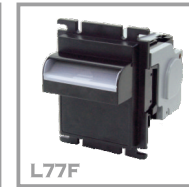




L70(##)



L77F



L83(##)



L70T-P5 / L77T-P5



Bill Acceptor



SERIES

Installation Guide

## Contents

<b>1. Introduction</b>	
1-1. Overview .....	2
1-2. Features .....	2
<b>2. Specifications</b> .....	3
<b>3. Packing List</b> .....	5
<b>4. Dimension</b> .....	6
<b>5. Installation</b>	
5-1. Harness Application .....	13
5-1-1. I/O Circuit .....	39
5-2. DIP Switch Setting .....	45
5-3. Software Download and Upgrade .....	45
<b>6. Maintenance</b> .....	46
<b>7. Troubleshooting</b> .....	47
◆ Appendix_ccTalk Information	

### Use of Materials Limitations

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## 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

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

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

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

#### L70(IGT)-P2/P5:

Pulse, RS232, IGT, RS232 A0 .

#### L70F-P2/P5, L77F-P2/P5:

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

#### L83-P3/P6:

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

#### L83#-P3/P6:

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

#### L70T-P5, L77T-P5:

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

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



**Installation: Indoor use only!!**

**Electrical**

<b>Power Source</b>	<b>L70#/ L70F/ L77F/ L83#/ L70T/ L77T:</b> 12V DC(10~16V DC) <b>Others:</b> 12V DC(10.8~13.2V DC)
<b>Power Consumption</b>	Standby: 0.3A, 3.6W Operation: 1.2A, 14.4W Maximum: 2A, 24W
<b>Operation Environment</b>	Operation Temperature: <b>L70/ L83:</b> 0°C~55°C <b>L70F/ L77F/ L70T/ L77T:</b> 0°C~60°C <b>L70#/ L83# :</b> 0°C~65°C  Storage Temperature: -20°C~70°C Humidity: 30%~85%RH (no condensation)

**Mechanical**

<b>Outline Dimension</b>	<b>L70-P2/P5, L70#-P2/P5, L70F-P2/P5:</b> Refer to page.6 <b>L77F-P2/P5 :</b> Refer to page.8 <b>L83-P3/P6, L83#-P3/P6 :</b> Refer to page.9 <b>L70T-P5, L77T-P5 :</b> Refer to page.10
<b>Bill Box Capacity</b>	<b>L70-P2, L70#-P2, L70F-P2:</b> Approx. 200 bills <b>L70-P5, L70#-P5, L70F-P5:</b> Approx. 500 bills  <b>L77F-P2:</b> Approx. 150 bills <b>L77F-P5:</b> Approx. 500 bills  <b>L83-P3, L83#-P3:</b> Approx. 300 bills <b>L83-P6, L83#-P6:</b> Approx. 600 bills  <b>L70T-P5, L77T-P5:</b> Approx. 500 bills

**Weight**

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

**Bill Accepted Width**

<b>L70-P2/P5, L70#-P2/P5, L70F-P2/P5:</b> (67mm) 59mm~67mm (71mm) 59mm~71mm
<b>L77F-P2/P5:</b> 72mm~77mm
<b>L83-P3/P6, L83#-P3/P6:</b> 61mm~83mm
<b>L70T-P5:</b> 65mm~70mm
<b>L77T-P5:</b> 72mm~77mm

**3. Packing List****Main**

Bill Acceptor

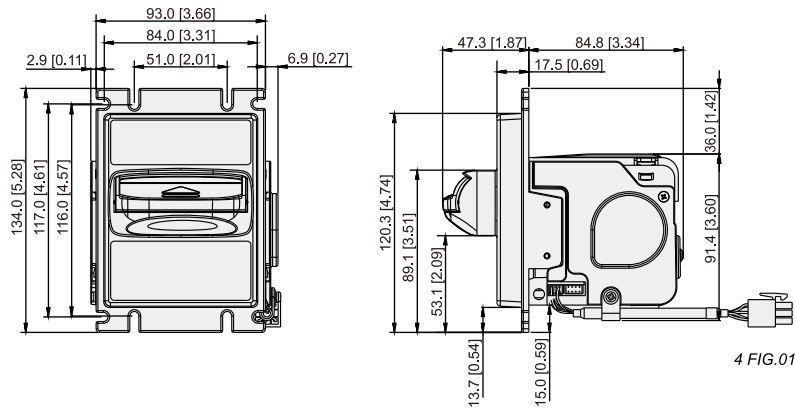
**Accessory**

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

## 4. Dimension

L70, L70#, L70F

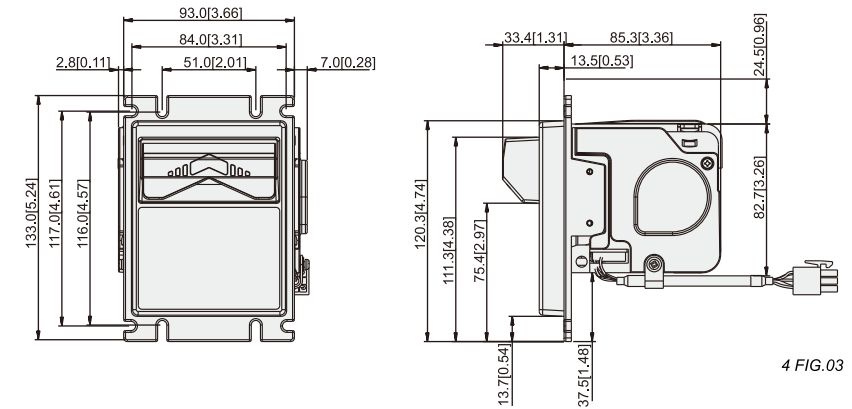
N Type Bezel: A Bezel(67mm) and B Bezel(71mm)



4 FIG.01

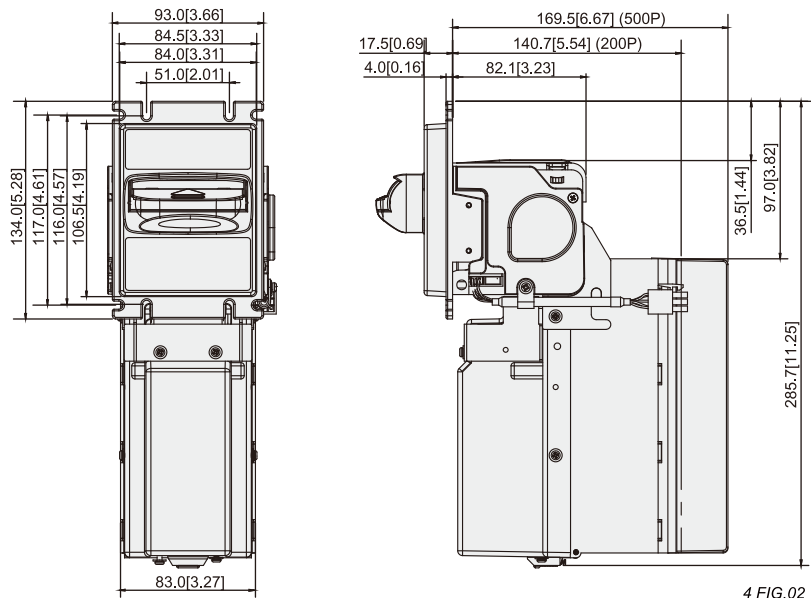
L70

O Type Bezel (71mm)



4 FIG.03

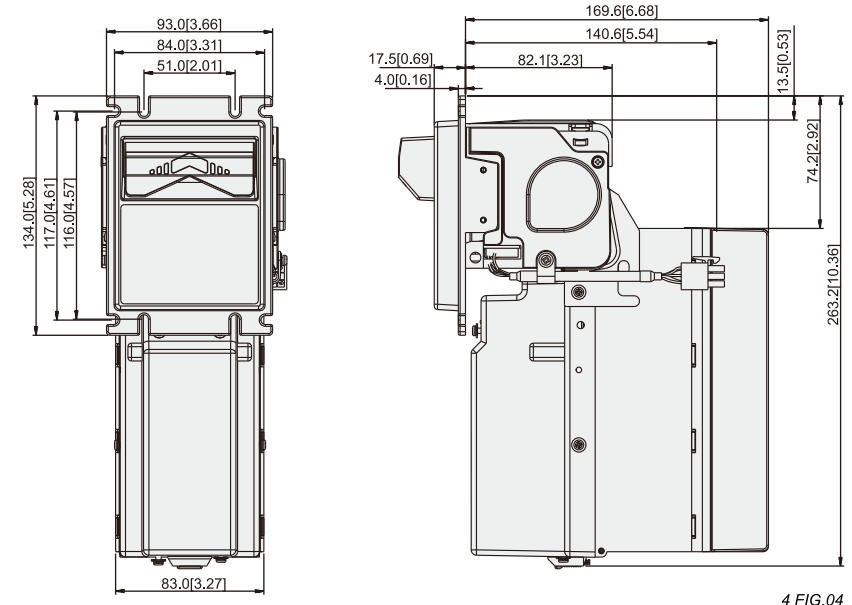
L70-P2/P5, L70#-P2/P5, L70F-P2/P5



4 FIG.02

Unit:mm[inch]

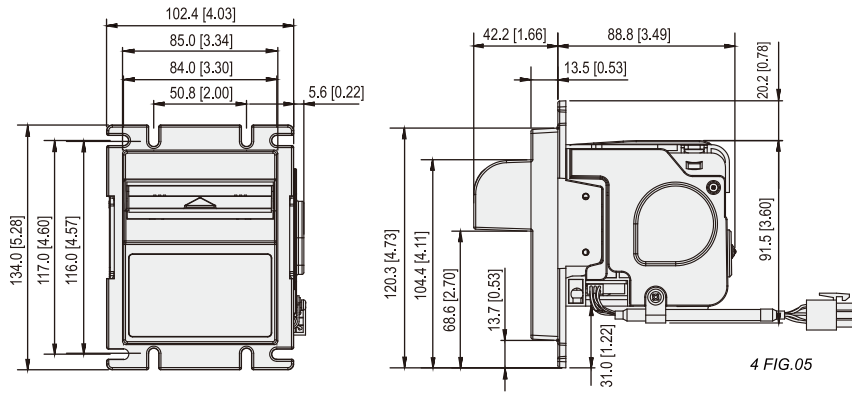
L70-P2/P5



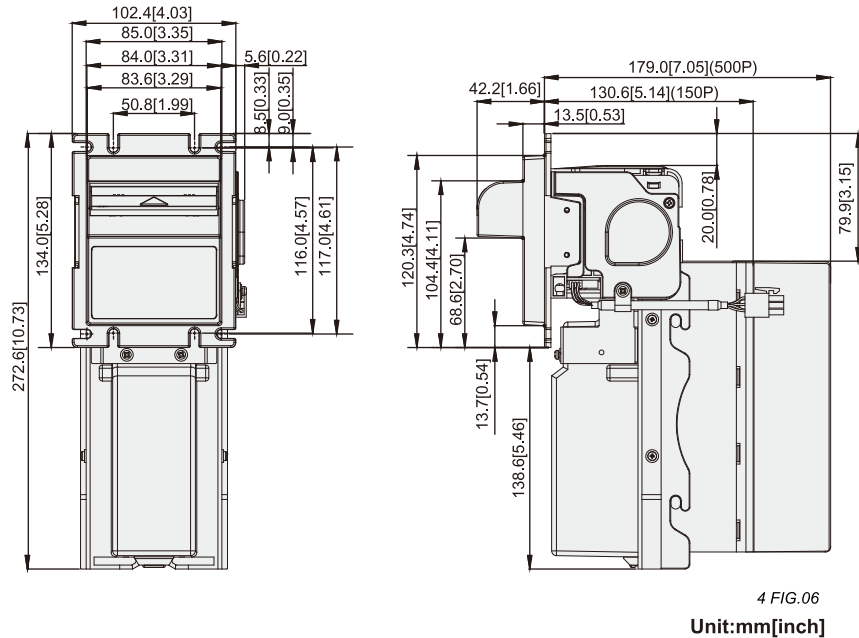
4 FIG.04

Unit:mm[inch]

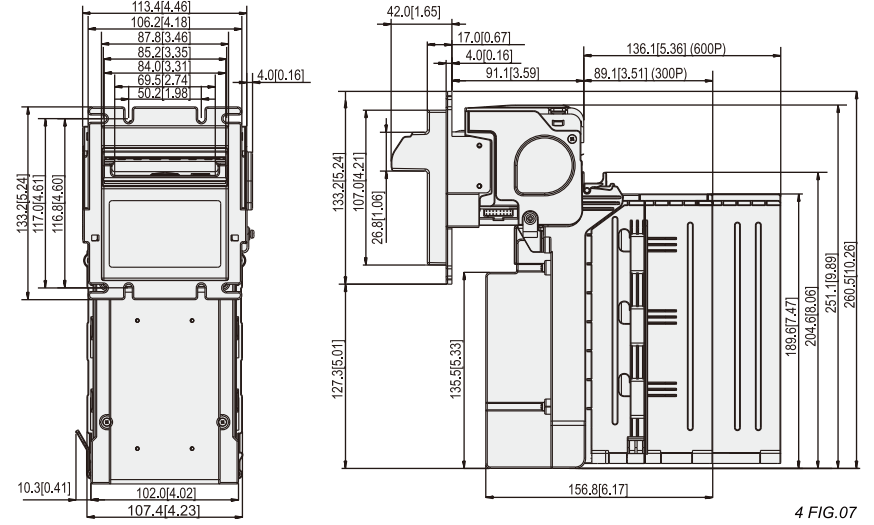
**L77F**  
I Bezel (78mm)



