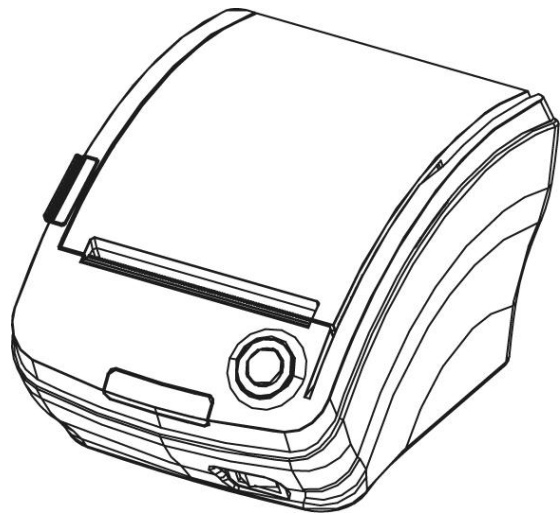


Operator's Manual

MODEL **WSP-DT381**

(3inch Desk Top Printer)

Rev. 1.1



All specifications are subjected to change without notice.

▣ Copyright

WSP-DT381 3inch desk top printer operator's manual.

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▣ Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or removed the cable on the rear side, in order to guard the printer against the static electricity.

If the printer is damaged by the static electricity, you should turn the printer "OFF"

▣ Notice

The contents of this manual are subject to change without notice.

▣ Introduction

The **WSP-DT381** is the ideal solution for POS system, kitchen printer, Electronic scale, Measuring equipment, Lottery etc.

The general features of **WSP-DT381** printer are as follows:

- ▶ Very silent printing thru direct thermal printing method
- ▶ High speed(200mm/sec, MAX)
- ▶ UART(RS-232C) or USB 2.0 Full speed, Bluetooth V3.0 [option],
Wireless LAN (IEEE802.11b/g/n)[option] interface
- ▶ Auto cutting
- ▶ Support text and graphic printing
- ▶ Support Magnetic Stripe Reader [option]
- ▶ Intuitive LED's indicate Power(on/off), Error
- ▶ Easier maintenance with self-diagnostics
- ▶ Easier paper loading by CLAMSHELL design.
- ▶ One touch paper cover
- ▶ In field programming – Update Firmware, Download Fonts and Logos
- ▶ Microsoft Windows/Windows CE, Linux, Android, iOS compatible
- ▶ Flow control : Software (XON/XOFF)
 - ※ Hardware flow control not supported in printer

Microsoft Windows, Linux Microsoft Windows, Linux

▶ Using the Printer

- Be careful not to drop or bump the printer on a hard surface.
- Do not install the printer in direct sunlight or such areas.
Suitable environment for the use of the printer is as follows:
 - ◆ Operating temperature :-10°C to 50°C
 - ◆ Relative humidity : 30% to 85%
- Do not install the printer near devices that generate strong electromagnetic fields such as a copy machine.
- Do not open the platen cover during printing .
- Do not remove or reinstall the communication cable during printing or transmission.
- Do not touch the connectors of the communication during printing.
- Switch the POWER OFF when not in use.
- Do not other solvent.

