IDP SMART-52

User Manual

SMART-52S, SMART-52D, SMART-52L



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Return Materials Authorization

To make a warranty claim you must contact an IDP Reseller. You will be responsible for packaging the printer for shipment and the costs of shipping and insurance of the printer from the point of use of the printer to the IDP Reseller. The IDP partners will bear the costs of shipping and ensuring the printer from the repair location to the address from which the printer was shipped.
Before returning any equipment for in-warranty or out of out-of-warranty contact an IDP partner or an IDP Service Center for a Return Materials Authorization (RMA) number. Repack the equipment in the original packing material and mark the RMA number clearly on the outside of the box. For more information about RMA or IDP warranty statements, refer to the Warranty booklet in the quick install guide.

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1. Basic Information

1.1. Printer external features

For user convenience, the SMART-52's status and information are displayed via a Touch Screen LCD, and settings and diagnostics can be controlled via the Touch Screen LCD without connecting a PC or other external device. Power is provided by the 24V adapter included with the printer, and communication with a PC or other external device is possible via USB, Network port, or Wi-Fi (Option).

The following shows the external functional features found on the printer.

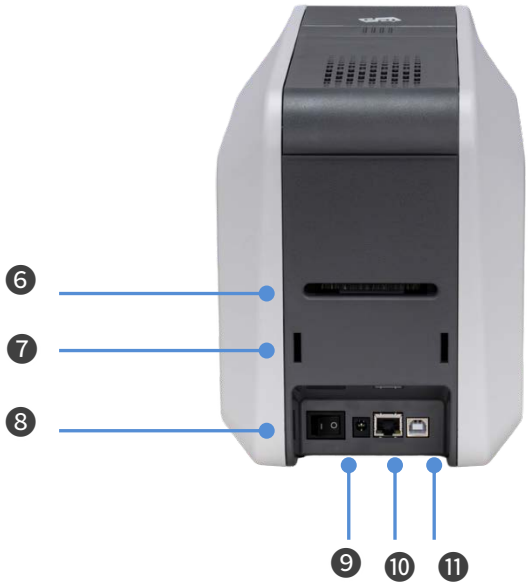
SMART-52 Front Features



1. Top Cover open button
2. Cooling Fan
3. Input Hopper
4. Touch Screen LCD
5. Stacker

Figure 1 SMART-52 Front side

SMART-52 External Features (Rear)



6 Backside card outlet

7 Rear Stacker Fixing Hole

8 Power Switch

9 24V Power Connector

10 Network Port

11 USB Port

Figure 2 SMART-52 Rear side

SMART-52S (Figure.3) is the standard card printer. It can be printed in single side with the encoding. This manual is prepared based on SMART-52S.

SMART-52D (Figure.4) has a flipper which can enable to print in both sides. SMART-52D can print the both side of the card with the encoding.

SMART-52L (Figure.5) produces long-life cards for ID and access control with customizable security features and ability to print the both side of the card with encoding and laminating. To cater to expanding requirement in card security, SMART-52L's DLW(Direct to Laminating in a Wink) technology provides the most stable & fast laminating solutions.

SMART-52S (Single-sided)



Figure 3 SMART-52S

SMART-52D (Dual-sided)



Figure 4 SMART-52D

SMART-52L (Laminator)



Figure 5 SMART-52L

1.2. Printer internal features

In SMART-52 printer, the ribbon is installed by a ribbon cartridge which can be used semi permanently. The following shows the inside functional features found on your SMART-52 printer.



Figure 6 SMART-52 Internal features

① **Stacker (Output Hopper)**

Collect the printed card and/or encoded cards. Up to 40 cards are loaded, and if printing continues, the additional printed/encoded card is ejected out. It can be removed when pulling forward.

② **Input Hopper**

Load the cards for printing. Maximum 100 cards are loaded when cover is closed; Maximum 200 cards are loaded when the cover is opened.

③ **Card Thickness Control Lever**

Adjust the cards thickness.

④ **Ribbon Cartridge**

Install the Ribbon and the Disposable Cleaning Roller.

⑤ **Thermal Print Head**

This enables the cards to be printed.

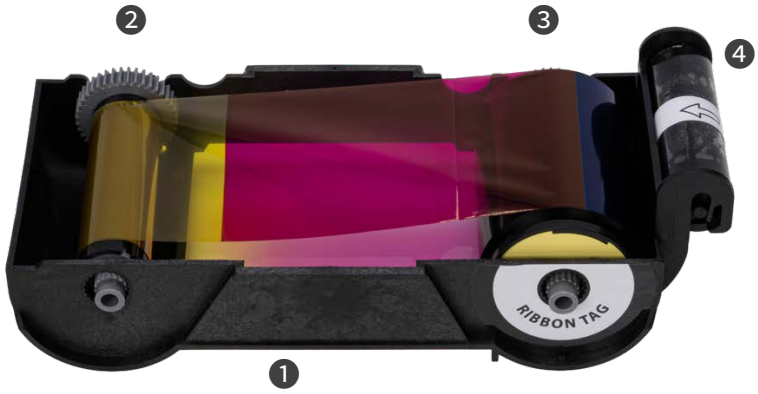


This is very hot after printing. Do not contact the surface of the Thermal Print Head with fingers or a sharp metal object to avoid degrading print quality or damaging printer head permanently.)

1.3. Ribbon Cartridge features

Install the Ribbon and the Disposable Cleaning Roller into the Ribbon Cartridge.

> **SMART-52 Ribbon Cartridge is compatible with SMART-51's, but the ribbon is not. The color of the ribbon tag for SMART-52 is yellow.**



❶ Ribbon Cartridge

❷ Tack-up part

❸ Supply part

❹ Disposable Cleaning Roller

Figure 7 Ribbon Cartridge

① Ribbon Cartridge

- Install a Ribbon and a Disposable Cleaning Roller provided with the ribbon.
- This semi-permanent Ribbon Cartridge is a component of the printer. Printer does not operate if it is broken or damaged. In this case, please contact IDP printer reseller.

② ③ Take up & Supply parts

- Ribbon is wrapped to the supply parts. It should be installed to match the Ribbon Tag label on Cartridge and Ribbon Tag as the Figure 7.

④ Disposable Cleaning Roller

- It removes dust on the surface of card to improve print quality before the card is printed.
- It should be changed together with the Ribbon.
- After installing the Disposable Cleaning Roller to the Ribbon Cartridge, peel off the protective film.
- It is provided with the new Ribbon.

1.4. Touch screen LCD

SMART-52 has a Touch Screen LCD on the front side. The status and information are displayed via this LCD, and settings and diagnostics can be controlled without connecting a PC or other external device.

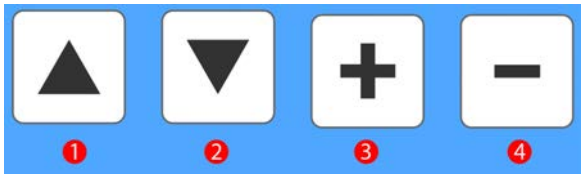
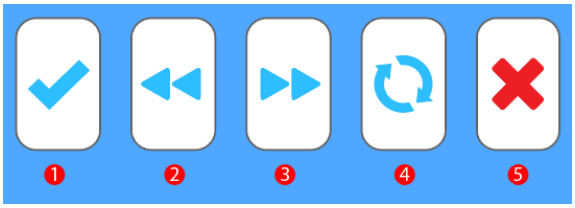
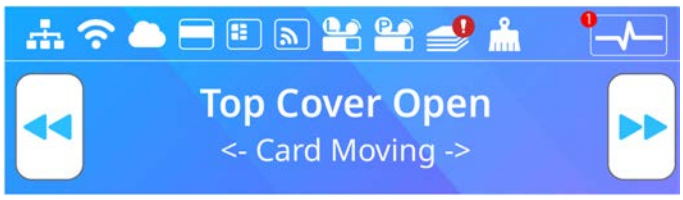


Figure 8 SMART-52 Touch Screen LCD

During printer boot-up, the status of the SMART-52 will display ‘Initializing’. Once complete with any issues, the status will change to ‘System Ready’. The status then changes to ‘Printing’ when the printer is operating. In case of sensing an error, it is changed to ‘Error’ status. Whenever the top cover is opened, the operation is stopped and the status is ‘Top Cover Open’.

The message and menus under each status on the LCD are as below table.

※ Icon Key

<table>
<tr><th colspan="2">Icon</th><th>Description</th></tr>
<tr><td rowspan="2">Task Bar</td><td></td><td rowspan="2">❶ Network connected
❷ WiFi connected
❸ Mag. Encoder installed
❹ Contact Encoder installed
❺ Contactless Encoder installed
❻ Status of Lami. Film Balance
❼ Status of Printer Ribbon Balance
❽ Card empty warning
❾ Cleaning warning</td></tr>
<tr><td>※ Task Bar Icons are displayed differently depending on the connection method and installed options.</td></tr>
<tr><td rowspan="3">Button</td><td></td><td>❶ Go to Home menu
❷ Go to upper level menu
❸ Save setting values
❹ Input Complete
❺ Cancel</td></tr>
<tr><td></td><td>❶ Up
❷ Down
❸ Increase / Next
❹ Decrease / Previous</td></tr>
<tr><td></td><td>※ Error status
❶ Confirm
❷ Forward
❸ Backward
❹ Retry
❺ Cancel</td></tr>
<tr><td rowspan="2">Top Cover Open</td><td>
</td><td rowspan="2">※ Top Cover Open
❶ Go to Diagnostics menu</td></tr>
<tr><td>※ Refer to “4-4 Diagnostics” to get details</td></tr>
</table>

1. Standby

▪ **Standby**



❶ Printer model name
❷ Printer Status
❸ Menu button

❸ Touch the **Menu** button to go main menu

2. Menu

▪ Standby ➡ **Menu**



❶ Information
❷ Test
❸ Settings
❹ Cleaning
❺ Contact

3. Information

▪ Menu ➡ **Information**



❶ Printer Information
❷ Ribbon Information
❸ Network Information
❹ Counter

❶ Info. for Printer and installed modules ❷ Info. for consumables ❸ Info. for Network ❹ Card Issue counter

3-1. Printer Information & Others

▪ Menu ➡ Information ➡ **Printer, Ribbon, Network Information and Counter**



❶ Up
❷ Down

Scroll the page to use the **Up / Down** button

※ **All Information pages are the same**

4. Test

▪ Menu ➡ **Test**



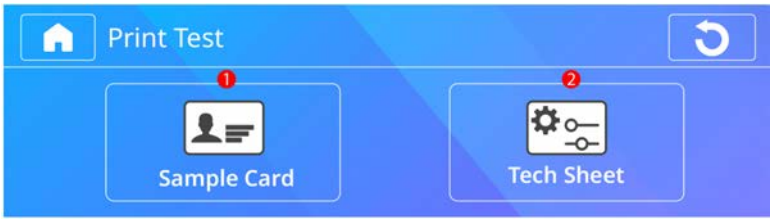
❶ Print Test
❷ Encoding Test
❸ Motor Test
❹ Diagnostics

Encoding Test button is displayed if only the encoder is installed

※ **Password required to enter Diagnostics menu**

4-1. Print Test

▪ Menu ➡ Test ➡ **Print Test**





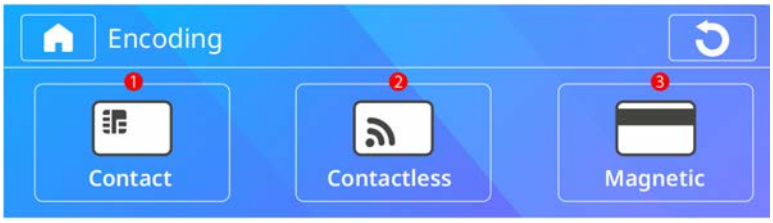
❶ Sample Card
❷ Tech Sheet
❸ Pop-up

❶ Print a predesigned sample card ❷ Print a Tech Sheet which has printer information

Touch **Sample Card** or **Tech Sheet** button ▶ ❸ Touch **Print** button on Pop-up ▶ Print a card

4-2. Encoding Test

▪ Menu ➡ Test ➡ **Encoding**



❶ Contact Smart Card
❷ Contactless Smart Card
❸ Magnetic Stripe Card

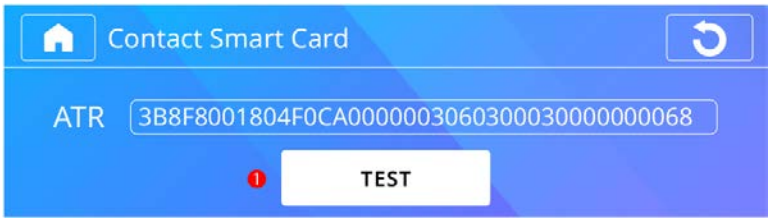
※ Each button is only displayed if the corresponding encoder is installed.

※ **Load an encodable card for each encoding test on the Input Hopper.**

① Contact Smart Card

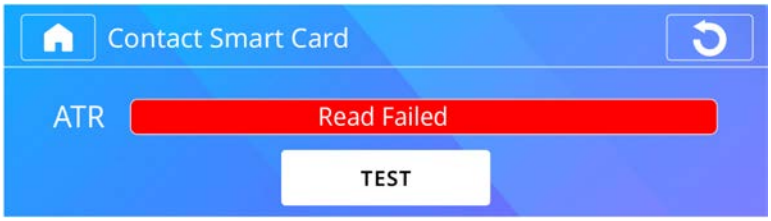
▪ Menu ➡ Test ➡ Encoding ➡ **Contact Smart Card**

※ **It checks whether the card and encoder can work by getting an ATR value of card.**



❶ TEST

Touch **TEST** button ▶ Card moves to Contact Encoder position ▶ Read Data ▶ Display an ATR value ▶ Eject a card



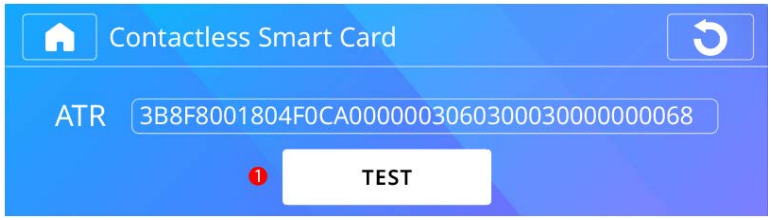
Error status

※ **If Data Read fails, "Read Failed" is displayed and ejects a card.**

② Contactless Smart Card

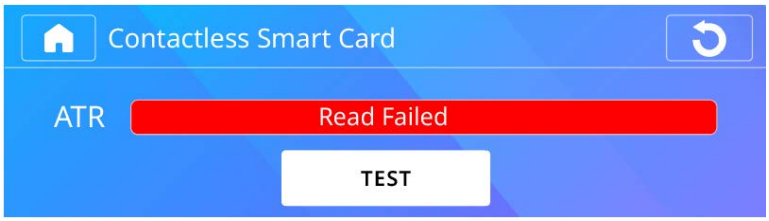
▪ Menu ➡ Test ➡ Encoding ➡ **Contactless Smart Card**

※ **It checks whether the card and encoder can work by getting an ATR value of card.**



❶ TEST

"Touch "TEST" button ▶ Card moves to Contactless Encoder position ▶ Read Data ▶ Display an ATR value ▶ Eject a card



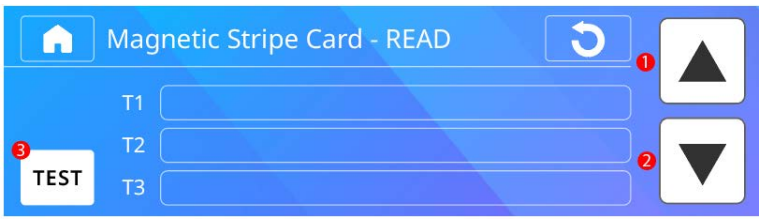
Error status

※ **If Data Read fails, "Read Failed" is displayed and ejects a card.**

③ Magnetic Stripe Card

▪ Menu ➡ Test ➡ Encoding ➡ **Magnetic Stripe Card**

※ **It checks whether the card and encoder can work by reading data on each track or writing random data.**
Set the magnetic card type corresponding to a magnetic card (HiCo / LoCo) to load on the Input Hopper.



※ **READ mode**
❶ Up
❷ Down
❸ TEST

※ Touch **Up / Down** button to convert **READ / WRITE** page.
Touch **TEST** button ▶ Card moves to Magnetic Encoder position ▶ Read Data ▶ Display Data to read ▶ Eject a card



※ **WRITE mode**
❶ HiCo / LoCo conversion
❷ TEST

※ Touch ❶ button to convert **HiCo / LoCo**
Touch **TEST** button ▶ Card moves to Magnetic Encoder position ▶ Fill Random Data ▶ Read Data ▶ Display Data ▶ Eject a card



Error status

※ **If Data Read fails, a red background is displayed on the error track and ejects a card.**

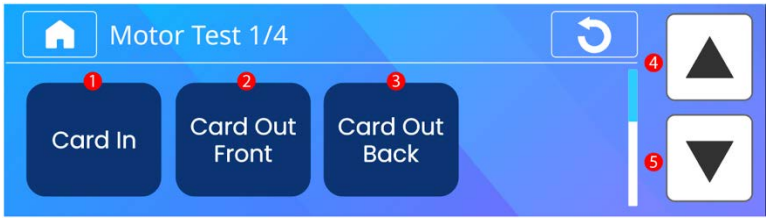
4-3. Motor Test

▪ Menu ➡ Test ➡ **Motor Test**



Default password is '**5200**' of Motor Test menu.

※ **Password required to enter Motor Test menu**



※ **Card In/Out Motor Test**
- ❶ Card In action
- ❷ Card Out action (Front)
- ❸ Card Out action (Back)
- ❹ Up
- ❺ Down

※ Scroll the page to use the **Up / Down** button

Touch ❶, ❷, ❸ button to operate the Card Movement motor



※ **Card Move Motor Test**
- ❶ Move a card to print position
- ❷ Move to MS encoding position
- ❸ Move to IC encoding position
- ❹ Move to RF encoding position

※ **It checks the status of the motor regardless of installation of encoders**



※ **Flipper Motor Test**
- ❶ Move from Printer to Flipper
- ❷ Move from Flipper to Printer
- ❸ Turn the flipper up
- ❹ Turn the flipper down

※ **This menu is displayed if the Flipper is installed.**



※ **Card Move Motor Test**

❶ Move from Sensor
❷ Reference Sensor
❸ Distance from Sensor
❹ Increase
❺ Decrease

Touch ❷ or ❸ area ▶ Selected item is highlighted, then **Up / Down** buttons are changed to **+ / −** buttons.
Adjust the value by **+ / −** buttons. Select the reference sensor ❷, and set the distance ❸.

※ **Distance [-1600 ~ 1600 (Unit: 0.1mm)], Increased / decreased by 10 with +/- buttons , Ex. 200 = 20mm**



※ **Card Move Motor Test**

❶ Move from Sensor
❷ Up
❸ Down

After setting the sensor and distance, touch ❶ button.

※ After touching the button, then **+ / -** buttons are changed to **Up / Down** buttons.

4-3. Diagnostics

▪ Menu ➡ Test ➡ **Diagnostics**



Default password is '**5200**' of Diagnostics menu.

※ **Password required to enter Diagnostics menu.**



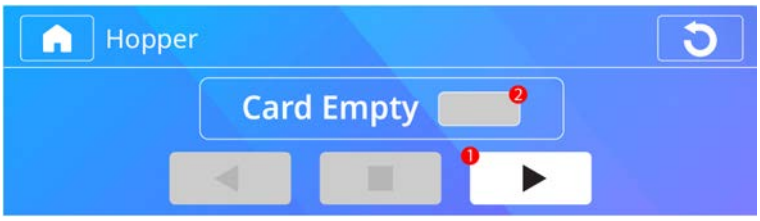
❶ Hopper
❷ Card Conveyor
❸ Ribbon
❹ TPH & Cover
❺ Flipper

※ **It provides the diagnostic functions for each part of the printer.**

❺ Flipper button is displayed if the Flipper is installed.

① Hopper

▪ Menu ➡ Test ➡ Diagnostics ➡ **Hopper**



❶ Forward
❷ Card Empty Sensor Indicator

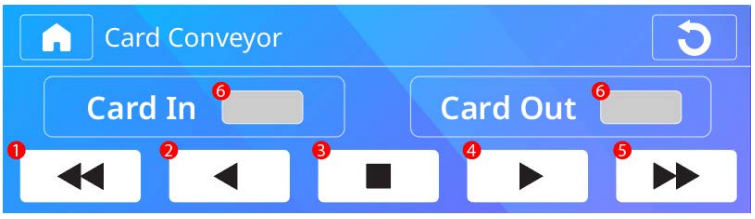
It checks status of motor and sensor in the **Input Hopper.**

※ **If card is empty on the Input Hopper, the "Card Empty" Sensor Indicator turns green.**

・ Touch **Backward / Stop / Forward** button to move a card for checking Hopper Motor

② Card Conveyor

▪ Menu ➡ Test ➡ Diagnostics ➡ **Card Conveyor**



❶ Fast Backward
❷ Backward
❸ Stop
❹ Forward
❺ Fast Forward
❻ Card In/ Out Sensor Indicator

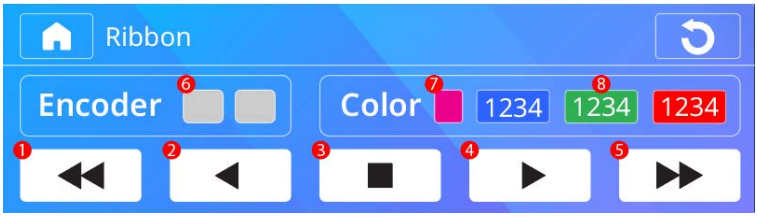
It checks status of motor and sensor in the **Card Conveyor.**

※ **If card is on the Card In/Out Sensor, 'Card In' / 'Card Out' Sensor Indicator turns green.**

・ Touch **Fast Backward / Backward / Stop / Forward / Fast Forward** button to move a card for checking Step Motor.

③ Ribbon

▪ Menu ➡ Test ➡ Diagnostics ➡ **Ribbon**



❶ Fast Backward
❷ Backward
❸ Stop
❹ Forward
❺ Fast Forward
❻ Encoder Sensor Indicator
❼ Ribbon Color
❽ Color Sensor Indicator

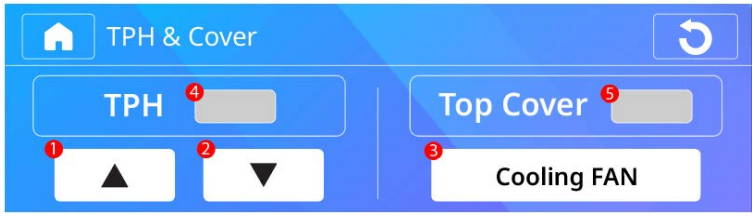
It checks status of motor and sensor in the **Ribbon** movement part.

※ **If the Ribbon Motor operates, two Ribbon Encoder Sensor Indicators blink green and grey.**
※ **The "Ribbon Color" is displayed as 5 colors. (Yellow, Magenta, Cyan, Black, and Overlay)**
※ **The "Color Sensor" values of current ribbon are displayed on the Color Indicators.**

• Touch **Fast Backward / Backward / Stop / Forward / Fast Forward** button to wind ribbon for checking Motor & Sensor.

④ TPH & Cover

▪ Menu ➡ Test ➡ Diagnostics ➡ **TPH & Cover**



❶ Up
❷ Down
❸ Cooling Fan
❹ TPH Sensor Indicator
❺ Top Cover Sensor Indicator

It checks status of motor and sensor in the **Thermal Print Head, Top Cover**, and **Cooling FAN.**

※ **If the TPH is upside, 'TPH' Sensor Indicator turns green.**
※ **If the Top Cover is opened, 'Top Cover' Sensor Indicator turns green.**
※ **Whenever touching "Cooling Fan" button, the fan operates or stops.**

• Touch **Up / Down** button to move a TPH upward/downward
• Touch **Cooling Fan** button to operate / stop a fan

⑤ Flipper

▪ Menu ➡ Test ➡ Diagnostics ➡ **Flipper**



❶ Up
❷ Backward
❸ Stop
❹ Forward
❺ Down
❻ In/ Position/ Down Sensor Indicator

It checks status of motor and sensor in the **Flipper**.

※ **If card is on the Flipper In Sensor, ' In' Sensor Indicator turns ■ green.**

※ **If card is on the Flipper Position Sensor, ' Position' Sensor Indicator turns ■ green.**

※ **If the Flipper is upside down, 'Down' Sensor Indicator turns ■ green.**

・Touch **Up / Down** button to operate the Flipper moving motor

・Touch **Backward / Stop / Forward** button to move a card in the Flipper

5. Settings

▪ Menu ➡ **Settings**



Default password is '5200' of Settings menu.

※ **Password required to enter Settings menu.**



❶ Printer
❷ Laminator
❸ Network
❹ Preference
❺ Password

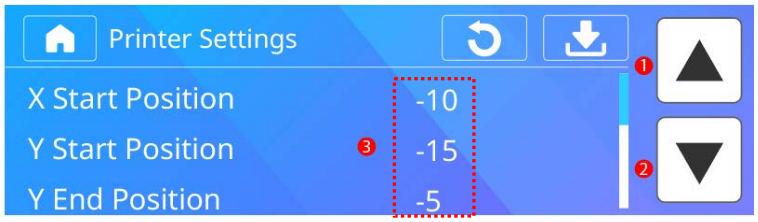
❶ Config. for Printer ❷ Config. for Laminator ❸ Config. for Network ❹ Config. for Etc. ❺ Set Password

※ Laminator Button is displayed if only the Laminator is installed.

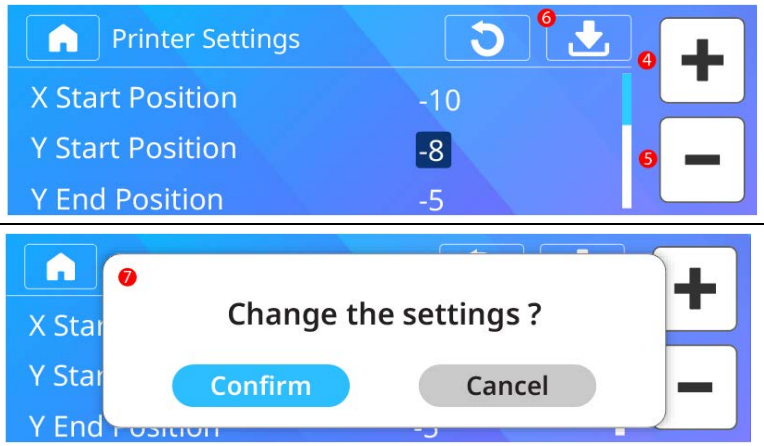
※ Password Button is displayed if only the password is set

5-1. Printer Settings & Laminator Settings

▪ Menu ➡ Settings ➡ **Printer Settings or Laminator Settings**



❶ Up
❷ Down
❸ Setting Value
❹ Increase
❺ Decrease

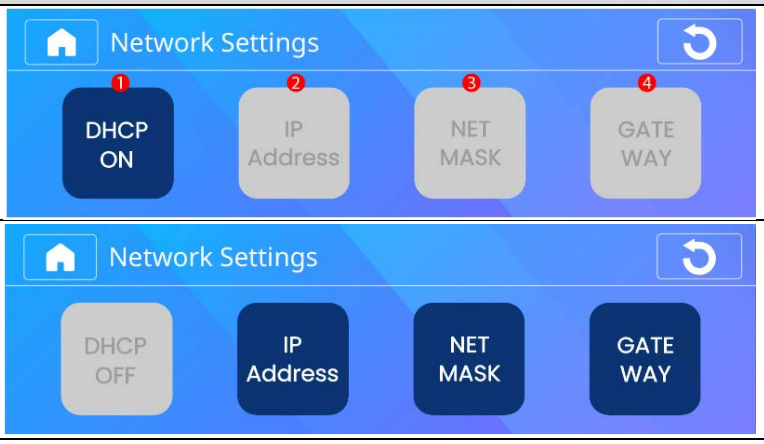


❻ Save
❼ Pop-up

Scroll the page to use **Up / Down** buttons, and touch the **value** ❸ that you want to change
Then, **Up / Down** buttons are changed to **+ / −** buttons. Adjust the value by **+ / −** buttons.
Touch the **Save** ❻ button to save the changed value.
Touch the **Confirm** ❼ button on Pop-up.
※ **Refer to "4.6. PRINTER CONFIG" to get details about each value.**

5-2. Network Settings

▪ Menu ➡ Settings ➡ **Network Settings**

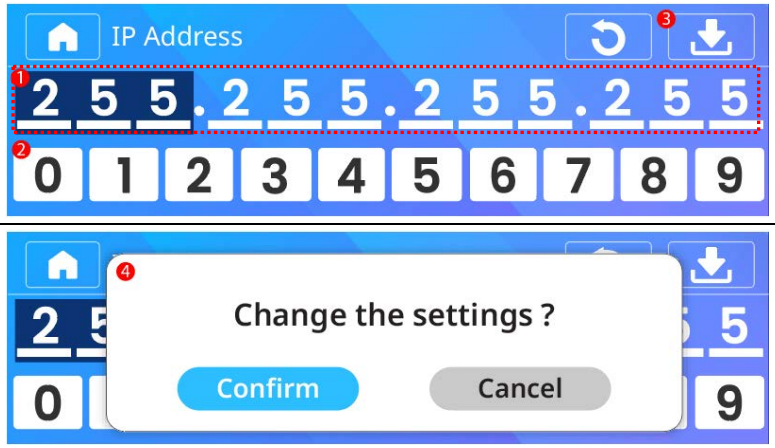


❶ DHCP
❷ IP Address
❸ NET MASK
❹ GATE WAY

Touch DHCP ❶ button to set the DHCP On or Off.
If **DHCP OFF** is set, **IP Address, NET MAST, GATE WAY** buttons are activated.
※ **Refer to "4.7. NETWORK" to get details about each function.**

① IP Address & Others

▪ Menu ➡ Settings ➡ Network ➡ **IP Address or Others**

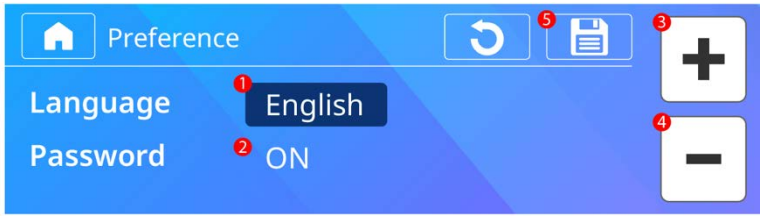


❶ Address
❷ Keypad
❸ Save
❹ Pop-up

❶ Touch the **IP Address**, then segment area is selected
❷ Touch the **Keypad** to input the IP Address
❸ Touch the **Save** button
❹ Touch the **Confirm** button on Pop-up
※ The method for setting **IP Address, NET MASK**, and **GATE WAY** is the same.

