



L70T-P5 / L77T-P5

Bill Acceptor



# Installation Guide

International Currency Technologies Corp.

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# Contents

1. Introduction	
1-1. Overview .....	2
1-2. Features .....	2
2. Specifications .....	3
3. Packing List .....	5
4. Dimension .....	6
5. Installation	
5-1. Harness Application .....	15
5-1-1. I/O Circuit .....	39
5-2. DIP Switch Setting .....	45
5-3. Software Download and Upgrade .....	45
6. Maintenance .....	46
7. Troubleshooting .....	47

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Appendix\_ccTalk Information

# **1. Introduction**

## **1-1. Overview**

The L Series bill acceptor combines improved bill-sensing technology with lightweight and durable plastic construction. It also features fast software updating, automatic self-adjusting sensor system, and easy maintenance to increase acceptance rates and reduce bill jammed.

## **1-2. Features**

- Auto-calibration.
- Easy maintenance.
- Fast program update.
- Selective interfaces.
- Anti-string technology.
- Speedy bill transaction.
- Multicolor illumination bezel design.
- Multinational currencies acceptable.
- Fixed width/ multi-width bill acceptable.
- Lightweight and durable plastic construction.
- New generation design of verification system.

## 2. Specifications

### **General**

**Acceptance Rate** 96% or greater

*\*Note: The Incomplete bills such as extremely dirty, wet, broken, or wrinkled ones are excluded!*

**Bill Insertion** Four way acceptable

**Transaction Time** Approx. 3 seconds to stack

### **Interface**

#### **L70#:**

Pulse, RS232, RS232 A0, ccNet(compatible), MDB, ccTalk.

#### **L70:**

Pulse, RS232, RS232 A0, Parallel A1 .

#### **L70F, L77F:**

Pulse, RS232, RS232 A0, ccNet(compatible), MDB, ccTalk, Pulse(Out of service).

#### **L83:**

Pulse, RS232, RS232 A0, ccNet(compatible), MDB, ccTalk, RS232 A1, Parallel, Pulse(Out of service), Parallel A4.

#### **L83#:**

Pulse, RS232, RS232 A0, ccNet(compatible), MDB, ccTalk, RS232 A1, Pulse(Out of service)

#### **L70T, L77T:**

Pulse, RS232, RS232 A0, ccNet(compatible), MDB, ccTalk, Pulse(Out of service) , V2.2.

*\*Note: For ccTalk information, please refer to Appendix.*

## Electrical

### Power Source

**L70#, L70F, L77F, L83#, L70T, L77T:**

12V DC(10~16V DC)

**Others:** 12V DC(10.8~13.2V DC)

### Power Consumption

Standby : 0.3A, 3.6W

Operation: 1.2A, 14.4W

Maximum: 2A, 24W

### Operation Environment

Operation Temperature:

**L70, L83:** 0°C~50°C

**L70F, L77F, L70T, L77T:** 0°C~60°C

**L70#, L83#:** 0°C~65°C

Storage Temperature: -20°C~70°C

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

## Mechanical

### Outline Dimension

**L70#-P2/P5, L70F-P2/P5 :**

N Type Bezel Refer to page. 6

O Type Bezel Refer to page. 7

**L77F-P2/P5:** I Bezel Refer to page. 8

**L83-P3/P6, L83#-P3/P6:**

E Type Bezel Refer to page. 9

F Type Bezel Refer to page.10

Y Type Bezel Refer to page.11

**L70T-P5, L77T-P5:**

Without metal bracket Refer to page.12

With metal bracket Refer to page.13

### Bill Box Capacity

**L70#-P2, L70F-P2:** Approx.200 bills

**L70#-P5, L70F-P5:** Approx.500 bills

**L77F-P2:** Approx.150 bills

**L77F-P5:** Approx.500 bills

**L83-P3, L83#-P3:** Approx.300 bills

**L83-P6, L83#-P6:** Approx.600 bills

**L70T-P5, L77T-P5:** Approx.500 bills

**Weight**

**L70#, L70F:** Approx.0.52kg  
**L70#-P2, L70F-P2:** Approx.1.25kg  
**L70#-P5, L70F-P5:** Approx.1.4kg  
**L77F:** Approx.0.44kg  
**L77F-P2:** Approx.1.35kg  
**L77F-P5:** Approx.1.42kg  
**L83, L83#:** Approx.0.8kg  
**L83-P3, L83#-P3:** Approx.1.46kg  
**L83-P6, L83#-P6:** Approx.1.65kg  
**L70T-P5, L77T-P5:** (Without metal bracket) Approx.1.42kg  
 (With metal bracket) Approx.7kg

**Bill Accepted Width**

**L70#-P2/P5, L70F-P2/P5:**  
 (67mm) 59mm~67mm  
 (71mm) 59mm~71mm  
**L77F-P2/P5:** 72mm~77mm  
**L83-P3/P6, L83#-P3/P6:**  
 61mm~83mm  
 61mm~79mm(Y Type Bezel)  
**L70T-P5:** 65mm~70mm  
**L77T-P5:** 72mm~77mm

**Installation**
**Indoor**

### 3. Packing List

**Main**

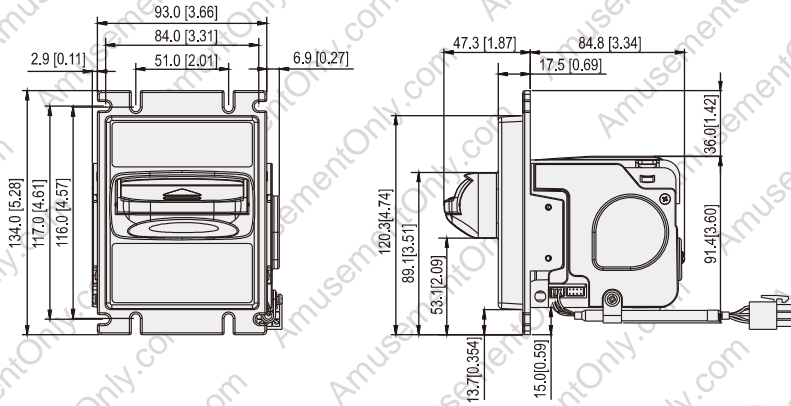
Bill Acceptor

**Accessory**

Harness: Refer to **5-1**  
 Bezel Sticker  
 Screw Pack  
 L Series Installation Guide  
 L Series DIP Switch Setting Guide

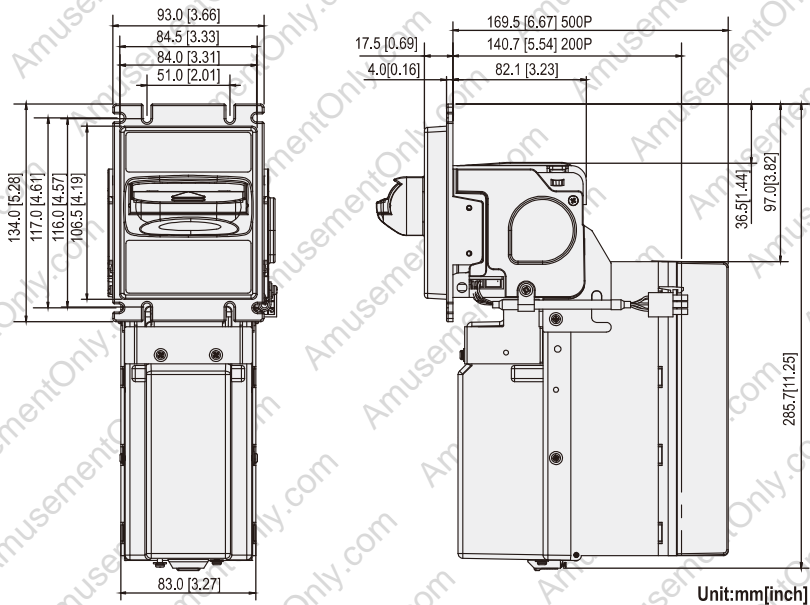
## 4. Dimension

L70 N Type Bezel: A Bezel(67mm) and B Bezel(71mm)



4 FIG.01

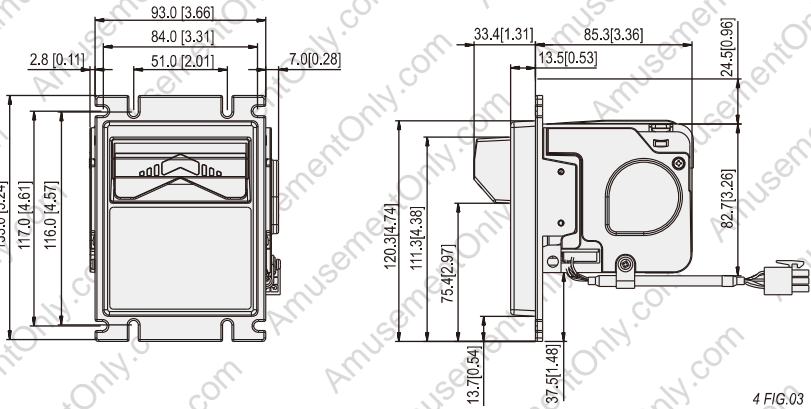
L70-P2/P5 N Type Bezel: A Bezel(67mm) and B Bezel(71mm)



Unit:mm[inch]

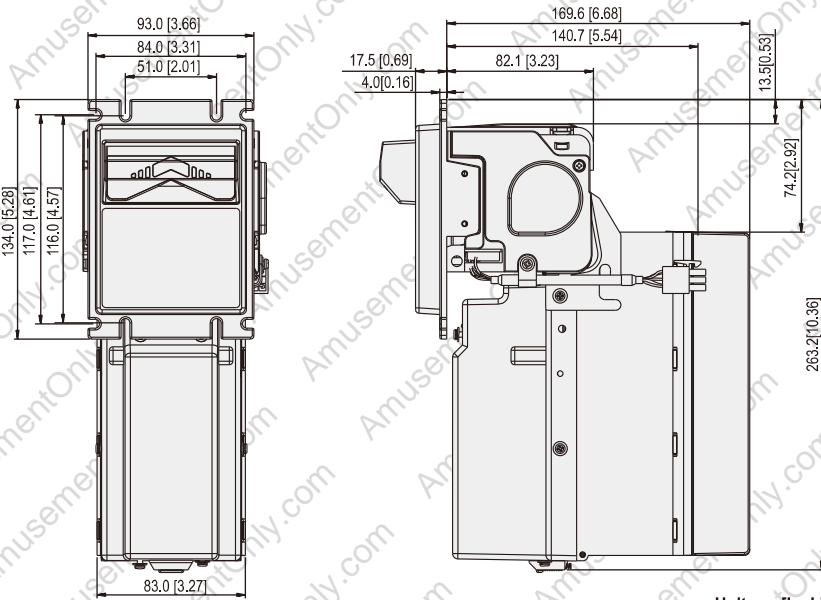
4 FIG.02

**L70 O Type Bezel (71mm)**



4 FIG.03

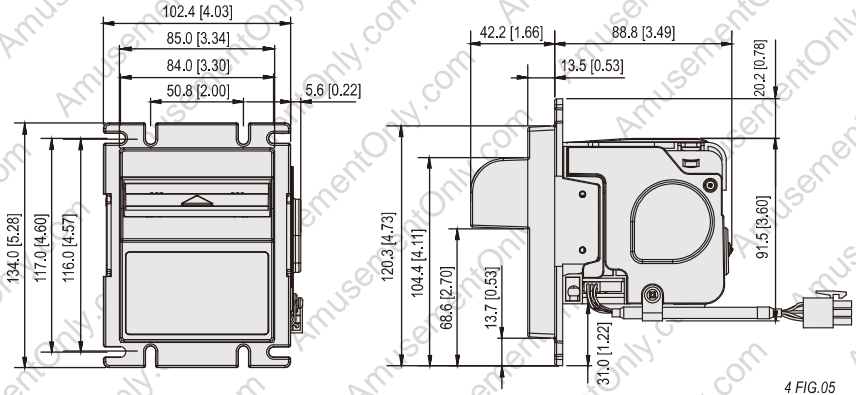
**L70-P2/P5 O Type Bezel (71mm)**



Unit:mm[inch]

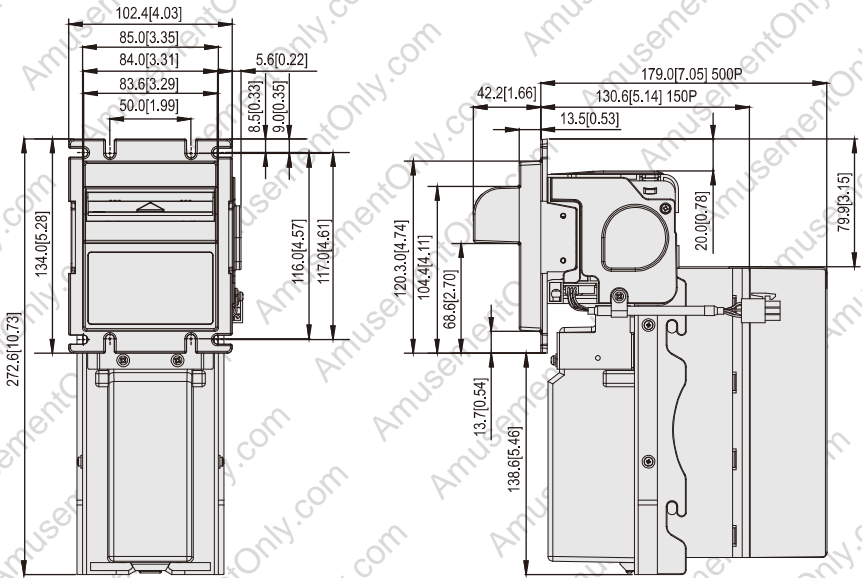
4 FIG.04

L77F | Bezel (78mm)



