LX7 with Bill Acceptor AC110V Pulse/NISR Converter Board

Installation Guide

International Currency Technologies Corp.

Use of Materials Limitations

Contents

1. Introduction

1-1. Overview 2

1-2. Features 2

2. Specifications 2

3. Packing List 4

4. Dimension 4

5. Installation

5-1. Harness Application 7

5-1-1. I/O Circuit 18

5-2. DIP Switch Setting 23

5-3. Software Download and Upgrade 23

6. Maintenance 24

7. Troubleshooting

7-1. Bezel LED Errors 25

7-2. Back LED Errors 26

1. Introduction

1-1. Overview

LX7 with AC110V Pulse/NISR Converter Board is a bill acceptor feature the water drainage path to offer maximum protection against water and humidity.

1-2. Features

- Four-way bill insertion acceptance.
- Auto-calibrating.
- Safe lock removable and 200 or 600 bills box capacity.
- Selective lock between plastic knob and tubular lock.

2. Specifications

General

Acceptance Rate	96% or greater

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

Interface	Pulse, ICT Protocol <RS232>, V2.2, NISR, RS232 A0, MDB
Transaction Speed	Approx. 3 seconds to stack
Bill Insertion	Four-way acceptable

Installation: Indoor use only!!

Electrical

Power Source	12V DC 24V/34V DC (20~42.5V DC) 117V AC
Power Consumption	12V DC- Standby : 0.3A, 4W Operation: 0.8A, 10W Maximum: 2.5A, 30W 24V/34V DC- Standby : 0.15A, 6W Operation: 0.4A, 14W Maximum: 1.35A, 46W 117V AC- Standby : 63mA, 7W Operation: 0.12A, 13.5W Maximum: 0.27A, 30W
Operation Environment	<With Converter Board> Operation Temperature: 0°C~55°C Storage Temperature: -30°C~70°C Humidity: 30%~85% RH(no condensation) <Without Converter Board> Operation Temperature: -15°C~60°C Storage Temperature: -30°C~70°C Humidity: 30%~85% RH(no condensation)

Mechanical

Bill Capacity	Approx. 200 or 600 bills
Outline Dimension	Plastic knob- Refer to page.5 Tubular lock- Refer to page.6
Weight	Approx. 1.25kg

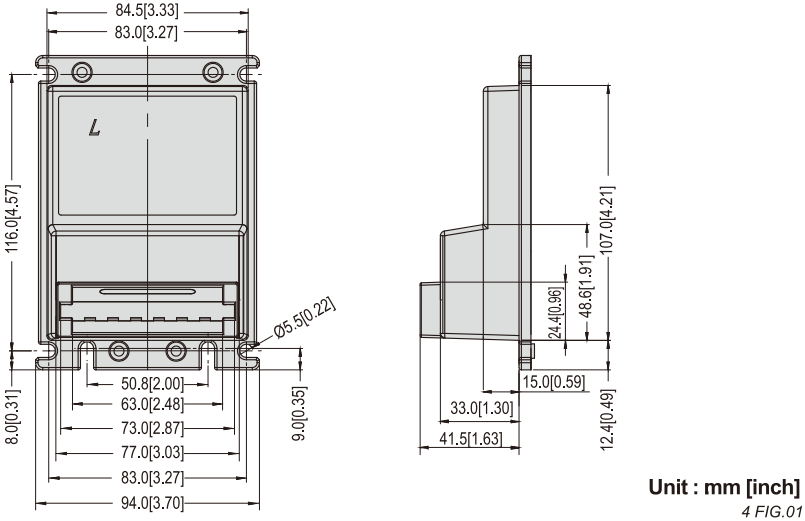
Lock Type	Plastic Knob Tubular lock(Customize)
Bill Accepted Width	62~72mm

3. Packing List

Main	Bill Acceptor
Accessory	Harness: Refer to **5-1** LX7 with AC110V Pulse/NISR Converter Board Installation Guide LX7 with AC110V Pulse/NISR Converter Board DIP Switch Setting Guide A Pair of keys (For tubular lock only)