5-3. Preference

▪ Menu ➡ Settings ➡ **Preference**

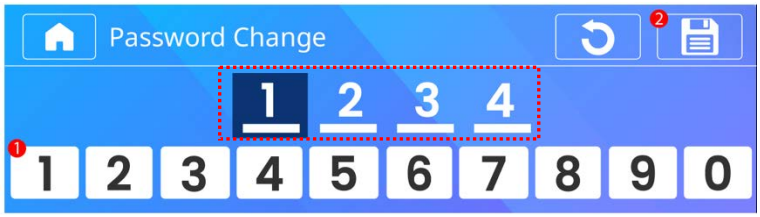


❶ Language
❷ Password
❸ Increase
❹ Decrease
❺ Save

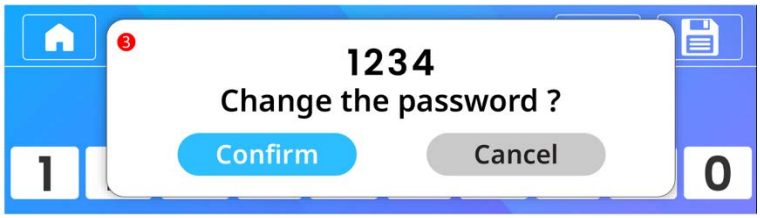
Touch the **current language** ❶ area or **Password usage** ❷, and set a new language or usage of password by **+ / −** button.
Touch the **Save** ❹ button to apply the changed values.

5-4. Password

▪ Menu ➡ Settings ➡ **Password**



❶ Keypad
❷ Save
❸ Pop-up



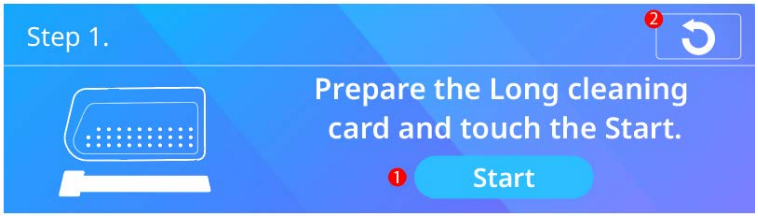
❶ Touch the **Keypad** to input the new password

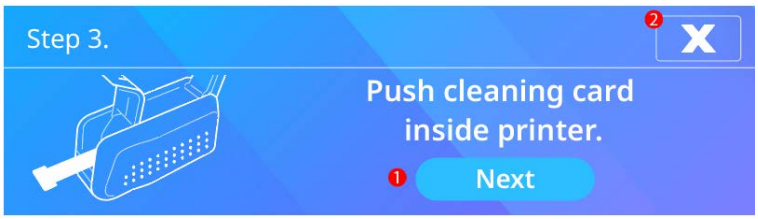
❷ Touch the **Save** button

❸ Touch the **Confirm** button on Pop-up.

6. Cleaning

▪ Menu ➡ **Cleaning**



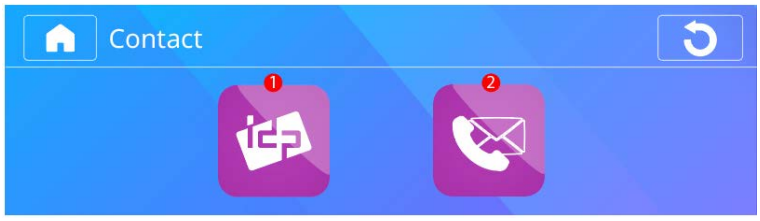


❶ Start, Next or Finish
❷ Return or Cancel

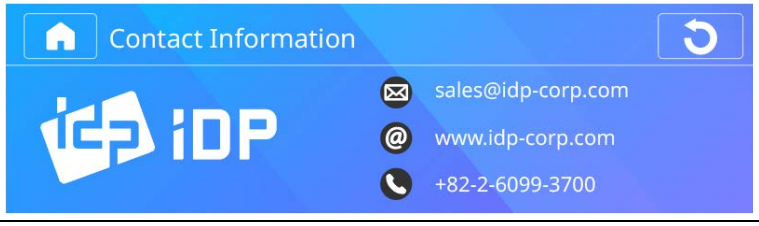
Printer Cleaning has 6 steps.
Follow the instructions displayed on each step.
If you want to stop the cleaning, touch the Return or Cancel ❷ button anytime.
※ **"Long Cleaning Card (Sold separately)" required for Printer Cleaning**

7. Contact

▪ Menu ➡ **Contact**







❶ Manufacture
❷ Contact Information

❶ manufacturer information ❷ IDP printer Reseller / contact information

2. Printer Installation

2.1. Connecting a power and a communication cable

1. SMART-52S

Connect the power and USB cable as the below picture. Please refer to the ‘Network Configuration’ if you use the LAN cable connection.



Figure 9 SMART-52S Connection of power and communication cable

2. SMART-52D

Connect the power and USB cable after turning the printer on its side as the below picture. Please refer to the ‘Network Configuration’ if you use the LAN cable connection.



Figure 10 SMART-52D Connection of power and communication cable

3. SMART-52L

SMART-52L needs two power cables. Connect powers and USB cable after turning the printer on its side as the below picture. Please refer to the 'Network Configuration' if you use the LAN cable connection.

> **SMART-52L has two power switches, so please turn on both switches.**
> **Please turn on the power of laminator module first.**



Figure 11 Connection of powers and communication cable - 1



Figure 12 SMART-52L Connection of powers and communication cable – 2

2.2. Installing the ribbon

Before printing, prepare the related items such as cards, a Ribbon and a Disposable Cleaning Roller. In this section, we invite you to know the proper method of installing the Ribbon and the Disposable Cleaning Roller into the printer.

1. Turn off the Printer

2. Open the Printer Top Cover by pressing the top cover open button.



Figure 13 Top Cover open

3. Take out the ribbon cartridge.



Figure 14 Take out the Ribbon Cartridge

4. Install a ribbon into the ribbon cartridge as the below picture.

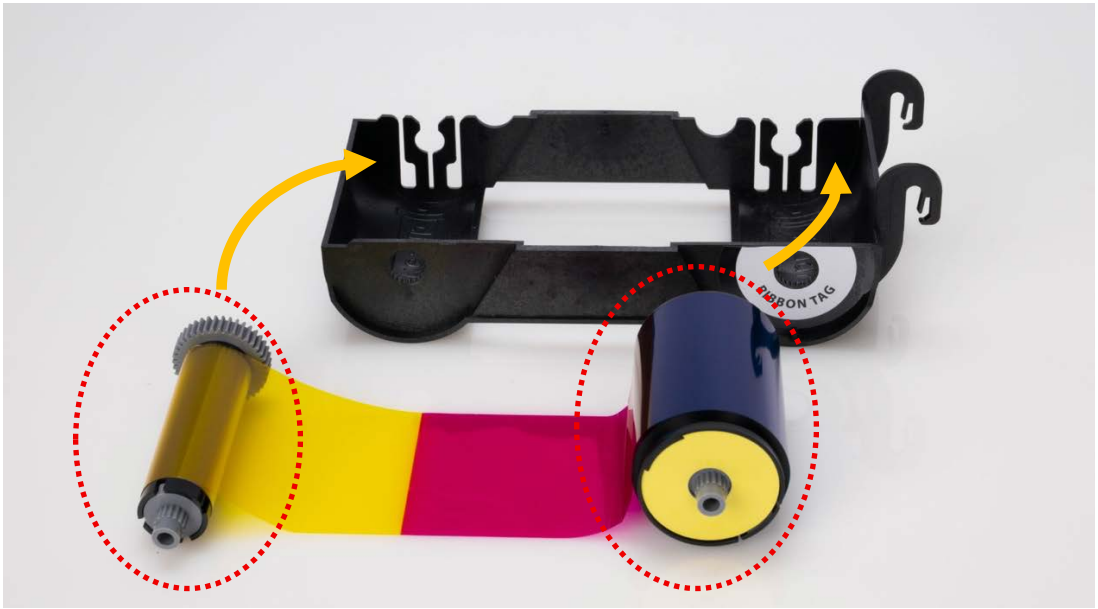


Figure 15 Installing a ribbon - 1

5. Insert the supply core of the ribbon to hole ① and press the opposite core ②. Insert the take-up cores of the ribbon same method. After inserting, tighten the ribbon.

> If the ribbon is not tightened, a rolling up error might be happened.

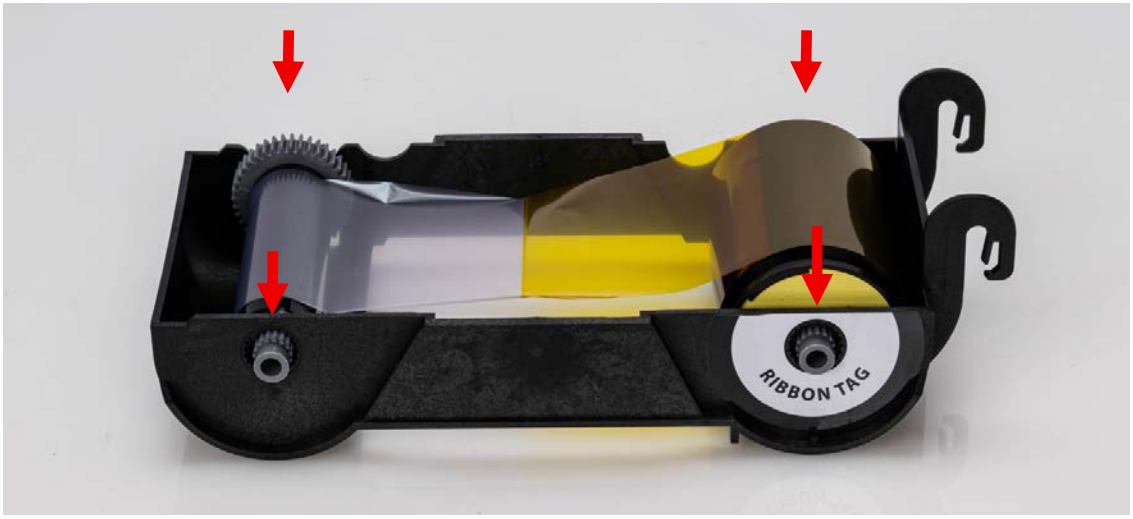


Figure 16 Installing a ribbon - 2

6. Install the Disposable Cleaning Roller to the Ribbon Cartridge.



Figure 17 Installing a Disposable Cleaning Roller

7. Peel the protective wrapper from the Cleaning Roller. After removing the protective wrapper, the cleaning roller should be kept clean from fingerprints, dust and foreign substances to avoid contamination because it is adhesive.

Do not use without peeling off the protective wrapper because the cleaning roller cannot perform its function.



Figure 18 Peeling the protective wrapper

8. Install the Ribbon Cartridge into the printer after installing the Ribbon with a Cleaning Roller to the Cartridge as the below picture.



Figure 19 Installing the Ribbon Cartridge

9. Close the Top Cover until there is a ‘click’ sound.

> **If it can’t be closed properly, check the installation state of the ribbon cartridge.**



Figure 20 Closing Top Cover

2.3. Installing the Laminating Film

This section shows how to Install the laminating film in the SMART-52L model.

---

1. Open the laminator Cover by pressing the Laminator Cover Open Button. Take out the Film Cartridge and prepare the Laminating Film.

> **Laminate Head is very hot after laminating.**
> **Do not contact the surface of the Head.**



Figure 21 Take Out the Film Cartridge

2. Insert the film into the Film Cartridge in the same way of ribbon and tighten the film.

> **If the film is not tightened, a rolling up error might be happened.**



Figure 22 Installing the Laminating Film

3. Install the Film Cartridge into the laminator and close the Laminator Cover.



Figure 23 Installing the Film Cartridge

2.4. Loading the cards

This section shows how to load the plastic cards.

---

1. Open the Input Hopper Cover. Adjust the card thickness with the Card Thickness Control Lever.

> **If the thickness is set smaller than the card being used, the card won't be able to be inserted. If it is set larger than the card being used, two cards will be able to be inserted, which may cause an error.**



Figure 24 Adjust the Card Thickness Lever

2. To separate cards from each other, push a stack of cards back and forth to an angle about 45 degrees vertically.

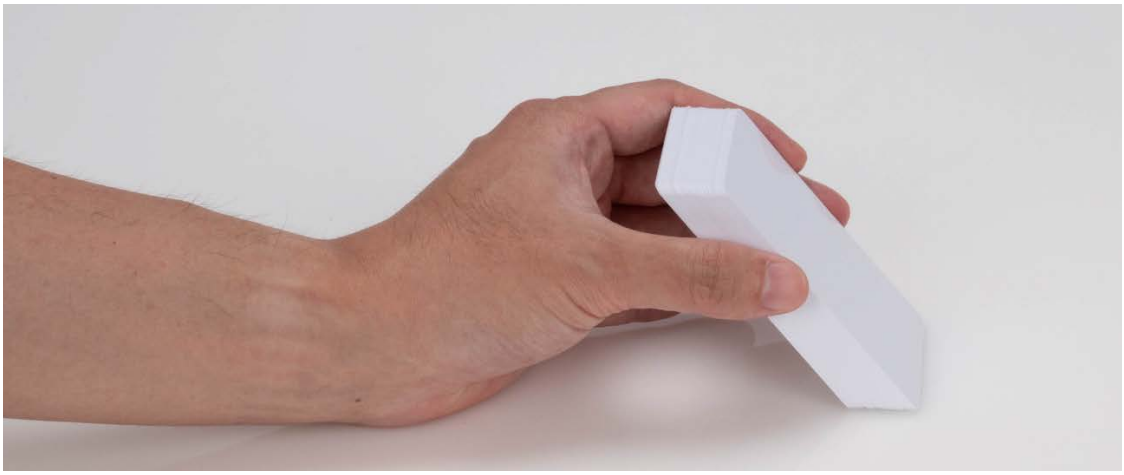


Figure 25 Preparing cards 1

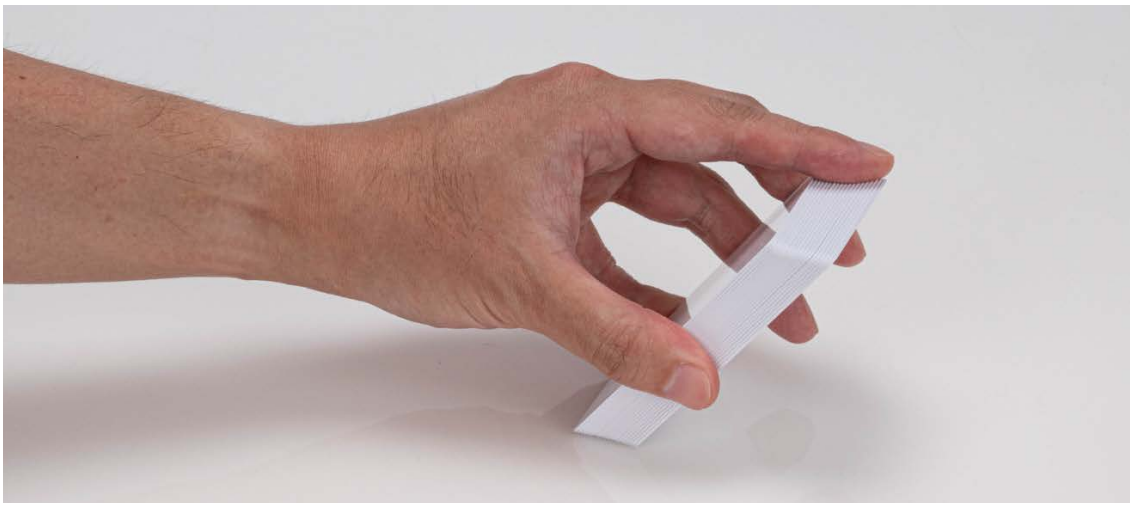


Figure 26 Preparing cards 2

3. Stand the stack of cards vertically after separating them.

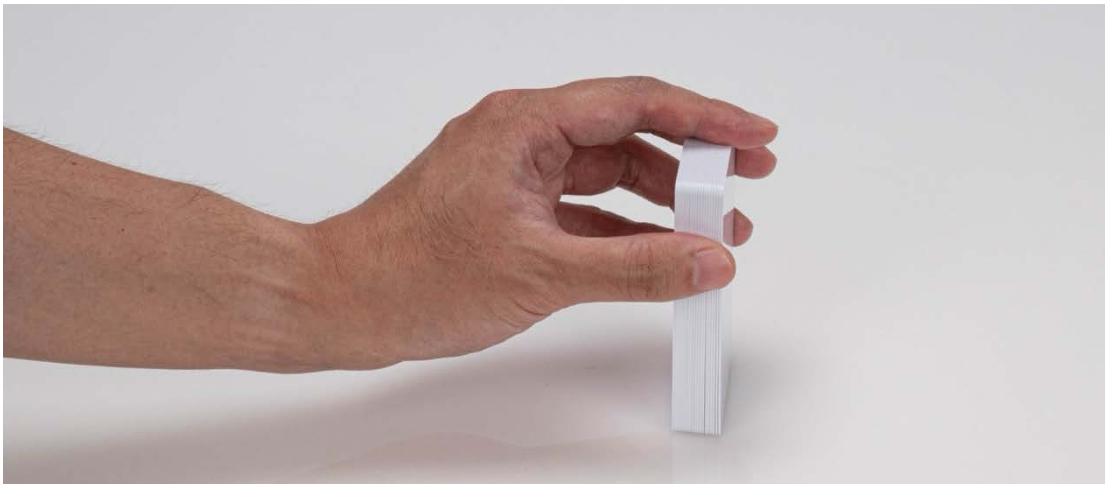


Figure 27 Loading cards 1

4. Load the cards on the input hopper properly and close the hopper cover.



Figure 28 Loading cards 2

5. When insert each one card, insert the card to the end as below picture.

> **If the printer has a Lock option, a card can't be inserted one by one.**



Figure 29 Loading cards 3



Figure 30 Loading cards 4

2.5. The withdrawal of printed cards

Printed cards are ejected to the Stacker on the front bottom side of SMART-52.

SMART-52 withdrawal of printed cards



Figure 31 Taking printed cards

1. SMART-52’s stacker can be detached by pulling it forward. You can take the printed cards easily or drop cards down if you want.



Figure 32 SMART-52 Detaching the Stacker

2.6. Rear Stacker (Option)

SMART-52 can install a Rear Stacker for option at the rear side of the printer. In case of SMART-52S and SMART-52L, please install into the slots at the rear side. In case of SMART-52D, please open the rear cover of the Flipper and install into the slots.
After that, set the value of 'Card Out' to 'Back' in the Utility program.
In case of SMART-52D, set the value of 'Flipper Cover Open' to 'Ignore' in the Utility, too.

SMART-51S Installation of Rear Stacker



Figure 33 SMART-52S with Rear Stacker

SMART-52D Installation of Rear Stacker



Figure 34 SMART-52D with Rear Stacker

SMART-52L Installation of Rear Stacker



Figure 35 SMART-52L with Rear Stacker

2.7. Printer Driver Installation (Windows 7 / 8 / 10 / 11)

1. Driver Download

Scan the QR Code on 'Quick Installation Guide' provided with the printer or go to www.idp-corp.com and search for "SMART-52 Driver" in the "Support" - "Download" menu.
After that, download the "SMART-52 Printer Driver.

Turn off the printer before beginning when using a USB connection.
Turn on the printer and set the network configuration before beginning when using a network connection.

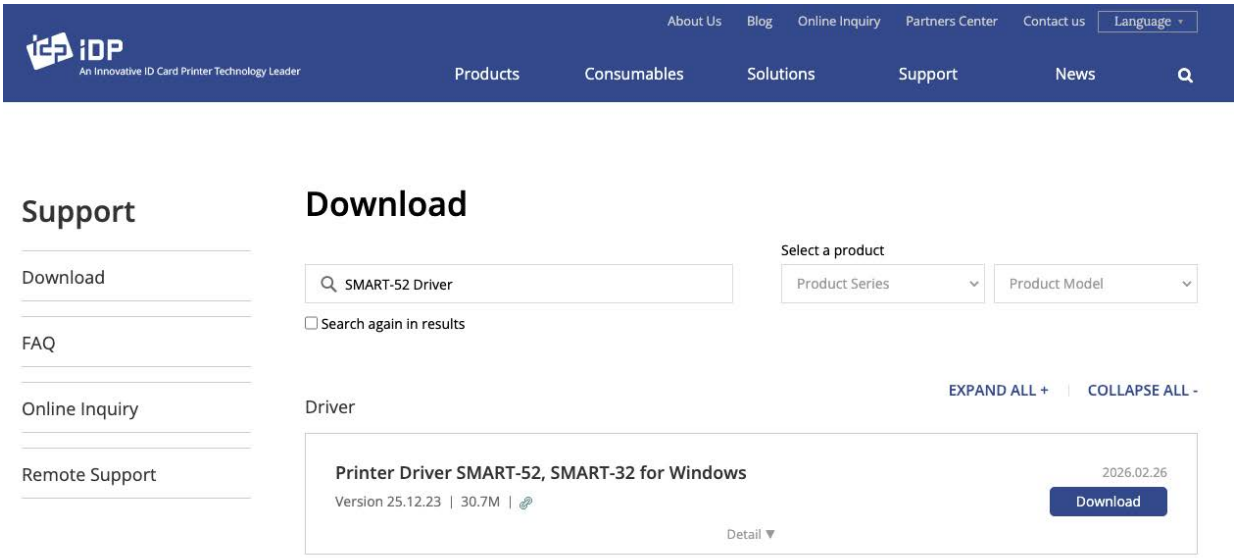


Figure 36 Install printer driver 1

2. Run the installation file

Extract the driver installation file and its components from downloaded file and run the “DDinstall.exe” in the “SMART-52 Printer Driver” folder.

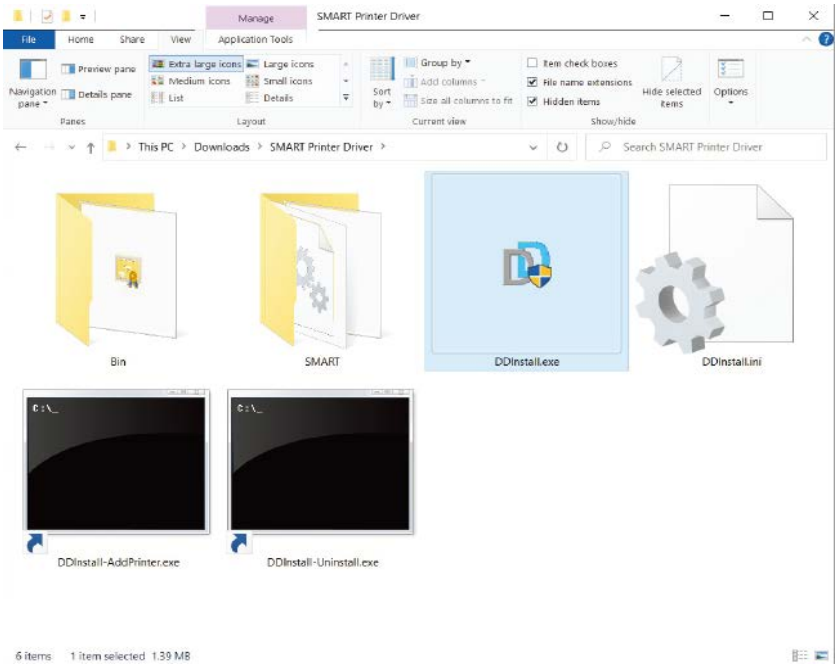


Figure 37 Install printer driver 2

3. User Account Control

If the “User Account Control” pop-up window opens, Click “YES”.

※ Depending on your computer’s settings, you may be prompted to supply local admin credentials to authorize the installation of the driver.

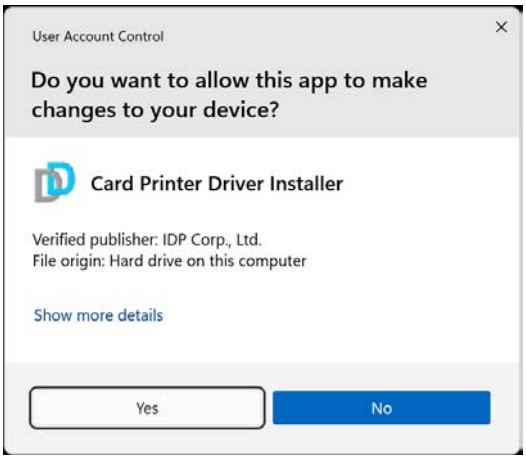


Figure 38 Install printer driver 3

4. Driver Installation Step 1.

After changing the language from the default English to another language you want, click “Next” button. This process will take several minutes to remove any older driver.

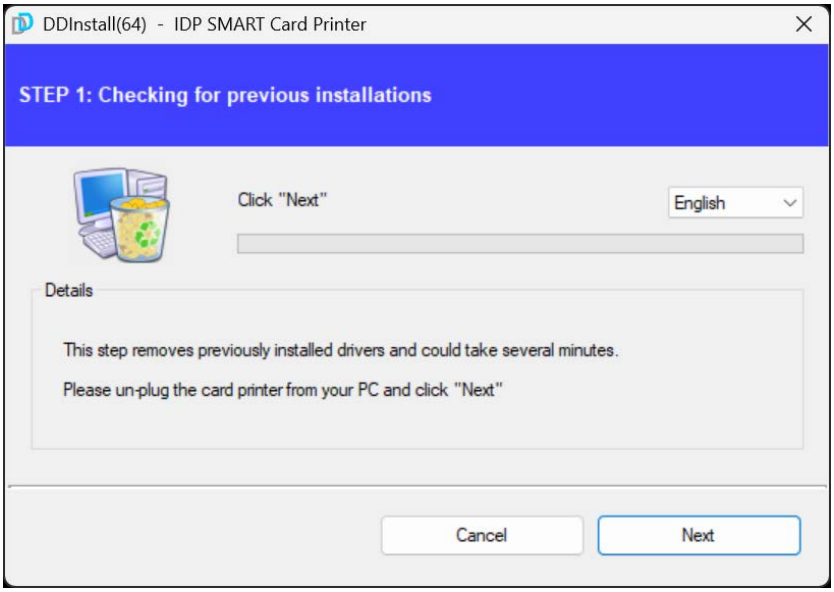


Figure 39 Install printer driver 4

5. Driver Installation Step 2.

Click “Next” to install the driver on your Windows.

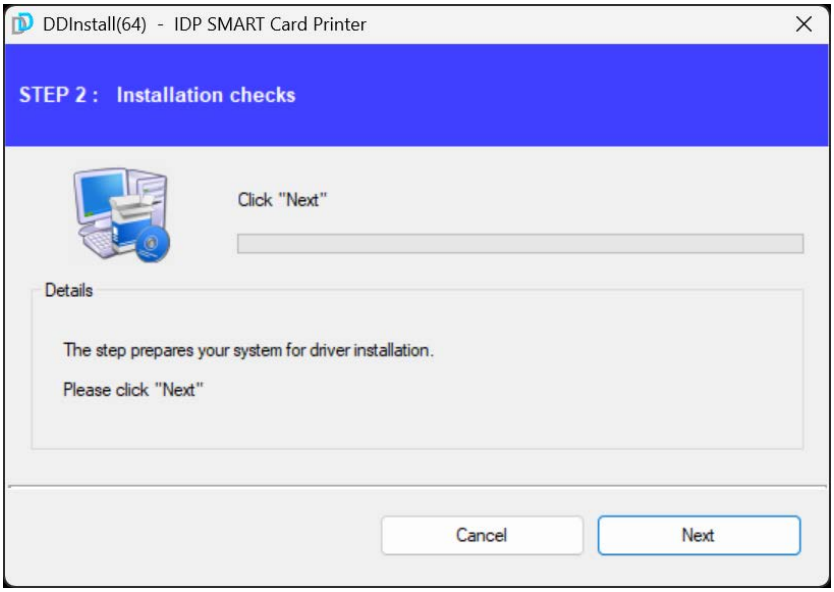


Figure 40 Install printer driver 5

6. Turn on the printer

Connect the USB cable to the PC and turn on the printer.

Connect the USB Cable to the computer before turning on the printer.



Figure 41 Install printer driver 6

7. Driver Installation Step 3-1: USB connection

In case of USB connection, click “Next” and move to ‘9. Driver Installation Step 4:’.