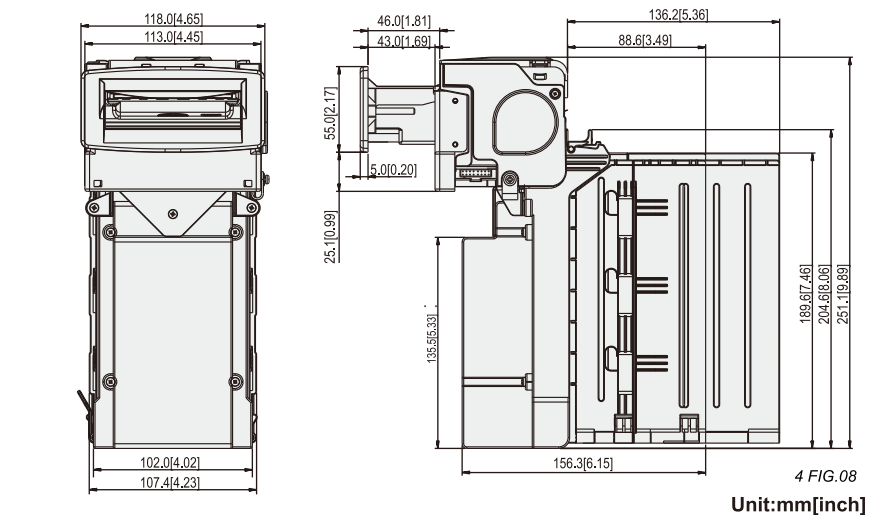
**L77F-P2/P5**



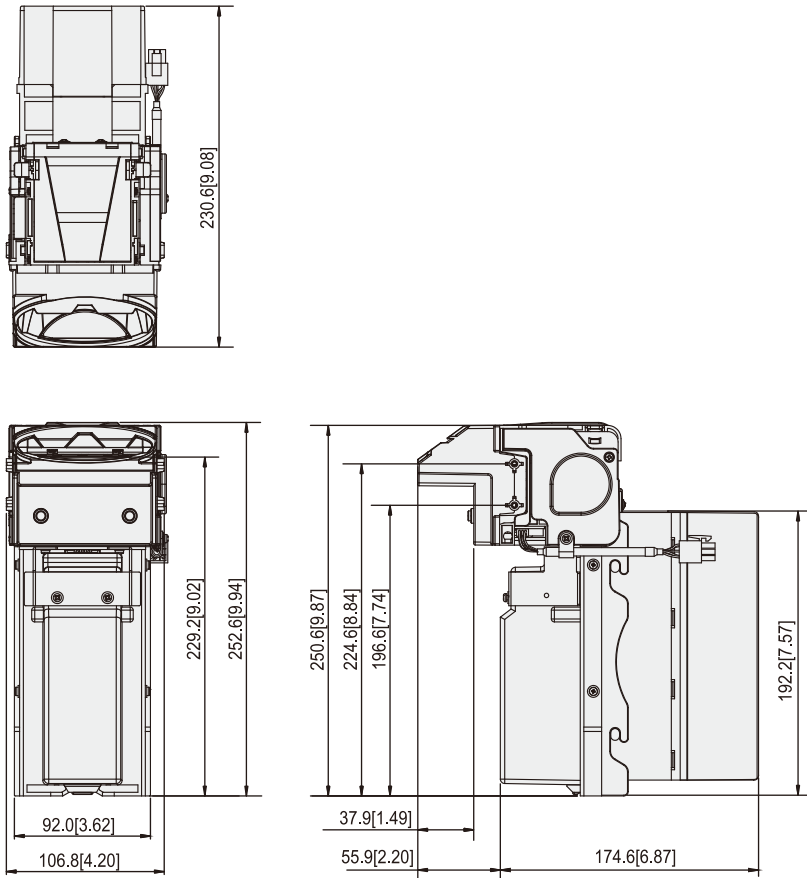
**L83-P3/P6, L83#-P3/P6 Down Stacker**  
E Type Bezel (83mm)



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

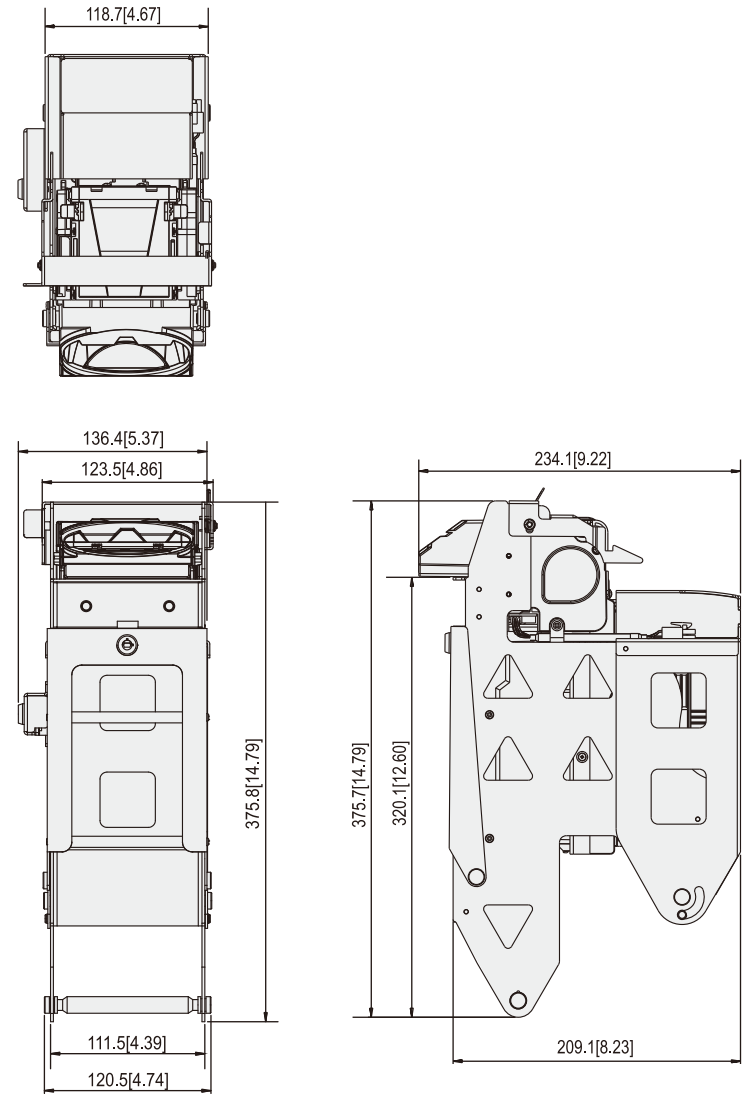


L70T-P5, L77T-P5 <Without metal bracket>



4 FIG.09  
Unit:mm[inch]

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



4 FIG.10  
Unit:mm[inch]

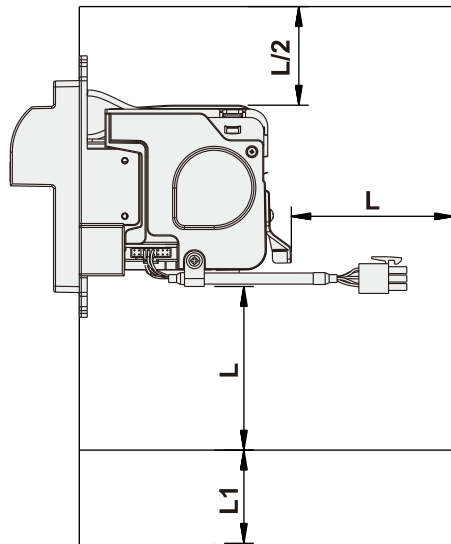


To install the bill acceptor on your VMC, please be aware of the dimension as below:

[ 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.11

## 5. Installation

### 5-1. Harness Application

5-1 TABLE 01

Model	CPU Board	Interface	Used Voltage	Usage	Harnesses	Page
L70 (IGT) -P2/P5	3BA-RAX318-FX-0X <sup>*6</sup>	Pulse	12V DC	Power & *Data Comm. <sup>*3</sup>	WEL-RL702	18
				Extension Wire	CU-R961-1	16
		ICT (RS232)	12V DC	Power & *Data Comm.	WEL-RL703 <sup>*1</sup>	19
				IGT	12V DC	Power & *Data Comm.
		RS232 A0	12V DC	Extension Wire	WEL-R061	21
				Power & *Data Comm.	WEL-RL705	20
Extension Wire	12V DC	Power & *Data Comm.	WEL-RL704	22		
		Extension Wire	WEL-RID04	22		
L70-P2/P5	3BA-RAX318-DX-0X <sup>*6</sup>	Pulse	12V DC	Power & *Data Comm.	WEL-R7U02	23
				Extension Wire	CU-R961-1	16
L70(#)-P2/P5	3BA-RAX318-HX-0X	ICT (RS232)	12V DC	Power	WEL-R7U02	23
				Extension Wire	CU-R961-1	16
L70F-P2/P5	3BA-RAX318-LX-0X	ccNet compatible	12V DC	*Data Comm.	WEL-R7U06-2 <sup>*2</sup>	24
				Power	WEL-R7U02	23
L77F-P2/P5	3BA-RAX318-LX-0X	RS232 A0	12V DC	Extension Wire	CU-R961-1	16
				*Data Comm.	WEL-R7U06-2 <sup>*2</sup>	24
L70F-P2/P5 L77F-P2/P5	3BA-RAX318-LX-0X	MDB	34V DC <sup>*4</sup>	Power & *Data Comm. (BA ↔ Plug-in Board) <sup>*5</sup>	WEL-RBG01	25
				Power & *Data Comm. (35cm) (Plug-in Board ↔ VMC)	WEL-RBG08	27
				Power & *Data Comm. (200cm) (Plug-in Board ↔ VMC)	WEL-RBG07	26
L70F-P2/P5 L77F-P2/P5	3BA-RAX318-LX-0X	Pulse (Out of service)	12V DC	Power & *Data Comm.	WEL-RL826	37
				Extension Wire	CU-R961-1	16
L70-P2/P5 L70#-P2/P5	3BA-RAX318-LX-0X	ccTalk	12V DC	Power & *Data Comm.	WEL-RL77F01	28
L70-P2/P5 L70#-P2/P5	3BA-RAX318-LX-0X	ccTalk	12V DC	Power & *Data Comm. (BA ↔ Plug-in Board)	5RBG-AA248MX-0X-X	

★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, L70#, L70F, L77F, L70T, L77T  
5RBG-AA313NAA For L83, L83#.

★6. "XX" varies from board version to version.



5-1 TABLE 02

Model	CPU Board	Interface	Used Voltage	Usage	Harnesses	Page		
L83-P3/P6	3BA-RAX324-AX-0X	Pulse	12V DC	Power & *Data Comm. *3	WEL-RL802	29		
				Extension Wire	CU-R961-1	16		
		ccTalk	12V DC	Power & *Data Comm.	WEL-RL803	30		
		GBA	12V DC	Power & *Data Comm.		WEL-RL805	32	
				ICT (RS232)	12V DC	Power	WEL-RL802	29
						Extension Wire	CU-R961-1	16
		*Data Comm.	WEL-R7U06-2 *2	24				
		ccNet compatible	12V DC	Power		WEL-RL802	29	
				Extension Wire	CU-R961-1	16		
				*Data Comm.	WEL-R7U06-2 *2	24		
		MDB	34V DC	Power & *Data Comm. (BA ↔ Plug-in Board) *5		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	29	
				Extension Wire	CU-R961-1	16		
				*Data Comm.	WEL-R7U06-2 *2	24		
		Parallel	12V DC	Power & *Data Comm.		WEL-RL804	31	
		Parallel A4	12V DC	Power & *Data Comm.		WEL-RL806	33	
Pulse(Out of service)	12V DC	Power & *Data Comm.		WEL-RL825	36			
		Extension Wire		CU-R961-1	16			
L83#-P3/P6	3BA-RAX324-RX-0X	Pulse	12V DC	Power & *Data Comm	WEL-RL802	29		
				Extension Wire	CU-R961-1	16		
		ccTalk	12V DC	Power & *Data Comm.	WEL-RL824	35		
		GBA	12V DC	Power & *Data Comm		WEL-RL805	32	
				ICT (RS232)	12V DC	Power	WEL-RL802	29
						Extension Wire	CU-R961-1	16
		*Data Comm.	WEL-R7U06-2 *2	24				
		ccNet compatible	12V DC	Power		WEL-RL802	29	
				Extension Wire	CU-R961-1	16		
				*Data Comm.	WEL-R7U06-2 *2	24		
		MDB	34V DC	Power & *Data Comm. (BA ↔ Plug-in Board) *5		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	29	
				Extension Wire	CU-R961-1	16		
				*Data Comm.	WEL-R7U06-2 *2	24		
		Pulse(Out of service)	12V DC	Power & *Data Comm.		WEL-RL825	36	
				Extension Wire		CU-R961-1	16	

5-1 TABLE 03

Model	CPU Board	Interface	Used Voltage	Usage	Harnesses	Page	
L70T-P5 L77T-P5	3BA-RAX318-LX-0X	Pulse	12V DC	Power & *Data Comm.	WEL-R7U02	23	
				Extension Wire	CU-R961-1	16	
		ICT (RS232)	12V DC	Power	WEL-R7U02	23	
				Extension Wire	CU-R961-1	16	
				*Data Comm.	WEL-R7U06-2 *2	24	
		ccNet compatible	12V DC	Power		WEL-R7U02	23
				Extension Wire	CU-R961-1	16	
				*Data Comm.	WEL-R7U06-2 *2	24	
		MDB	34V DC	Power & *Data Comm. (BA ↔ Plug-in Board) *5		WEL-RBG01	25
				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	37
				Extension Wire	CU-R961-1	16	
		RS232 A0	24V DC	Power & *Data Comm.		3BA-RAA318-NX-0X	38
V2.2					38		
ccTalk	12V DC	Power & *Data Comm.		WEL-RL77F01	28		

★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.

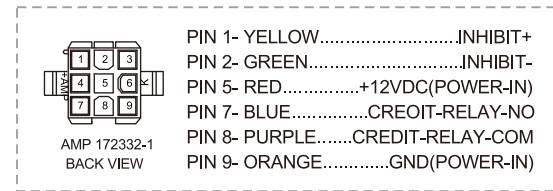
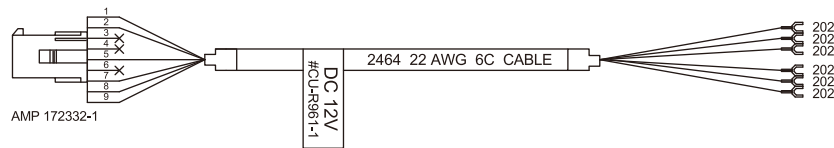
★5. MDB Box : 5RBG-AA313NA0 For L70, L70#, L70F, L77F, L70T, L77T  
5RBG-AA313NAA For L83, L83#.

