



Smart Printer

# SP1-BDS

For Starbucks



— Installation Guide —

International Currency Technologies Corp.

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## 1. Introduction

The SP1 Series has a built-in real time clock that allow printer to print out the issue time for each ticket and it has an excellent reporting system provides daily and summary for the transaction reports. The SP1 Series tools is really user friendly which allow our customer to design their own print format and logo and they can also keep their own designed format in the memory card for later use. We are offering multiple combinations for our printer so our customers can choose their ideal printer's selection for their usage. For example printer with bezel or without bezel.

### **Feature:**

- ◆ Full/Partial cut function
- ◆ Multiple interfaces
- ◆ Easy installation and low maintenance
- ◆ Fast printing speed
- ◆ Bezel option able
- ◆ Option anti-jam / anti-drag device
- ◆ 12V / 24V power consumption available
- ◆ Support small & large paper rolls
- ◆ Micro SD card with large capacity for data storage
- ◆ ESC/POS command support

## 2. Specifications

### **General**

<b>Power Source</b>	12V DC (10.8~13.2 VDC) Min.140 mA~Max. 6A
<b>I/O Level</b>	DC 0V~12V 5mA~130mA
<b>Power Adapter</b>	INPUT: 100~240V AC OUTPUT: 12V DC, 5.0A, 60W(MAX.) (CIL-R4010)
<b>Power Consumption</b>	Standby : 12V/ 0.16A, 1.92W Operation : 12V/ 1.2A , 14.4W Maximum : 12V/ 6A, 72W
<b>Interface</b>	RS232, USB, ESC/POS
<b>Paper Width</b>	56 ±0.5mm
<b>Paper Roll Diameter</b>	78 ±0.5mm
<b>Operation Environment</b>	Operation Temperature : 0°C~+50°C Storage Temperature : -30°C~+60°C Humidity : 30 %~85 %RH (no condensation)
<b>Weight</b>	750g
<b>Installation</b>	Indoor

### **Cutter**

**Life Time** Max. 500,000/time

**Time** Max. 1cut/2sec

### **Print head**

**Life** 50KM

**Resolution** W8 dots/mm X H16 dots/mm

**Speed** 90mm/Sec

## **3. Packing List**

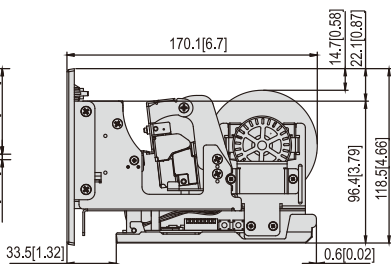
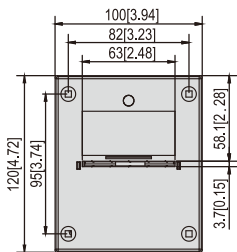
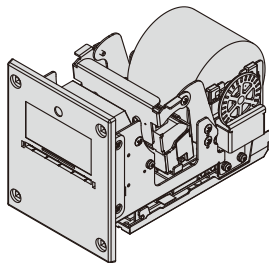
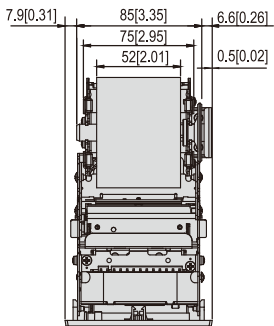
**Main** SP1-BDS Printer

**Accessor** Hardiness: Refer to 5-3  
SP1-BDS for Starbucks Installation guide  
AC power adapter: CIL-R4010  
MDB(RS232) interface box: 9RBG-AA313P  
G to C AC plug:



OWL-KWA-9s (option)

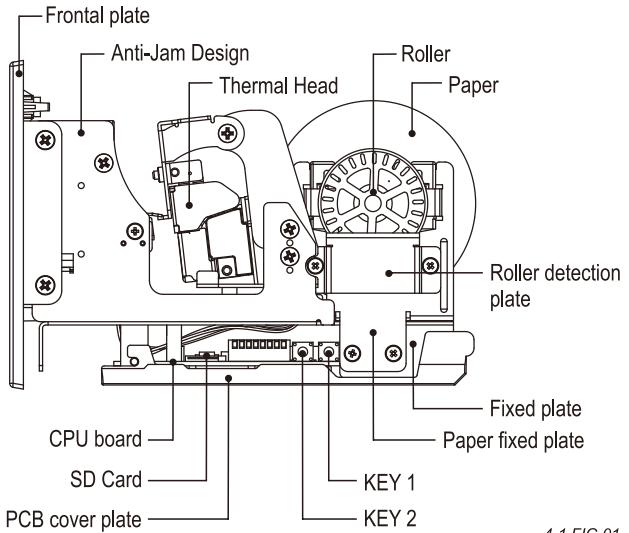
## 4. Dimension



Unit:mm[inch]