▶ Thermal Paper Handling

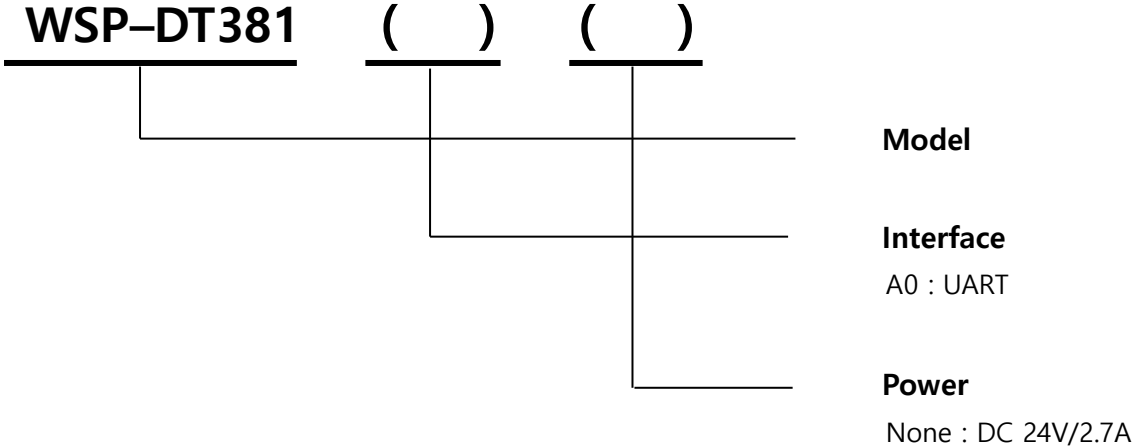
- Store the thermal paper in a cool, dry and dark place.
- Do not rub the paper with hard object.
- Do not leave the paper with hard object.
- Do not allow plastic film, erasers, or adhesive tape to touch the paper for long periods.
- Do not stack the thermal paper with diazo copies immediately after copying or wet-type copies.
- Do not use chemical glue.
- Always use the clean thermal paper.

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1. Outline.

1.1. Model classifications.



1.2. Product Part Number System

Model name / Interface Spec.																													
<div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 80%;"> S40 SC30 W25 . . . </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Wired</th> <th colspan="2" style="text-align: left;">Wireless</th> </tr> </thead> <tbody> <tr> <td style="width: 5%;">A</td> <td style="width: 45%;">RS-232C</td> <td style="width: 10%;">1</td> <td style="width: 40%;">Bluetooth</td> </tr> <tr> <td>B</td> <td>TTL</td> <td>2</td> <td>IrDA</td> </tr> <tr> <td>C</td> <td>USB</td> <td>0</td> <td>None</td> </tr> <tr> <td>D</td> <td>RS-485</td> <td></td> <td></td> </tr> <tr> <td>E</td> <td>Parallel</td> <td></td> <td></td> </tr> <tr> <td>Z</td> <td>None</td> <td></td> <td></td> </tr> </tbody> </table>	Wired		Wireless		A	RS-232C	1	Bluetooth	B	TTL	2	IrDA	C	USB	0	None	D	RS-485			E	Parallel			Z	None		
Wired		Wireless																											
A	RS-232C	1	Bluetooth																										
B	TTL	2	IrDA																										
C	USB	0	None																										
D	RS-485																												
E	Parallel																												