★6. "XX" varies from board version to version.

5-1 FIG. 01

Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RL702
Pulse	12V DC	Extension Wire for WEL-R7U02
ICT(RS232)	12V DC	
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

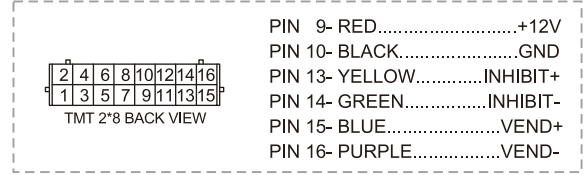
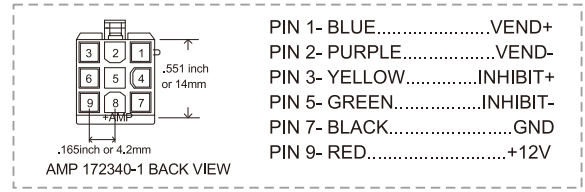
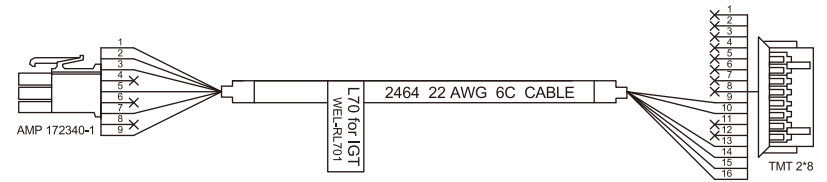
CU-R961-1