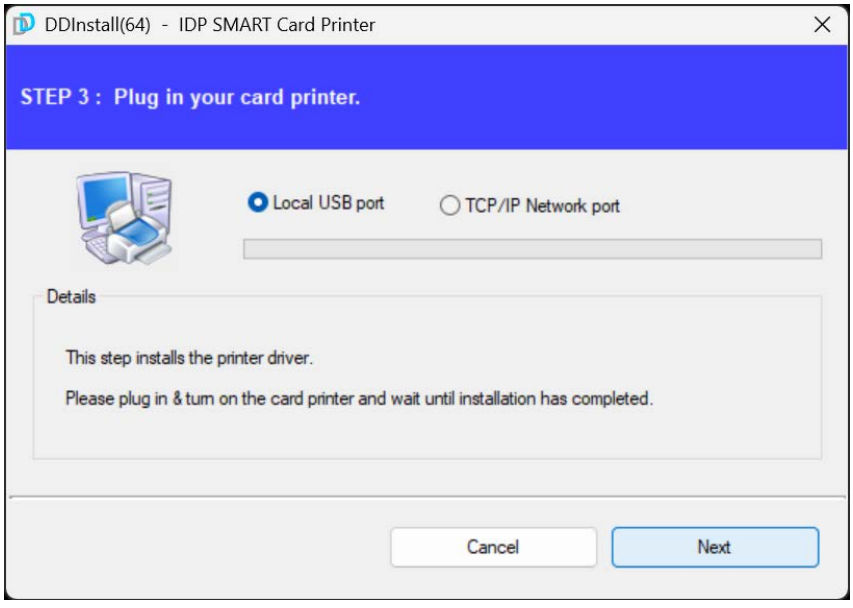


Figure 42 Install printer driver 7

8. Driver Installation Step 3-2: Network connection

In case of Network connection, select the “TCP/IP Network port’ radio button, and SMART-52 printer on the pop-up list and click ‘OK’, and then click ‘Next’ button.

If no printer comes out on the list, check the printer’s network connection and setting. If the printer is on the different network from PC, please type the IP address directly.

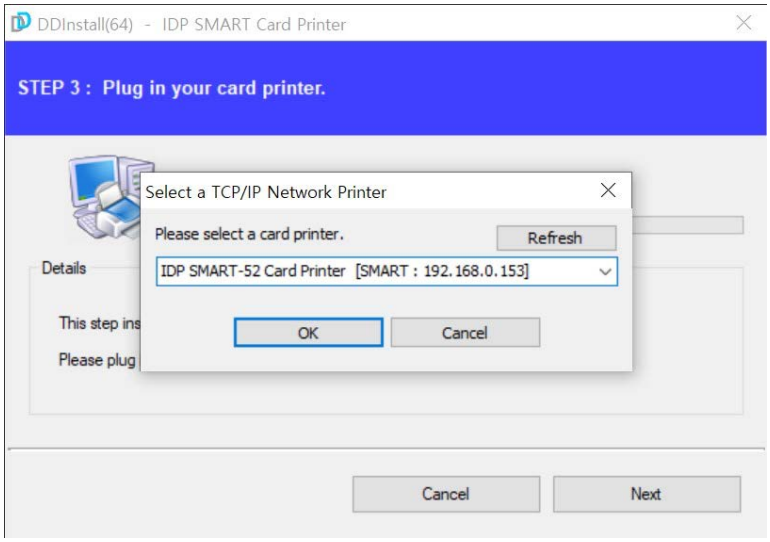


Figure 43 Install printer driver 8

9. Driver Installation Step 4.

When driver installation is completed, please click “Close” button.

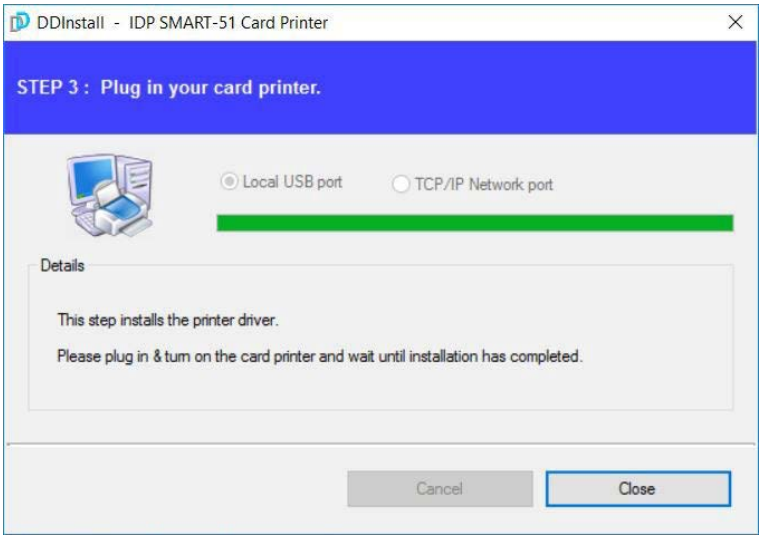


Figure 44 Install printer driver 9

10. Check the driver installation Step 1.

Please open “Printers & scanners” from “Bluetooth & devices” (or “Devices”) on the Windows “Settings”. Select the “IDP SMART-52 Card Printer” and “Printer Properties”.

※ Windows 7/8, open ‘Control Panel’ and select “Device and Printers”.
Right-click “SMART-52 Card Printer” and select “Printer Properties”.

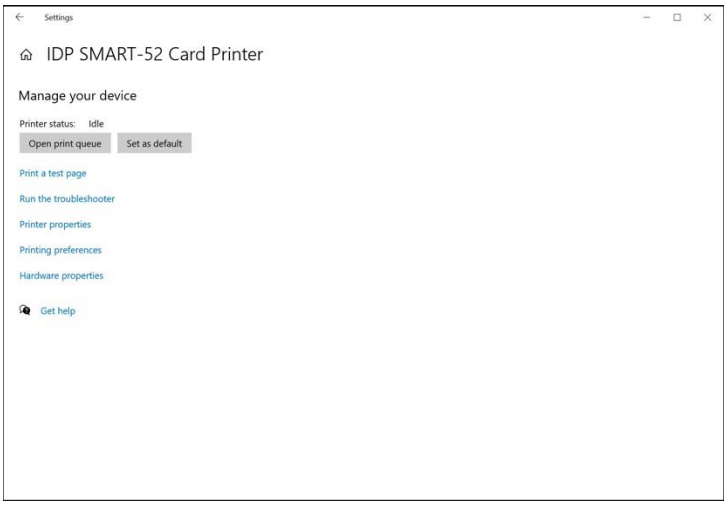


Figure 45 Install printer driver 10

11. Check the driver installation Step 2.

Select “General” tab and click “Print Test Page” in “IDP SMART-52 Card Printer Properties” window.

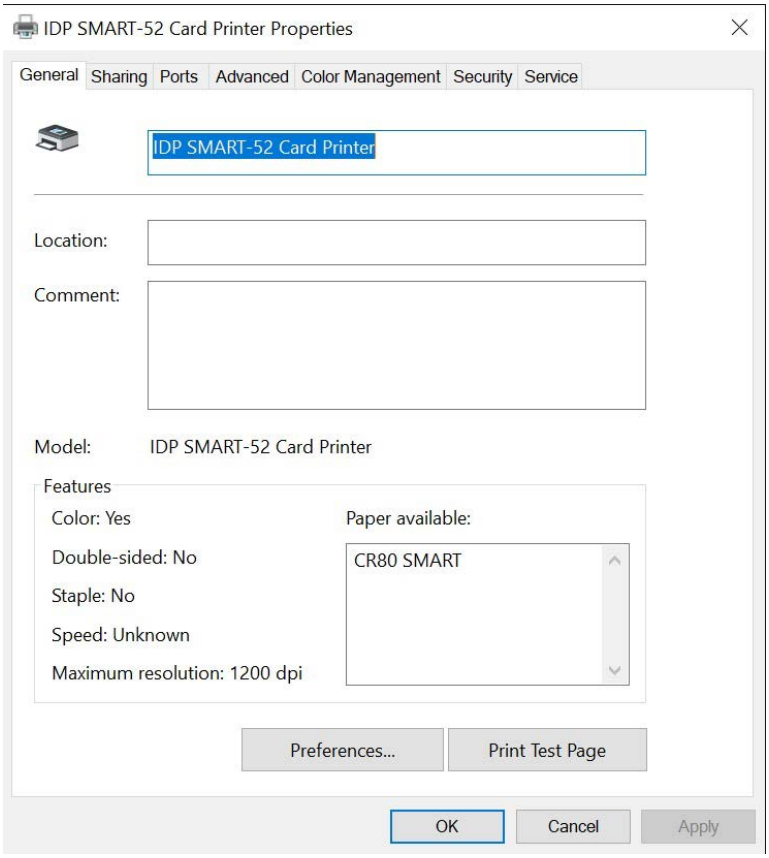


Figure 46 Install printer driver 11

12. Check the driver installation Step 3.

Check the Test Card to see if it is printed properly. If so, click “Close”.

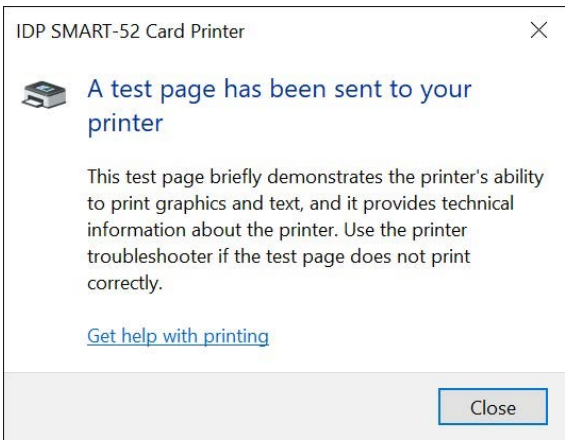


Figure 47 Install printer driver 12

3. Driver Configuration

SMART-52 can print by applying various properties required for card printing. Please open “Printers & scanners” from “Bluetooth & devices” (or “Devices”) on the Windows “Settings”. Select the “IDP SMART-52 Card Printer” and click “Printer Properties”.

3.1. Printing Preferences

1. Open Printing Preferences

Click “Preferences...” button.

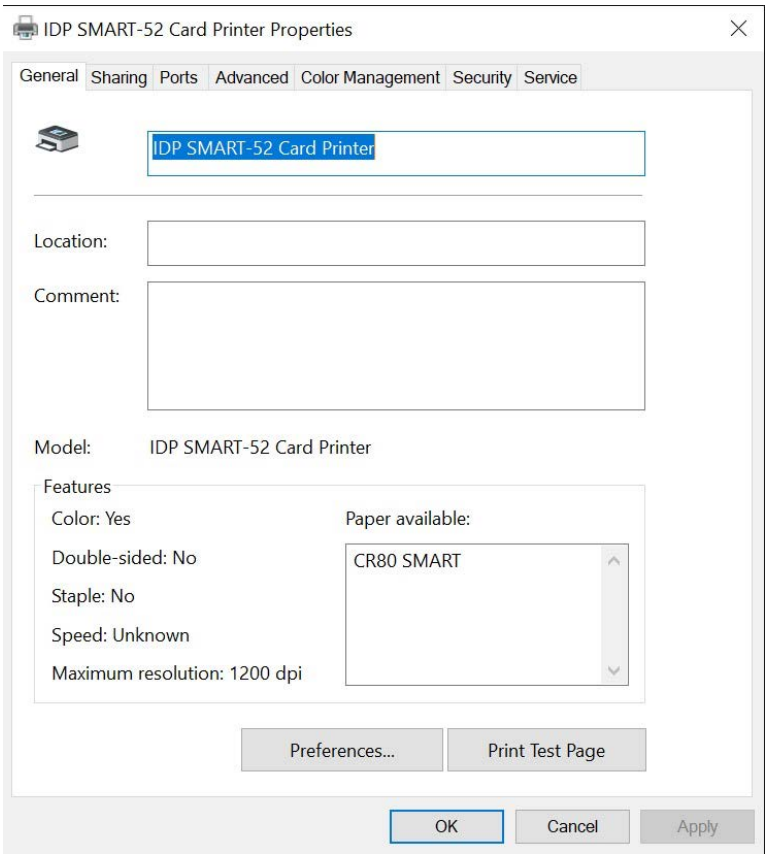


Figure 48 Printing Preferences

2. Layout

You can select either Landscape (horizontal) or Portrait (vertical) printing direction. To apply your selection, click “OK”.

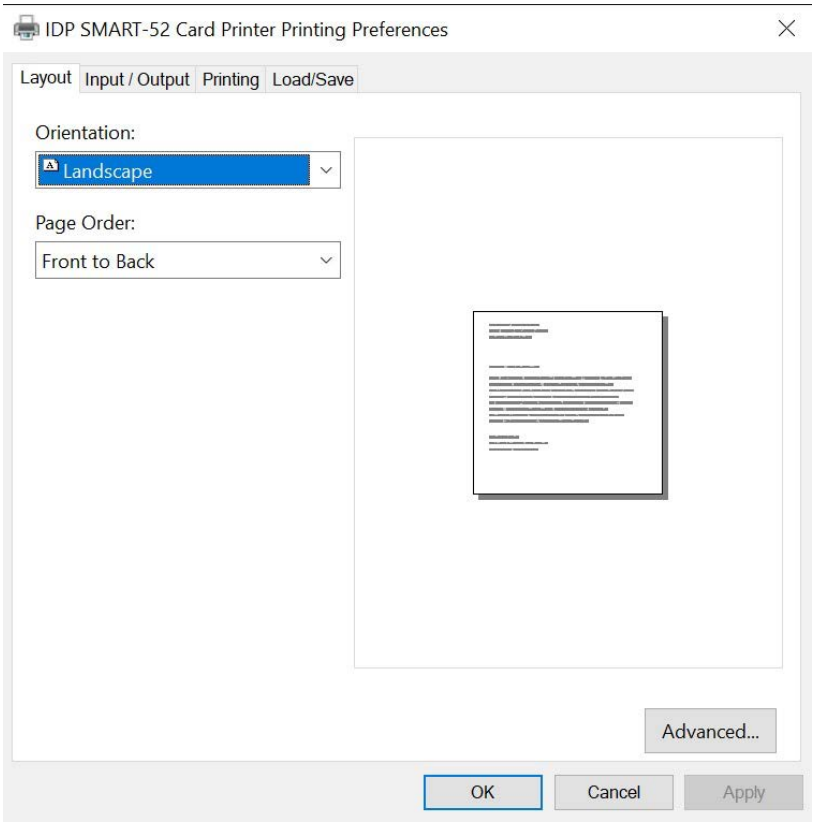


Figure 49 Layout

3. Input / Output

Supply Tray

Supply : "Auto" is selected by default. Please select the specific hopper number if the multi-hopper is connected.

Tray : SMART-52 supports only CR-80 card, so please select "CR80 SMART".

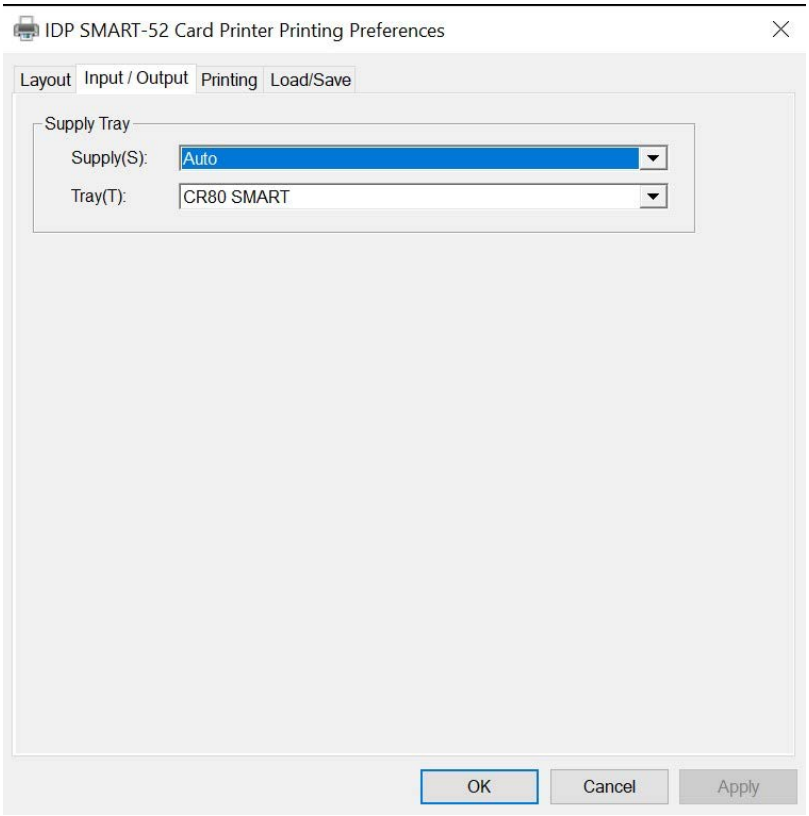


Figure 50 Input / Output

4. Printing

Do Printing : This option should be checked to print a card. If you don't want to print but encode only or laminate only, please uncheck this box.

Print Side : You can select "Top" for simplex or "Both" for duplex printing. Duplex printing is only possible with the SMART-52D or SMART-52L.

[Front / Back]

Color : color or monochrome printing is selected. It depends on the installed ribbon type.

Flip : You can flip an image 180 degrees, vertically or horizontally, depending on your cards and software needs.

Media / Mask : You can indicate the area to print or not print by using a predesigned mask, a user defined mask (e.g., SMARTmark Security, smartcard chip cutouts, magnetic stripe card, etc.).

[Printing]

Ribbon : The type of installed ribbon is displayed. You don't need to select this option as SMART-52 recognizes ribbon automatically with RF tag.

Speed : Set printing speed and quality.

Mode : Set printing mode

- **Standard :** Default print mode. Prints all area of printing
- **Partial :** Partial print mode. The TPH is applied partially for the print area only. Printing speed can be faster than standard mode.

Color Sense : Set print image's color sense.

Ribbon Save : Set the both sides (Front:YMCO, Back:K) to save YMCKO ribbon. It is only activated while printing both sides option is set and YMCKO ribbon is installed.

Dither : There are 5 possible selections, Threshold, Random, Diffusion, Half-tone, and Half-tone2 Dithering algorithm. It is performed with K and KO ribbon only.

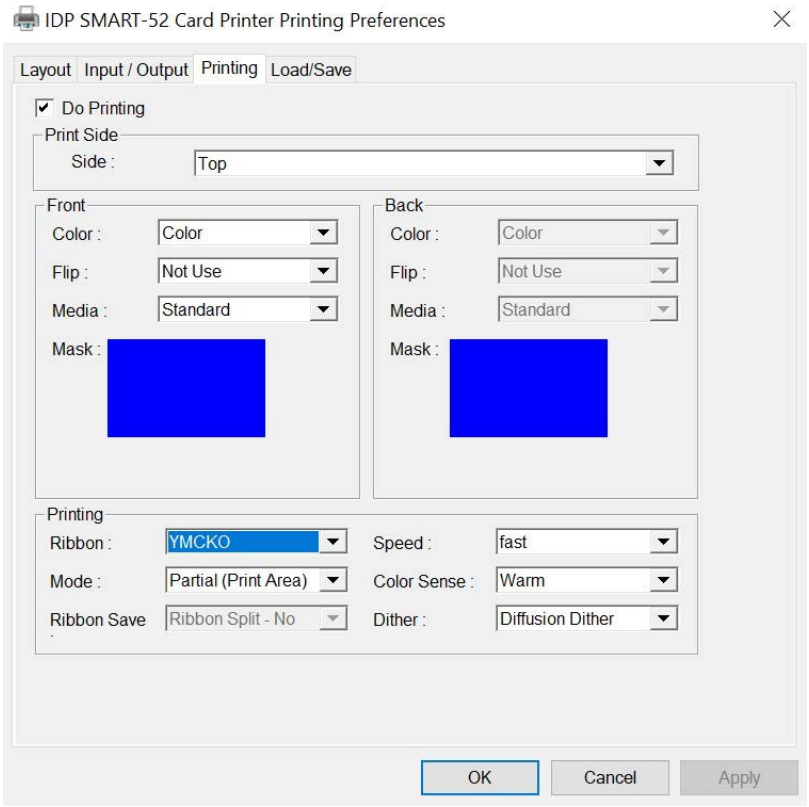


Figure 51 Printing

User defined mask uses 24bit BITMAP file (1012 X 636 pixels).
Blue (RGB(0,0,255)) : Print and Overlay
Sky Blue (RGB(0,255,255)) : Overlay only
Pink (RGB(255,0,255)) : Print only
Yellow (RGB(255,255,0)) : Fluorescent (UV) only

5. Laminating

This tab will be displayed only when SMART-52L printer is connected to PC.

Do Laminating You can select to laminate or not.

Laminator Side : You can select not laminate, laminate “Top” (front), or “Both” (front and back) side of the card.

Overlay : You can select whether overlay prints or not. The default setting is ‘Not Use’ (No Overlay), and we recommend using it when laminating.

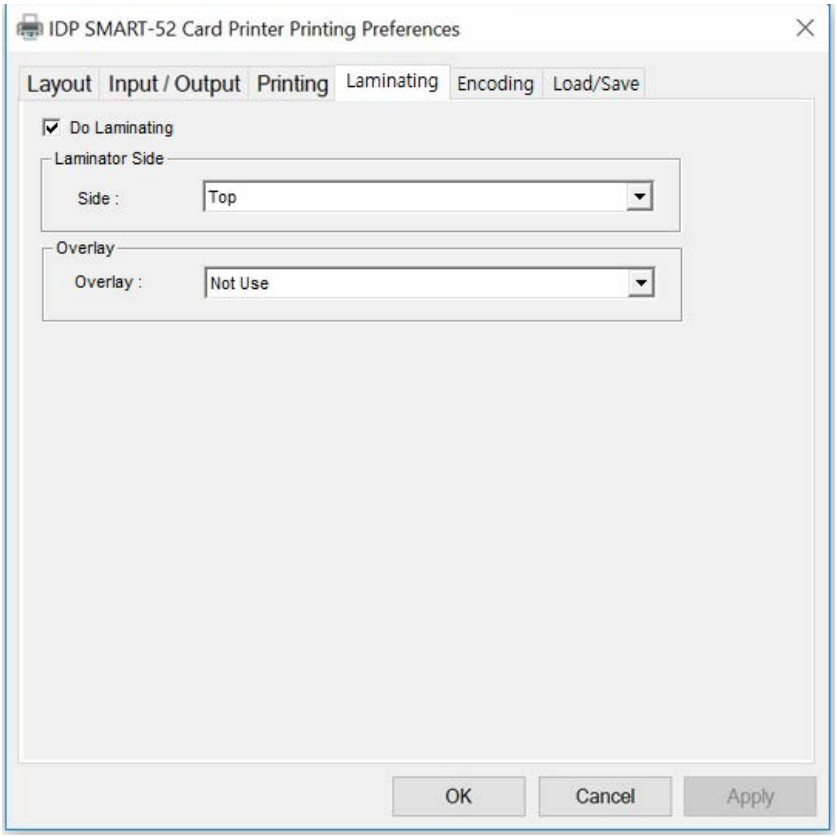


Figure 52 Laminating

6. Encoding

This tab will be displayed only when Magnetic encoder is installed in the SMART-52.

Do Encoding : You can select encoding or not.

Coercivity : You can select the coercivity to encode. It depends on the card to be used.

- **Loco** : 300 / 600 Oe
- **HiCo** : 2760 Oe
- **SpCo** : 4000 Oe
- **Auto** : Detect automatically

Repeat Count : If encoding fails, you can select the number of retries before ejecting the card.

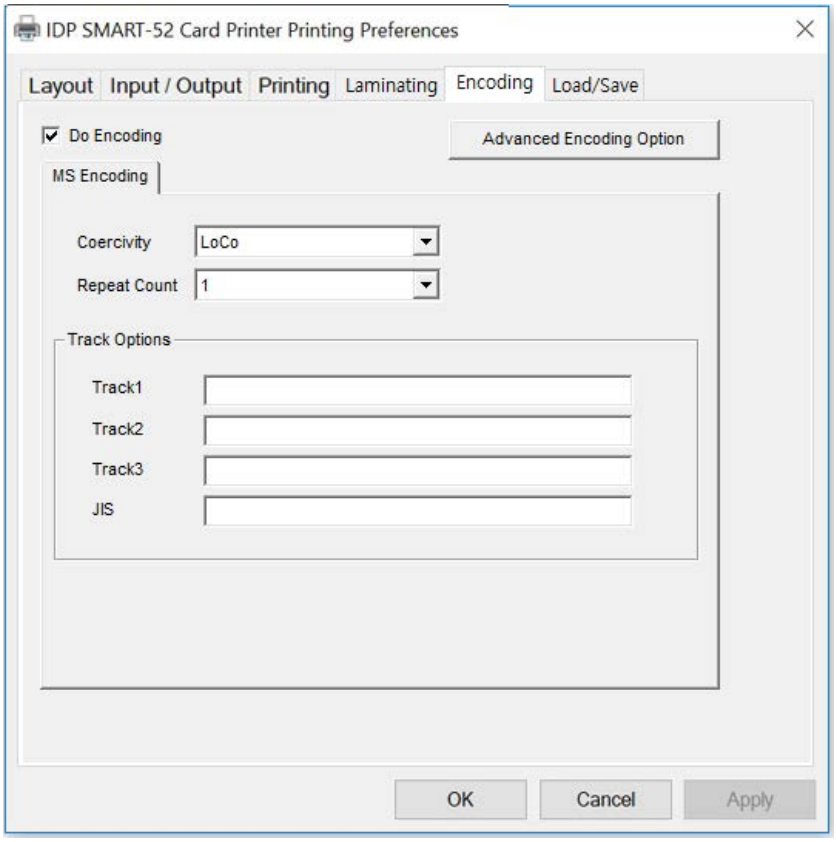


Figure 53 Encoding

7. Encoding Advanced Option

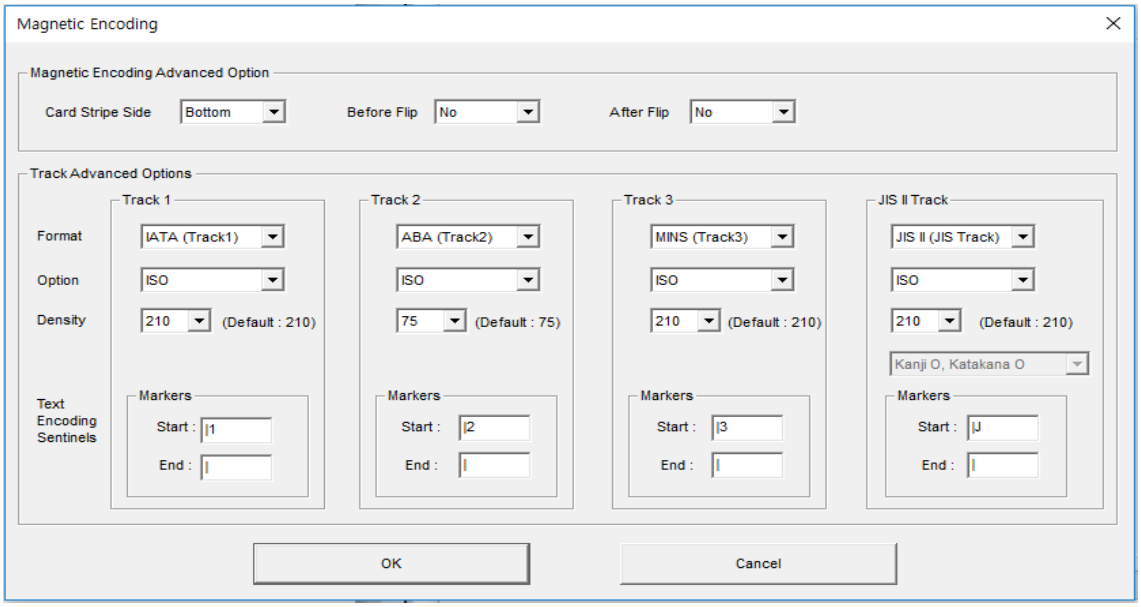


Figure 54 Encoding Advanced options

This Pop-up will be displayed when clicking 'Advanced Encoding Option' button.

Card Stripe Side : The location of magnetic stripe [Bottom / Top]

Before Flip : Do flipping a card before encoding [No / Yes]

After Flip : Do flipping a card after encoding [No / Yes]

Track Advanced Options :

Format : Encoding format (IATA, ABA, MINS, JISII, Bits Mode)

Track 1 : (Default) IATA

Track 2 : (Default) ABA

Track 3 : (Default) MINS

JIS II Track : (Default) JIS II

Density : Magnetic encoding density (210, 75)

The default for track 2 is 75, the rest are all 210.

Text Encoding Sentinels: You can set the Start, End, Marker for magnetic encoding to match your existing system or templates.

Start : Start Marker

End : End Marker

8. Load/Save

Load Driver Setting : Load the saved driver configuration file.

Save Driver Setting : Save the current driver configuration to the file

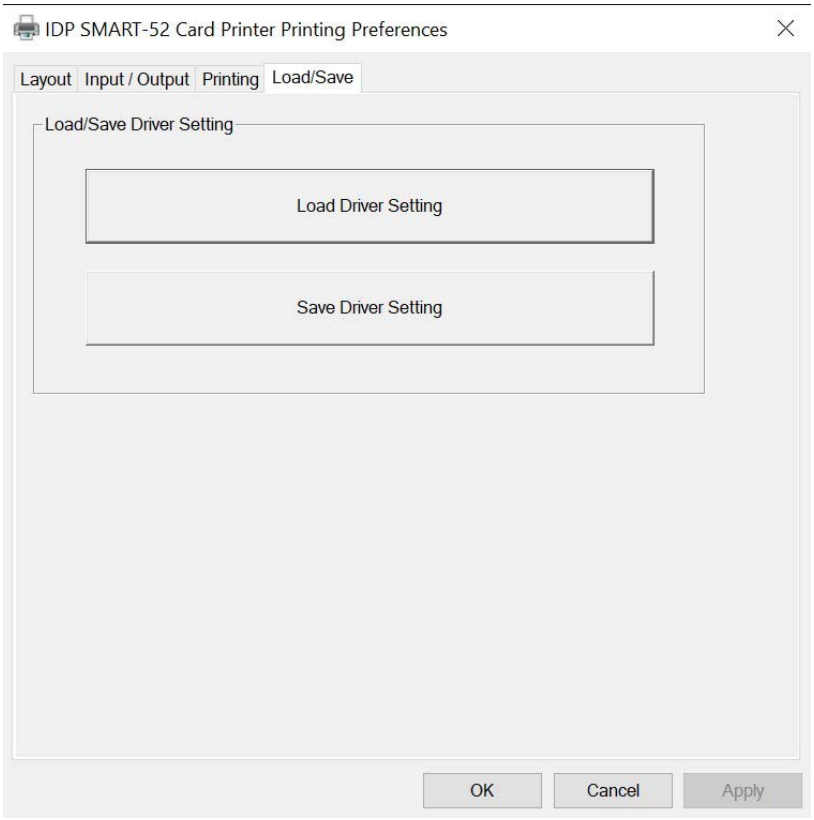


Figure 55 Load/Save Settings

3.2. Advanced Options

To change the detailed configuration located in the 'Layout' tab displayed, please click "Advanced…" button on the bottom of the 'Layout' tab of the 'Preferences'.

