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BILL ACCEPTOR

PA7/PA7-U

INSTALLATION GUIDE

International Currency Technologies Corp.

Use of Materials Limitations

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Contents

1. Introduction

1-1. Overview

PA7/PA7-U is a bill acceptor which features as high-security with acceptance rate up to 96% or even greater.

1-2. Features

- Auto-calibrating.
- Easy Maintenance.
- Four-way bill insertion acceptance.

2. Specifications

General

Acceptance Rate	96% or greater

Note: The acceptance rate excludes notes that are dirty, wet, broken or wrinkled.

Bill Insertion	Four-way acceptable
Transaction Speed	Approx. 3 seconds to stack
Interface	Pulse, ICT Protocol, NISR, 5V ENABLE, single price(PA7-U).

Electrical

Power Source	12V DC(10.8~13.2V DC) 117V AC(105.3~128.7V AC)

Power Consumption	12V DC - Standby: 0.28A, 3.4W Operation: 0.9A, 11W Maximum: 2.5A, 30W 117V AC- Standby: 0.045A, 5W Operation: 0.1A, 11W Maximum: 0.2A, 22W
Operation Environment	Operation Temperature: 0°C~55°C Storage Temperature: -30°C~70°C Humidity: 30%~85% RH(no condensation)

Mechanical

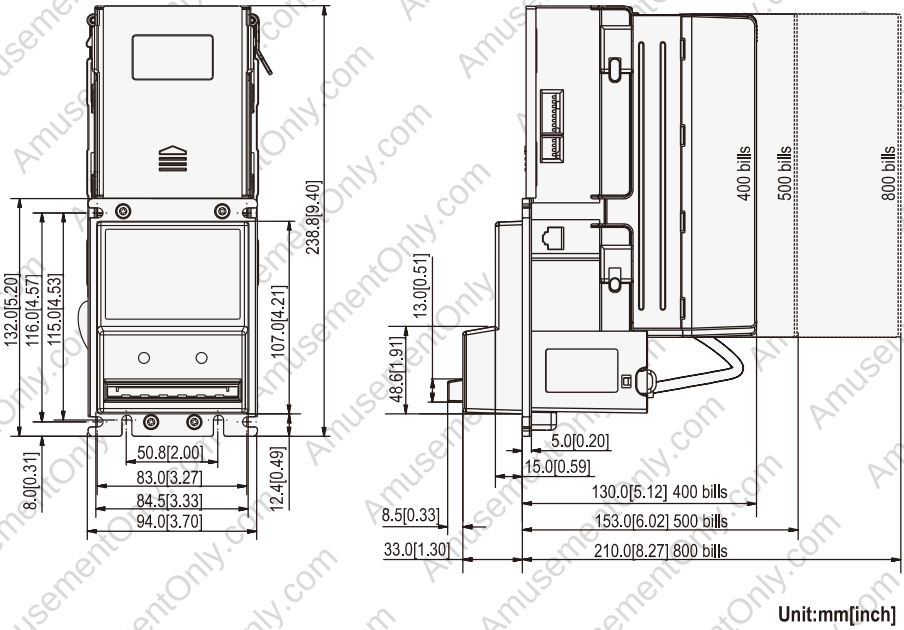
Bill width	62~72mm
Bill Capacity	Approx. 400 bills(300~400) Approx. 500 bills(400~500) Approx. 800 bills(700~800)
Weight	Approx. 1.3kg

Installation: Indoor use only!!

3. Packing List

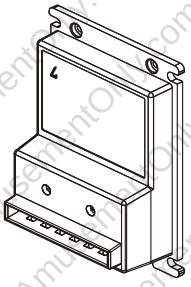
Main	Bill Acceptor
Accessory	Harness: Refer to 5-1 PA7/PA7-U Installation Guide PA7/PA7-U DIP Switch Setting Guide

4. Dimension



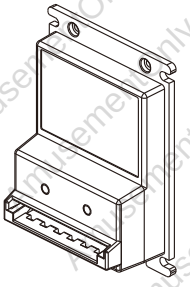
Unit:mm[inch]