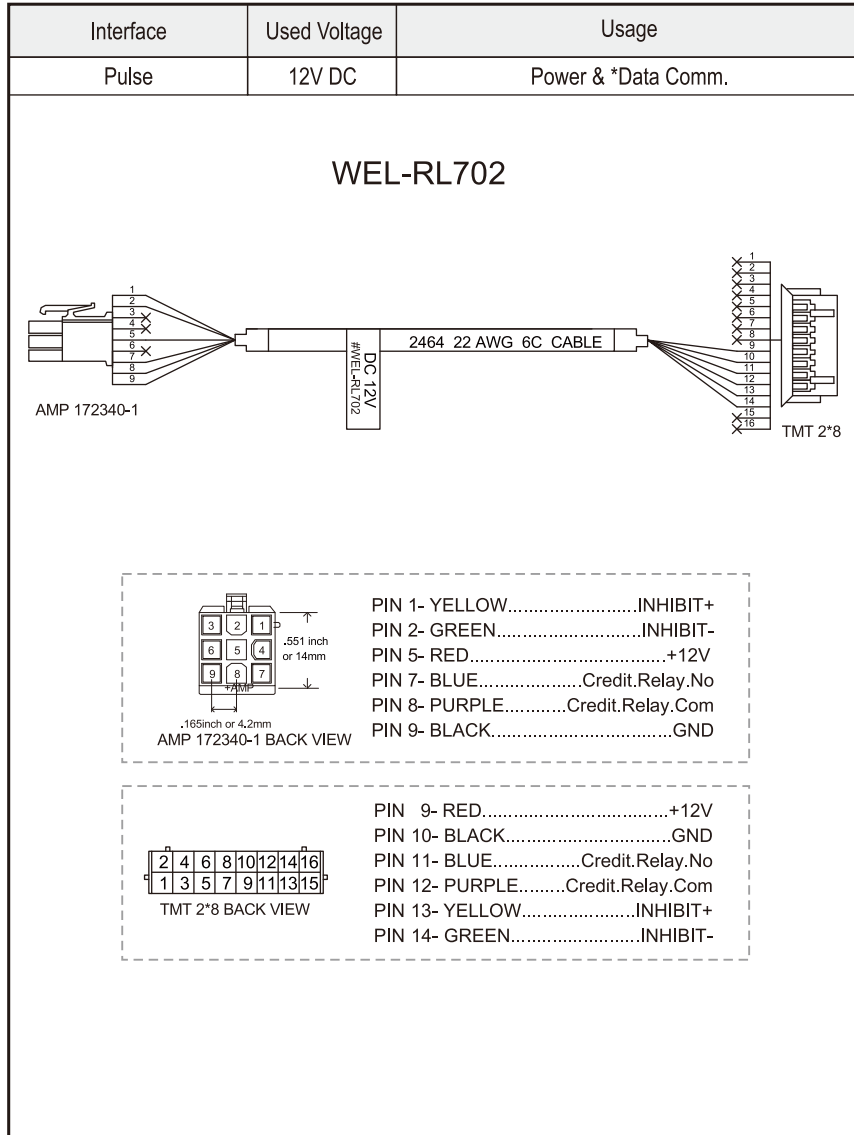
5-1 FIG. 02

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

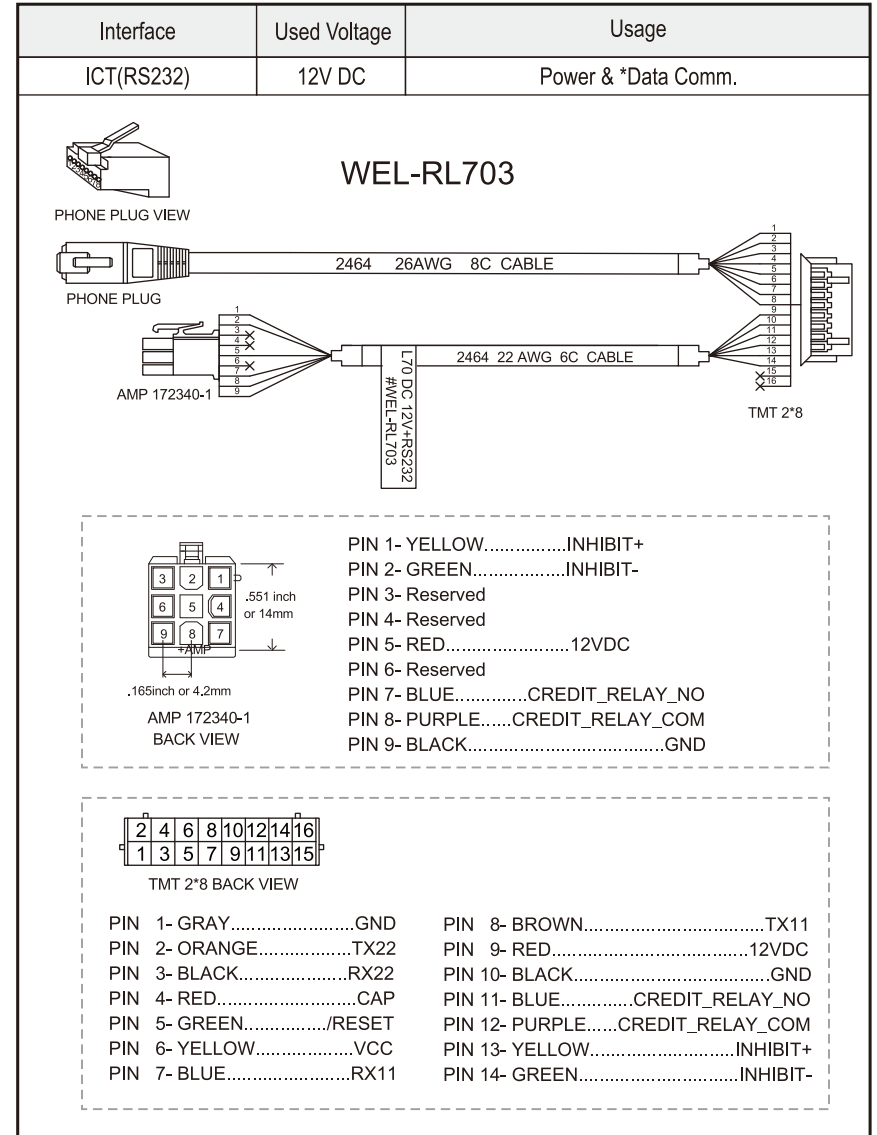
WEL-RL701



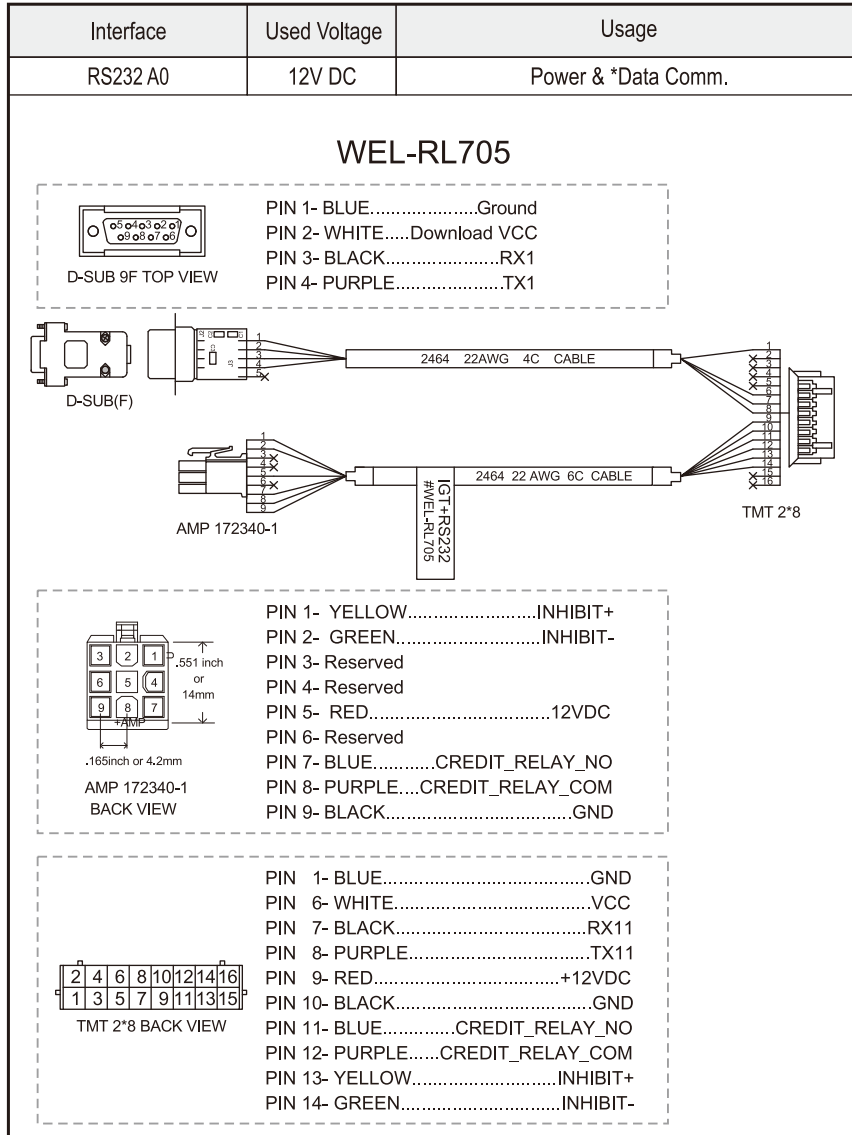
5-1 FIG. 03



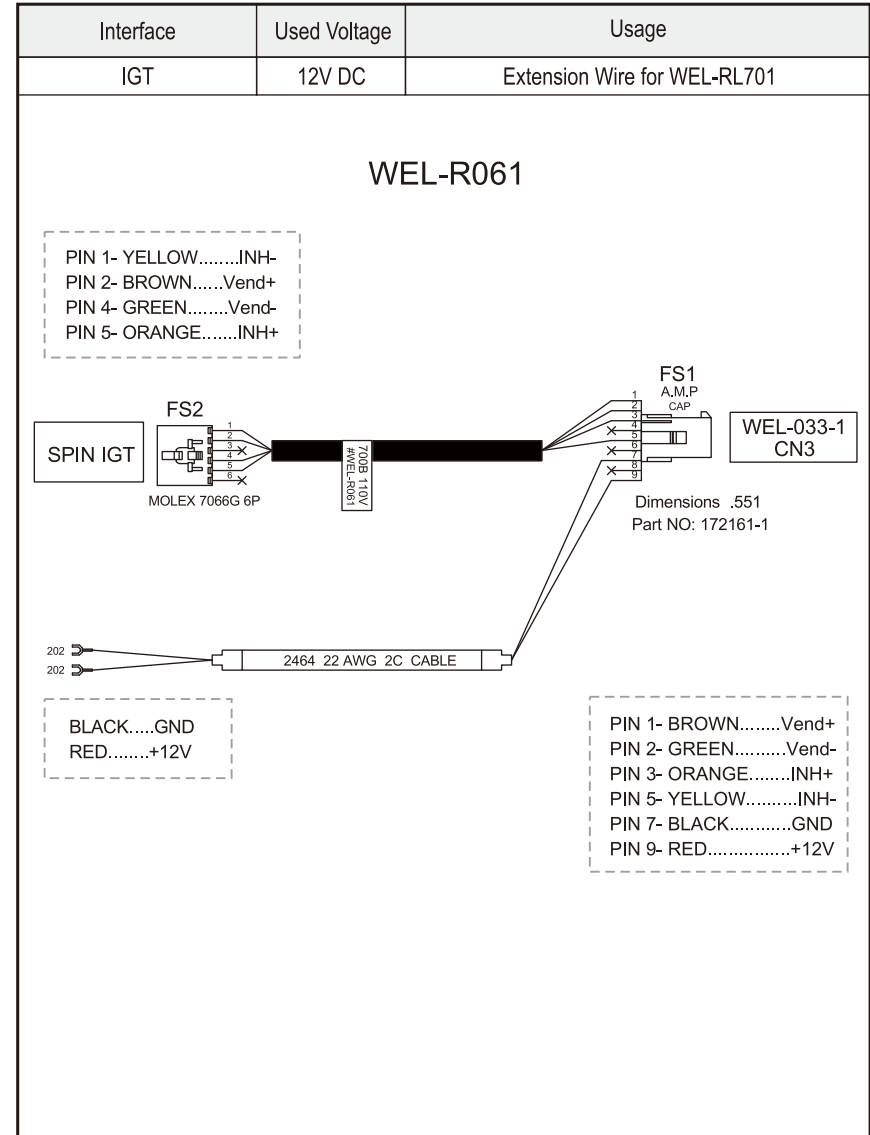
5-1 FIG. 04



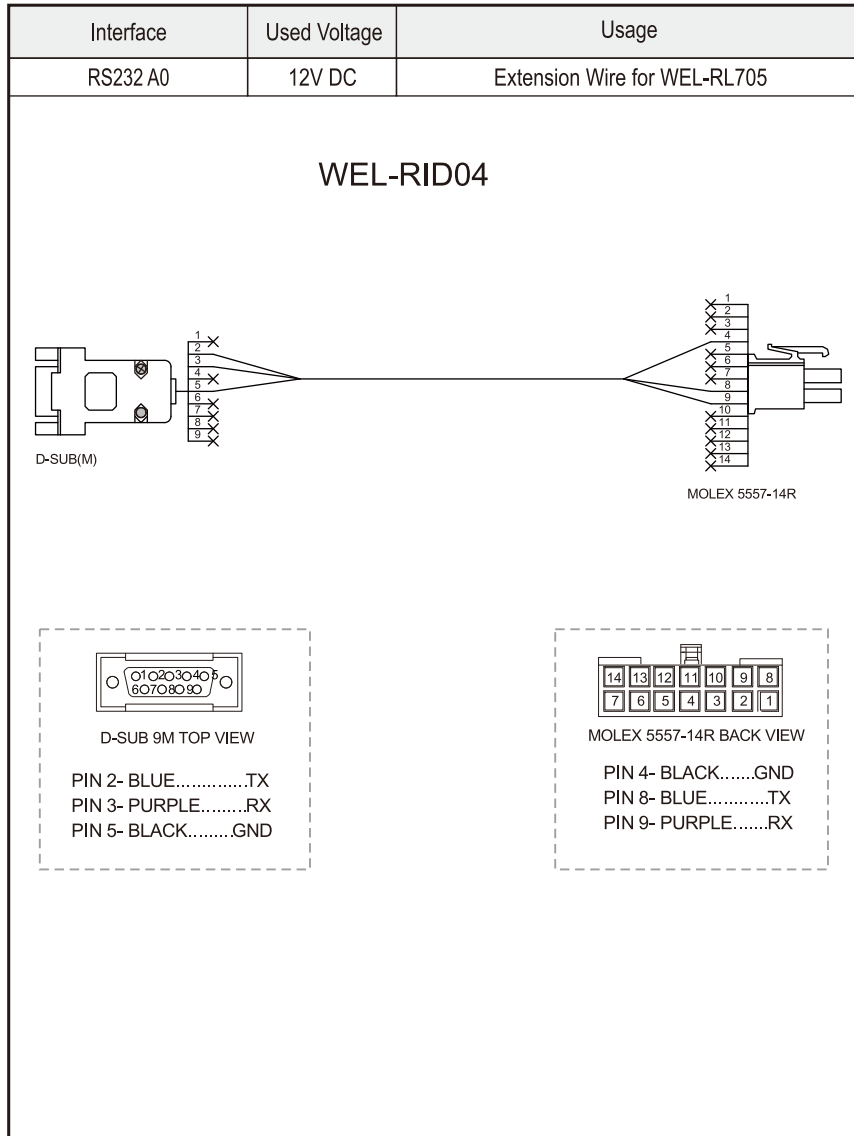
5-1 FIG. 05