4. Dimension

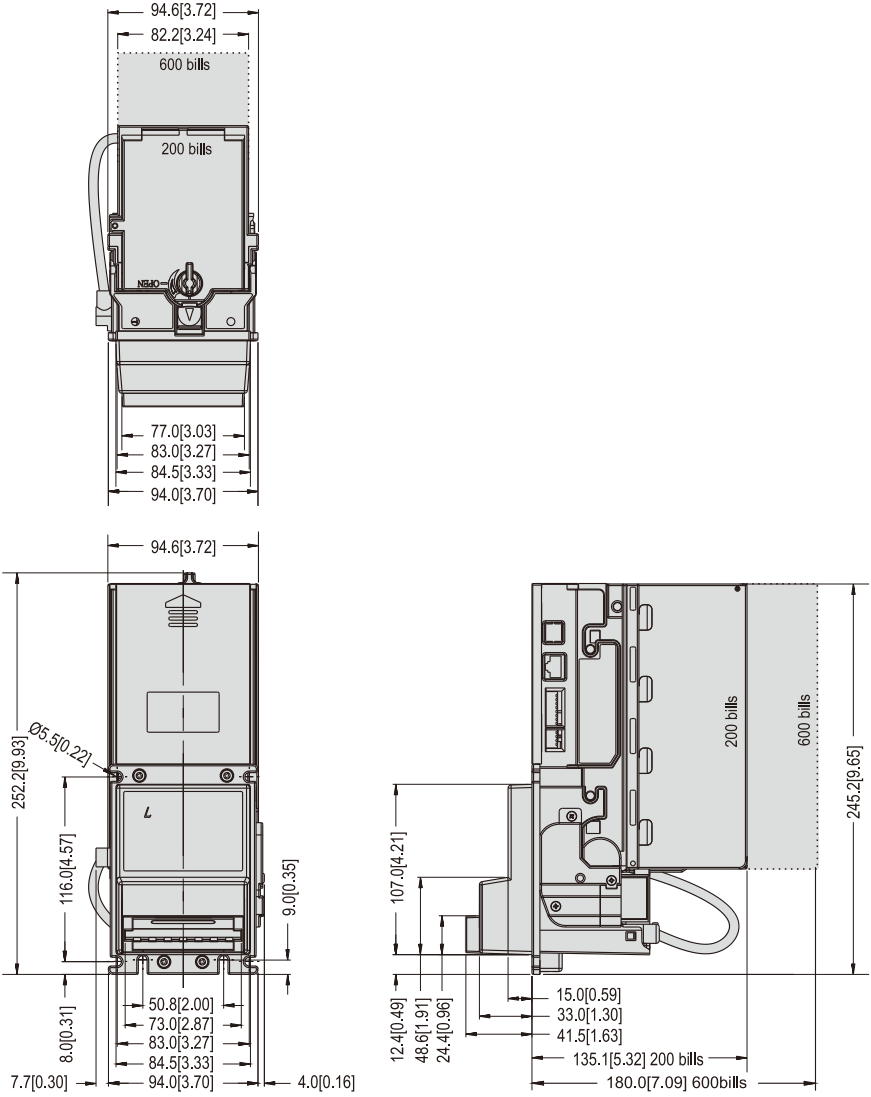
Bezel



Unit : mm [inch]

4 FIG.01

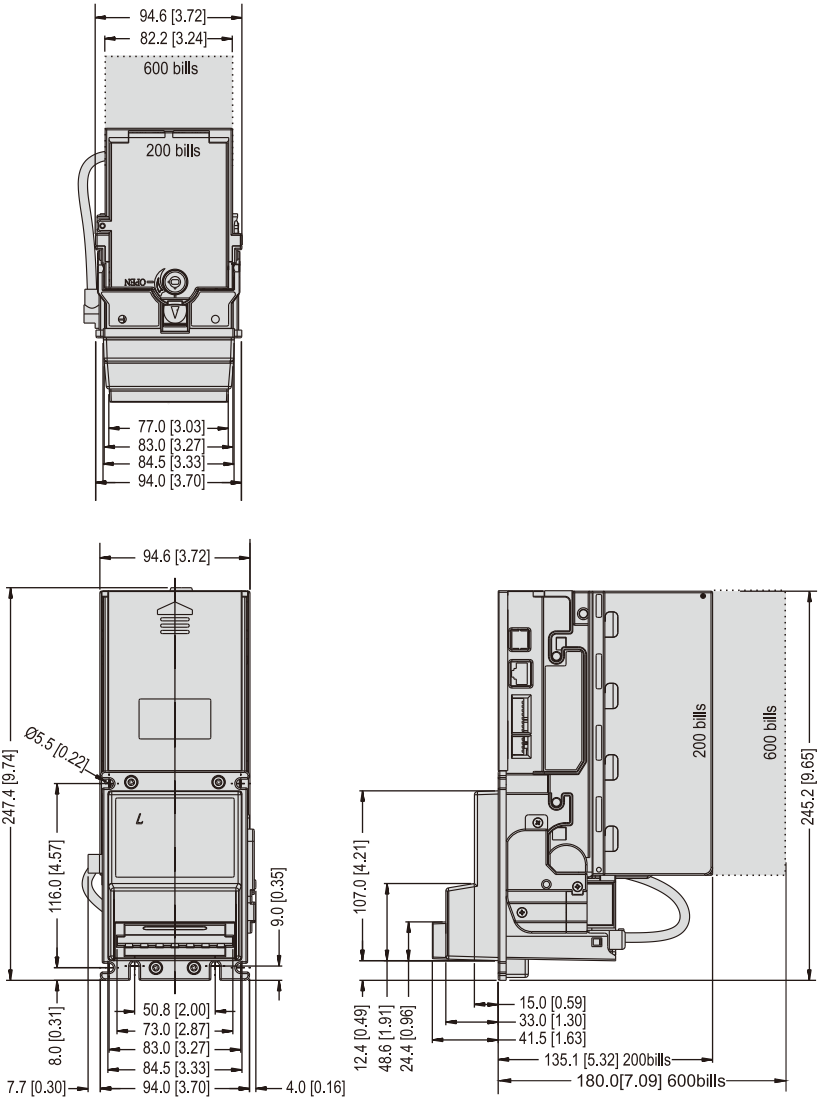
Plastic Knob



Unit : mm [inch]

4 FIG.02

Tubular lock

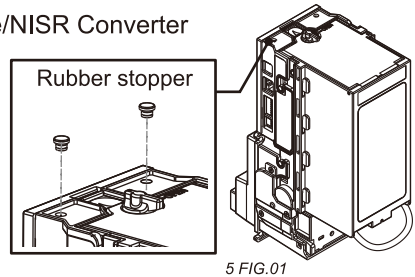


Unit : mm [inch]

4 FIG.03

5. Installation

When LX7 with AC110V Pulse/NISR Converter Board is installed in down stacker direction, please remove the rubber stopper.