4-1. Bezel Style



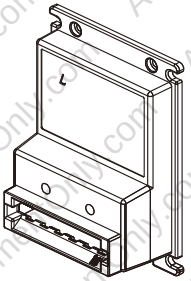
4-1 FIG.01

Compact Bezel
Part Number: A2209A00-R



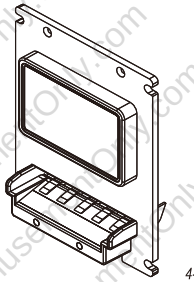
4-1 FIG.02

Bezel (Step Style)
Part Number: A3025000-R



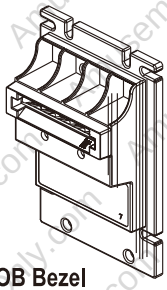
4-1 FIG.03

Two Sided Bezel
Part Number: A2422B00-R



4-1 FIG.04

Horizontal Stacker Bezel
Part Number: A24260-R



4-1 FIG.05

TOB Bezel
Part Number: A2582000-R

5. Installation

5-1. Harness Application

5-1 TABLE 01

Model	Interface		Used Voltage	Usage	Harness	Page
PA7/ PA7-U	Pulse		12VDC	Power & *Data Com.	WEL-RM007	7
				Extension Wire	CU-R961-1	8
			117VAC	Power & *Data Com.	WEL-RM008	9
				Extension Wire	WEL-RM012	10
	Pulse+5V Enable		117VAC	Power & *Data Com.	WEL-RM017	11
				Extension Wire	WEL-RM018	12
	NISR		117VAC	Power & *Data Com.	3-BA-RM023	13
	ICT Protocol	RS232	12V DC	Power	WEL-RM007	7
				Extension Wire	CU-R961-1	8
				*Data Comm.	WEL-RV706-1 or 2-BA-RV706	15
			117V AC	Power	WEL-RM008	9
				Extension Wire	WEL-RM012	10
				*Data Comm.	WEL-RV706-1 or 2-BA-RV706	15
		**USB	12V DC	Power	WEL-RM007	7
			117V AC	Power	WEL-RM008	9
			5V DC	*Data Com.	WEL-RU1180 (Optional)	14
PA7-U	Single Price		117V AC	Power & *Data Com.	WEL-RM031	16

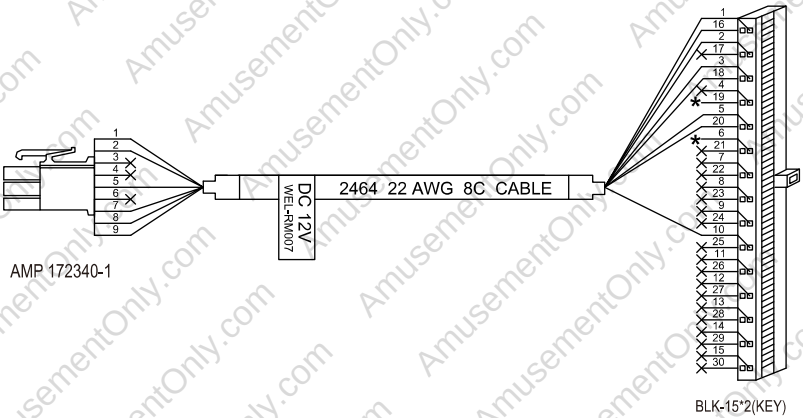
*Data Com. : Data Communication.

**USB is only compatible with model PA7-UXXXX-XXXX.

5-1 FIG.01

Interface	Used Voltage	Usage
Pulse	12V DC	Power & *Data Comm.
RS232 for ICT Protocol	12V DC	Power
USB for ICT Protocol	12V DC	Power

WEL-RM007



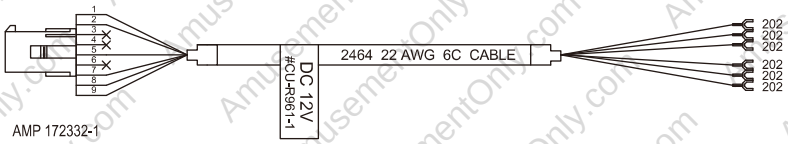
PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 3- RESERVED
PIN 4- RESERVED
PIN 5- RED.....12V DC (POWER)
PIN 5 DOTTED- BLACK.....12V DC (POWER)
PIN 6- RESERVED
PIN 7- BLUE.....CREDIT_RELAY (N.O.)
PIN 8- PURPLE.....CREDIT_RELAY (COMMON)
PIN 9- BROWN.....GND (POWER)
PIN 9 DOTTED- WHITE.....GND (POWER)

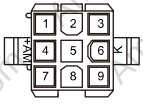
PIN 1- PURPLE.....CREDIT_RELAY (COMMON)
PIN 2- RED.....12VDC (POWER)
PIN 3- WHITE.....ENABLE-
PIN 5- YELLOW.....INHIBIT+
PIN 10- BROWN.....GND (POWER)
PIN 16- BLUE.....CREDIT_RELAY (N.O.)
PIN 18- BLACK.....ENABLE+
PIN 20- GREEN.....INHIBIT-

5-1 FIG.02

Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RM007
RS232 for ICT Protocol	12V DC	Extension Wire for WEL-RM007

CU-R961-1





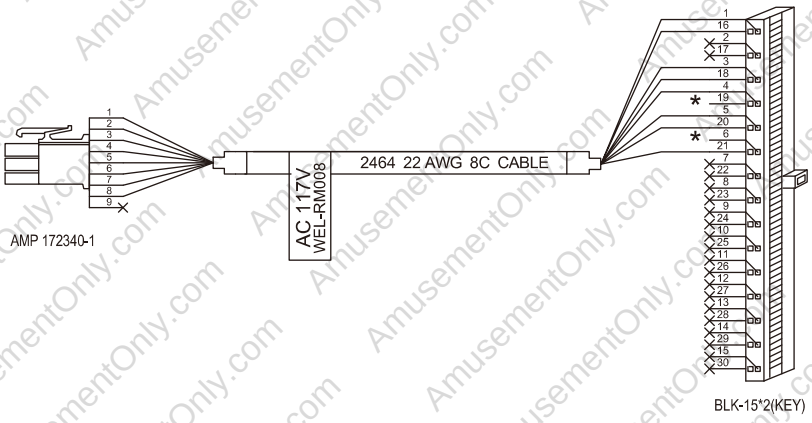
AMP 172332-1
BACK VIEW

PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12VDC(POWER-IN)
PIN 7- BLUE.....CREOIT-RELAY-NO
PIN 8- PURPLE.....CREDIT-RELAY-COM
PIN 9- ORANGE.....GND(POWER-IN)