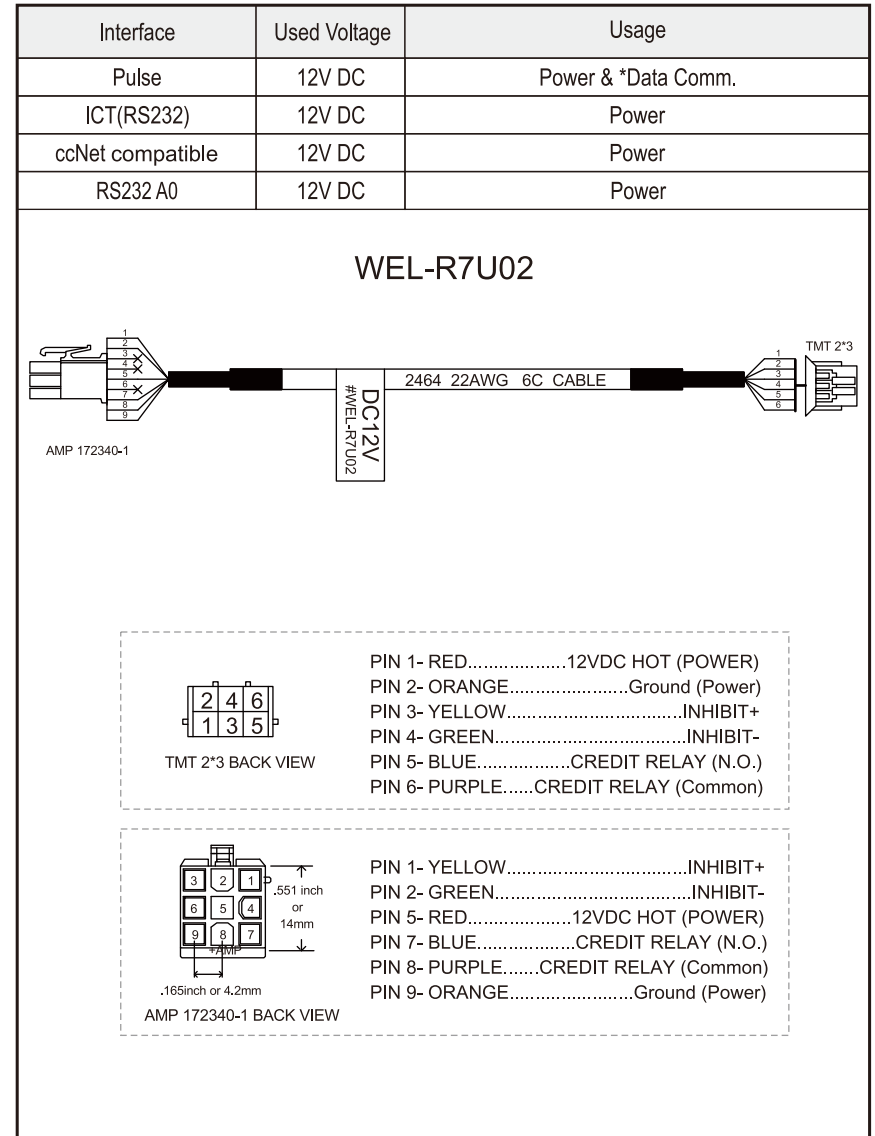
5-1 FIG. 06



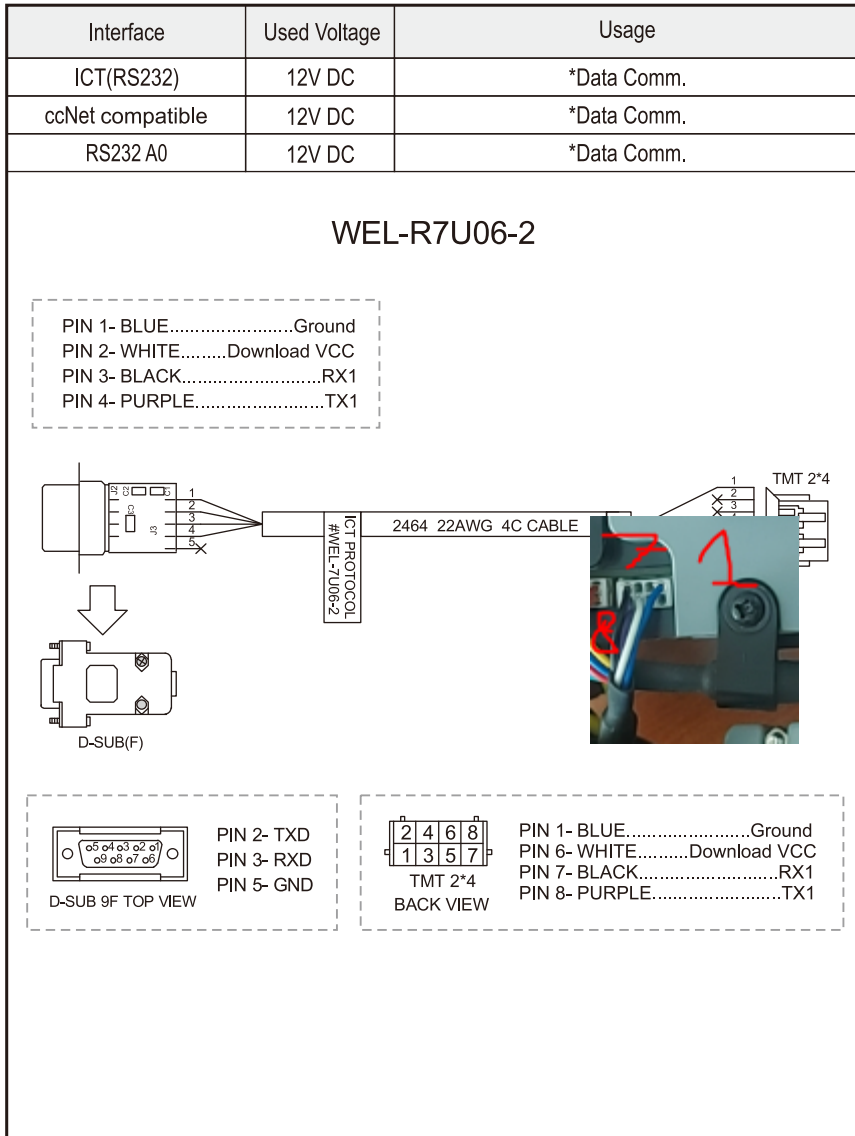
5-1 FIG. 07



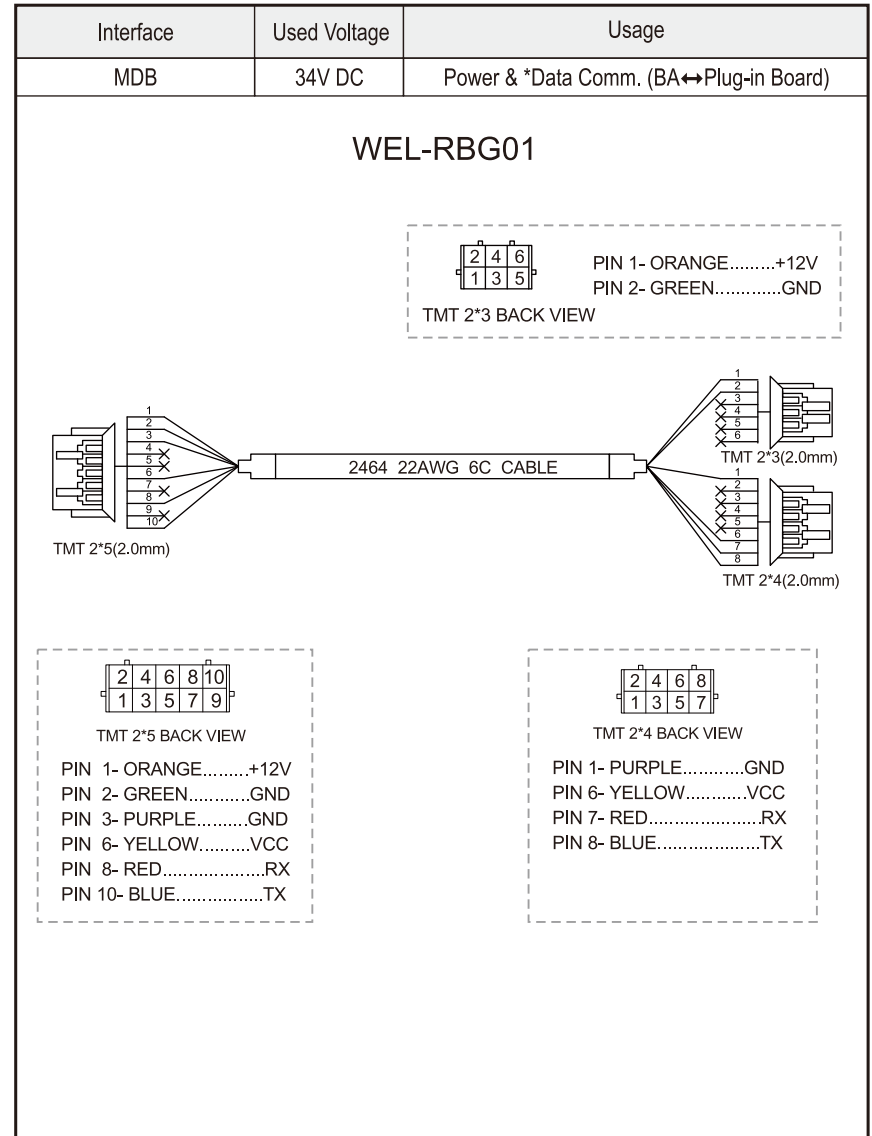
5-1 FIG. 08



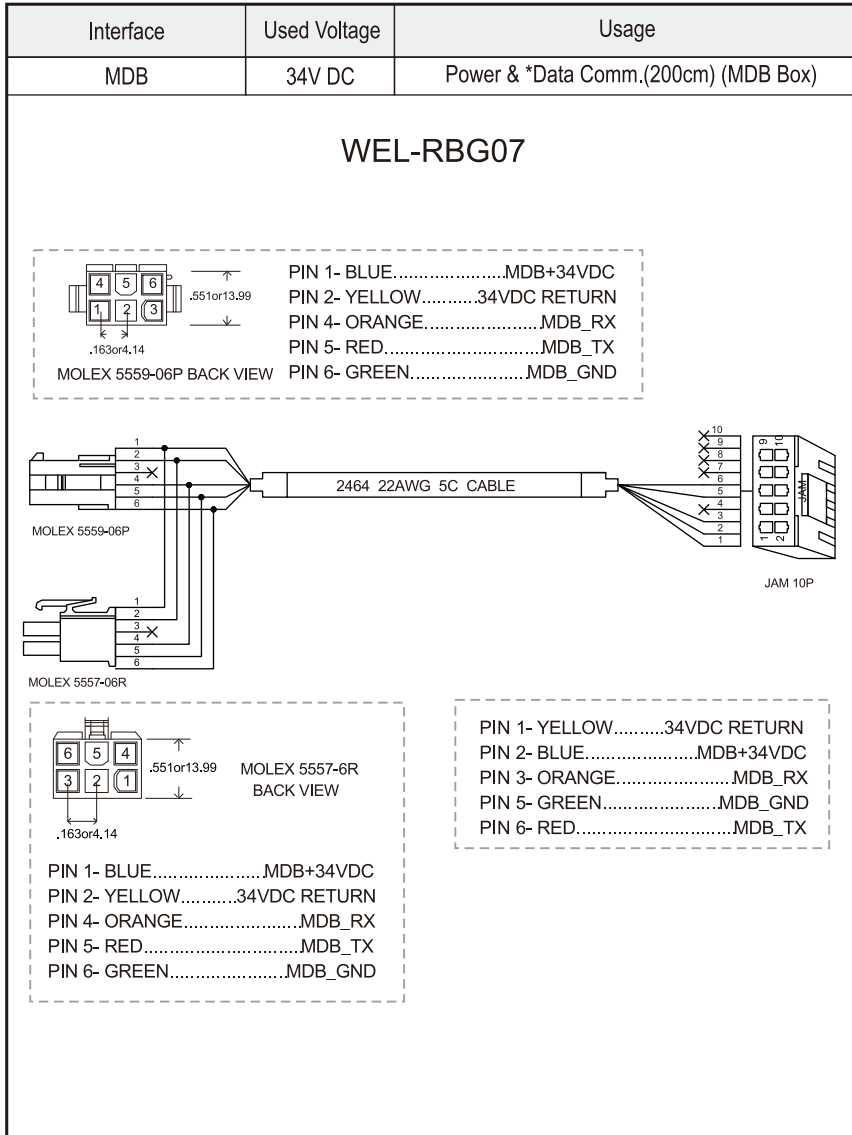
5-1 FIG. 09



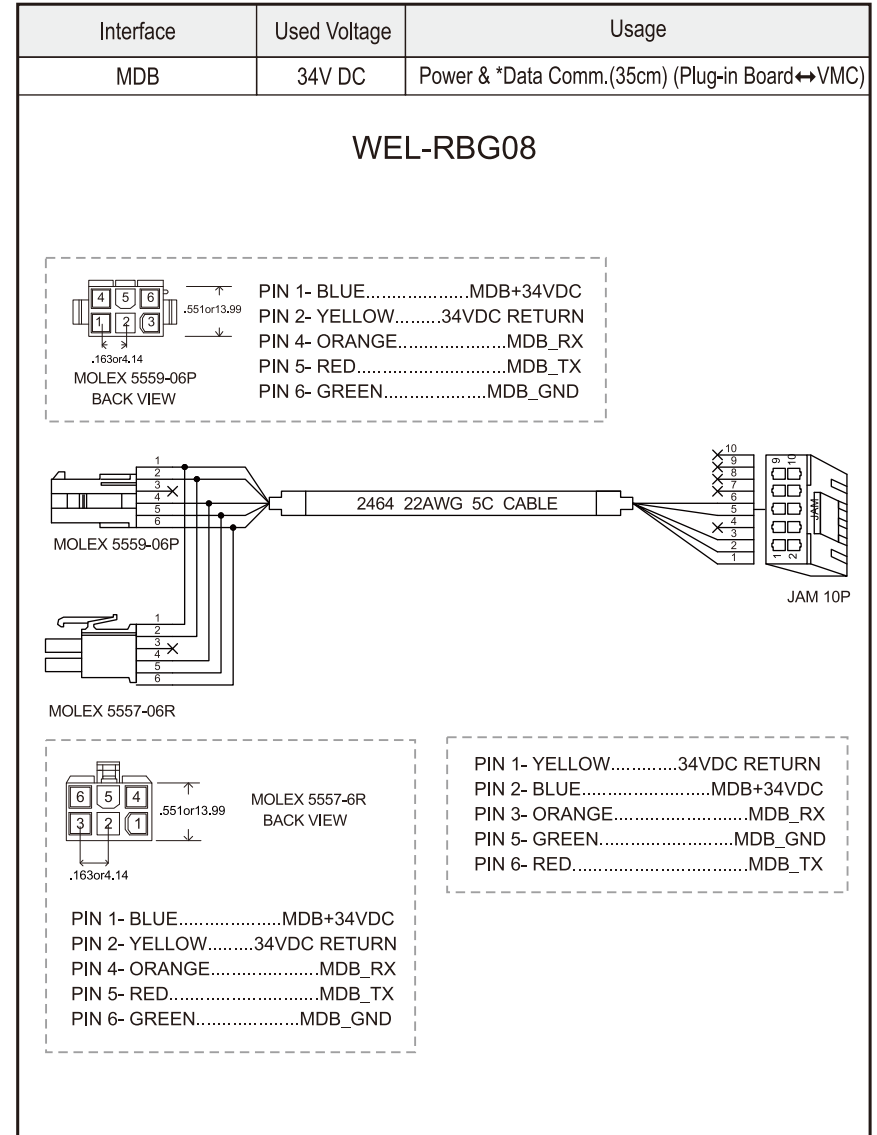
5-1 FIG. 10



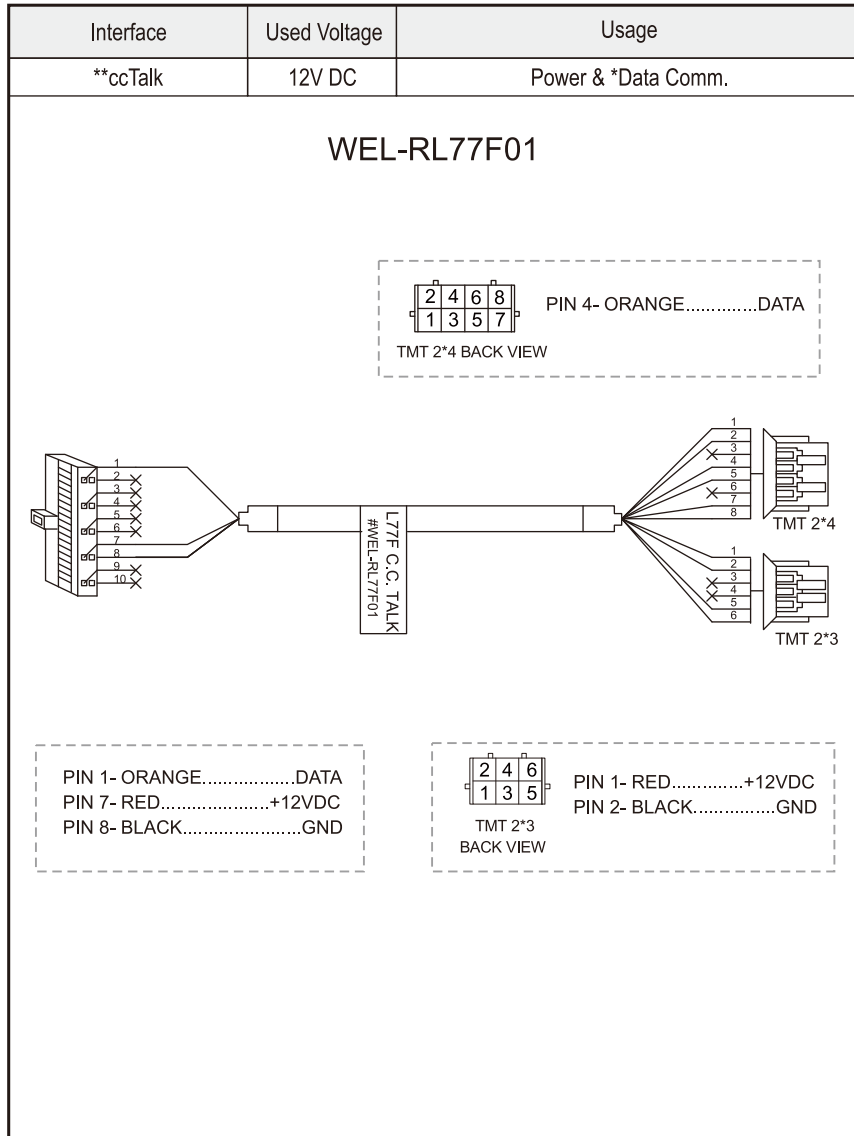
5-1 FIG. 11