5 FIG.01

5-1. Harness Application

5-1 TABLE 01

Interface	Used Voltage	Usage	Harness	Page
Pulse	12V DC	Power & *Data Comm.	WEL-RLX704	8
		Extension Wire	CU-R961-1	9
Pulse	12V DC	Power & *Data Comm.	WEL-RV701	14
		Extension Wire	CU-R961-1	9
Pulse	117V AC	Power & *Data Comm. (BA↔ AC117V Pulse Converter Board)	WEL-RLX702	10
		Power & *Data Comm. (AC117V Pulse Converter Board↔VMC)	3-BA-RLX703-01	11
		Extension Wire	WEL-RM012	12
ICT Protocol, V2.2	12V DC	*Data Comm.	WEL-RV706-1 or 2-BA-RV706	13
		Power	WEL-RV701	14
		Extension Wire	CU-R961-1	9
NISR	117V AC	Power & *Data Comm. (BA↔ AC117V NISR Converter Board)	WEL-RLX705	15
		Power & *Data Comm. (AC117V NISR Converter Board↔VMC)	3-BA-RLX701-01	16
RS232 A0	12V DC	*Data Comm.	WEL-RV706-1 or 2-BA-RV706	13
		Power	WEL-RV701	14
		Extension Wire	CU-R961-1	9
MDB	24V/34V DC	Power & *Data Comm.	WEL-RM006	17

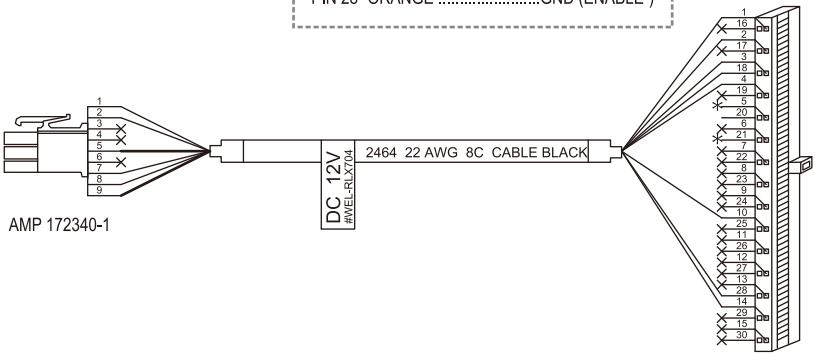
*Data Comm. : Data Communication.

5-1 FIG.01

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

WEL-RLX704

PIN 1- PURPLE.....CREDIT_RELAY_COM
PIN 2- BLUE.....CREDIT_RELAY_N.O.
PIN 3- RED.....12V (POWER)
PIN 4- YELLOW.....INHIBIT+
PIN 10- BROWN.....GND(POWER)
PIN 14- BLACK.....+12V(ENABLE+)
PIN 18- GREEN.....INHIBIT-
PIN 28- ORANGE .....GND (ENABLE-)



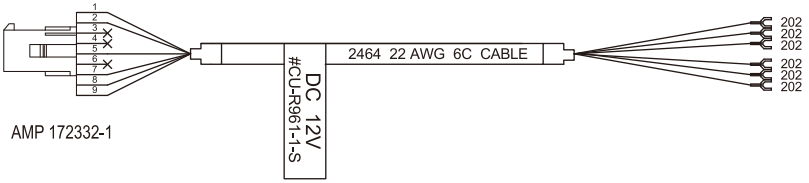
AMP 172340-1
BACK VIEW

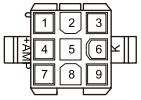
PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED & BLACK.....+12V
PIN 7- BLUE.....CREDIT_RELAY_NO
PIN 8- PURPLE.....CREDIT_RELAY_COM
PIN 9- BROWN & WHITE.....GND

5-1 FIG.02

Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RLX704
Pulse	12V DC	Extension Wire for WEL-RV701
ICT Protocol, V2.2	12V DC	Extension Wire for WEL-RV701
RS232 A0	12V DC	Extension Wire for WEL-RV701

CU-R961-1



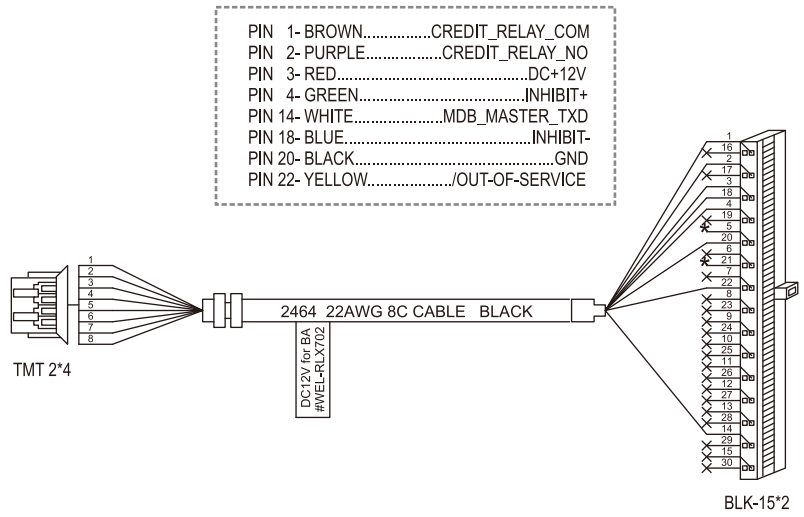


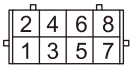
PIN 1- YELLOW.....INHIBIT+
PIN 2- GREEN.....INHIBIT-
PIN 5- RED.....+12VDC(POWER-IN)
PIN 7- BLUE.....CREOIT-RELAY-NO
PIN 8- PURPLE.....CREDIT-RELAY-COM
PIN 9- ORANGE.....GND(POWER-IN)