- **Print Quality :** You can select the resolution of printing (DPI).
  - **300 x 300 dpi :** It applies to Color & K(Mono) panels.
  - **300 x 600 dpi :** It applies to K(Mono) panel only. Color; 300x300 dpi.
  - **300 x 1200 dpi :** It applies to K(Mono) panel only. Color; 300x300 dpi.

  Default is 300 x 300 dpi.

- **Reset Default Values** : Reset to default.

- **Color Correction** : You can adjust color intensity using gamma settings. The higher the value, the darker the print. You will need to use SMART Utility to adjust color densities

  Main [-100 ~ 100] : correct gamma for all ribbon panels.
  Yellow [-100 ~ 100] : correct gamma for Yellow panel.
  Magenta [-100 ~ 100] : correct gamma for Magenta panel.
  Cyan [-100 ~ 100] : correct gamma for Cyan panel.
  Black [-100 ~ 100] : correct gamma for Resin panel.
  Overlay [-100 ~ 100] : correct gamma for Overlay panel.

- **Resin Black(K) Processing** : Set criteria for Resin black processing.

  Dot [0 ~ 100] : Set density criteria for extracting black dots.
  Threshold [0 ~ 100] : Set density criteria when Threshold dithering is selected.
  Dithering Degree [0 ~ 100] : Set sharpness when Random dithering is selected.
  Resin Extraction : You can set which method to extract resin black when you use design programs. It will be set automatically.
  - **Black object** : Extract resin black for black text, line, circle, binary images, etc.
  - **Black Text** : Extract resin black for black text only
  - **Black Dots** : Extract resin black for all of black dots (YMCK panels are used.)
  - **Black Dots Only** : Extract resin black for all of black dots (K panel is used only.) This is a relevant option for Barcode and QRCode image printing.
  - **Not Use** : Not to extract resin black

- **Extra Control**: Other options

  Rewritable Erase Density [0 ~ 100] : Set Erase Density on Rewritable printer.

- **Wait Option** : Turning on this option offers options to hold a card specified amount of time in each location when encoding to a smart card without using the SDK. If not using the SDK, only wait for the specified amount of time, so you must make a program that recognizes and encodes smart cards within the specified amount of time.

  Wait at Contactless Encoding Position [On/Off] : Set whether to wait at the RF encoder position or not.

  Card Side [Front/Back] : Set the direction to card when waiting.

  Wait Position [-100 ~ 100] : Set the position of card to wait from the criteria position. Unit is 0.1mm.

  Wait Time [0 ~ 1000] : Set time to wait. Unit is 1 second.

  Wait at Contact Encoding Position [On/Off] : Set whether to wait at the IC encoder position or not.

  Card Side [Front/Back] : Set the direction to card when waiting.

  Wait Position [-100 ~ 100] : Set the position of card to wait from the criteria position. Unit is 0.1mm.

Wait Time [0 ~ 1000] : Set time to wait. Unit is 1 second.

3.3. Other settings

1. Sharing tab

You can share a printer with the Sharing tab via Network. Please consult your Network Administrator for more details regarding your network settings. Default is unchecked “Share this printer”.

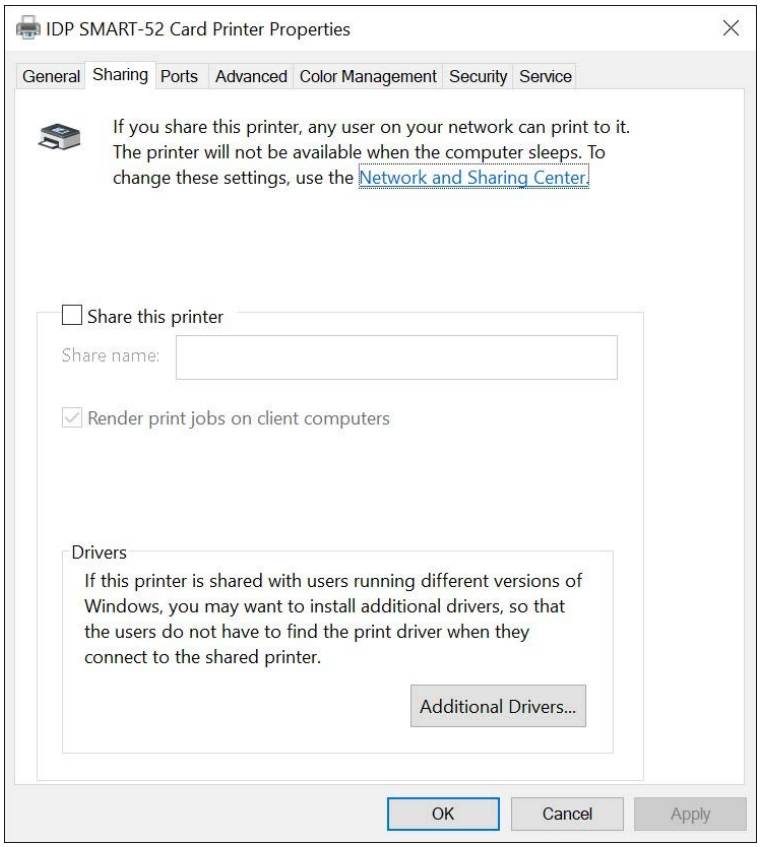


Figure 56 Sharing tab

2. Ports tab

Port tab shows which port is connected with SMART-52.

In case of USB connection, The “USB0xx” port is connected as picture below.

In case of network connection, Network port (Standard TCP/IP Port) address is automatically selected by your network (DHCP) or predefined (Static IP). Check with your Network Administrator before making any changes.

This port is selected automatically by Windows. It is recommended to keep default setting.

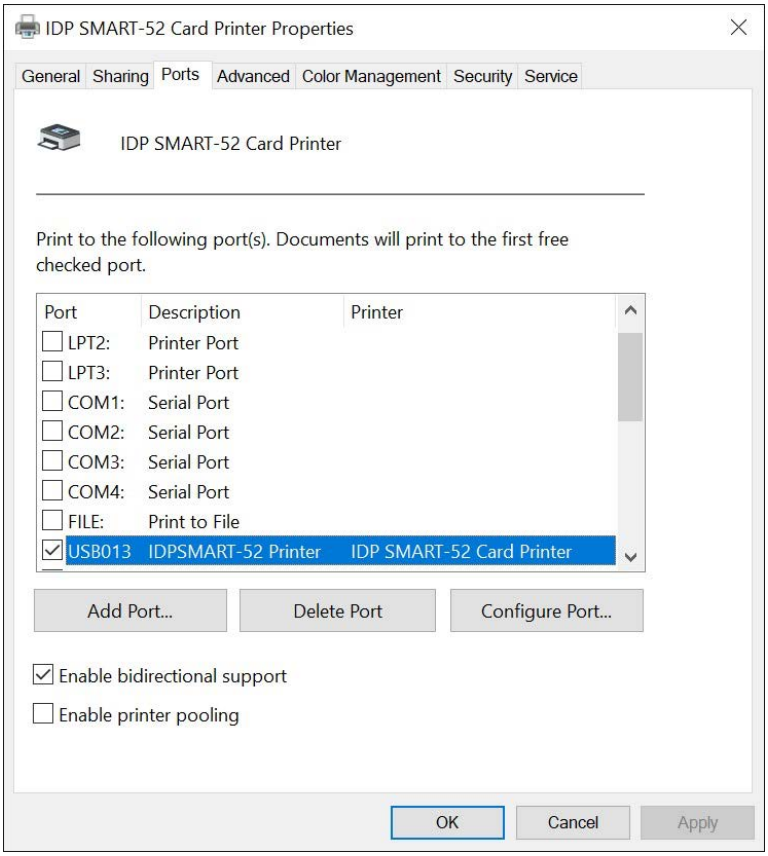


Figure 57 Ports tab

3. Advanced tab

It is available for Working Time setting, Priority order, Spool print etc. in “Advanced” tab. “Advanced” setting follows MS Windows standard. If you want to change the setting, please refer to the Window manual

(It is recommended to maintain default.)

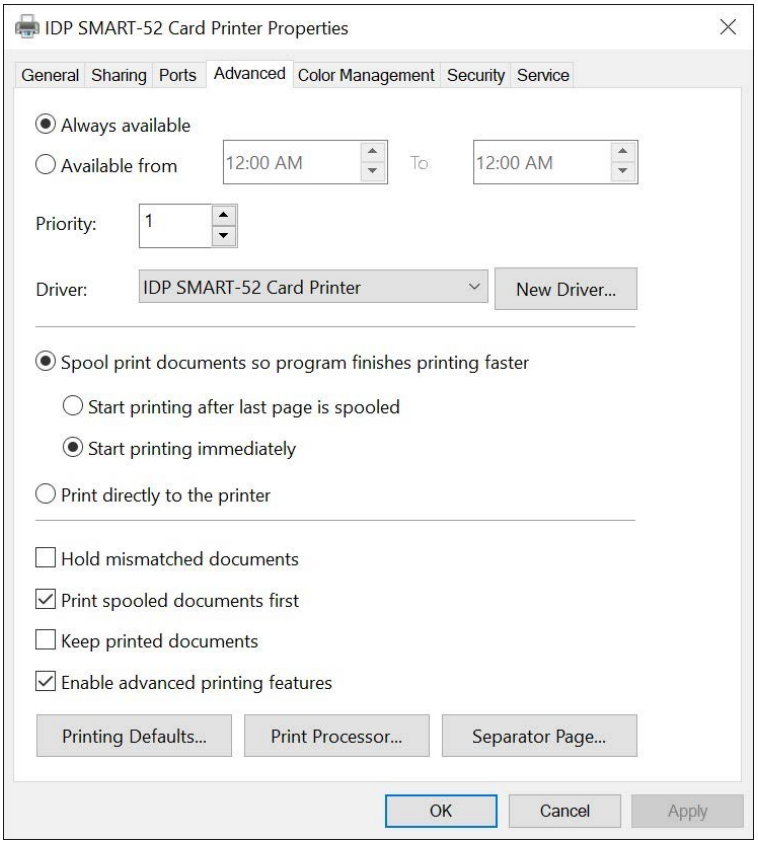


Figure 58 Advanced tab

4. Color Management tab

You can select color management profile fit to the printer.

SMART-52 uses color profile to express optimal color. The driver selects color profile automatically to fit each ribbon.

(It is recommended to maintain default.)

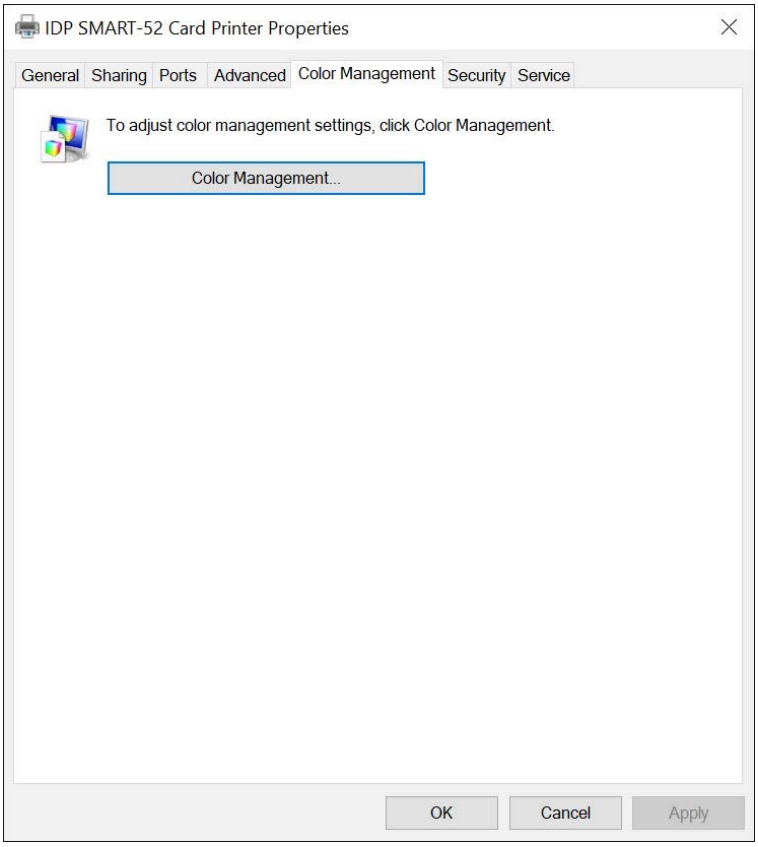


Figure 59 Color Management tab

5. Security tab

You can set the permission to use a printer. Depending on the permission, the certain group or user can print, manage the printer/documents or not. Contact your Network Administrator for more information

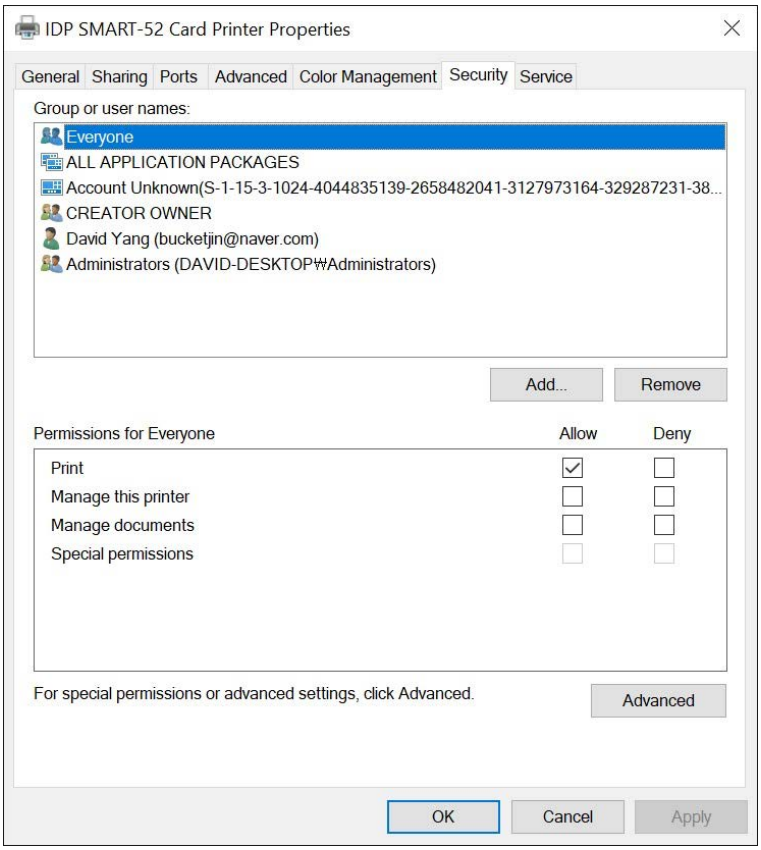


Figure 60 Security tab

6. Service tab

It displays the printer and installed options to connect, printer serial number, printer ID, driver version, firmware version, type of ribbon & balance, and printer's status.

Click the "Print Technical Support Sheet" button to get the card to check the printer's setup values.

Click the "Clean Printer" button to run the "Clean Printer" utility. For further details, please refer to "5.1. Cleaning Printer".

Click the "Config Printer" button to run the utility to change the printer settings. For further details, please refer to "4.6 PRINTER CONFIG.

Click the "Upgrade Firmware" button to run the utility to upgrade the firmware. For further details, please refer to "4.8 FIRMWARE UPDATE".

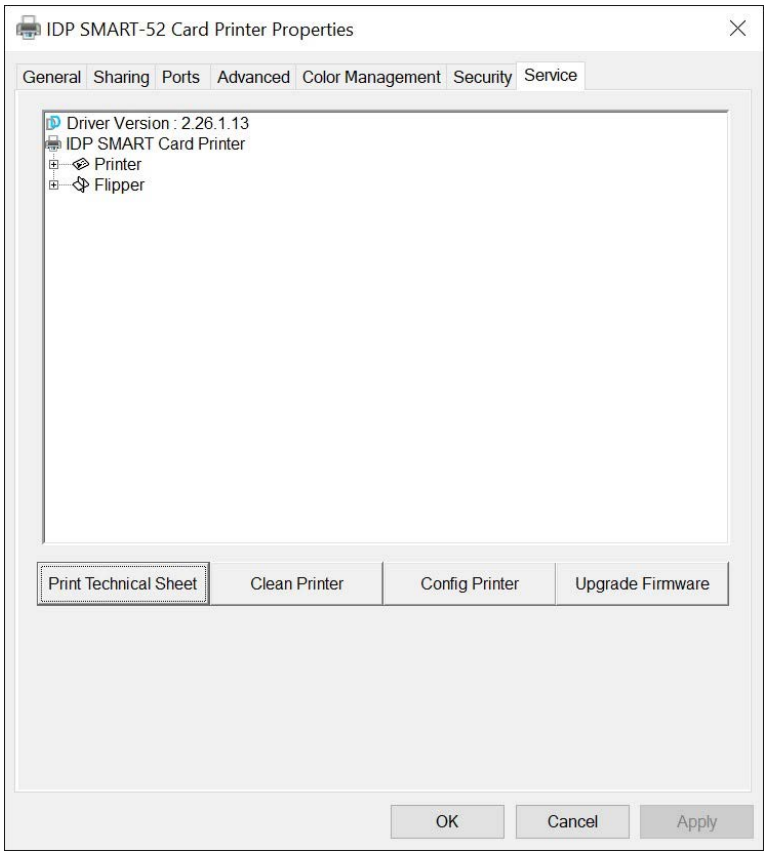


Figure 61 Service tab

4. SMART Utility

SMART-52 is produced with optimized settings. You need to adjust the setting value if required or spare parts are replaced using the SMART utility. It contains features of adjustment of printer settings, network settings, upgrade of firmware upgrading, and Etc.
Please go to IDP website (www.idp-corp.com) and search for “SMART utility” in the “Support” - “Download” menu. After that, download the “SMART Utility”.

4.1. Install SMART Utility - Windows version

1. Extract the downloaded file

Extract the downloaded file and run the “SMART_Utility.exe” in the “SMART_Utility” folder.

2. User Account Control

‘If the “User Account Control” pop-up window opens, Click “Yes”.

※ Depending on your computer’s settings, you may be prompted to supply local admin credentials to authorize the installation of the driver.

3. Utility Installation Step 1.

Select the language from the default English to another language you want, click “OK”.

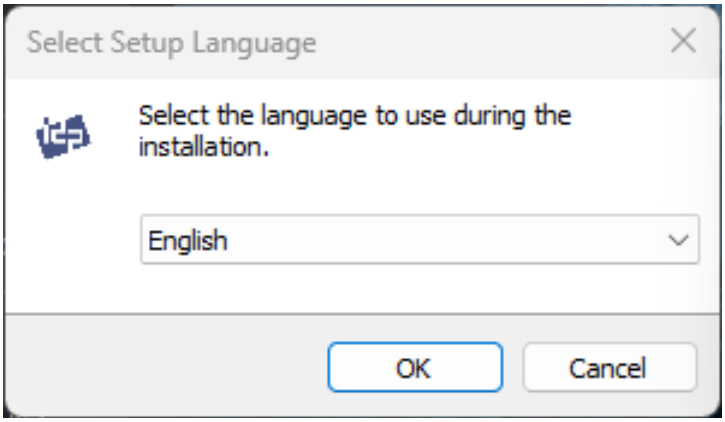


Figure 62 Install SMART utility 1 – Windows version

4. Utility Installation Step 2.

Select the folder to be installed and click “Next” button.

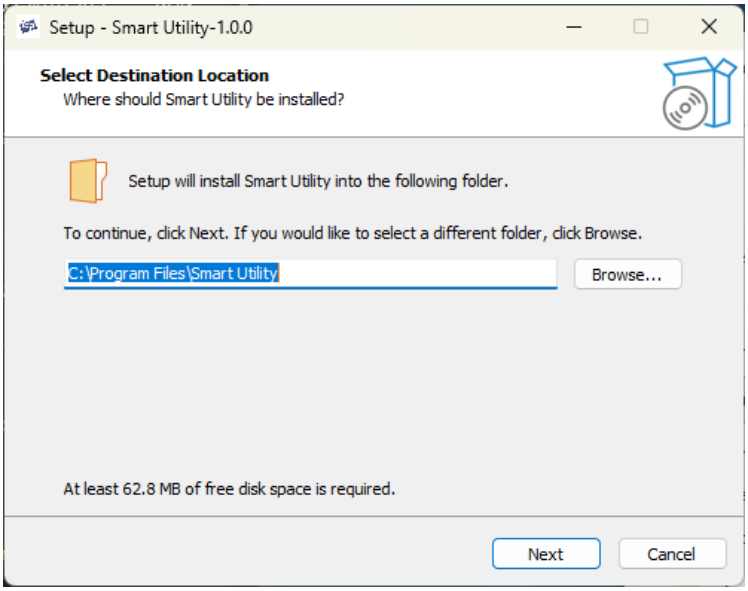


Figure 63 Install SMART Utility 2 – Windows version

5. Utility Installation Step 3.

Select Start Menu folder and click ‘Next’ button. If you want to select a different folder, click ‘Browse...’ button and designate the folder manually.

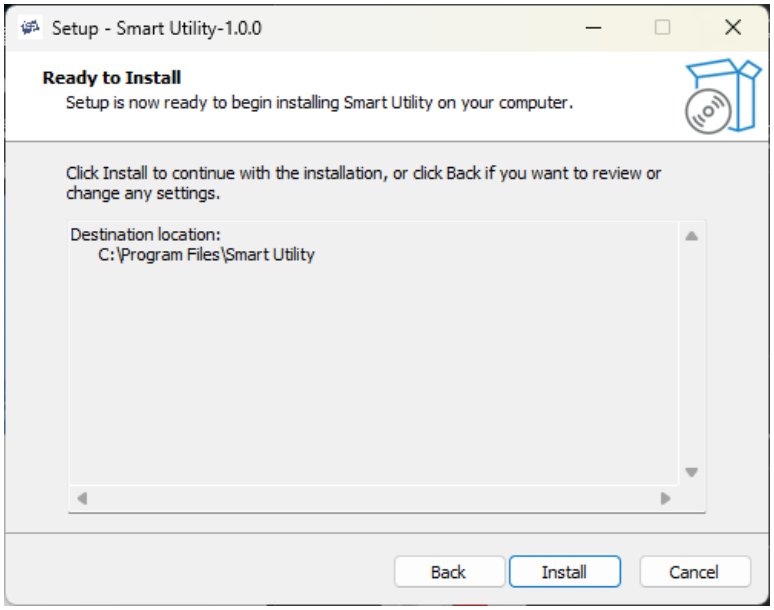


Figure 64 Install SMART Utility 3 – Windows version

6. Utility Installation Step 4.

Select to create the additional shortcut on the desktop, and click “Next” button.

Confirm the selections and click ‘Install’ button.

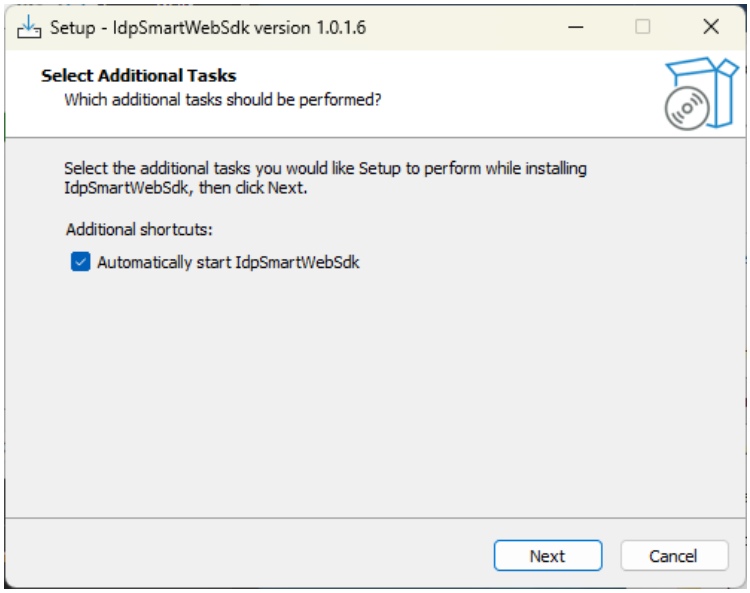


Figure 65 SMART Installation SMART Utility 4 – Windows version

7. Utility Installation Step 5.

After installing of SMART Utility, the installation of SmartAgent plugin program that supports the operation of utility will progress.

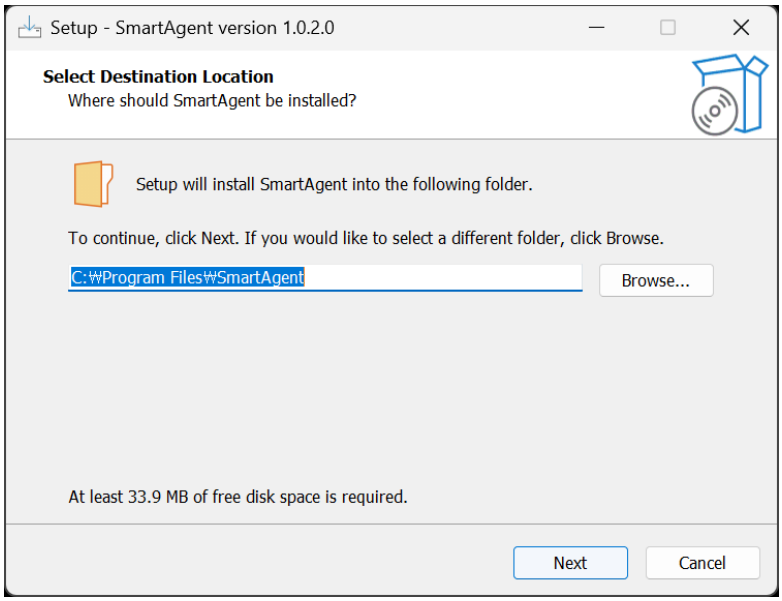


Figure 66 SMART Install SMART Utility 5 – Windows version

8. Utility Installation Step 6.

After Selecting the folder to install and the Start Menu, and selecting whether to install the shortcut, the SMART utility installation is complete.

※ PC reboot is recommended for normal operation.

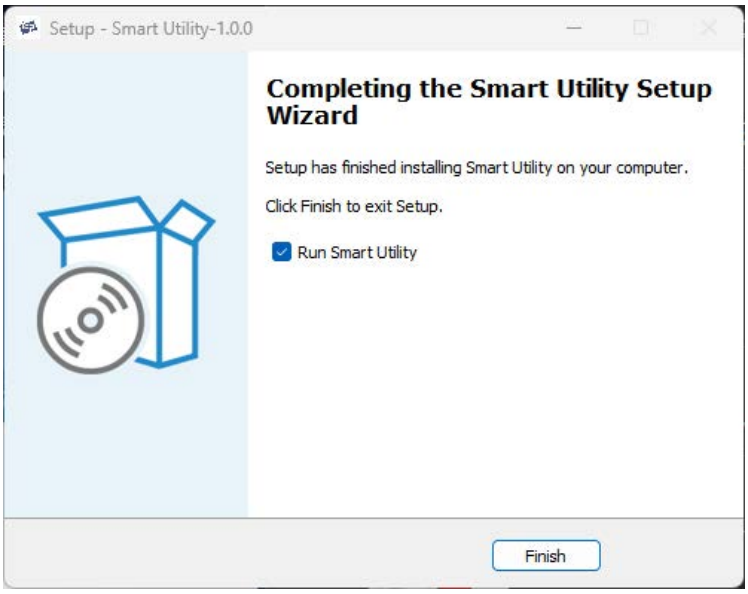


Figure 67 Install SMART Utility 6 – Windows version

4.2. Install SMART Utility – Linux version

1. Extract the downloaded file

Extract the downloaded file by “tar-xzvf” command.

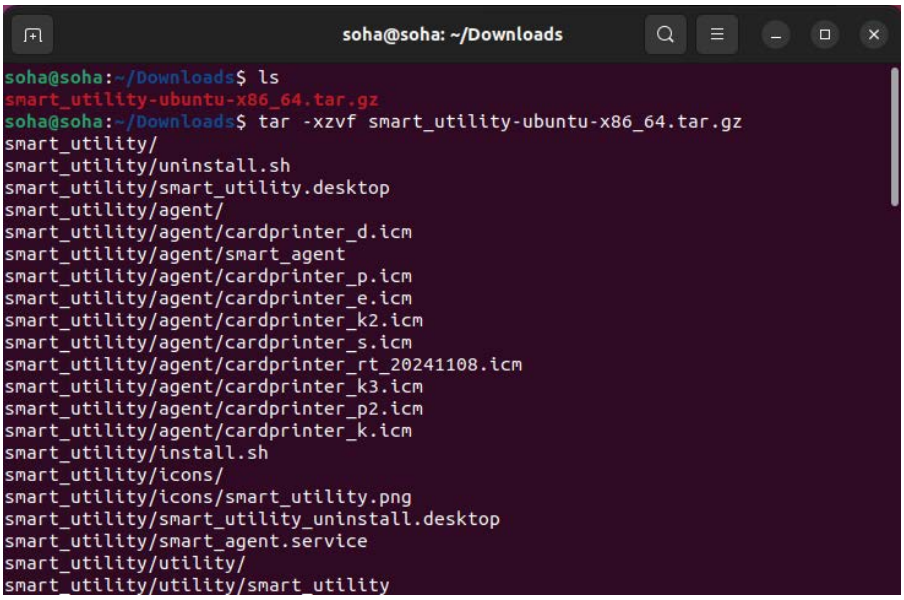


Figure 68 SMART Install SMART Utility 1 – Linux version

2. Utility Installation Step 1.

“Go to “SMART_Utility” directory. Run the “.sh” file to input ‘**sudo ./install.sh**’.

