



Bill Acceptor

TAO-A/V II *Series*

Installation Guide

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1. Introduction

1-1. Overview

TAO-A/V II series is a bill acceptor which features a lockable bill box for high-security with acceptance rate up to 96% or greater.

1-2. Features

- Four way bill insertion acceptance.
- Auto-calibrating.
- Win XP/Vista and Linux compatible USB interface available.
- Secure lockable and removable cashbox with 200, 500 or 1000 note capacity.
- Advanced water resistant design.
- Excellent resistant to humidity environment.
- Perfect for indoor and outdoor applications.
- TAO-A/V IIU support update firmware using a USB flash drive.

2. Specifications

General

Acceptance Rate	96 % or greater
Bill Insertion	Four way acceptable
Transaction Speed	Approx. 3 seconds to stack
Interface	TAO-A II/ IIU: Pulse, 5V ENABLE, NISR ICT Protocol, Single Price, USB (Reserved). TAO-V II/ IIU: Pulse, MDB, ICT Protocol USB (Reserved),



Installation: Indoor use only!!

Electrical

Power Source	TAO-A II/ IIU: 12V DC (10.8V~ 13.2V DC) 117V AC (105.3V~128.7V AC) TAO-V II/ IIU: 12V DC (10.8V~13.2V DC) 24V AC (21.6V~26.4V AC) 34V DC (20 V~42.5V DC)
Power Consumption	TAO-A II/ IIU: 12V DC- Standby : 0.3A, 4W Operation: 0.9A, 11W Maximum: 2.6A, 32W 117V AC- Standby : 0.06A, 7W Operation: 0.12A, 15W Maximum: 0.4 A, 47W

Power Consumption	TAO-V II/ IIU: 12V DC- Standby : 0.3A, 4W Operation: 0.8A, 10W Maximum: 2.5A, 30W
	24V AC- Standby : 0.2A, 5W Operation: 0.5A, 12W Maximum: 1.5A, 36W
	34V DC- Standby : 0.15A, 6W Operation: 0.4 A, 14W Maximum: 1.35A, 46W

Operation Environment	Operation Temperature: 0°C~55°C Storage Temperature : -30°C~70°C Humidity: 30%~85% RH(no condensation)
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Mechanical

Bill Capacity	TAO-A/V II/ IIU-P 2: 200 bills TAO-A/V II/ IIU-P 5: 500 bills TAO-A/V II/ IIU-P10: 1000 bills
Weight	TAO-A/V II/ IIU-P 2: Approx. 1.3kg TAO-A/V II/ IIU-P 5: Approx. 1.5kg TAO-A/V II/ IIU-P10: Approx. 1.72kg

Outline Dimension Refer to page. 5

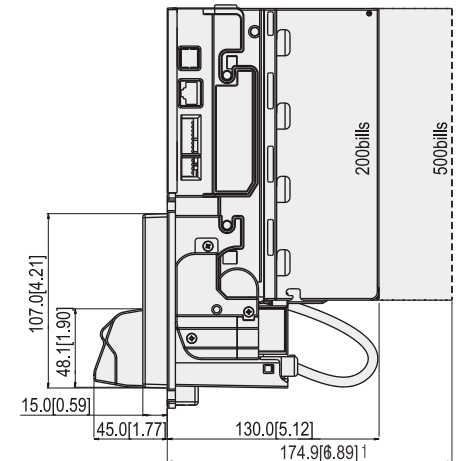
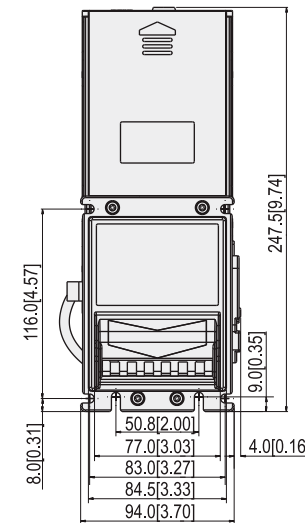
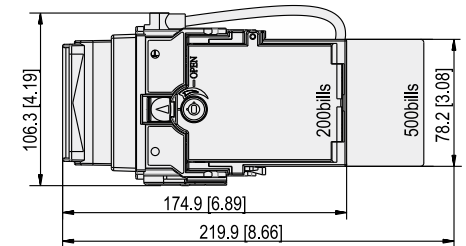
Bill Accepted Width 62mm~66mm

3. Packing List

Main	Bill Acceptor
Accessory	Harnesses: Refer to 5-1 TAO-A/V II series Installation Guide TAO-A/V II series Switches Setting Guide Key for bill box Bezel Sticker

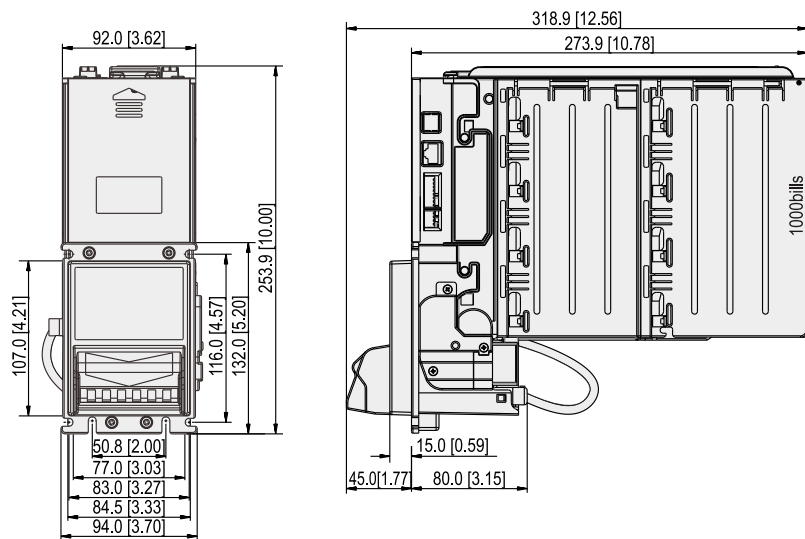
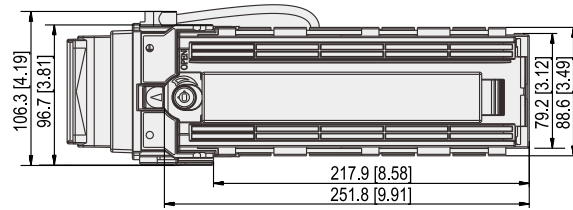
4. Dimension

◆ TAO-A/V II-P2/ P5



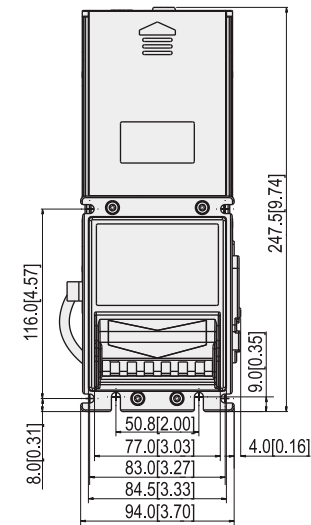
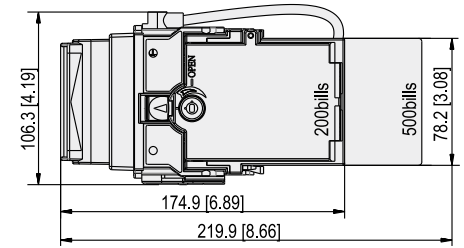
Unit : mm [inch]
4 FIG.01

