



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

Operation Environment

Operation Temperature: -10°C~55°C
(Temperature Change: Max.0.2°C/min)
Storage Temperature: -25°C~70°C
Humidity: 30%~85%RH(No condensation)

Mark of Conformity

CE

Mechanical

Installation Level

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

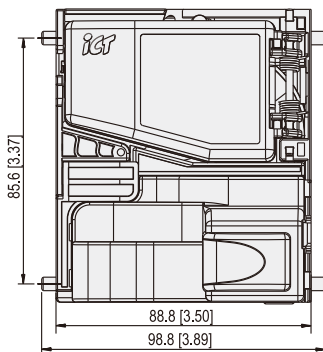
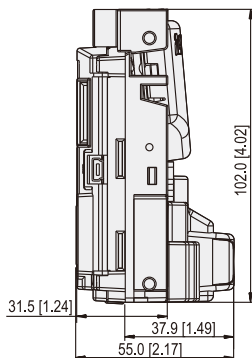
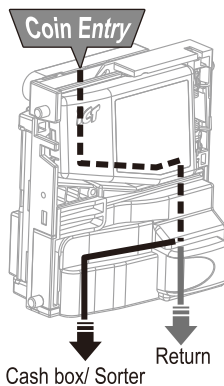
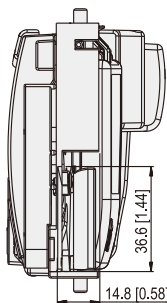
Weight

Approx. 0.25kg (Net Weight)

3. Dimension

Top Entry Type

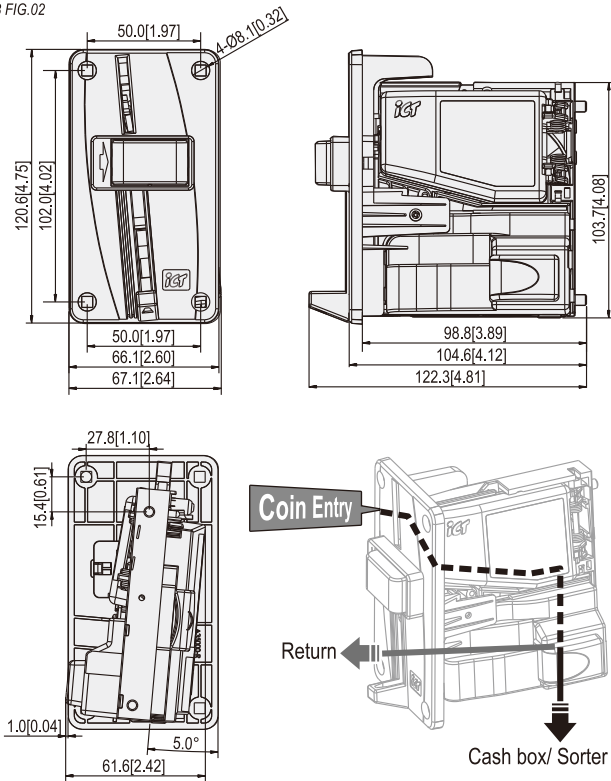
3 FIG.01



Unit : mm [inch]

Front Entry Type- Standard bezel

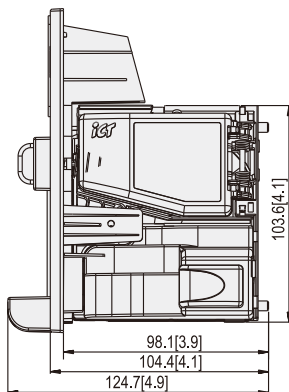
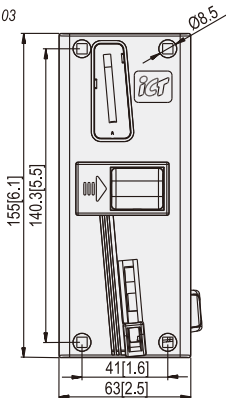
3 FIG.02



