

ND-501G

ND-501G Note Dispenser

Operation Manual



International Currency Technologies

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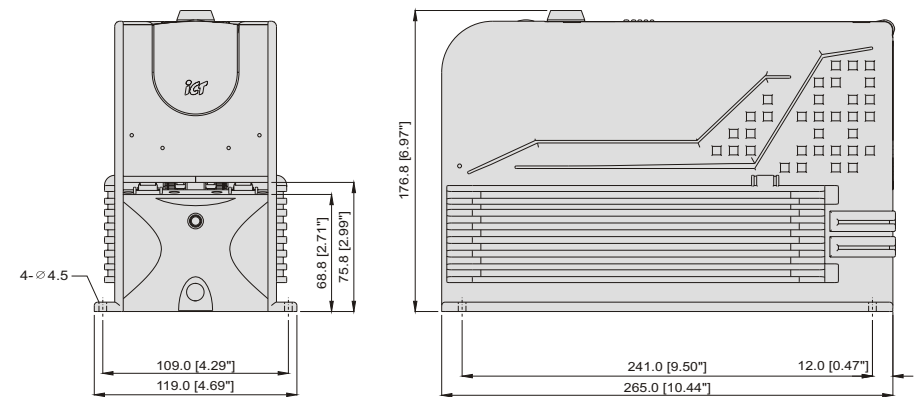


ND-501G Note Dispenser

ND-501G

General Specifications

- (1) Applicable Note Size :
 - (Width) 60mm ~ 83mm
 - (Length) 100mm ~ 170mm
 - (Thickness) 0.1mm 《min》 ~ 0.2mm 《max》
- (2) Note Capacity : Approx.500 notes
- (3) Voltage : 12VDC $\pm$ 5%
- (4) Power Consumption : 0.2A 《standby》 2.5A 《peak》
- (5) Note Dispensing Time : Approx. 1 sec.
- (6) Place in Use : Internal in secure cabinet.
- (7) Operating Position : Upright or within 10° of inclination.
- (8) Operating Temperature : 0°C ~ +55°C
- (9) Operating Humidity : 30% to 90% 《non-condensation》
- (10) Weight : Approx.1.8/2.4 kg

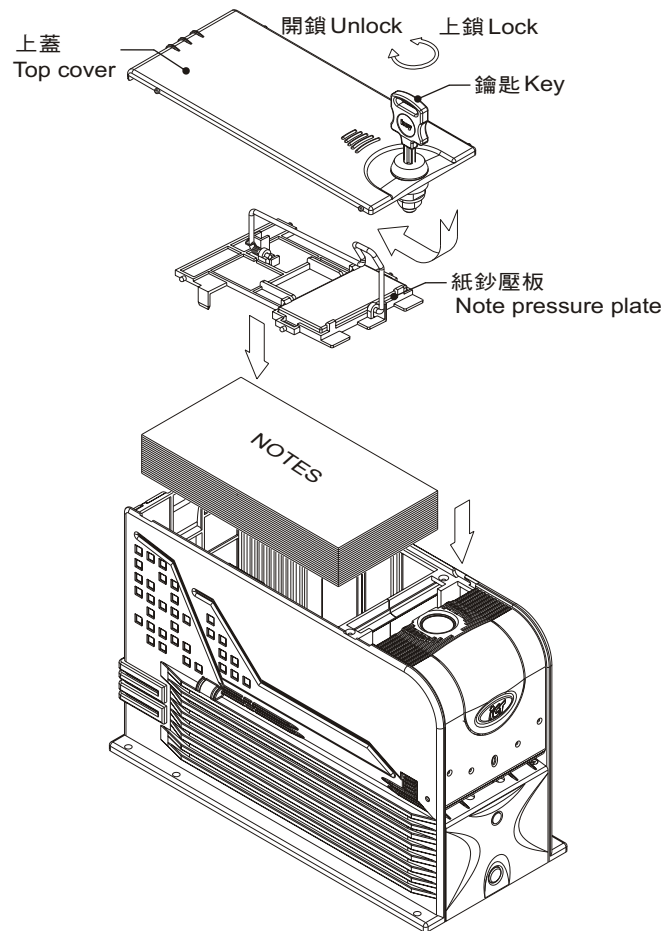


Unit : mm [inch]



