

**ict**

Coin Acceptor

**SCA1**

Series



Installation Guide

**International Currency Technologies Corp.**

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## 1. Introduction

### 1-1. Overview

SCA1 Model is designed as a reliable coin acceptor to work steadily with high security and high accepting speed, acceptance rate of 96% or greater.

By introducing the SCA product, we are dedicated to provide you the most convenient and comprehensive solutions.

### 1-2. Features

- 16 channels available
- Anti-string mechanism to ensure operating security
- High acceptance rate 96% or greater.
- High accepting speed up to 3 coins per second.
- Installation options for standard- or long-bezel

## 2. Specification

### **General**

Coin Parameters	Diameter : 17~32.5mm Thickness: 1.3~3.3mm
Accepting Speed	<ccTalk/ MDB> Up to 2 coins/sec. <Pulse/ Parallel> Up to 3 coins/sec.
Acceptance Rate	96% or greater
Interface	ccTalk + Parallel + RS232 Pulse + Parallel + RS232 MDB + Pulse + RS232

### **Electrical**

Power Source	<ccTalk> DC 12V $\pm$ 10%, DC 24V $\pm$ 10% <Pulse / Parallel / RS232> DC 12V $\pm$ 10% <MDB> DC 20V~DC 45V
Power Consumption	Standby : $\leq$ 0.05A Operation: $\leq$ 0.18A Maximum: $\leq$ 0.5A <For MDB> Standby : $\leq$ 0.05A Operation: 0.22A Maximum: 0.52A

# SCA1

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Operation Environment

Operation Temperature:  $-10^{\circ}\text{C}\sim 55^{\circ}\text{C}$   
(Temperature Change: Max,  $0.2^{\circ}\text{C}/\text{min}$ )

Storage Temperature:  $-25^{\circ}\text{C}\sim 70^{\circ}\text{C}$

Humidity: 30%~85%RH(No condensation)

Mark of Conformity

CE

## **Mechanical**

Installation Level

Vertical, Max. Deviation:  $\pm 2^{\circ}$

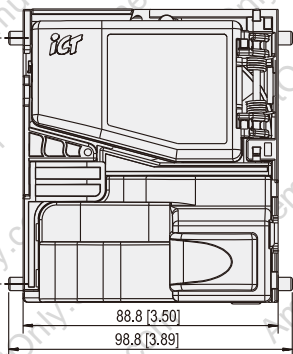
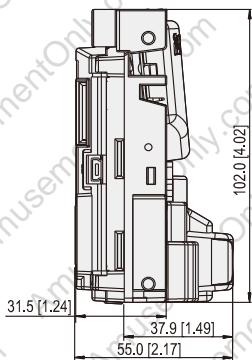
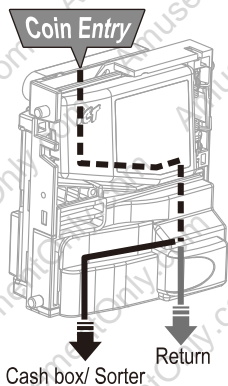
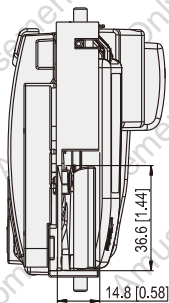
Weight

Approx. 0.25kg (Net Weight)

### 3. Dimension

Top Entry Type

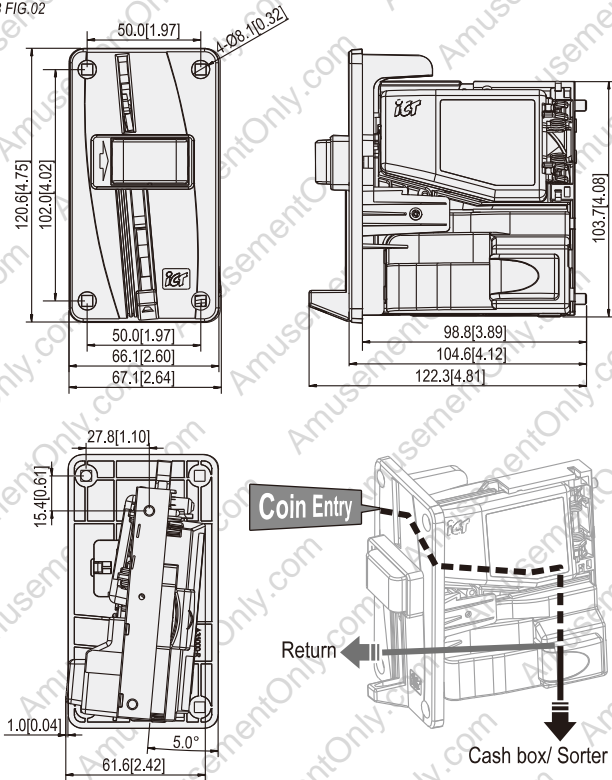
3 FIG.01



Unit : mm [inch]

