Currency Reader Counter

Instruction Manual
Introduction
Thank you for purchasing our products. The instruction manual contains the operating procedure precautions for using machine, please read this manual in detail before use.

Function of Each Part

- **Hopper**: Set notes in this compartment.
- **Auxiliary Hopper Plate**: Guide plates for feeding the notes to the note feeding mechanism.
- **Operation keys**: Used to set each parameter.
- **Display Panel**: The counting results, an error code, or setup detail will be shown in the display.
- **Stacker**: The counted notes are stacked.
- **Reject Stacker**: The rejected notes are stacked.
Gate Adjustment Screw
Adjustment screw to help the counting smooth. (The adjustment is factory defaulted.)

Interface Connector
Used to connect a computer or a printer. (Right) (Left)

USB

Power Switch
This turns the power on and off.

Power Supply Socket
This is the plate for inserting the power cord.
Precautions for Setting Notes

- Avoid counting wet, excessively dirty or spoiled notes. (See figures below.)

- Check for foreign matter (paper chips, rubber bands, clips, dust etc) mixed with notes.

- Remove folds or end from notes beforehand. Spread and separate brand new notes well for some of them are slightly adhesive.

- Align all the four corners and edges of notes. Any unevenness may cause an error.
Operation Keys and Display Panel

Operation Key

: Used to move to the next column, change the value and menu selection at the user setup or used to change the BATCH value, menu selection at the user setup, and move between the setup menu.

: Used to confirm the counting value and setup changes.

: Used to start and stop the counting or finish the user setup

(When a printer is connected, the unit prints the confirmed data and grand total value by pressing this key)

: Used to add the quantity at MDC Mode

: Used to select BATCH quantity in

<table>
<thead>
<tr>
<th>Batch Value</th>
<th>None</th>
<th>5</th>
<th>10</th>
<th>20</th>
<th>25</th>
<th>50</th>
<th>100</th>
<th>200</th>
</tr>
</thead>
</table>
C: Used to clear error or counting data are cleared to 0

DISPLAY: Used to change the screen between normal and detail screen

FACE/ORT: Used to select Face/Direction arrangement at SDC

[FACE/ORT Change] NONE ←→ FACE ←→ ORT

MODE: Used to select from MDC, SDC and CNT Mode.

[Mode Change] MDC ←→ SDC ←→ CNT

SET: Used to enter the user setup mode by pressing two seconds

TOTAL: Used to display the grand total
User Settings

Register each setup before use

1. Press \[ \text{SET} \] for two seconds.
   User setup screen is displayed.

   \[ \begin{array}{c}
   1. \text{CF SENSOR} \\
   2. \text{CIS SENSOR} \\
   3. \text{CF SENSOR2} \\
   4. \text{CNT MODE} \\
   5. \text{RESERVE} \\
   6. \text{AUTO START}
   \end{array} \]

2. Use \[ \text{INPUT1} \text{ INPUT2} \] to go to the previous or next setup.

   \[ \begin{array}{c}
   7. \text{MODE KEY LOCK} \\
   8. \text{ORIENTATION} \\
   9. \text{REJECT FULL} \\
   10. \text{REJECT CHECK} \\
   11. \text{ADD(MDC) ON/OFF} \\
   12. \text{CHECK CF (CNT)}
   \end{array} \]

3. \[ \text{START PRINT} \] to exit user setup display.

   \[ \begin{array}{c}
   13. \text{SPEED} \\
   14. \text{RESERVE} \\
   15. \text{DEFAULT} \\
   16. \text{SELECT CURRENCY} \\
   17. \text{BUZZER ON/OFF} \\
   18. \text{FEED SPEED}
   \end{array} \]
2. Use [PLUS MINUS] to select a parameter and press to confirm the selection.

example: CF sensor setup display

Press [ACCEPT] to exit the parameter setup display.
**List of the User Setup**

1. CF SENSOR
2. CIS SENSOR
3. CF SENSOR 2
4. CNT MODE
5. RESERVE
6. AUTO START
7. MODE KEY LOCK
8. ORIENTATION
9. REJECT FULL
10. REJECT CHECK
11. ADD (MDC) ON/OFF
12. CHECK CF (CNT)
13. SPEED
14. RESERVE
15. DEFAULT
16. SELECT CURRENCY
17. BUZZER ON/OFF
18. FEED SPEED
1. **CF SENSOR**

Turn ON or OFF counterfeit detection sensor.