5-1 FIG.03

Interface	Used Voltage	Usage
Pulse	117V AC	Power & *Data Comm.
RS232 for ICT Protocol	117V AC	Power
USB for ICT Protocol	117V AC	Power

WEL-RM008



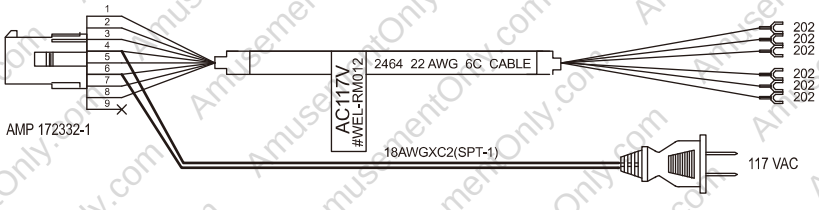
PIN 1- YELLOW.....NEUTRAL INHIBIT
PIN 2- RED.....NEUTRAL ENABLE
PIN 3- BROWN.....HOT ENABLE
PIN 4- BLACK.....117VAC HOT(Power)
PIN 5- GREEN.....Earth-Ground
PIN 6- WHITE.....117VAC NEUTRAL(Power)
PIN 7- BLUE.....CREDIT_RELAY(N.O.)
PIN 8- PURPLE.....CREDIT_RELAY(Common)

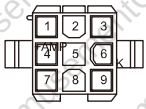
PIN 1- PURPLE.....CREDIT_RELAY(Common)
PIN 3- RED.....NEUTRAL ENABLE
PIN 4- WHITE.....117VAC NEUTRAL(Power)
PIN 5- YELLOW.....NEUTRAL INHIBIT
PIN 16- BLUE.....CREDIT_RELAY(N.O.)
PIN 18- BROWN.....HOT ENABLE
PIN 20- BLACK.....117VAC HOT (Power)
PIN 21- GREEN.....EARTH GROUND

5-1 FIG.04

Interface	Used Voltage	Usage
Pulse	117V AC	Extension Wire for WEL-RM008
RS232 for ICT Protocol	117V AC	Extension Wire for WEL-RM008

WEL-RM012





AMP 172332-1 BACK VIEW

PIN 1- YELLOW.....NEUTRAL INHIBIT
PIN 2- RED.....NEUTRAL ENABLE
PIN 3- ORANGE.....HOT ENABLE
PIN 4- BLACK.....117VAC HOT (Power)
PIN 5- GREEN.....Earth - Ground
PIN 6- BLACK.....117VAC NEUTRAL (Power)
PIN 7- BLUE.....CREDIT_RELAY (N.O.)
PIN 8- PURPLE.....CREDIT_RELAY (Common)
PIN 9- Reserved

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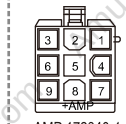
YELLOW.....NEUARAL INHIBIT
RED.....NEUTRAL ENABLE
ORANGE.....HOT ENABLE
GREEN.....Earth - Ground
BLUE.....CREDIT_RELAY (N.O.)
PURPLE.....CREDIT_RELAY (Common)

5-1 FIG.05

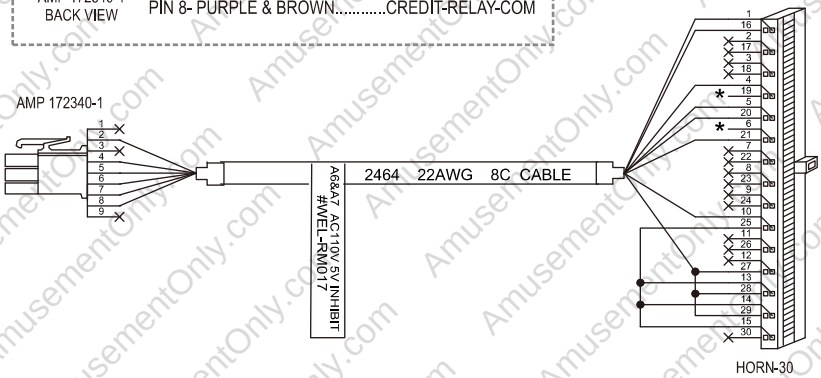
Interface	Used Voltage	Usage
Pulse+5V ENABLE	117V AC	Power & *Data Comm.

WEL-RM017



AMP 172340-1
BACK VIEW

PIN 2- RED.....I-ENABLE-L
PIN 4- BLACK.....117VAC-HOT
PIN 5- GREEN.....EARTH-GROUND
PIN 6- WHITE & YELLOW.....117VAC-NEUTRAL
PIN 7- BLUE.....CREDIT-RELAY-NO
PIN 8- PURPLE & BROWN.....CREDIT-RELAY-COM