Front Entry Type- Standard bezel

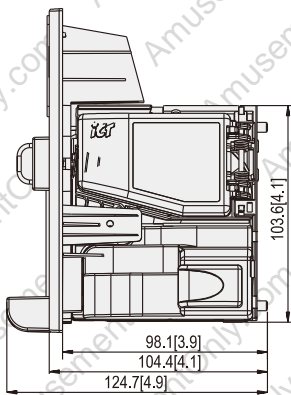
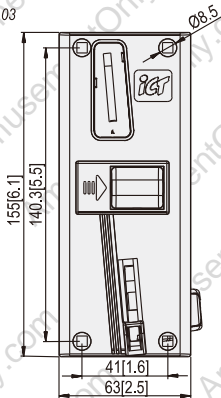
3 FIG.02



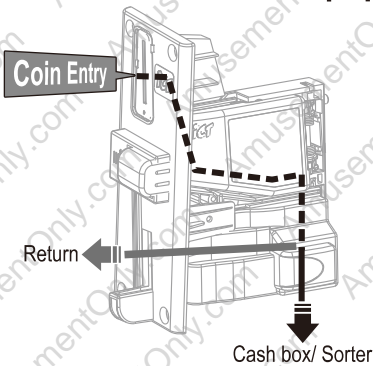
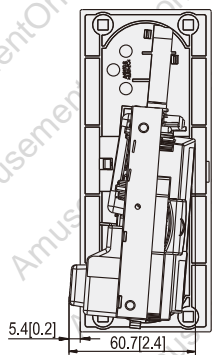
Unit : mm [inch]

Front Entry Type- Long bezel

3 FIG.03



Unit : mm [inch]



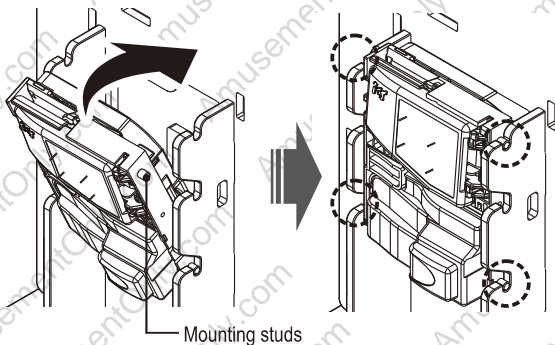
## 4. Installation

### 4-1. Device Mounting Instruction

**Attention!! Before installation, please turn off the main power supply of vending machine.**

#### Top Entry Type

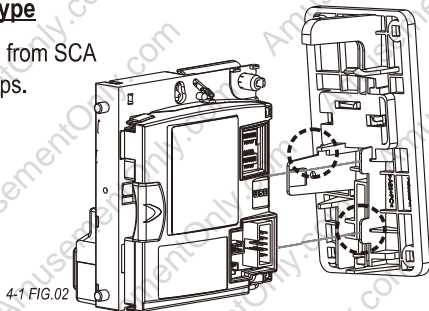
Mount or Hook SCA in the frame of vending machine through 4 mounting studs.



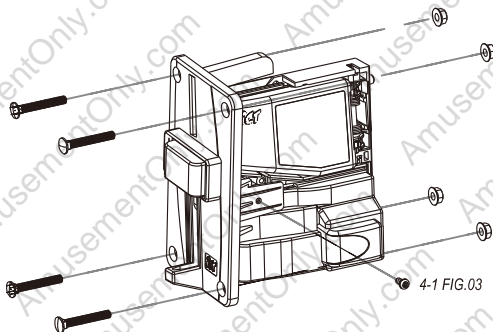
4-1 FIG.01

### Front Entry Type

Separate bezel from SCA  
by release 2 clips.

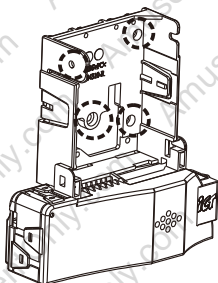


Fasten bezel on vending machine by 4 sets of screws.  
Install SCA back with bezel and fix with bezel clip by a screw.



### Top Entry Type with Sorter

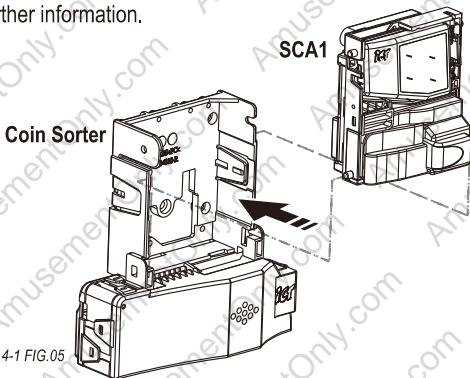
At first, install sorter unit in vending machine by means of screws.



4-1 FIG.04

To install SCA into sorter mounting frame, hang up bottom studs then push upper studs into upper holders.

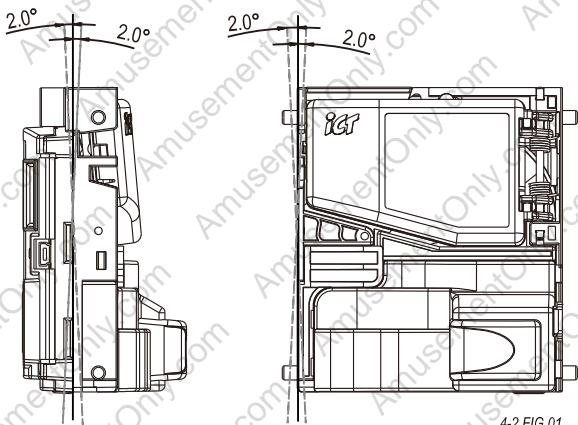
Please refer to user guide "Coin Sorter for SCA" for further information.