Use ⬅️ ➤️ to choose counterfeit detection item

Use ➤️ ⬇️ to choose counterfeit detection level

1- 9 level for counterfeit detection sensibility, 0- close counterfeit detection

Press to 🎯 confirm the selection.

- **MT:** Security Thread Detection
- **UV:** Ultraviolet Detection
- **MG:** Magnetic Ink Detection
- **IR:** Infrared Ink Detection
- **DB:** Double Note Detection

2. **CIS SENSOR**

Turn ON or OFF to CIS sensor.

Use ➤️ ⬇️ to turn ON or OFF
Press to **ACCEPT** confirm the selection

3. **CF SENSOR 2**

Turn ON or OFF different face value counterfeit detection sensor.

Use **PLUS** **MINUS** to choose CF SENSOR 2 item

Press to **ACCEPT** enter next screen

Use **PLUS** **MINUS** to choose different face value item

DENOM: *

* means face value of currency note

Press to **ACCEPT** enter next screen
Use **PLUS** **MINUS** to choose counterfeit detection item

Use **PLUS** **MINUS** to choose counterfeit level 1-9 level for counterfeit detection sensibility, 0-close counterfeit detection

Press to **ACCEPT** confirm the selection.

4. **CNT MODE**

Turn ON or OFF counting mode.

Use **PLUS** **MINUS** to turn ON or OFF

Press to **ACCEPT** confirm the selection.

5. **RESERVE**

6. **AUTO START**

When Auto start is on, the unit will automatically start counting when the banknotes are put on the hopper.

Turn ON or OFF set Auto start or manual start.
Use PLUS MINUS to turn ON or OFF

AUTO START

- 1. OFF
- 2. ON

Press to ACCEPT confirm the selection.

7. MODE KEY LOCK

Turn ON or OFF to lock mode function.

Use PLUS MINUS to turn ON or OFF.

MODE KEY LOCK

- 1. OFF
- 2. ON

Press to ACCEPT confirm the selection.

8. ORIENTATION

Turn ON/OFF the function and set direction of the orientation sort in MDC mode or SDC mode.

OFF: None
FACE: Face Orientation
ORT: Direction Orientation
Use ▲ PLUS ▼ MINUS to choose from OFF → FACE → ORT

ORIENTATION

- OFF
- FACE:ON
- ORI:ON

Press to ▶ ACCEPT confirm the selection.

9. REJECT FULL

Set the maximum number of banknotes to be detected as Reject Full. The counting will stop when the reject stacker is full even before it reaches to reject full count.

Use ▲ PLUS ▼ MINUS to choose from 25 → 50 → 75 → 100.

RJ FULL

- 25
- 50
- 75
- 100

Press to ▶ ACCEPT confirm the selection.

10. REJECT CHECK

Check whether there are any banknotes on the Hopper or the Reject Stacker.
Use ▲ or ▼ to turn ON or OFF

Press to confirm the selection.

When machine count, if appear reject note, the user see which of reason bring reject note

Press three seconds,

The display show

"3" means reject note pieces
"MT" means detect the note by MT

Press to back main screen.

Reject message as following:

TYPE1: The note can't be identified by CIS
TYPE2: Under SDC mode, the note is different with the counting note
FORCE: The note can't be processed in time by CIS
MT: Bar code (security thread) error
UV: UV error
MG1: Error (Magnetic element of Serial number of note)
MG2: Error (magnetic element of note)
IR1: Color ink error
IR2: IR ink error
DB: Double note
LONG: Chain note
ANGLE: Tilted note error

11. **ADD (MDC) ON/OFF**

Turn ON or OFF the accumulation function in MDC mode.

Use [PLUS][MINUS] to turn ON or OFF

Press to [ACCEPT] confirm the selection.

12. **CHECK CF (CNT)**

Turn ON or OFF counterfeit function in CNT mode.