Z	None																												

Example) 1. Porti-S40 UART/Bluetooth Part No. ⇒ S40/A1
 2. Porti-SC30 Bluetooth Only Part No. ⇒ SC30/Z1

Note) The above table is the interface format which is supported.
 But some of the interfaces are not supported according to the product and please contact us, if you have any questions regarding the interface.

1.3. Specifications.

Item	Specifications
Printing method	Thermal dot line printing
Characters per line	- Font A, B, C : 48 / 64 / 72cpl - KOR, CHN, JPN : 24cpl
Character size	- Font Size A: 12X24 / Font Size B : 9X24 / Font Size C : 8X16 - KOR : 24X24(16X24) / CHN, JPN : 24X24
Optional Characters	Alphanumeric:95, Extended Graphics:128X31 pages, International:10, Simplified/Traditional Chinese, Japanese, Korean
Resolution	W 8dots/mm X H 8 dots/mm
Paper feed pitch	0.0625mm
Print width	3-inch (72mm, 576dots)
Printing speed	200mm / sec (MAX)
Dimensions	126 * 165.5 * 108.2 mm
Weight	775.6g / 781g [MSR Model]
Interface	UART(RS-232C) or USB 2.0 Full speed, Bluetooth V3.0 [option], Wireless LAN (IEEE802.11b/g/n) [option]
Paper supplied	Thermal roll paper (80mm wide, 80ø)
Barcode supplied	1-dimension : UPC-A, UPC-E, EAN-8, EAN-13, CODE-39, CODE-93, CODE-128, ITF, CODABAR 2-dimension : PDF417, Micro PDF417, Truncated PDF417, QR-CODE, DATA Matrix, Maxicode Etc :GS1 databar
Driver	Microsoft Windows, Linux
H/W Spec.	MCU : RX-32bit, RAM : 128M bit, FLASH : 64M bit
Receive buffer size	1M bytes
MSR [option]	ISO 7810 / 7811 / 7812 Triple tracks(1&2&3) Reading
Paper cutting method	Guillotine
Type of paper cutting	Full cut and Partial cut
AC adapter	Rated Voltage : AC 100-240V, 50-60Hz Capable of Supplying : +24VDC at 2.7A

(Continue...)