◆ TAO-A/V II-P10



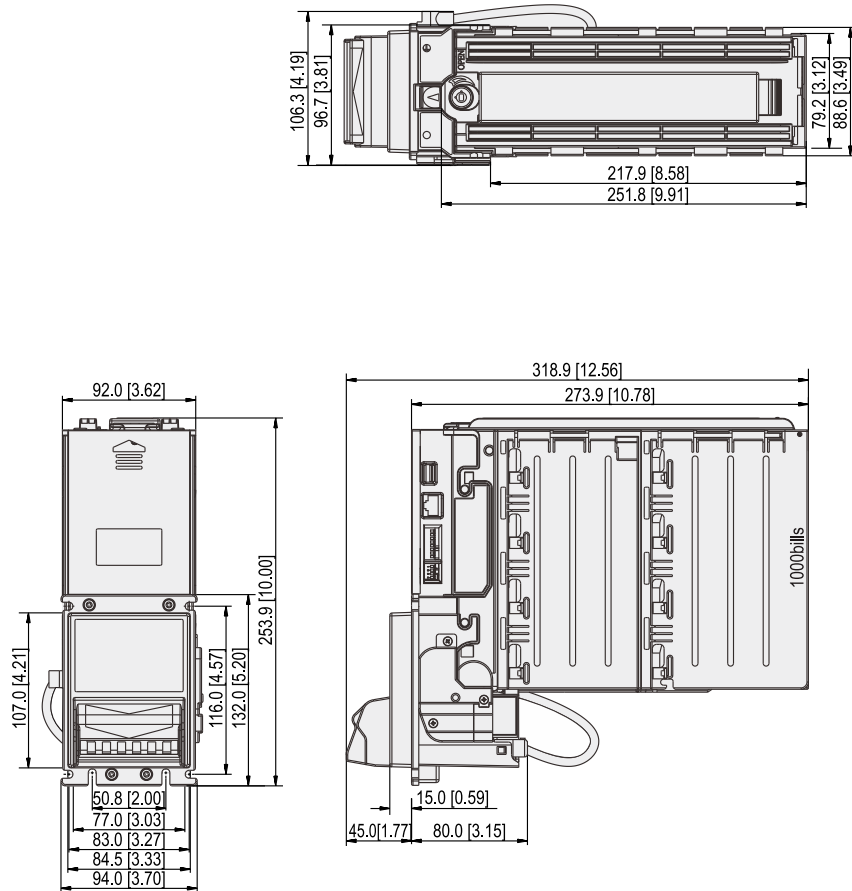
Unit : mm [inch]
4 FIG.02

◆ TAO-A/V IIU-P2/ P5



Unit : mm [inch]
4 FIG.03

◆ TAO-A/V IIU-P10



Unit : mm [inch]
4 FIG.04

5. Installation

5-1. Harness Application

5-1 TABLE 01-1

Model	Interface	Used Voltage	Usage	Harness	Page
TAO-A II	Standard Pulse	117V AC	Power & *Data Comm.	WEL-RM008	11
			Extension Wire	WEL-RM012	12
		12V DC	Power & *Data Comm.	WEL-RM007	13
			Extension Wire	CU-R961-1	14
	5V ENABLE	117V AC	Power & *Data Comm.	WEL-RM017	15
			Extension Wire	WEL-RM018	16
	RS232 for ICT Protocol	12V DC	Power	WEL-RM007	13
			Power Extension Wire	CU-R961-1	14
		117V AC	*Data Comm.	WEL-RV706	17
			Power	WEL-RM008	11
NISR	117V AC	Power & *Data Comm.	WEL-RM012	12	
		*Data Comm.	WEL-RV706	17	
Single Price	117V AC	Power & *Data Comm.	WEL-RM023	18	
USB for ICT Protocol	-	Data Comm.	WEL-RM031	19	
TAO-A IIU	Standard Pulse	117V AC	Power & *Data Comm.	WEL-RU1180	20
			Extension Wire	WEL-RM008	11
		12V DC	Power & *Data Comm.	WEL-RM012	12
			Extension Wire	CU-R961-1	14
	5V ENABLE	117V AC	Power & *Data Comm.	WEL-RM007	13
			Extension Wire	WEL-RM018	16
	RS232 for ICT Protocol	12V DC	Power	WEL-RM017	15
			Power Extension Wire	WEL-RM018	16
		117V AC	*Data Comm.	WEL-RM007	13
			Power	CU-R961-1	14
NISR	117V AC	Power & *Data Comm.	WEL-RM008	11	
		*Data Comm.	WEL-RM012	12	
Single Price	117V AC	Power & *Data Comm.	WEL-RV706	17	
USB for ICT Protocol	-	Data Comm.	WEL-RM023	18	
USB Download	-	USB Extension Wire	WEL-RM031	19	
			WEL-RXBA31	23	

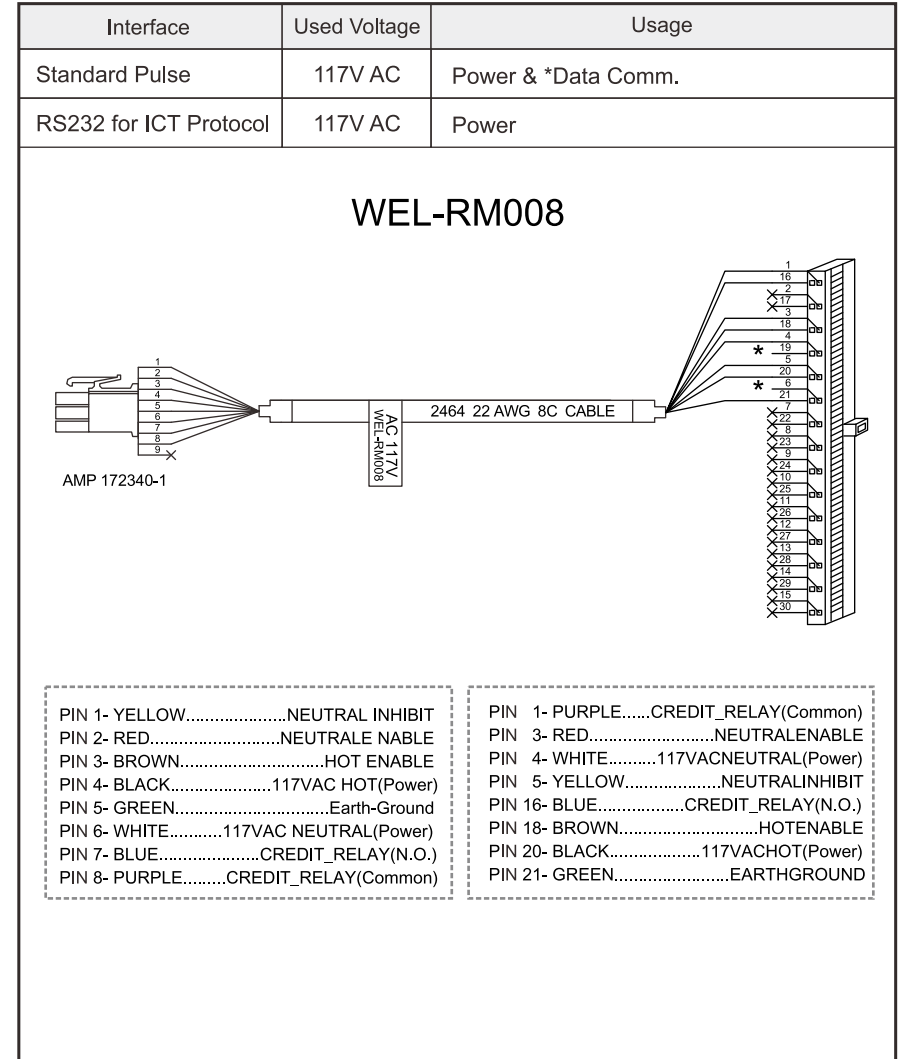
* Data Comm. : Data Communication.

5-1 TABLE 01-2

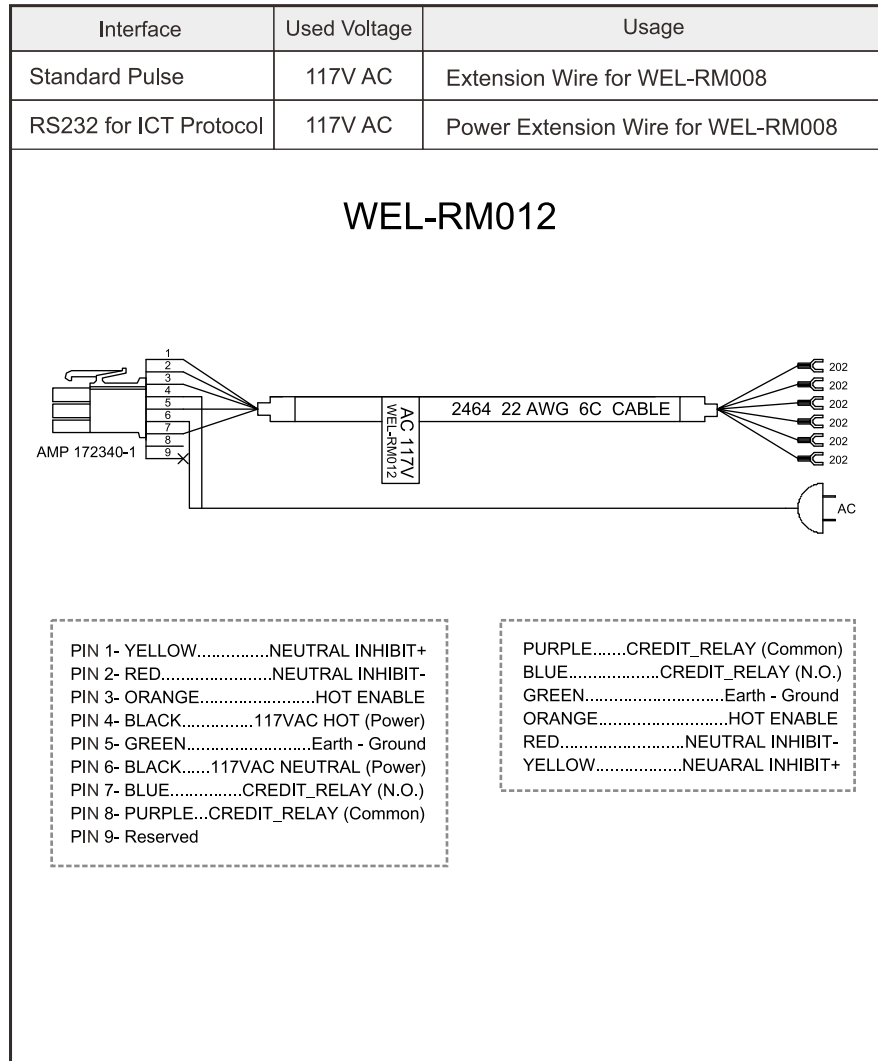
Model	Interface	Used Voltage	Usage	Harness	Page
TAO-V II	Standard Pulse	12V DC	Power & *Data Comm.	WEL-RV701	21
			Extension Wire	CU-R961-1	14
	MDB	34V DC	Power & *Data Comm.	WEL-RM006	22
	RS232 for ICT Protocol	12V DC	Power	WEL-RV701	21
			Power Extension Wire	CU-R961-1	14
USB for ICT Protocol	-	*Data Comm.	WEL-RV706	17	
TAO-V IIU	Standard Pulse	12V DC	Power & *Data Comm.	WEL-RV701	21
			Extension Wire	CU-R961-1	14
	MDB	34V DC	Power & *Data Comm.	WEL-RM006	22
	RS232 for ICT Protocol	12V DC	Power	WEL-RV701	21
			Power Extension Wire	CU-R961-1	14
USB Download	-	USB Extension Wire	WEL-RXBA31	23	

* Data Comm. : Data Communication.