4 FIG.05

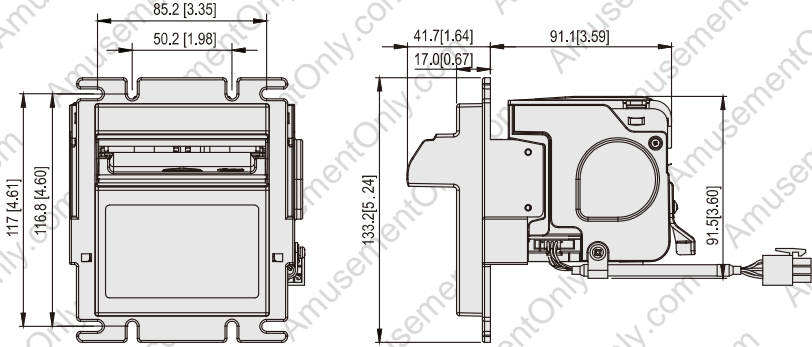
L77F-P2/P5 | Bezel (78mm)



Unit:mm[inch]

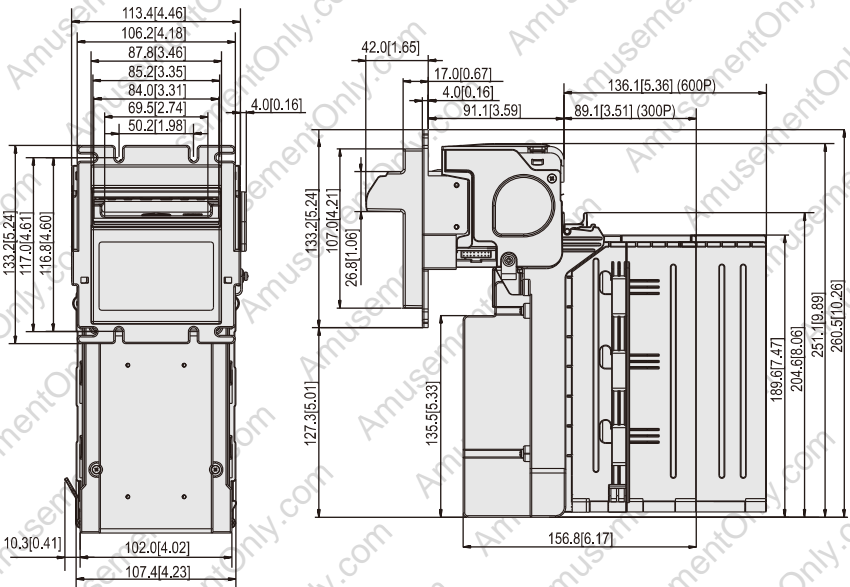
4 FIG.06

**L83 E Type Bezel (83mm)**



4 FIG.07

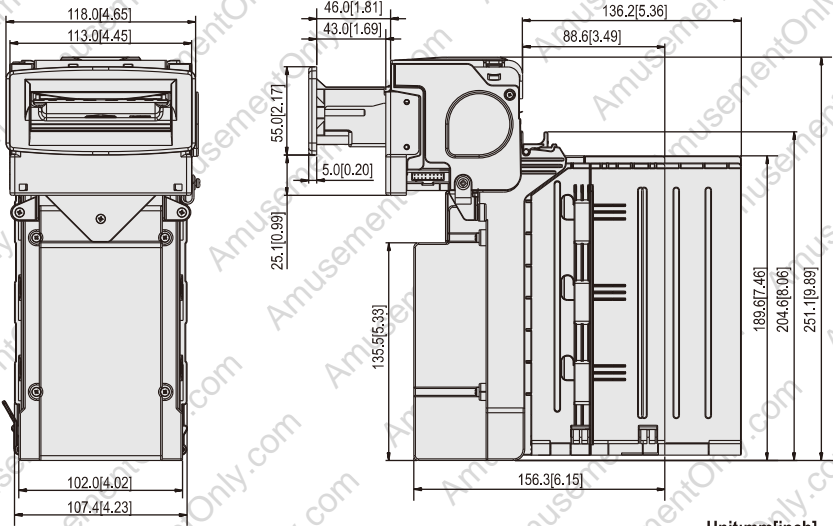
**L83-P3/P6 Down Stacker E Type Bezel (83mm)**



Unit:mm[inch]

4 FIG.08

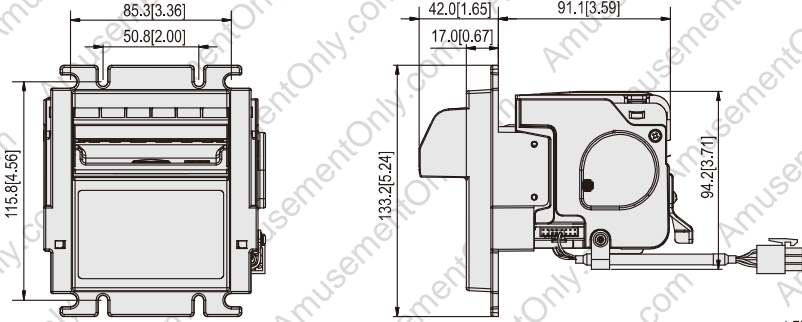
**L83-P3/P6 Down Stacker F Type Bezel (83mm)**



Unit:mm[inch]

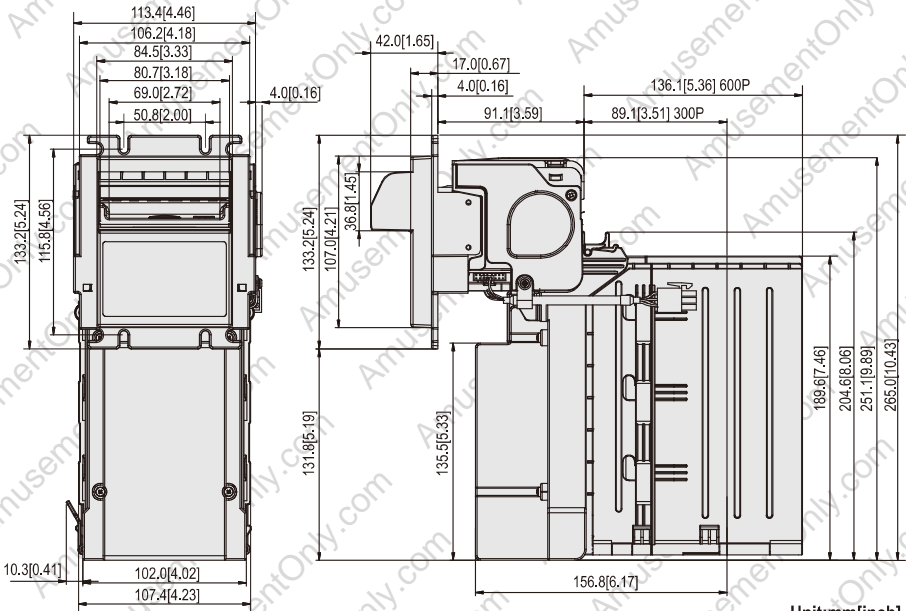
4 FIG.09

**L83 Y Type Bezel (79mm)**



4 FIG.10

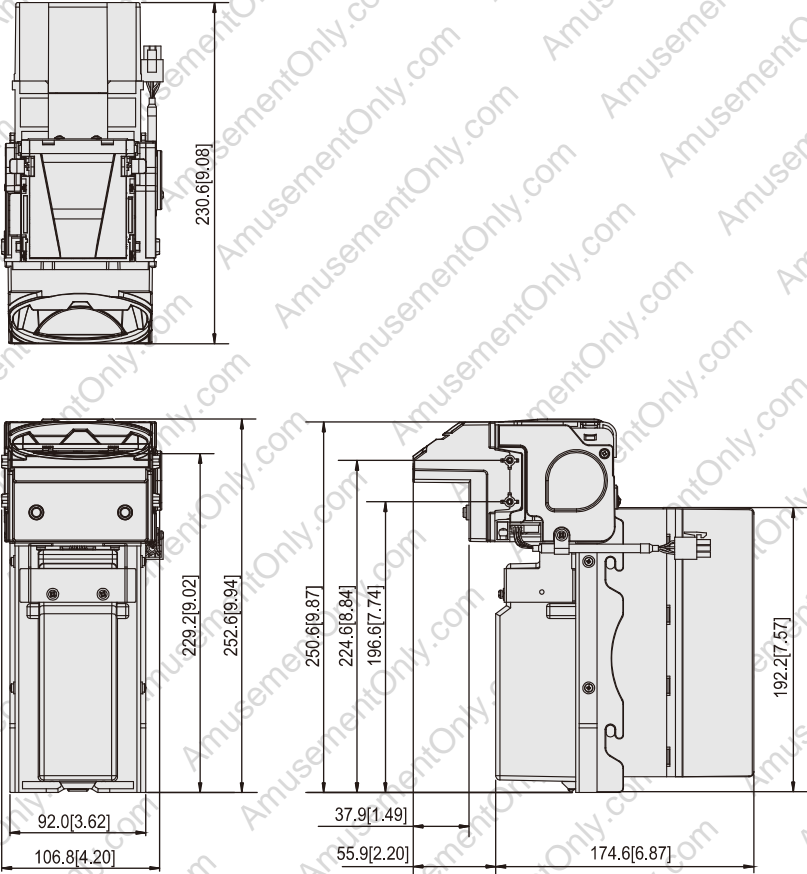
**L83-P3/P6 Down Stacker Y Type Bezel (79mm)**



Unit:mm[inch]

4 FIG.11

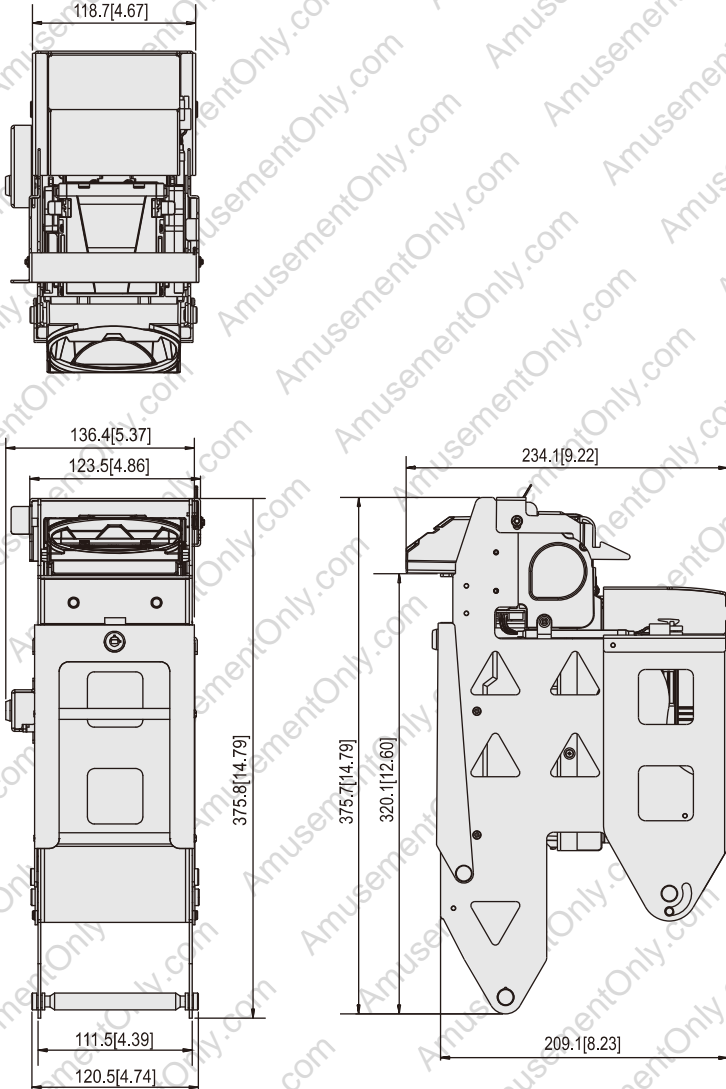
L70T-P5, L77T-P5 <Without metal bracket>



Unit:mm[inch]

4 FIG.12

**L70T-P5, L77T-P5 <With metal bracket>**



Unit:mm[inch]

4 FIG.13

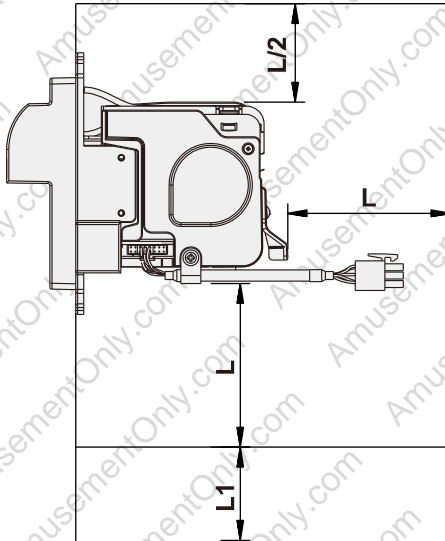


To install the bill acceptor on your VMC, please be aware of the dimension as below:

[ L ] : Longer than the maximum length of accepted bills.

[ L1 ] : Bill box capacity depth.

\* [ L/2 ] has to be longer than 70mm to open upper base.