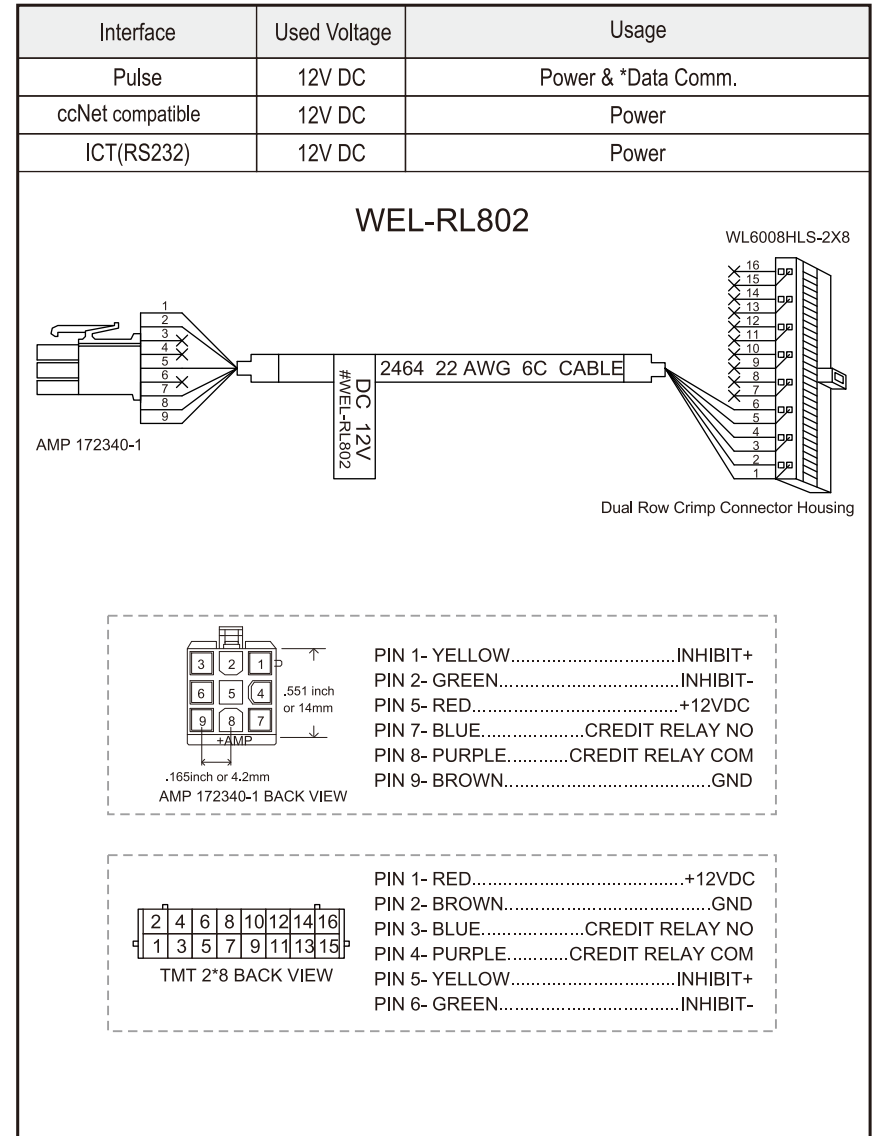
5-1 FIG. 12



5-1 FIG. 13

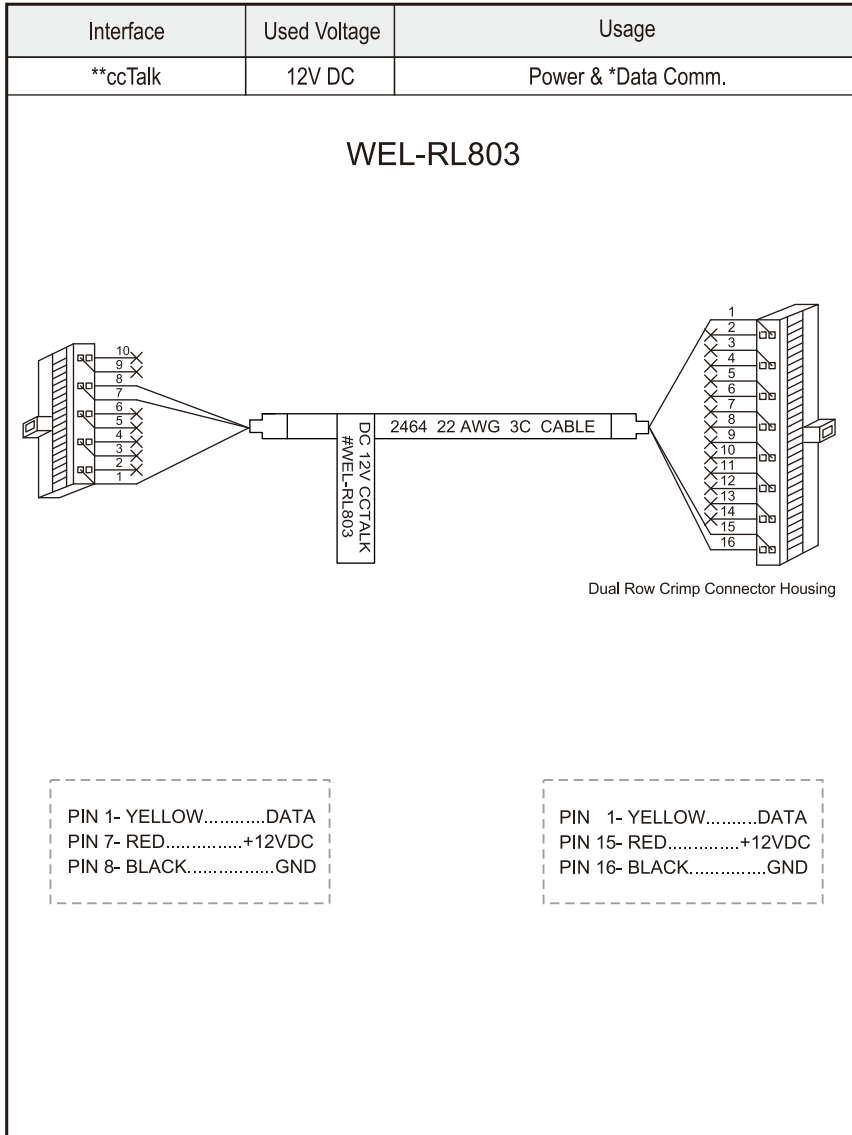


5-1 FIG. 14

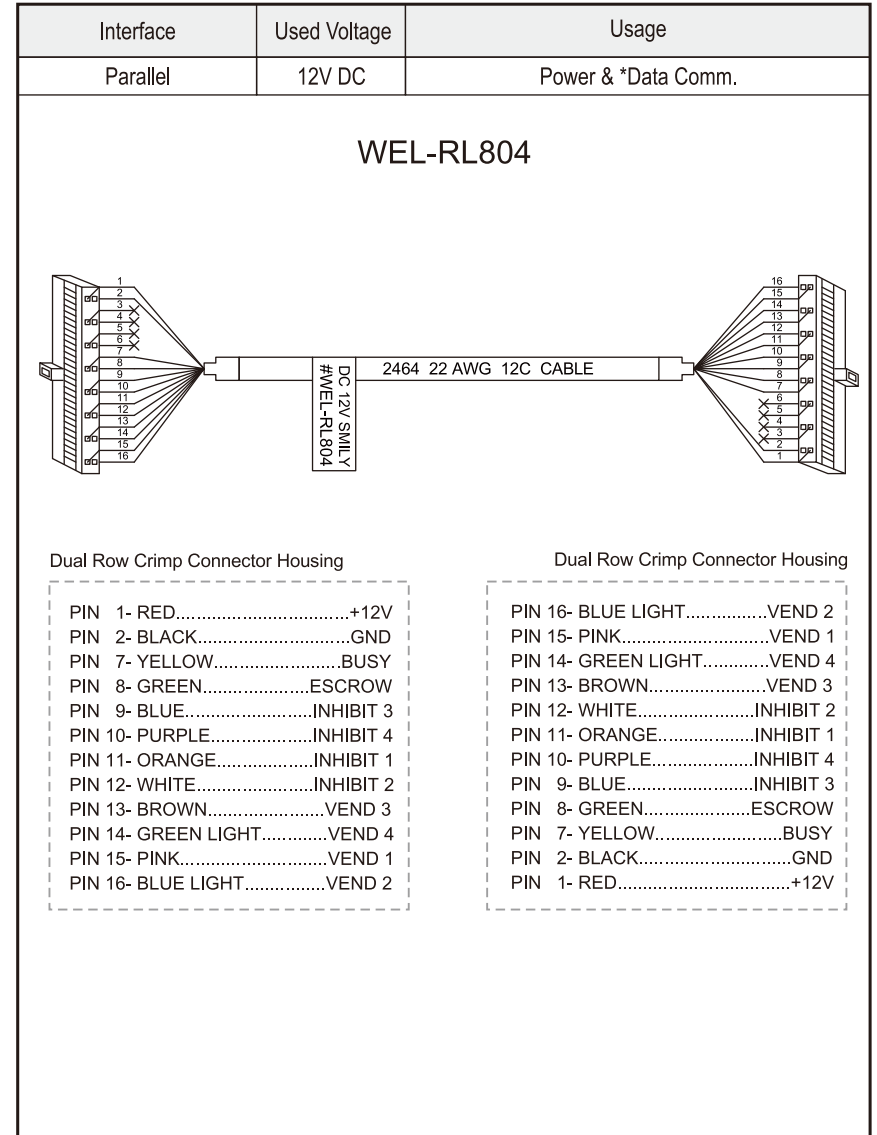




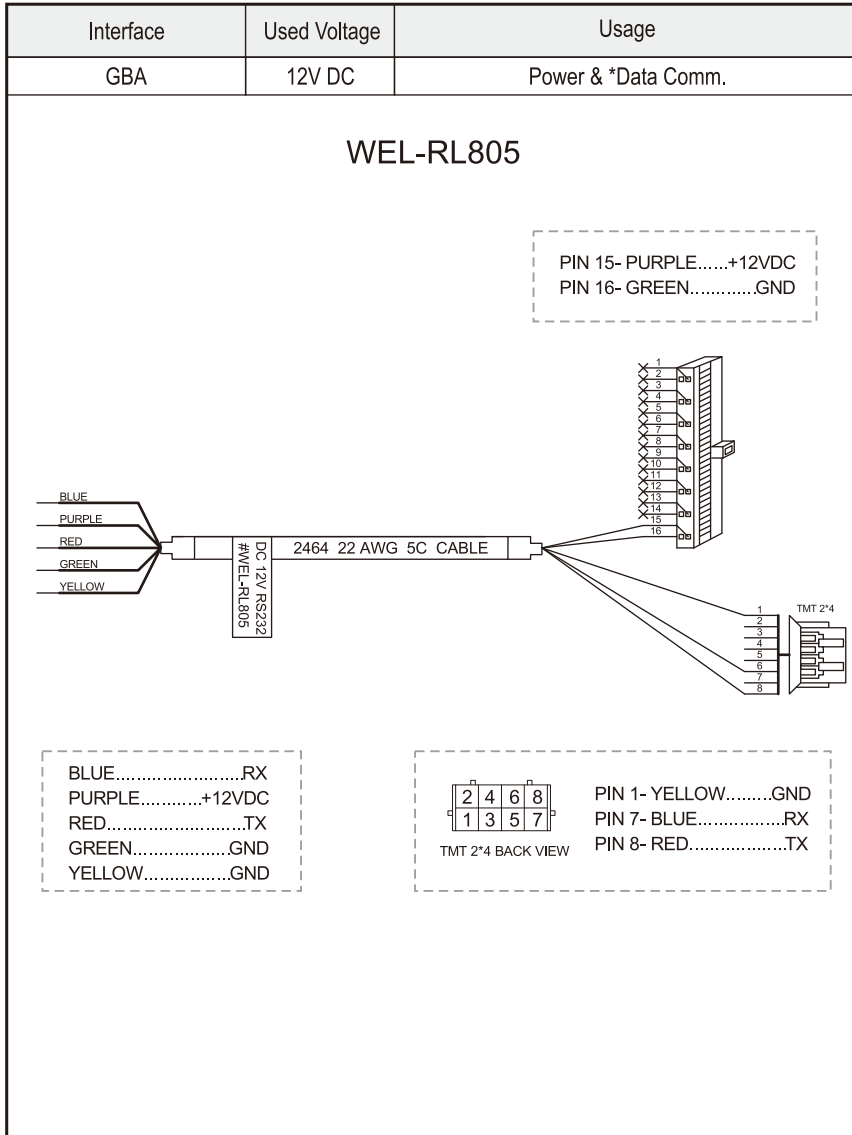
5-1 FIG. 15



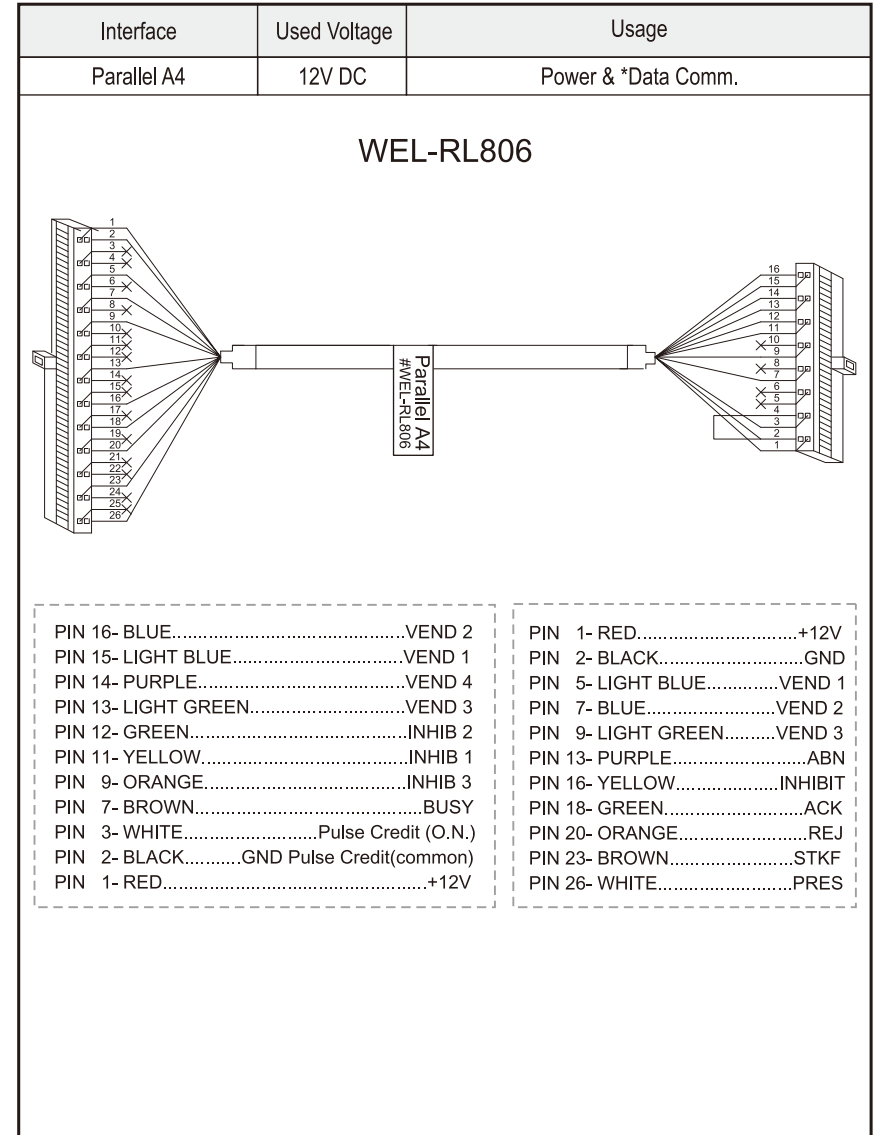
5-1 FIG. 16



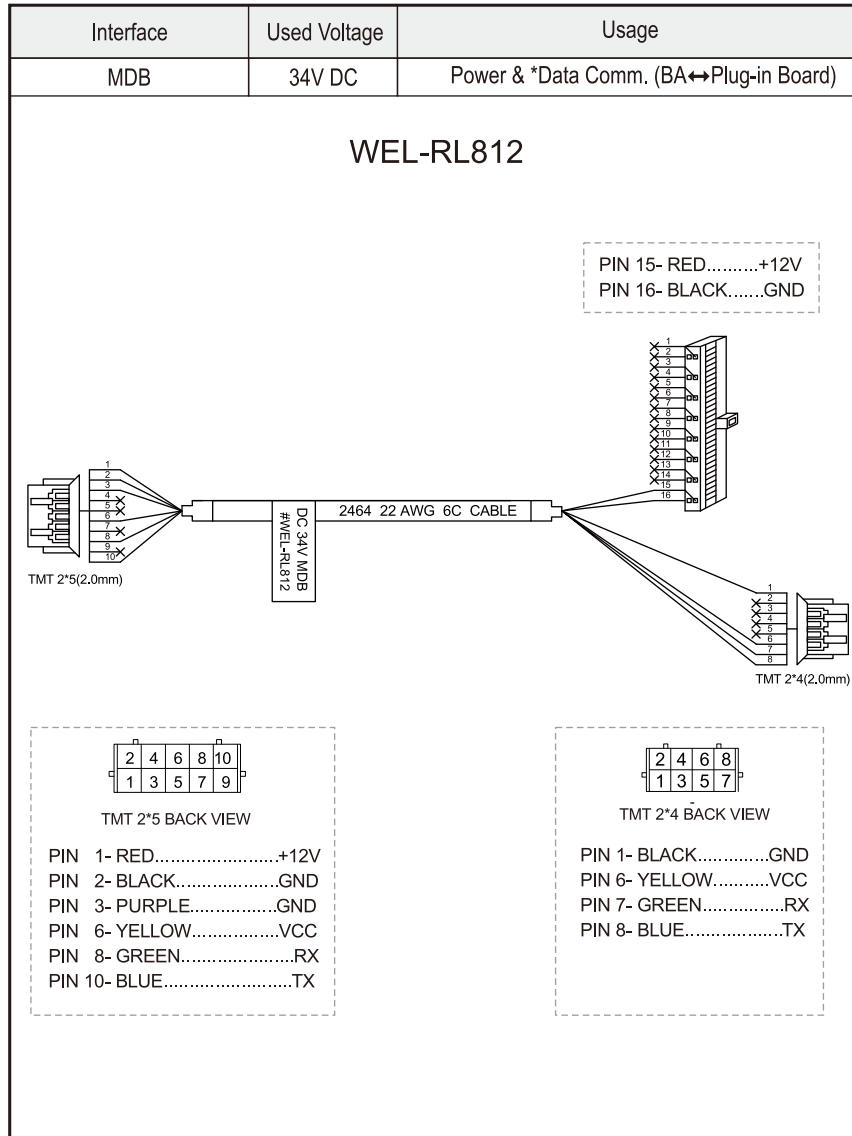
5-1 FIG. 17