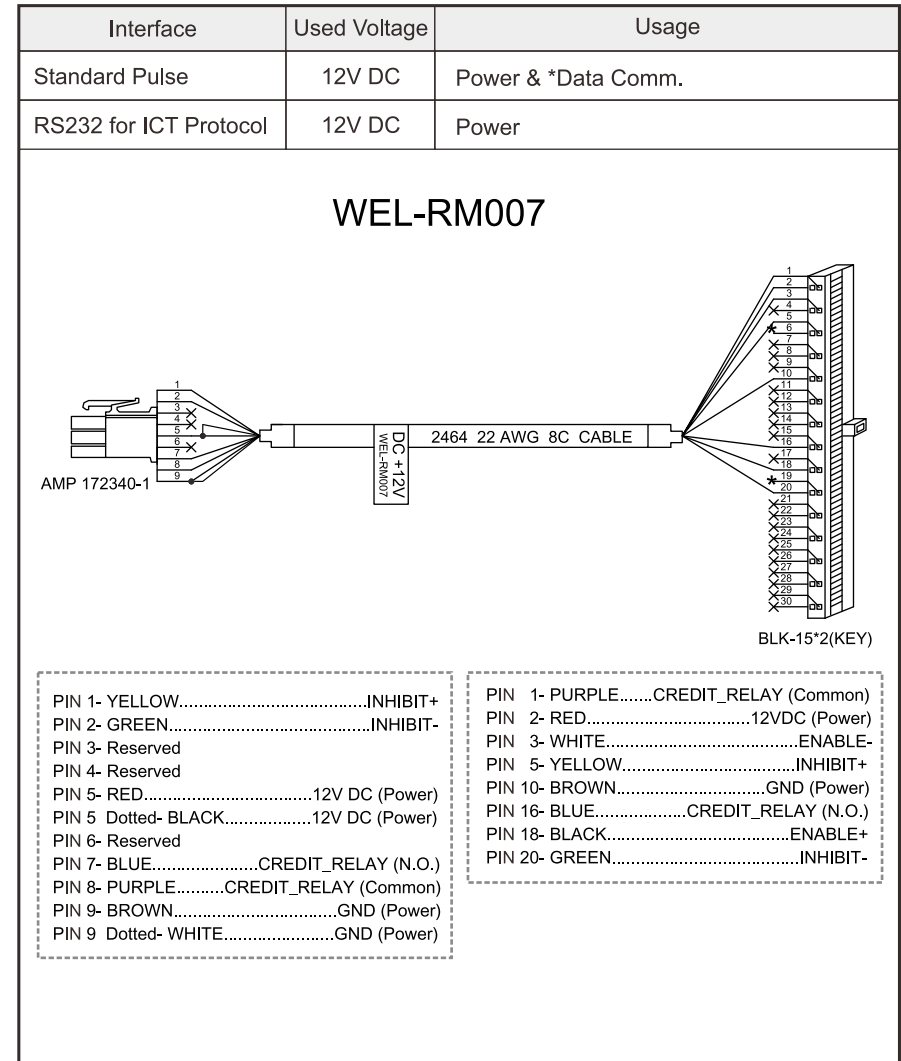
5-1 FIG.01



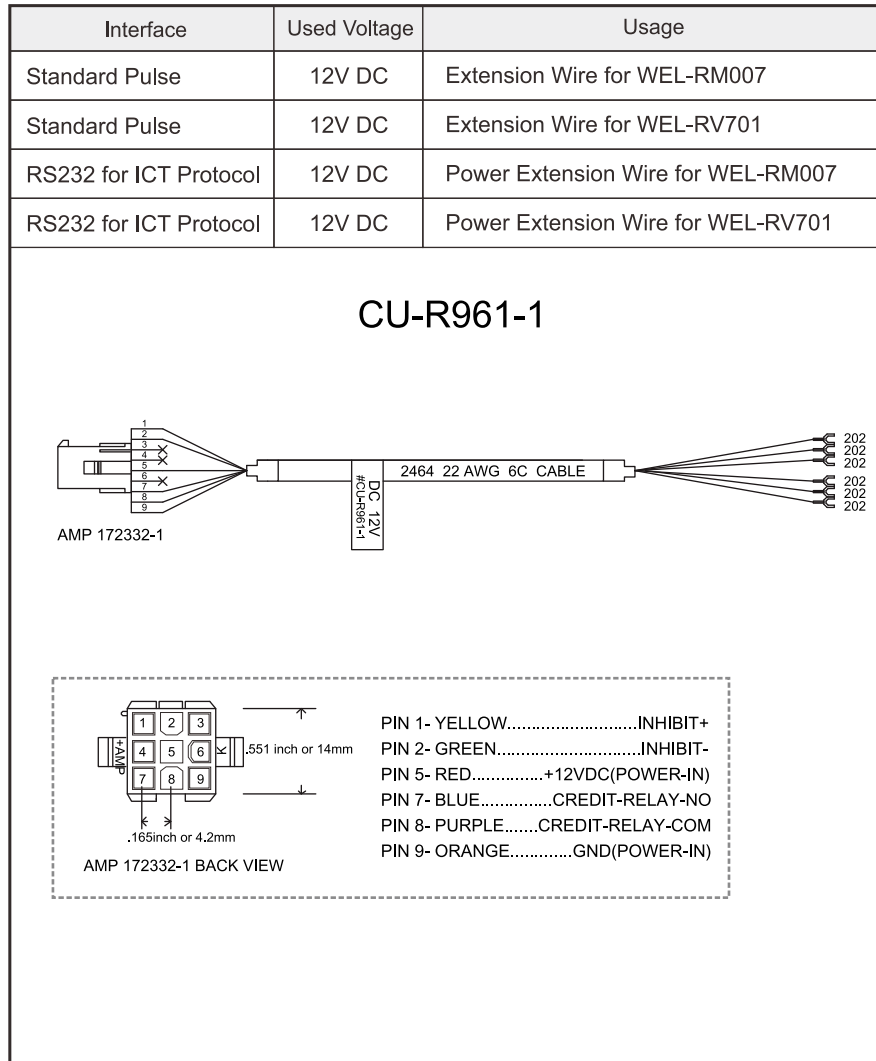
5-1 FIG.02



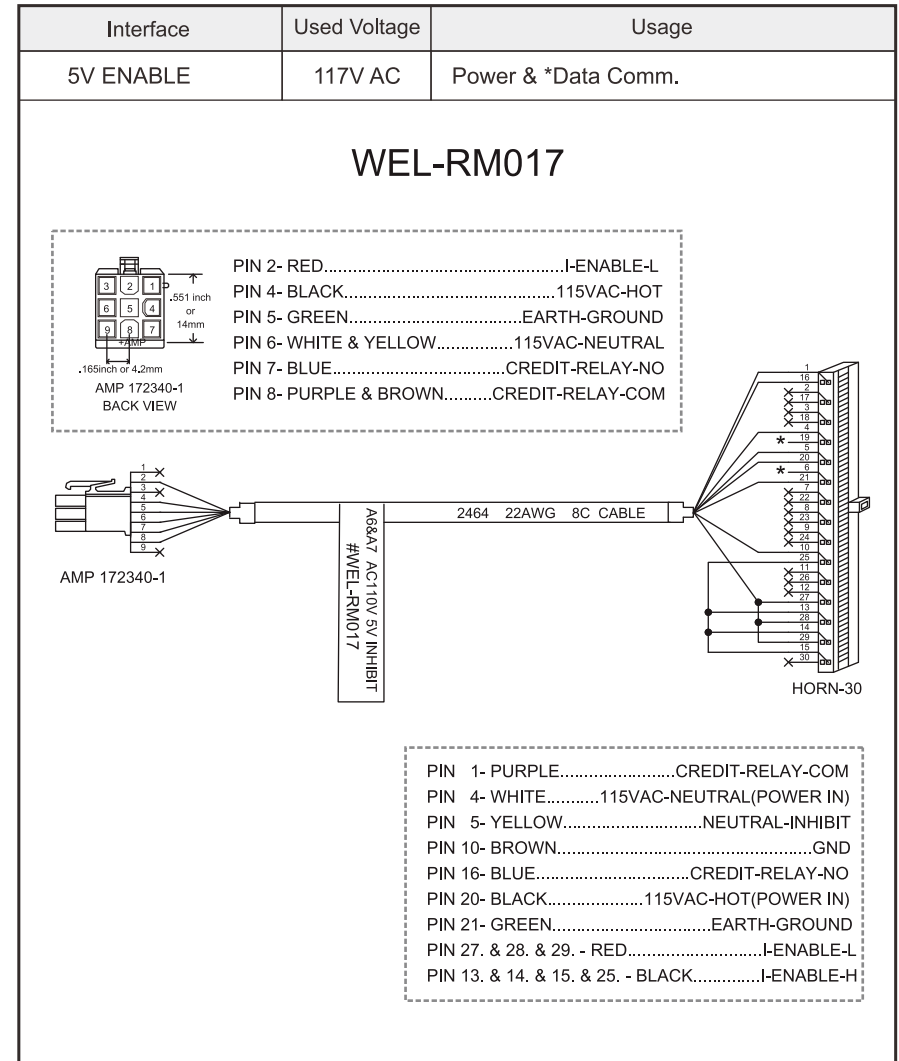
5-1 FIG.03



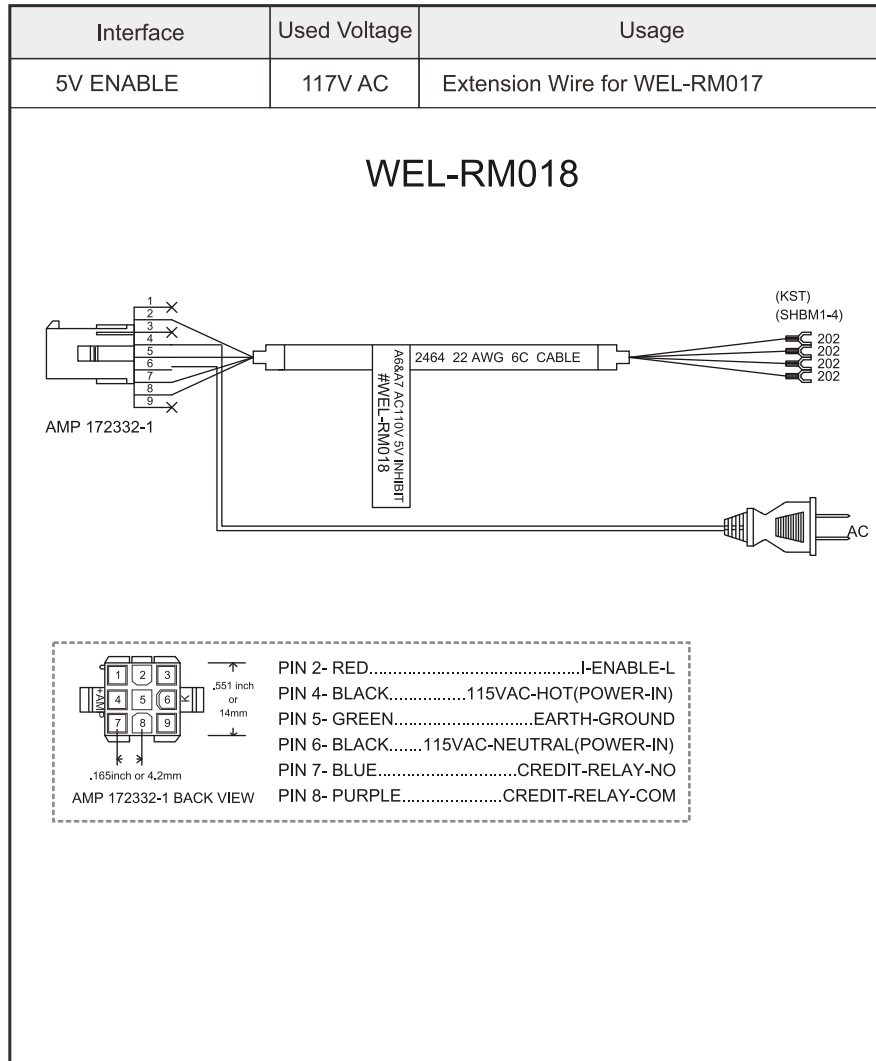