4-1 FIG.05

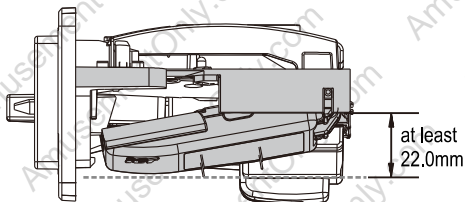
## 4-2. Installation Check List

Check that the device installation level should be limited to maximum deviation of  $\pm 2^\circ$ , this is important to SCA recognition performance.



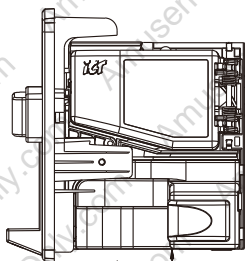
4-2 FIG.01

Check that there is a space of at least 22mm opening space for flight deck.



4-2 FIG.02

Check that there is a distance of at least 60mm between SCA and cash box.



4-2 FIG.03

at least  
60.0mm

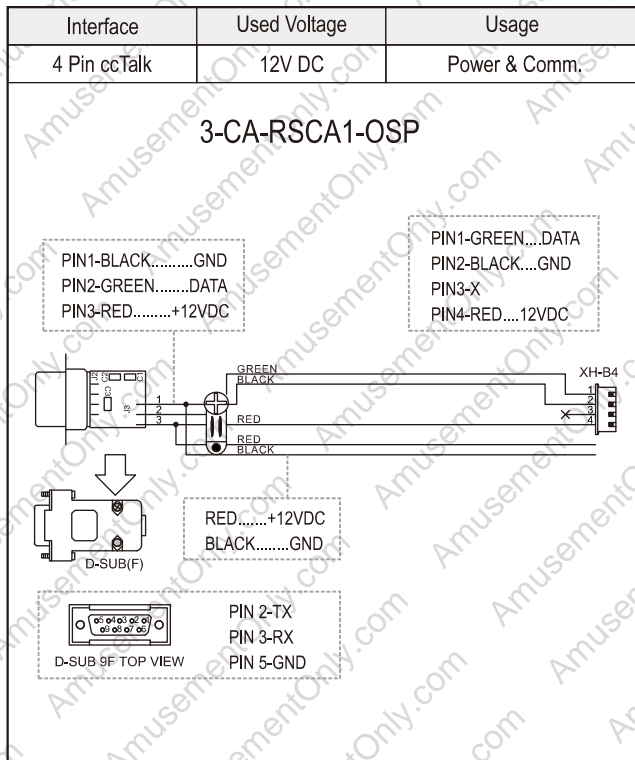
## 5. Interface & Harness

### 5-1. Harness Application

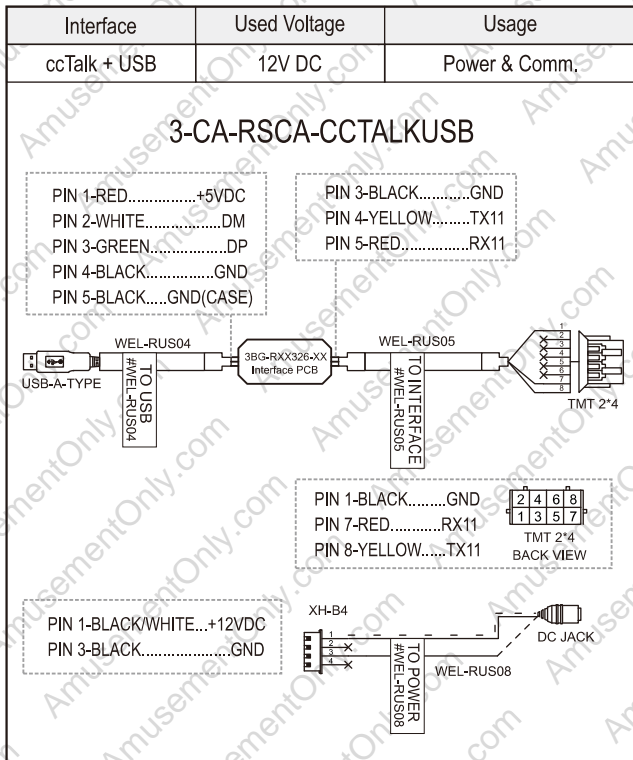
5-1 TABLE 01

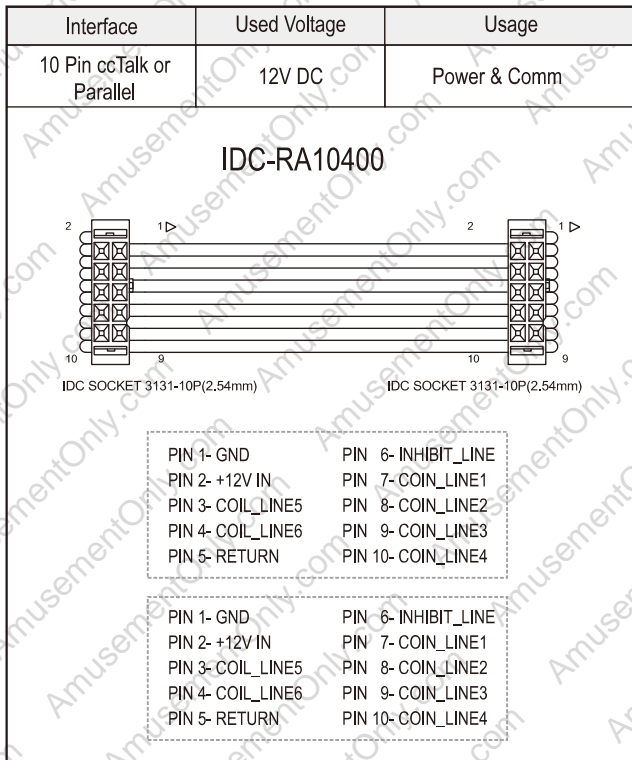
Interface	Used Voltage	Usage	Harnesses	Page