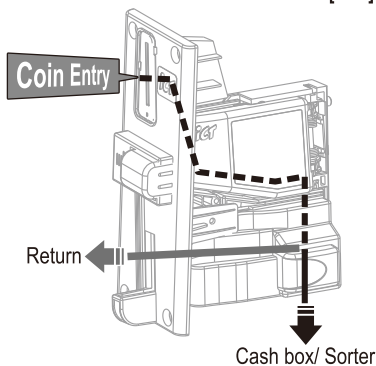
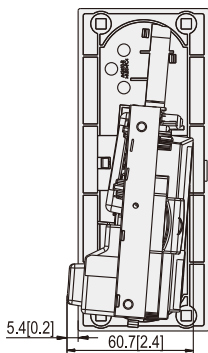
Unit : mm [inch]

Front Entry Type- Long bezel

3 FIG.03



Unit : mm [inch]



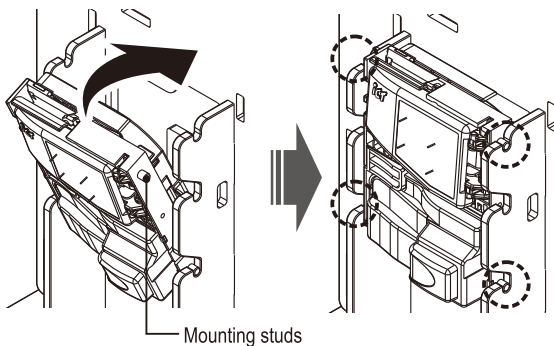
4. Installation

4-1. Device Mounting Instruction

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

Top Entry Type

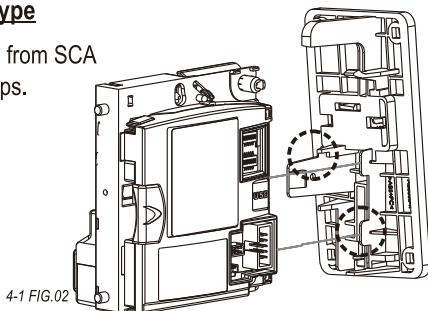
Mount or Hook SCA in the frame of vending machine through 4 mounting studs.



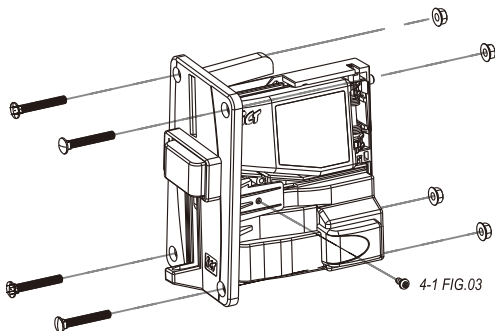
4-1 FIG.01

Front Entry Type

Separate bezel from SCA
by release 2 clips.

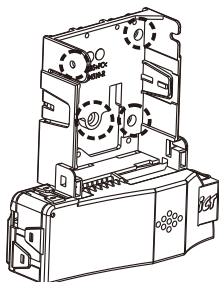


Fasten bezel on vending machine by 4 sets of screws.
Install SCA back with bezel and fix with bezel clip by a screw.



Top Entry Type with Sorter

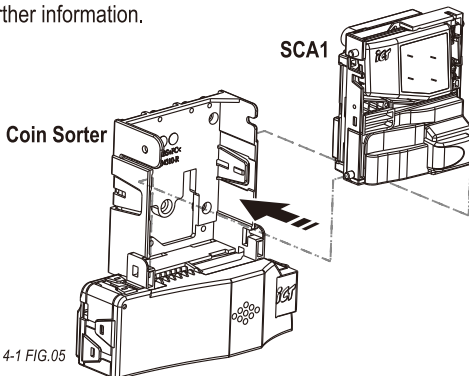
At first, install sorter unit in vending machine by means of screws.



4-1 FIG.04

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

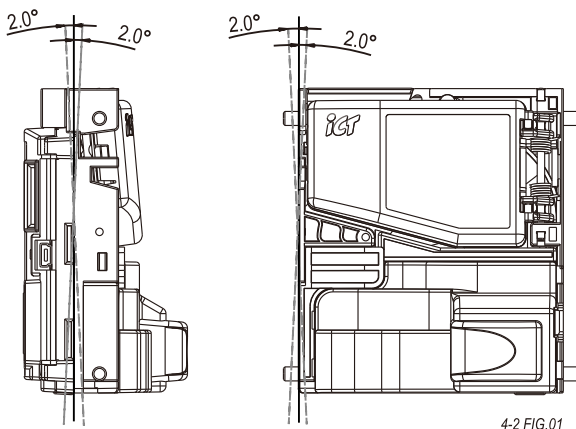
Please refer to user guide “Coin Sorter for SCA” for further information.