5-1 FIG.03

Interface	Used Voltage	Usage
Pulse	117V AC	Power & *Data Comm. (BA↔AC117V Pulse Converter Board)

WEL-RLX702





TMT 2*4 BACK VIEW

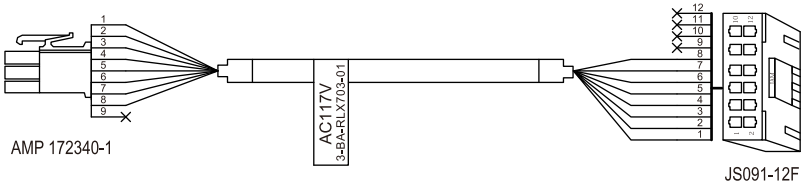
PIN 1- RED.....DC+12V
PIN 2- BLACK.....GND
PIN 3- PURPLE.....CREDIT_RELAY_NO
PIN 4- WHITE.....MDB_MASTER_TXD
PIN 5- YELLOW...../OUT-OF-SERVICE
PIN 6- GREEN.....INHIBIT+
PIN 7- BLUE.....INHIBIT-
PIN 8- BROWN.....CREDIT_RELAY_COM

5-1 FIG.04

Interface	Used Voltage	Usage
Pulse	117V AC	Power & *Data Comm. (AC117V Pulse Converter Board↔VMC)

3-BA-RLX703-01

PIN 1- WHITE.....117VAC_NEUTRAL
PIN 2- BLACK.....117VAC_HOT
PIN 3- BROWN.....HOT_ENABLE
PIN 4- GREEN.....EARTH_GROUND
PIN 5- YELLOW.....NEUTRAL_INHIBIT
PIN 6- RED.....NEUTRAL_ENABLE
PIN 7- BLUE.....CREDIT_RELAY_NO
PIN 8- PURPLE.....CREDIT_RELAY_COM



AMP 172340-1

JS091-12F

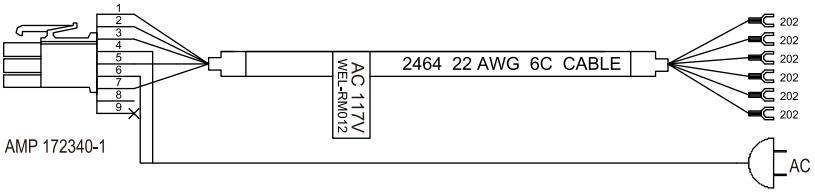
AMP 172340-1
BACK VIEW

PIN 1- YELLOW.....NEUTRAL_INHIBIT
PIN 2- RED.....NEUTRAL_ENABLE
PIN 3- BROWN.....HOT_ENABLE
PIN 4- BLACK.....117VAC_HOT
PIN 5- GREEN.....EARTH_GROUND
PIN 6- WHITE.....117VAC_NEUTRAL
PIN 7- BLUE.....CREDIT_RELAY_NO
PIN 8- PURPLE.....CREDIT_RELAY_COM

5-1 FIG.05

Interface	Used Voltage	Usage
Pulse	117V AC	Extension Wire for 3-BA-RLX703-01

WEL-RM012



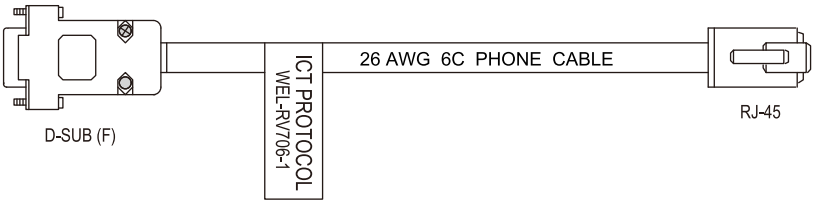
PIN 1- YELLOW.....NEUTRAL INHIBIT+
PIN 2- RED.....NEUTRAL INHIBIT-
PIN 3- ORANGE.....HOT ENABLE
PIN 4- BLACK.....117VAC HOT (Power)
PIN 5- GREEN.....Earth - Ground
PIN 6- BLACK.....117VAC NEUTRAL (Power)
PIN 7- BLUE.....CREDIT_RELAY (N.O.)
PIN 8- PURPLE...CREDIT_RELAY (Common)
PIN 9- Reserved

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

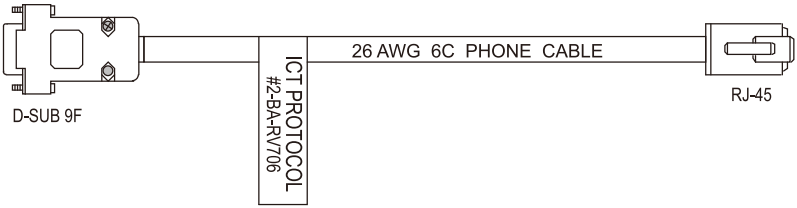
5-1 FIG.06

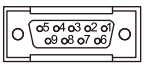
Interface	Used Voltage	Usage
ICT Protocol, V2.2	12V DC	*Data Comm.
RS232 A0	12V DC	*Data Comm.