ND-501G Note Dispenser

How to fill the notes



ND-501G Note Dispenser

How to fill the notes

1. Unlock the top cover of the Note Dispenser using the key, as shown in the picture.
2. Take out the note pressure plate and fill the notes in.
3. Put the note pressure plate back on top of the notes.
4. Put back the top cover and lock it.
5. Press the front button to reset the note dispenser.
6. In the event that the dispenser runs out of notes during a transaction, the remaining number of dispenses will be kept in memory and the dispenser will resume transaction when notes are refilled and the front button is pressed. (The memory will be erased when the power is off.)

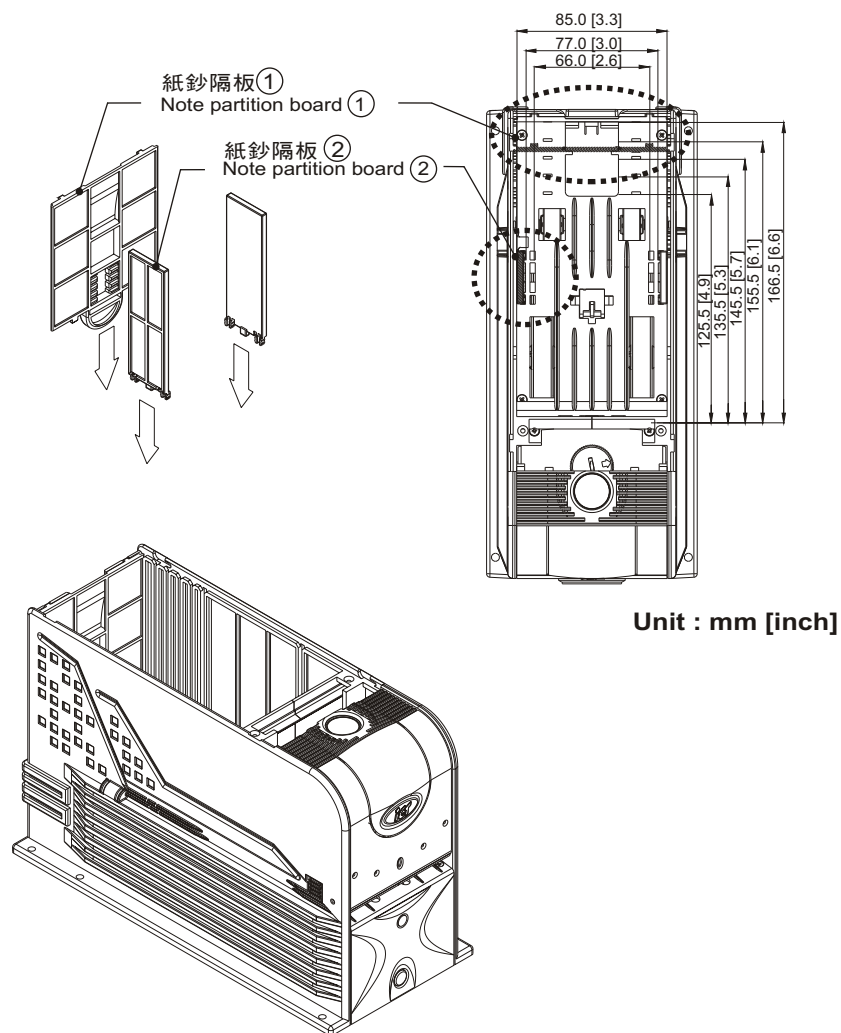
紙鈔補充方式

1. 如圖示，以鑰匙打開上蓋鎖頭，並向後推使卡榫退出溝槽，開啓上蓋。
2. 將紙鈔壓板取出後，放入所要補充之鈔票或禮券。
3. 待鈔票或禮券放入後，再將紙鈔壓板置於紙鈔上方壓住紙鈔。
4. 接著再將上蓋蓋回，並用鑰匙鎖緊鎖頭即可。
5. 補充完畢後，按下面板前方重置按鈕即可繼續使用。
6. 本機器具記憶功能，如有未出盡餘鈔，待補充紙鈔完畢後，按下重置按鈕，未出盡餘鈔將優先出鈔完畢。（如斷電則記憶將會消失）



ND-501G Note Dispenser

How to adjust the width and length



ND-501G Note Dispenser

How to adjust the width and length

1. Use the note partition board ① to adjust the length and note partition board ② to adjust the width, as shown in the picture.