4-1 FIG.05

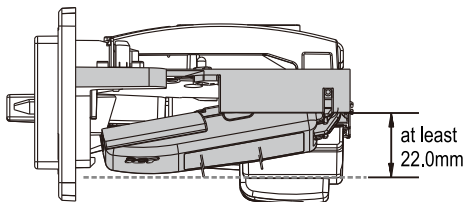
4-2. Installation Check List

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



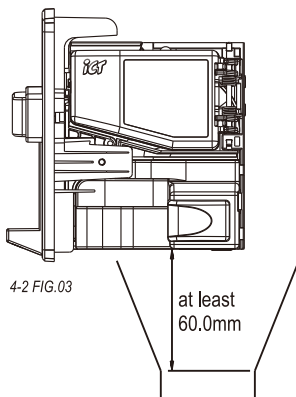
4-2 FIG.01

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

5. Interface & Harness

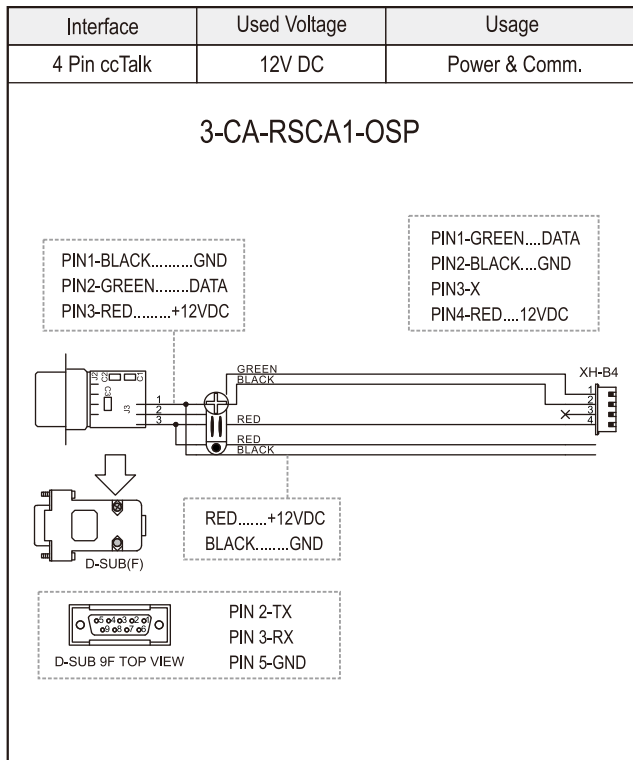
5-1. Harness Application

5-1 TABLE 01

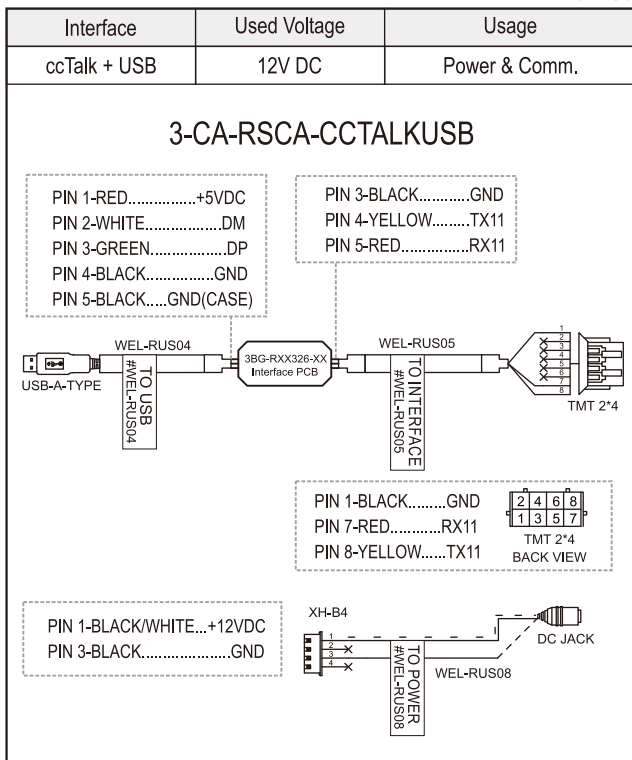
Interface	Used Voltage	Usage	Harnesses	Page
4 Pin ccTalk	12V DC	Power & *Comm.	3-CA-RSCA1-OSP	14
ccTalk + USB	12V DC	Power & *Comm.	3-CA-RSCA-CCALKUSB	15
10 Pin ccTalk or Parallel	12V DC	Power & *Comm.	IDC-RA10400	16
Pulse	12V DC	Power & *Comm.	WEL-RECA01	17
Pulse	12V DC	Power & *Comm.	WEL-RECA03(Optional)	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