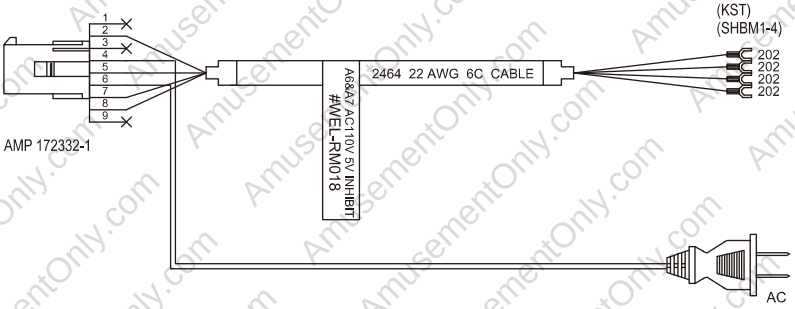


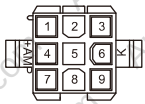
PIN 1- PURPLE.....CREDIT-RELAY-COM
PIN 4- WHITE.....117VAC-NEUTRAL(POWER IN)
PIN 5- YELLOW.....NEUTRAL-INHIBIT
PIN 10- BROWN.....GND
PIN 16- BLUE.....CREDIT-RELAY-NO
PIN 20- BLACK.....117VAC-HOT(POWER IN)
PIN 21- GREEN.....EARTH-GROUND
PIN 27.& 28. & 29- RED.....I-ENABLE-L
PIN 13. & 14. & 15. & 25- BLACK.....I-ENABLE-H

5-1 FIG.06

Interface	Used Voltage	Usage
Pulse+5V ENABLE	117V AC	Extension Wire for WEL-RM017

WEL-RM018





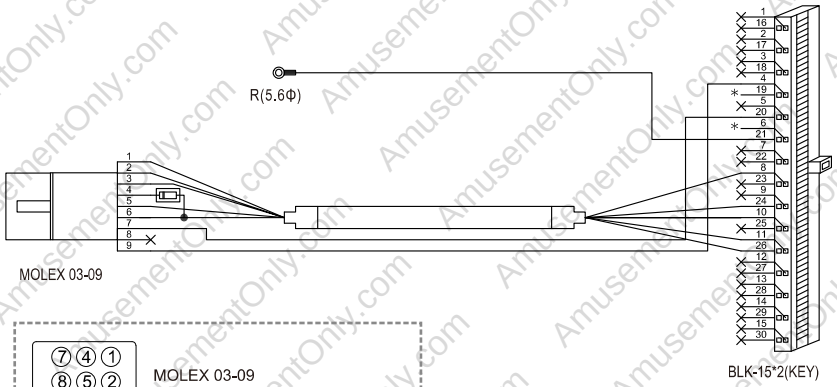
PIN 2- RED.....I-ENABLE-L
PIN 4- BLACK.....117VAC-HOT(POWER-IN)
PIN 5- GREEN.....EARTH-GROUND
PIN 6- BLACK.....117VAC-NEUTRAL(POWER-IN)
PIN 7- BLUE.....CREDIT-RELAY-NO
PIN 8- PURPLE.....CREDIT-RELAY-COM

5-1 FIG.07

Interface	Used Voltage	Usage
NISR	117V AC	Power & *Data Comm.

3-BA-RM023

PIN 4- WHITE / BLACK.....117VAC-NEUTRAL
PIN 8- WHITE...../INTERRUPT
PIN 10- BLACK.....GND
PIN 11- YELLOW...../DATA
PIN 20- BLACK / WHITE.....117VAC-HOT
PIN 21- GREEN / YELLOW.....EARTH_GROUND
PIN 24- BLUE...../ACCEPT-ENABLE
PIN 26- RED...../SEND



⑦④①
⑧⑤②
⑨⑥③

MOLEX 03-09
BACK VIEW

PIN 1- BLACK.....GND
PIN 2- WHITE...../INTERRUPT
PIN 3- YELLOW...../DATA
PIN 4- DIODE(-)
PIN 5- RED...../SEND
PIN 6- BLUE & DIODE(+)...../ACCEPT-ENABLE
PIN 7- BLACK / WHITE.....117VAC-HOT
PIN 9- WHITE / BLACK.....117VAC-NEUTRAL

5-1 FIG.08

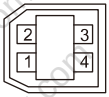
Interface	Used Voltage	Usage
USB for ICT Protocol	5V DC	*Data Comm.

WEL-RU1180
(Optional)

USB-A-TYPE

USB-B-TYPE

PIN 1- RED.....VCC
PIN 2- WHITE.....D-
PIN 3- GREEN.....D+
PIN 4- BLACK.....GND

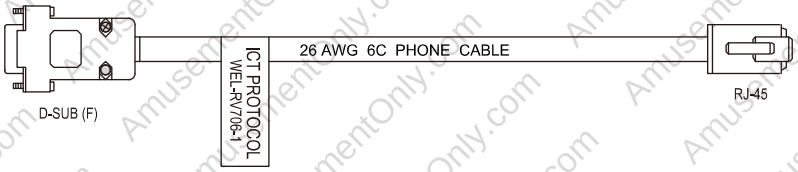


PIN 1- RED
PIN 2- WHITE
PIN 3- GREEN
PIN 4- BLACK

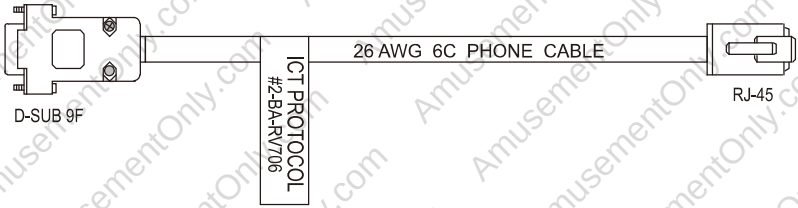
5-1 FIG.09

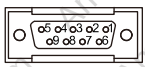
Interface	Used Voltage	Usage
RS232 for ICT Protocol	12V DC	*Data Comm.
RS232 for ICT Protocol	117V AC	*Data Comm.