5-1 FIG.04



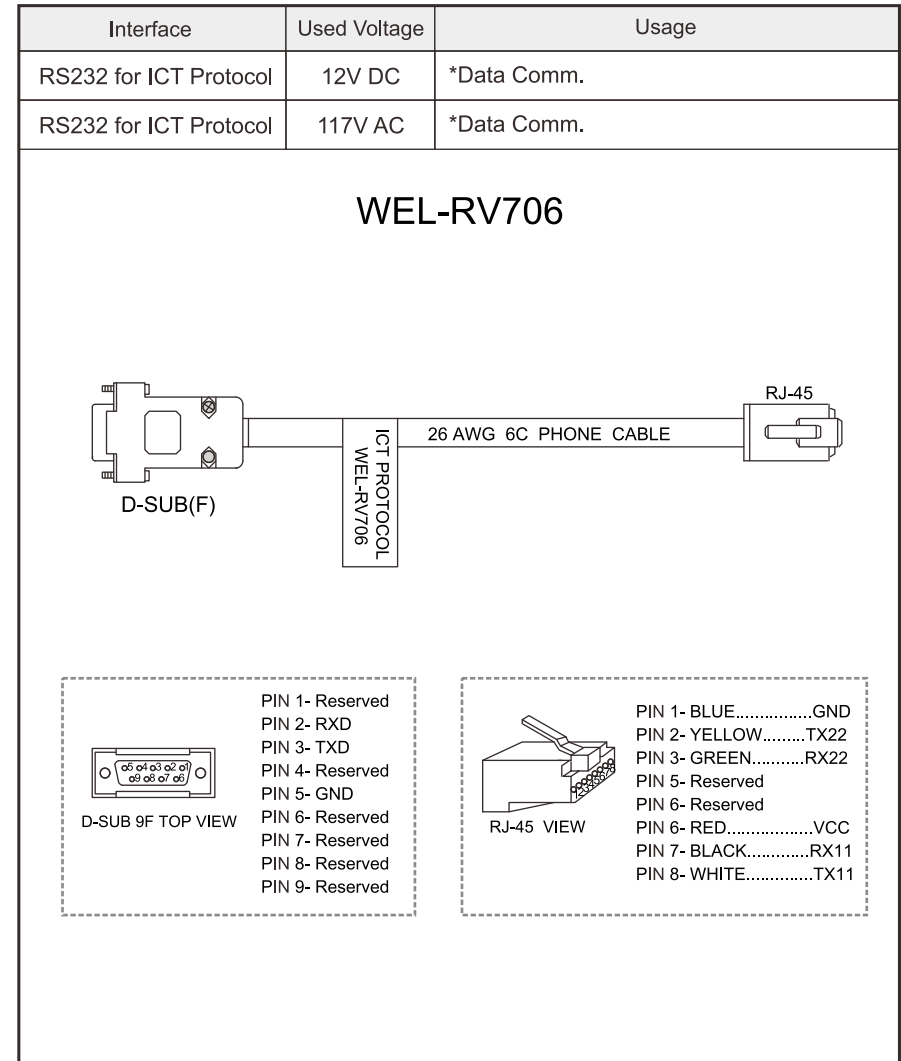
5-1 FIG.05



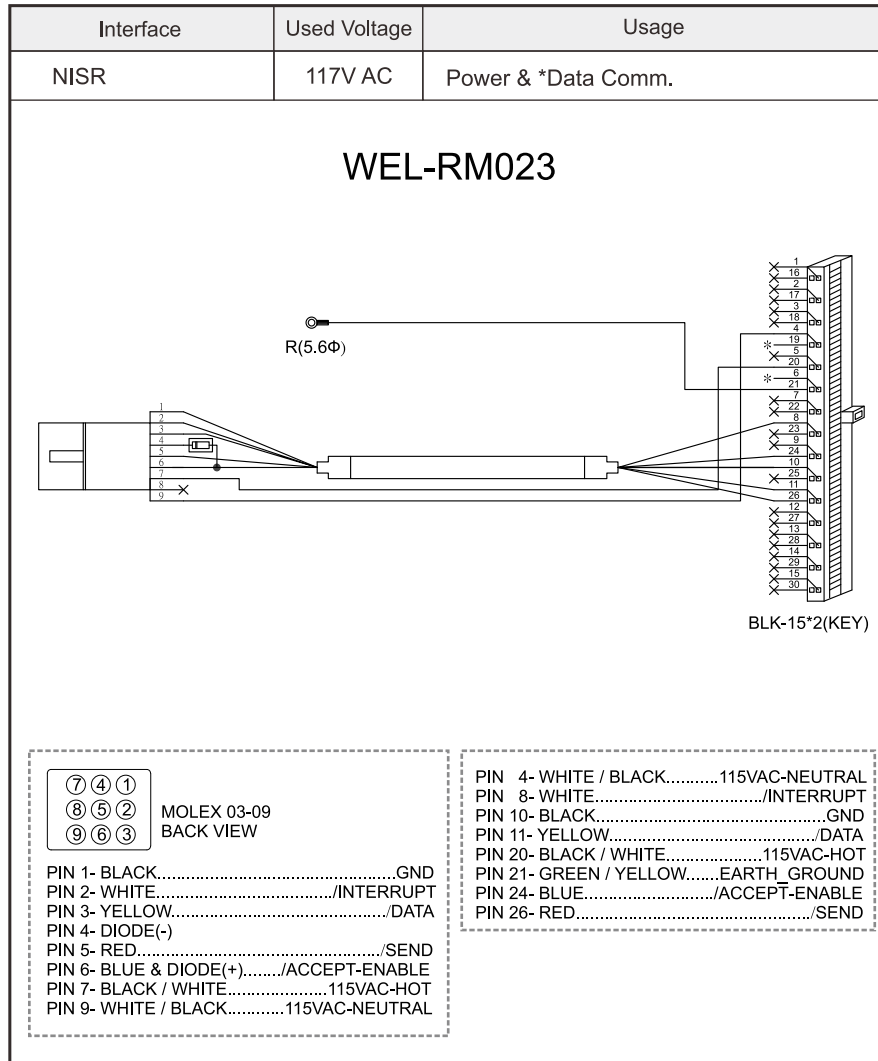
5-1 FIG.06



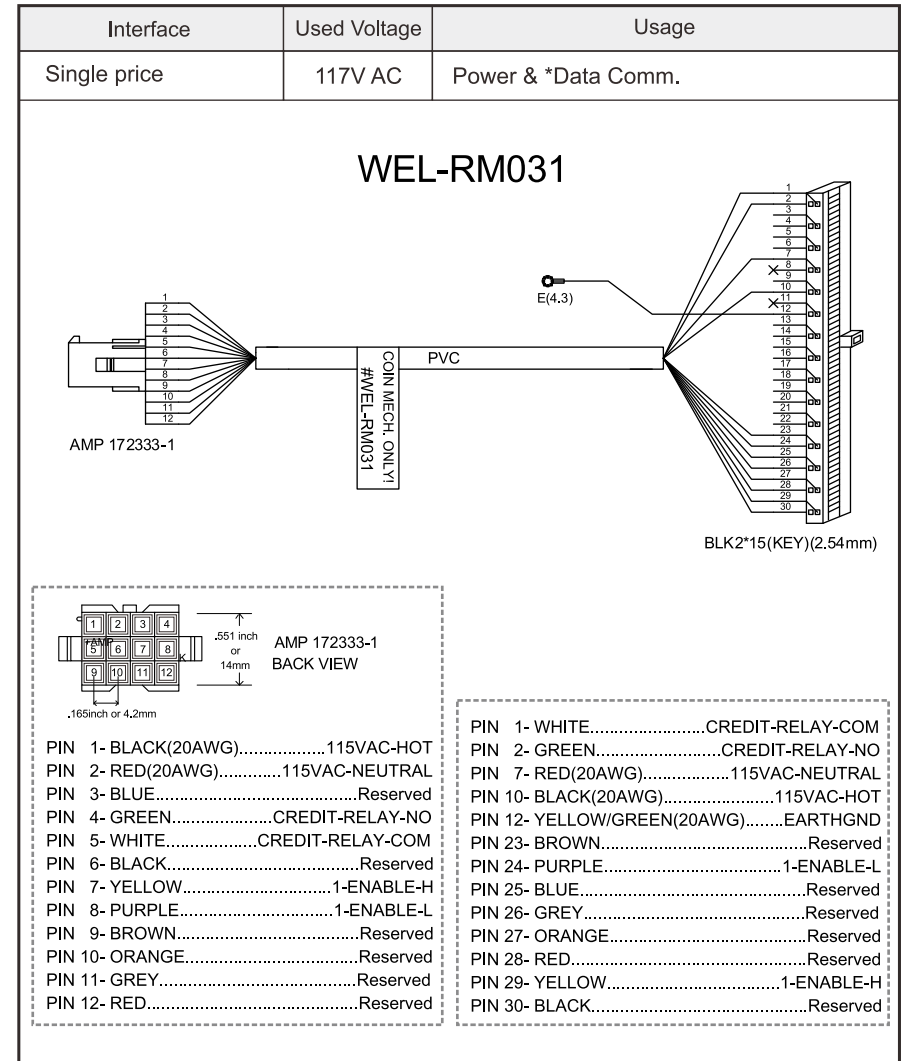