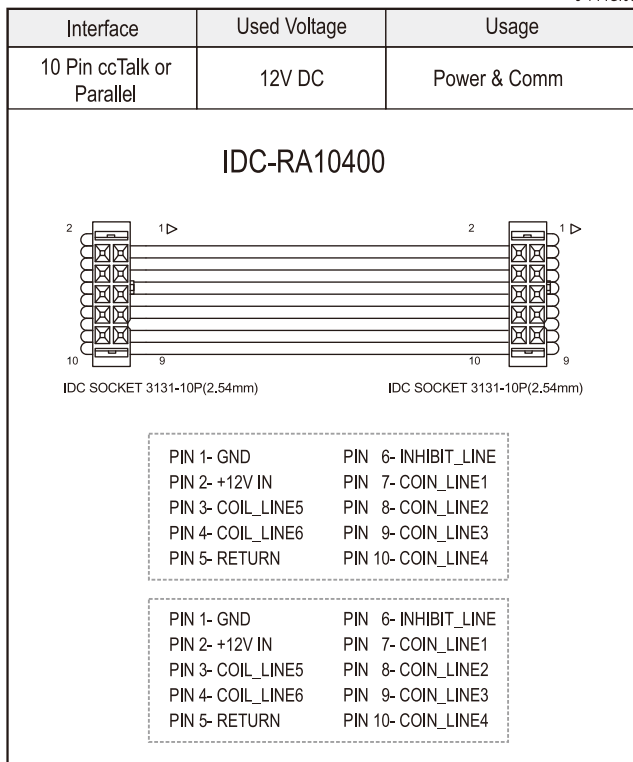
5-1 FIG.01



5-1 FIG.02



5-1 FIG.03

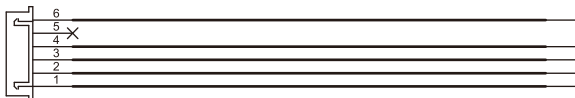


5-1 FIG.04

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

WEL-RECA01

XH-A6(2,5mm)

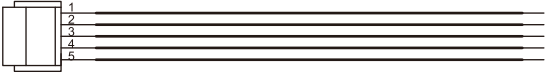


PIN 1- YELLOW.....INHIBIT
 PIN 2- BLUE.....IMPULSE
 PIN 3- PURPLE.....COUNTER
 PIN 4- RED.....+12V
 PIN 5- NC
 PIN 6- BLACK.....GND

5-1 FIG.05

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

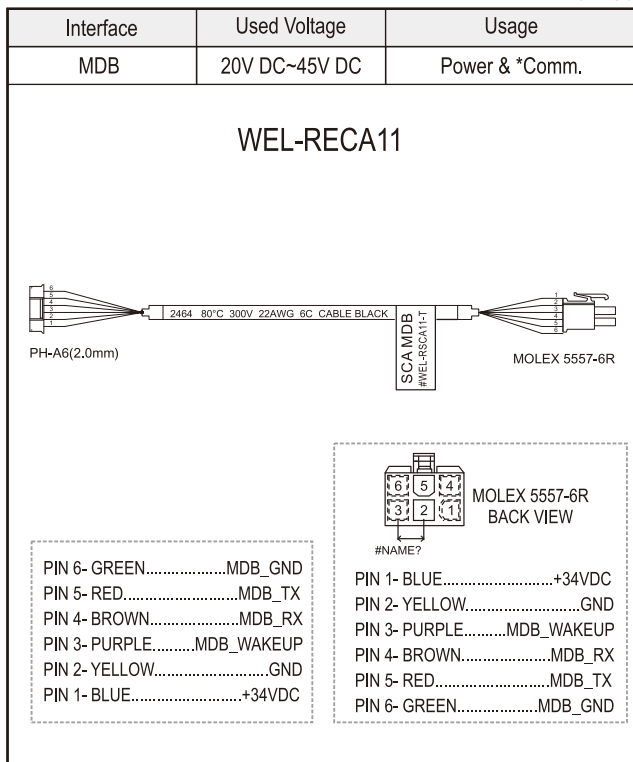
WEL-RECA03
(Option)