4 FIG.14

## 5. Installation

### 5-1. Harness Application

5-1 TABLE 01

Model	Interface	Used Voltage	Usage	Harnesses	Page	
<b>L70</b>	Pulse	12V DC	Power & *Data Comm. ★3	WEL-RL702	20	
			Extension Wire	CU-R961-1	19	
	ICT(RS232)	12V DC	Power & *Data Comm.	WEL-RL703 ★1	21	
	Parallel A1	12V DC	Power & *Data Comm.	WEL-RL701	20	
			Extension Wire	WEL-R061	23	
	RS232 A0	12V DC	Power & *Data Comm.	WEL-RL705-1	22	
			Extension Wire	WEL-RID04	23	
	ccTalk	12V DC	Power & *Data Comm. (BA↔Plug-in Board)	5RBA-RAB248MX		
	<b>L70# L70F L77F</b>	Pulse	12V DC	Power & *Data Comm.	WEL-R7U02	24
				Extension Wire	CU-R961-1	19
ICT (RS232)		12V DC	Power & *Data Comm.	WEL-R7U02	24	
			Extension Wire	CU-R961-1	19	
ccNet compatible		12V DC	*Data Comm.	WEL-R7U06-2 ★2 or 2-BA-R7U06	25	
			Power & *Data Comm.	WEL-R7U02	24	
			Extension Wire	CU-R961-1	19	
RS232 A0		12V DC	*Data Comm.	WEL-R7U06-2 ★2 or 2-BA-R7U06	25	
			Power & *Data Comm.	WEL-R7U02	24	
			Extension Wire	CU-R961-1	19	
MDB		★4 34V DC	Power & *Data Comm. (BA↔Plug-in Board) ★5	WEL-RBG01	26	
			Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	27	
			Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	26	

★1. Maintenance use only.

★2. WEL-R7U06-2 : TTL Level to ±12VDC Level for PC.

★3. Data Comm. : Data Communication.

★4. MDB 34VDC : VMC Provides +34VDC to MDB Plug-in Board to convert into +12VDC, and provides +12VDC to L series bill acceptors.

★5. MDB Box : 5RBG-AA313NA0 For L70#, L70F, L77F, L70T, L77T, 5RBG-AA313NAA For L83, L83#.

Model	Interface	Used Voltage	Usage	Harnesses	Page
<b>L70#</b>	ccTalk	12V DC	Power & *Data Comm. ★3 (BA↔Plug-in Board)	5RBA-RAA248MX	
	ccTalk	12V DC	Power	WEL-R7U02	24
			*Data Comm.	3-BA-RL70#RS232-B	27
	Pulse	110V AC	Power & *Data Comm. (BA↔Plug-in Board)	5RBA-RAA315-L	29
				30	
<b>L70F</b> <b>L77F</b>	Pulse (Out of service)	12V DC	Power & *Data Comm.	WEL-RL826	36
			Extension Wire	CU-R961-1	19
	ccTalk	12V DC	Power & *Data Comm.	WEL-RL77F01	28
<b>L83</b>	Pulse	12V DC	Power & *Data Comm.	WEL-RL802	31
			Extension Wire	CU-R961-1	19
	ccTalk	12V DC	Power & *Data Comm.	WEL-RL803	32
				IDC-RA10400	38
				CNT-R7025	38
				WEL-RL824	34
	RS232 A1	12V DC	Power & *Data Comm.	WEL-RL805	33
	ICT (RS232)	12V DC	Power	WEL-RL802	31
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 ★2 or 2-BA-R7U06	25
	ccNet compatible	12V DC	Power	WEL-RL802	31
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 ★2 or 2-BA-R7U06	25
	MDB	34V DC ★4	Power & *Data Comm. ★5 (BA↔Plug-in Board)	WEL-RL812	34
			Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	27
Power & *Data Comm.(200cm) (Plug-in Board↔VMC)			WEL-RBG07	26	
RS232 A0	12V DC	Power	WEL-RL802	31	
		Extension Wire	CU-R961-1	19	
		*Data Comm.	WEL-R7U06-2 ★2 or 2-BA-R7U06	25	

★2. WEL-R7U06-2 : TTL Level to ±12VDC Level for PC.

★3. Data Comm. : Data Communication.

★4. MDB 34VDC : VMC Provides +34VDC to MDB Plug-in Board to convert into +12VDC, and provides +12VDC to L series bill acceptors.

★5. MDB Box : 5RBG-AA313NA0 For L70#, L70F, L77F, L70T, L77T, 5RBG-AA313NAA For L83, L83#.

5-1 TABLE 03

Model	Interface	Used Voltage	Usage	Harnesses	Page
<b>L83</b>	Parallel	12V DC	Power & *Data Comm. <b>★3</b>	WEL-RL804	32
	Parallel A4		Power & *Data Comm.	WEL-RL806	33
	Pulse(Out of service)		Power & *Data Comm.	WEL-RL825	35
			Extension Wire	CU-R961-1	19
<b>L83#</b>	Pulse	12V DC	Power & *Data Comm.	WEL-RL802	31
			Extension Wire	CU-R961-1	19
	ccTalk	12V DC	Power & *Data Comm.	WEL-RL803	32
				IDC-RA10400	38
				CNT-R7025	38
				WEL-RL824	34
	RS232 A1	12V DC	Power & *Data Comm	WEL-RL805	33
	ICT (RS232)	12V DC	Power	WEL-RL802	31
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 <b>★2</b> or 2-BA-R7U06	25
	ccNet compatible	12V DC	Power	WEL-RL802	31
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 <b>★2</b> or 2-BA-R7U06	25
	MDB	34V DC <b>★4</b>	Power & *Data Comm. <b>★5</b> (BA↔Plug-in Board)	WEL-RL812	34
			Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	27
			Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	26
	RS232 A0	12V DC	Power	WEL-RL802	31
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 <b>★2</b> or 2-BA-R7U06	25
	Pulse(Out of service)	12V DC	Power & *Data Comm.	WEL-RL825	35
Extension Wire			CU-R961-1	19	

★2. WEL-R7U06-2 : TTL Level to ±12VDC Level for PC.

★3. Data Comm. : Data Communication.

★4. MDB 34VDC : VMC Provides +34VDC to MDB Plug-in Board to convert into +12VDC, and provides +12VDC to L series bill acceptors.

★5. MDB Box : 5RBG-AA313NA0 For L70#, L70F, L77F, L70T, L77T, 5RBG-AA313NAA For L83, L83#.

Model	Interface	Used Voltage	Usage	Harnesses	Page
<b>L70T</b>  <b>L77T</b>	Pulse	12V DC	Power & *Data Comm. <b>★3</b>	WEL-R7U02	24
			Extension Wire	CU-R961-1	19
	ICT (RS232)	12V DC	Power & *Data Comm.	WEL-R7U02	24
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 <b>★2</b> or 2-BA-R7U06	25
	ccNet compatible	12V DC	Power & *Data Comm.	WEL-R7U02	24
			Extension Wire	CU-R961-1	19
			*Data Comm.	WEL-R7U06-2 <b>★2</b> or 2-BA-R7U06	25
	MDB	<b>★4</b> 34V DC	Power & *Data Comm. (BA↔Plug-in Board) <b>★5</b>	WEL-RBG01	26
			Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	27
			Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	26
	Pulse (Out of service)	12V DC	Power & *Data Comm.	WEL-RL826	36
			Extension Wire	CU-R961-1	19
	RS232 A0	24V DC	Power & *Data Comm.	3BA-RAA318-NX-0X	37
	V2.2				37
	ccTalk	12V DC	Power & *Data Comm.	WEL-RL77F01	28

★2. WEL-R7U06-2 : TTL Level to ±12VDC Level for PC.

★3. Data Comm. : Data Communication.

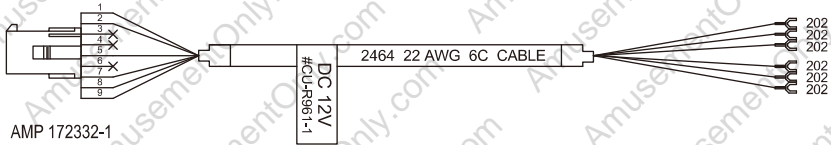
★4. MDB 34VDC : VMC Provides +34VDC to MDB Plug-in Board to convert into +12VDC, and provides +12VDC to L series bill acceptors.

★5. MDB Box : 5RBG-AA313NA0 For L70#, L70F, L77F, L70T, L77T, 5RBG-AA313NAA For L83, L83#.

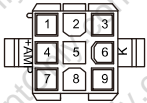
5-1 FIG. 01

Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RL702
Pulse	12V DC	
ICT(RS232)	12V DC	Extension Wire for WEL-R7U02
ccNet compatible	12V DC	
RS232 A0	12V DC	
Pulse	12V DC	Extension Wire for WEL-RL802
ICT(RS232)	12V DC	
ccNet compatible	12V DC	
Pulse(Out of service)	12V DC	Extension Wire for WEL-RL825
Pulse(Out of service)	12V DC	Extension Wire for WEL-RL826

### CU-R961-1



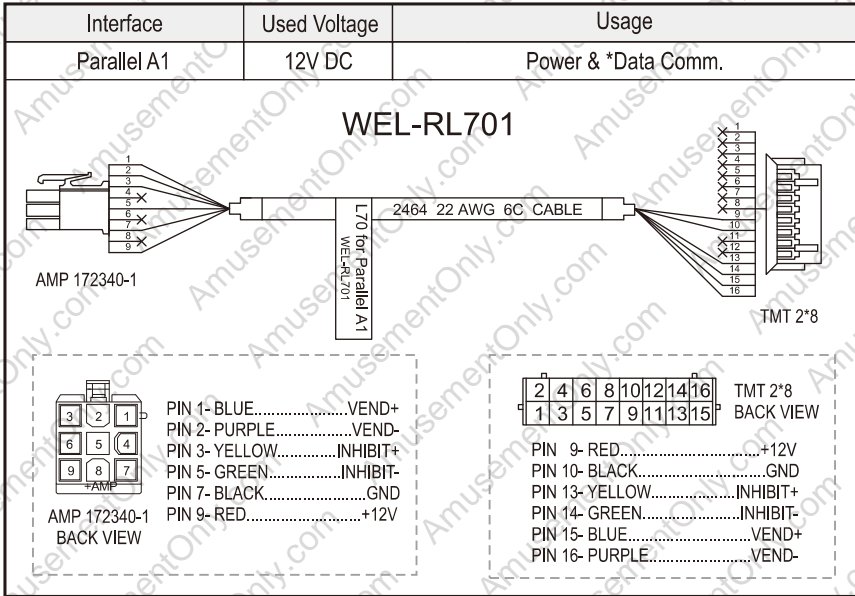
AMP 172332-1



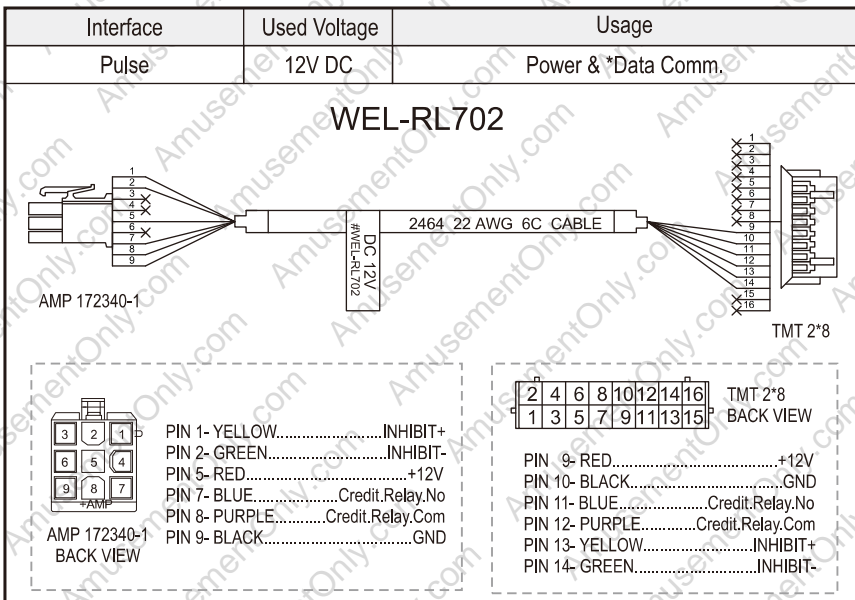
AMP 172332-1  
BACK VIEW

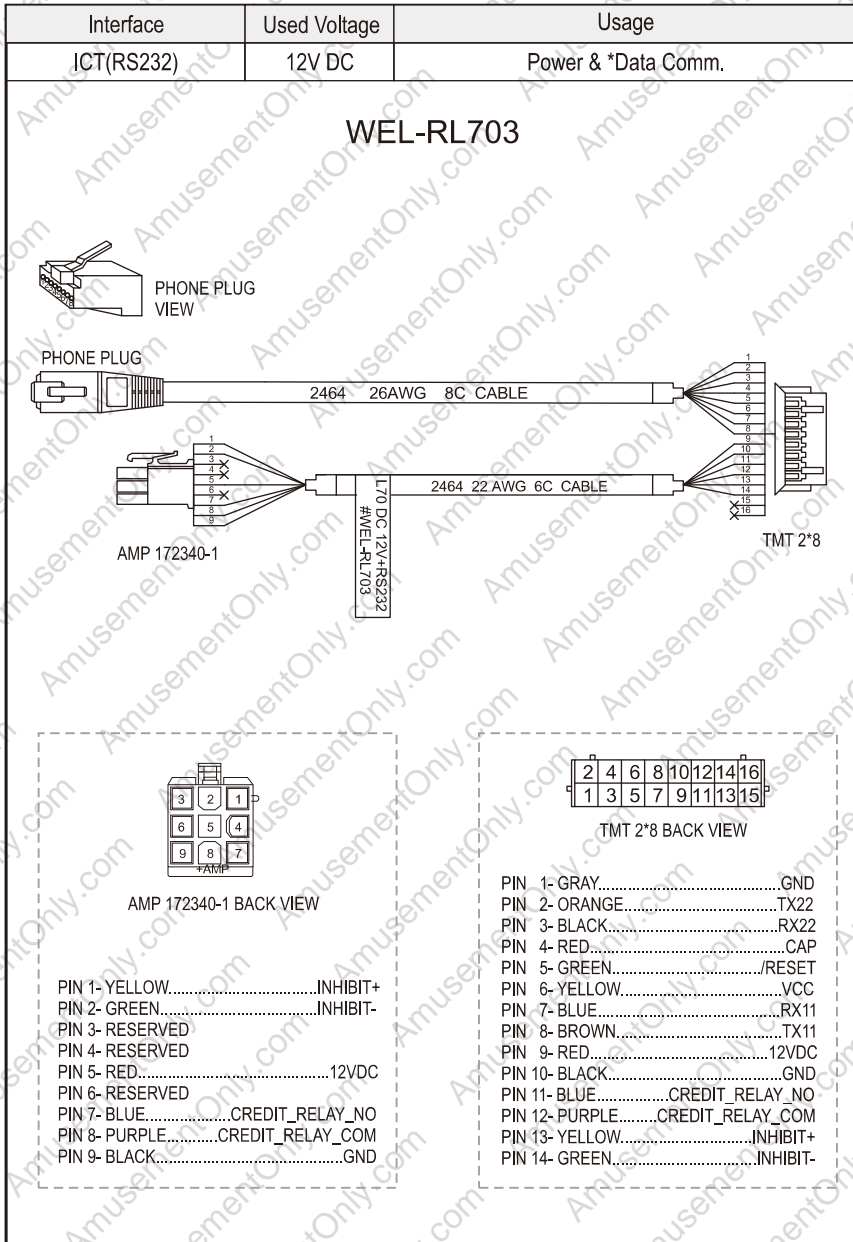
- PIN 1- YELLOW.....INHIBIT+
- PIN 2- GREEN.....INHIBIT-
- PIN 5- RED.....+12VDC(POWER-IN)
- PIN 7- BLUE.....CRECIT-RELAY-NO
- PIN 8- PURPLE.....CREDIT-RELAY-COM
- PIN 9- ORANGE.....GND(POWER-IN)