4 Pin ccTalk	12V DC	Power & *Comm.	3-CA-RSCA1-OSP	14
ccTalk + USB	12V DC	Power & *Comm.	3-CA-RSCA-CCALKUSB	15
10 Pin ccTalk or Parallel	12V DC	Power & *Comm.	IDC-RA10400	16
Pulse	12V DC	Power & *Comm.	WEL-RECA01	17
Pulse	12V DC	Power & *Comm.	WEL-RECA03(Option)	18
MDB	20~45 V DC	Power & *Comm.	WEL-RSCA11	19
RS232	12V DC	Power	WEL-RECA01	17
RS232	12V DC	*Comm.	WEL-R7U06-2	20

\*Comm. : Communication



5-1 FIG.02



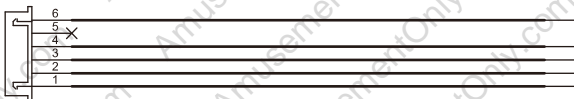


5-1 FIG.04

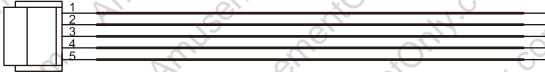
Interface	Used Voltage	Usage
Pulse	12V DC	Power & Comm.
RS232	12V DC	Power

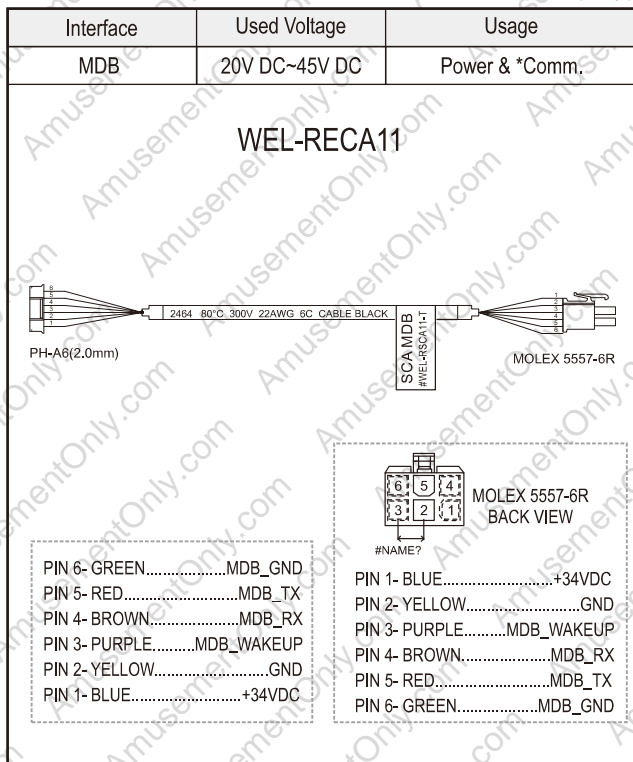
## WEL-RECA01

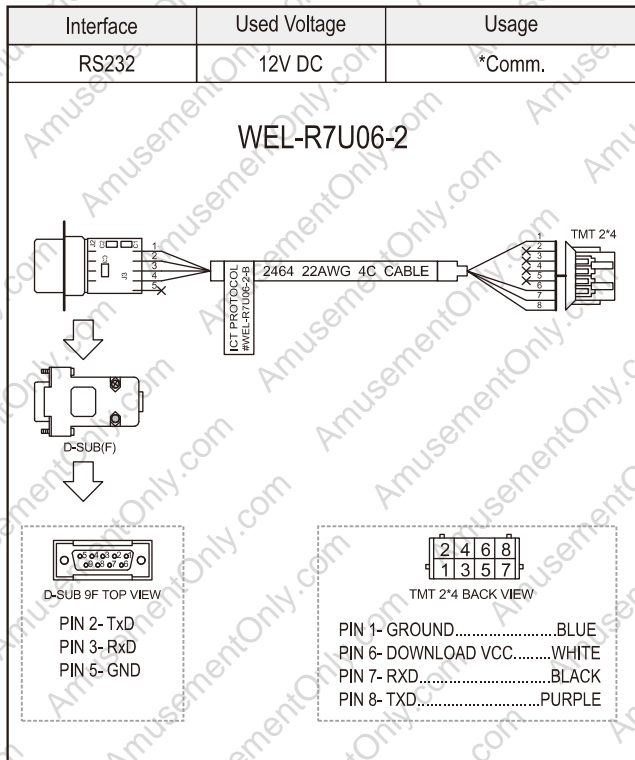
XH-A6(2,5mm)