WEL-RV706-1



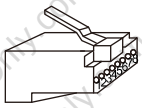
2-BA-RV706





D-SUB 9F TOP VIEW

PIN 1- RESERVED
PIN 2- RXD
PIN 3- TXD
PIN 4- RESERVED
PIN 5- GND
PIN 6- RESERVED
PIN 7- RESERVED
PIN 8- RESERVED
PIN 9- RESERVED



RJ-45 VIEW

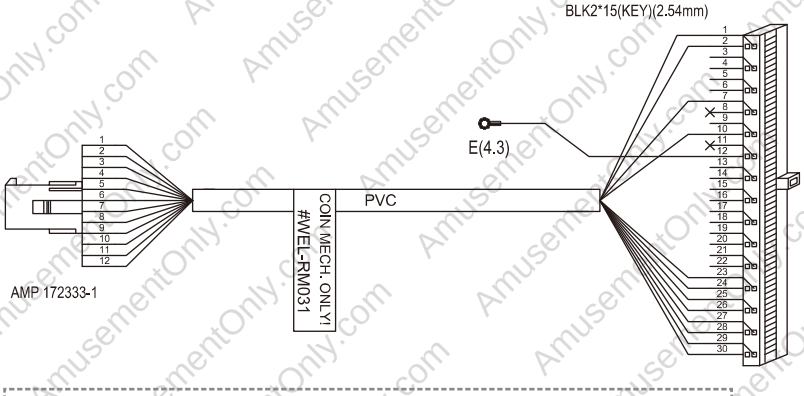
PIN 1- BLUE.....GND
PIN 2- YELLOW.....TX22
PIN 3- GREEN.....RX22
PIN 4- X.....RESERVED
PIN 5- X.....RESERVED
PIN 6- RED.....VCC
PIN 7- BLACK.....RX11
PIN 8- WHITE.....TX11

5-1 FIG.10

Interface	Used Voltage	Usage
Single price	117V AC	Power & *Data Comm.

WEL-RM031

PIN 1- WHITE.....CREDIT-RELAY-COM
PIN 2- GREEN.....CREDIT-RELAY-NO
PIN 7- RED(20AWG).....117VAC-NEUTRAL
PIN 10- BLACK(20AWG).....117VAC-HOT
PIN 12- YELLOW/
GREEN(20AWG).....EARTHGND
PIN 23- BROWN.....RESERVED
PIN 24- PURPLE.....1-ENABLE-L
PIN 25- BLUE.....RESERVED
PIN 26- GREY.....RESERVED
PIN 27- ORANGE.....RESERVED
PIN 28- RED.....RESERVED
PIN 29- YELLOW.....1-ENABLE-H
PIN 30- BLACK.....RESERVED



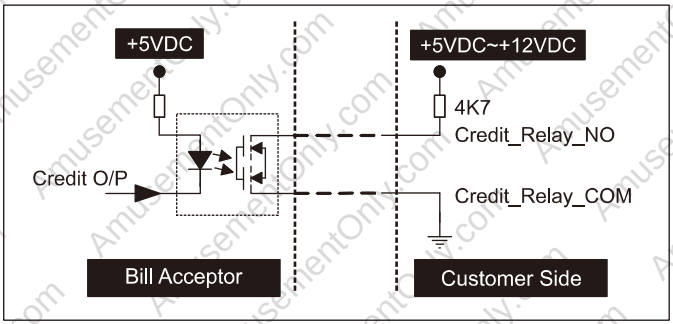
AMP 172333-1
BACK VIEW

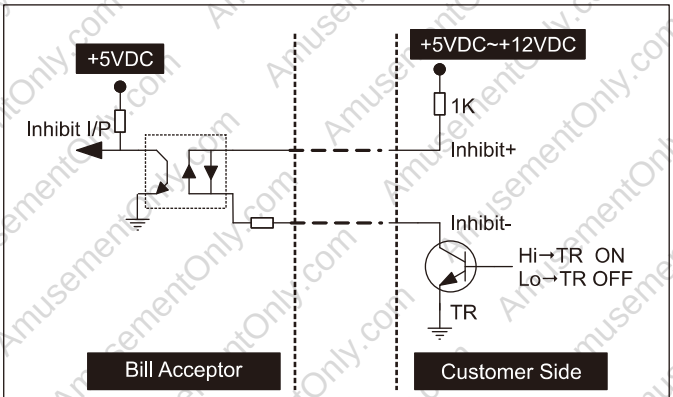
PIN 1- BLACK(20AWG).....117VAC-HOT
PIN 2- RED(20AWG).....117VAC-NEUTRAL
PIN 3- BLUE.....RESERVED
PIN 4- GREEN.....CREDIT-RELAY-NO
PIN 5- WHITE.....CREDIT-RELAY-COM
PIN 6- BLACK.....RESERVED
PIN 7- YELLOW.....1-ENABLE-H
PIN 8- PURPLE.....1-ENABLE-L
PIN 9- BROWN.....RESERVED
PIN 10- ORANGE.....RESERVED
PIN 11- GREY.....RESERVED
PIN 12- RED.....RESERVED

5-1-1. I/O Circuit

Pulse Interface.