WEL-RV706-1



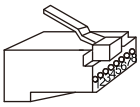
2-BA-RV706





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



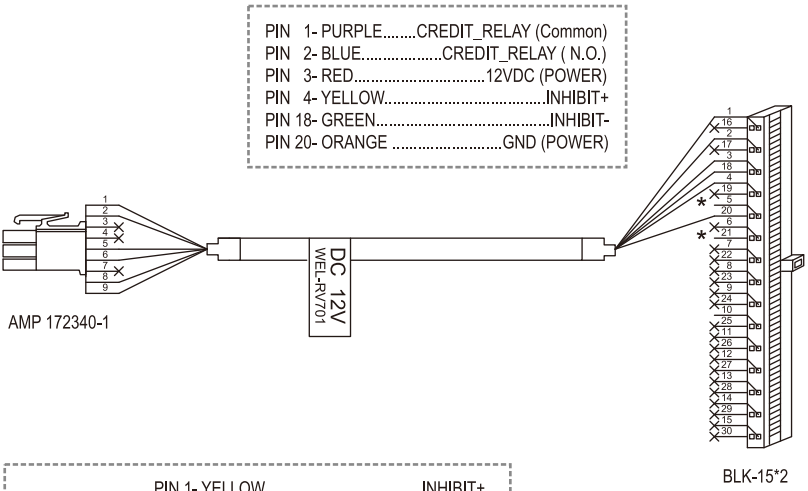
RJ-45 VIEW

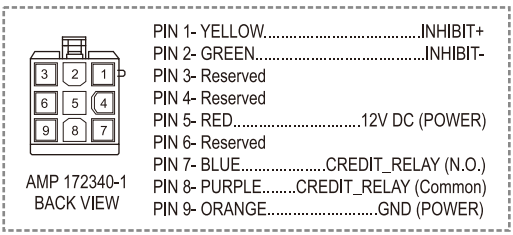
PIN 1- BLUE.....GND
PIN 2- YELLOW.....TX22
PIN 3- GREEN.....RX22
PIN 4- X.....RESERVED
PIN 5- X.....RESERVED
PIN 6- RED.....VCC
PIN 7- BLACK.....RX11
PIN 8- WHITE.....TX11

5-1 FIG.07

Interface	Used Voltage	Usage
Pulse	12V DC	Power & Data Comm.
ICT Protocol, V2.2	12V DC	Power
RS232 A0	12V DC	Power

WEL-RV701



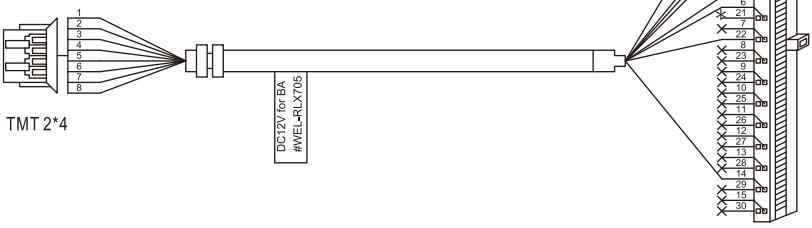


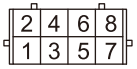
5-1 FIG.08

Interface	Used Voltage	Usage
NISR	117V AC	Power & *Data Comm. (BA↔AC117V NISR Converter Board)

WEL-RLX705

PIN 1- BROWN.....CREDIT_RELAY_COM
PIN 3- RED.....DC+12V
PIN 4- GREEN.....INHIBIT+
PIN 6- PURPLE.....MDB_MASTER_RXD
PIN 14- WHITE.....MDB_MASTER_TXD
PIN 18- BLUE.....INHIBIT-
PIN 20- BLACK.....GND
PIN 22- YELLOW...../OUT-OF-SERVICE





TMT 2*4 BACK VIEW

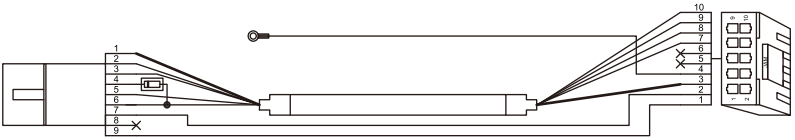
PIN 1- RED.....DC+12V
PIN 2- BLACK.....GND
PIN 3- PURPLE.....MDB_MASTER_RXD
PIN 4- WHITE.....MDB_MASTER_TXD
PIN 5- YELLOW...../OUT-OF-SERVICE
PIN 6- GREEN.....INHIBIT+
PIN 7- BLUE.....INHIBIT-
PIN 8- BROWN.....CREDIT_RELAY_COM

5-1 FIG.09

Interface	Used Voltage	Usage
NISR	117V AC	Power & *Data Comm. (AC117V NISR Converter Board↔VMC)

3-BA-RLX701-01

PIN 1- WHITE.....117VAC-HOT
PIN 2- BLACK.....117VAC-NEUTRAL
PIN 3- BLACK(GND).....GND
PIN 4- GREEN/ YELLOW.....EARTH_GROUND
PIN 7- BLACK.....*/ACCEPT-ENABLE
PIN 8- RED.....*/SEND
PIN 9- YELLOW.....*/DATA
PIN 10- WHITE.....*/INTERRUPT