PIN 1- YELLOW.....	INHIBIT
PIN 2- BLUE.....	IMPULSE
PIN 3- PURPLE.....	COUNTER
PIN 4- RED.....	+12V
PIN 5- NC	
PIN 6- BLACK.....	GND

Interface	Used Voltage	Usage
Pulse	12V DC	Power & Comm.
<p data-bbox="422 430 643 521"><b>WEL-RECA03 (Option)</b></p>  <p data-bbox="184 704 301 725">NH-5P(2.5mm)</p> <div data-bbox="182 998 553 1188" style="border: 1px dashed black; padding: 5px; margin-top: 20px;"> <p data-bbox="211 1019 529 1039">PIN 1- GREEN.....INHIBIT</p> <p data-bbox="211 1049 529 1070">PIN 2- BLUE.....IMPULSE</p> <p data-bbox="211 1080 529 1100">PIN 3- ORANGE.....GND</p> <p data-bbox="211 1110 529 1131">PIN 4- YELLOW.....COUNTER</p> <p data-bbox="211 1141 529 1161">PIN 5- RED.....+12V</p> </div>		

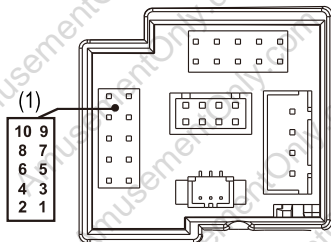




## 5-2. Connector &amp; PIN Assignment

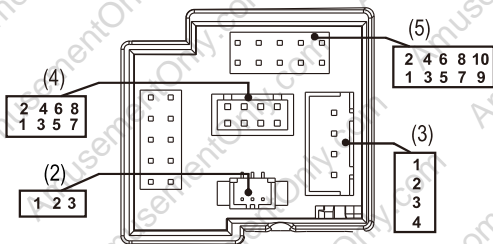
**ccTalk + Parallel + RS232**

Hardware Version: 352E, 352Q, 352T, 352U, 421B



5-2 TABLE 01

No.	Pins	PIN Assignment	
1	10 Pin	<b>Power &amp; Parallel</b>	
		PIN 1- GND	PIN 6- INHIBIT_LINE
		PIN 2- +12V IN	PIN 7- COIN_LINE1
		PIN 3- COIN_LINE5	PIN 8- COIN_LINE2
		PIN 4- COIN_LINE6	PIN 9- COIN_LINE3
		PIN 5- RETURN	PIN 10- COIN_LINE4
		<b>Power &amp; Special Pulse</b>	
		PIN 1- GND	PIN 4- SEL (CREDIT)
		PIN 2- +12V IN	PIN 5-10- N/A
		PIN 3- SERV	
		<b>10 PIN Sorter</b>	
		PIN 1- GND	PIN 4- COIN_LINE6
		PIN 2- +12V IN	PIN 5-10- N/A
		PIN 3- COIN_LINE5	

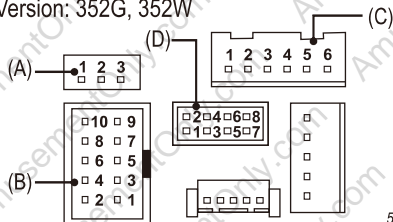


5-2 TABLE 02

No.	Pins	PIN Assignment	
2	3 Pin	<b>Sorter</b> PIN 1- SORTER_SOL1 PIN 2- SORTER_SOL2	PIN 3- SORTER
3	4 Pin	<b>ccTalk</b> PIN 1- +12V PIN 2- N/A	PIN 3- GND PIN 4- DATA
4	8 Pin	<b>Download (RS232)</b> PIN 1- GND PIN 2- TX22 PIN 3- RX22 PIN 4- PROGRAM	PIN 5- /RESET PIN 6- +5V PIN 7- RX11 PIN 8- Tx11
5	10 Pin	<b>ccTalk</b> PIN 1- DATA PIN 2~6- N/A PIN 7- +12V	PIN 8- GND PIN 9- N/A PIN10- N/A

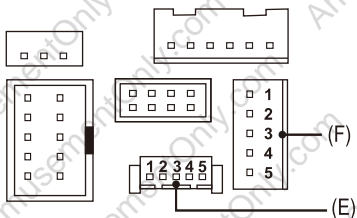
**Pulse + Parallel + RS232**

Hardware Version: 352G, 352W



5-2 TABLE 03

No.	Pins	PIN Assignment	
A	3 Pin	<b>JUMP</b> Short PIN 1~2- Inhibit Normal High Short PIN 2~3- Inhibit Normal Low	
B	10 Pin	<b>Parallel</b> PIN 1- GND PIN 2- +12V PIN 3- Output Ch5 PIN 4- Output Ch6 PIN 5- Pulse Output	PIN 6- Inhibit Output PIN 7- Output Ch1 PIN 8- Output Ch2 PIN 9- Output Ch3 PIN 10- Output Ch4
C	6 Pin	<b>Pulse</b> PIN 1- Inhibit PIN 2- Pulse (Credit) PIN 3- Counter (Meter)	PIN 4- +12V PIN 5- +12V PIN 6- GND
D	8 Pin	<b>RS232</b> PIN 1- GND PIN 2~4- N/A PIN 5- /RESET	PIN 6- +5V PIN 7- RX11 PIN 8- Tx11