4 FIG.01

## 4-1. Component Names



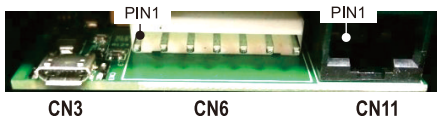
4-1 FIG.01



## 5. Hardware Setup

### 5-1. Connection

Please refer to the pictures and tables on the following pages for information about the function of each of the connector pins.



<b>CN3 Micro USB</b>	PIN 1- VCC(+5DC)	PIN 3- D+	PIN 5- GND
	PIN 2- D-	PIN 4- ID	

#### **CN6 C/A & B/A**

PIN 1- Red.....	+12V/+24V DC
PIN 2- Black.....	GND
PIN 3- Brown.....	Coin in signal, Input, Open Collect
PIN 4- Orange.....	Note in signal. Input, Open Collect
PIN 5- Yellow.....	Payout Trigger, Input, Open Collect
PIN 6- Green.....	Ticket Out, Output, Open Collect
PIN 7- Blue.....	Error output, Output, Open Collect

#### **CN11 Serial Interface**

PIN 1- GND
PIN 2- POG-TXD1, Output, RS232 Level
PIN 3- POG-RXD1, Input, RS232 Level
PIN 4- GND
PIN 5- VCC (+5V DC)
PIN 6- VCC (+5V DC)
PIN 7- 232-TXD6, Output, RS232 Level
PIN 8- 232-RXD6, Input, RS232 Level



**Do not use RS232 and USB simultaneity.**

## 5-2. DIP Switch Setup

5-2 TABLE.01

Function	Status	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
Operation mode	Operation	X	X	X	X	X	X	X	OFF
Interface mode	Status								
ESC/POS A	115200/ N/ 8/ 1	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
	38400/ N/ 8/ 1	ON	OFF						
	19200/ N/ 8/ 1	OFF	ON						
	9600/ N/ 8/ 1	ON	ON						
Diagnostic	-	OFF	OFF	OFF	OFF	ON	ON	ON	
Windows Printer*	-	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF

\*Need to install Windows driver.

## 5-3. Harness Application

5-3 TABLE.01

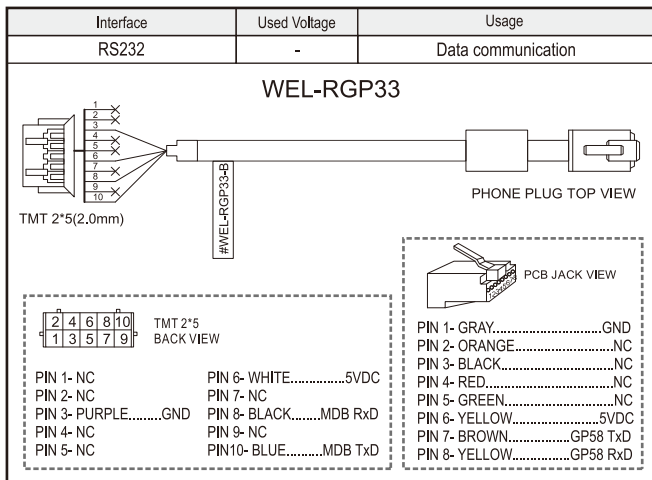
Interface	Used Voltage	Usage	Harness	Page
RS232	N/A	*Data Comm.	WEL-RGP33	9
USB	N/A	*Data Comm.	WEL-RSCA303	9
Power Cord	90~264V AC	Power	WEL-RGP37	11
Power Cord	90~264V AC	Power	WEL-RGP42	11