5-1-1 FIG.01



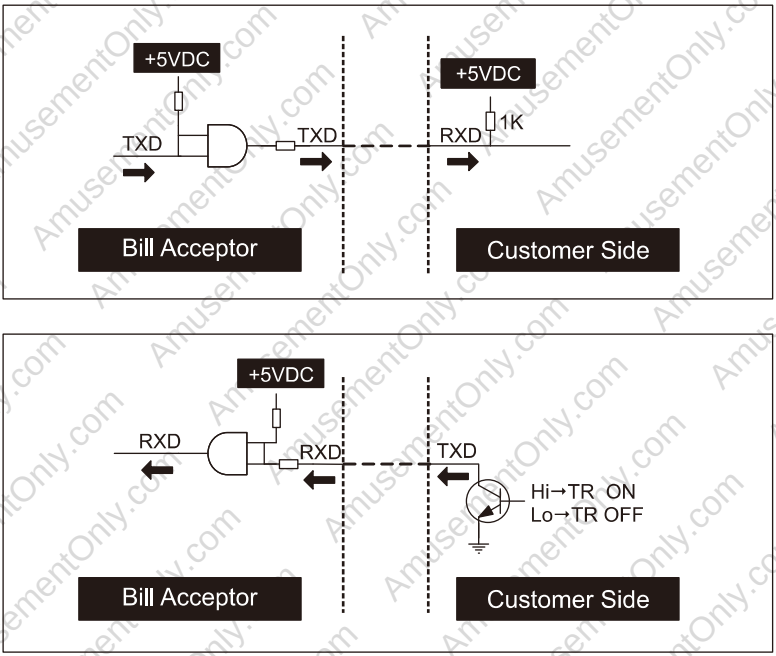


BA Status	*DIP SW Setting		Control Signal
Inhibit	Inhibit Active	Low	Low
		High	High
Enable	Inhibit Active	Low	High
		High	Low

**Note: Please refer to DIP Switch Setting Guide for detail.*

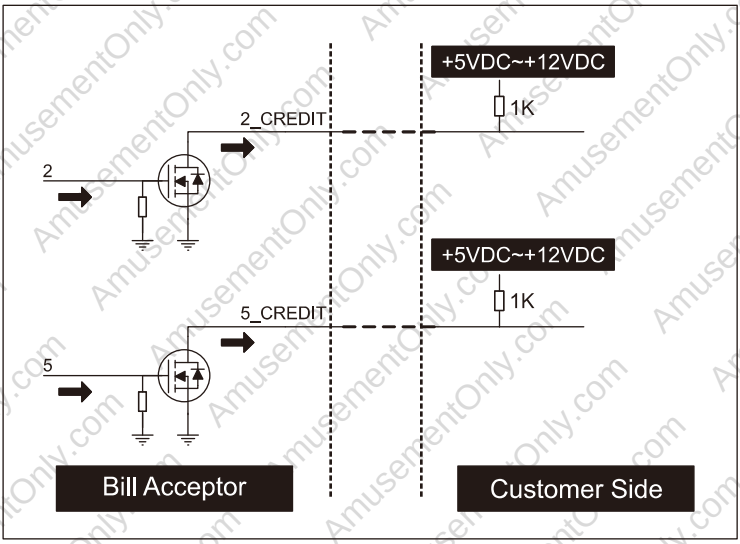
ICT Protocol Interface.

5-1-1 FIG.02



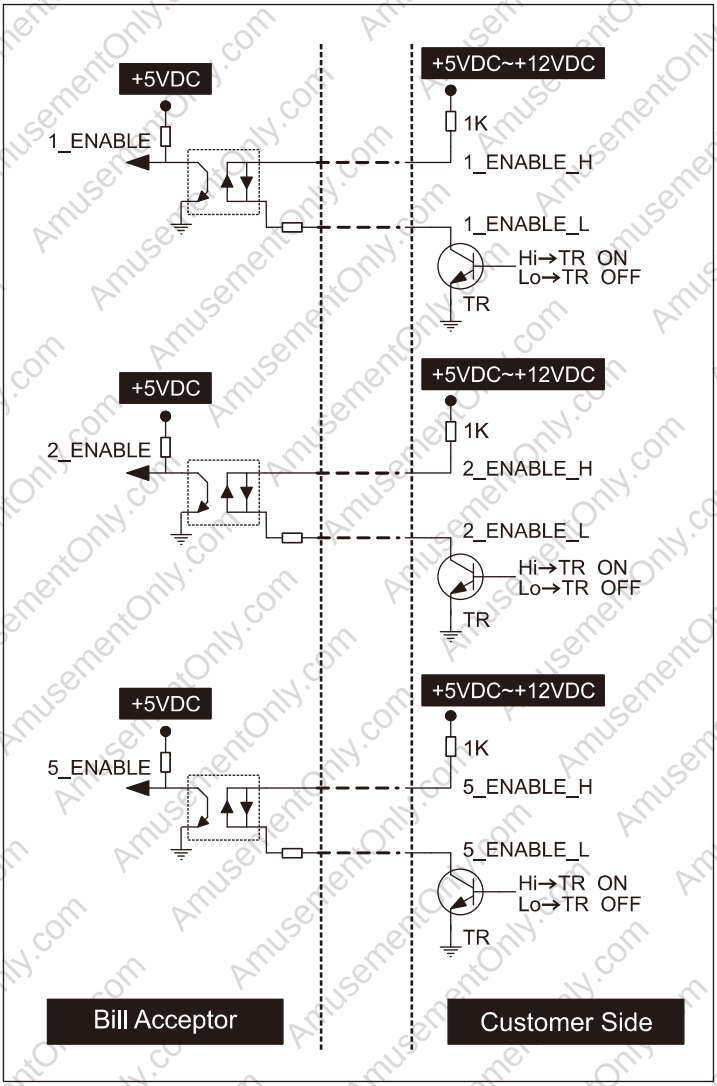
5V Enable Interface-1.