5-2 TABLE 04

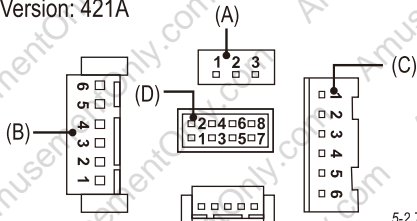
No.	Pins	PIN Assignment
E	5 Pin	<b>Download</b>
F	5 Pin	<b>Pulse</b> PIN 1- Inhibit PIN 2- Pulse (Credit) PIN 3- GND PIN 4- Counter (Meter) PIN 5- +12V



Please contact ICT FAE for more details.

**MDB + Pulse + RS232**

Hardware Version: 421A



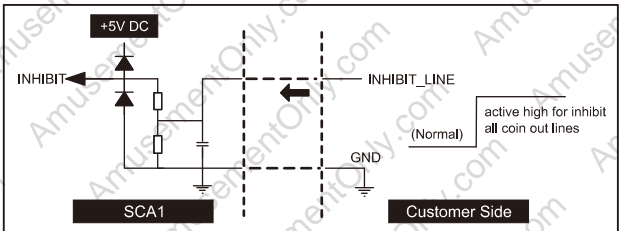
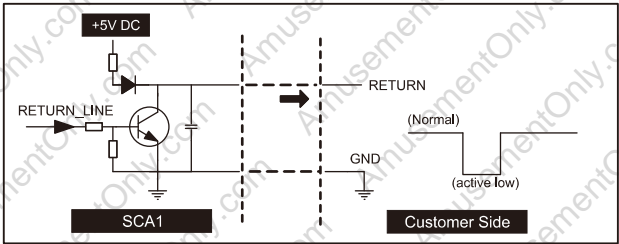
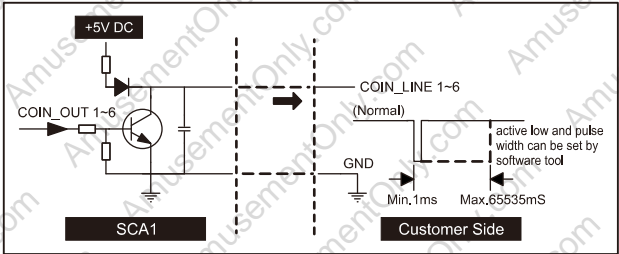
5-2 TABLE 05

No.	Pins	PIN Assignment	
A	3 Pin	<b>JUMP</b> Short PIN 1~2- Inhibit Normal High Short PIN 2~3- Inhibit Normal Low	
B	6 Pin	<b>MDB</b> PIN 1- GND PIN 2- MDB RXD PIN 3- MDB TXD	PIN 4- X PIN 5- VIN-COM PIN 6- +45V
C	6 Pin	<b>Pulse</b> PIN 1- Inhibit PIN 2- IMPULSE(CREDIT) PIN 3- X	PIN 4- +12V PIN 5- +12V PIN 6- GND
D	8 Pin	<b>Download (RS232)</b> PIN 1- GND PIN 2- TX22 PIN 3- RX22 PIN 4- PROGRAM	PIN 5- /RESET PIN 6- +5V PIN 7- RX11 PIN 8- Tx11

## 5-3. I/O Circuits

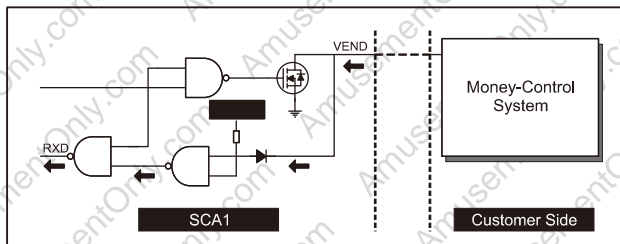
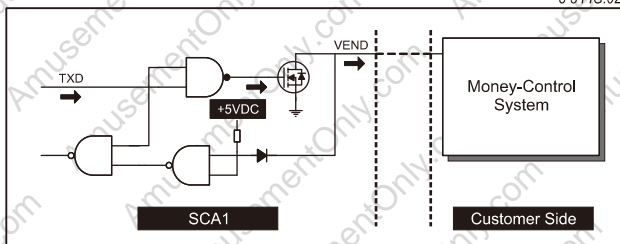
### Parallel Interface