Item	Specifications	
Environment conditions	Temperature	-10°C ~ 50°C (operating) -20°C ~ 60°C (storage)
	Humidity	30% - 85% (operating)
Life span (at 25°C and rated energy)	Activation pulse resistance	100 million pulses
	Abrasion resistance	200km (condition "A", "B")
	Paper cutting resistance	700,000 cuts

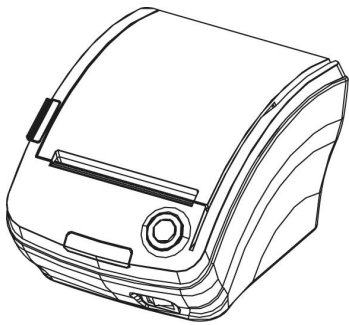
"A" ... Without defect by dust, etc

"B" ... Missing of printing dots 0.5% max. (There shall be no dot destruction until 50km.)

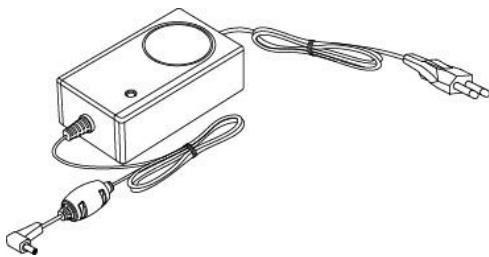
2. Setting up the printer.

2.1. Printer & Accessories

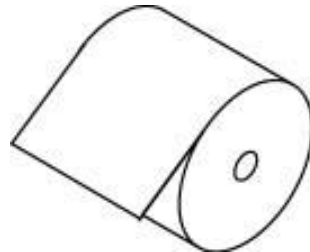
Your printer box should include these items. If any items are damaged or missing, please contact your dealer for assistance.



WSP-DT381



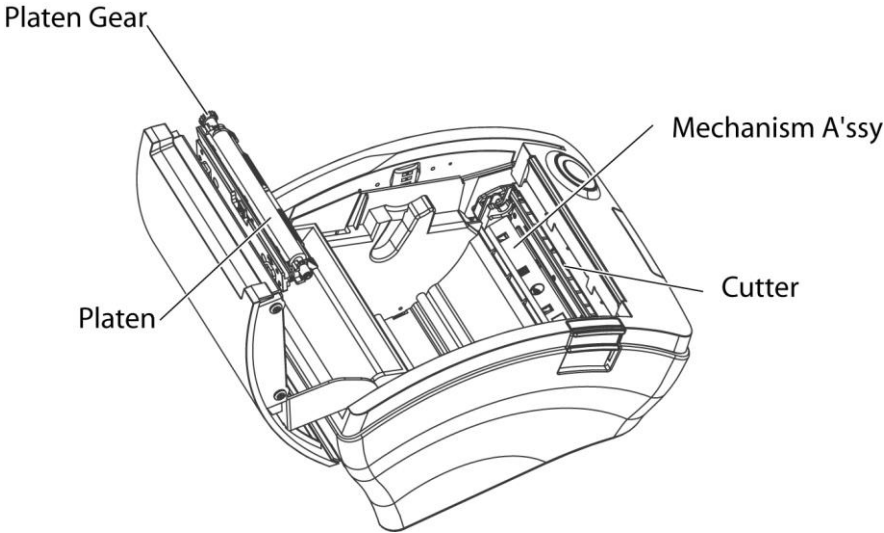
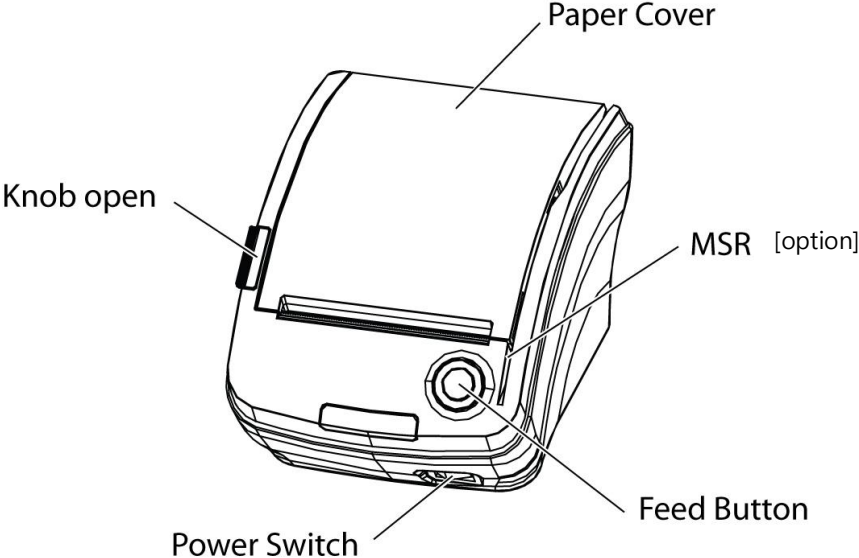
AC Adapter



