



L70(##)



L77F



L83(##)



L70T-P5 / L77T-P5

Bill Acceptor



Installation Guide

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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 <i>*Note: The Incomplete bills such as extremely dirty, wet, broken, or wrinkled ones are excluded!</i>
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

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~55°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, L70#-P2/P5, L70F-P2/P5: Refer to page.6 L77F-P2/P5 : Refer to page.8 L83-P3/P6, L83#-P3/P6 : Refer to page.9 L70T-P5, L77T-P5 : Refer to page.10
Bill Box Capacity	L70-P2, L70#-P2, L70F-P2: Approx. 200 bills L70-P5, 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, L70#, L70F: Approx. 0.52kg L70-P2, L70#-P2, L70F-P2: Approx. 1.25kg L70-P5, 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: Approx. 1.42kg (Without metal bracket) Approx. 7kg (With metal bracket)
---------------	---

Bill Accepted Width	L70-P2/P5, 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 L70T-P5: 65mm~70mm L77T-P5: 72mm~77mm
----------------------------	--

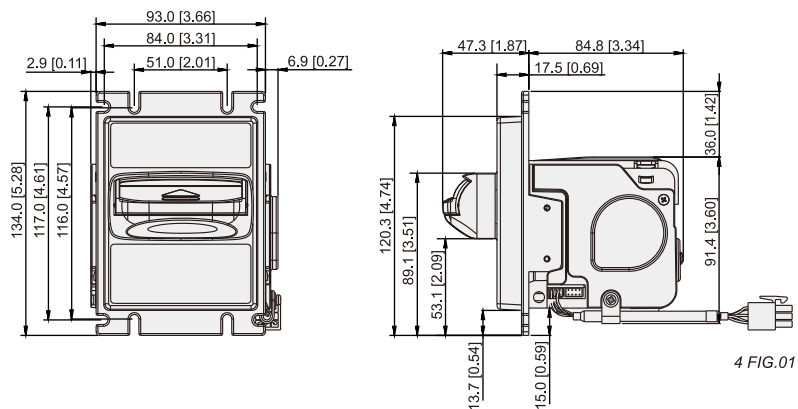
3. Packing List

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

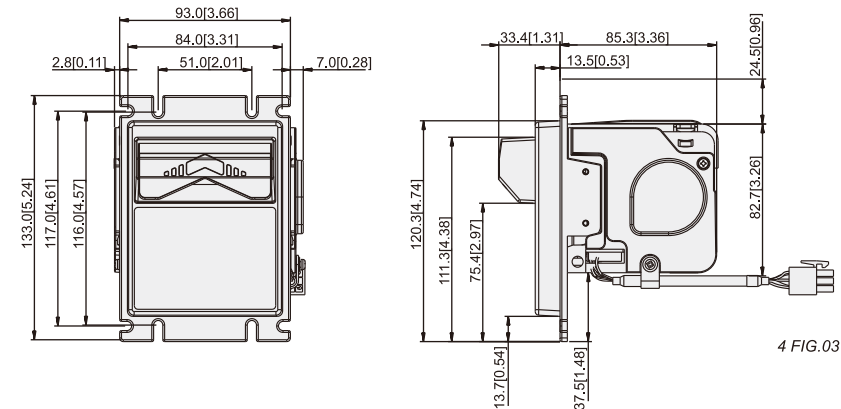
L70, L70#, L70F

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

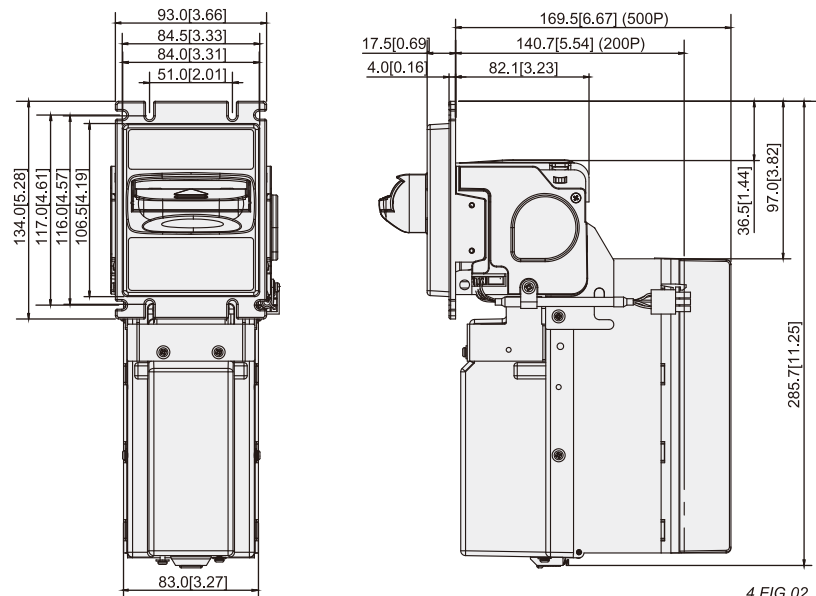


L70

O Type Bezel (71mm)

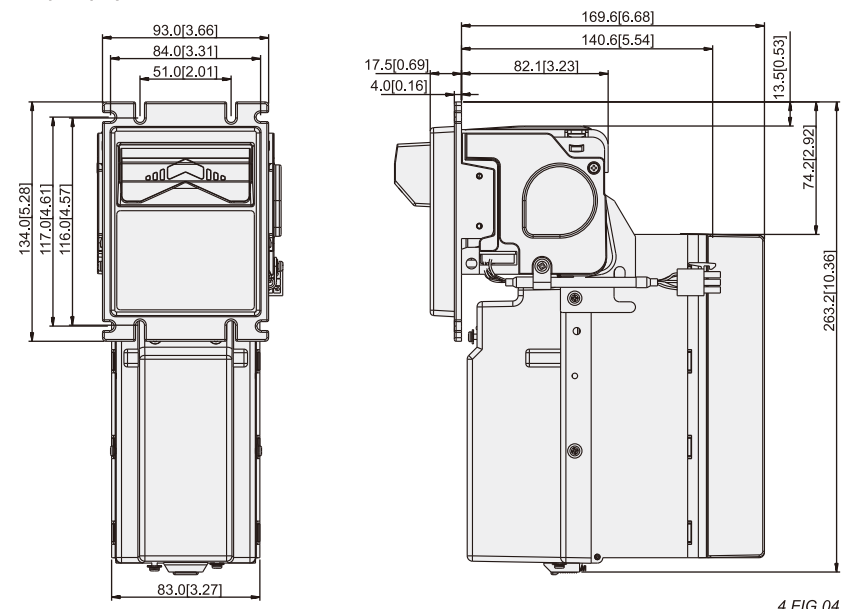


L70-P2/P5, L70#-P2/P5, L70F-P2/P5



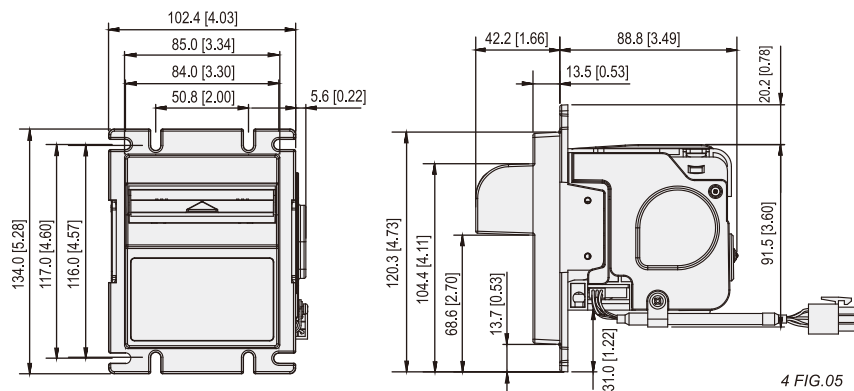
Unit:mm[inch]