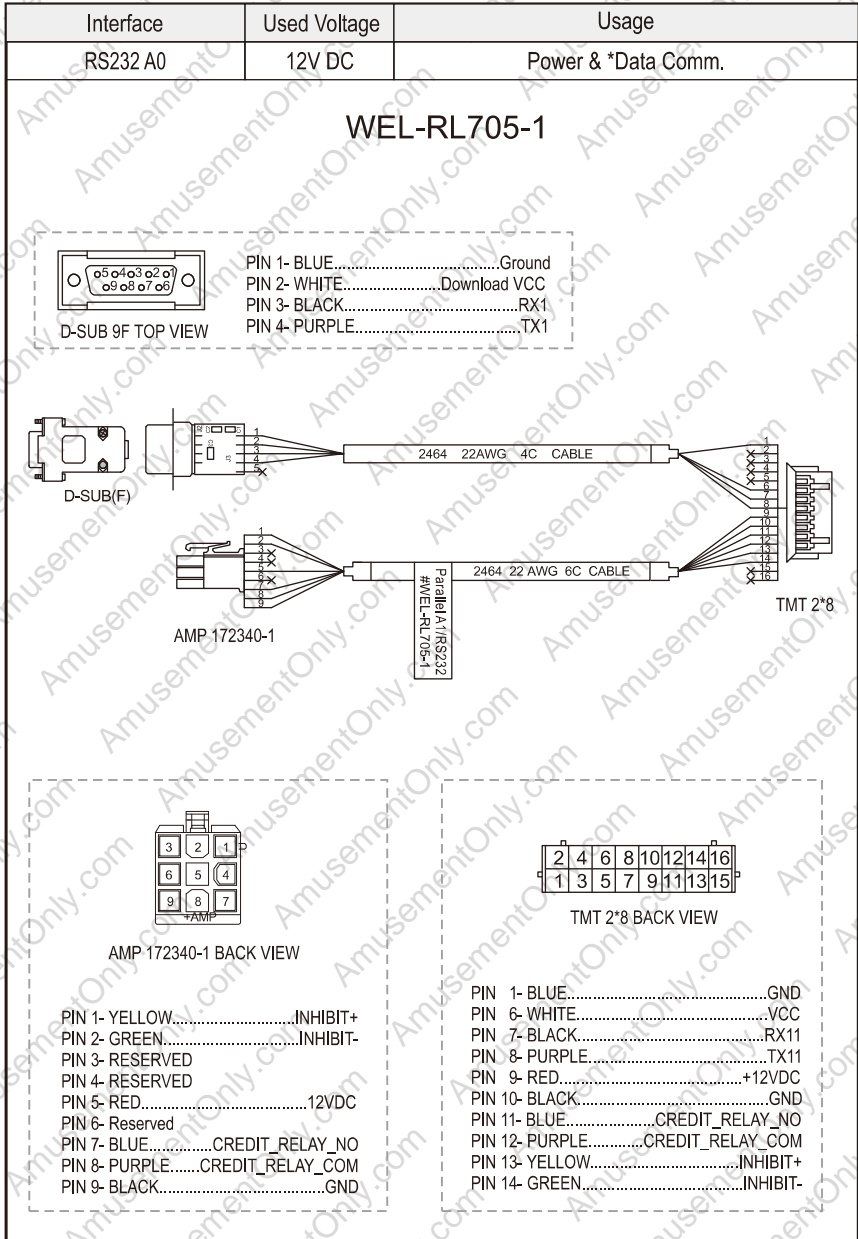
5-1 FIG.02



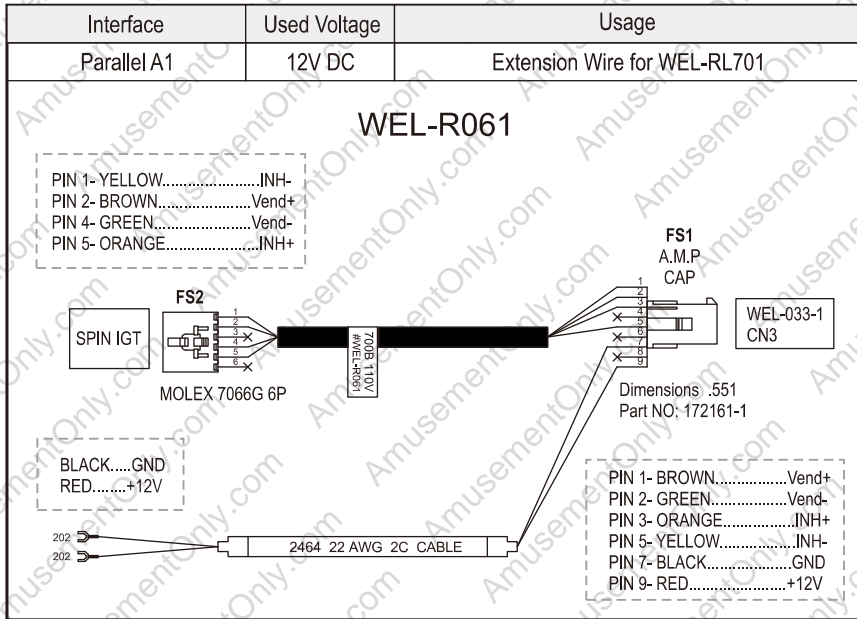
5-1 FIG.03



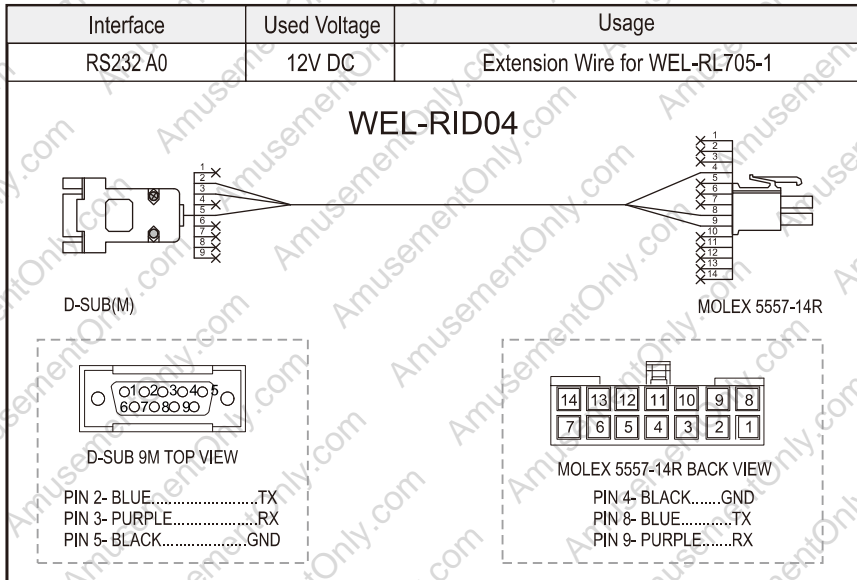




5-1 FIG.06

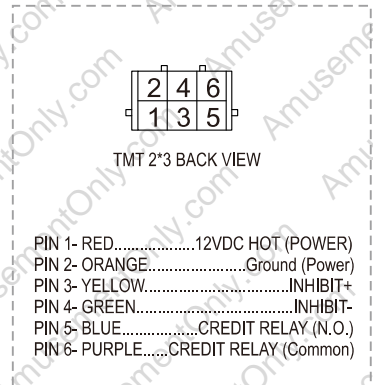
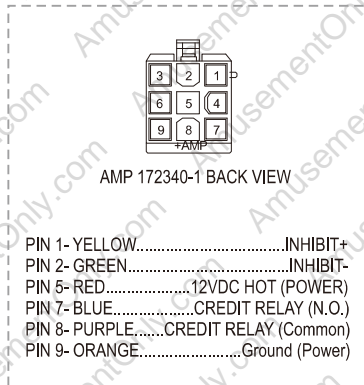
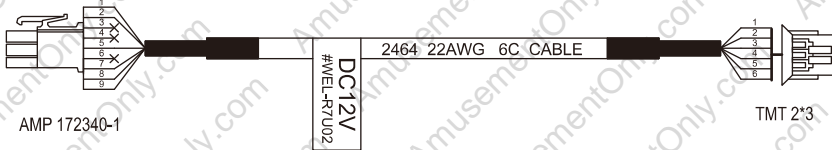


5-1 FIG.07

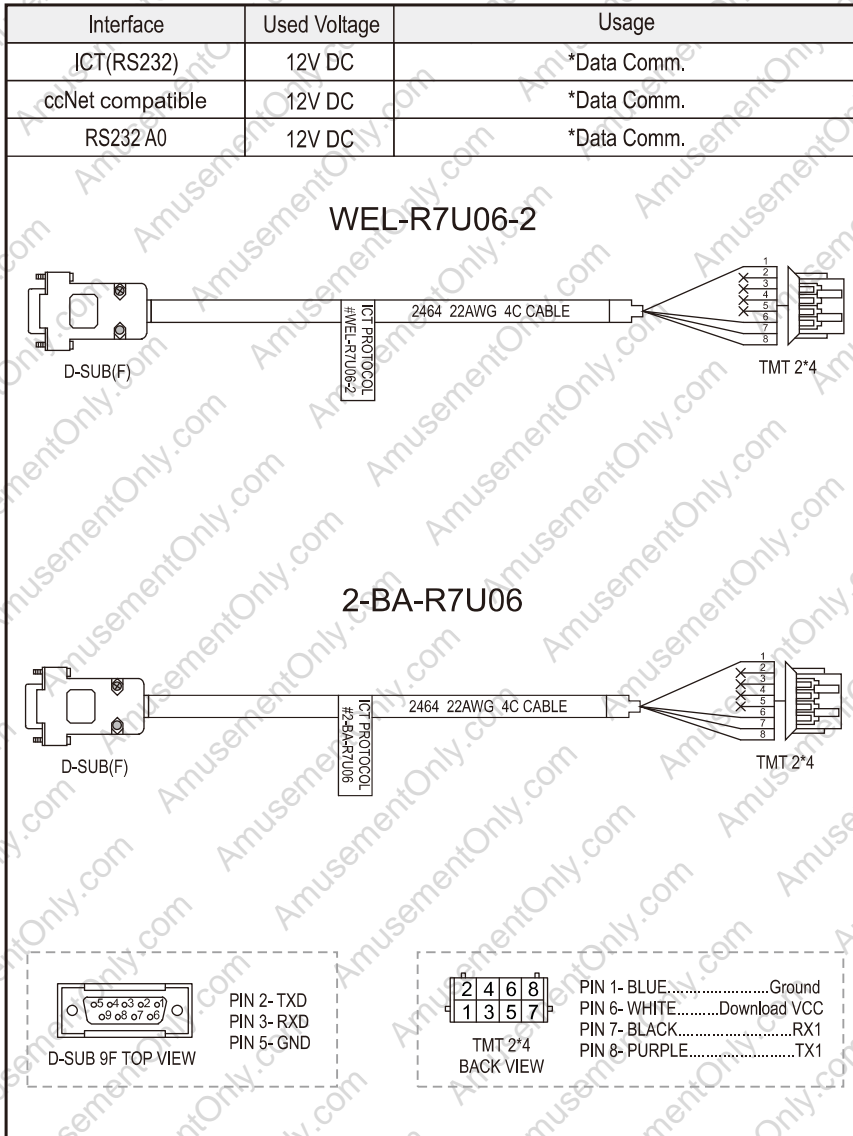


Interface	Used Voltage	Usage
Pulse	12V DC	Power & *Data Comm.
ICT(RS232)	12V DC	Power
ccNet compatible	12V DC	Power
RS232 A0	12V DC	Power
ccTalk	12V DC	Power