5-3 FIG.01



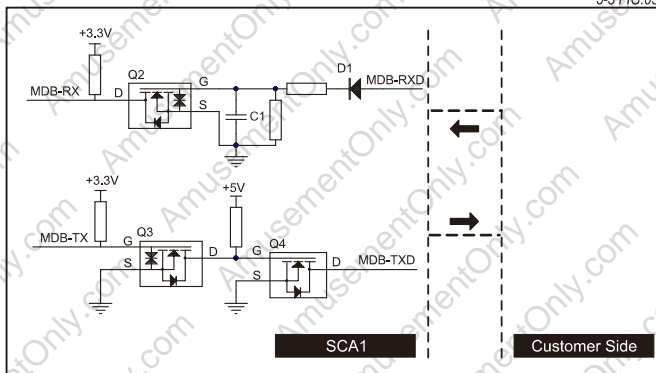
## ccTalk Interface

5-3 FIG.02



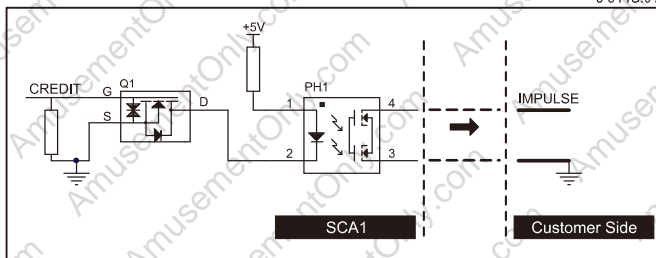
## MDB Interface

5-3 FIG.03



## Pulse Interface

5-3 FIG.04



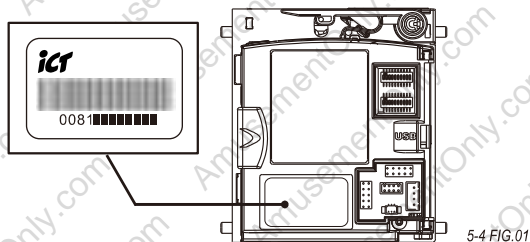
#### 5-4. ccTalk Information

Manufacturer ID: ICT

Equipment Category ID: Coin Acceptor

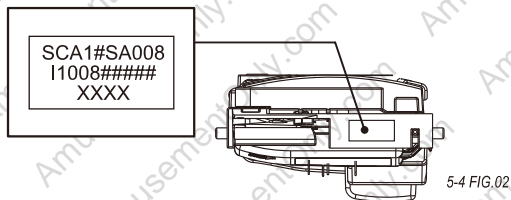
Product Code: SCA1

Serial Number: According to last 8 digits of production serial number (Default: 12345678).



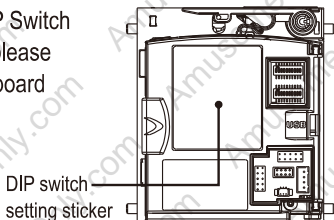
Software Revision: According to the software revision number.

For example: SCA1#SA00811008#####



## 6. DIP Switch Setting

There are several kinds of DIP Switch settings among SCA series, please refer to the sticker on control board cover for detail information.



6 FIG.01

### ccTalk + Parallel + RS232

Hardware Version: 352E, 352Q, 352T, 352U

6 TABLE 01

Switch Block 1			
Switch	Function	OFF	ON
1	Coin Channel 1	Free	Inhibited
2	Coin Channel 2	Free	Inhibited
3	Coin Channel 3	Free	Inhibited
4	Coin Channel 4	Free	Inhibited
5	Coin Channel 5	Free	Inhibited
6	Coin Channel 6	Free	Inhibited
7	Coin Channel 7	Free	Inhibited
8	Coin Channel 8	Free	Inhibited
9	Interface	cctalk	Parallel
			Special Pulse
10	Bank Selection	Bank 0	Bank 1

Note: Switch 10 varies.

6 TABLE 02

Switch Block 2			
Switch	Function	ON	OFF
1	Coin Channel 9	Free	Inhibited
2	Coin Channel 10	Free	Inhibited
3	Coin Channel 11	Free	Inhibited
4	Coin Channel 12	Free	Inhibited
5	Coin Channel 13	Free	Inhibited
6	Coin Channel 14	Free	Inhibited
7	Coin Channel 15	Free	Inhibited
8	Coin Channel 16	Free	Inhibited

6 TABLE 03

Setup for ccTalk Sorter				
Switch	ICT Mode	Mode 1	Mode 2	User Define
9	OFF	ON	OFF	ON
10	OFF	OFF	ON	ON

## Pulse + Parallel + RS232

Hardware Version: 352G

6 TABLE 04

Switch Block	
Switch	Function
1	8 selections of Pulse ratio from channel 1 to channel 8. Please refer to Pulse Table on cover sticker for exact Pulse ratio information.
2	
3	

Note: (1) Switch 1 to 3 only work under study mode.

(2) To setup Euro coins, the following channels are recommended.

Channel 3, 50 cent, Channel 4, 1€, Channel 5, 2€

6 TABLE 05

Switch Block			
Switch	Operation Mode		Study Mode
	Pulse Speed 50ms	Pulse Speed 100ms	
4	OFF	ON	ON
5	OFF	OFF	ON

6 TABLE 06

Switch Block			
Switch	Function	OFF	ON
6	Pulse type	Pulse Normal Low	Pulse Normal High

## Pulse + Parallel + RS232

Hardware Version: 352W

6 TABLE 07

Switch Block				
Switch	Pulse Speed 25ms	Pulse Speed 45ms	Pulse Speed 60ms	Pulse Speed 100ms
1	OFF	ON	OFF	ON
2	OFF	OFF	ON	ON
3	<b>*1</b>			
4				
5				

Note: \*1 DIP Switches Setting refer to accessory sheet which by currencies.