紙鈔長度及寬度調整方式

1. 如圖示, 可用紙鈔隔板 ① 來調整所需的紙鈔長度, 可用紙鈔隔板 ② 來調整所需的紙鈔寬度。



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Note Dispenser

How to adjust thickness the dispenser bezel

✱ Before using this note dispenser, please make sure the correct thickness level has been adjusted, so the notes can be dispensed smoothly.

使用機器前，請確定紙鈔厚度調整是否正確，以確保出鈔順暢！

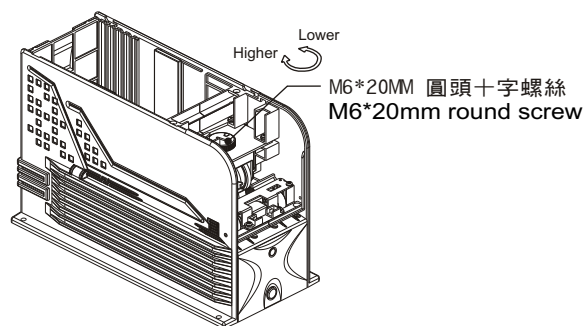
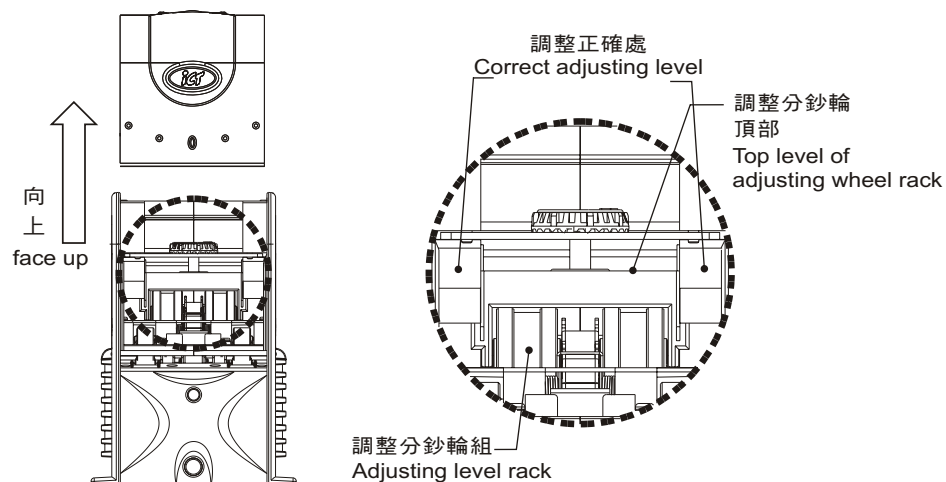


figure 1



ND-501G
Note Dispenser

How to adjust thickness the dispenser bezel

1. Take off the front cover as shown in **figure 1**.
2. Adjust the gauge by turning the M6*20 phillips screw.
3. Load notes into the dispenser and set DIPSW7 to OFF. (Calibration Mode.)
4. Turn the power on and dispensing should start automatically, observe the front LED for the operation status of the dispenser.
5. Red light indicates that the speed of dispensing is too fast, the motor will stop if this happens more than three times.
6. Green light indicates normal dispensing speed.
7. LED off indicates that the dispensing speed is too slow, and the error counter will be incremented. (Calibration fails when the error count exceeds 15.)
8. A green LED after the motor stops means the calibration is successful.
9. A red LED after the motor stops means the calibration failed.
10. To restart calibration, just push the reset button.
11. After successful calibration, set DIPSW7 to ON (Dispense Mode) to start normal operation.