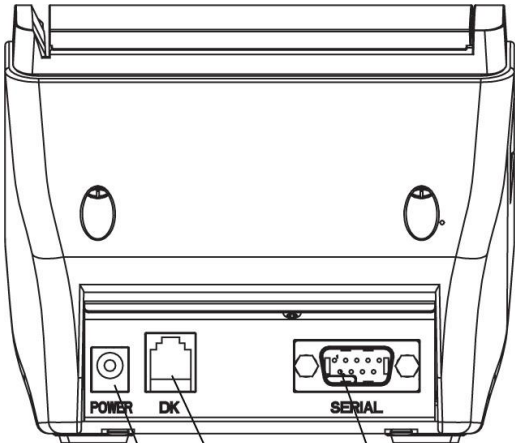
Thermal roll paper

2.2. Printer Features

► Part Name

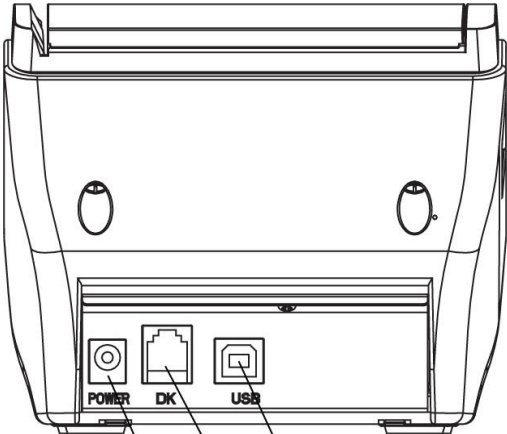


D-SUB 9P



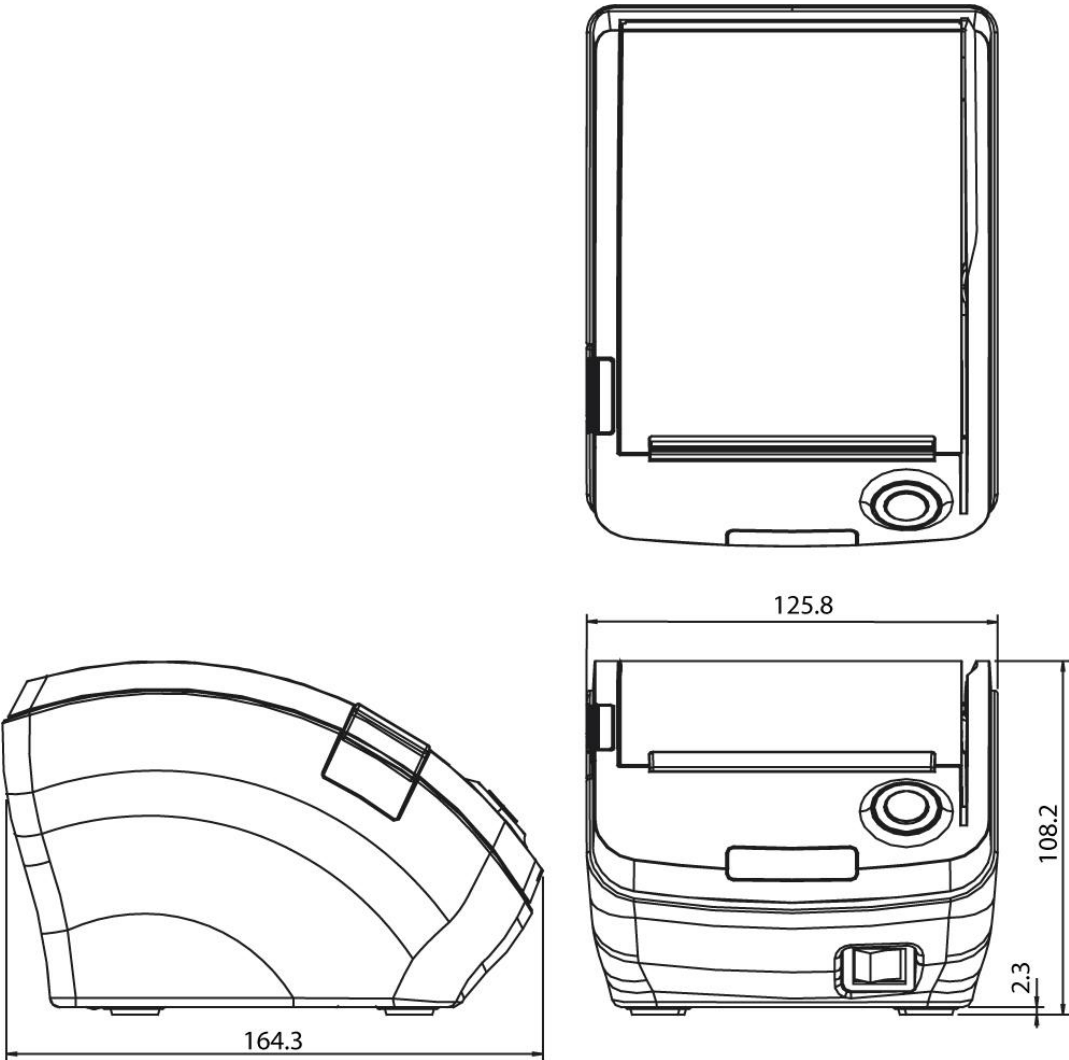
Interface Connector
Drawer Kick-out Connector
Power Connector