5-3 TABLE.02

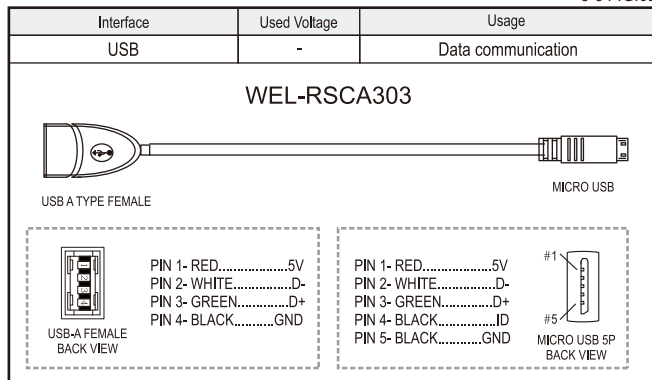
Facility	Used Voltage	Usage	Harness	Page
MDB box to Deviec	20V~45V DC	*Data Comm.	WEL-RBG07	10
DC Power	12V DC	DC Power	WEL-RGP34	

\*Data Comm.: Data communication

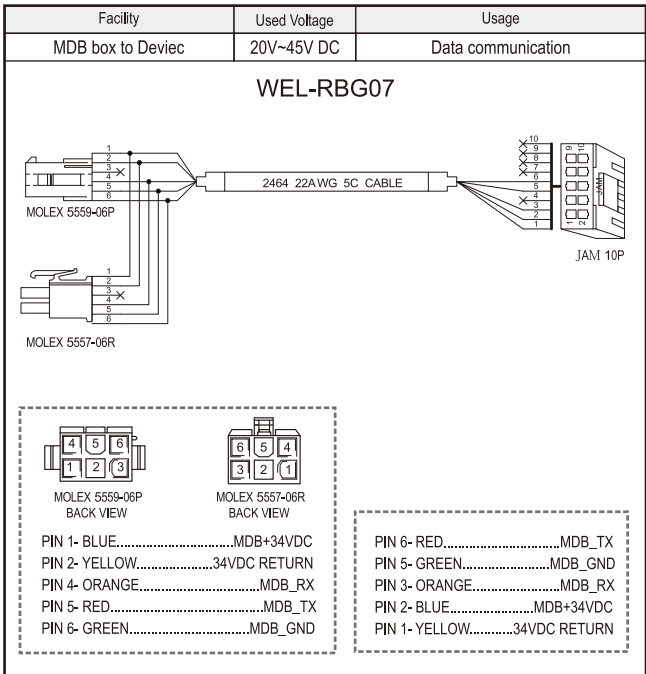
5-3 FIG.01



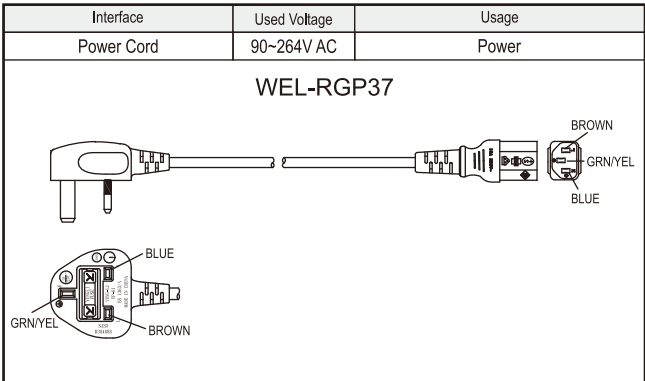
5-3 FIG.02



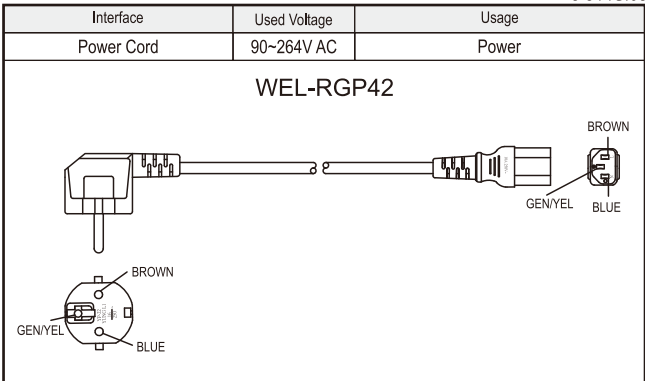
5-3 FIG.03



5-3 FIG.04

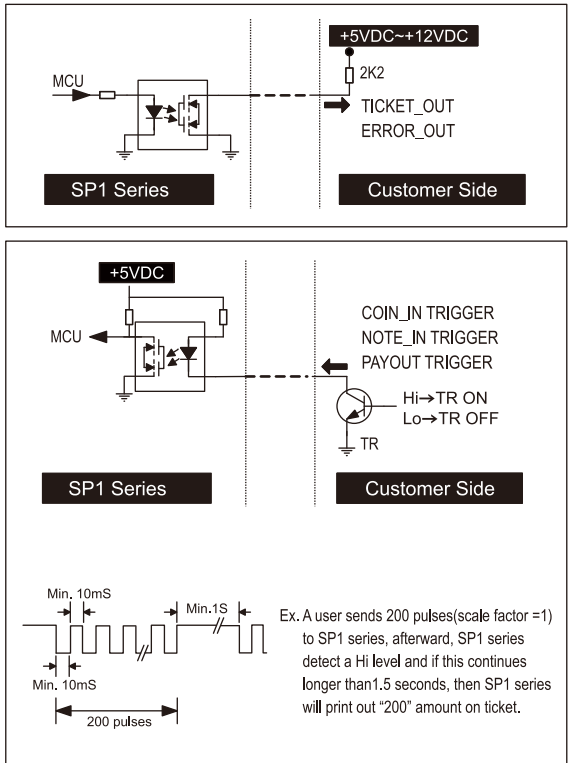


5-3 FIG.05



5-3-1. I/O Circuit

5-3-1 FIG.01



## 5-4. Setup Procedures

### RS232 Setup:

Step 1.

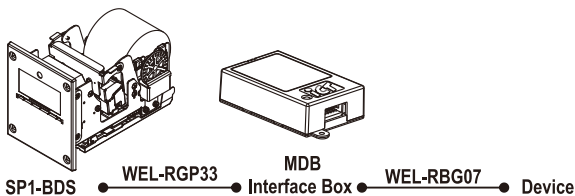
Connect 12V DC adapter & WEL-RGP34 to CN6 on PCB.

Step 2.

Install paper roll into paper roll container on machine, paper roll is required to be setup according to the same direction of raster. (Please refer to Chapter 8.)

Step 3.

Connect WEL-RGP33 to PC COM port and CN11 on machine. (Please connect the wires as Page.9, 5-3 FIG.01)



Step 4.

Turn power on and install paper roll properly; the machine will automatically detect the paper (Approx. 2 seconds) and roll the paper into the printing module. If the installation of the paper roll is correct, the machine is ready for printing.

Working light on the machine's bezel will be on.

## **6. Download Firmware and Upgrade by USB**

### 6-1. Tool

PC

USB 2.0 flash drive

Printer

Power cable(WEL-RGP34 & 12V DC adapter<CIL-R4010>)

Download cable(WEL-RSCA303)