MOLEX 03-09
BACK VIEW

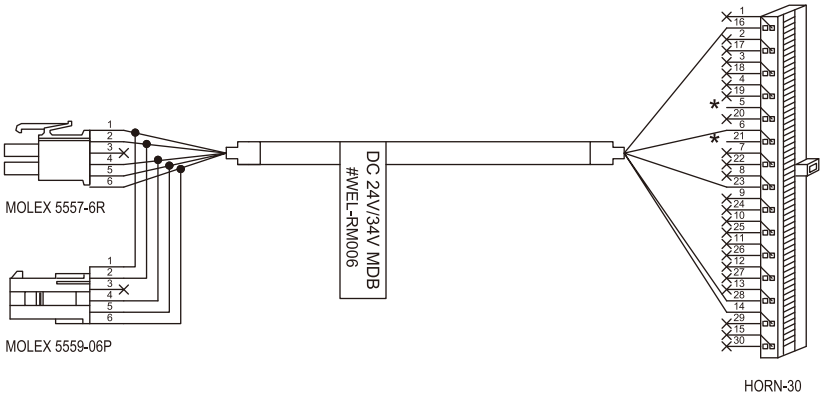
MOLEX 03-09

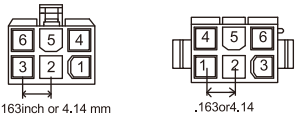
PIN 1- BLACK(GND).....GND
PIN 2- WHITE.....*/INTERRUPT
PIN 3- YELLOW.....*/DATA
PIN 4- DIODE(-)
PIN 5- RED.....*/SEND
PIN 6- BLACK & DIODE(+).....*/ACCEPT-ENABLE
PIN 7- BLACK.....117VAC-HOT
PIN 9- WHITE.....117VAC-NEUTRAL

5-1 FIG.10

Interface	Used Voltage	Usage
MDB	24V/34V DC	Power & *Data Comm.

WEL-RM006





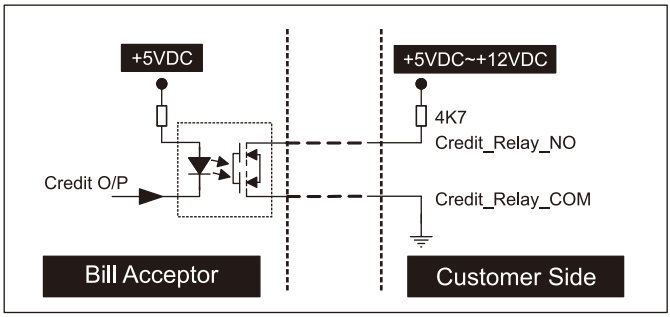
PIN 1- BLUE.....24V/34VDC
PIN 2- YELLOW.....POWER RETURN
PIN 3- N/C
PIN 4- ORANGE.....MDB_MASTER_RXD
PIN 5- RED.....MDB_MASTER_TXD
PIN 6- GREEN.....MDB GROUND

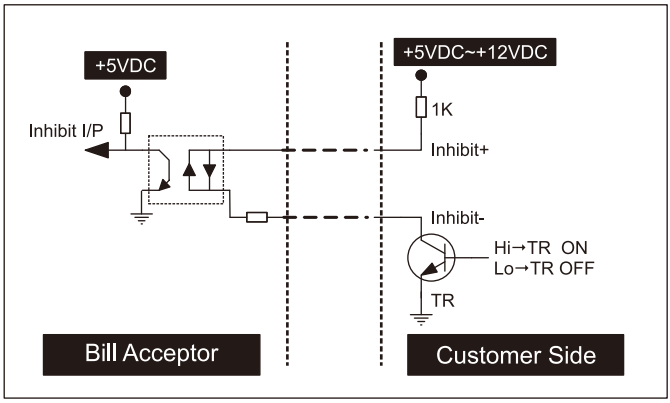
PIN 6- ORANGE.....MDB_MASTER_RXD
PIN 14- RED.....MDB_MASTER_TXD
PIN 16- YELLOW.....POWER RETURN
PIN 23- BLUE.....24V/34VDC
PIN 28- GREEN.....MDB GROUND

5-1-1. I/O Circuit

Pulse Interface.

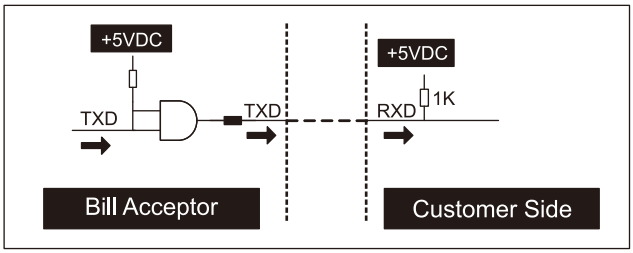
5-1-1 FIG.01

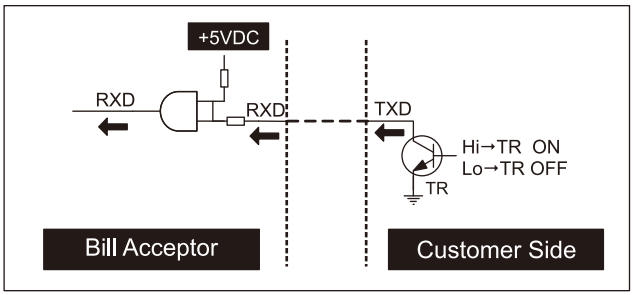




ICT Protocol<RS232> & V2.2 Interface.