Use [PLUS][MINUS] to turn ON or OFF

[CHECK CF. CNT]

△ 1.OFF
2.ON
Press to confirm the selection.

13. SPEED

Choose counting speed from 800 or 900 or 1000 per minute.

Use \(\uparrow\) and \(\downarrow\) to turn ON or OFF.

Press to confirm the selection.

14. RESERVE

15. DEFAULT

Choose back factory setting.

Use \(\uparrow\) and \(\downarrow\) to turn enable or disable.

Press to confirm the selection.
16. **SELECT CURRENCY**

Choose counting currency you need

Use [PLUS] [MINUS] to turn currency item.

* means currency of selection

Press to [ACCEPT] confirm the selection.

17. **BUZZER ON/OFF**

Turn ON or OFF the warning buzzer.

Use [PLUS] [MINUS] to turn ON or OFF.

Press to [ACCEPT] confirm the selection.

18. **FEED SPEED**

Choose feed speed you need
Use

to turn FAST / SLOW item.

FEED SPEED

1. SLOW
2. FAST

Press to confirm the selection.

Choose SLOW: when put banknotes on the hopper, the machine starts counting within 1.5 seconds
Choose FAST: when put banknotes on the hopper, the machine starts counting within 0.6 seconds
Explanation of Each Mode

The machine can provide several Modes which has different counting functions.

- **Counting mixed denomination notes.**
  - To count grand total.
  - To count only one denomination.
- **MDC MODE**
  - To count by specifying BATCH number of sheets or amount of money.
  - To count only the number of notes.
  - To count by specifying BATCH number of notes
- **SDC MODE**
  - To count by specifying BATCH number of sheets or amount of money.
  - To count only one denomination.
  - To count only the number of notes.
  - To count by specifying BATCH number of notes
- **CNT MODE**
  - To count by specifying BATCH number of notes
  - To count only the number of notes.
  - To count only one denomination.
  - To count by specifying BATCH number of notes
  - To count only the number of notes.
  - To count by specifying BATCH number of notes

**BATCH Counting in**

- **MDC MODE**
- **SDC MODE**
- **CNT MODE**
Basic Operation

1. Turn On the power switch, the machine starts initialization.

2. If there are banknotes left in the stacker or the reject stacker, the display shows “CHECK STACKER” or “CHECK REJECT”
   The message can be cleared by removing the banknotes.

3. Press [MODE] to set the MDC, SDC and CNT.

4. Put banknotes on the hopper, if AUTO START is ON, the machines automatically start counting, if AUTO START is OFF, the machines can be counted by pressing [START].

   In MDC and SDC mode, the machine can sort the face and orientation of note if ORIENTATION is ON, the banknote are sorted as the first note counted, and notes with different orientation can be rejected.

5. The display shows the amount of money or the number of notes while counting.

   Press [DISPLAY] to select the display

   Normal Display (Amount of Money)

   Detail Display (Number of Each Note)
6. When a invalid note is detected, the invalid notes are stacked in the reject stacker, and the display show “RJ”.

7. The machine stops counting when the result reaches the BATCH number, in this case, the BATCH counting is ON. If the BATCH counting is OFF, the machine stops counting when the stacker is full. In general, the stacker is set 200 sheets.

In this case, REPEAT START is ON, the machine automatically starts counting when the notes are removing from the stacker. If REPEAT START is OFF, refer to 4. instructions.

8. When a printer is connected, after the machine finish counting in MDC mode, the display show normal display, then enter detail display by pressing

![Normal Display](image1)

![Detail Display](image2)

Press **PRINT** to print the result of detail display.

Manual setting value function

If user need add total value by manual, Press **DISPLAY** , then press
Press \( \text{INPUT1} \) to set digit.

Press \( \text{PLUS} \) \( \text{MINUS} \) to set value

Press \( \text{START} \) to print the result of detail display.

9. After counting, press \( \text{ACCEPT} \) to add the current result of counting to the grand total and clear the current result, the display shows "ACCEPTED".

After counting, press \( \text{C} \) to clear the current result of counting without adding it to the grand total.