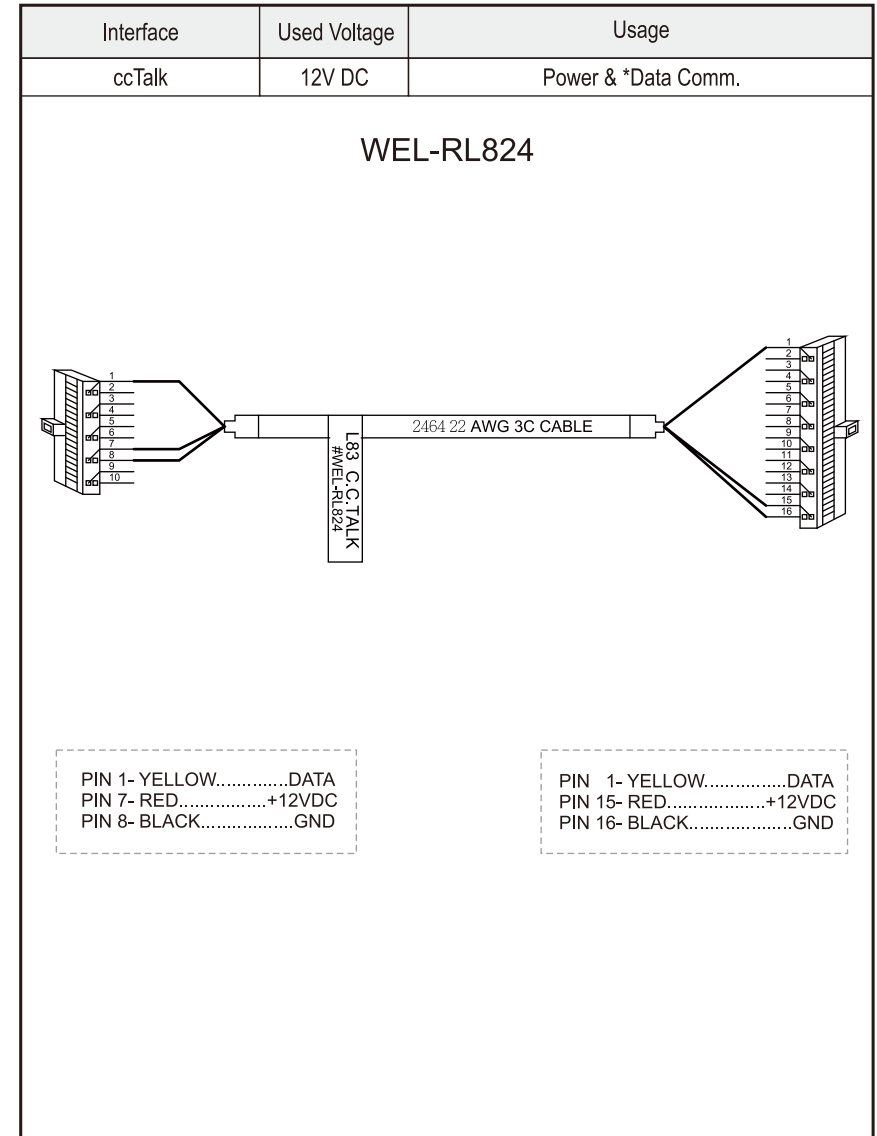
5-1 FIG. 18



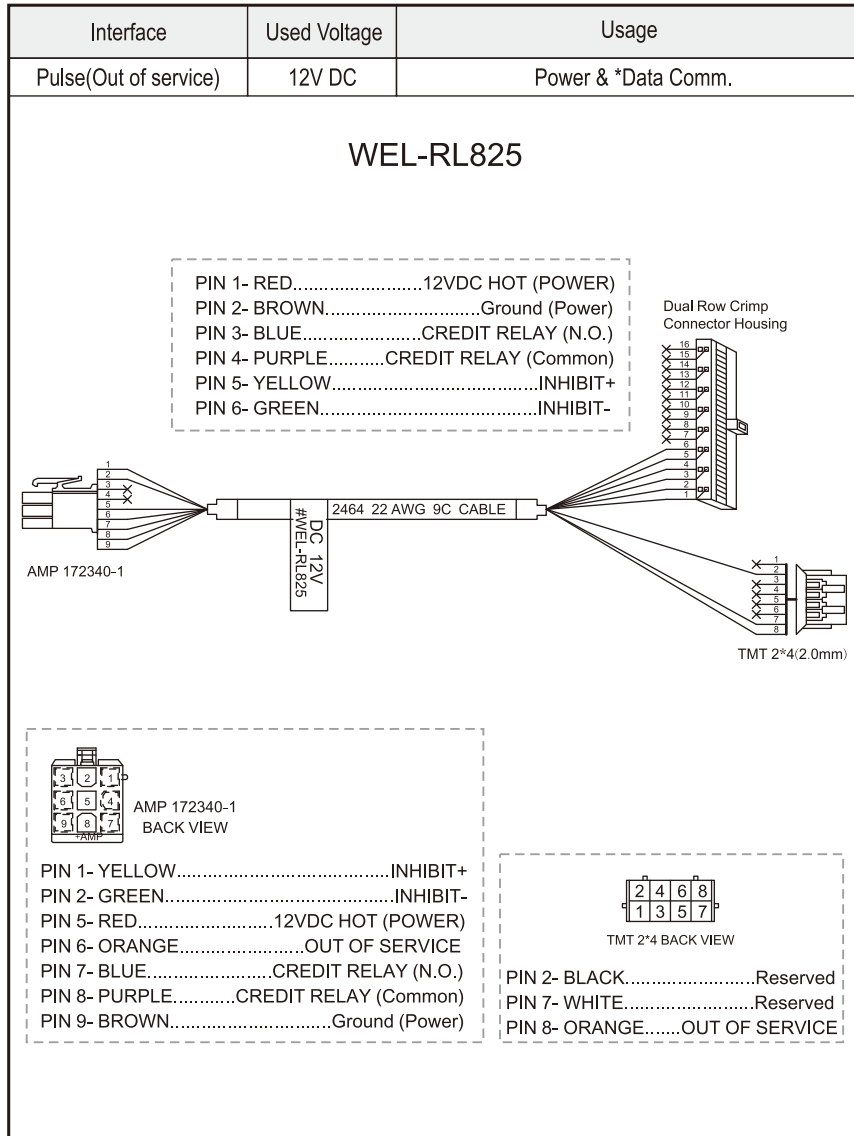
5-1 FIG. 19



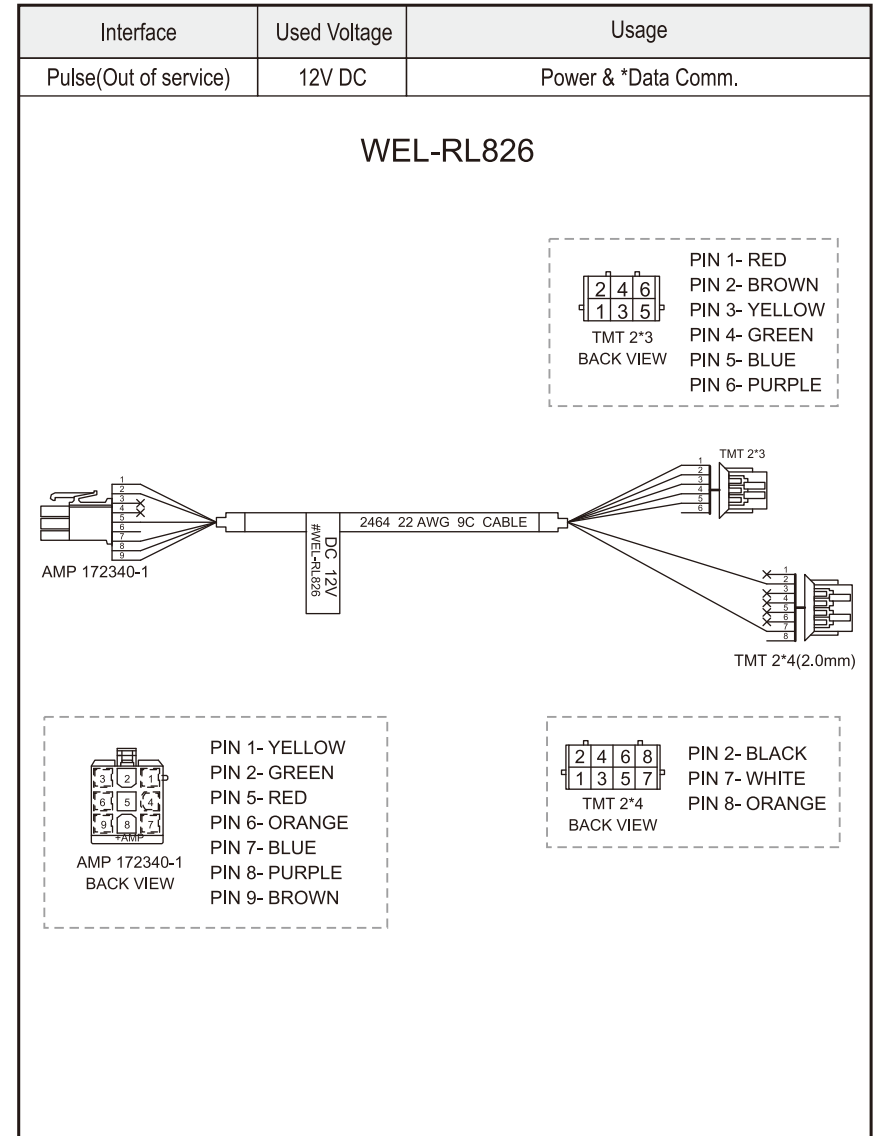
5-1 FIG. 20



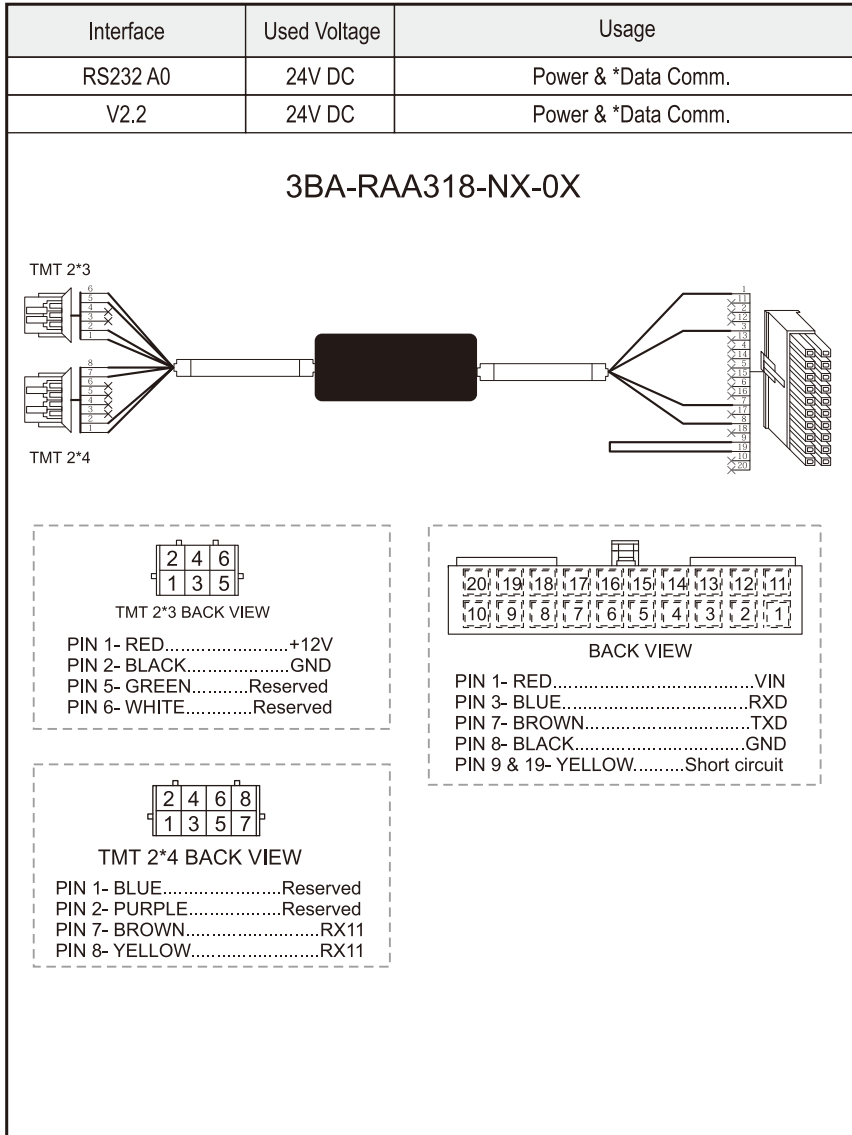
5-1 FIG. 21



5-1 FIG. 22



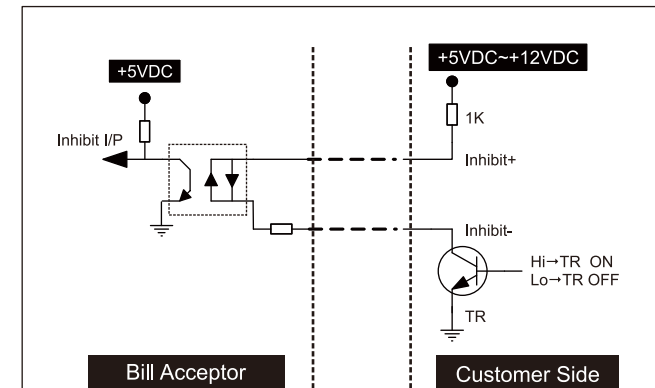
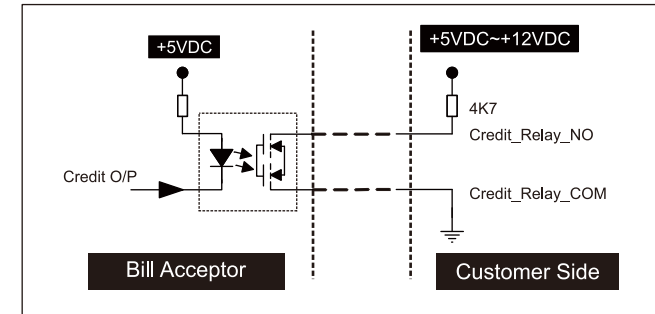
5-1 FIG. 23