紙鈔厚度調整方式

1. 第一步先將面板取下，取下後即可調整(如圖一)。
2. 調整時應將十字起子轉動M6*20圓頭十字螺絲至紙鈔可順利進出高度。
3. 將紙鈔放入並將DIPSW7撥至OFF (Calibration Mode)的狀態，開啓電源。
4. 馬達會自動正轉並將紙鈔送出，此時須注意面板LED之狀況。
5. 當面板LED轉為紅色時，表示出鈔速度過快，速度過快之次數超過3次時，馬達會自動停止。
6. 當面板LED轉為綠色時，表示出鈔速度正常。
7. 當面板LED轉為橙色時，表示出鈔速度過慢，錯誤計時器則會加一(當累計超過15次時，表示調整失敗)。
8. 當馬達停止，面板LED為綠色時，則表示調鈔成功。(每次調整次數為50次)
9. 當馬達停止，面板LED為紅色時，則表示調鈔失敗，須再重新調整。
10. 重新調整時，只須按下面板RESET鍵即可。
11. 調整成功後，將DIPSW7撥回ON (Dispense Mode)，則可開始使用。



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ND-501G function setting

1. Dipswitch Setting

Machine number	SW1	SW2	SW3
★ Machine 1	ON	ON	ON
Machine 2	OFF	ON	ON
Machine 3	ON	OFF	ON
Machine 4	OFF	OFF	ON
Machine 5	ON	ON	OFF
Machine 6	OFF	ON	OFF
Machine 7	ON	OFF	OFF
Machine 8	OFF	OFF	OFF

Pulse Setting	SW4	SW5	SW6
★ 1	ON	ON	ON
2	OFF	ON	ON
4	ON	OFF	ON
5	OFF	OFF	ON
10	ON	ON	OFF
20	OFF	ON	OFF
50	ON	OFF	OFF
100	OFF	OFF	OFF

Note Thickness Calibration Mode Setting	SW7
★ Dispense Mode	OFF
Calibration Mode	ON

Credit Active	SW9
★ Normal Hi	ON
Normal Lo	OFF

Note Dispense Mode	SW8
★ Hopper Mode	ON
Pulse Mode	OFF

Credit Width	SW10
★ 50 ms	ON
1 sec	OFF

2. Front LED Status

- (1) Green : Normal
- (2) Red : Error
- (3) Orange : Needs to refill notes

3. Front Button

Reset Key : Press this button to restart the note dispenser. No need to turn the power off and on again.



ND-501G Note Dispenser

4. Note Dispensing Mode

- (1) Pulse Mode : When the Note Dispenser receives enough pulses (set by Dipsw 4~6) it will dispense one note.
- (2) Hopper Mode : The Note Dispenser will begin to dispense notes when it receives the dispense command, and will not stop dispensing until it receives the stop command.
- (3) RS-232 Mode : It receives commands from RS-232 signal to dispense notes.
(Max. 8 note dispensers can be linked together)

Optional : Use cable 3TP-AA221-B4 to connect directly to PC (page 16).

- PS. (1) Under pulse mode, Dipsw 1~3 are not used
(2) Under Hopper mode, Dipsw 1~6 are not used
(3) Under RS-232 mode, Dipsw 4~6 are not used

5. Trouble Shooting

Green Color

Flash	Status
0	Status Fine
1	Dispensing busy

Orange Color

Flash	Status
0	Stock less
1	Sensor Adjusting
2	Note not exit

Red Color

Flash	Status
0	Note empty
1	Note jam
2	Over length
3	Sensor error
4	Double note error
5	Motor error
6	Checksum error
7	Low power error

Flash Interval Approximately 1s



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6. RS-232 Command / Response List

(1) Transmission Specifications

Transmission speed	9600bps
Synchronizing method	Asynchronizing method
Connection control method	Polling method
Data format	Start bit : 1 Data bit : 8 Parity bit : even Stop bit : 1

(2) Message Format

STX	M/S	MachineNumber	Cmd/Status	Data	Checksum
-----	-----	---------------	------------	------	----------