5-1 FIG.07



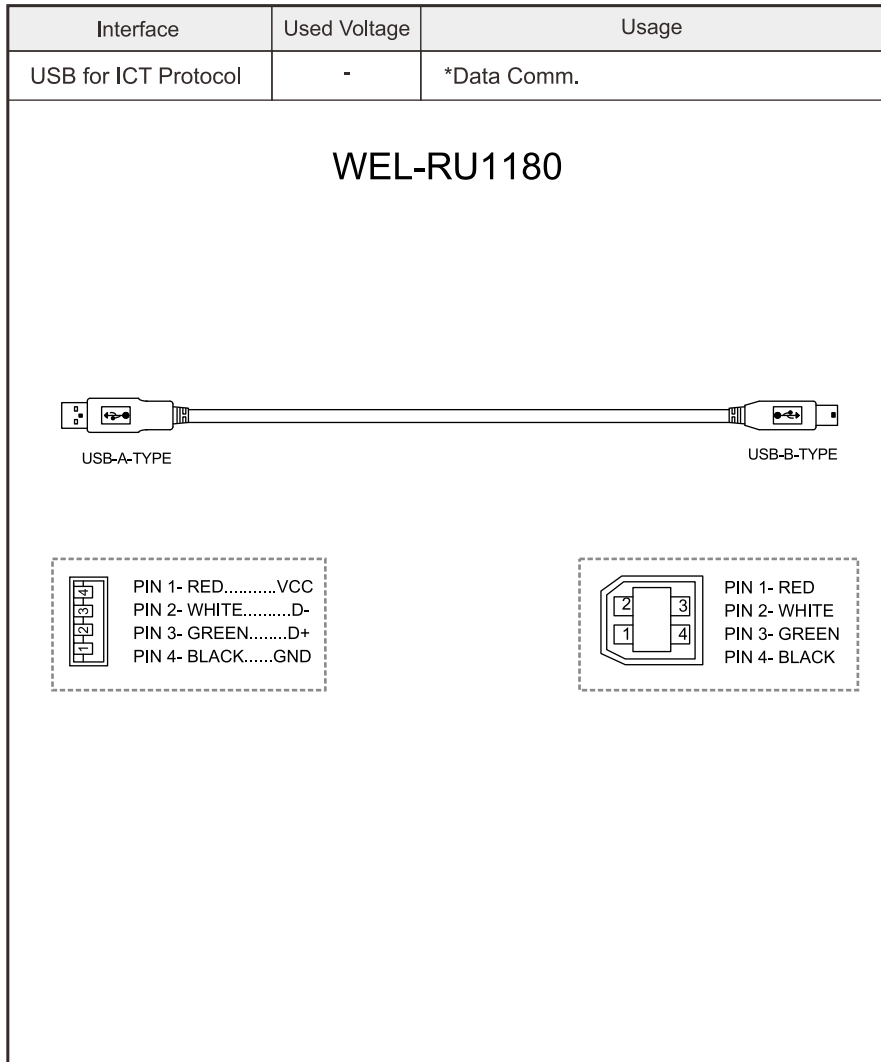
5-1 FIG.08



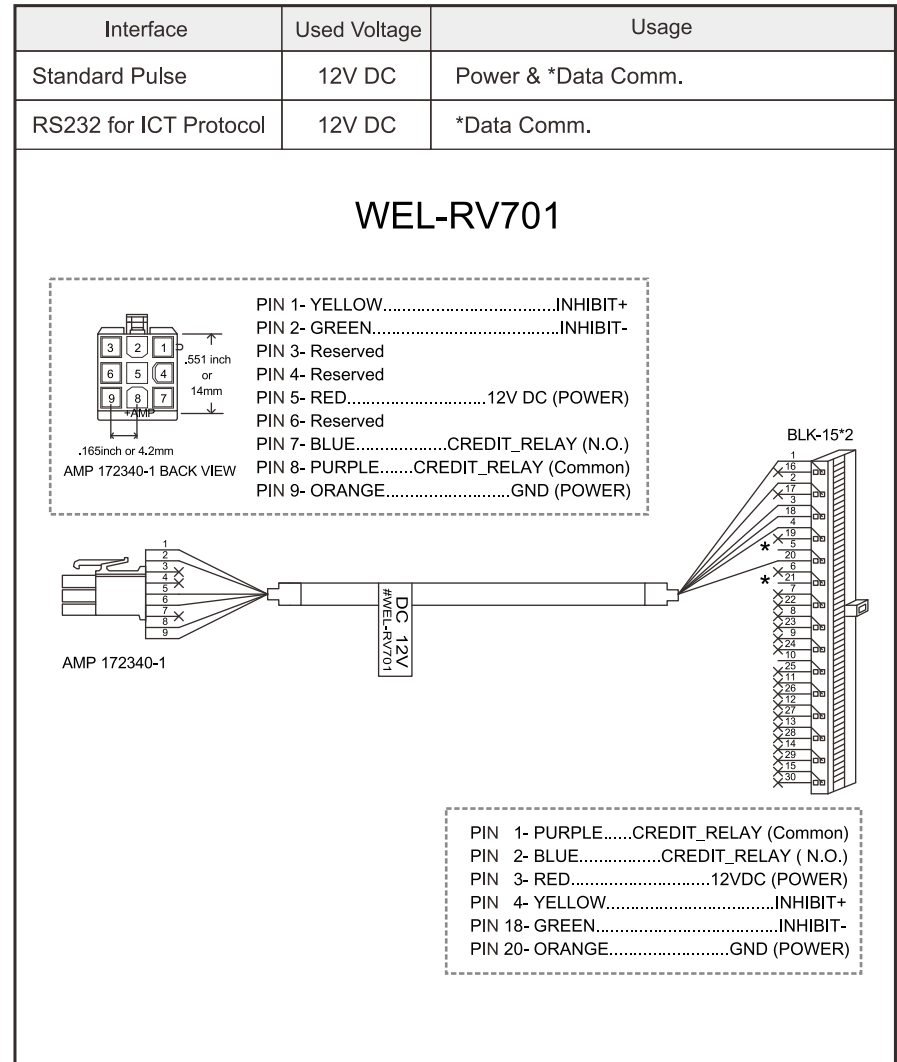
5-1 FIG.09



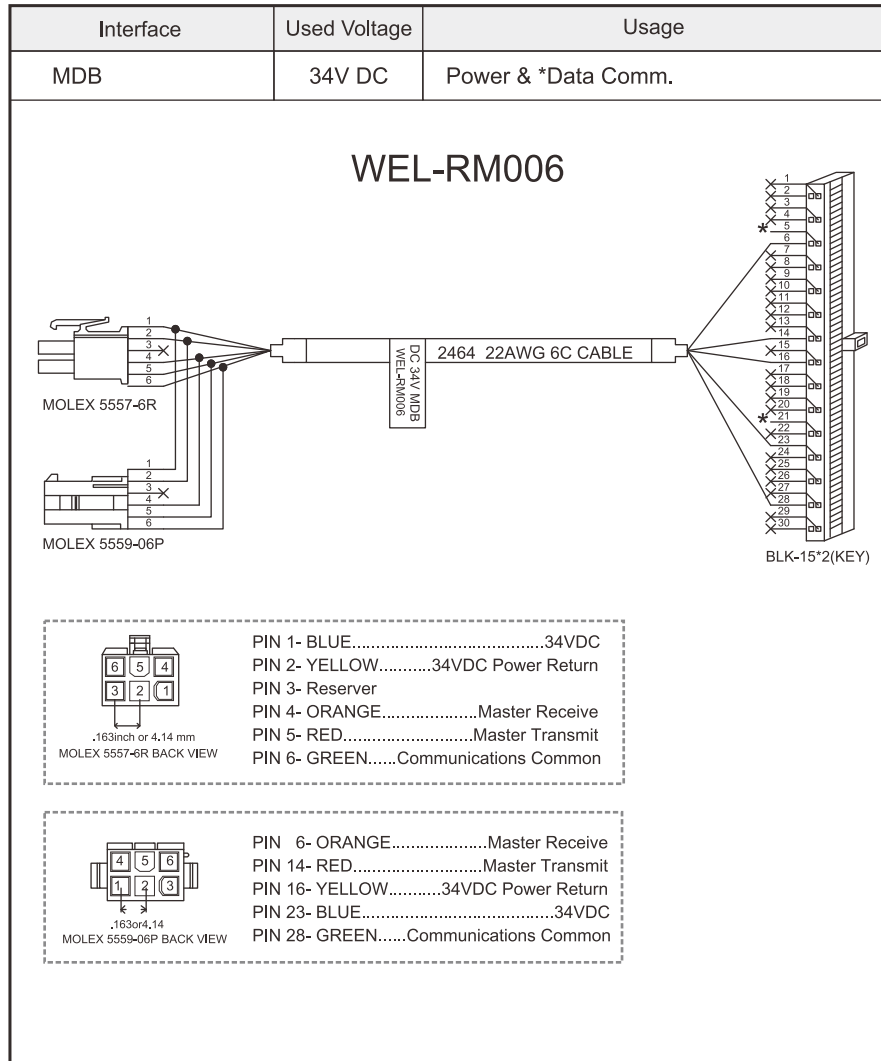
5-1 FIG.10