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

#### Pulse Interface.

5-1-1 FIG. 01

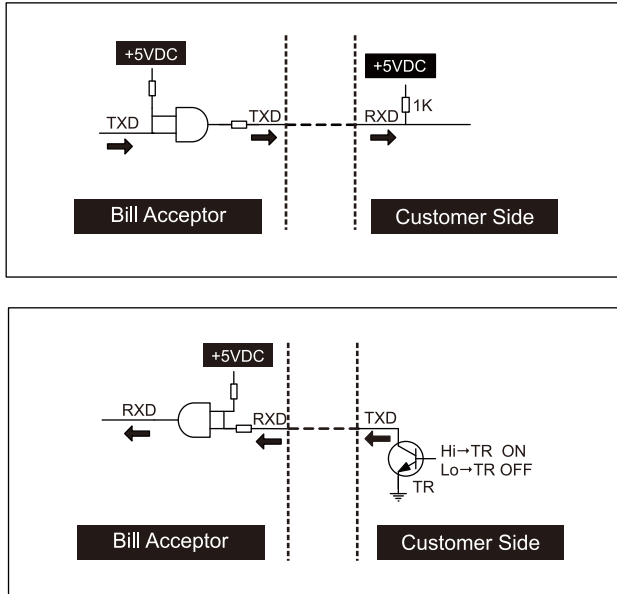


BA Status	*DIP SW Setting	Control Signal
Inhibit	Inhibit Active	Low
		High
Enable	Inhibit Active	High
		Low

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

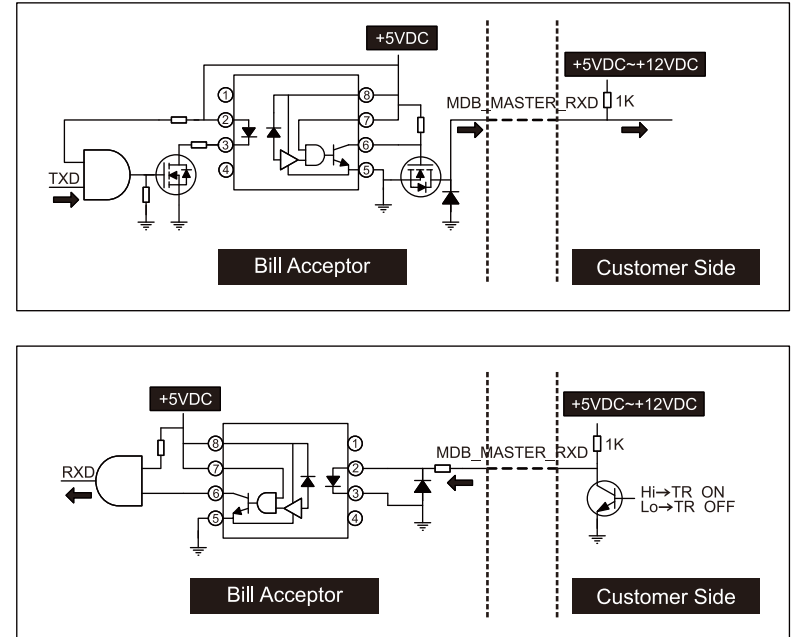
RS232, RS232 A0, GBA, ccNet compatible Interface.

5-1-1 FIG. 02



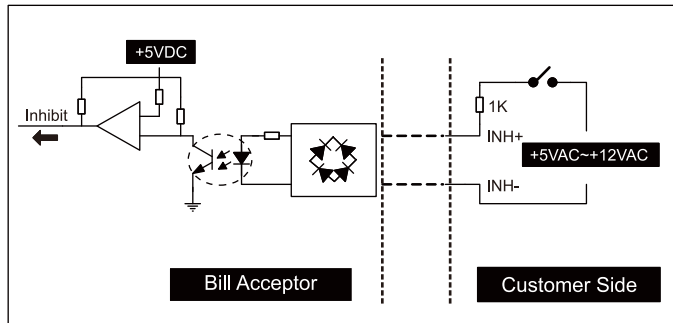
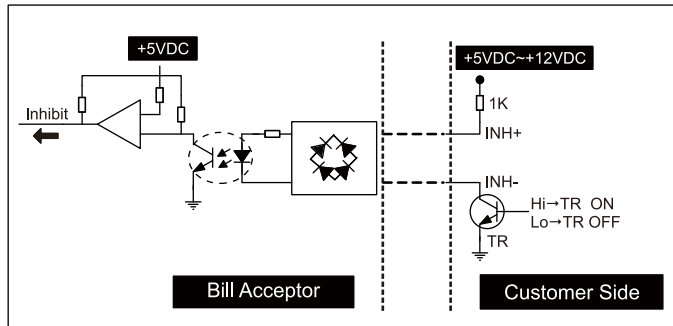
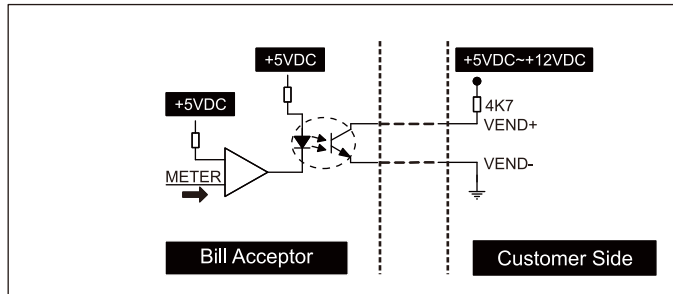
MDB Interface.

5-1-1 FIG. 03



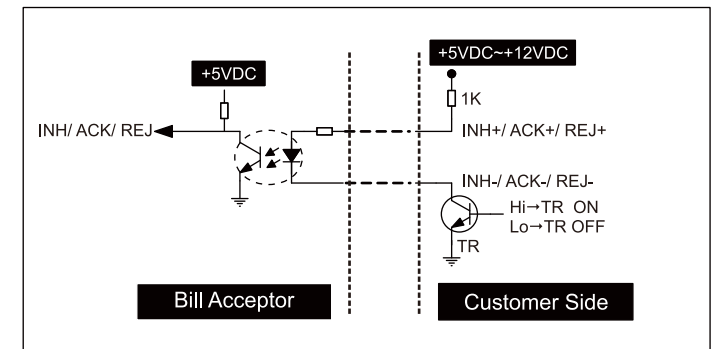
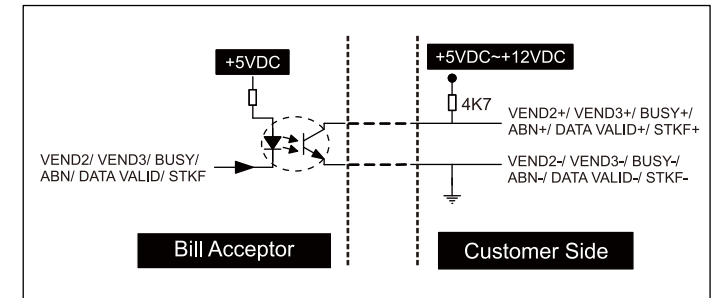
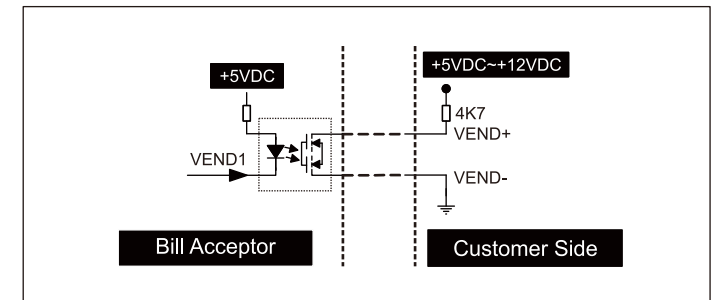
IGT Interface.

5-1-1 FIG. 04



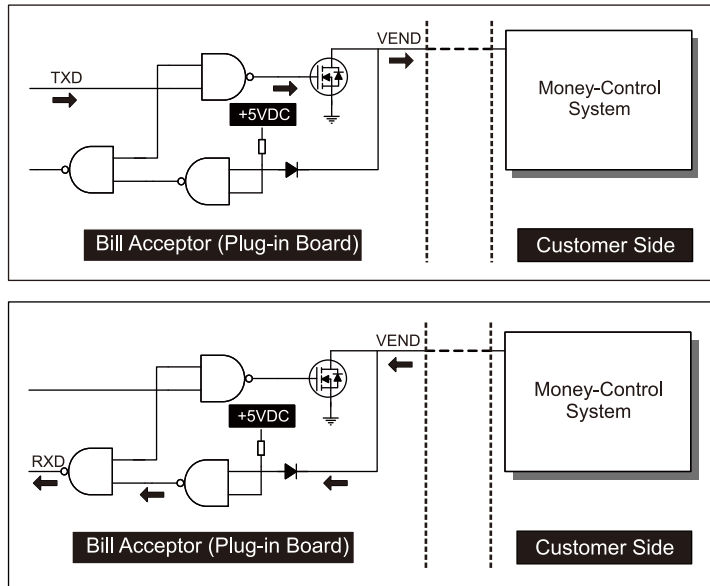
Parallel Interface.

5-1-1 FIG. 05



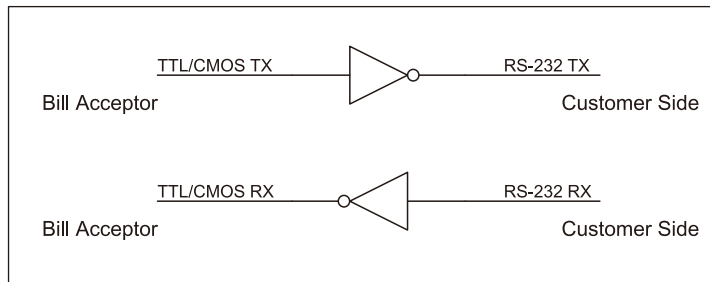
ccTalk Interface.

5-1-1 FIG. 06



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

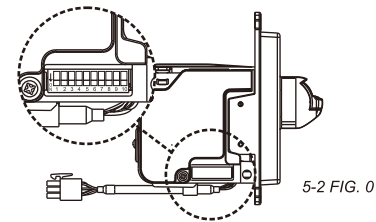
5-1-1 FIG. 07



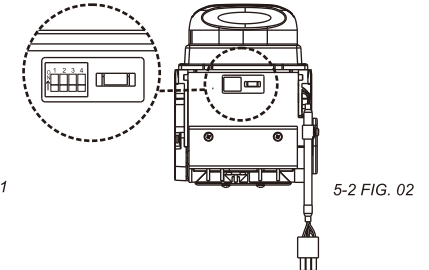
5-2. DIP Switch Setting

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.



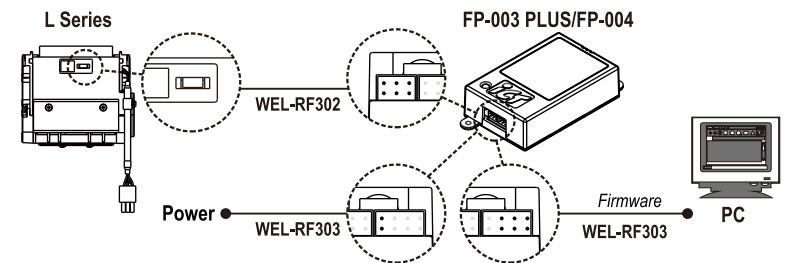
5-2 FIG. 01



5-2 FIG. 02

5-3. Software Download and Upgrade

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



Turn on Bill Acceptor after connecting.

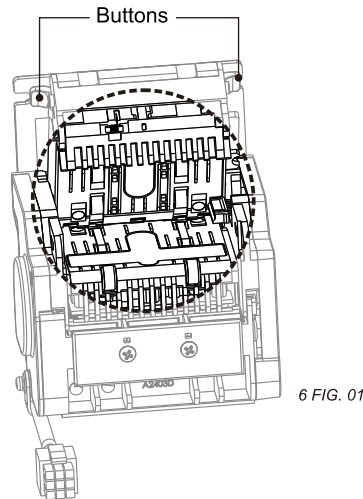


## 6. Maintenance

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

To clean the internal parts:

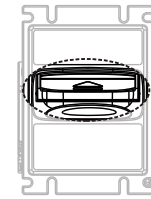
1. Turn bill acceptor off.
2. Press buttons to open LED assembly.
3. Use soft cloth or cotton swab to clean internal parts and bill path.



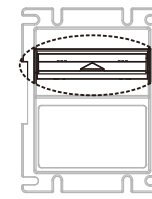
	<b>Maintenance Notice</b> (Any improper maintenance will result invalid warranty.)	
	<b>Recommended</b>	Mild, non-abrasive, soap water.
	<b>DO NOT USE</b>	Organic solvent , Alcohol, Volatile liquid.

## 7. Troubleshooting

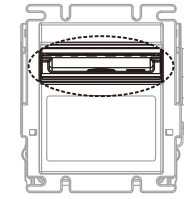
### Bezel LED Errors



L70



L77F



L83

7 TABLE 01

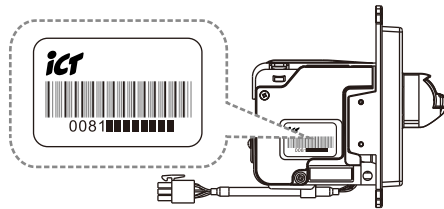
LED Flashes		Status	Corrective Actions
Red	Green		
	1	White Card Calibration	Please calibrate with ICT white calibration card.
1		Bill jammed.	Open bill path unit and then remove the jammed bill.
2		Disable.	Inspect the right DIP switch setting.
3		Recognition sensor module error.	Inspect the foreign 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. (for modules 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.

	<p><b>If the error can not be solved after corrective actions or happen again, please contact ICT for technical support.</b></p>
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## ◆ 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.

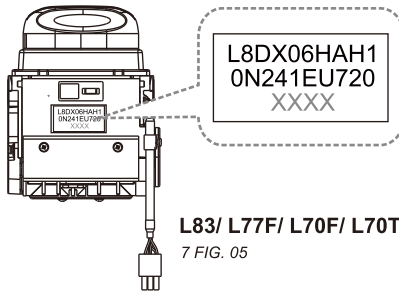
**Default: 12345678**



L83/ L77F/ L70F/ L70T/ L77T  
7 FIG. 04

- Software Revision: According to the software revision number.

**Ex. L8DX06HAH10N241EU720**



L83/ L77F/ L70F/ L70T/ L77T  
7 FIG. 05

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



Please contact ICT for more information.

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