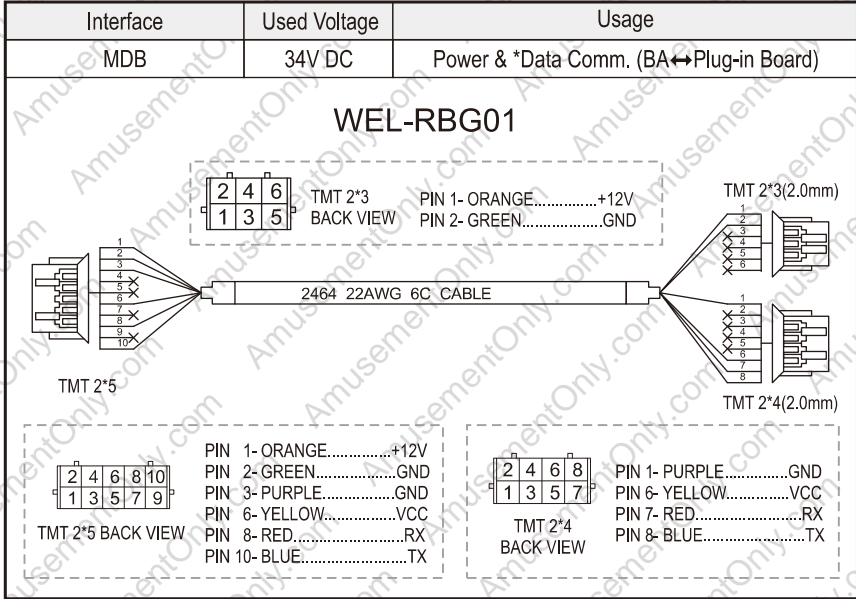
**WEL-R7U02**



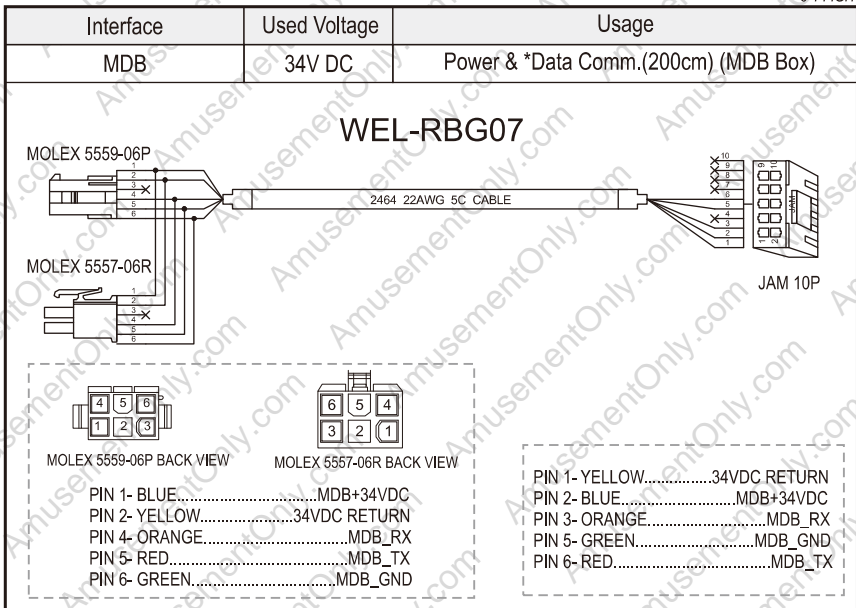
5-1 FIG.09



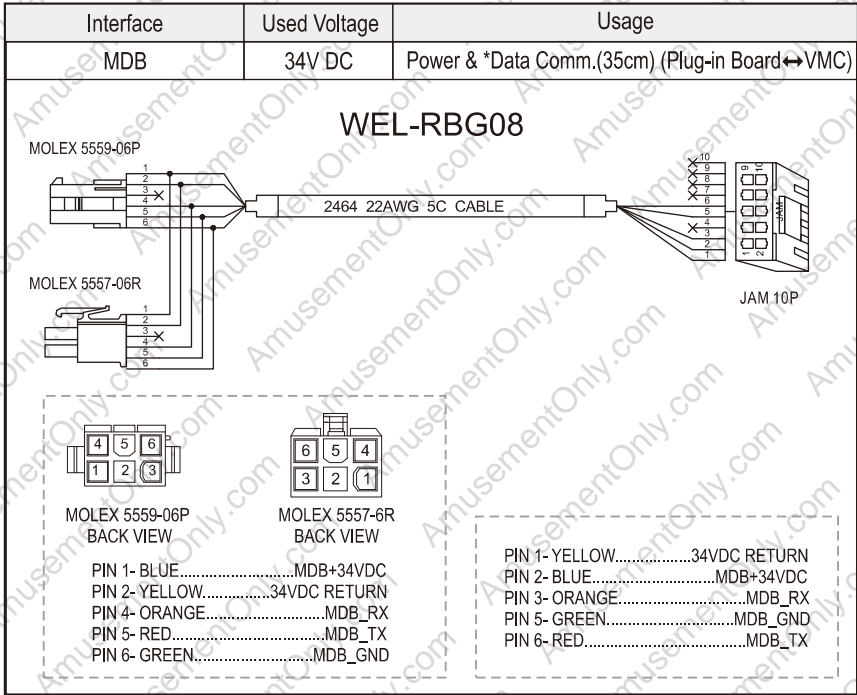
5-1 FIG. 10



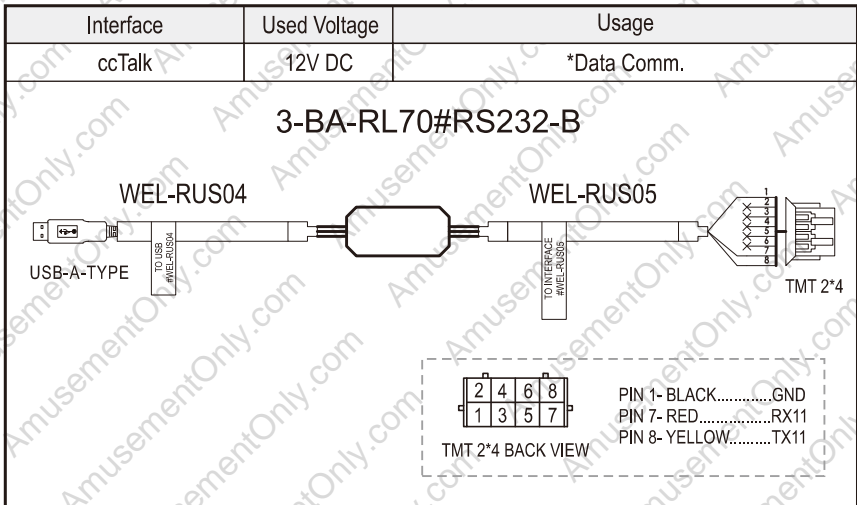
5-1 FIG. 11

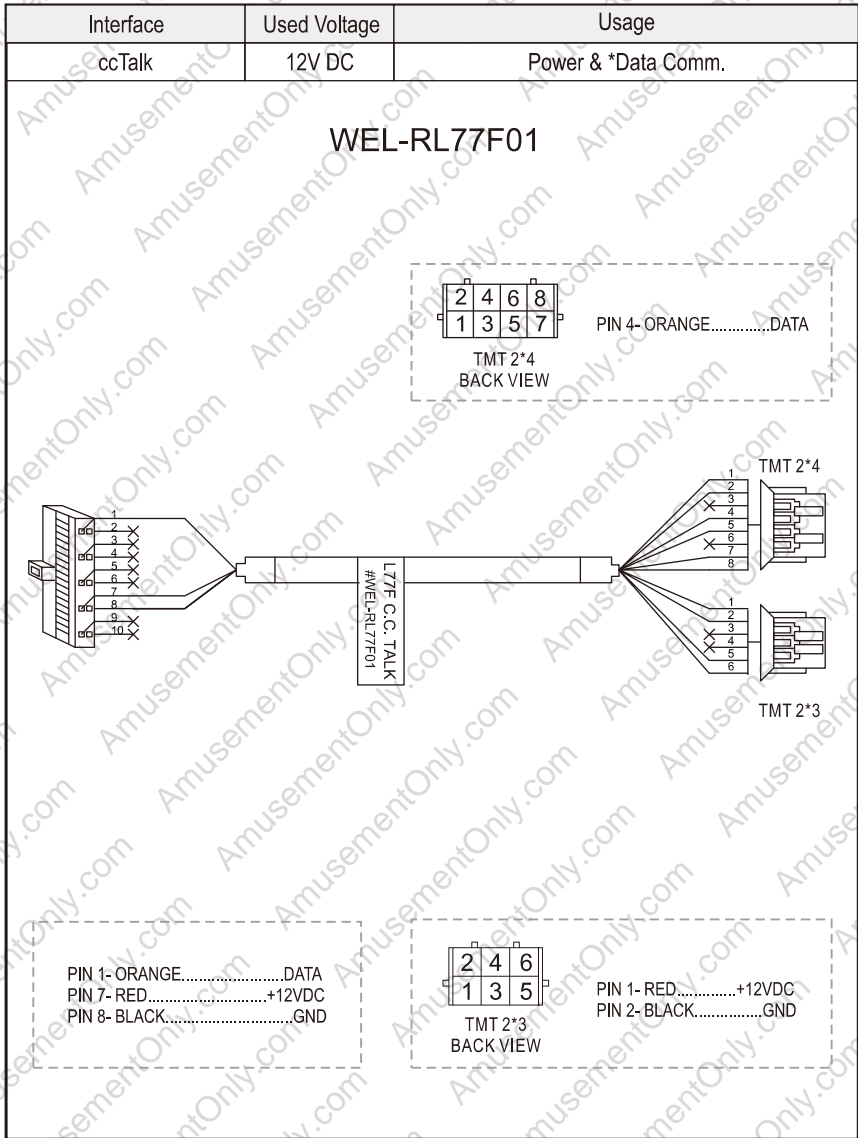


5-1 FIG.12

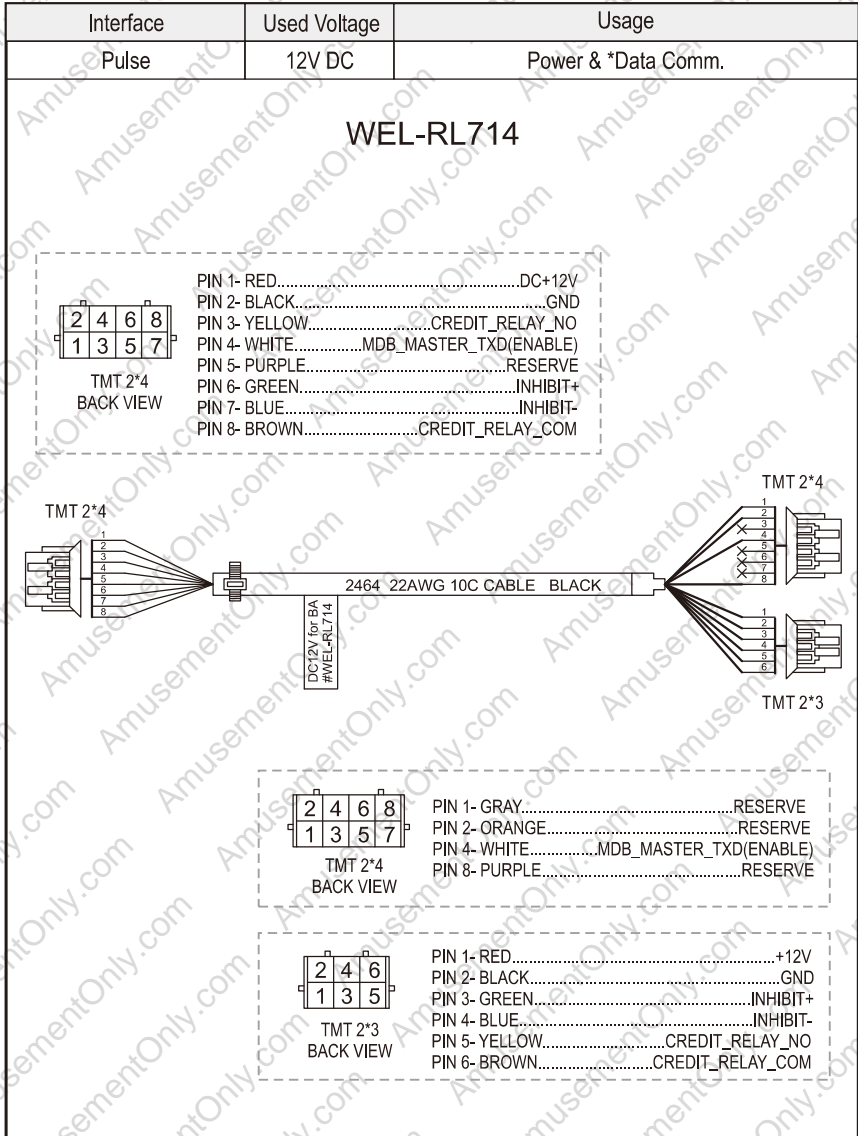


5-1 FIG.13





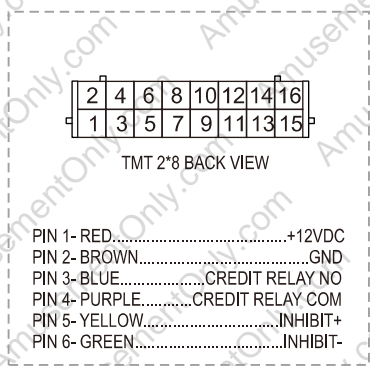
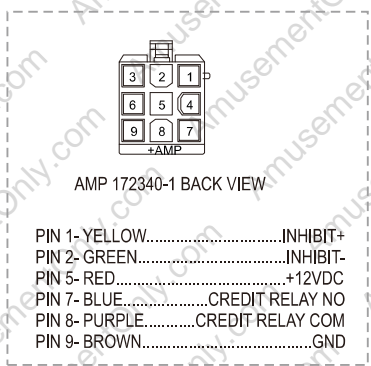
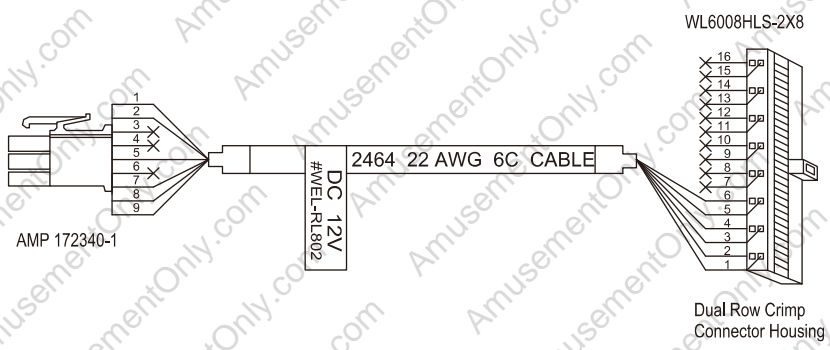