L70-P2/P5

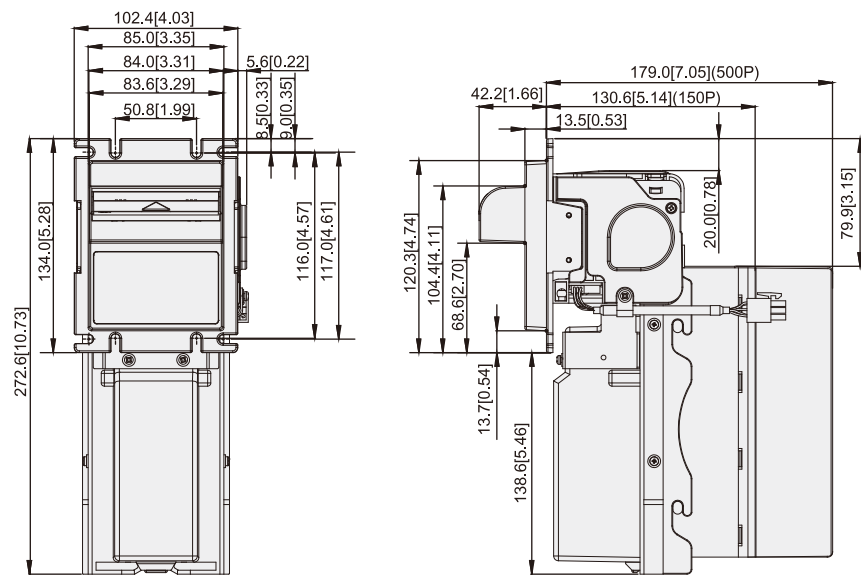


Unit:mm[inch]

L77F I Bezel (78mm)

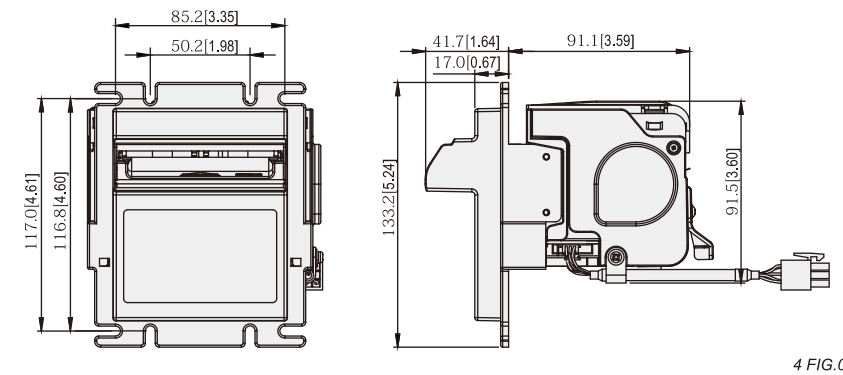


L77F-P2/P5

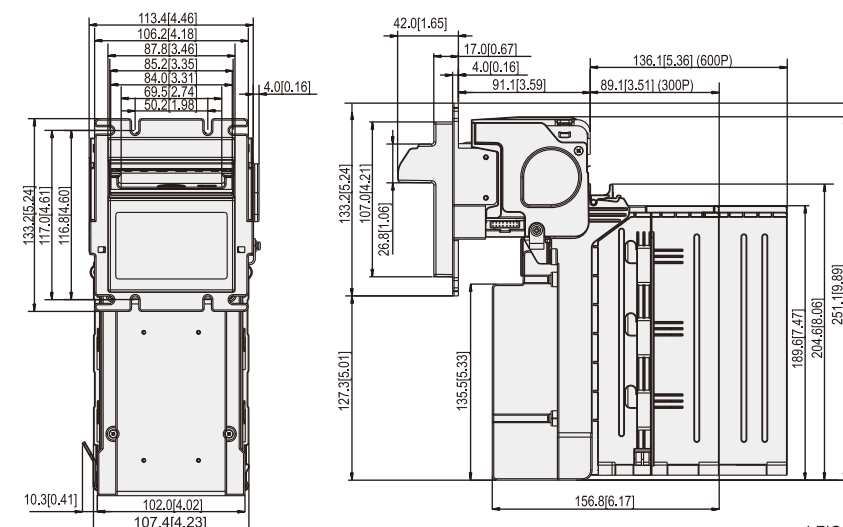


Unit:mm[inch]