USB B



Interface Connector
Drawer Kick-out Connector
Power Connector

► Dimensions

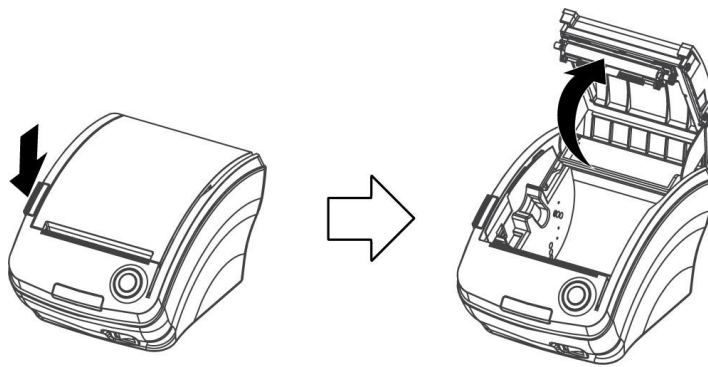


2.3. Replacing paper roll.

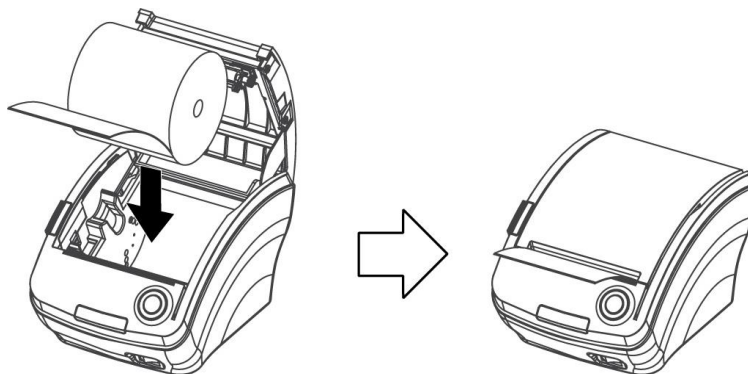
Note : Be sure to use paper rolls that meet the specifications.

Do not use paper rolls that have the paper glued to the core because the printer can not detect the paper end correctly.

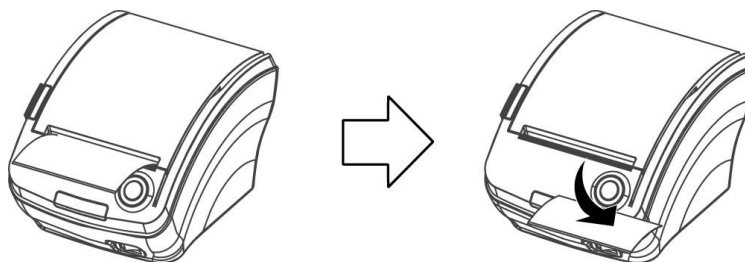
1. Make sure that the printer is not receiving data; otherwise, data may be lost.
2. Open the paper cover as the "One-Touch" way by pressing the button in the arrow direction like the picture.



3. Insert a new paper roll as shown.



4. Tear the excess paper off using the edge of paper door as a tear bar.



2.4. Power supply

2.4.1. Specified power supply.

The following specification is requested for Power supply.

Input : Rated Voltage : AC 100-240V, 50-60Hz

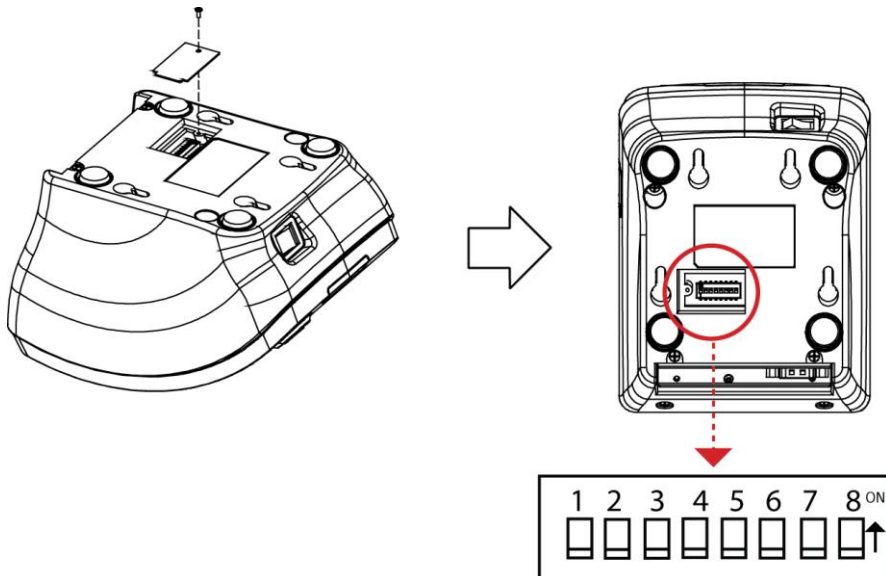
Capable of Supplying : +24VDC at 2.7A

Avoid using power supply which its power capacity of power current is extremely high.

2.5. Setting the DIP switches

The DIP switches are located on the bottom of the printer. The DIP switches are used to set the printer to perform various functions. Follow these steps when changing DIP switches setting :

1. Turn the printer power switch off.
2. Turn the printer over and remove the DIP switch cover.
3. Move the DIP switches using tweezers or another narrow-ended tool.
4. The new setting takes effect when you turn on the printer.