Clear the Counting Result

The counting result and the grand total can be cleared by pressing \( \text{C} \) in each mode.

In MDC mode:

Press \( \text{C} \) in normal display to clear all pre-confirmed counting result in MDC mode.
In SDC mode:
Press [C] in normal display to clear all pre-confirmed counting result in SDC mode

In CNT mode:
Press [C] to clear the amount of counting result in CNT mode

MDC MODE
The machine count mixed denomination notes and display the total amount counter
Normal Display

If MDC (ADD) is ON, the counting result shown is a sum of the current and the previous counting, if MDC (ADD) is OFF, the current counting result is shown.

If MDC (ADD) is ON, remove motes from the stacker and press

If the next counting is started without pressing, the previous counting result is added to the next counting result.

If MDC (ADD) is OFF, the counting result is cleared when the next counting starts.

Batch Counting in MDC Mode

Press, the display shows the batch setting screen. The display show " 200 → 100 → 0 by pressing

SDC MODE

The machine identifies the first note counter and sets its denomination as the standard one. Only note of same denomination are counted. Any other denominations will be rejected.

Press to clear the counted amount

Batch Counting in SDC Mode

Press, the display shows the batch setting screen. The display show 200 → 100 → 50 → 25 → 20 → 10 → 5 → 0 by pressing

CNT MODE

In this mode, the machine counting the same type of notes, the counting result will be displayed
Batch Counting in CNT Mode

Press \[ \text{BATCH} \], the display shows the batch setting screen. The display show 200 → 100 → 50 → 25 → 20 → 10 → 5 → 0 by pressing \[ \text{BATCH} \].
Product Specifications

- **Outside Dimensions:** Excluding the Auxiliary Hopper 330 (W) X 310 (D) X 290 (H) mm
  Including the Auxiliary Hopper

- **Weight:** Approx. 13.5kg

- **Counting Speed:**
  - 800 notes/min (MDC and SDC MODE)
  - 1000 notes/min (CNT MODE)

- **Size of countable notes:**
  - Minimum 120 × 62 mm (5 euro bill size)
  - Maximum 160 × 82 mm (500 euro bill size)
  - Thickness 0.08 ~ 0.12 mm

- **Feed system:** Roller Friction System

- **Hopper Capacity:** Approx. 500 notes

- **Stacker Capacity:** 200 notes

- **Reject Stacker Capacity:** Approx. 50 notes (Adjustable from 25 ~ 100 notes)

- **Power Source:** AC 100 ~ 240V ± 10% 50/60Hz

- **Power Consumption:**
  - Maximum 1.6 ~ 0.8A (100 ~ 240VAC)
  - Idling 0.3 ~ 0.2A (100 ~ 240VAC)

- **Usage Environment:**
  - Temperature 0°C ~ 35°C (Operating) (32F ~ 95F)
    -10°C ~ 60°C (Stock) (14F ~ 140F)
  - Humidity 20% ~ 90% (no condensation)

- **Interface:**
  - PC Terminal Interface (RS-232C)
  - *2 channels simultaneous connection is allowed.*
  - Printer Interface
  - *2 channels simultaneous connection is allowed.*

- **Option:**
  - *Option Interface (RS-232C)*
Adjustment and Maintenance

1. The replacement and adjustment of the coder (see Fig1)
   Adjust the gap between the rotation disc and the sensor by adjusting the screw and the gap should be 1.5mm, then close cover.

2. The adjustment of reversing roll (see Fig3)
   Adjust the balance of reversing roll so that the gap of both side is same and the gap should be 0.06 (A=B=0.06)

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Fig1

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Fig3
3. Cleaning of the sensor

When switch on machine, if an error of EER:0009 SENSOR CNT occurs, please clean the sensor (refer Fig5)
When switch on machine, if an error of EER:0012 SENSOR RJ occurs
Please clean the sensor (refer Fig 6)

Fig 6

When switch on machine, if an error of SENSOR CIS occurs
Please clean the sensor (refer Fig 7)

Fig 7
4. This product uses very sensitive and precise sensors. Miscounting may be caused if dust, dirt, and other materials get struck or clutter the sensor. It is necessary to clean the sensors and rolls.