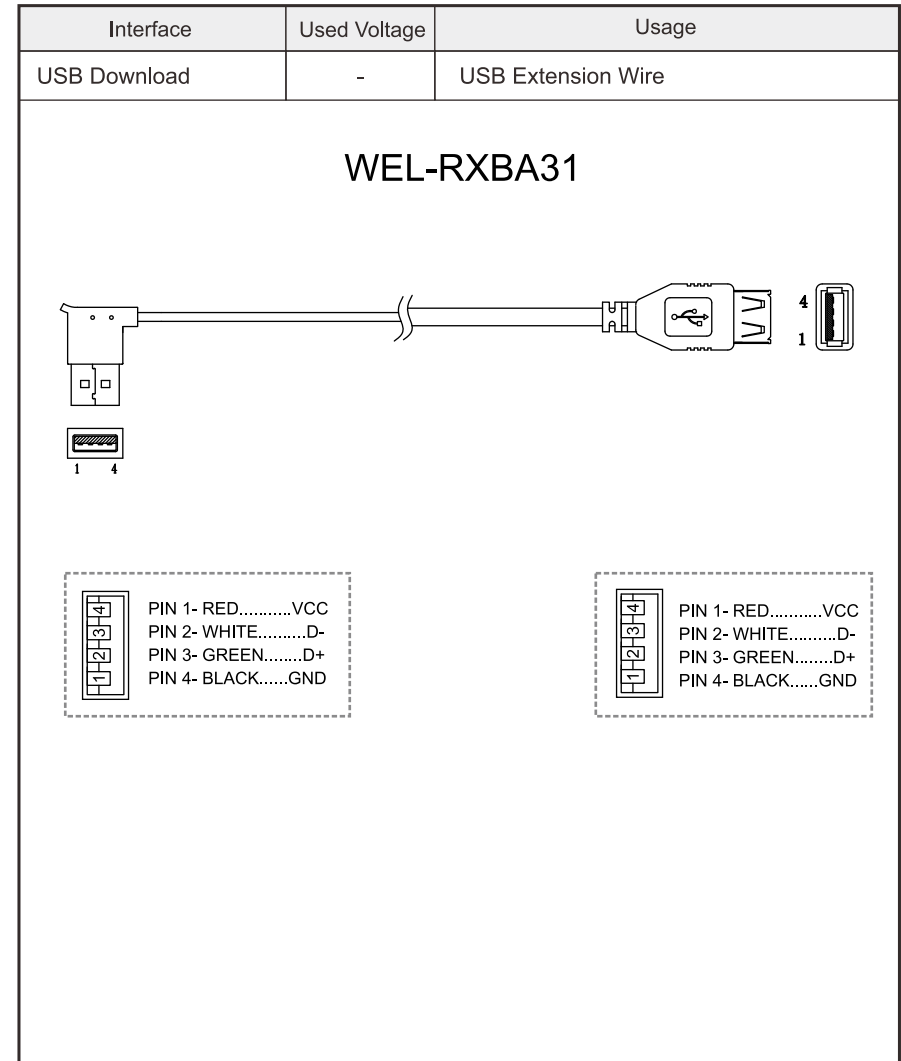
5-1 FIG.11



5-1 FIG.12



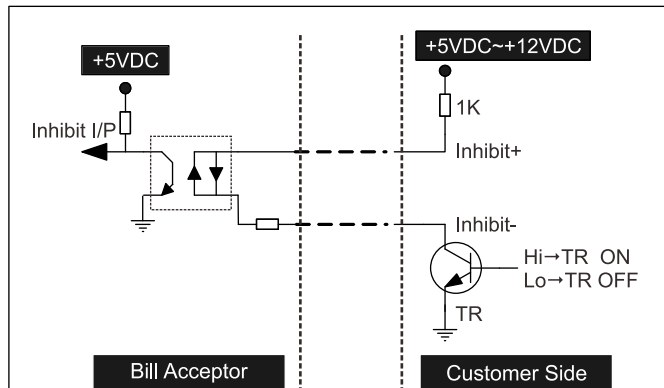
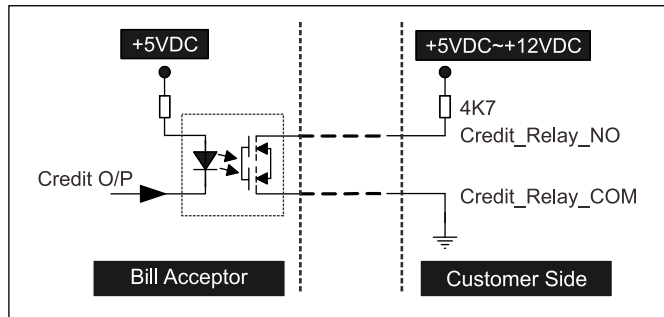
5-1 FIG.13



5-1-1. I/O Circuit

Pulse Interface.