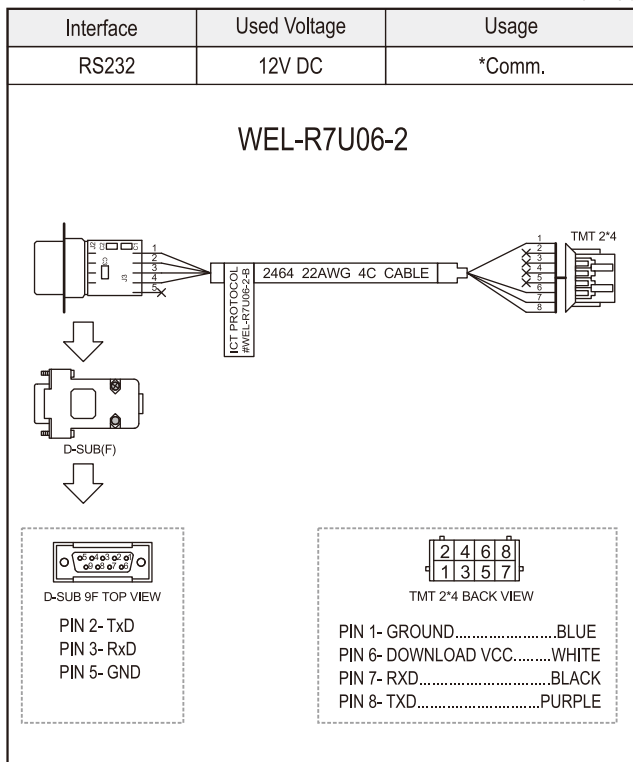


NH-5P(2.5mm)

PIN 1- GREEN.....	INHIBIT
PIN 2- BLUE.....	IMPULSE
PIN 3- ORANGE.....	GND
PIN 4- YELLOW.....	COUNTER
PIN 5- RED.....	+12V

5-1 FIG.06

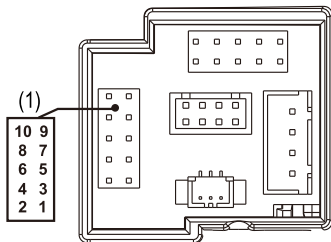




5-2. Connector & PIN Assignment

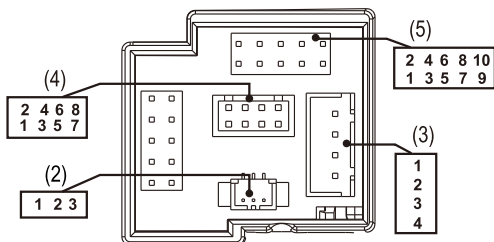
ccTalk + Parallel + RS232

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



5-2 TABLE 01

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

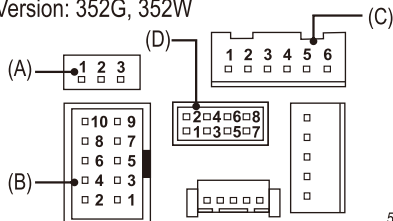


5-2 TABLE 02

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

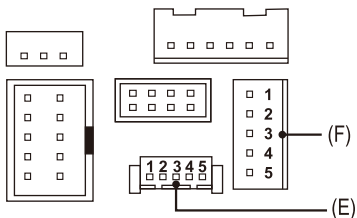
Pulse + Parallel + RS232

Hardware Version: 352G, 352W



5-2 TABLE 03

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



5-2 TABLE 04

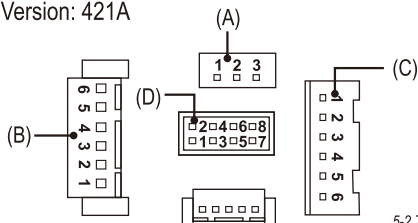
No.	Pins	PIN Assignment
E	5 Pin	Download
F	5 Pin	Pulse PIN 1- Inhibit PIN 2- Pulse (Credit) PIN 3- GND PIN 4- Counter (Meter) PIN 5- +12V



Please contact ICT FAE for more details.