L83 E Type Bezel (83mm)

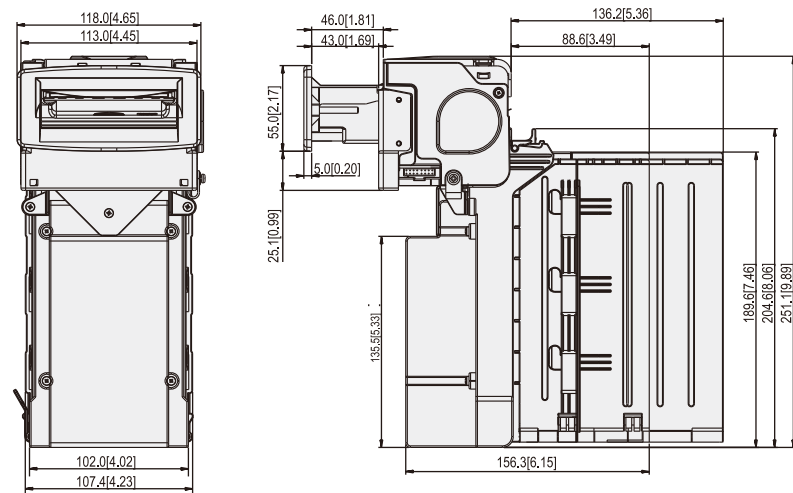


L83-P3/P6, L83#-P3/P6 Down Stacker E Type Bezel (83mm)



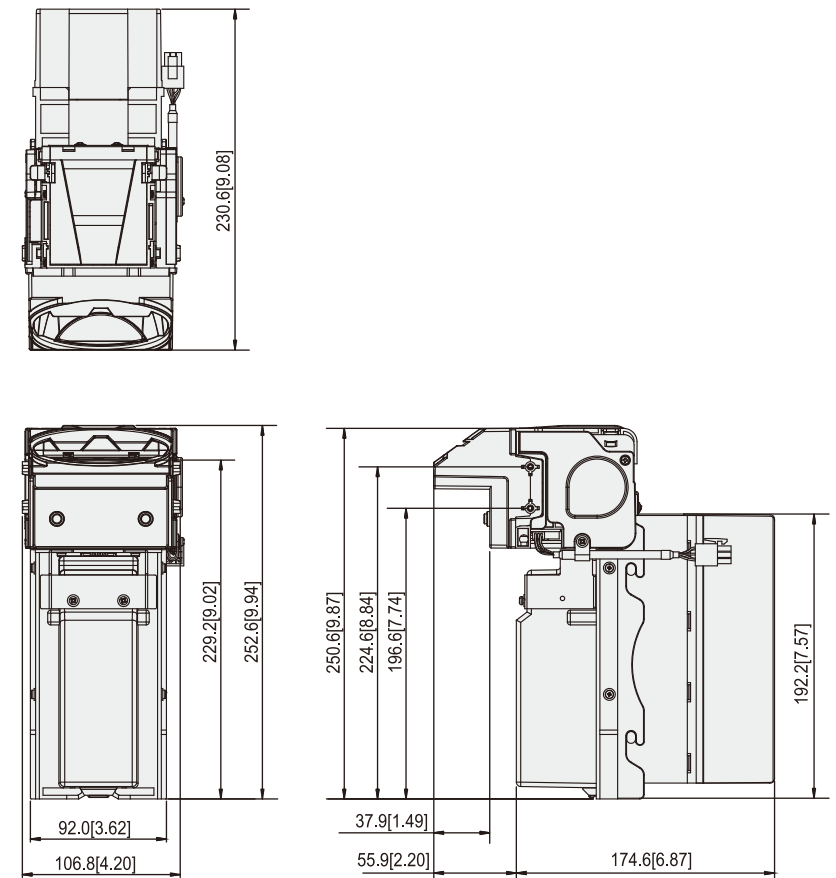
Unit:mm[inch]