No	DIP SWITCH		No.	
1	1	2		
	Off	Off	Density High	
	Off	On	Density Medium	
	On	Off	Density High	
2	3	4	5	
	Off	Off	Off	1000000 Baud Rate
	On	Off	Off	500000 Baud Rate
	Off	On	Off	230400 Baud Rate
	On	On	Off	115200 Baud Rate
	Off	Off	On	57600 Baud Rate
	On	Off	On	38400 Baud Rate
	Off	On	On	19200 Baud Rate
3	6			
	Off	8 Data Bit		
	On	7 Data Bit		
4	7	8		
	Off	Off	Odd Parity, 1 Stop Bit	
	Off	On	Even Parity, 1 Stop Bit	
	On	Off	Odd Parity, 1 Stop Bit	
	On	On	No Parity, 1 Stop Bit	

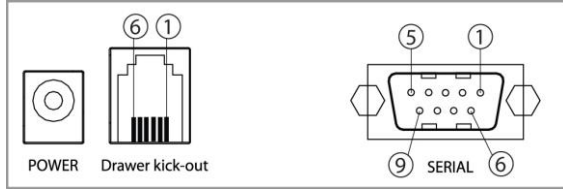
<DIP SWITCH Specification>

※ Caution : 9P Serial Maximum 115200Baud Rate
 USB 2.0 Full-speed interfaces with PHY
 - Transfer rate : Full speed (12Mbps)

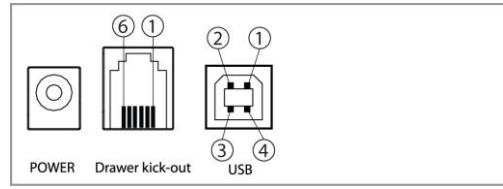
NOTE : Always change DIP switch settings when the printer is turned off.
 Changes made with the power on have no effect until you turn the printer off and then on again.

3. Interface

3.1. UART or USB / Cash Drawer



[UART]



[USB]

① UART_DSUB9P

Pin No.	Signal Name	Direction	Function
2	TxD	Output	Transmit Data
3	RxD	Input	Receive Data
5	GND	-	Signal Ground

< D-SUB 9P-Right Angle(Female TYPE)>

② USB

Pin No.	Signal Name	Function
1	USB_VCC	+5V
2	DM	DATA '-'
3	DP	DATA '+'
4	GND	Ground

< USB (B TYPE)>

③ Drawer Kick-out

Pin No.	Signal Name	Direction
1	Frame GND	-
2	Drawer Kick-out driver signal 1	Output
3	Drawer open/close signal	Input
4	+24V	-
5	Drawer kick-out drive signal 2	Output
6	Signal GND	-

< MODULAR JACK - DK623PCB6P>



WARNING

A wrong connection of power supply connector could be damage the printer.
In the printer power off state Please connect the power supply.

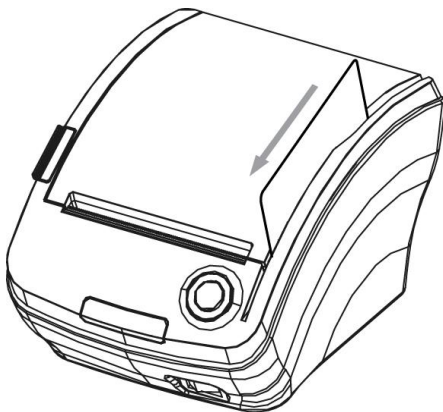
3.2. Bluetooth

Category	Specification
Bluetooth Spec.	Bluetooth Ver3.0 / Class2 (10m)
Frequency band	2.4GHz
Protocol	L2CAP, RFCOMM, SDP
Profile	GAP, SDAP, SPP

3.3. Wireless LAN

Category	Specification
Function	Radio frequency transfer Module (IEEE802.11b/g/n standard conformity)
Frequency band	2.4GHz
Channel	1 to 13 channel
Security	WEP(64/128), WPA(TKIP), WPA2(AES)