(3) Format Description

	Function	Size	Code
STX	Start code	1 byte	[0x01] : Start code
M/S	Master/Slave code	1 byte	[0x10] : Master code [0x01] : Slave code
Machine Number	Single machine payout	1 byte	Currently is set for 0 ~ 7 (max 8 units interlinked)
	Multiple machines payout		1 bit control 1 machine (LSB is No.0 ; MSB is No.7)
Cmd/Status	Master command code	1 byte	[0x10] : Request payout [0x11] : Request machine status [0x12] : RESET command [0x13] : Request multiple machines payout
	Slave status code		[0x00] : Status fine [0x01] : Note empty [0x02] : Stock less [0x03] : Note jam [0x04] : Over length [0x05] : Note not exit [0x06] : Sensor error (Reserve) [0x07] : Double note Error (Reserve) [0x08] : Motor error [0x09] : Dispensing busy [0x0A] : Sensor Adjusting (Reserve) [0x0B] : Checksum error [0x0C] : Low power error [0xAA] : ACK [0xBB] : NAK
Data	Data code	1 byte	Dispense count
Checksum	Checking code	1 byte	STX+M/S+MachineNumber +Cmd/Status+Data



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(4) Message Description

STX	M/S	Machine Number	Cmd/Status	Data	CheckSum	Description
0x01	0x10	0x00	0x10	Count1	**	Single machine payout
0x01	0x10	0x00	0x11	0x00	**	Request machine status
0x01	0x10	0x00	0x12	0x00	**	Reset dispenser
0x01	0x10	0x01	0x13	Count1	**	Multiple machines payout
0x01	0x01	0x00	0xAA	Count2	**	Payout successful
0x01	0x01	0x00	0xBB	Count2	**	Payout fails
0x01	0x01	0x00	0x00	Count2	**	Status fine
0x01	0x01	0x00	0x01	Count2	**	Empty note
0x01	0x01	0x00	0x02	Count2	**	Stock less
0x01	0x01	0x00	0x03	Count2	**	Note jam
0x01	0x01	0x00	0x04	Count2	**	Over length
0x01	0x01	0x00	0x05	Count2	**	Note not exit
0x01	0x01	0x00	0x06	Count2	**	Sensor error (Reserve)
0x01	0x01	0x00	0x07	Count2	**	Double note error (Reserve)
0x01	0x01	0x00	0x08	Count2	**	Motor error
0x01	0x01	0x00	0x09	Count2	**	Dispensing busy
0x01	0x01	0x00	0x0A	Count2	**	Sensor adjusting (Reserve)
0x01	0x01	0x00	0x0B	Count2	**	Checksum error
0x01	0x01	0x00	0x0C	Count2	**	Low power error

★ Note: (1) Count1 : How many bill do you want dispense

(2) Count2 : How many bill already dispense

(5) Example

A. User requests machine No.0 to dispense 2 bill.

STX	M/S	Machine Number	Cmd/Status	Data	CheckSum
0x01	0x10	0x00	0x10	0x02	0x23

If the note dispensing process is successful ,ND-501G will reply as follow.

STX	M/S	Machine Number	Cmd/Status	Data	CheckSum
0x01	0x01	0x00	0xAA	0x02	0xAE

If the note dispensing process fails ,ND-501G will reply as follow.

STX	M/S	Machine Number	Cmd/Status	Data	CheckSum
0x01	0x01	0x00	0xBB	0x0B	0xC8



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If the note dispensing process 1 bill and fails ,ND501G will reply as follow.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x01	0x00	0xBB	0x01	0xBE

B. User request multiple machines No.1 and No.2 and No.5 and No.6 to dispense 1 bill.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x10	0x66(01100110)	0x13	0x01	0x8B

★ Note : The ND-501G will not response anything in this command.

After request command user needs to poll the machine status by yourself.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x10	0x01	0x11	0x00	0x23

If the note dispensing process is successful ,ND-501G will reply as follow.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x01	0x01	0xAA	0x01	0xAE

If the note dispensing process fails ,ND-501G will reply as follow.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x01	0x01	0xBB	0x00	0xBE

Other machines No.2 and No.5 and No.6 are poll the same as above.

C. User request all machines to dispense 5 bill.

STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x10	0xFF(11111111)	0x13	0x05	0x28

After request command user needs to poll the all machines status.