5-1-1 FIG.01

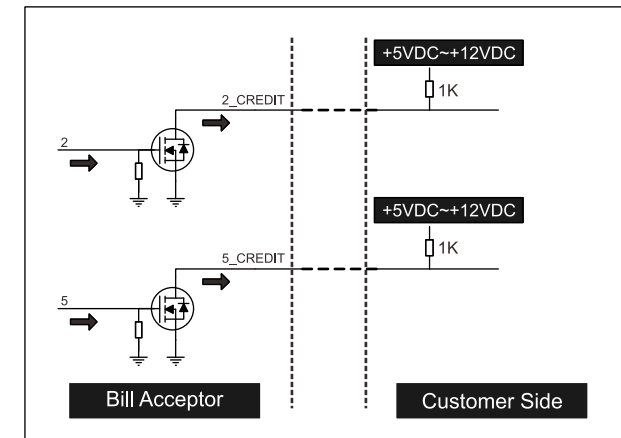


BA Status	*DIP SW Setting	Control Signal
Inhibit	Inhibit Active	Low
		High
Enable	Inhibit Active	Low
		High

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

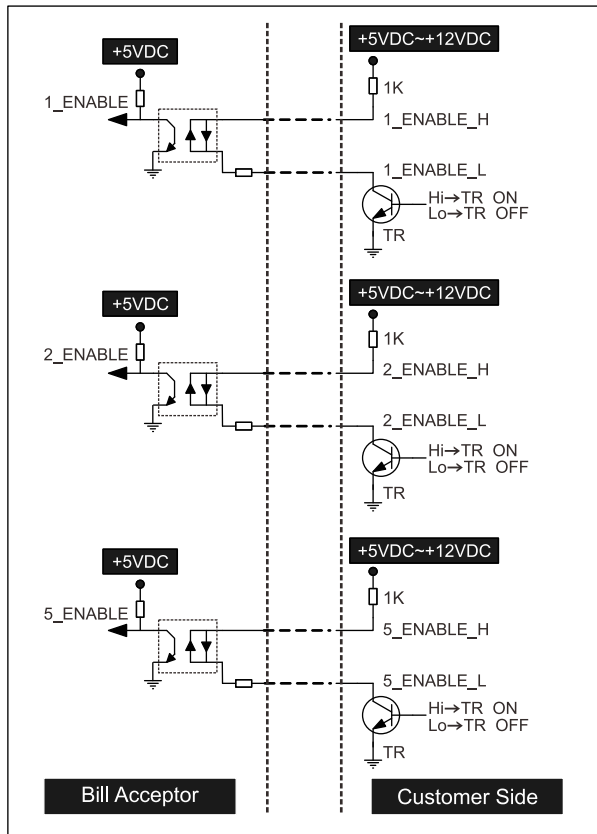
5V Enable Interface.

5-1-1 FIG.02-1



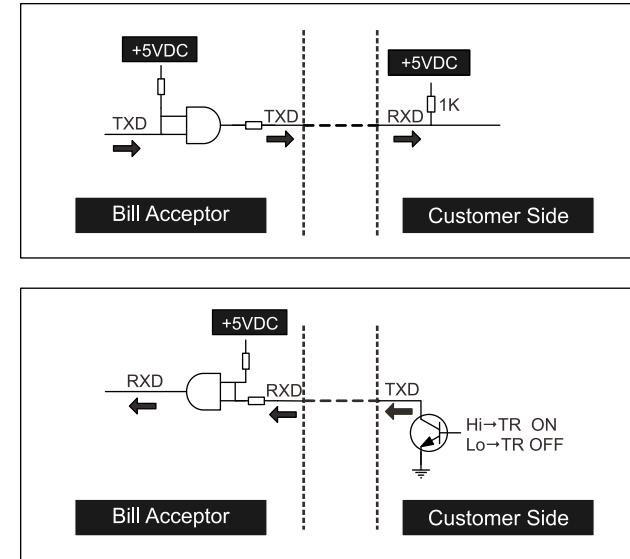
5V Enable Interface.

5-1-1 FIG.02-2



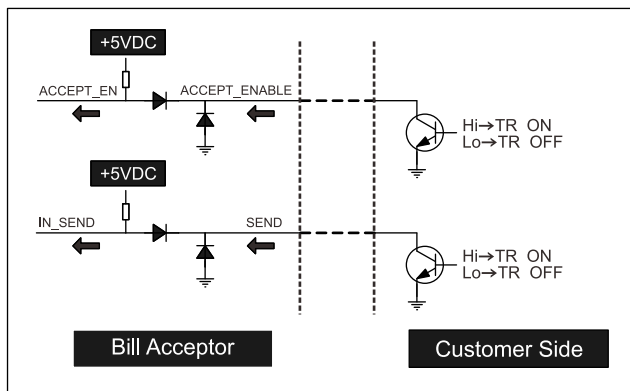
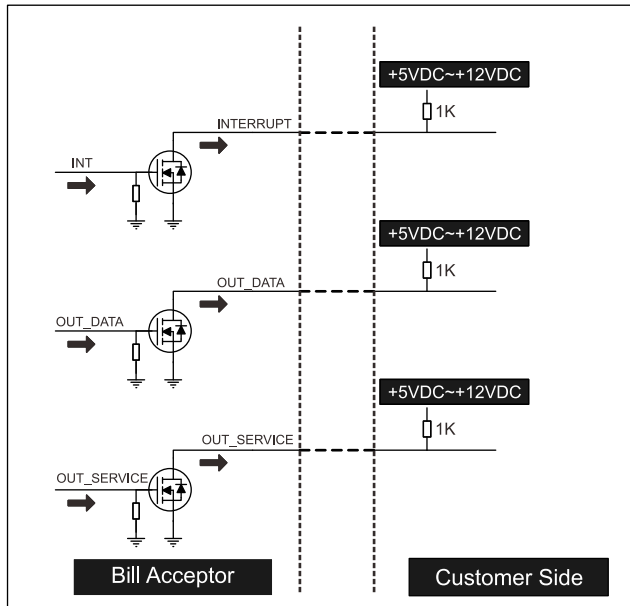
ICT Protocol Interface.

5-1-1 FIG.03



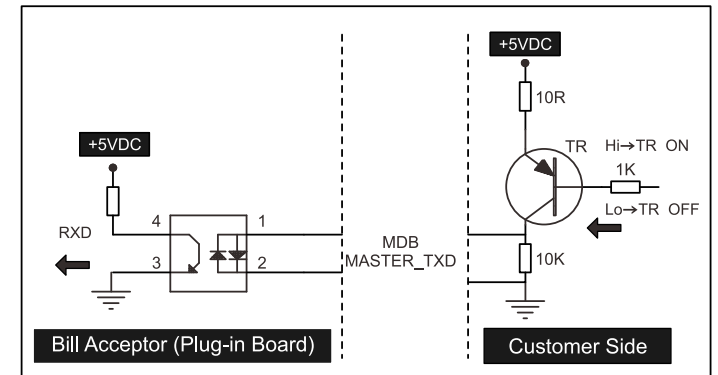
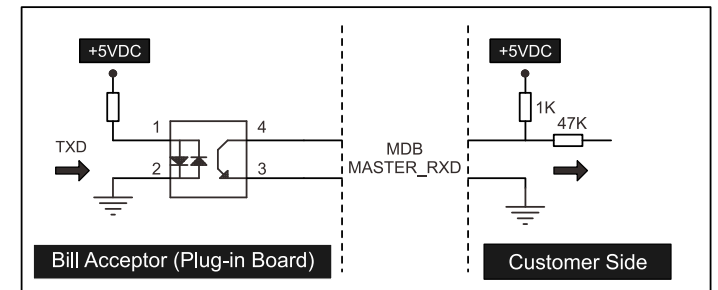
NISR Interface.

5-1-1 FIG.04



MDB Interface.

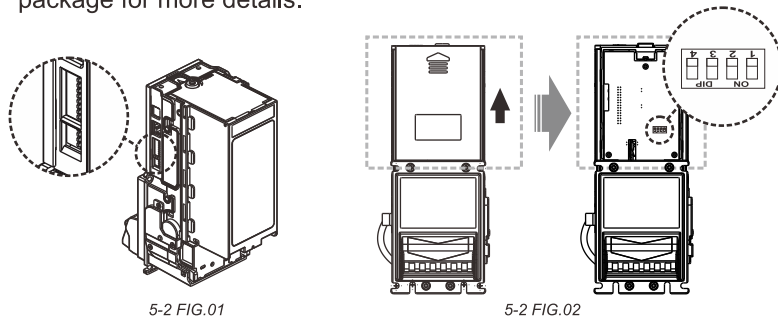
5-1-1 FIG.05



5-2. DIP Switch Setting

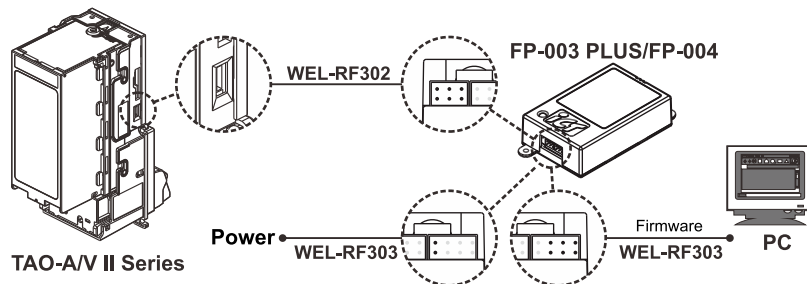
There are two serial DIP switches which are located on the side of TAO-A/V II series (as FIG.01). According to different currencies which are used by users, DIP switch settings could be varied to fit users' needs. Besides, there's also a serial DIP switches on CPU board inside of TAO-A/V II series for interface settings (as FIG.02).