### 6-2. Start Download Process

1. Connect USB Flash Drive to PC, Copy the software files (\*.bin) into the USB Flash driver of "ecf" folder.
2. Connected the Micro USB download cable to Printer CN3, insert USB flash drive to the cable, then restart Printer the upgrade process may takes few minutes.
3. Once printer restart and upgrade succeed, please remove the Micro USB download cable and the USB flash driver.



## 7. Software Setup

Please visit ICT web site <http://www.ictgroup.com.tw> to download the Driver & Tool.

Download Area >

Client Area >

Contact Support >

Technical Enquiry >

### Select Search

Please select a product to check the available files, choosing among operating manuals and product sheets, firmware and software, datasets and drivers.  
If you don't find what you are looking for, please contact us using the Request Form.

SP1-BDS ▾

Document ▾

Language ▾

Country ▾

SUBMIT ↻

### 1. Printer Driver.

Printer Driver included VCP driver and Windows driver.  
Before Setup Printer Driver , Please select appropriate Windows OS.

Printer support: Windows 7, Windows 8, Windows 8.1,  
Windows 10.

## 2. ICT Tool

Setup All-In-One Tool.

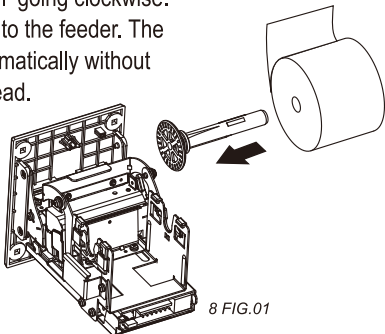
## 3. Date and Time Setup

Install printer driver and All-In-One Tool, then open the All-In-One Tool for Date and Time setup.

Please find ICT web site SP1 Series for detail.

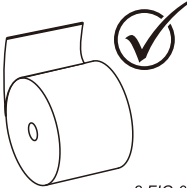
# 8. How to replace a new paper roll?