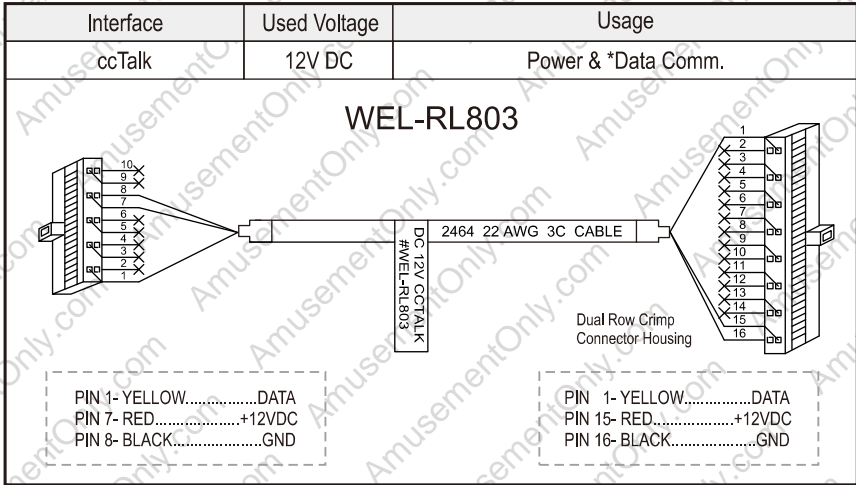
5-1 FIG.17

Interface	Used Voltage	Usage
Pulse	12V DC	Power & *Data Comm.
ccNet compatible	12V DC	Power
ICT(RS232)	12V DC	Power