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



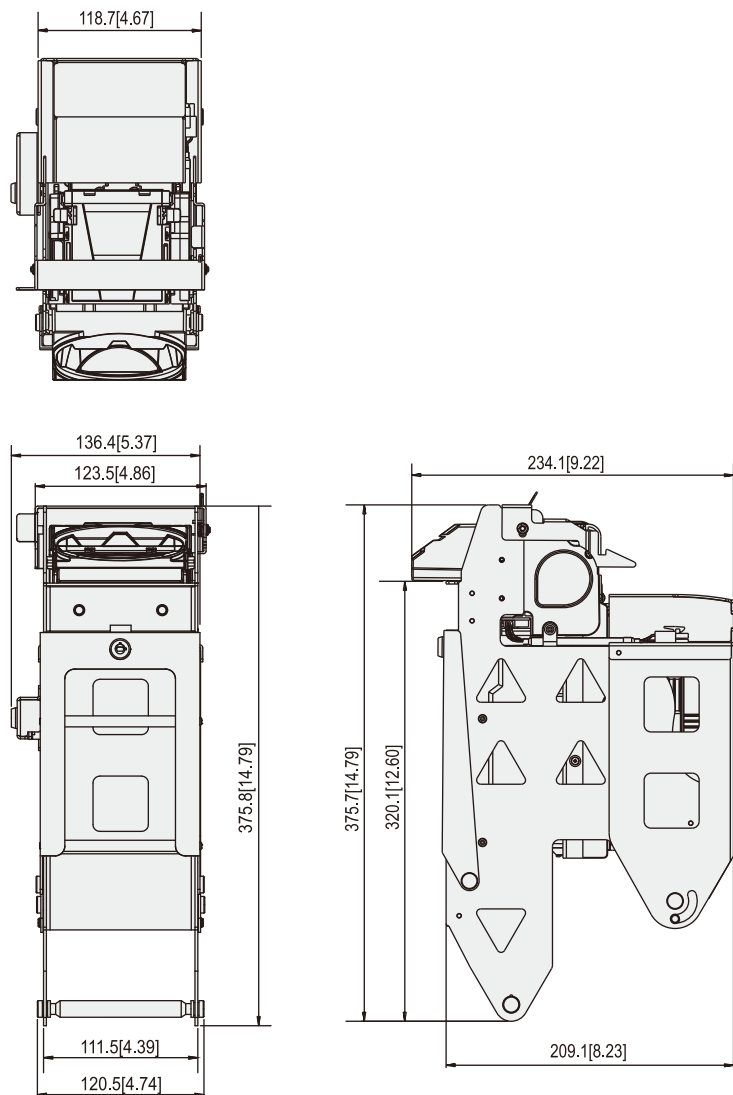
4 FIG.09
Unit:mm[inch]

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



4 FIG.10
Unit:mm[inch]

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



4 FIG.11

Unit:mm[inch]

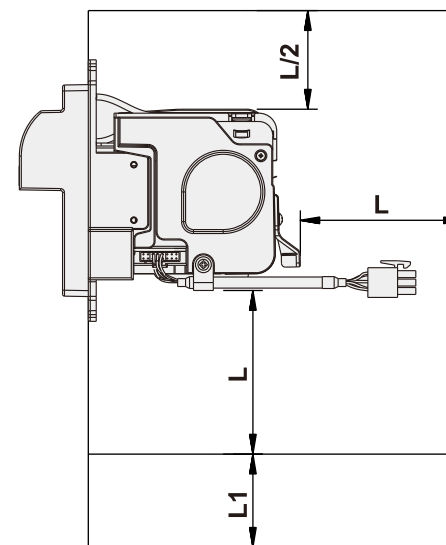


To install the bill acceptor on your VMC, please be aware of the dimension as below:

[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.12

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 ★6	Pulse	12V DC	Power & *Data Comm. ★3	WEL-RL702	19
				Extension Wire	CU-R961-1	17
		ICT (RS232)	12V DC	Power & *Data Comm.	WEL-RL703 ★1	20
		IGT	12V DC	Power & *Data Comm.	WEL-RL701	18
				Extension Wire	WEL-R061	22
		RS232 A0	12V DC	Power & *Data Comm.	WEL-RL705	21
				Extension Wire	WEL-RID04	23
L70-P2/P5 L70(#)-P2/P5 L70F-P2/P5 L77F-P2/P5	3BA-RAX318-DX-0X ★6 3BA-RAX318-HX-0X 3BA-RAX318-LX-0X	Pulse	12V DC	Power & *Data Comm.	WEL-R7U02	24
				Extension Wire	CU-R961-1	17
		ICT (RS232)	12V DC	Power	WEL-R7U02	24
				Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
		ccNet compatible	12V DC	Power	WEL-R7U02	24
				Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
		RS232 A0	12V DC	Power	WEL-R7U02	24
				Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
		MDB	34V DC	Power & *Data Comm. (BA↔Plug-in Board) ★5	WEL-RBG01	26
				Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	28
				Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	27
				Power & *Data Comm.	WEL-RL826	38
				Extension Wire	CU-R961-1	17
		Pulse(Out of service)	12V DC	Power & *Data Comm.	WEL-RL77F01	29
		ccTalk	12V DC	Power & *Data Comm.		
				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 ★6	Pulse	12V DC	Power & *Data Comm. ★3	WEL-RL802	30
				Extension Wire	CU-R961-1	17
		ccTalk	12V DC	Power & *Data Comm.	WEL-RL803	31
					IDC-RA10400	40
					CNT-R7025	40
		12V DC	12V DC	Power & *Data Comm.	WEL-RL824	36
		GBA	12V DC	Power & *Data Comm.	WEL-RL805	33
				Power	WEL-RL802	30
		ICT (RS232)	12V DC	Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
				Power	WEL-RL802	30
		ccNet compatible	12V DC	Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
				Power & *Data Comm. (BA↔Plug-in Board) ★5	WEL-RL812	35
		MDB	34V DC	Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	28
				Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	27
		RS232 A0	12V DC	Power	WEL-RL802	30
				Extension Wire	CU-R961-1	17
		Parallel	12V DC	*Data Comm.	WEL-R7U06-2 ★2	25
		Parallel A4	12V DC	Power & *Data Comm.	WEL-RL804	32
		Pulse(Out of service)	12V DC	Power & *Data Comm.	WEL-RL806	34
				Power & *Data Comm.	WEL-RL825	37
				Extension Wire	CU-R961-1	17
L83#-P3/P6	3BA-RAX324-RX-0X ★6	Pulse	12V DC	Power & *Data Comm	WEL-RL802	30
				Extension Wire	CU-R961-1	17
		ccTalk	12V DC		WEL-RL803	31
				Power & *Data Comm.	IDC-RA10400	40
					CNT-R7025	40
		12V DC	12V DC	Power & *Data Comm.	WEL-RL824	36
		GBA	12V DC	Power & *Data Comm	WEL-RL805	33
				Power	WEL-RL802	30
		ICT (RS232)	12V DC	Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25
				Power	WEL-RL802	30
		ccNet compatible	12V DC	Extension Wire	CU-R961-1	17
				*Data Comm.	WEL-R7U06-2 ★2	25