MDB + Pulse + RS232

Hardware Version: 421A



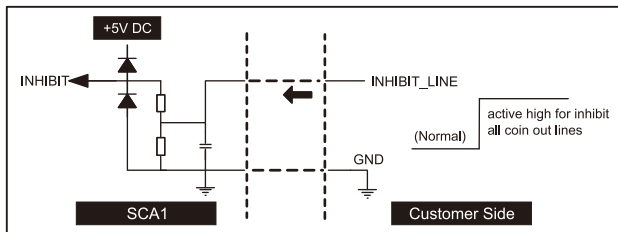
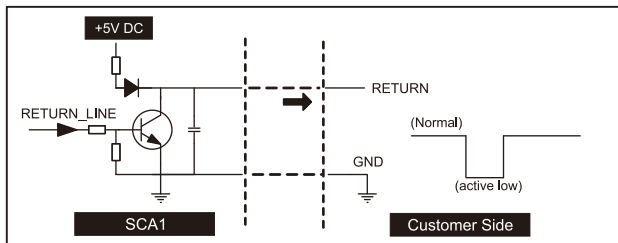
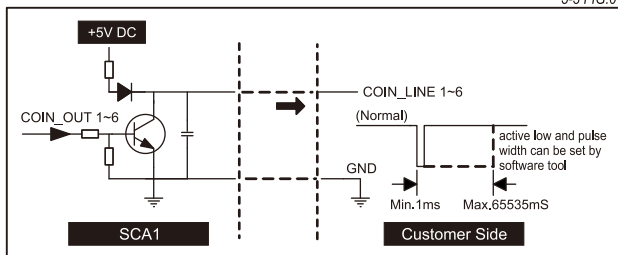
5-2 TABLE 05

No.	Pins	PIN Assignment	
A	3 Pin	JUMP Short PIN 1~2- Inhibit Normal High Short PIN 2~3- Inhibit Normal Low	
B	6 Pin	MDB PIN 1- GND PIN 2- MDB RXD PIN 3- MDB TXD PIN 4- X PIN 5- VIN-COM PIN 6- +45V	
C	6 Pin	Pulse PIN 1- Inhibit PIN 2- IMPULSE(CREDIT) PIN 3- X PIN 4- +12V PIN 5- +12V PIN 6- GND	
D	8 Pin	Download (RS232) 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