5. Transport of the product (refer Fig 8)
If You Have a Problem

When turn on the power or count note, appear follow problem and solve method.

Panel 1
Panel 2

Detail
## Error Code and Relative Sensor Check List (Include Solve Method)

<table>
<thead>
<tr>
<th>Err Code</th>
<th>Releasing Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>PS1L</td>
</tr>
<tr>
<td>0002</td>
<td>PS1R</td>
</tr>
<tr>
<td>0003</td>
<td>PS2L</td>
</tr>
<tr>
<td>0004</td>
<td>PS2M</td>
</tr>
<tr>
<td>0005</td>
<td>PS2R</td>
</tr>
<tr>
<td>0006</td>
<td>INFRAL</td>
</tr>
<tr>
<td>0007</td>
<td>INFRAR</td>
</tr>
<tr>
<td>0008</td>
<td>PS3L</td>
</tr>
<tr>
<td>0009</td>
<td>PS3R</td>
</tr>
<tr>
<td>0011</td>
<td>CNT</td>
</tr>
<tr>
<td>0012</td>
<td>ST</td>
</tr>
<tr>
<td>0015</td>
<td>RJ</td>
</tr>
<tr>
<td>0016</td>
<td>CIS</td>
</tr>
<tr>
<td>0017</td>
<td>PS3M1</td>
</tr>
<tr>
<td>0034</td>
<td>PS3M2</td>
</tr>
<tr>
<td>0035</td>
<td>Motor Err1</td>
</tr>
<tr>
<td>0073</td>
<td>Motor Err2</td>
</tr>
<tr>
<td>0074</td>
<td>PS3 JAM</td>
</tr>
<tr>
<td>0075</td>
<td>CNT1 JAM</td>
</tr>
<tr>
<td>0054</td>
<td>SD ERROR</td>
</tr>
<tr>
<td></td>
<td>IMAGE ERR</td>
</tr>
</tbody>
</table>

### 0001-0017 (Panel 1)
- Check whether note cover the sensor
- Whether dust or other cover sensor

### 0034-0054 (Panel 1)
- Check whether number of disk is more or less on the passage of coder
- Check whether is block note between PS2 and PS3
  - Take off the note, then press "C" key
- Check whether is block note between PS3 and CNT
  - Take off the note, then press "C" key
- Check whether SD is problem
- 0054: CIS have problem
<table>
<thead>
<tr>
<th>Detail</th>
<th>Reason</th>
<th>Releasing Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>STACKER FULL</td>
<td>The stacker is full.</td>
<td>Remove the notes from the stacker.</td>
</tr>
<tr>
<td>REJECT FULL</td>
<td>The reject is full.</td>
<td>Remove the notes from the reject</td>
</tr>
<tr>
<td>BATCH</td>
<td>Batch operation is complete.</td>
<td>Remove the notes from the stacker.</td>
</tr>
<tr>
<td>CHECK STACKER</td>
<td>Note is jammed at the stacker</td>
<td>Remove the notes from the stacker.</td>
</tr>
<tr>
<td>CHECK REJECT</td>
<td>Note is jammed at the reject</td>
<td>Remove the notes from the reject</td>
</tr>
<tr>
<td>HOPPER</td>
<td>Feeding error</td>
<td>Remove the notes from HOPPER → PS1</td>
</tr>
<tr>
<td></td>
<td>Note is jammed at the HOPPER.</td>
<td>Feed the note again</td>
</tr>
<tr>
<td></td>
<td>Feed sensor need cleaning</td>
<td>Cleaning the sensor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feed motor not work.</td>
</tr>
<tr>
<td>SUSPICIOUS</td>
<td>Suspicious note is detected.</td>
<td>Check the note rejected</td>
</tr>
<tr>
<td>PRINTER ERROR</td>
<td>Printer communication error.</td>
<td>Check the printer connection error.</td>
</tr>
<tr>
<td>SENSOR CLEAN</td>
<td>Sensor need cleaning</td>
<td>Clean the sensor</td>
</tr>
</tbody>
</table>
0073
Remove note here, then close box press "C" key

0074
Remove note here
Press "C" key
Layout and List of Sensor