※ In case of kylin OS, input ‘**sudo bash ./install.sh**’ instead.

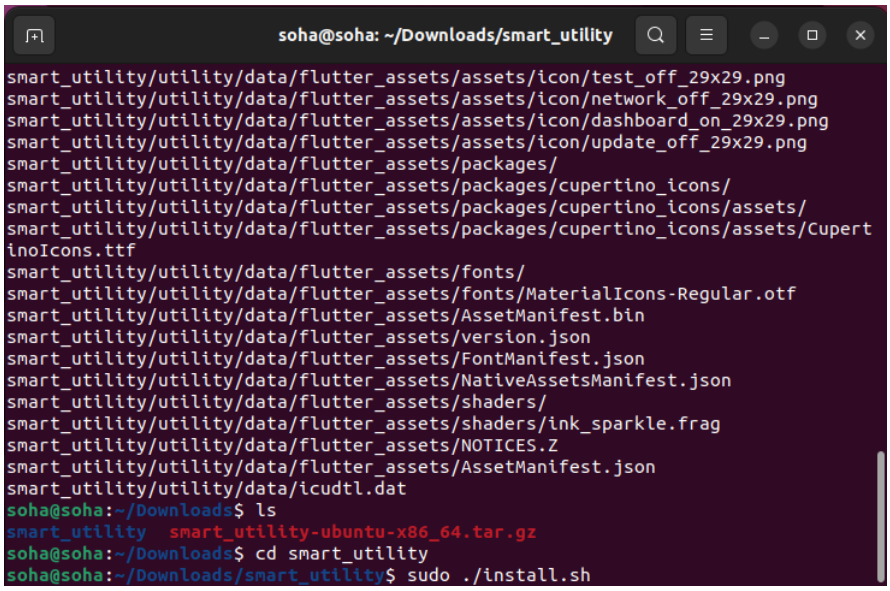


Figure 69 Install SMART Utility 2 – Linux version

3. Utility Installation Step 2.

Check the Installation completion message and how to configure the Port.

※ Check how to uninstall the utility by the path of “uninstall.sh” for future.

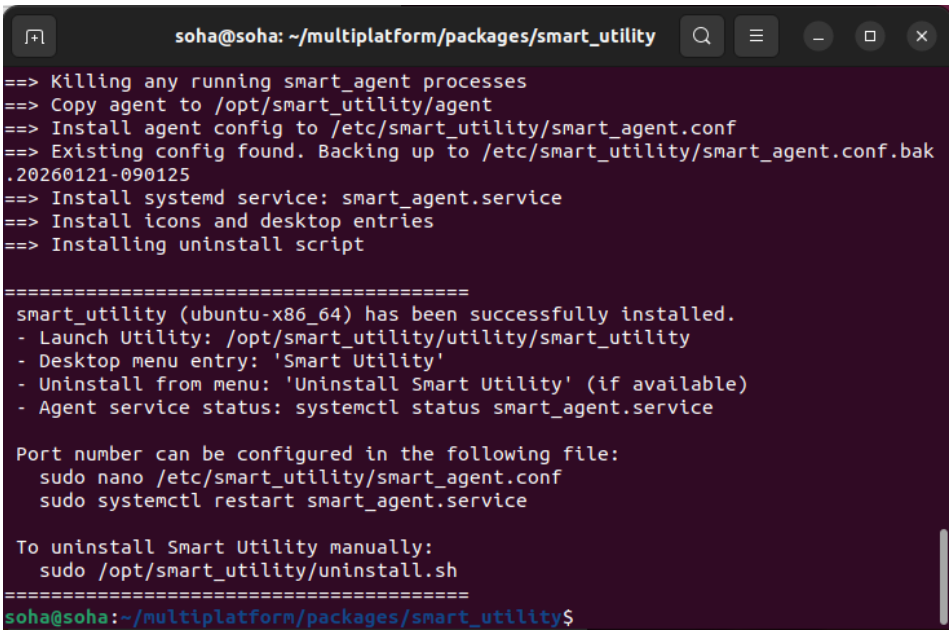


FIgure 70 SMART Install SMART Utility 3 – Linux version

4. Utility Installation Step 3.

Go to Application Menu and you can see the “SMART Utility” icon.

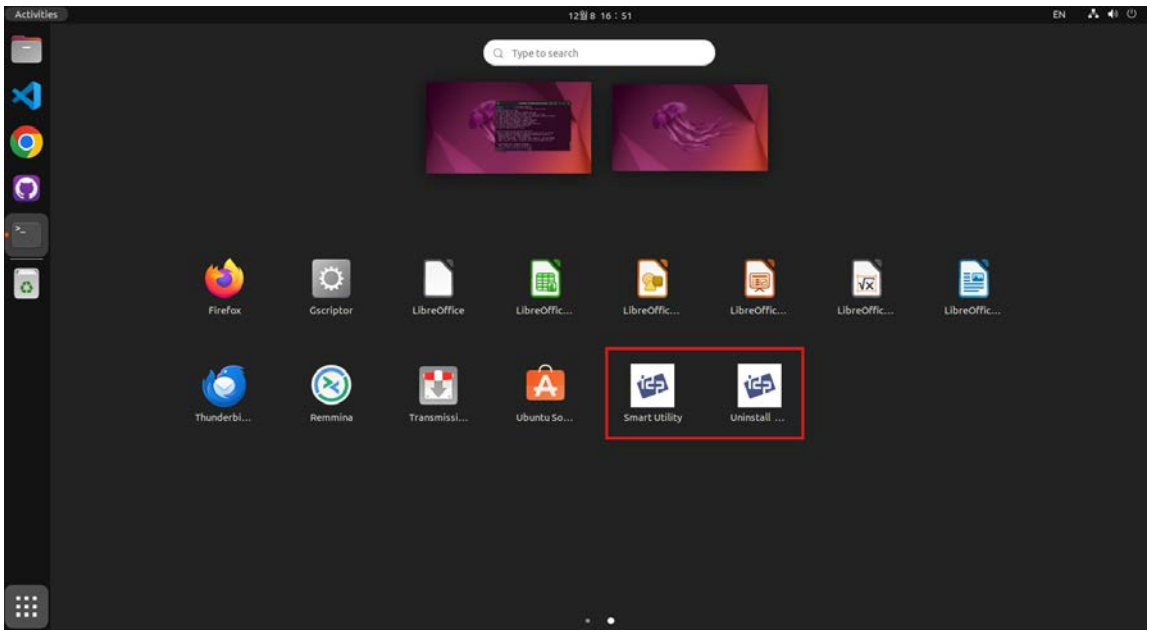


Figure 71 Install SMART Utility 4 – Linux version

4.3. Menu composition

It provides features of printer settings, network settings, printing test, and firmware upgrade.

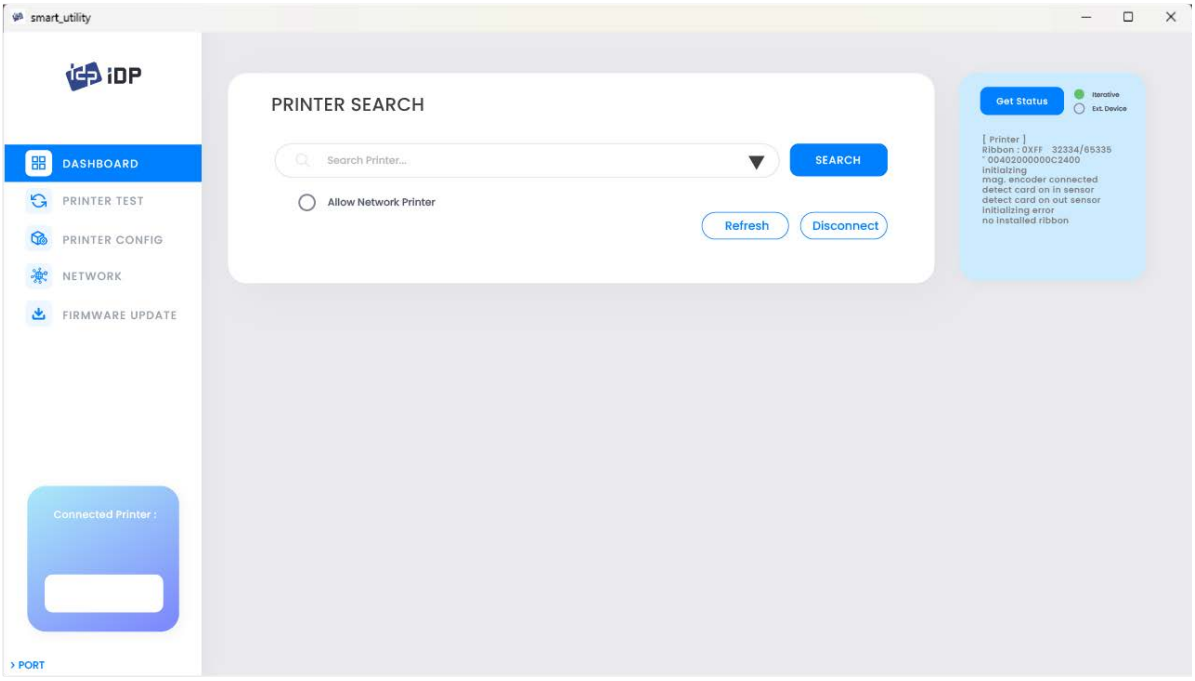


Figure 72 SMART Utility

① **DASHBOARD**

It displays the information and status of the connection for the printer and other options, status of consumables.

② **PRINTER TEST**

You can test for printing, encodings, and other operations.

③ **PRINTER CONFIG**

You can adjust the printer settings, such as area of the printing, densities, printer ID, TPH SN and its resistor, for the advanced users.

④ **NETWORK**

You can adjust the settings for connecting to and using a printer over a network.

⑤ **FIRMWARE UPDATE**

It can upgrade the firmware for printer and installed options.

4.4. DASHBOARD

1. Run SMART Utility

Run the SMART Utility and connect the printer.

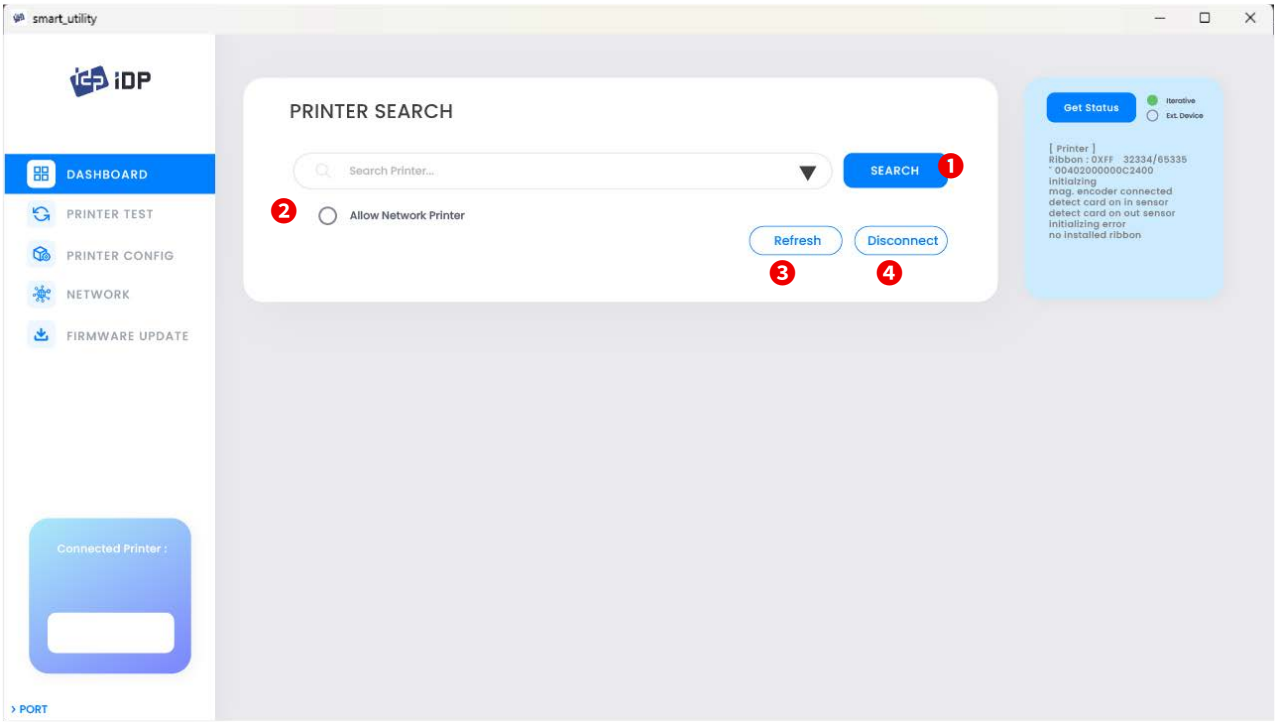


Figure 73 Connect printer

In case of USB connection to printer, click ❶ **SEARCH** button and the USB-connected printers are displayed.
In case of network connection to printer, check ❷ **Allow Network Printer** radio button, and click ❶ **SEARCH** button. Then, the network and USB-connected printers are displayed.
Select the printer that you want to connect.

If the printer that you want to connect is not displayed in the list, click ❸ **Refresh** button to search the connected printer again.

Click ❹ **Disconnect** button to disconnect from the connected printer.

2. DASHBOARD

When the printer is connected properly, various information about the printer is displayed on the DASHBOARD as follows.

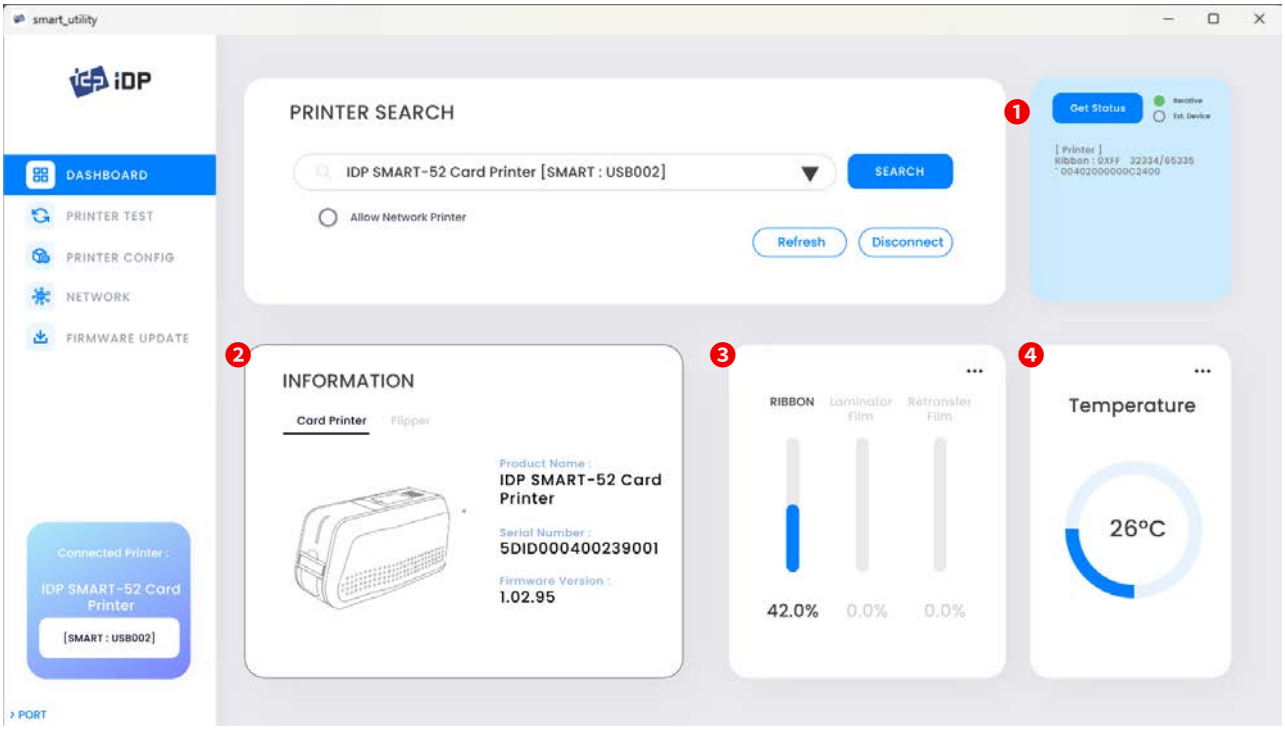


Figure 74 Connect Printer

① **The status log for the printer and other options**

Iterative: Automatically and periodically updates the status of the printer

Ext. Device: The status of other options such as Flipper, Laminator, Multi Hopper, Etc.

② **INFORMATION**

Basic information for the printer and other options

The Flipper or Laminator tab is displayed if it is installed.

③ **CONSUMABLES**

It displays the balance of installed Ribbon, Laminator Flim, or Retransfer Flim

"…": The details for each consumable.

The information displayed may differ depending on the model type.

④ **TEMPERATURE**

Temperature of the printer system.

“…”: The temperature for each part.

4.5. PRINTER TEST

1. Menu Composition

PRINTER TEST provides the function tests as follows.

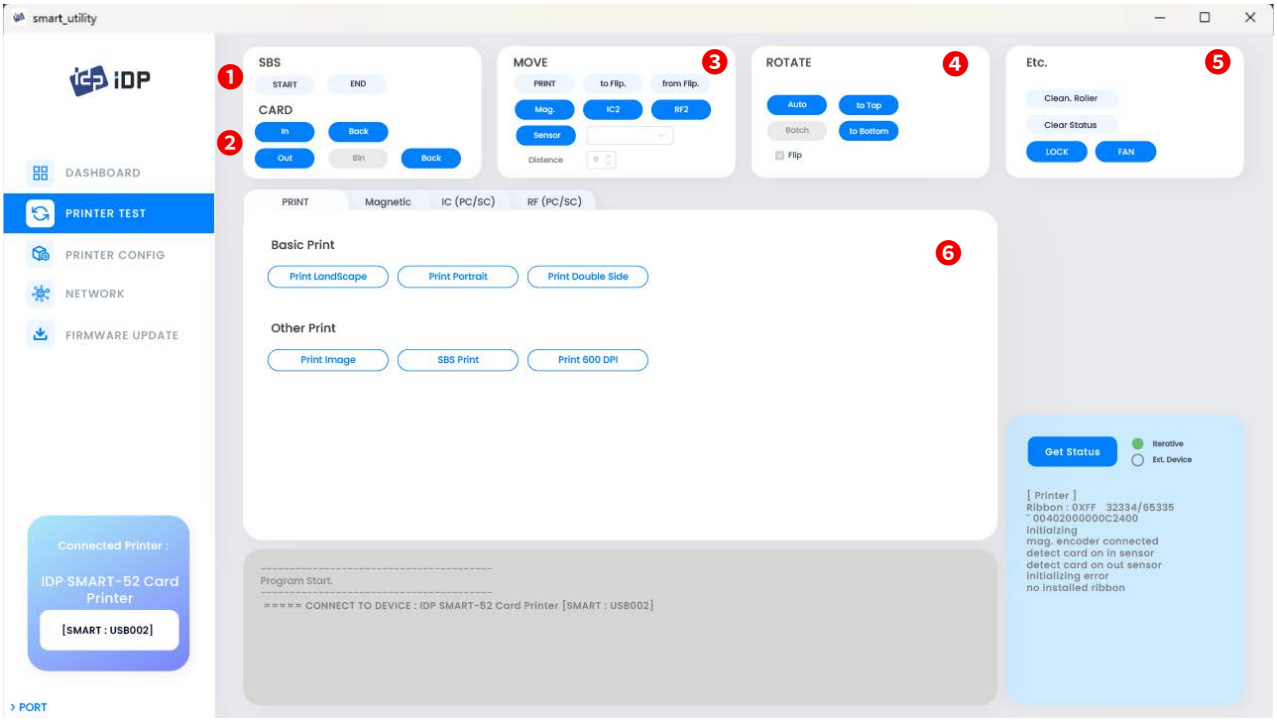


그림 75 PRINTER TEST 메뉴

① SBS

SBS is to operate SMART-52 printer in SBS(Step-By-Step) mode which you can control the printer using commands. In SBS mode, after printing data transmission, printing a card will be run only by clicking “SBS Print”. It is the main difference between NORMAL mode and SBS mode. When you click “START”, SMART-51 is operated in SBS mode, and existing spooled data will be eliminated. To exit SBS mode, click “END”.

② **CARD**

CARD is to insert a card into printer and eject a card. “In” is to move a card from the Input Hopper to the printer and “Out” is to move a card from printer to Output Hopper. In case the flipper or rear stacker is installed, “ Back” ejects a card to the rear side.

③ **MOVE**

Move is to move a card to a specific position inside the printer. “Print” is to move a card to the printing position, “Mag.” is to the magnetic encoding position, “IC2” is to the contact smartcard encoding position, and “RF2” is to the contactless smartcard encoding position. “To Flip.” is to move a card from the printer to the flipper, and “From Flip.” is to move a card from the flipper to the printer. “Sensor” is to move a card from the selected sensor to where you input a ‘Distance’ value.

④ **ROTATE**

ROTATE is to flip over a card in the installed flipper. “Auto” is to move a card from the printer to the flipper, flip over a card, and move a card to the printing position automatically. “Batch” is to repeat “Auto” as many times as the number of sets. “To Bottom” is to turn to the back side of the card, and “To Top” is to turn to the front side of the card.

⑤ **Etc.**

“Cleaning Roller” is to clean the roller using the Long Cleaning Card automatically. “Clear Status” is to remove the status in the message space. “LOCK” is to lock the printer with a preset password in the PRINTER CONFIG menu. “FAN” is to operate the fan on the Top Cover.

⑥ **PRINT, Magnetic, IC (PC/SC), and RF(PC/SC) tab**

Print test and, if the encoder is installed, an encoding test can be performed, too.
The Magnetic, IC, and RF tabs are displayed when the target encoder is installed.

2. Printer Test

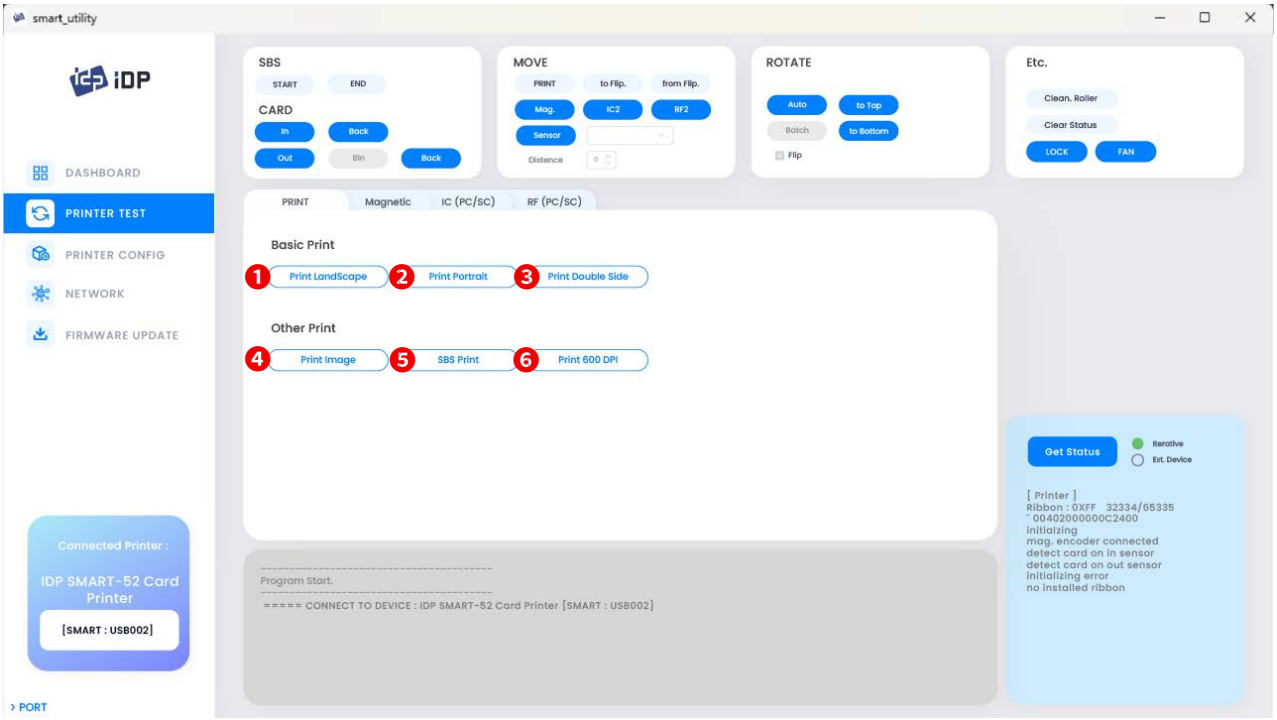


Figure 76 Printer Test

① **Print Landscape**

To print a predesigned Landscape format.

② **Print Portrait**

To print a predesigned Portrait format.

③ **Print Double Side**

To print a predesigned double-sided landscape format.

④ **Print Image**

To open the browser to select the image file and print it.

⑤ **SBS Print**

To print in SBS mode.

⑥ **Print 600 DPI**

To print a predesigned 600 DPI resolution format.

※ **This button is only activated on SMART-81H model.**

3. Encoding Test

Magnetic : Magnetic stripe encoding

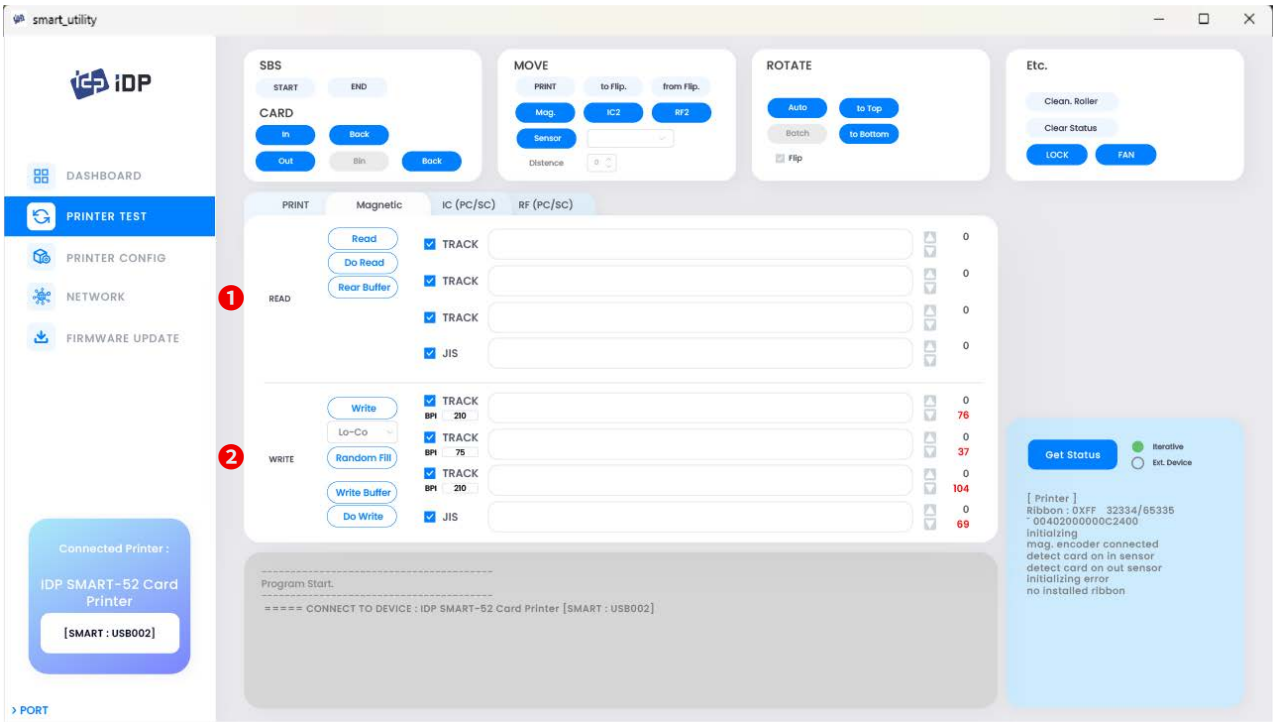


Figure 77 Magnetic stripe Encoding

① **READ section**

"Read" is to read and display the data from the magnetic stripe card. It is composed of "Do Read" and "Read Buffer" and runs "Do Read" and "Read All Buffer" sequentially.

"Do Read" is to read the data from the magnetic stripe card and store the data in the buffer.

"Read Buffer" is to transmit the data stored in the buffer to the PC. If the track number is checked, the data of the checked track is only transmitted to the PC.

② **WRITE section**

"Write" is to write the data to the magnetic stripe. It is composed of "Write Buffer" and "Do Write" and runs "Write Buffer" and "Do Write" sequentially. It can be set to the magnetic card type corresponding to a magnetic card (HiCo / LoCo) to use, and, if the track number is checked, the data of the checked track is only written.

"Random Fill" is to create random magnetic encoding data for testing.

"Write Buffer" is to transmit the data to the buffer.

"Do Write" is to write the data stored in the buffer to the magnetic stripe of the card.