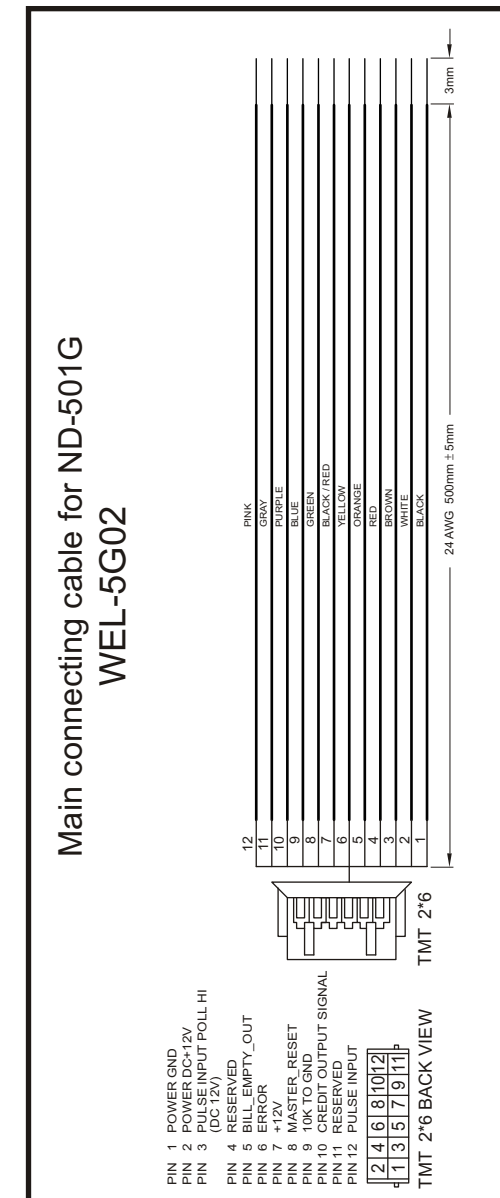
STX	M/S	Machine Number	Cmd/Status	Data	Checksum
0x01	0x10	0x00~0X07	0x11	0x00	0x22~0x29

And check all machines status as follow example 2.



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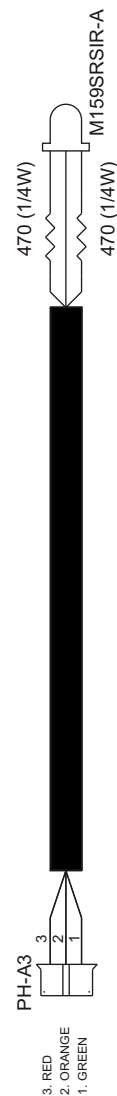
Cable





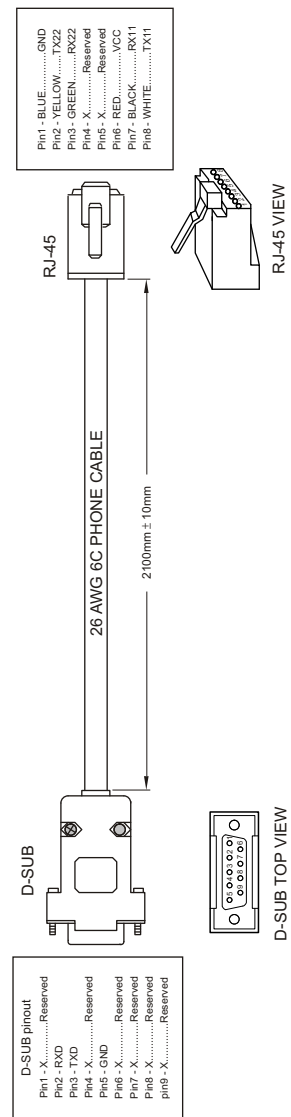
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Optional external indicator WEL-ND07



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Serial connection cable WEL-V706



