. Be sure to connect the device with the specified cables.
5. Improper connection may cause fire or shock
6. Never disassemble or modify this product.Tampering with this product may result in injury,or electric shock.

Usage matters

1. User should use standard thermal paper, or it will influence our printer ,moreover ,it can damage thermal head gradually.
2. The width, inner diameter, outer diameter of paper roll have to meet standard requirements, or it can make paper sensor unable to work and paper jam.
3. Never use hard tools to clean the cutter, or it may result in unrecoverable damage to the cutter.

-
4. Never pull out the signal cable (USB & serial) or power wire when the printer is power on.
 5. Never touch the printer head or motor driver at once directly after the printer has been working a long time, or will get scald.
 6. There is great friction between the rubber roll and thermal head, so user cannot press feed button or print anything when there is no paper, or it can damage thermal sheet. Also cannot print when the platen open.
 7. User should clean thermal head regularly with anhydrous alcohol to ensure the printer perform better and service life.
 8. If the printer works outside, it needs to be cleaned regularly to ensure the sensors work reliability.
 9. When the printer is working, block up the paper mouth is forbidden.

Storage matters

1. Be sure to set this equipment on a firm, stable, horizontal platform.
2. During transport or storage, protect the device by storing it in conductive sponge, aluminum foil, etc.
3. If the equipment falls, it may break or cause injury.
4. Excess of humidity and dust may destroyed the equipment.
5. Do not place heavy objects on top of this product. Never stand or lean on this product.
6. Equipment may fall or collapse, causing breakage and possible injury.
7. To ensure safety, please unplug this product if it unused for a long time.



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