IC(PC/SC) : Contact Smart Card Encoding

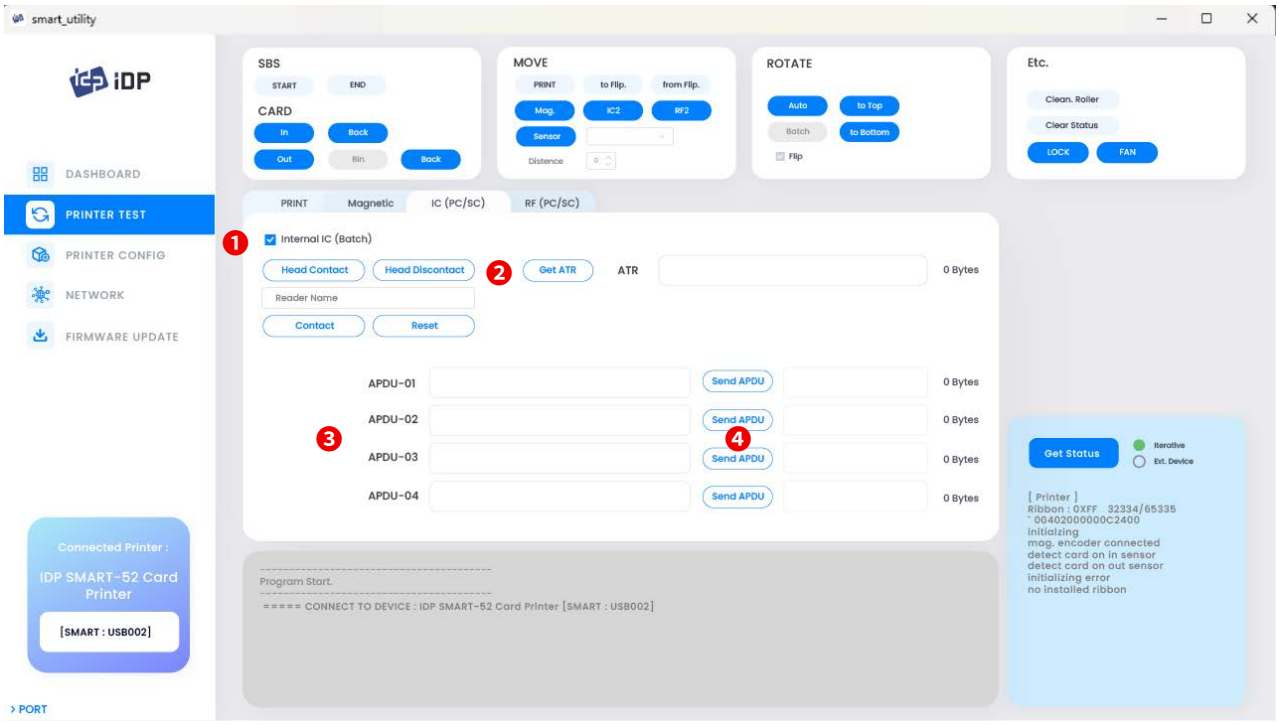


Figure 78 IC(PC/SC) Encoding

① **"Internal IC"** is checked if the internally installed contact smart card encoder is used. If an externally installed encoder is used, uncheck this item.

"Head Contact" is to contact the IC chip of the smart card by lowering the encoder head pins physically.

"Head Discontact" is to separate the encoder head pins from the IC chip of the smart card by lifting the head physically.

“Contact” is to initialize the encoder and get the name of the encoder.
“Reset” is to turn off the encoder and finish the function electrically.

② **“Get ATR”** is to read the ATR value on “Contact” status.

③ **“APDU-01 ~ 04”** is to input the APDU value to transmit to the contact smart card.

“Send APDU” is to send the APDU commands to operate the contact smart card. The received result is displayed on the right side of each button.

RF(PC/SC) : Contactless Smart Card Encoding

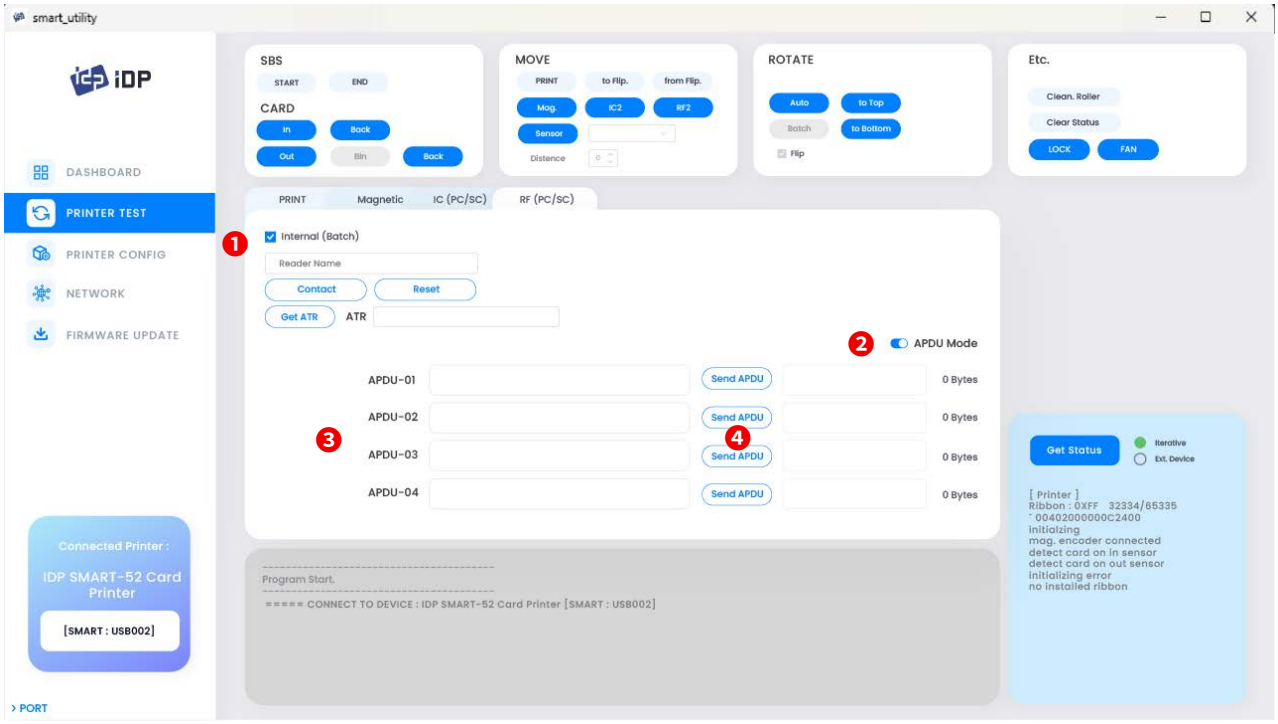


Figure 79 RF(PC/SC) Encoding – APDU Mode On

① **“Internal”** is checked if the internally installed contactless smart card encoder is used. If an externally installed encoder is used, uncheck this item.
“Contact” is to initialize the encoder and get the name of the encoder.
“Reset” is to turn off the encoder and finish the function electrically.
“Get ATR” is to read the ATR value on “Contact” status.

② **“APDU Mode” On**/Off

③ **“APDU-01 ~ 04”** is to input the APDU value to transmit to the contactless smart card.

“Send APDU” is to send the APDU commands to operate the contactless smart card. The received result is displayed on the right side of each button.

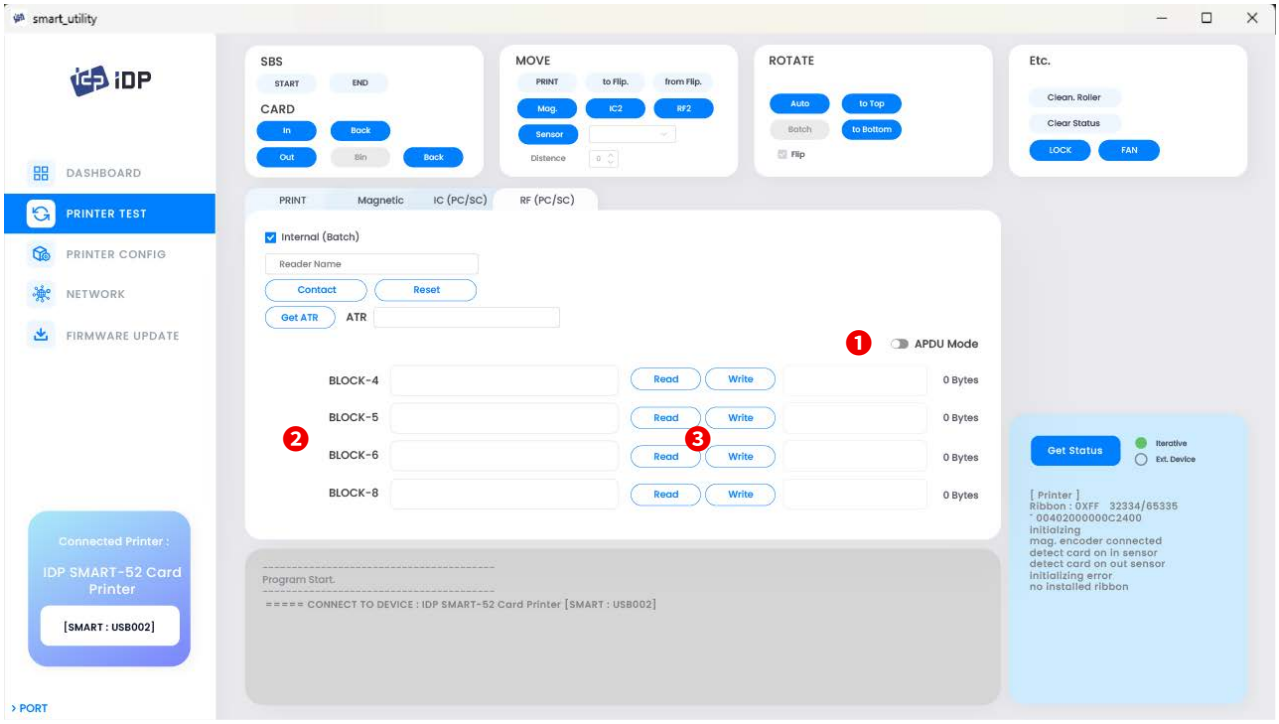


Figure 80 RF(PC/SC) Encoding – APDU Mode Off

① **“APDU Mode”** On/**Off**

② **“BLOCK-4 ~ 8”** is to input the string to send to the contactless smart card.

③ **“Read”** is to read the values in the “Block-4 ~ 8” of the contactless smart card.
“Write” is to write the string in the “Block-4 ~ 8” into the contactless smart card.

4.6. PRINTER CONFIG

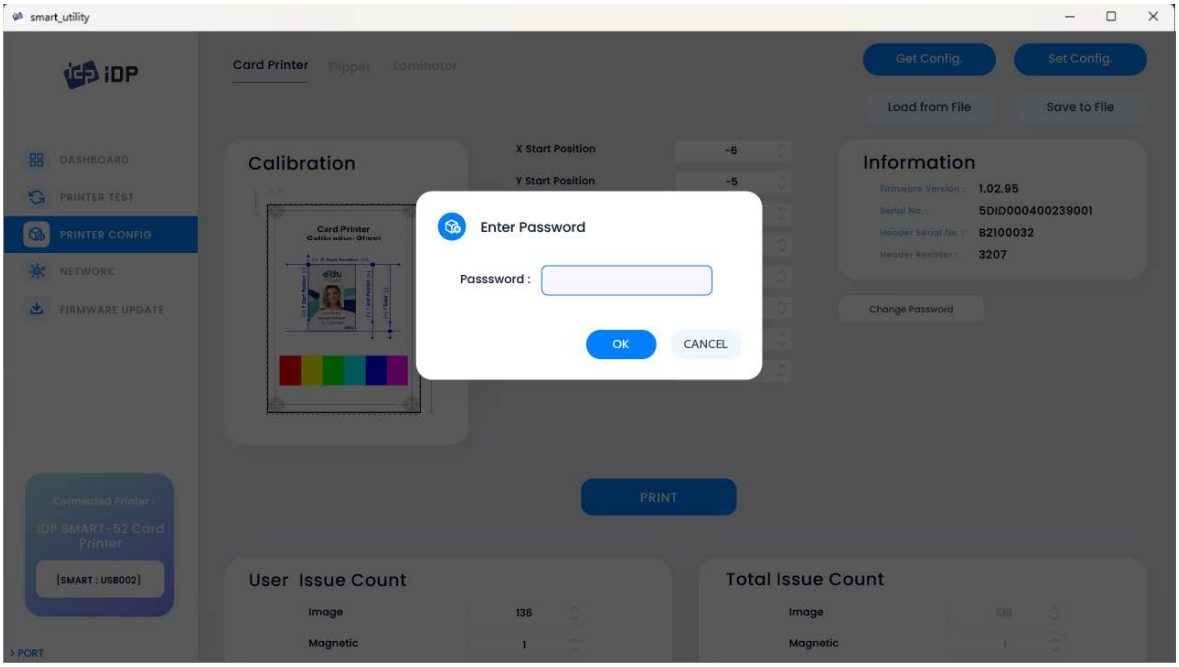


Figure 81 Run PRINTER CONFIG

1. Run PRINTER CONFIG

PRINTER CONFIG menu requires a password, so the Enter PASSWORD pop-up is displayed.

This password is saved to SMART printer, so even if you use a different PC, the same password is needed to run PRINTER CONFIG for the same printer.

Please contact the Local reseller if you forget the password

There is no default password, so simply click “OK” button.
This password is different from the one used in the “NETWORK” menu.

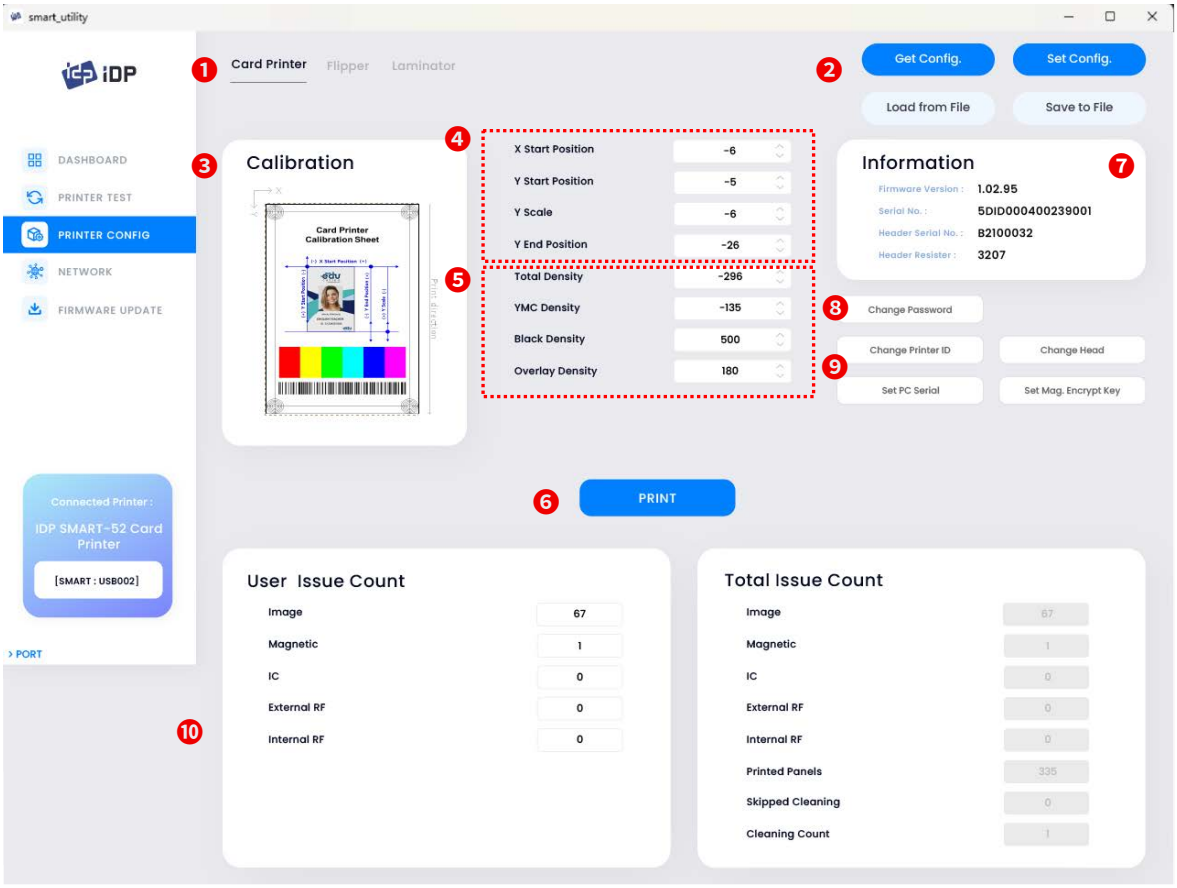


Figure 82 PRINTER CONFIG

2. Menu Composition

PRINTER CONFIG provides the features as follows.

① **Configuration of the Printer and other modules**

PRINTER CONFIG menu is composed of 3 tabs. Card Printer, Flipper, and Laminator tab.

※ “Flipper” or “Laminator” tab is displayed if it is installed.

② **Save and Load the configuration**

Get Config. : Load the configuration from the printer

Set Config. : Save the changed configuration to the printer

Load from File : Load the configuration from saved configuration file

Save to File : Save the configuration as the configuration file

③ **Preview for the changed print area**

It displays the position of the print area, reflecting the changed position value. This preview provides an easy-to-understand view of how the position will change after changing the position values from the previously saved position.

④ Adjust the print area

Use these settings to adjust the image position on the card. Set values so that all circles at the corners are printed normally, and blank spaces are about 0.5mm on the top and bottom of the card. Click the **"PRINT"** button to print a test card. Adjust the settings in following order as needed and print again to check the results.

X Start Position : Set the right and left position by adjusting value
Y Start Position : Set the top position by adjusting value and make a margin of 0.5 mm
Y End Position : Set the bottom position by adjusting value and make a margin of 0.5 mm. It is recommended to set bigger value for "Y Scale" than default
Y Scale : Set it to print circles at the bottom normally

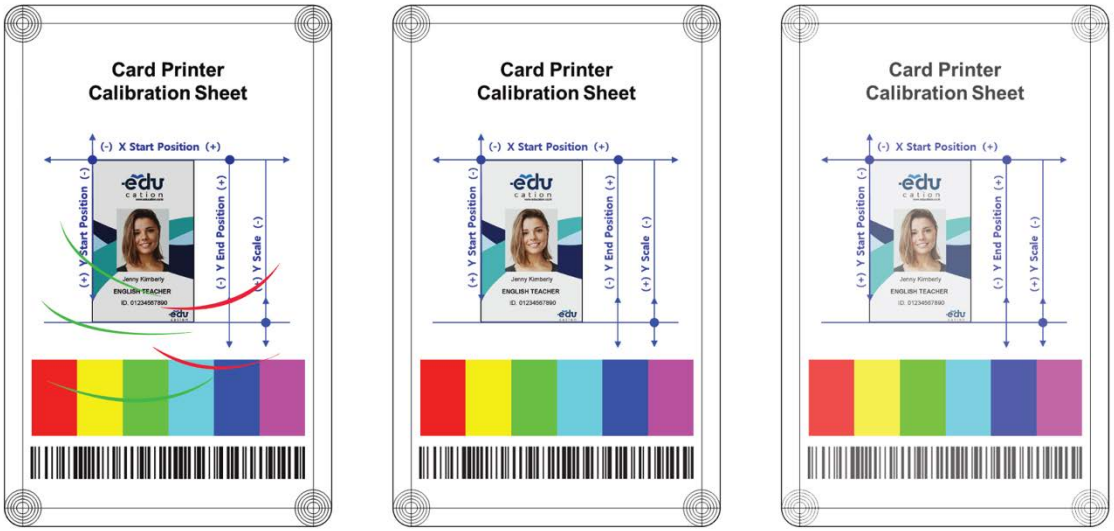
⑤ Adjust the density

The SMART printer allows the user to set different density for each color, resin black and overlay. Adjust each density for high quality. Click the "⑥ **Print**" button to print a Calibration Card, check the result, and adjust the density. Repeat this process until you are satisfied with the results.

⑥ PRINT

Print a Calibration Card based on the currently set position and density values.

Adjustment of Color Density



Too Strong Proper Too Low

Figure 83 Color Density

Total Density : Set all the densities (Color, Black, Overlay) at one time.

YMC Density : Set color density. A higher YMC density allows for a wider range of colors and vivid images. But if it is too strong, green or red wrinkle marks appear. Or, if it is too weak, the print quality will be dull.

Adjustment of Black(Resin) Density

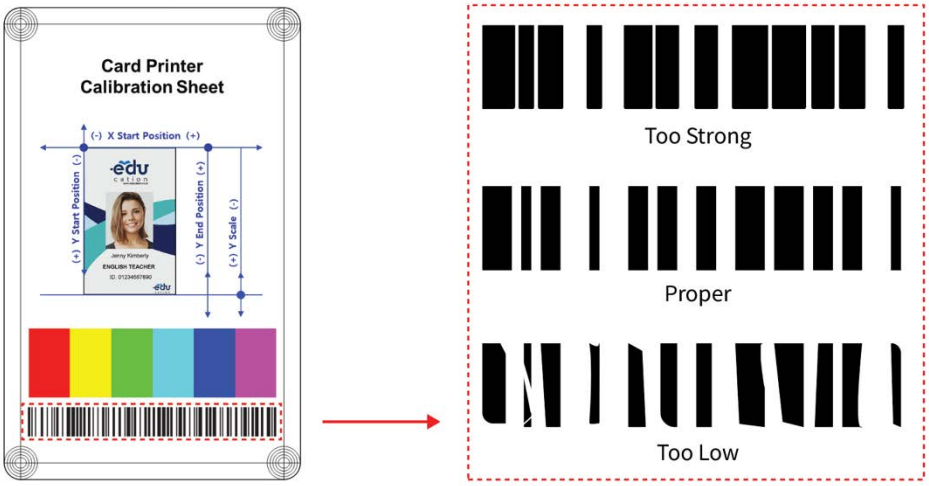


Figure 84 Black (Resin) Density

Black Density : Set resin black density. In the picture, the barcode is printed to express density. When the density is too strong, the barcode is printed too thick. When the density is too low, the barcode is too thin, or some parts are missing. Please adjust the black resin density to ensure a clear barcode as the above pictures.

Adjustment of Overlay Density

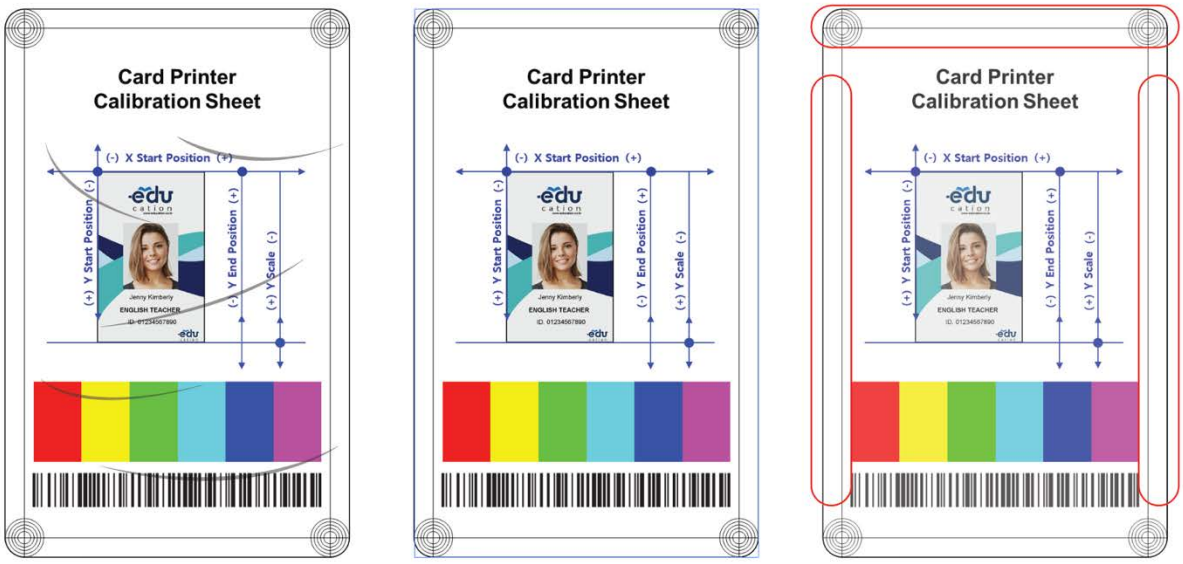


Figure 85 Overlay Density

Overlay Density : Set overlay density. If it is too strong, it is a little blurry, and wrinkle marks appear. If it is too low, the overlay panel is not printed at the edges, as indicated by the red circles in the above picture. You can check it with a printed card under the light.

⑦ Printer information

The firmware version, the serial number of the printer, and the print head's information

⑧ Change password

Change the password required when entering PRINTER CONFIG menu.

※ **Contact the Local reseller if you forget the password.**

⑨ Set the printer's unique information

Change Printer ID : When using the SDK, a unique ID is required for the SMART printer, regardless of which USB port or IP address it is connected to. It is useful to connect and use several printers to one PC. Default ID is "SMART".

Set PC Serial : One of the security features. You can use a printer only with USB connected specific PC. Enabling the "⑥ Security"-"PC Auth." checkbox will only make the printer available when connected specific PC. This "Set PC Serial" button records the unique information of the PC to be used by the printer, which is used as the PC authentication information the next time the printer is turned on.

Change Head : When you replace the thermal print head, you must change the head information for optimal quality. Please change the head serial number, resistor, and type of head in the "Change Head Dialog" window after click "Change Head" button. For further details, please refer to the "6.2. Thermal Print Head(TPH) Replacement".

Set Mag. Encrypt Key : One of the security features. When using the SDK, the magnetic stripe encoding data transmitted by USB can be encrypted. This button sets the encryption key to SMART printer.

⑩ Card Issue Counter for the printer

Total Issue Count : The number of issued cards since the factory shipped, and the Cleaning Count of the printer.

User Issue Count : The number of issued cards after replacing the head. It is initialized by the "Reset User Issue Count" checkbox on the "Change Head Dialog" pop-up window.

3. Printer Advanced Configuration

This menu sets the advanced functions. Most functions are for the particular clients or project. For further details, please contact the Local reseller.

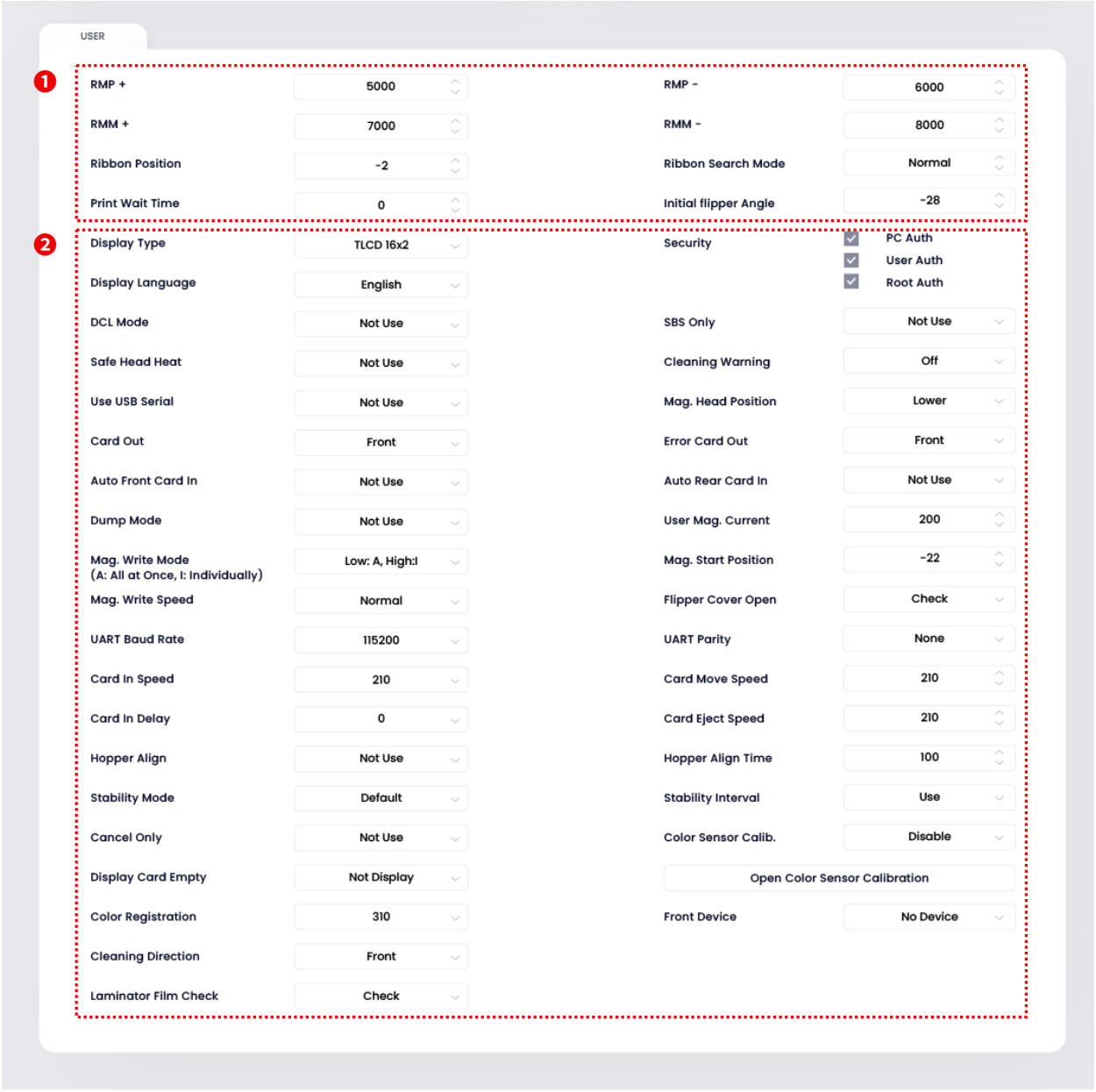


Figure 86 PRINTER CONFIG advanced configuration

① Set the Ribbon Motor's configuration

RMP+ : Ribbon Motor's torque while printing when the Ribbon balance is maximum

RMP- : Ribbon Motor's torque while printing when the Ribbon balance is minimum

RMM+ : Ribbon Motor's torque while searching panels when the balance is maximum

RMM- : Ribbon Motor's torque while searching panels when the balance is minimum

Ribbon Position : The printed image position on each ribbon panel

Stable Ribbon Detection : The ribbon search method when printing

Print Wait Time : The time from when the print head is lowered to the start of printing

Initial Flipper Angle : The angle of Flipper when ejecting a card if 'Card Out' is 'Back'

② **Extra functions configuration**

Display Type : A type of LCD display module

Display Language : The language of LCD display

"English" is the default for the Character LCD.