5-1-1 FIG.03-1



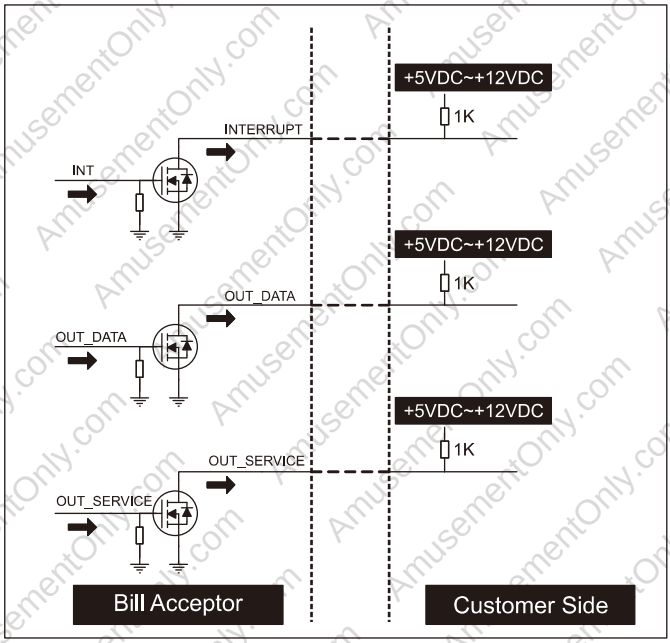
5V Enable Interface-2.

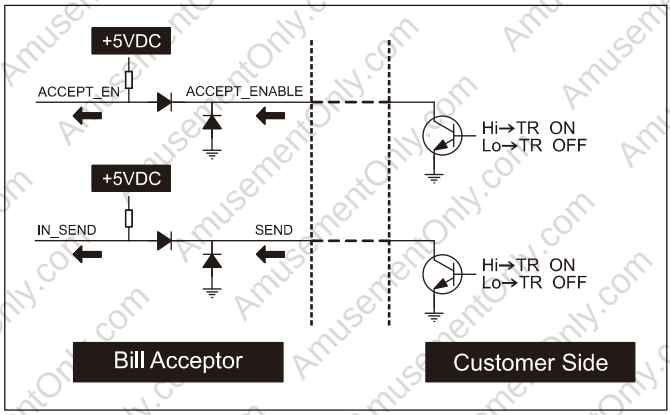
5-1-1 FIG.03-2



NISR Interface.

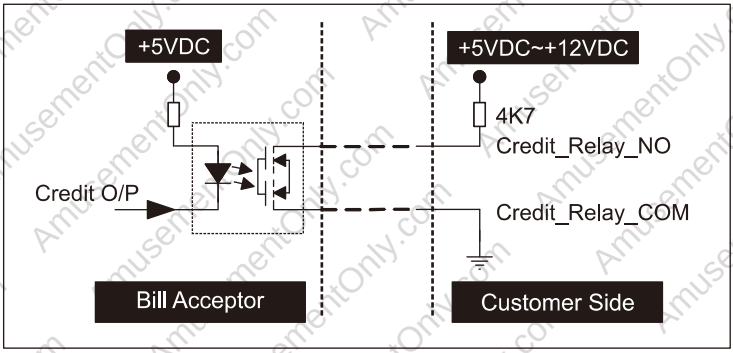
5-1-1 FIG.04





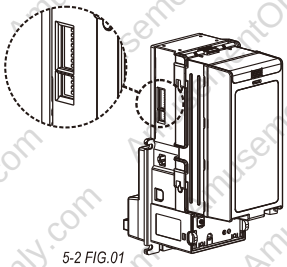
Single Price Interface.

5-1-1 FIG.05

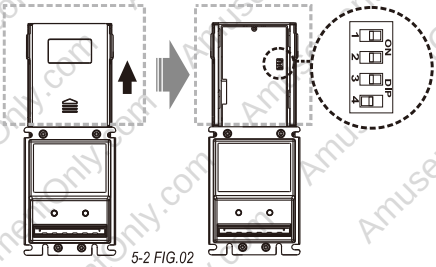


5-2. DIP Switch Setting

There are two serial DIP switches which are located on the side of PA7/PA7-U(as 5-2 FIG.01). According to different currencies which are used by users, DIP switch settings could be varied to fit users' needs. Besides, there's also a serial DIP switches on CPU board inside of PA7/PA7-U for interface settings(as 5-2 FIG.02).
Please refer to "PA7/PA7-U DIP Switch Setting Guide" in the package for more details.