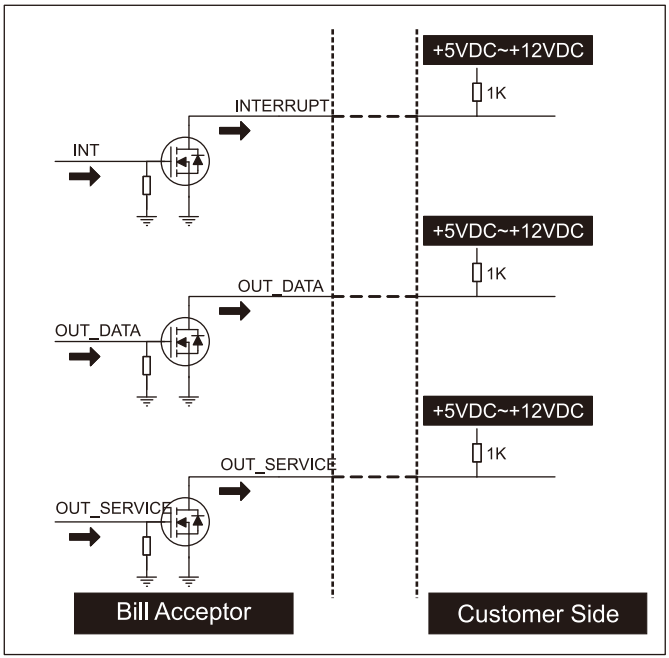
5-1-1 FIG.02

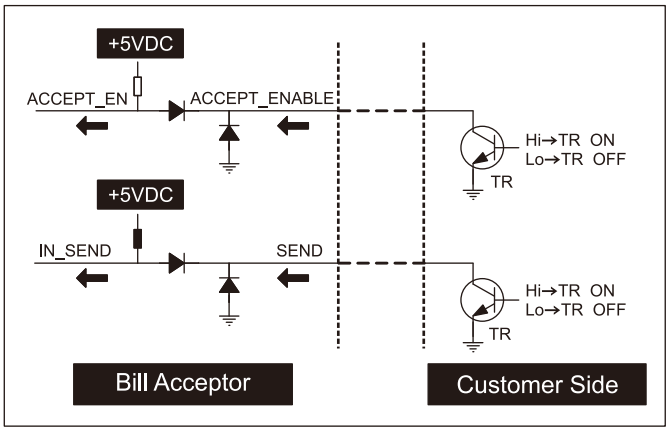




NISR Interface.

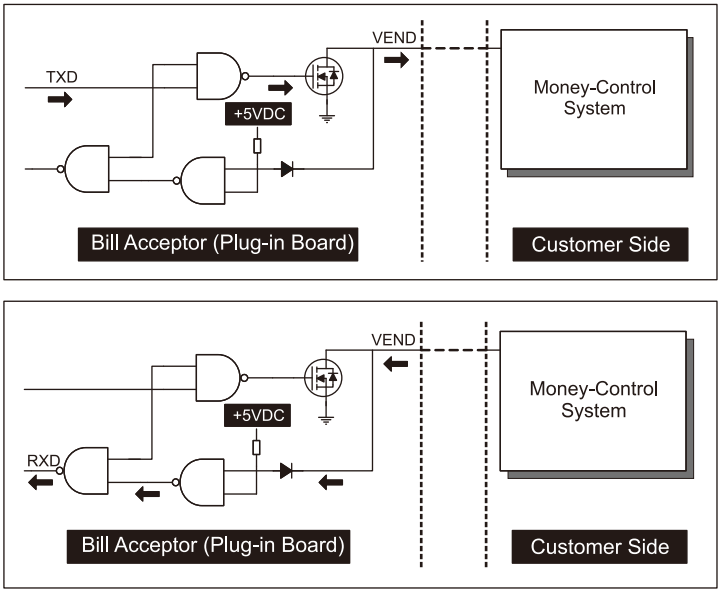
5-1-1 FIG.03





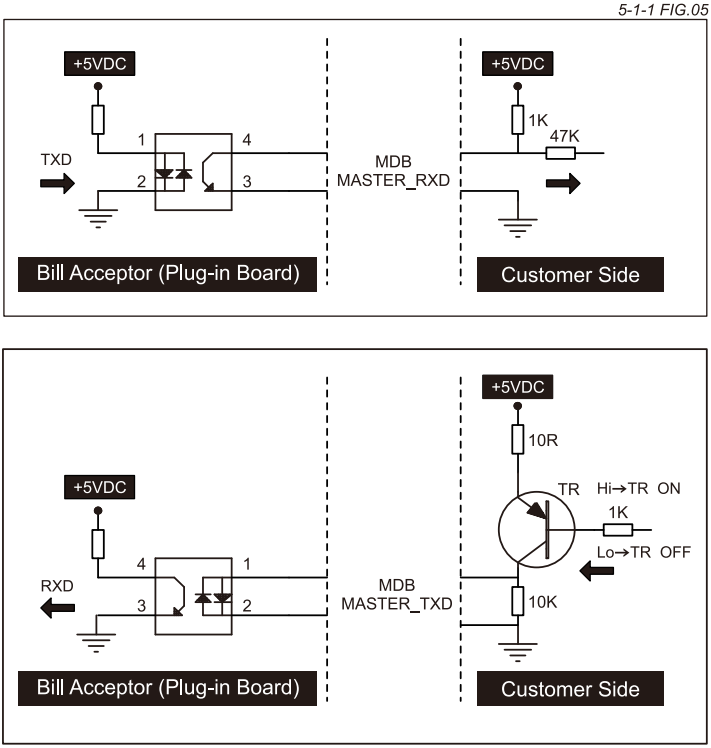
ccTalk Interface

5-1-1 FIG.04



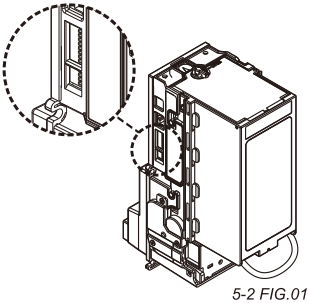
MDB Interface.