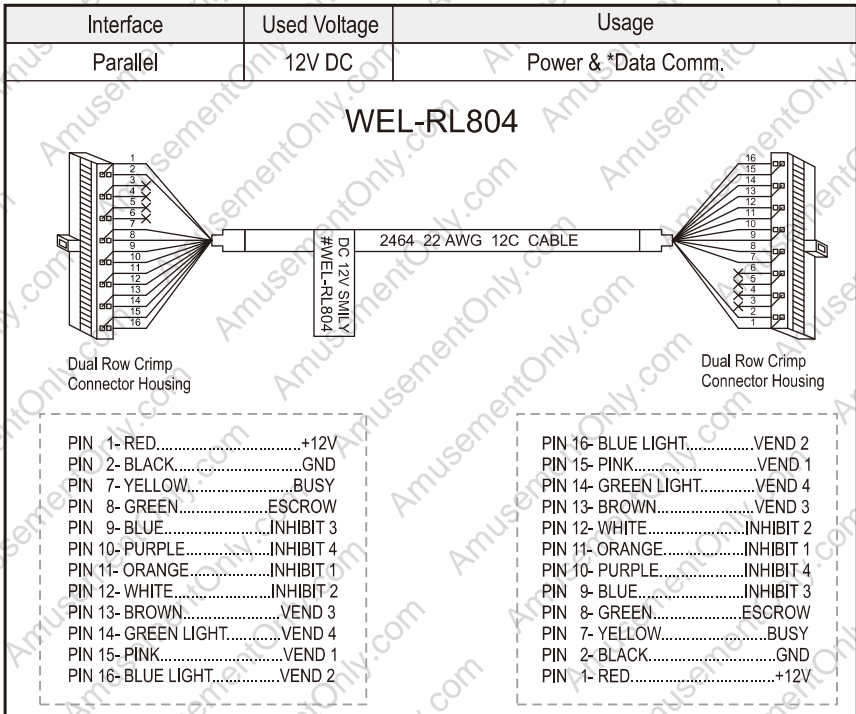
WEL-RL802



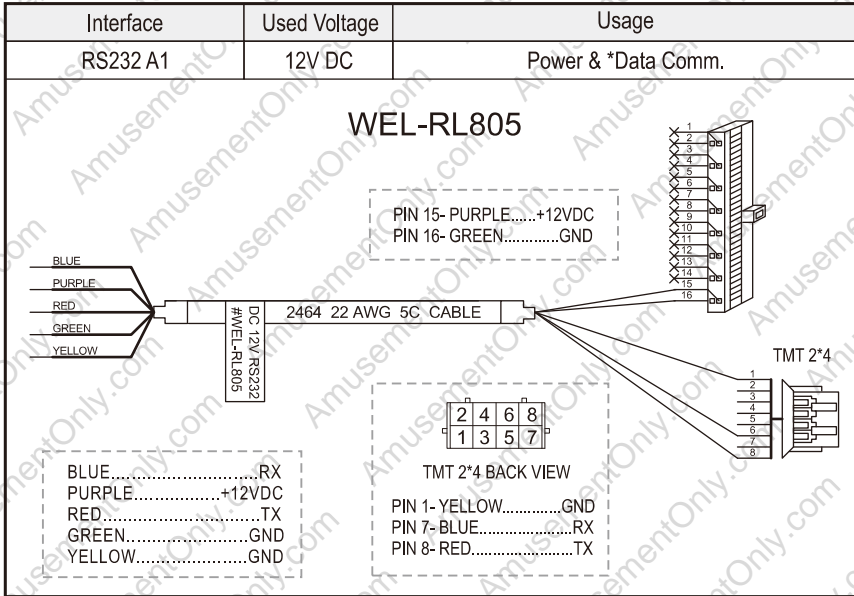
5-1 FIG. 18



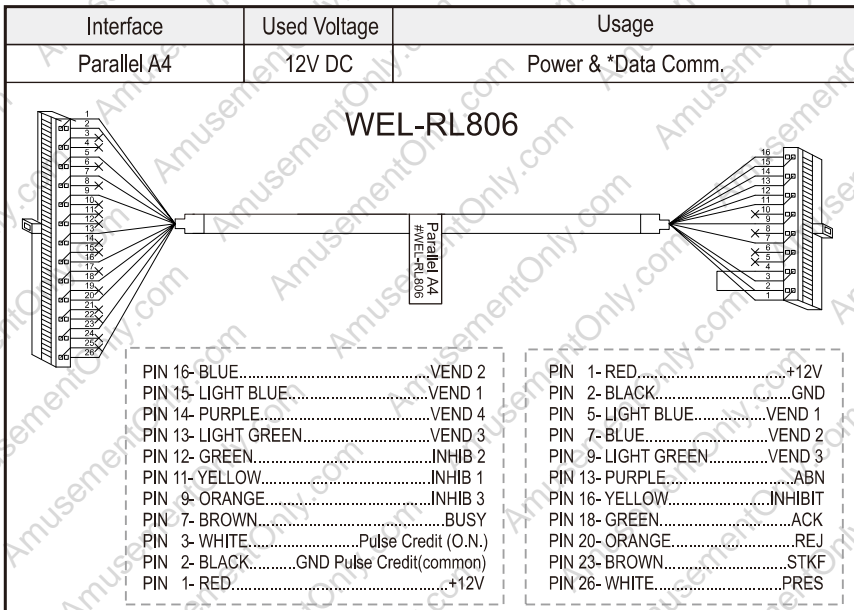
5-1 FIG. 19



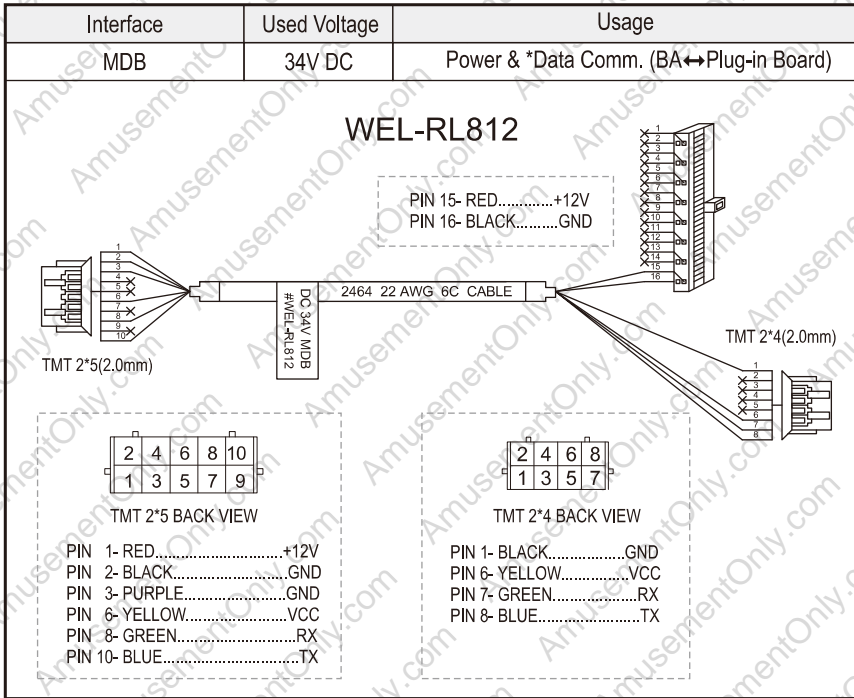
5-1 FIG.20



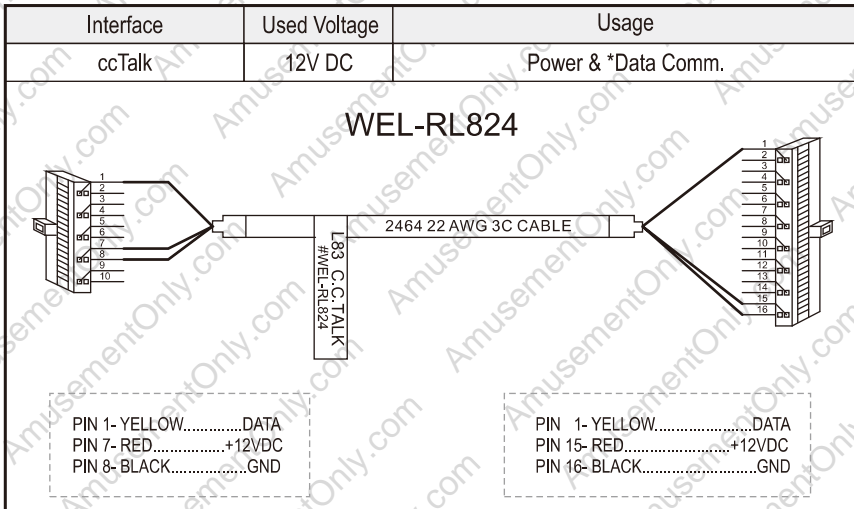
5-1 FIG.21



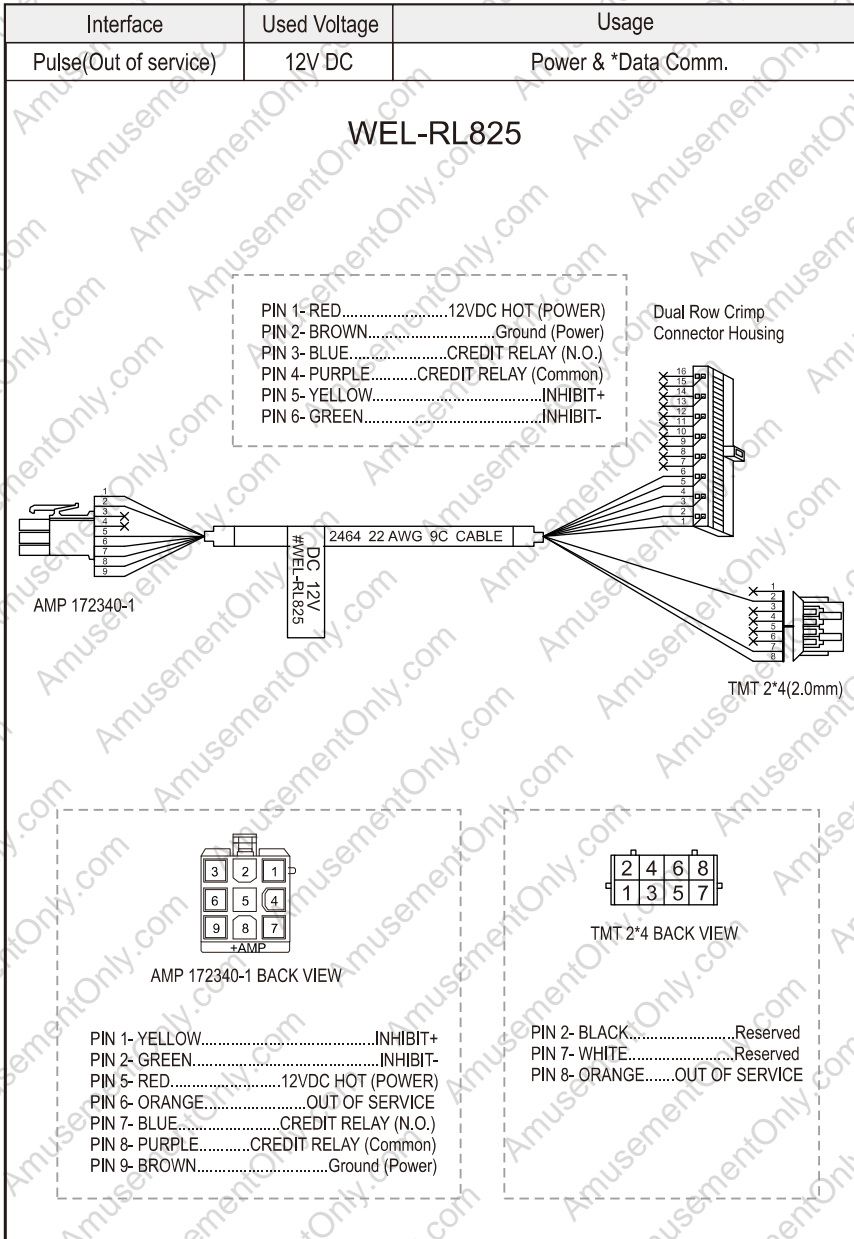
5-1 FIG.22

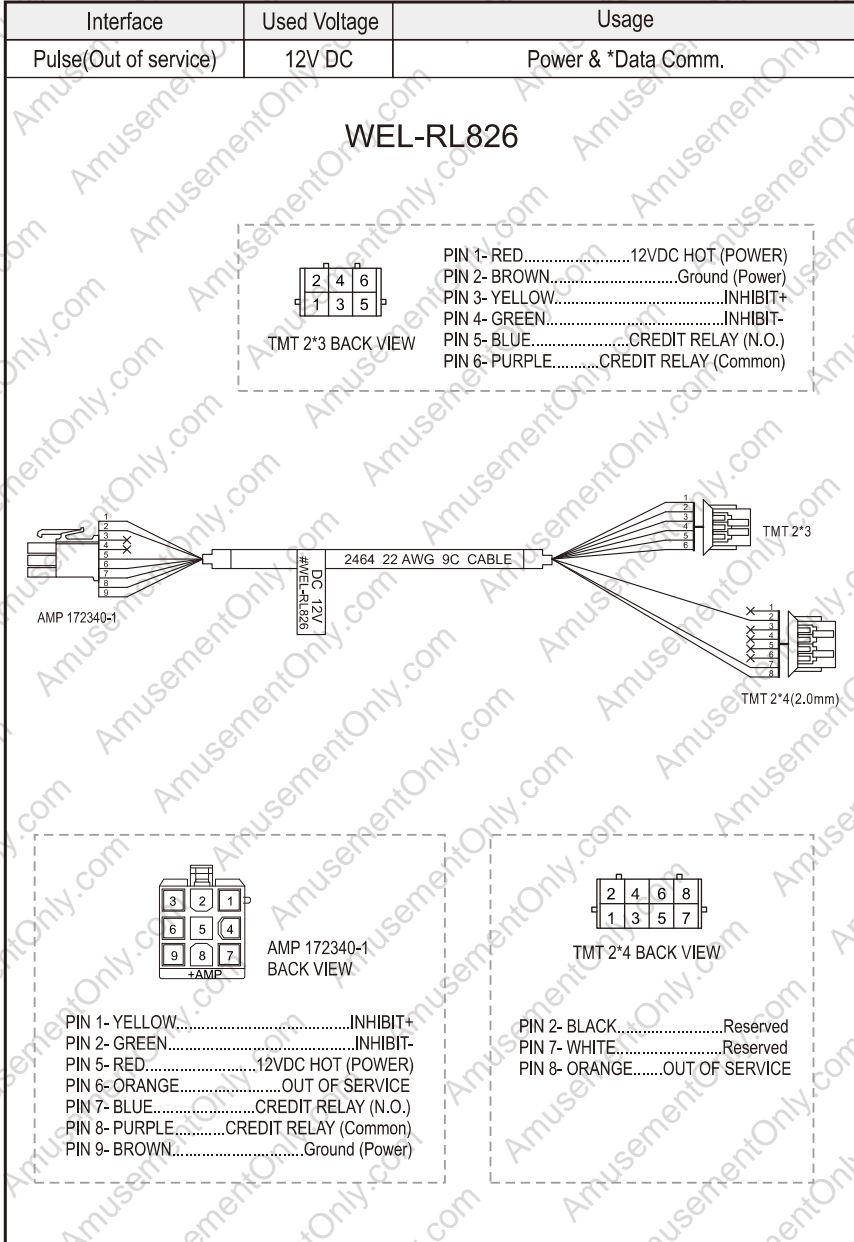


5-1 FIG.23

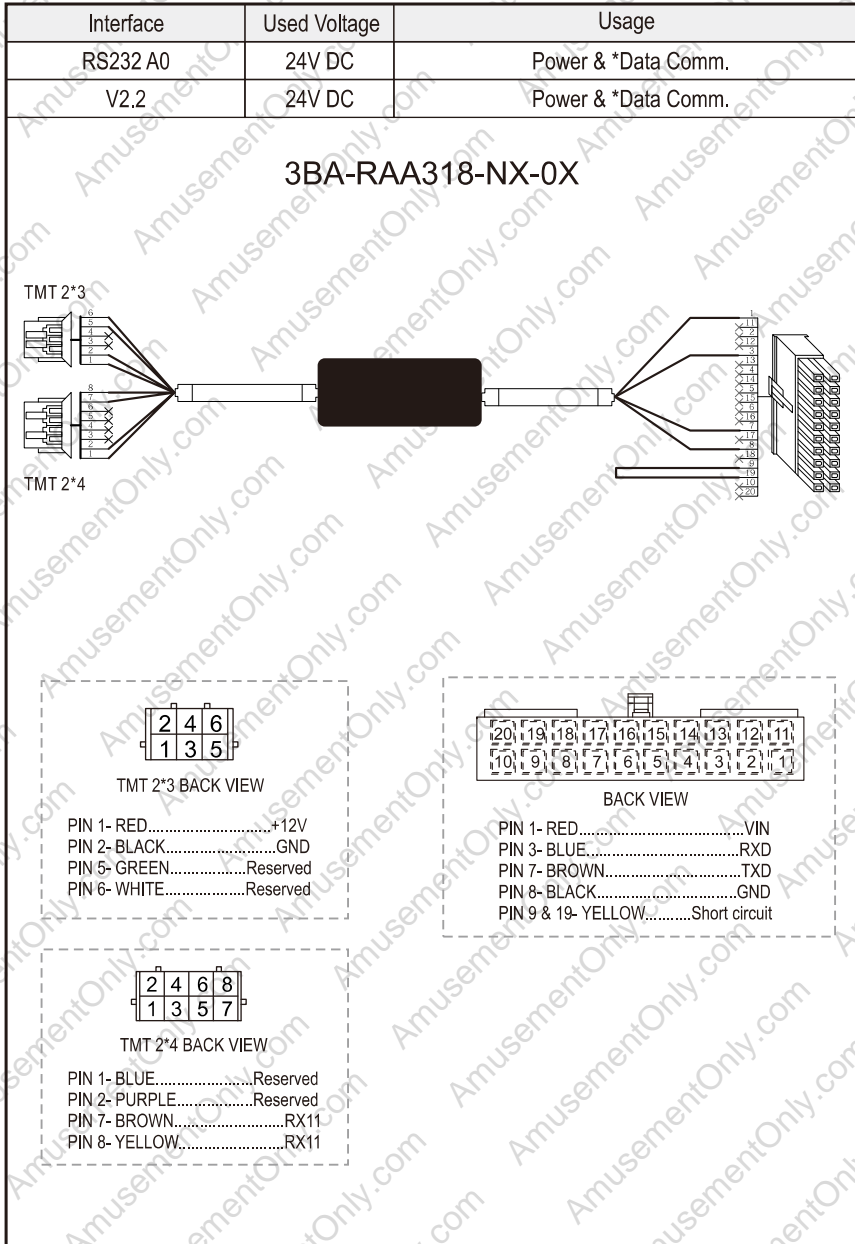


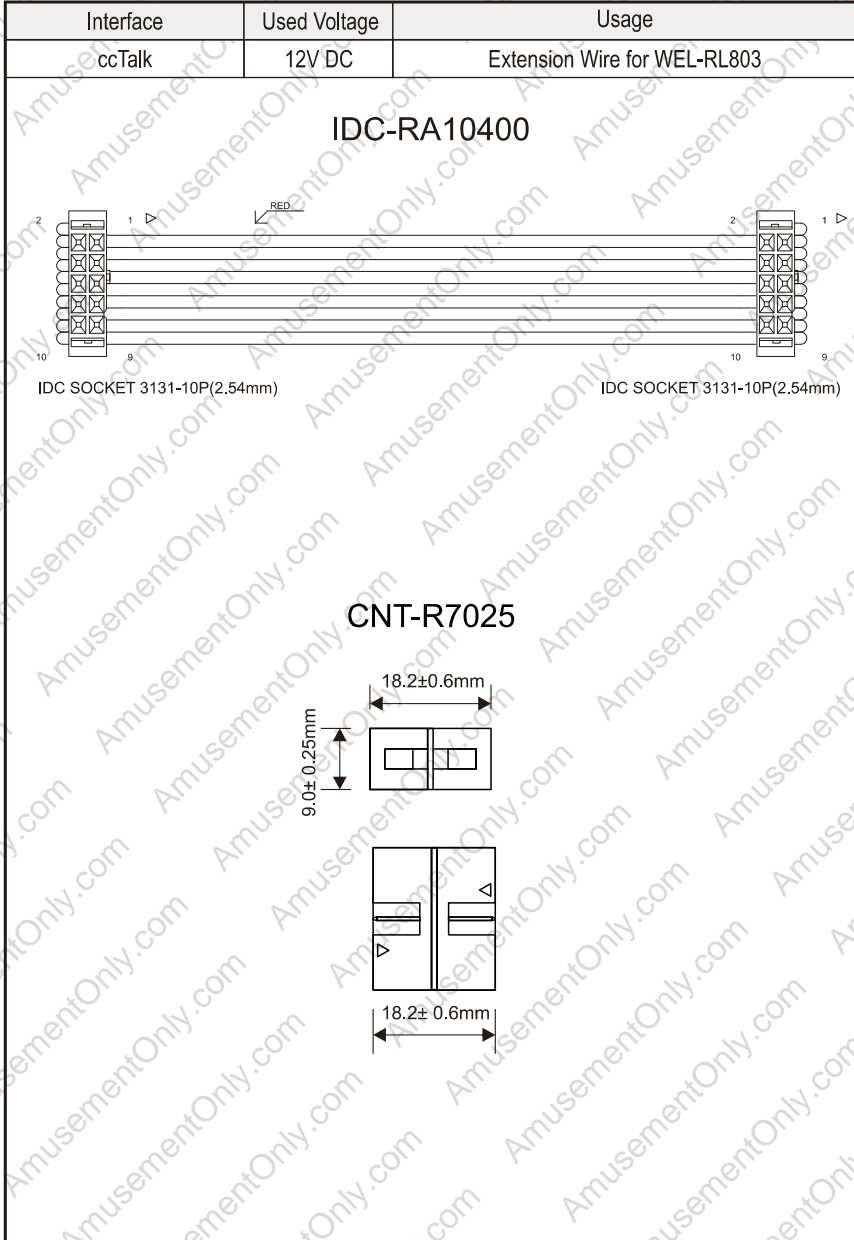
5-1 FIG.24





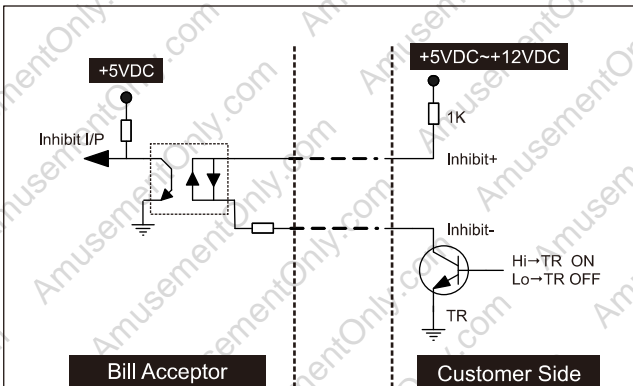
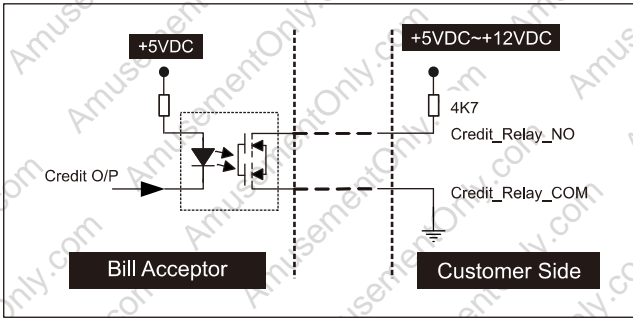
5-1 FIG.26





### 5-1-1. I/O Circuit Pulse Interface.

5-1-1 FIG. 01

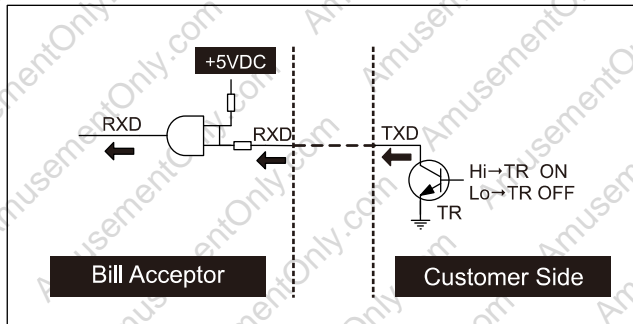
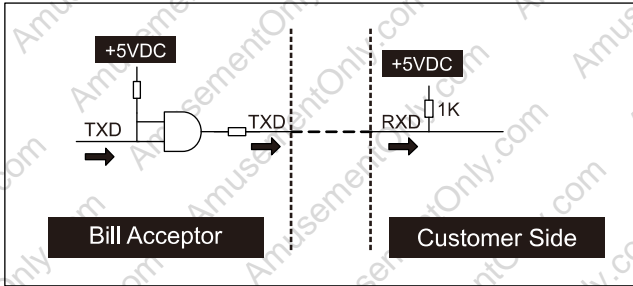


BA Status	*DIP SW Setting	Control Signal	
Inhibit	Inhibit Active	Low	Low
		High	High
Enable	Inhibit Active	Low	High
		High	Low

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

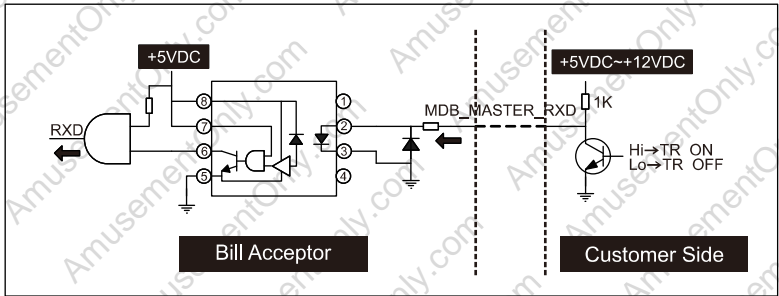
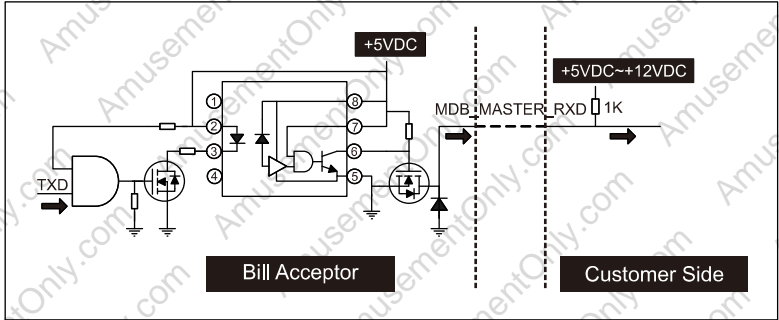
RS232, RS232 A0, RS232 A1, ccNet compatible Interface.