Insert a new paper roll going clockwise.  
Insert the paper roll into the feeder. The paper will be fed automatically without opening the printer head.

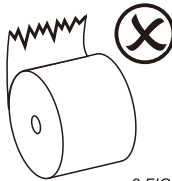


## 8-1. Take heed of the notices, when insert paper roller

1. No burrs, the edge of paper.

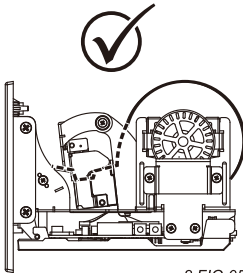


8 FIG.03

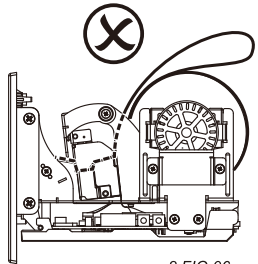


8 FIG.04

2. No bend, be straight.



8 FIG.05



8 FIG.06

3. After feed/setup thermal paper, please press **KEY 1** to initial printer.

## 9. Printer Head Guide

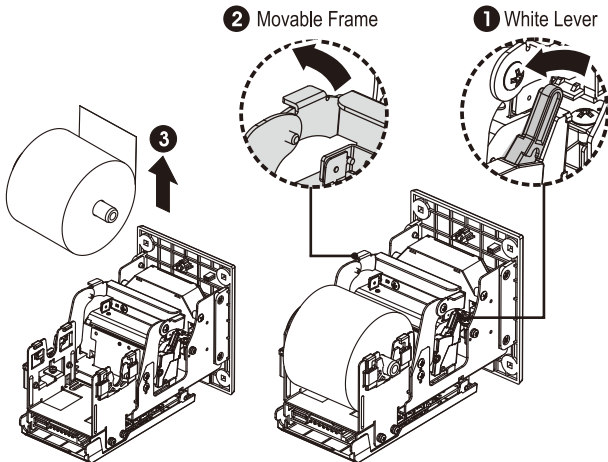
- ◆ When you need to reset the printer head please follow the steps below.

### Unlock the Printer Head:

Step 1. Pull back the white lever.

Step 2. Lift the movable frame.

Step 3. Remove the paper roll.



9 FIG.01-1

9 FIG.01

## Lock the Printer Head:

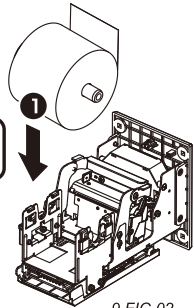
Step 1. Place the printer paper in.

Step 2. Pull back the white lever FIRST.



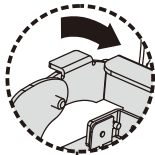
**Must pull back the White Lever FIRST.**

Step 3. Push down the movable frame.

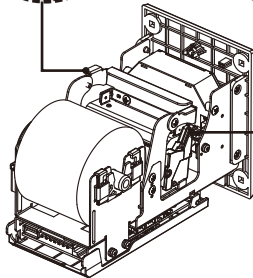
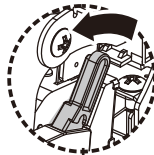


9 FIG.02

**3** Movable Frame



**2** White Lever



9 FIG.02-1



**Be sure to push back the movable frame, or the Printer will not function.**

## 10. Troubleshooting

10 TABLE.01

LED Indicator	Status	Solution
Red	Check Sum abnormal.	Contact technician.
Green	Standby.	
Red flash 1 time	1. Moveable frame not close. 2. Thermal head no paper.	1. To make sure moveable frame is closed 2. Re-feed paper.
Red flash 2 times	Cutter abnormal.	To make sure paper path jam-free.
Red flash 3 times	Out of paper or raster error.	Refill paper roll.
Red flash 4 times	Anti-jam abnormal.	To make sure paper path jam-free.
Red flash 5 times	SD card abnormal.	1. To make sure SD card inserted. 2. To make sure SD card format and specify the file exists.
Red flash 6 times	Printer head over heat.	
Orange light / green light will flash alternately (1 sec)	In testing mode.	1. DIP switch is set as not to enter the test mode, and restart device. 2. If the DIPSW is set into the non-test mode, please contact technician.
Orange	System booting	
Orange light Flash	Firmware upgrading or USB data operation.	
Green light Flash	Printing	
Red light highly flash	Low paper warning	



**If the error can not be solved after corrective actions or it recurs, please contact ICT for technical support.**



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