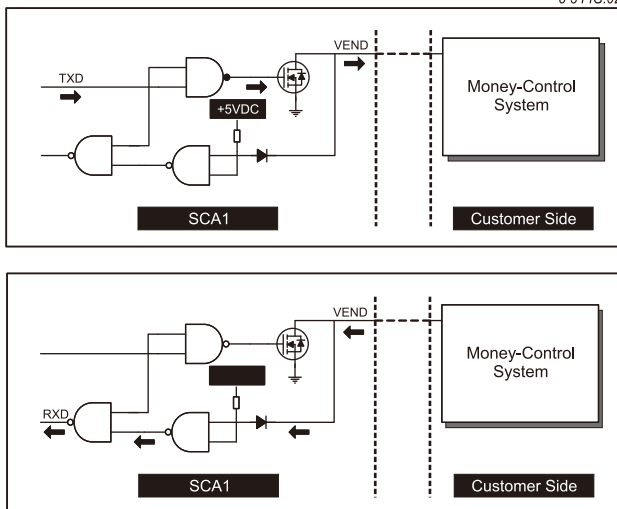
Parallel Interface

5-3 FIG.01



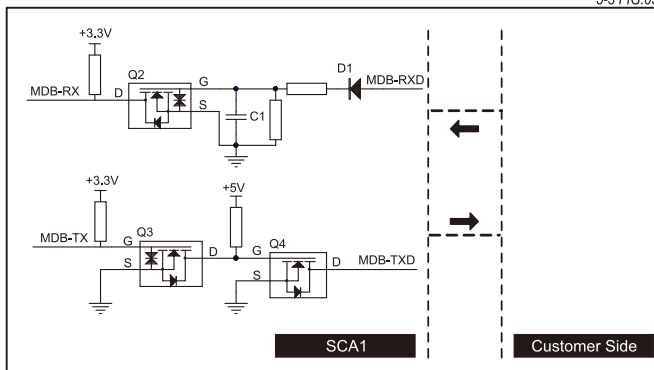
ccTalk Interface

5-3 FIG.02



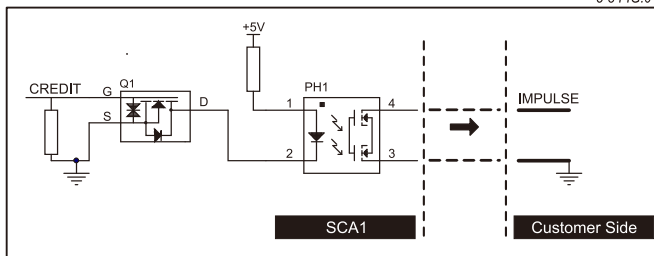
MDB Interface

5-3 FIG.03



Pulse Interface

5-3 FIG.04



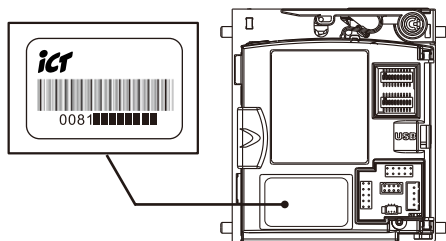
5-4. ccTalk Information

Manufacturer ID: ICT

Equipment Category ID: Coin Acceptor

Product Code: SCA1

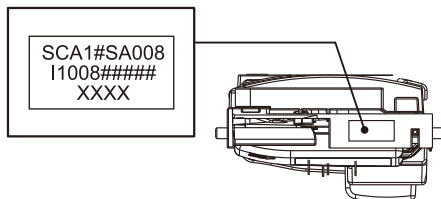
Serial Number: According to last 8 digits of production serial number (Default: 12345678).



5-4 FIG.01

Software Revision: According to the software revision number.

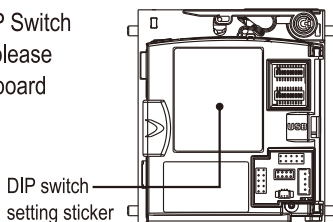
For example: SCA1#SA00811008#####



5-4 FIG.02

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	*1			
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

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

6 TABLE 10

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

6 TABLE 11

Switch Block 2		
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

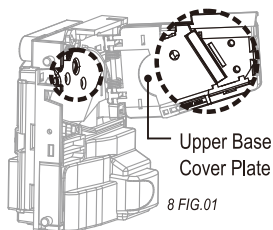
Steps	Clear All Channel Memories
1	Turn off SCA power supply.
2	Set Switches to study mode. SW4: ON / SW5: ON
3	Turn on SCA power supply, then triggers the solenoid to switch once.
4	Set SW5 to OFF then ON again. Then the solenoid switches 3 times, means that the clearance procedure is complete and ready 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.

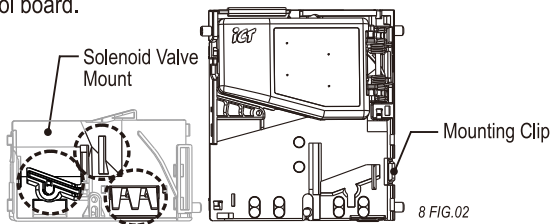
Cleaning Recognition Sensors

Open flight deck to clean recognition sensors.



Cleaning Output Sensors

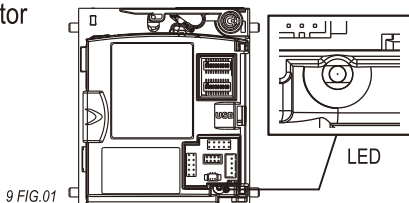
Release mounting clip through flat screwdriver to remove solenoid module. Then clean the output sensors with soft, dry cloth or towel. Please make sure the solenoid wire connector well connects to control board.



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

9. Troubleshooting

LED Indicator



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	Contact your local dealer for further technical support.
4	-	4	Drop IN 2L Error	
-	-	5	Program Error	



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



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