"Farsi" and "Chinese" can be set for the Graphic LCD.

Security menu: Security features of the printer

"Root Auth": The printer is available only when inputting "password" using the SDK.

DCL Mode : The printer is controlled in DCL mode of SDK without a printer driver.

SBS Only : The printer is controlled in the Step-By-Step mode of the software by SDK. It disables a printer driver.

Cleaning Warning : Set to show the "Do Cleaning" message periodically.

Use USB Serial : Whether to use the printer's serial number as the USB device serial number. The default is to use the same number for all SMART-52. Please set "USE" when using multiple SMART-52 printers connected to one PC via USB. It enables unique serial numbers for each printer.

Mag. Head Position : SMART-52 has two types of magnetic encoder options (Upper / Lower). Set it depending on the installed encoder type.

Card Out : The direction of ejecting a printed card

Error Card Out : The direction of ejecting an error card during encoding and a stuck card during initialization.

Auto Front Card In : Insert a card automatically if the Card In sensor detects it. Used in KIOSK model as needed.

Auto Rear Card In : Insert card automatically if the Card Out sensor detects it. Used in KIOSK model as needed.

Dump Mode : It records log data to inspect the operation of the printer.

User Mag. Current : The default current value when the user selects to use the defined value when magnetic encoding

Mag. Write Mode : Whether to encode the magnetic stripe 3 tracks at once or twice

L:A, H:I : For LoCo cards, 3 tracks are encoded at once, while for HiCo cards, tracks 1/3 and 2 are encoded twice (default).

L:I, H:I : For both LoCo and HiCo cards, tracks 1/3 and 2 are encoded twice.

L:I, H:A : For LoCo cards, tracks 1/3 and 2 are encoded twice, while for HiCo cards, 3 tracks are encoded at once.

L:A, H:A : For both LoCo and HiCo cards, 3 tracks are encoded at once.

Mag. Start Position : The start position of magnetic stripe when encoding

Mag. Write Speed : The speed of encoding the magnetic stripe

Flipper Cover Open : Notify / Ignore “Flipper Cover Open” status in the SMART-52D

UART Baud Rate : The speed of communication of the internal serial port. Used to interface with other devices for the KIOSK model.

UART Parity : Which error-checking method to use while communicating with other devices via the internal serial port

Card In Speed : The speed of inserting a card

Card In Delay : The time between inserting a card and the next operation

Cade Move Speed : The speed of moving a card

Card Eject Speed : The speed of ejecting a card

Hopper Align Time : Time to realign a card (Unit: 1ms)

Stability Interval : The interval time for operation stability

Cancel Only : Only the “Cancel” button is displayed when an error occurs, without the “Retry” button. Used for printing a multi-page document. It prevents touching “Retry” button and re-printing from the 1st page by accident.

Display Card Empty : The “Card Empty” message is displayed on the LCD panel when no card is in the hopper.

Laminator Film Check : Even if the laminating film is not installed on the SMART-52L, "None Check" can make the printer "System Ready." It can print and encode, except for laminating.

Open Color Sensor Calibration : Gets the proper color values to detect each panel with Color In/Out sensors

Front Device : Installed the Input hopper type. Used in Kiosk model. (SMART-70 Multi Hopper, Compact Multi Hopper, etc.)

TLCD PW : password menu for Touch Screen LCD *** Functions for SMART-52**

Use TLCD PW : Whether to use the Touch Screen LCD password or not

Change TLCD PW : Change the password required when entering Settings/Diagnostics menu on Touch Screen LCD

Clear TLCD PW : Remove the password for Touch Screen LCD

4. Flipper Configuration

The “Flipper” tab is displayed if the Flipper option is installed (SMART-52D).

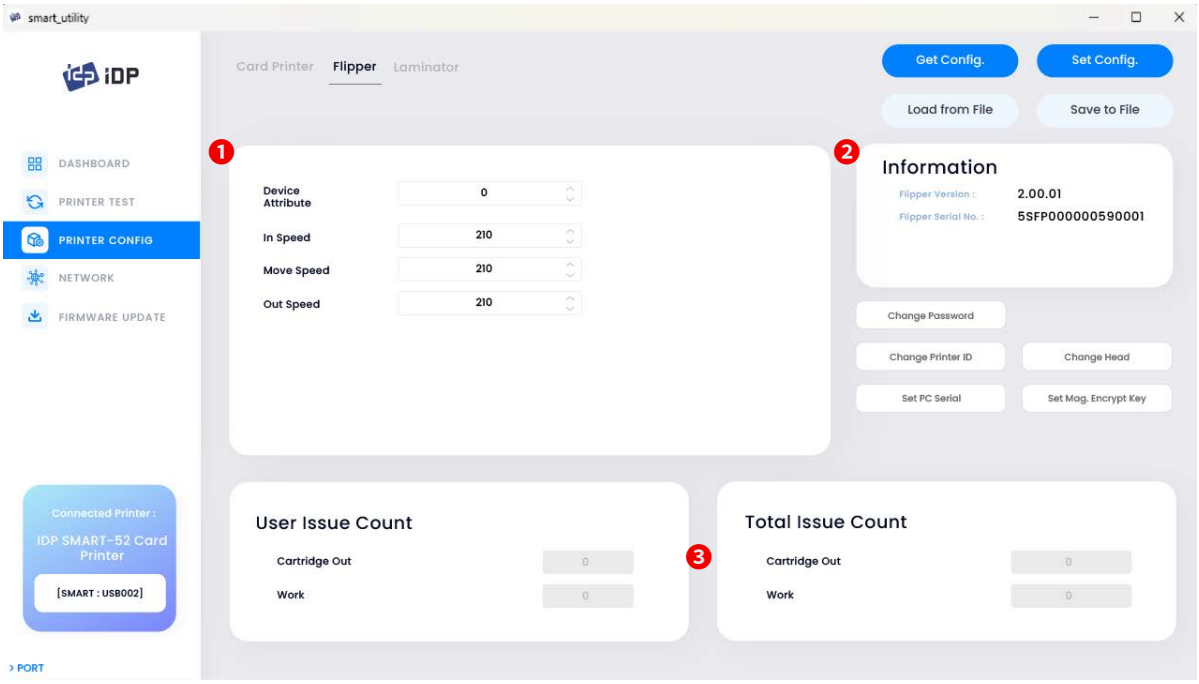


Figure 87 Flipper Configuration

① Flipper Basic Configuration

Device Attribute : Basic attribute of Flipper.

In Speed : The speed of inserting a card into the Flipper.

Move Speed : The speed of moving a card in the Flipper.

Out Speed : The speed of ejecting a card from the Flipper.

② Flipper Information

The firmware version, the serial number of the Flipper option.

⑪ Card Issue Counter for the Flipper

User Issue Count : The number of currently issued cards

Total Issue Count : The number of issued cards since the factory shipped.

5. Laminator Configuration

The “Laminator” tab is displayed if the Laminator option is installed (SMART-52L).

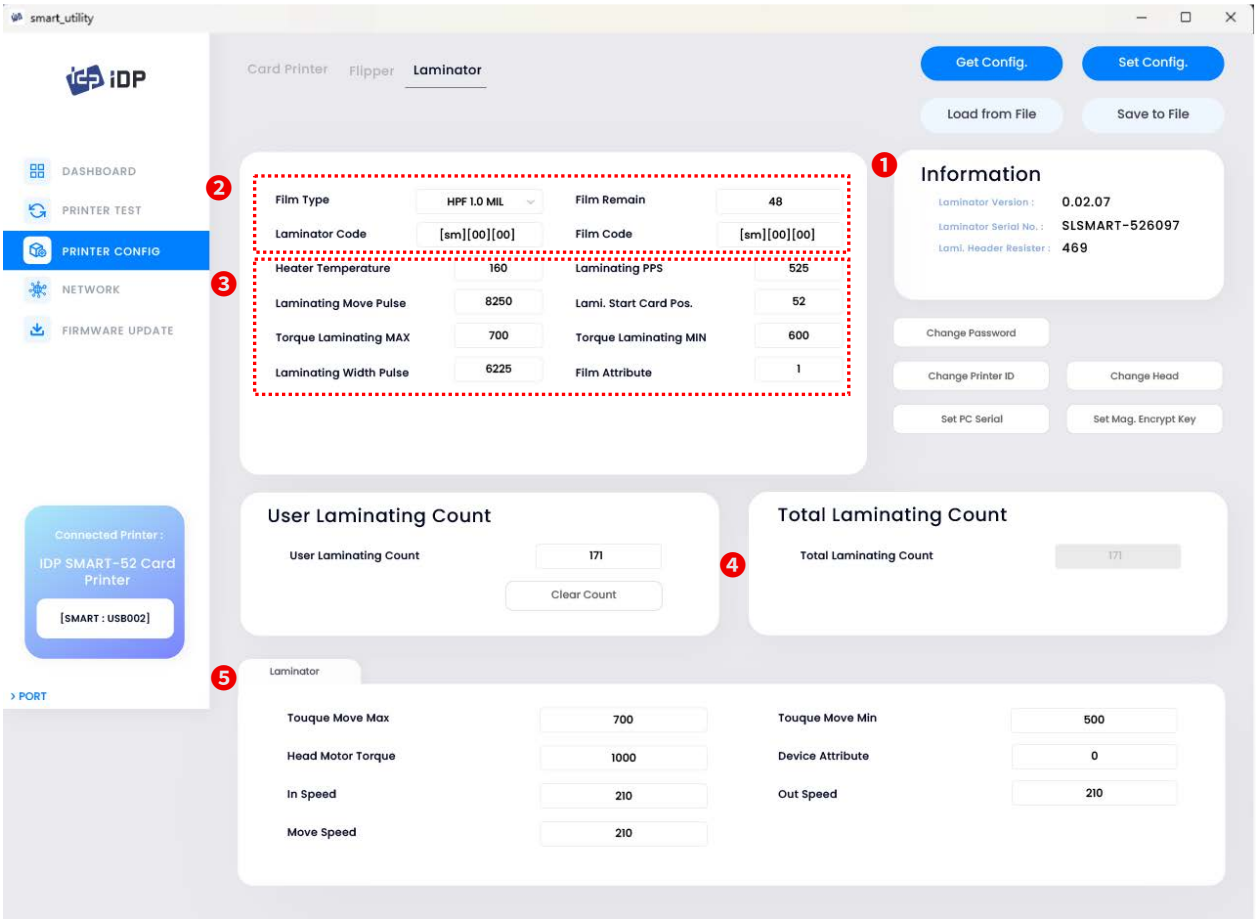


Figure 88 Laminator Configuration

① **Laminator Information**

The firmware version, the serial number of the Laminator option, and the Laminate Head’s Resistor.

② **Laminating Film / Code Information**

Film Type : Installed film’s type and thickness.

Film Remain : Installed film’s total number and balance.

Laminator Code : Laminator’s model, vendor, region code.

Film Code : Installed film’s model, vendor, region code.

③ **Laminator Basic Configuration (Dependng to the installed film type)**

Heater Temperature : Laminating temperature.

Laminating PPS : Laminating speed.

Laminating Move Pulse : The distance of the laminating movement.

Lami. Start Card Pos : The position of starting the laminating on the card.

Torque Laminating Max : Film Motor's maximum torque while laminating.

Torque Laminating Min : Film Motor's minimum torque while laminating.

Laminating with Pulse : Laminating width.

Film Attribute : Attribute value of installed film.

④ **Total Laminating count**

⑤ **Laminator Advanced Configuration**

Torque Move Max : Film Motor's maximum torque while searching the patch.

Torque Move Min : Film Motor's minimum torque while searching the patch.

Head Motor Torque : Head UpDown Motor torque.

Device Attribute : Attribute value of Laminator.

In Speed : The speed of inserting a card into the Laminator.

Move Speed : The speed of moving a card in the Laminator.

Out Speed : The speed of ejecting a card from the Laminator.

4.7. NETWORK

1. Preparing the network connection



Figure 89 Rear side of SMART-52S printer 1

SMART-52 printer has a network port to connect the LAN cable, as shown in ③.

① Power Switch

② Power Supply Connector

③ Network Port

④ USB Port



Figure 90 Rear side of SMART-52S printer 2

Connect the power cable and network cable (RJ45) to the SMART-52 printer.

(Network cable is not supplied. Please ask the network administrator for more questions.)

The SMART-52 printer supports a variety of network printing options. Network configuration requires expert network knowledge, so please consult a network professional when changing the network settings.

2. NETWORK Configuration

The NETWORK menu requires a password, so the Enter PASSWORD pop-up is displayed.

> The default password of the NETWORK menu is '**admin**'.
> This password is different from the one used in the "PRINTER CONFIG " menu.

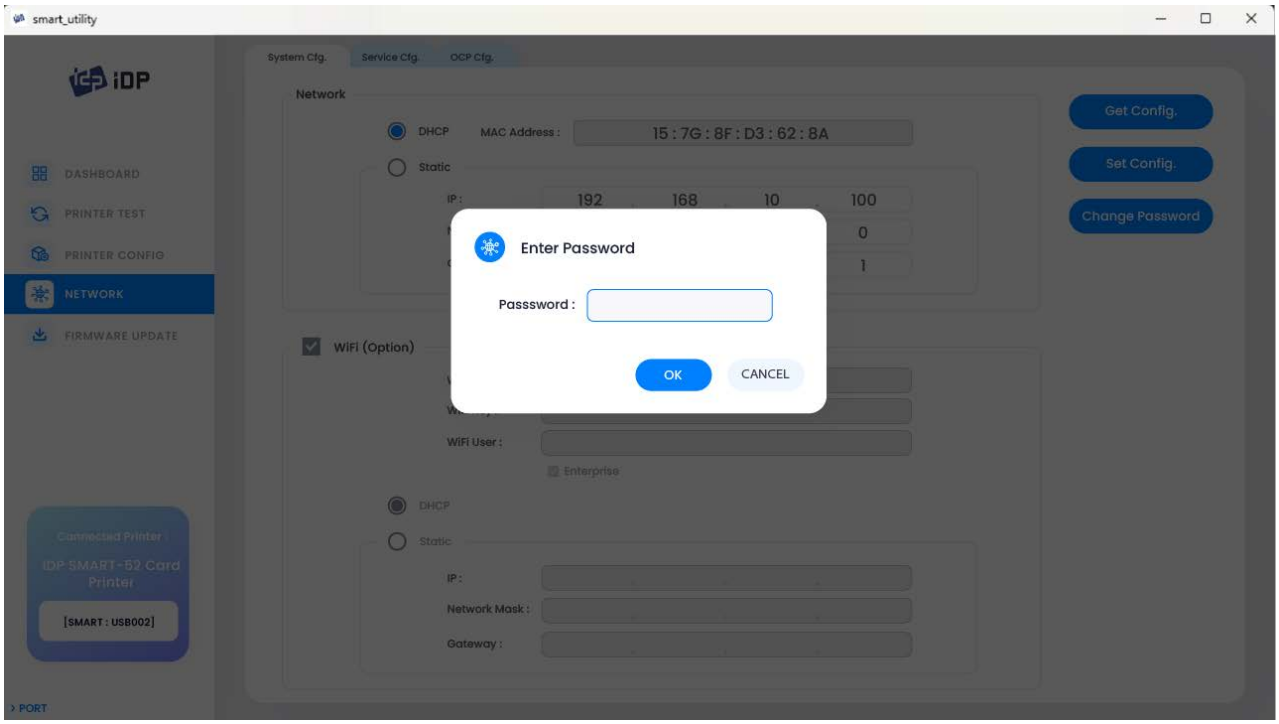


Figure 91 NETWORK Configuration

3. NETWORK Menu

NETWORK menu is composed of 3 tabs.

- **System Cfg.** : Configuration of Network Connection.
- **Service Cfg.** : Configuration of Network Service.
- **OCP Cfg.** : Configuration of OCP(Open Card Print) function.

System Cfg. : Network connection configuration

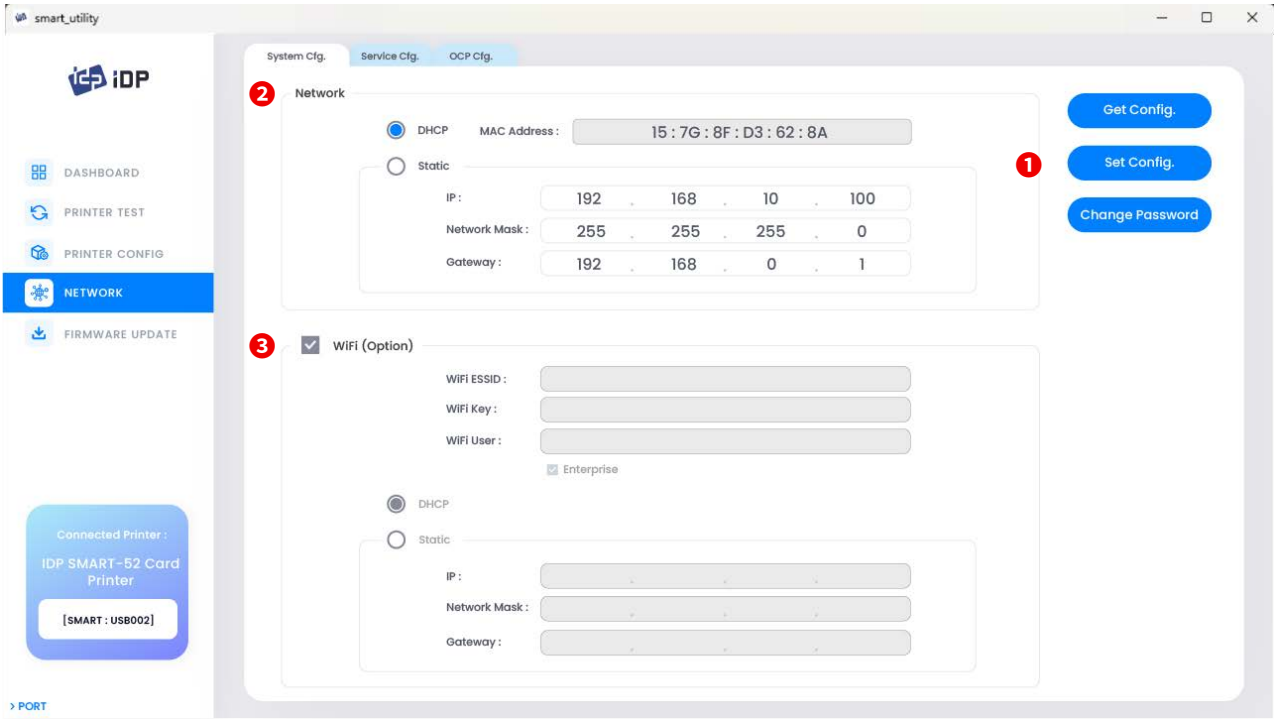


Figure 92 System Configuration tab

① **Save and Load the configuration**

- **"Get Config."** is to load the configuration from the printer.
- **"Set Config."** is to save the changed configuration to the printer.
- **"Change Password"** is to change the password to enter the NETWORK menu.

② **Wired network configuration**

- Select DHCP or Static.
- DHCP is used to assign the IP address by a DHCP server, and the default is **DHCP**.

- Static is used to assign the IP address manually, and the IP address, Network Mask, and Gateway MUST be set correctly.
- Please ask the network administrator if you don't have knowledge or information.
- After setting them, click the "Set Config." button to save the new network configuration and reboot the printer.
- We recommend using a static IP because it is more stable for using a network printer.

③ **Wireless network configuration**

- For wireless network, the WIFI option provided from IDP should be installed in the printer. Please contact the Local reseller to purchase it.
- Check "WiFi(Option)" box to activate it.
- Input the ESSID in "WiFi ESSID" to access
- Input the Key in "WiFi Key"
- Set the IP address (DHCP, Static) in the same way of wired network.
- After setting them, click the "Set Config." button to save the new network configuration and reboot the printer.

Service Cfg. : Network service configuration

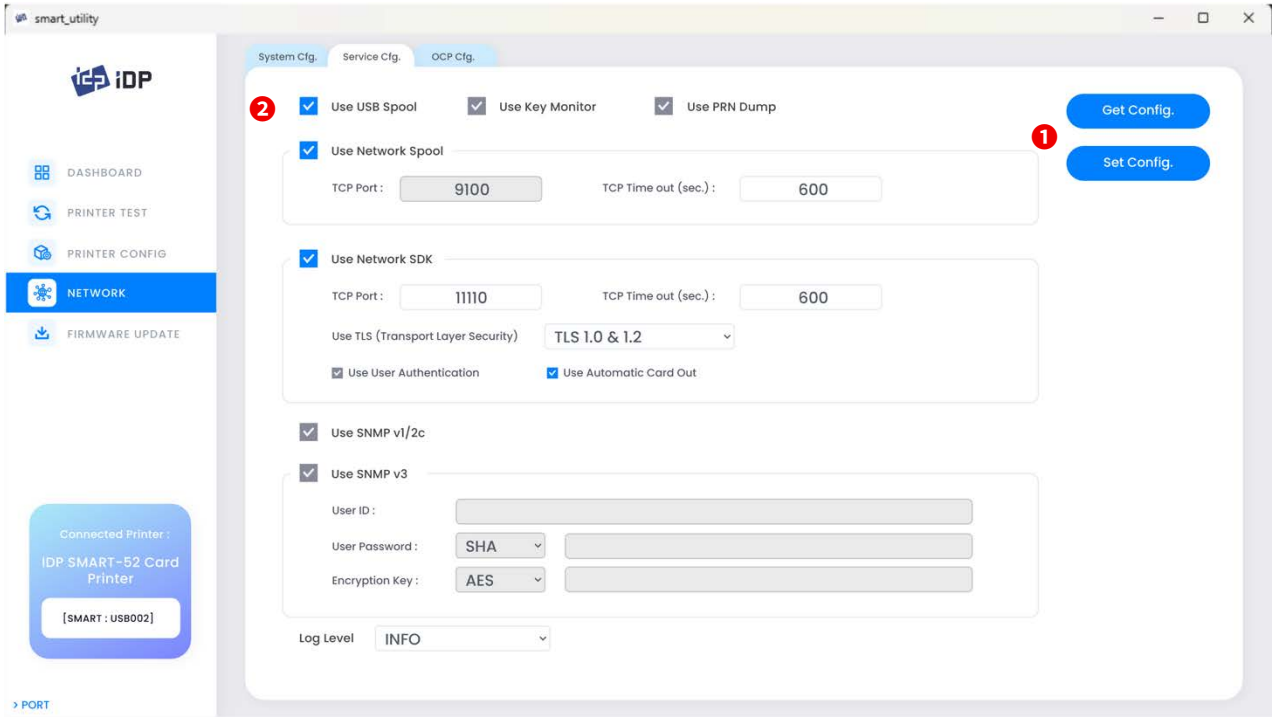


Figure 93 Service Configuration tab

① **Save and Load the configuration**

- **“Get Config.”** is to load the configuration from the printer
- **“Set Config.”** is to save the changed configuration to the printer

② **Network service configuration**

- “Use USB Spool”: The service for printing with the printer driver via USB connection
- “Use Key Monitor”: The service that monitors whether the USB memory is installed properly if it is used in the printer
- “Use PRN Dump”: The service to save the data transmitted as a file
- “Use Network Spool”: The service for printing with printer driver via network
- “Use Network SDK”: The service for printing with SDK of SMART printer. The encryption and user authentication feature can be supported in the SDK
- SNMP v1/2c: Set to support the SNMP v1/2c protocol
- SNMP v3: Set to support the SNMP v3 protocol
- “Log Level”: Set the level of log to save in the printer
- After changing the configuration, click “Set Config” button and reboot the printer.

OCP Cfg. : Open Card Print Configuration

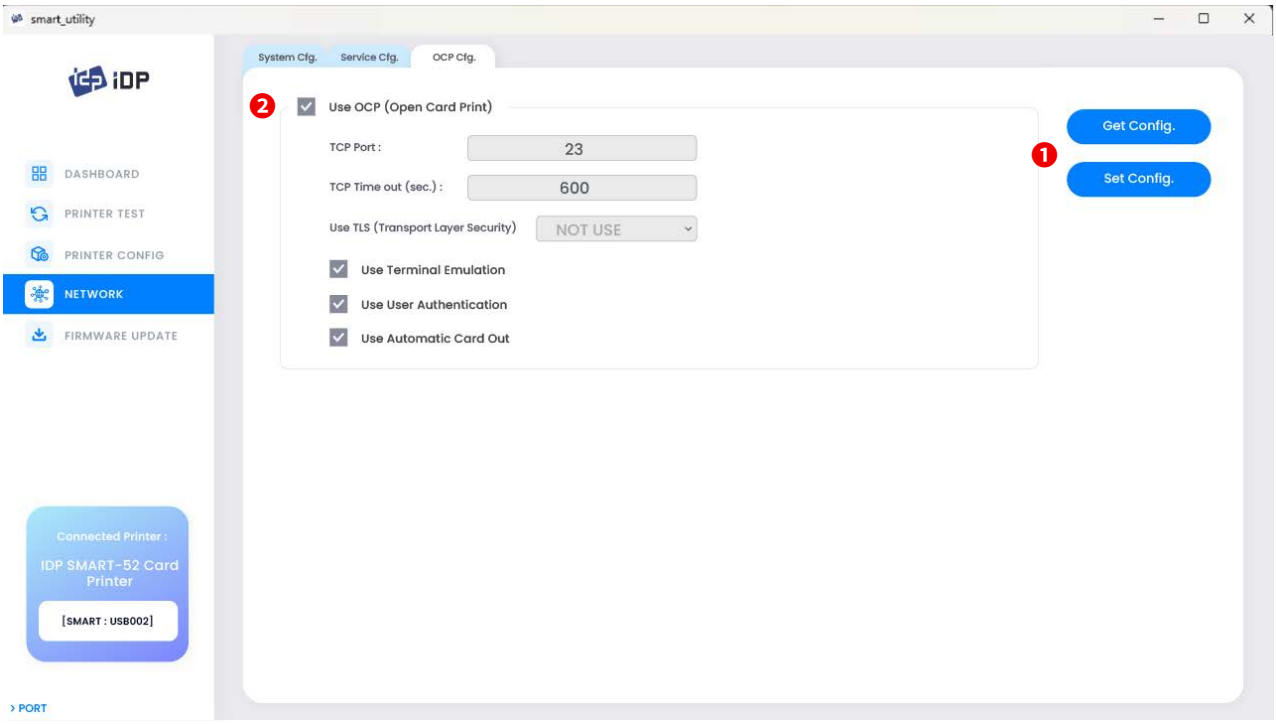


Figure 94 OCP Configuration

① **Save and Load the configuration**

- **"Get Config."** is to load the configuration from the printer.
- **"Set Config."** is to save the changed configuration to the printer.

② **OCP Configuration**

OCP(Open Card Print) function is for sending print, encode or other commands via network and the printer works the same without a printer driver regardless of the OS (Windows / macOS / Linux / Android / etc.) of the connected user's PC.

- "Use OCP": Set whether to use OCP function
- "Use Terminal Emulation": The printer sends echo for received commands via Terminal. For security, it supports SSL and User Authentication.
- "Use Automatic Card Out": Set to eject a card after printing automatically. It is unchecked by default, as it can be difficult to retrieve the card immediately if the network printer is far from the user.
- After changing the configuration, click "Set Config" button and reboot the printer.

4.8. FIRMWARE UPDATE

SMART-52 printer has 3 kinds of firmware: Printer, Flipper, and Laminator.

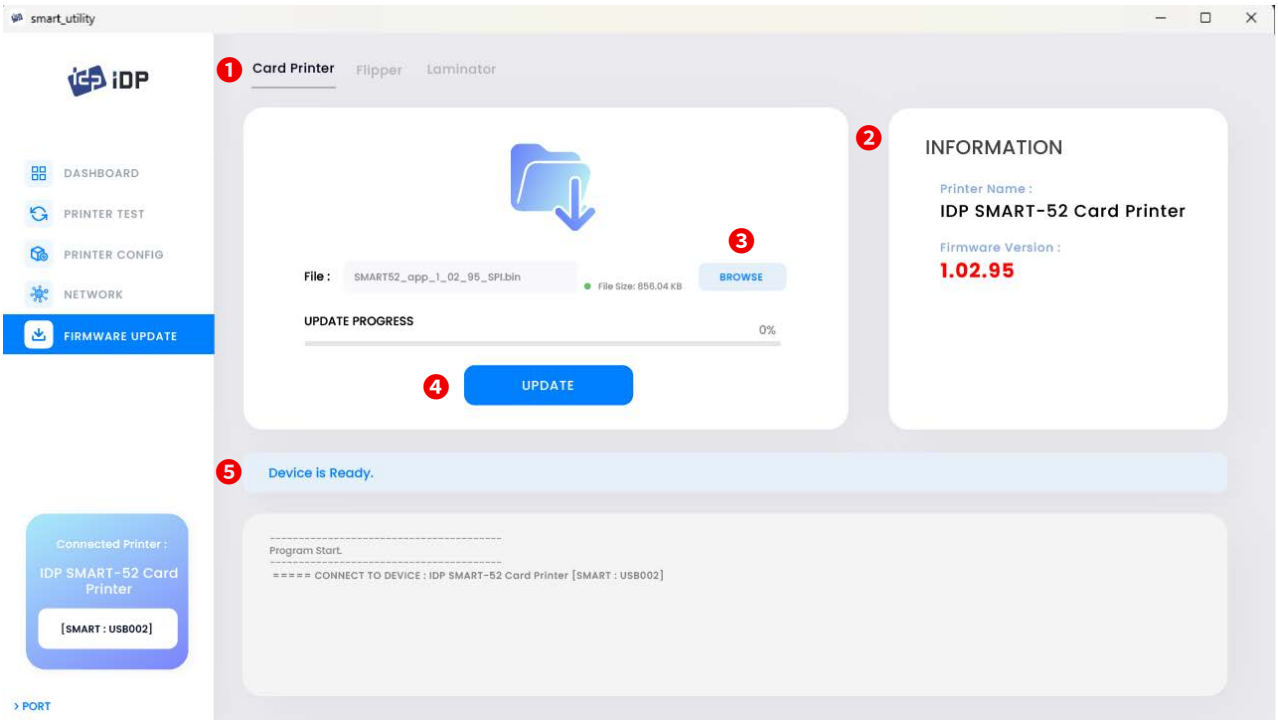


Figure 95 FIRMWARE UPDATE

1. FIRMWARE UPDATE

① **Card Printer / Flipper / Laminator tab:** Select the device to update the firmware.