5-1-1 FIG. 02



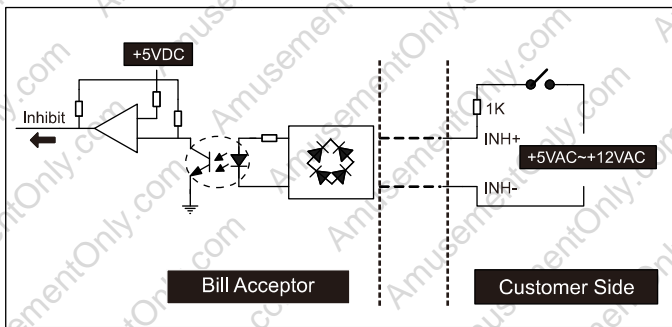
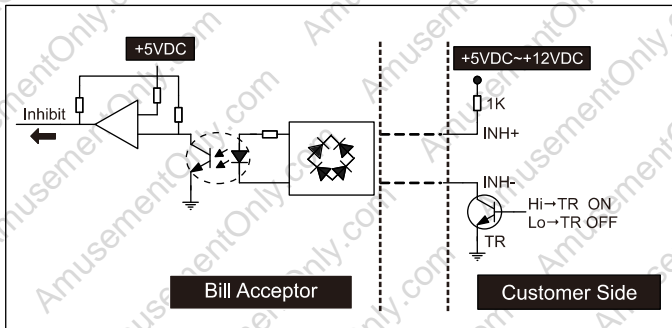
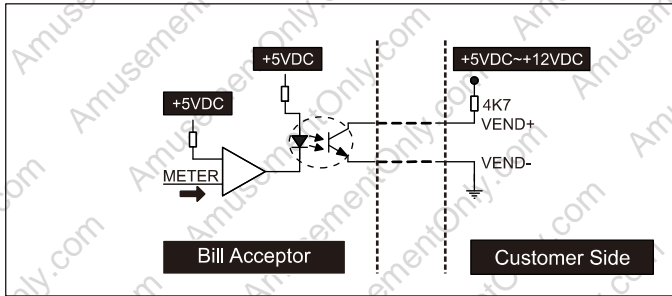
MDB Interface.

5-1-1 FIG. 03



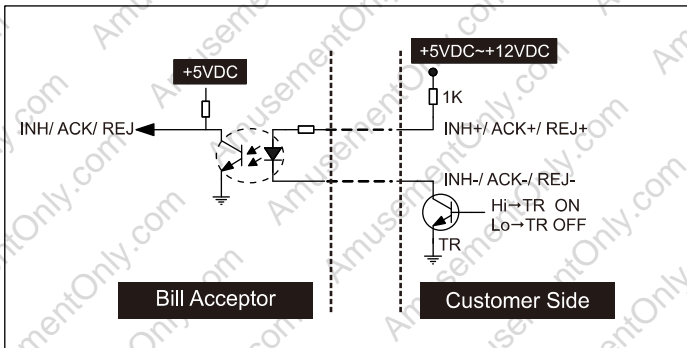
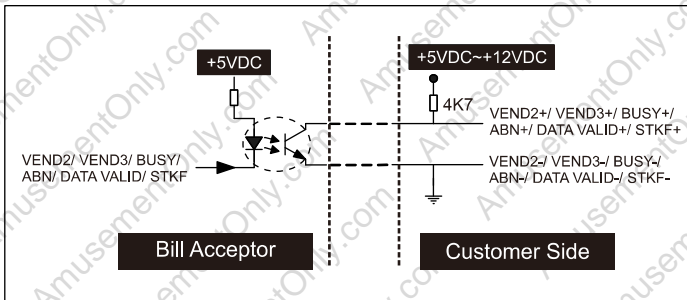
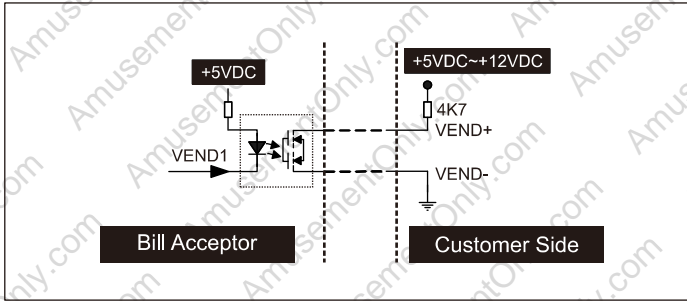
Parallel A1 Interface.

5-1-1 FIG. 04



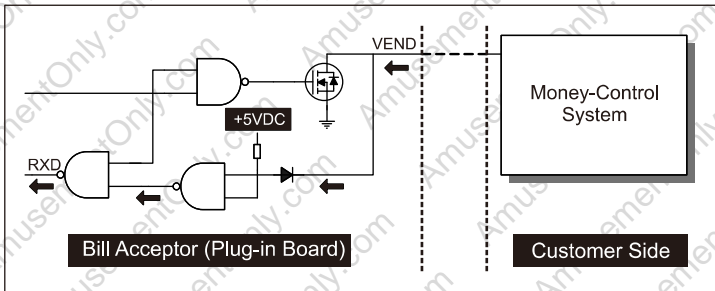
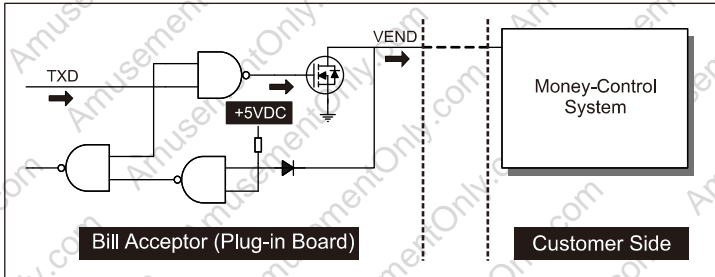
Parallel Interface.

5-1-1 FIG. 05



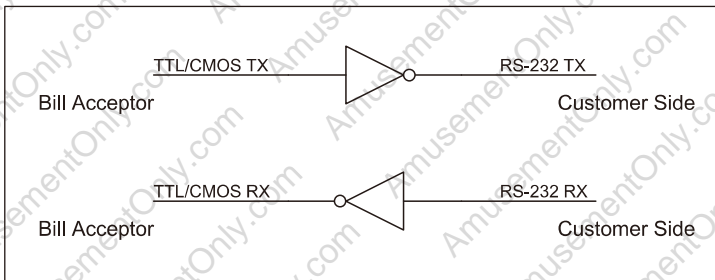
ccTalk Interface.

5-1-1 FIG. 06



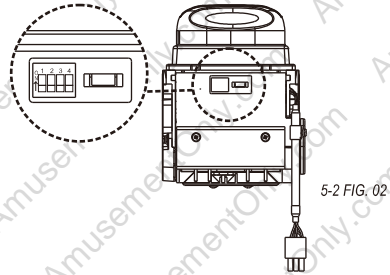
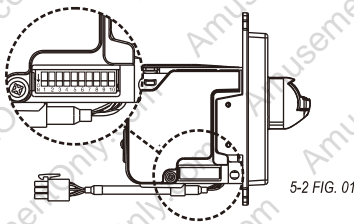
**L70T-P5, L77T-P5:**  
RS232 A0 & V2.2 Interface.

5-1-1 FIG. 07



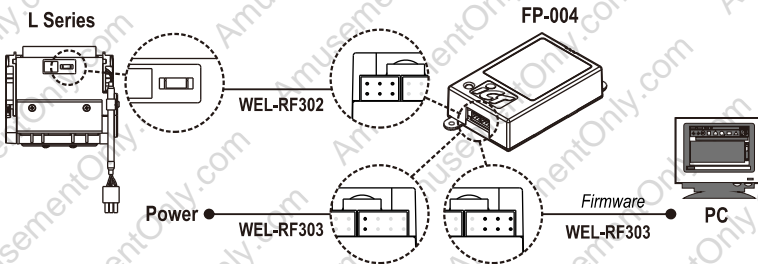
## 5-2. DIP Switch Setting

There is one serial DIP switches which are set on the side of L 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 another serial DIP switches at the bottom of L series for interface setting(as FIG.02). Please refer to " L Series DIP Switch Setting Guide " in the package for more details.



## 5-3. Software Download and Upgrade

To download and upgrade the software to L Series, 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.



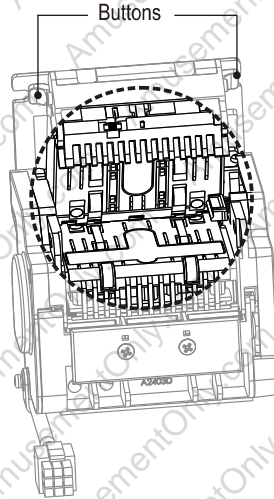
Turn on Bill Acceptor after connecting.

## 6. Maintenance

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

To clean the internal parts:

1. Turn bill acceptor off.
2. Press buttons to open LED assembly.
3. Use soft cloth or cotton swab to clean internal parts and bill path.



6 FIG. 01



### Maintenance Notice

*(Any improper maintenance will result invalid warranty.)*

**Recommended**

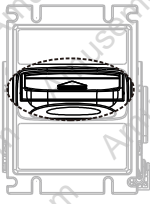
**Mild, non-abrasive, soap water.**

**DO NOT USE**

**Organic solvent , Alcohol, Volatile liquid.**

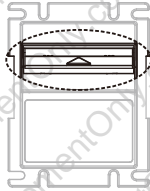
## 7. Troubleshooting

### Bezel LED Errors



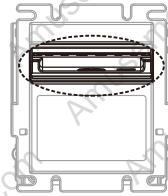
7 FIG. 01

L70#



7 FIG. 02

L77F



7 FIG. 03

L83

7 TABLE 01

LED Flashes		Status	Corrective Actions
Red	Green		
	1	White Card Calibration	Please calibrate with ICT white calibration card.
1		Bill jammed.	Open bill path unit 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		Fish sensor error	Inspect the foreign objects on sensor or bill path and clean.
4		A stringing attempt has detected.	Inspect the foreign objects on sensor or bill path and clean.
5		Bill box has been removed. (L83 with bill box only)	Replace the bill box.
6		Stacker error or stacker full. (for modules with bill box only).	Empty the bill box.
7		Motor error.	Inspect the foreign objects on bill path and clean.

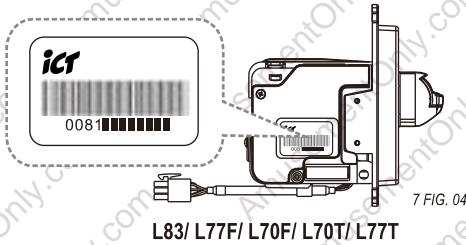


**If the error can not be solved after corrective actions or happen again, please contact ICT for technical support.**

## ccTalk Information

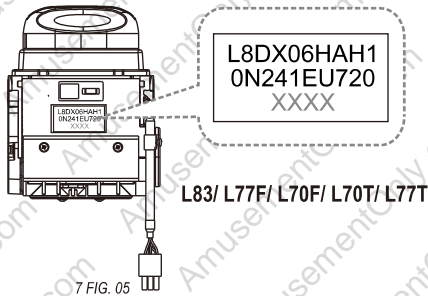
- Manufacturer ID: ICT
- Equipment Category ID: Bill Acceptor
- Product Code: L83/ L77F/ L70F/ L70T/ L77T
- Serial Number: According to last 8 digits of production serial number.

**Default: 12345678**



- Software Revision: According to the software revision number.

**Ex. L8DX06HAH10N241EU720**



- Encryption Mode Password: Default as 123456  
(command changeable).



**Please contact ICT for more information.**



Taiwan

**International Currency Technologies Corporation**

No.28, Ln. 15, Sec. 6, Minquan E. Rd., Neihu Dist., Taipei City 114, Taiwan

[sales@ictgroup.com.tw](mailto:sales@ictgroup.com.tw) (For Sales)

[fae@ictgroup.com.tw](mailto:fae@ictgroup.com.tw) (For Customer Service)

Website: [www.ictgroup.com.tw](http://www.ictgroup.com.tw)