6 TABLE 08

Switch Block		
Switch	ON	OFF
6	Normal Open	Normal Close

**MDB + Pulse + RS232**

Hardware Version: 421A

6 TABLE 09

<b>Switch Block 1</b>			
Switch	Function	OFF	ON
1	Coin Channel 1	Free	Inhibited
2	Coin Channel 2	Free	Inhibited
3	Coin Channel 3	Free	Inhibited
4	Coin Channel 4	Free	Inhibited
5	Coin Channel 5	Free	Inhibited
6	Coin Channel 6	Free	Inhibited
7	Coin Channel 7	Free	Inhibited
8	Coin Channel 8	Free	Inhibited

6 TABLE 10

<b>Switch Block 1</b>		
Switch	MDB Mode	Pulse/RS232 Mode
9	OFF	ON
10	OFF	ON

6 TABLE 11

<b>Switch Block 2</b>		
Switch	Pulse Normal Close	Pulse Normal Open
9	ON	OFF
10		

**Parallel + ccTalk + RS232**

Hardware Version: 421B

6 TABLE 12

Function	Switch					
	1	2	3	4	5	6
Parallel / RS232 Mode	ON					
CCTalk Mode	OFF					
Reserved		ON				
		OFF				
Accept Channel *			ON			
Reject Channel *			OFF			
Accept Channel *				ON		
Reject Channel *				OFF		
Accept Channel *					ON	
Reject Channel *					OFF	
Reserved						ON
						OFF

## 7. Study Mode Instruction (Pulse only)

The study function is only available for hardware version U. Maximum 8 channels are available for SCA to study coin.

When only one channel is setup, system enters single coin mode automatically; when more than one are setup, system enters multi coins mode.

For each channel setup, please prepare at least 10 coins which are in the same type for study procedure. The study instructions are as following:

7 TABLE 01

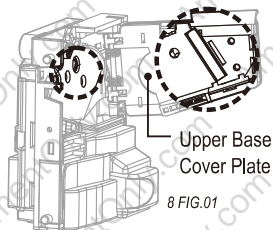
Steps	Clear All Channel Memories
1	Turn off SCA power supply.
2	Set Switches to study mode. SW4: ON / SW5: ON
3	Turn on SCA power supply, then triggers the solenoid to switch once.
4	Set SW5 to OFF then ON again. Then the solenoid switches 3 times, means that the clearance procedure is complete and ready for study procedure.
Teach Selected Channel Memory	
5	Select a channel by SW1 to SW3.
6	Turn on SCA power supply.
7	Insert 10 coins for the channel to be taught.
7-1	Solenoid switches 3 times, means that the channel study is complete. Return to step 5 to continue study process.
7-2	Solenoid switches 6 times, means that the channel study is failed. Repeat step 7 until the channel study is complete.
8	Turn off SCA power supply.
9	Set SW4 and SW5 to operation mode.
10	Turn on SCA power supply. SCA study complete.

## 8. Maintenance

To ensure SCA coin acceptor always operates properly, following maintenance steps are required. ICT suggests cleaning every 6 month; however, under heavy usage conditions or locations the maintenance may need to be more frequent.

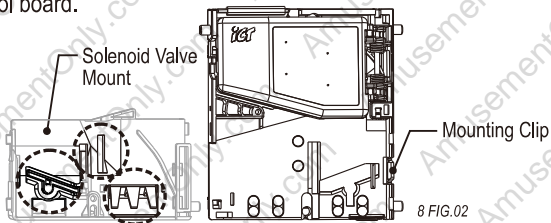
### Cleaning Recognition Sensors


Open flight deck to clean recognition sensors.



### Cleaning Output Sensors

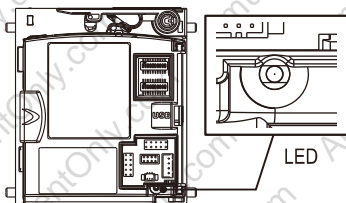
Release mounting clip through flat screwdriver to remove solenoid module. Then clean the output sensors with soft, dry cloth or towel. Please make sure the solenoid wire connector well connects to control board.



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

## 9. Troubleshooting

### LED Indicator



9 FIG.01

9 TABLE 01

LED Indicator			Status	Corrective Actions
Green	Orange	Red		
-	-	-	Power ON	-
-	ON	-	Inhibit	-
-	Flashes	-	I/O Test Mode	-
1	-	1	Coil 1 Error	Contact your local dealer for further technical support.
2	-	1	Coil 2 Error	
3	-	1	Coil 3 Error	
-	-	2	String manipulation has been detected	Inspect for foreign object in coin path and remove it if any.
1	-	2	Pierce 1 Sensor Error	
2	-	2	Pierce 2 Sensor Error	
1	-	3	Entry Sensor Error	
2	-	3	Return Sensor Error	
1	-	4	Drop IN 1R Error	
2	-	4	Drop IN 2R Error	
3	-	4	Drop IN 1L Error	
4	-	4	Drop IN 2L Error	
-	-	5	Program Error	Contact your local dealer for further technical support.



If the error cannot be solved after corrective actions or it recurs, please contact ICT for technical support.





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