5-1-1 FIG.05

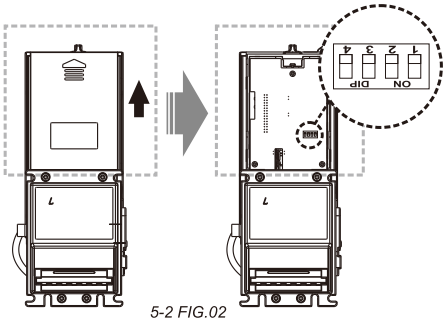


5-2. DIP Switch Setting

There are two serial DIP switches which are set on the side of LX7 with AC110V Pulse/NISR Converter Board(*as 5-2 FIG.01*). According to different currencies which are used by users, DIP switch settings could be varied to fit users' needs. There is also a serial DIP switch on the base of the unit for inside interface settings(*as 5-2 FIG.02*). Please refer to "LX7 with AC110V Pulse/NISR Converter Board DIP Switch Setting Guide" in the package for more details.



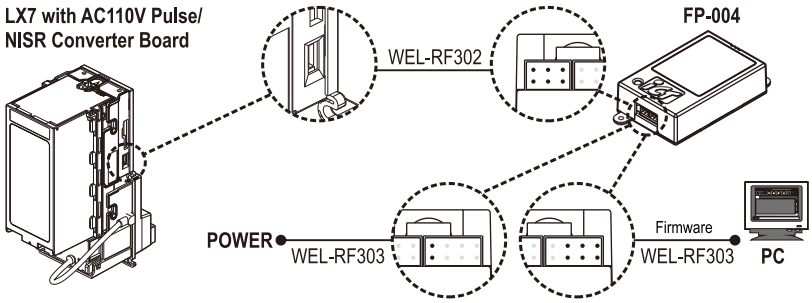
5-2 FIG.01



5-2 FIG.02

5-3. Software Download and Upgrade

To download and upgrade the software to LX7 with AC110V Pulse/ NISR Converter Board, 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.



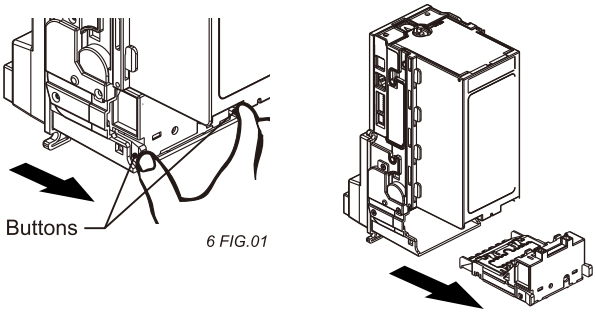
Please turn on Bill Acceptor after connecting.

6. Maintenance

To make sure the bill acceptor always works smoothly, please clean the internal parts every two weeks to every two months.

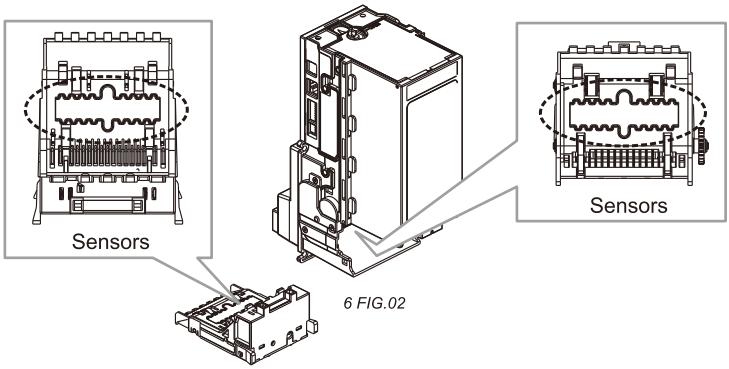
To clean the internal parts:

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 sensors.



6 FIG.02

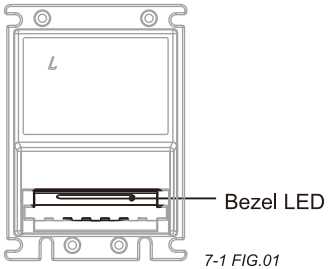
Maintenance Notice

(Any improper maintenance will invalidate the warranty.)

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

7. Trouble Shooting

7-1. Bezel LED Errors



7-1 FIG.01

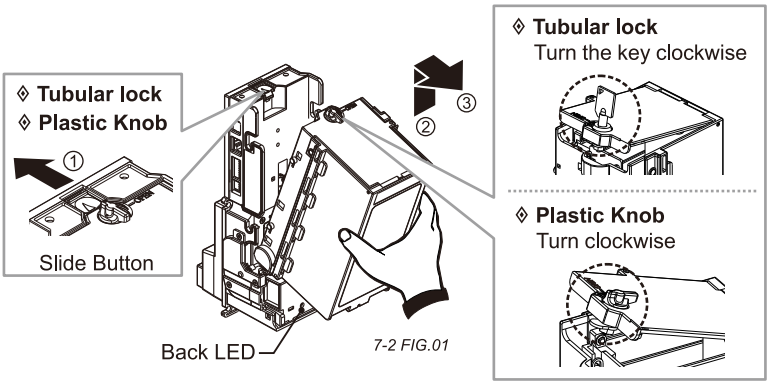
7-1 TABLE 01

LED Flashes		Status	Corrective 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 (as 7-2 FIG.01), 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.	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

7-2 TABLE 01

LED Flashes Green	Status	Corrective Actions
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 (as 7-2 FIG.01), 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.	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 FIG.01

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

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