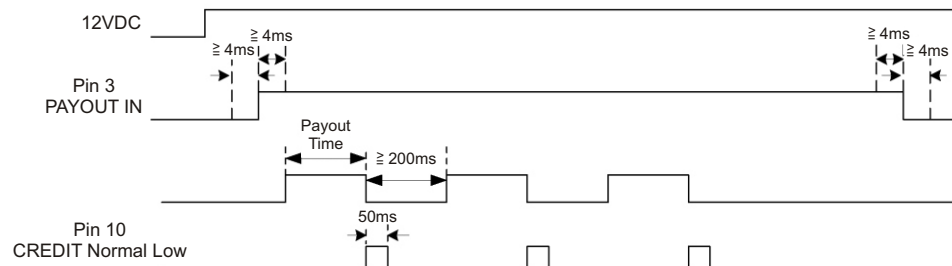


ND-501G Note Dispenser

Timing Chart

Hoper Mode

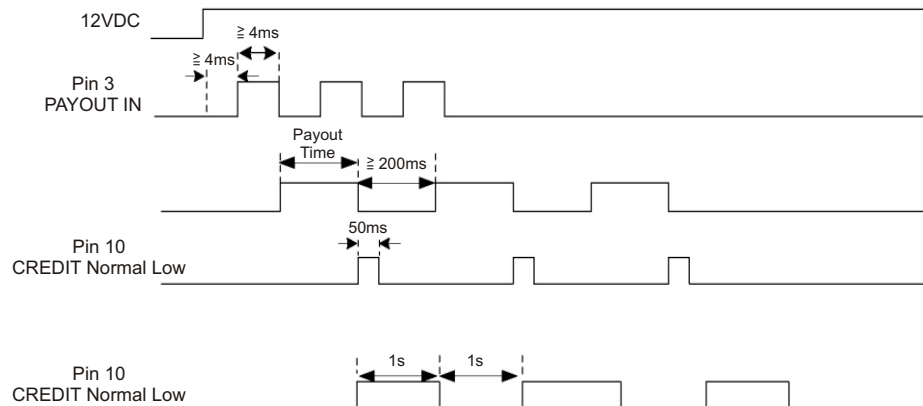
Hopper Mode Normal Low Payout 3



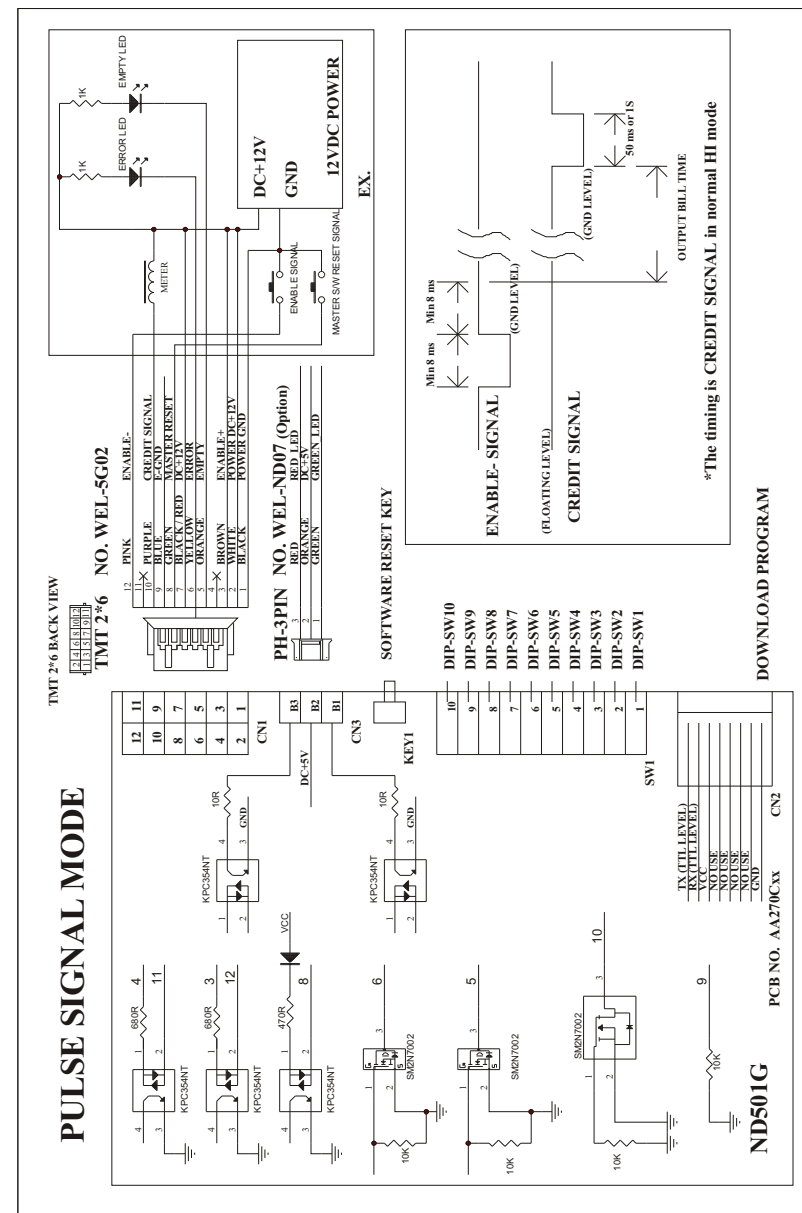