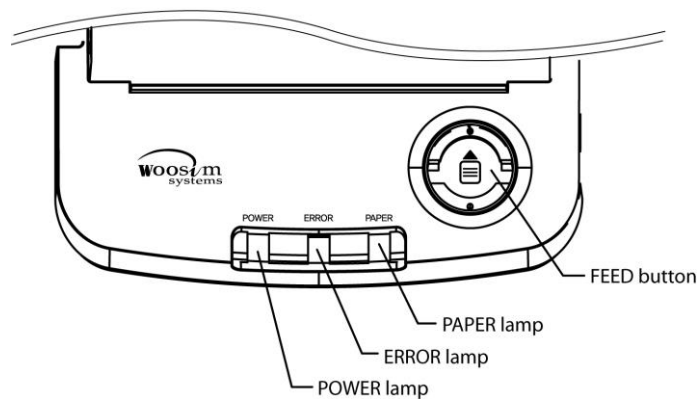
3.4. Card Reading



Please take notice that Magnetic Stripe Card should be swapped in direction of arrow.
Card can be read in one direction.

4. Using the printer.

4.1. Control panel.



► BUTTON

- **FEED** : When the printer is on, paper can be feed manually by pressing and holding the FEED button for more than one second.

► PANEL LAMP

- POWER (GREEN)** : Printer is ON and ready to receive data.
- ERROR (RED)** : Indicates a fault condition or a printer error.
(details: no paper, paper cover opened. etc.)
- PAPER (RED)** : Indicates the shift time of the paper.

4.2. The self test.

Self-Test prints out the current setting value of printer. The way of self-test is as follows.

1. Insert proper paper into the printer.
2. Power on while pressing feed button to start self-test.
3. Printer will print out the current status. (F/W version and set contents)
4. And then pattern of characters will be printed out.
5. Self-test will be finished automatically and turned to the standby status.

※ In case printer does not work properly, please contact Woosim customer service center.

5. Consumable Parts

5.1. Recommended paper

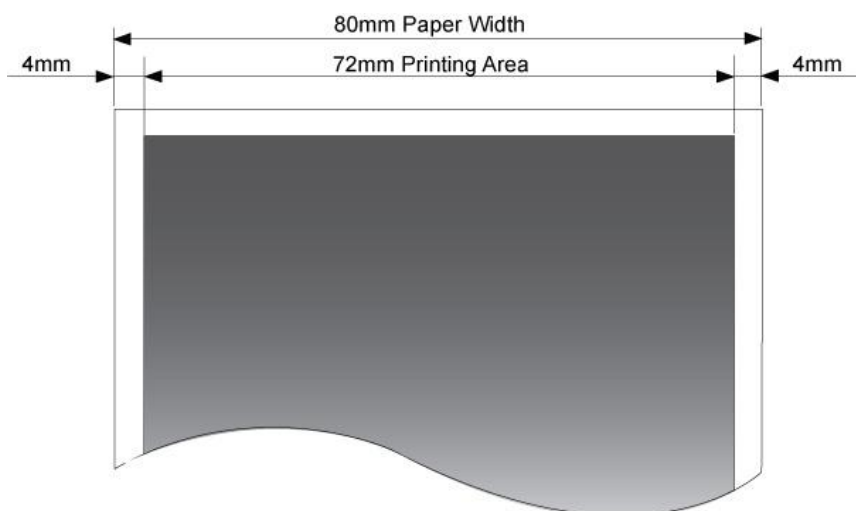
Type	: Thermal Paper
Paper width	: 80mm
Paper thickness	: $60 \pm 5 \mu\text{m}$
Outer diameter	: $\varnothing 80\text{mm}$ or less
Recording side	: Outside of roll



Cautions

1. Do not paste the paper to the core. And the roll paper which has near end mark printing on its near end is recommended.
2. Chemicals or oil may change the color of paper, or printed characters may fade.
3. Change of paper color starts from approx. 70°C.
Pay attention to heat, humidity and sun light.
4. Color of paper may be changed by being scratched by nail or hard metal, etc.

5.2. Printing position.



6. Revision History

Date	Version	Comments
Jul. 14. 2015	1.0	Initialize
May. 10. 2017	1.1	Change page layout (B5→A4) * Delete address