※ **Flipper and Laminator tab is displayed only if it is installed.**

② **INFORMATION:** The device name and current firmware version are displayed.

③ **BROWSE:** Select the firmware file to update.

④ **UPDATE:** Start the firmware update

※ **Do not turn off the printer and do other jobs during the updating operation.**

⑤ **Status of the device:** The connected device's status is displayed.

5. Troubleshooting

5.1. Cleaning the printer

To maintain the best condition of SMART-52 printer, it requires regular cleaning of the printer. Cleaning the printer is easy with a Long Cleaning Card, as shown in the image. Please Contact the IDP printer Reseller to purchase a Long Cleaning Card.



Figure 96 Long Cleaning Card for SMART-52 printer

After preparing the Genuine Long Cleaning Card, click the “Clean Printer” button in the “Service” tab of the SMART-52 printer driver. Then, the “Clean Printer” program runs.
You can clean the printer in the “Cleaning” menu of Touch Screen LCD, too.

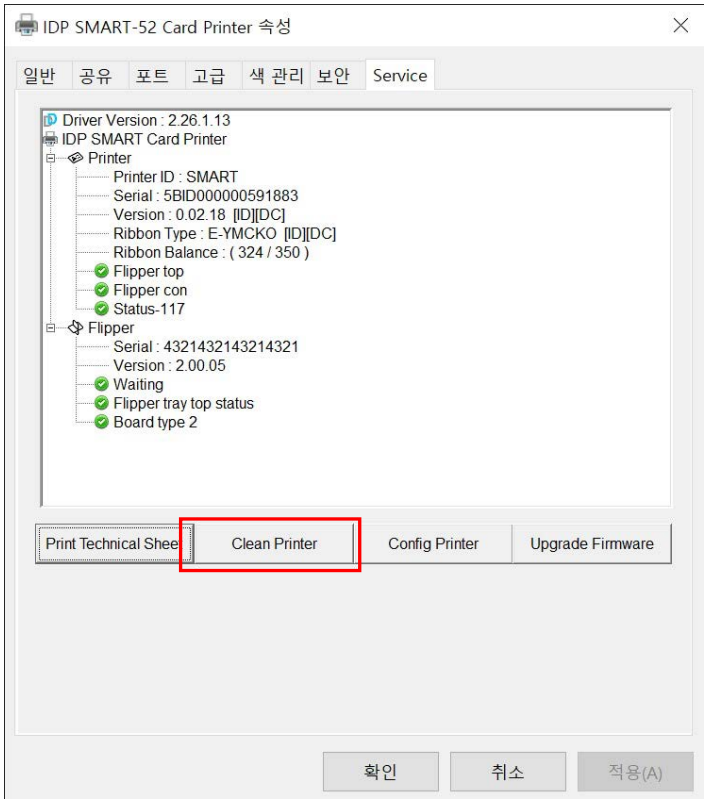


Figure 97 Run Clean Printer program

Step 1 : Connect the SMART-52 printer to PC and turn it on, and prepare the Long Cleaning Card.



Figure 98 Cleaning printer Step 1

Step 2 : Open the Hopper and Top Cover and remove the Cards and Ribbon Cartridge.



Figure 99 Cleaning printer Step 2

Step 3 : Insert the Long Cleaning Card into the printer through the Input Hopper. When the Cleaning Card reaches the Cleaning Roller inside, it will move automatically. It is normal for the rollers to rotate while the end of the cleaning card is stuck in the hopper and can't go any further.



Figure 100 Cleaning printer Step 3

Step 4 : Close the Top Cover to clean the Thermal Print Head and the rollers. When the Top Cover is closed, Cleaning Card will move back and forth to clean.



Figure 101 Cleaning printer Step 4

Step 5 : Wait until the cleaning is completed. When the cleaning is completed, the Long Cleaning Card will be ejected automatically as the picture.



Figure 102 Cleaning printer Step 5

Step 6 : Remove the Long Cleaning Card from the Input Hopper. After installing the cards and Ribbon Cartridge into the printer, the printer is ready for use.



Figure 103 Cleaning printer Step 6

5.2. Thermal Print Head(TPH) Replacement

If the Thermal Print Head is damaged or out of order, replace it by following steps.

---

1. **Check the serial number and the resistance of new Thermal Print Head as the Picture.**

   TPH Type : B = KPE (A = KEE, No longer used)
   Serial number : see in the red box
   Head resistance: see the green box (Last 4 digits)



Figure 104 Print Head

2. Set up the new Print Head's configuration using the SMART Utility.

Step 1: Run the SMART Utility and click 'PRINTER CONFIG' button.

Step 2: Click "Change Head" button.

Step 3: Input the Print Head's Serial number and Resistance on the label of Print Head.

Step 4: Click "Set Config" button to save the new Print Head's configuration.

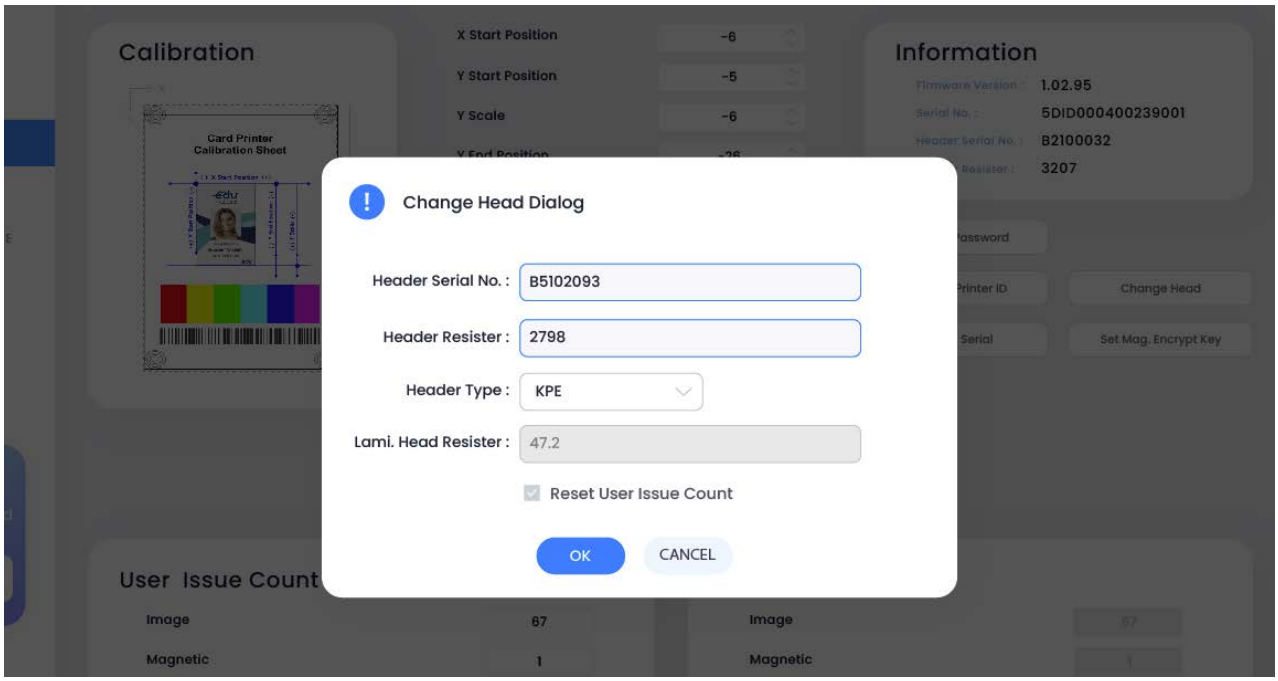


Figure 105 Configuration of Print Head

3. Replace the New Print Head.

Step 1: Remove the old Print Head from the Top Cover.

(1) Turn off the printer and open the Top Cover.

(2) Hold the Print Head and push the locked Hook to release the Print Head.

(3) Disconnect the Print Head from the Print Head Cable carefully.

The Print Head is very hot after printing.

Step 2: Installing the new Print Head

(1) Connect new Print Head to the Print Head Cable.

(2) Put the Print Head on the shaft of Top Cover and pull upward until locked by Hook.

Replacement of the Print Head



Figure 106 Print Head Replacement

4. Set up the printing position and the densities

Adjust the printing position on the card and densities using SMART Utility. Refer to “4.6. PRINTER CONFIG”.

5. Calibrate the Print Head’s angle

To get the best print quality, the Print Head should be located vertically with a card surface. If print quality has a problem, adjust the Print Head’s angle by turning the screw clockwise or counterclockwise by 90 degrees at a time.

※ It is recommended to use it as it is because the new Print Head is already optimized.

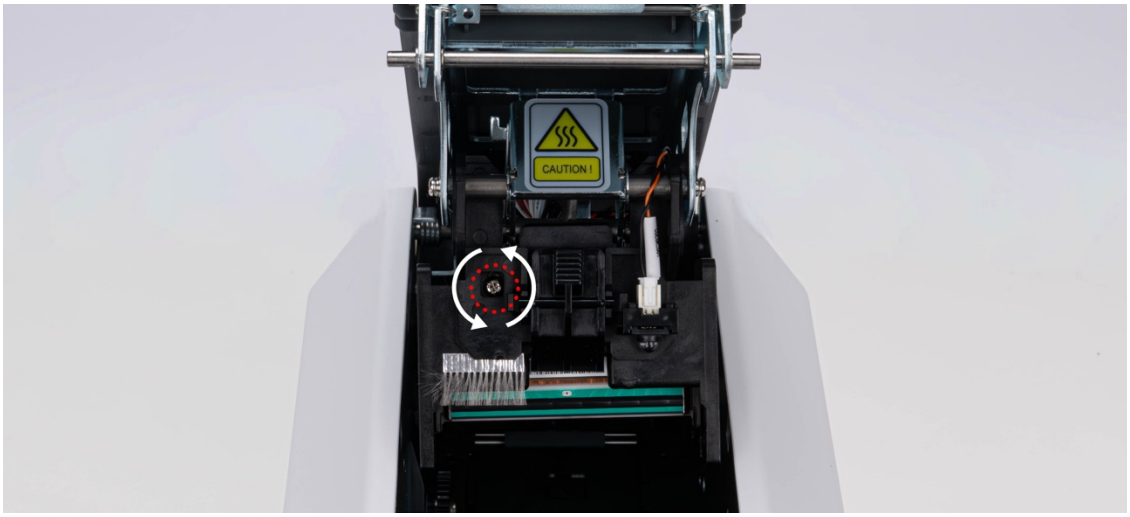


Figure 107 Print Head’s Angle

5.3. Laminate Head Replacement

1. Disassemble the Laminate Head

(1) Turn off the printer and laminator, and open the Laminator Cover.

(2) Hold the Laminate Head, keep pushing it in the direction of the red arrow and pull upward until the head separates from Laminator Cover.

※ The Laminate Head is very hot after laminating.

(3) Flip the Head and release the cable tie.

(4) Disconnect the sensor cable (CON.1) and head cable (CON.2)

(5) Separate the Laminate Head from the Laminator body.

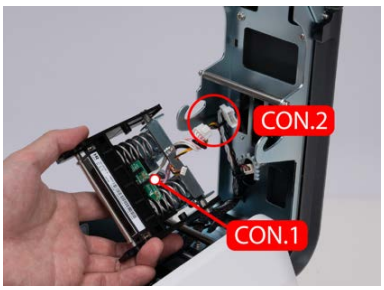
Disassembling of the Laminate Head



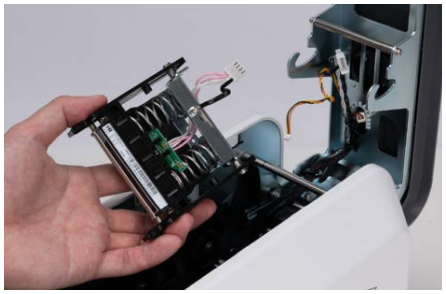
<Stpe 1>



<Step 2>



<Step 3>



<Step 4>



<Step 5>

Figure 108 Disassembling of Laminate Head

2. Assemble the new Laminate Head

(1) Check the resistance value, ‘R2’, on the label of the new Laminate Head.

(2) Connect the sensor connector (CON.1) and head connector (CON.2) to the cables passing through the hole at the top of the Laminate Head. (※ Check the connector orientation.)

(3) Fix cables with cable tie on the Laminate Head.

(4) Flip the Head, keep pushing it in the direction of the red arrow, and pull downward to fix it to the hook.

(5) Set up the new Laminate Head’s configuration using the SMART Utility.

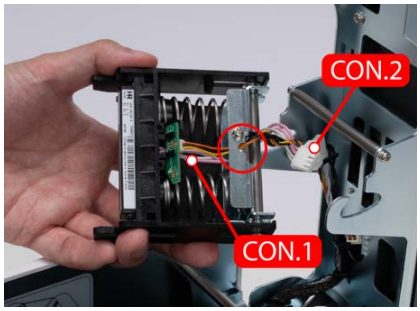
Step 1: Run the SMART Utility and click ‘PRINTER CONFIG’ button.

Step 2: Click “Change Head” button.

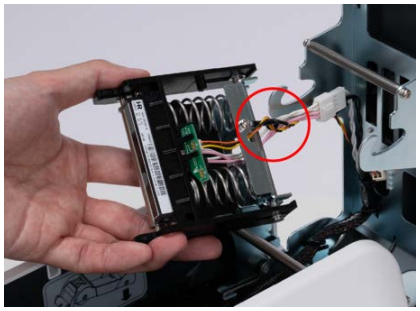
Step 3: Input the ‘R2’ value to the ‘Lami. Head Resistor’.

(6) **Step 4:** Click “Set Config” button to save the new Laminate Head’s configuration.

Assembling of the new Laminate Head



<Step 6>



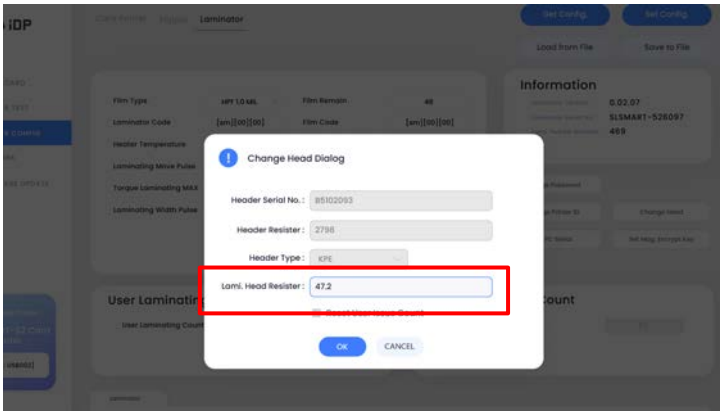
<Step 7 >



<Step 8>



<Step 9>



<Step 10>

Figure 109 Assembling of Laminate Head

5.4. Card Movement

1. Cards can't insert into the printer from input hopper:

- **Non-standard cards or bad cards :**
  Change the cards. The printer only work normally with the CR80 card (54mm x 86mm).
- **The Card Thickness Control Lever is set improperly :**
  Regulate the Card Thickness Control Lever to fit the current card thickness.
- **Bad card array :**
  Array the cards again and put them on input hopper as section 2.4 in this manual.
- **Cards have static and moisture :**
  Remove the moisture or static.

2. Card Move Error occurs when the ribbon is coiled around the transfer rollers or the printing roller:

Open the Top Cover, remove the card and the coiled ribbon from SMART-52 printer using 'Forward / Backward' button on the Touch Screen LCD. If this problem occurred frequently, check the below things

- **Non-standard cards or bad cards :**
  Change the cards. The printer only work normally with the CR80 card (54mm x 86mm).
- **The transfer rollers or the printing roller is contaminated with the dust and debris :**
  Remove the dust and debris with the Long Cleaning Card as section '1.4.6 Cleaning'.
- **Wrong printing position setting :**
  Adjust the printing position as section '4.6 PRINTER CONFIG'.
- **When operating temperature and humidity is out of the acceptable operating limit of the printer :**
  Adjust the operating environment of the printer.

3. An Error occurs while the card is being transferred:

First of all, check the Error message on LCD display. Open the Top Cover, remove the card and the coiled ribbon from SMART-52 printer using 'Forward / Backward' button on the Touch Screen LCD. If this problem occurred frequently, check the below things.

- **Non-standard cards or bad cards :**
  Change the cards. The printer only work normally with the CR80 card (54mm x 86mm).
- **Printer setting is changed or not proper :**
  Contact the Local reseller.
- **The transfer rollers or the printing roller is contaminated with the dust and debris :**
  Remove the dust and debris with the Long Cleaning Card as section '1.4.6 Cleaning'.
- **The card surface is contaminated with the dust and debris :**
- Check the card surface and remove any dust and debris and try again. Check if the disposable Cleaning Roller is weak adhesive or not installed. If this problem occurs again, retry with new card.

5.5. Printing Quality

1. Not printed or wrong colors printed spots:

- **The card surface is contaminated with the dust and debris :**
  After checking the card, change it to another card.
- **The Disposable Cleaning Roller is contaminated with the dust and debris :**
  Check the cleaning roller. If there is much dust, replace the cleaning roller with a new one.
- **Much dust in the printer :**
  Remove the dust and debris with the Long Cleaning Card as section '5.1 Cleaning'.

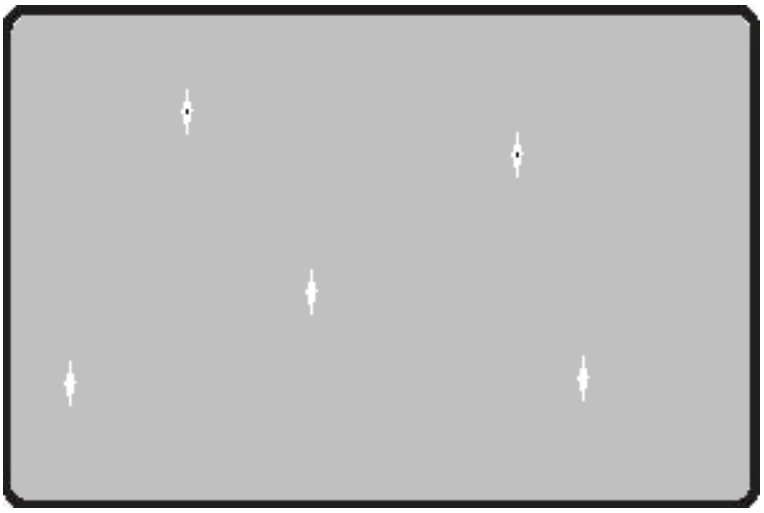


Figure 110 Printing quality example 1

2. Not printed horizontal line:

- **The Ribbon Cartridge is installed improperly :**
  Check the status of Ribbon Cartridge installation and whether the ribbon has wrinkles.
- **The Print Head is contaminated with the dust and debris :**
  Clean the Print Head with Cleaning Kit.
- **The Print Head is damaged or the surface of the Print Head is scratched :**
  Contact the Local reseller to replace the Print Head.



Figure 111 Printing quality example 2

3. Unclear or uneven printing:

- **Uneven or bad card surface :**
  Change the card.
- **Too high or low setting of the color density :**
  Adjust the Color Density as section ‘4.6 PRINTER CONFIG’
- **The Print Head is contaminated with the dust and debris :**
  Clean the Print Head with Cleaning Kit.

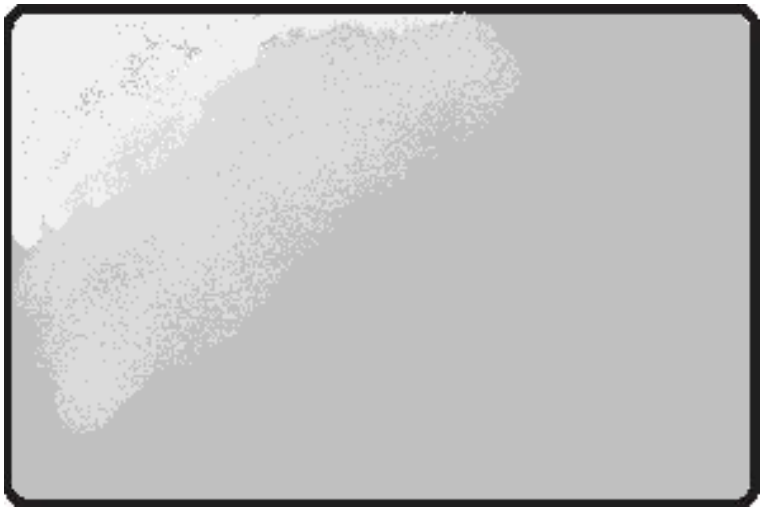


FIgure 112 Printing quality example 3

4. Not aligned color printing:

- **Non-standard cards or bad cards :**
  Change the cards. The printer only work normally with the CR80 card (54mm x 86mm).
- **Uneven or bad card surface :**
  Change the card.
- **The transfer rollers or the printing roller is contaminated with the dust and debris :**
  Remove the dust and debris with the Long Cleaning Card as section '1.4.6 Cleaning'.
- **Worn-out printer :**
  Contact the Local reseller.

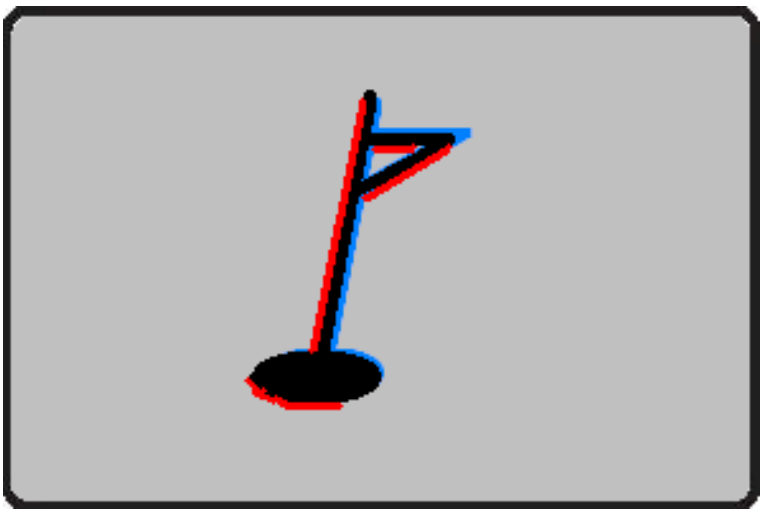


Figure 113 Printing quality example 4

5. Unplanned color printing:

- **Non-standard cards or bad cards :**
  Change the cards. The printer only works normally with the CR80 card (54mm x 86mm).
- **Uneven or bad card surface :**
  Change the card.
- **The transfer rollers or the printing roller is contaminated with the dust and debris :**
  Remove the dust and debris with the Long Cleaning Card as section '1.4.6 Cleaning'.
- **The ribbon balance information on the Ribbon tag is not matched with real balance :**
  Contact the Local reseller.
- **Worn-out printer :**

Contact the Local reseller.



Figure 114 Printing quality example 5

5.6. Magnetic Stripe encoding

1. Magnetic encoding Read/Write error occurs:

Touch the “Retry” button on the Touch Screen LCD.

- **The magnetic head is contaminated with the dust and debris :**
  Clean the magnetic head with the cleaning kit.
- **The magnetic encoding data is not transmitted or the wrong data is transmitted :**
  Check the encoding setting of the program and the driver, and the correct encoding data format is transmitted for each track.
- **The card is not magnetic card, or inserting direction is wrong :**
  Change the card or the inserting direction.
- **Bad magnetic stripes on the card :**
  Change the card.

5.7. General operation

1. Ribbon snapped during printing

Open the Top Cover and take out the cartridge. After reconnecting by taping the snapped ribbon, install it again. If this problem reoccurred, check the below things.

- **Non-standard cards or bad cards :**
  Change the cards. The printer only works normally with the CR80 card (54mm x 86mm).
- **Too high setting of the color density :**
  Adjust the Color Density as section '4.6 PRINTER CONFIG'.
- **Wrong printing position setting with no margin on the edge :**
  Adjust the printing position as section '4.6 PRINTER CONFIG'.

2. LCD displays "Ribbon Not Found" message:

Touch the "Retry" button on the Touch Screen LCD. If this problem reoccurred frequently, check the below things.

- **Not genuine ribbon :**
  Replace it with the genuine ribbon. Contact the Local reseller.
- **Ribbon is all consumed :**
  Printing is not possible when the ribbon has reached the specified print quantity. Replace the ribbon with a new one. (Extra panels are provided in case of damage or skipping, but cannot be used in excess of the quantity.)

3. LCD displays "Ribbon Seek Error" message:

Touch the "Retry" button on the Touch Screen LCD. If this problem reoccurred frequently, check the below things.

- **The calibrated values for color sensors are not proper :**
  Do calibration with SMART Utility as section '4.6 PRINTER CONFIG'.
- **Ribbon search parts are out of order :**
  Contact the Local reseller.

4. Printer doesn’t operate even if the printing data has been transmitted

- **Printer power off :**
  Turn on the printer. Check if the printer adaptor is connected to a power outlet and the printer.
- **Bad power adaptor.**
  Contact the Local reseller to replace the adapter.
- **The printer driver is “Offline” status.**
  Change the printer driver to “Online” status.
- **The printer’s USB cable is disconnected or the connection is bad (USB conn.):**
  Check the USB cable’s connection between PC and the printer.
  If not good, connect the USB cable to other USB port of PC.
- **Bad USB cable (USB conn.):**
  Change the USB cable.
- **The printing is operated with another printer driver :**
  Select the correct SMART-51 printer driver again.
- **Wrong USB port setting of the printer driver (USB conn.):**
  Check the port setting of the printer driver and select the correct port.
- **No ribbon in the printer or an error occurs :**
  Install ribbon in the printer or resolve the error.
- **Too long power or USB cable (more than 1.5m) :**
  Use the cables provided with the printer. Contact the Local reseller if you don’t have one**.**
- **PC’s USB port is down :**
  Reboot your PC.

6. Specifications

Model			SMART-52S	SMART-52D	SMART-52L
Printing	Print Type		Dye-Sublimation		
	Print Area		Edge to Edge		
	Resolution		300dpi (Color & Mono), 600 & 1200dpi (Mono only)		
	Dual Side Printing		Option (with Flipper)	Yes	Yes (Flipper Installed)
Card	Card Feeding		Automatic		
	Card Size		ISO CR80 or ISO CR79 (Option-Factory installed)		
	Card Thickness		0.38mm (15mil), 1.0mm (40mil)		
	Card Type		PVC, PET, Composite PVC		
Printing Speed	Monochrome		Max. 1000 cards/hour		
	YMCKO		Max. 280 cards/hour		
	YMCKOK		_	Max. 200 cards/hour	
Laminating	Mode		_	_	Single & Dual
	Film		_	_	0.6mil, 1.0mil
Laminating Speed	Simultaneous (Single Lamination)	YMCK	_	_	Max. 160 cards/hour
		YMCKK	_	_	Max. 130 cards/hour
	One by one (Single Lamination)	YMCK	_	_	Max. 125 cards/hour
		YMCKK	_	_	Max. 100 cards/hour
Capacity	Input Hopper		100 Cards / 200 Cards with cover open		
	Output Hopper		Front: 40 Cards / Back: 100 Cards (Optional Rear-side Stacker)		
System	Memory		512MB RAM		
	Display		Touch screen LCD		
	Supported Platforms		MS Windows 7/ 8/ 10/ 11, Mac OS, Linux		
	Communication		USB, Ethernet / WiFi (Option)		
	Power Supply		Free Voltage (AC 100/220V, 50~60Hz)		
	Power Consumption		48	48	96

	Temp. / Humidity	15~35°C / 35~70%		
Security	Physical Lock	Input Hopper & Ribbon (Option) / Laminate Film (Option)		
	Kensington Lock	Option		
Dimensions	Millimeter (WxLxH)	165 x 390 x210	165 x 498 x 210	165 x 675 x 210
	Inch (WxLxH)	6.5 x 15.4 x 8.3	6.5 x 19.6 x 8.3	6.5 x 26.6 x 8.3
Weight	Kg / lbs.	4.5 / 10	5.2 / 11.5	8.8 / 19.4
Encoding Options	Magnetic	ISO 7811 (Track I, II, III Read/ Write, HiCo/ LoCo), JIS II		
	Contact	ISO 7816 (ID-1)		
	Contactless	MIFARE, ISO 14443 (Type A/ B), ISO 15693, DESFIRE, iCLASS		

Specifications and availability may change without notice.

< Certification >

항목	내용
주파수범위	13.56 ㎒
변조방식	ASK
전파형식	A1D
채널	1 Ch
출력	10 m 의 거리에서 47.544 ㎷/m 이하

기자재 명칭(모델명): RFID/USN용 무선기기(13.56MHz 대역 사용 기기)
(SMART-52)
인증번호: R-R-IAS-SMART-52
인증 받은 자의 상호: 아이디피(주)
제조자/제조국가: 아이디피(주) / 한국