Hopper Mode Credit Width # 1 secretary

Pulse Mode

Pulse Mode Normal Low Payout 3



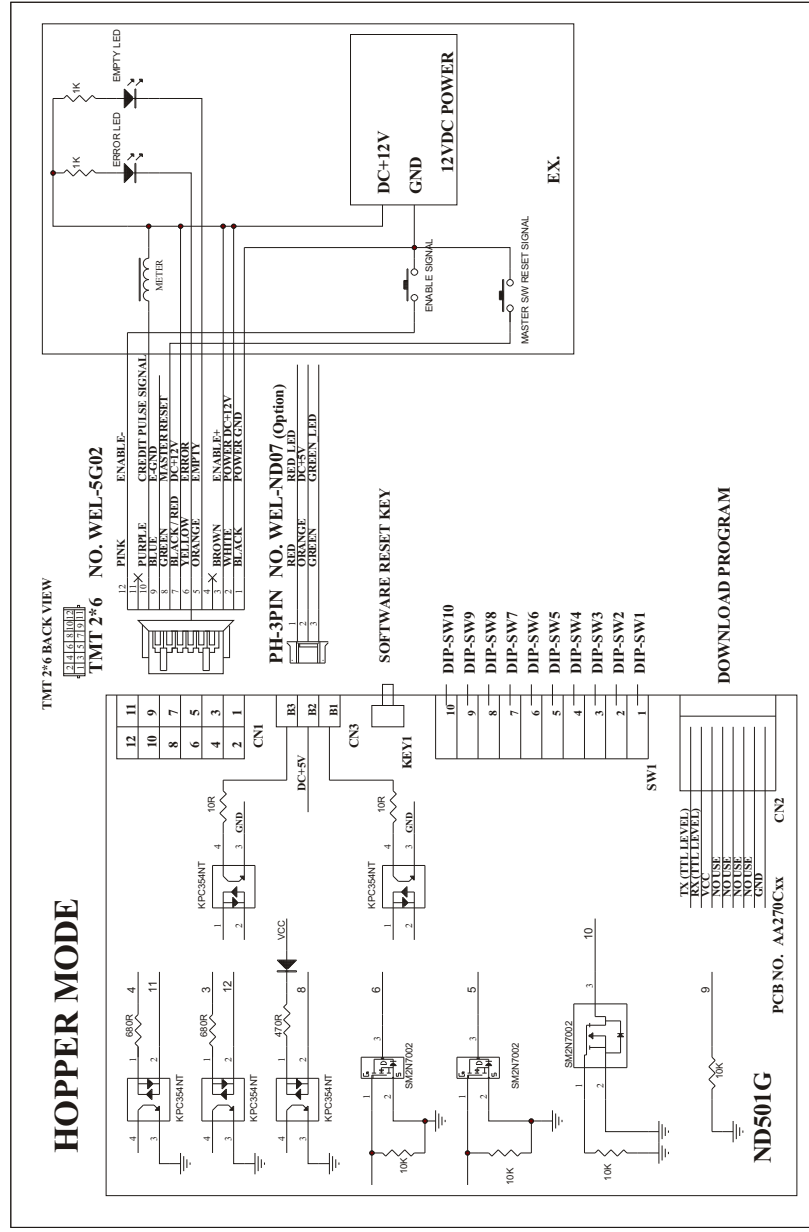
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