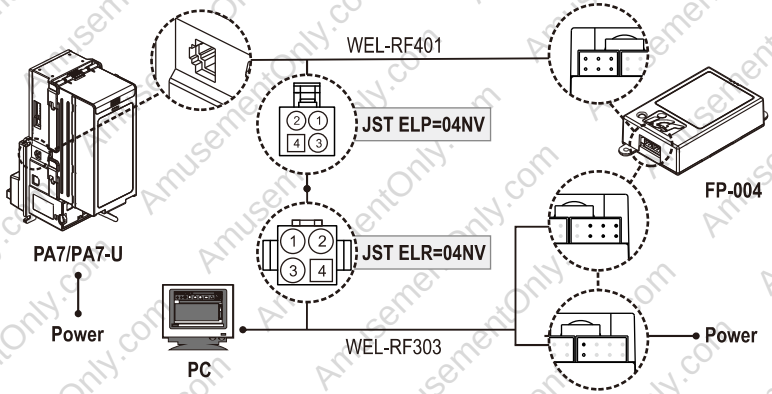
5-2 FIG.01



5-2 FIG.02

5-3. Software Download and Upgrade

To download and upgrade the software to PA7/PA7-U, the programmer(FP-004) is needed. Please contact ICT to purchase FP-004 and refer to FP-004 user guide for software download and upgrade information.



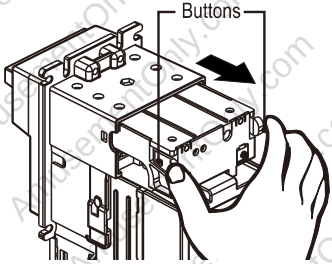
Power must be applied to Bill Acceptor **after** connecting.

6. Maintenance

To make sure the bill acceptor always works smoothly, please clean the internal parts regularly.

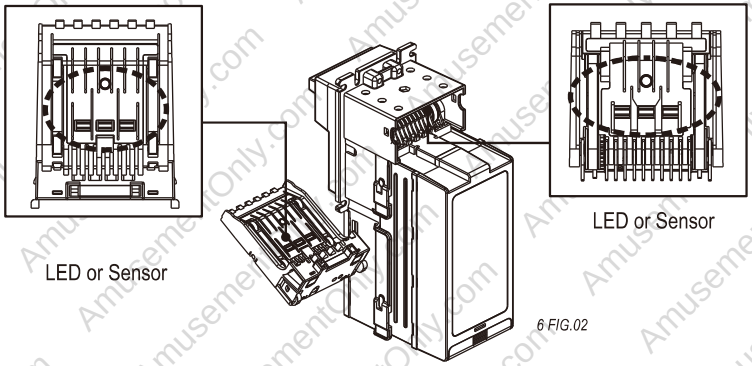
To clean the internal parts:

1. Press the buttons on the sides of bill path and pull the unit out.



6 FIG.01

2. Use a soft, dry cloth, or towel to clean the bill path and LED/sensors.



6 FIG.02

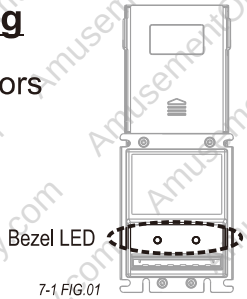
Maintenance Notice

(Any improper maintenance will result invalid warranty.)

Recommended	**Mild, non-abrasive, soap water.**
DO NOT USE	**Organic solvent , Alcohol, Volatile liquid.**

7. Troubleshooting

7-1. Bezel LED Errors



7-1 FIG.01

7-1 TABLE 01

LED	Status	Correct Actions
GREEN	White Card Calibration.	Please calibrate with ICT white calibration card.

7-1 TABLE 02

LED Flashes **RED**	Status	Corrective Actions
1	Bill jammed.	Remove the bill box by sliding the top button (as 7-2 FIG.01) and the bill path unit, and then remove the jammed bill.
2	Inhibit on.	Inspect for right DIP switch settings.
3	Sensor error.	Inspect for foreign objects on sensor and hook then clean.
4	Stringing attempt has detected.	Inspect for foreign objects on sensor or bill path and clean.
5	Stacker has been removed.	Replace the bill box.
7	Motor error.	Inspect for foreign objects on bill path and clean.
8	Stacker error or Stacker full.	Inspect for foreign objects in bill box and clean or remove bills in bill box.

If the error can not be solved after corrective actions or happen again, please contact ICT for technical support.

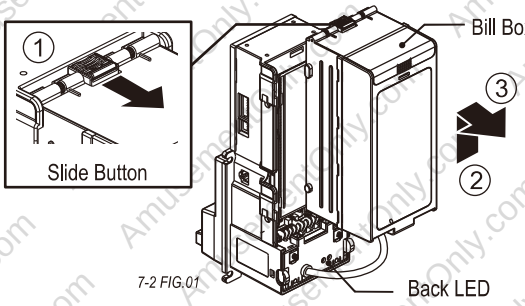
7-2. Back LED Errors

7-2 TABLE 01

LED	Status	Correct Actions
GREEN	White Card Calibration.	Please calibrate with ICT white calibration card.

7-2 TABLE 02

LED Flashes **RED**	Status	Corrective Actions
1	Bill jammed.	Remove the bill box by sliding the top button (as 7-2 FIG.01) and the bill path unit, and then remove the jammed bill.
2	Inhibit on.	Inspect for right DIP switch settings.
3	Sensor error.	Inspect for foreign objects on sensor and hook then clean.
4	Stringing attempt has detected.	Inspect for foreign objects on sensor or bill path and clean.
5	Stacker has been removed.	Replace the bill box.
7	Motor error.	Inspect for foreign objects on bill path and clean.
8	Stacker error or Stacker full.	Inspect for foreign objects in bill box and clean or remove bills in bill box.



7-2 FIG.01

If the error can not be solved after corrective actions or happen again, please contact ICT for technical support.

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