Please refer to "TAO-A/V II series DIP Switch Setting Guide" in the package for more details.



5-3. Software Download and Upgrade

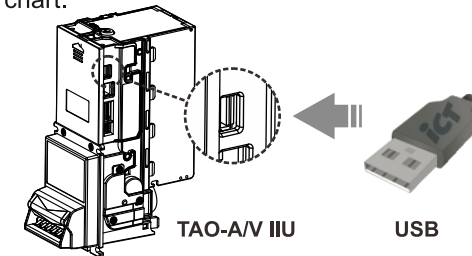
To download and upgrade the software to TAO-A/V II series, the programmer (FP-003 PLUS/ FP-004) is needed. Please contact ICT to purchase FP-003 PLUS/ FP-004 and refer to FP-003 PLUS/ FP-004 user guide for software download and upgrade information.



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

5-3-1. USB flash drive download

1. Plug in the USB Flash Drive's (with new firmware in the root file directory) in to the USB Socket on the bill acceptor.
2. Reboot the power of the bill acceptor.
3. The update process will automatically begin and the status LED indicates the different update progress showing in the following chart.



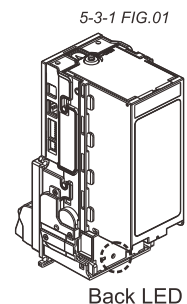
4. The location of status LED

LED Indicator	Status
Flashing (Interval: 100 ms)	Update in progress
Flashing twice (Interval: 1sec)	Update successful
No light	1. Update fail 2. No firmware found in the Flash Drive

Note: 1. Do not remove the USB Flash Drive during the update process.

2. If the USB Flash Drive contains more than one firmware, the device will use the last modified date as the firmware to be transfer to the bill acceptor.

3. Please remove the USB Flash Drive when the upgrade has finished.



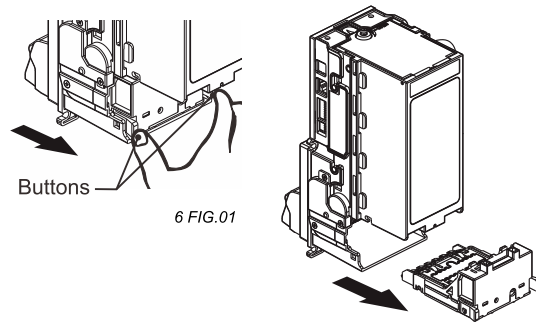
Back LED

6. Maintenance

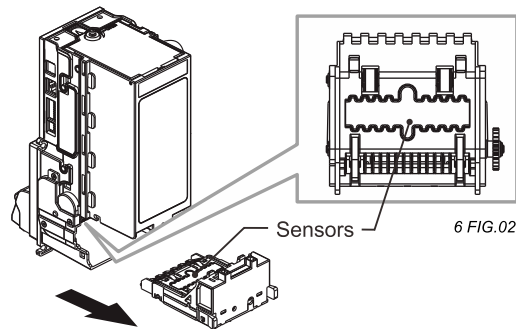
To make sure the bill acceptor always works smoothly, please clean the internal parts regularly.


To clean the internal parts:

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



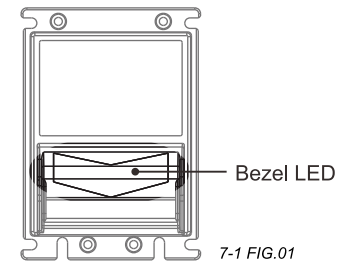
2. Use a soft, dry cloth, or towel to clean the bill path and sensors.



	Maintenance Notice	
	<i>(Any improper maintenance will result invalid warranty.)</i>	
Recommended	Mild, non-abrasive, soap water.	
DO NOT USE	Organic solvent , Alcohol, Volatile liquid.	

7. Troubleshooting

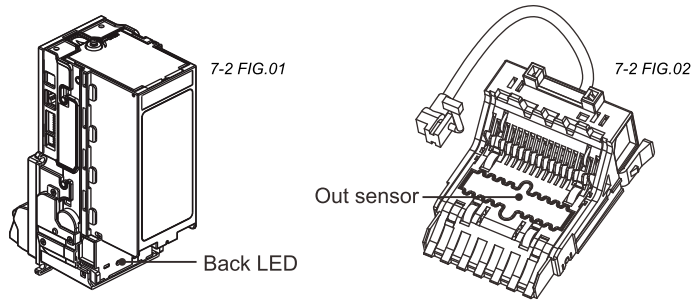
7-1. Bezel LED Errors



7-1 TABLE 01

LED Flashes		Status	Correct Actions
Red	Green		
	1	White Card Calibration.	Please calibrate with ICT white calibration card.
1		Bill jammed.	Remove the bill box by sliding the top button and the bill path (refer to page 34), and then remove the jammed bill.
2		Disable.	Inspect the right DIP switch setting.
3		Recognition sensor module error.	Inspect the foreign objects on sensor or bill path and clean.
3+2		Hook sensor error.	Inspect the foreign objects on security hook and clean.
3+4		Out sensor error. (as figure 33)	Inspect the foreign objects on sensor or bill path and clean.
4		Anti-string sensor error or a stringing attempt has detected.	Inspect the foreign objects on sensor or bill path and clean.
5		Bill box has been removed.	Replace the bill box.
6		Stacker error or stacker full.	Empty the bill box.
7		Motor error.	Inspect the foreign objects on bill path and clean.

7-2. Back LED Errors

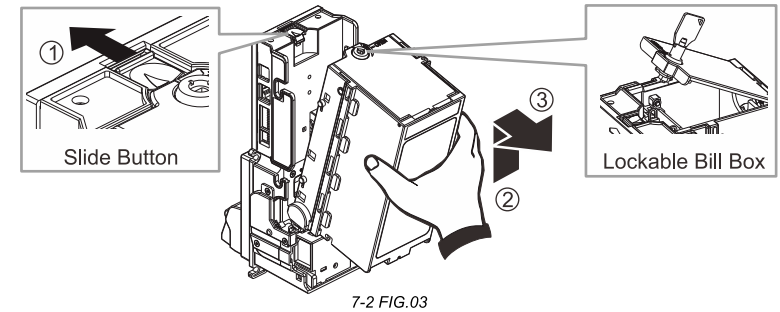


7-1 TABLE 01

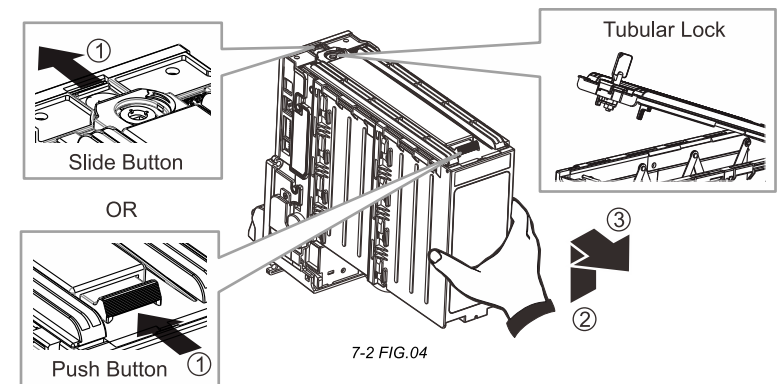
LED Flashes	Status	Corrective Actions
Green		
1	White Card Calibration.	Please calibrate with ICT white calibration card.
1	Bill jammed.	Remove the bill box by sliding the top button and the bill path (refer to page 35), and then remove the jammed bill.
2	Disable.	Inspect the right DIP switch setting.
3	Recognition sensor module error.	Inspect the foreign objects on sensor or bill path and clean.
3+2	Hook sensor error.	Inspect the foreign objects on security hook and clean.
3+4	Out sensor error. (as FIG.02)	Inspect the foreign objects on sensor or bill path and clean.
4	Anti-string sensor error or a stringing attempt has detected.	Inspect the foreign objects on sensor or bill path and clean.
5	Bill box has been removed.	Replace the bill box.
6	Stacker error or stacker full.	Empty the bill box.
7	Motor error.	Inspect the foreign objects on bill path and clean.

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

◆ TAO-A/V II/ IIU-P2/P5



◆ TAO-A/V II/ IIU-P10



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