5-1 TABLE 03

Model	CPU Board	Interface	Used Voltage	Usage	Harnesses	Page
L83#-P3/P6	3BA-RAX324-RX-0X ^{★6}	MDB	★4 34V DC	Power & *Data Comm. (BA↔Plug-in Board) ★5	WEL-RL812	35
				Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	28
				Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	27
		RS232 A0	12V DC	Power	WEL-RL802	30
				Extension Wire	CU-R961-1	17
		Pulse(Out of service)	12V DC	*Data Comm.	WEL-R7U06-2 ★2	25
				Power & *Data Comm.	WEL-RL825	37
L70T-P5 L77T-P5	3BA-RAX318-LX-0X ^{★6}	Pulse	12V DC	Extension Wire	CU-R961-1	17
				Power & *Data Comm.	WEL-R7U02	24
		ICT (RS232)	12V DC	Extension Wire	CU-R961-1	17
				Power	WEL-R7U02	24
		ccNet compatible	12V DC	*Data Comm.	WEL-R7U06-2 ★2	25
				Power	WEL-R7U02	24
		MDB	★4 34V DC	Extension Wire	CU-R961-1	17
				Power & *Data Comm. (BA↔Plug-in Board) ★5	WEL-RBG01	26
				Power & *Data Comm.(35cm) (Plug-in Board↔VMC)	WEL-RBG08	28
				Power & *Data Comm.(200cm) (Plug-in Board↔VMC)	WEL-RBG07	27
		Pulse(Out of service)	12V DC	Power & *Data Comm.	WEL-RL826	38
				Extension Wire	CU-R961-1	17
		RS232 A0 V2.2	24V DC	Power & *Data Comm.	3BA-RAA318-NX-0X	39
		ccTalk	12V DC	Power & *Data Comm.	WEL-RL77F01	29

★1. Maintenance use only.

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

★3. Data Comm. : Data Communication.

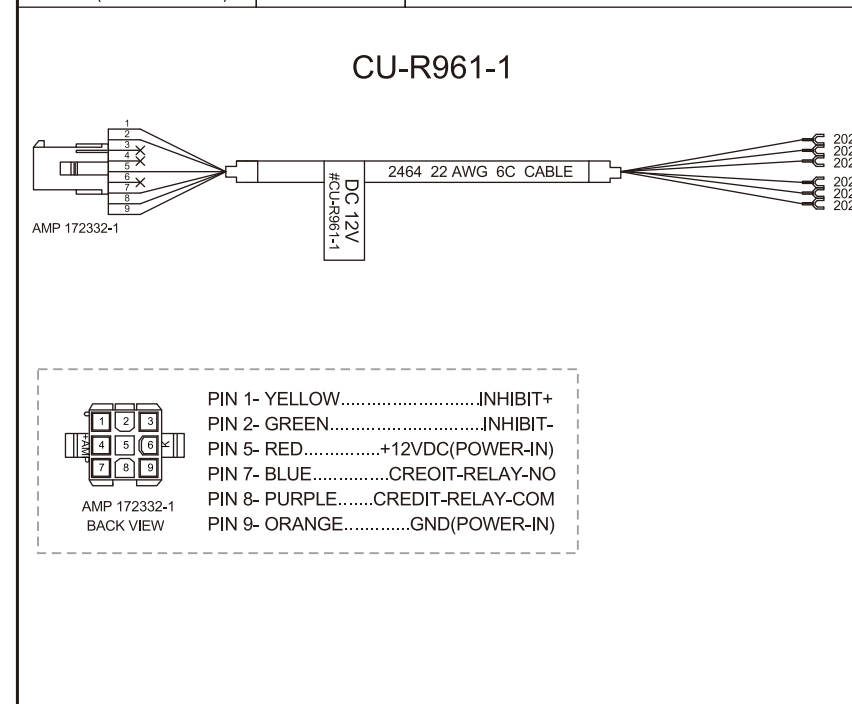
★4. MDB 34VDC : VMC Provides +34VDC to MDB Plug-in Board to convert into +12VDC, and provides +12VDC to L series bill acceptors.

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

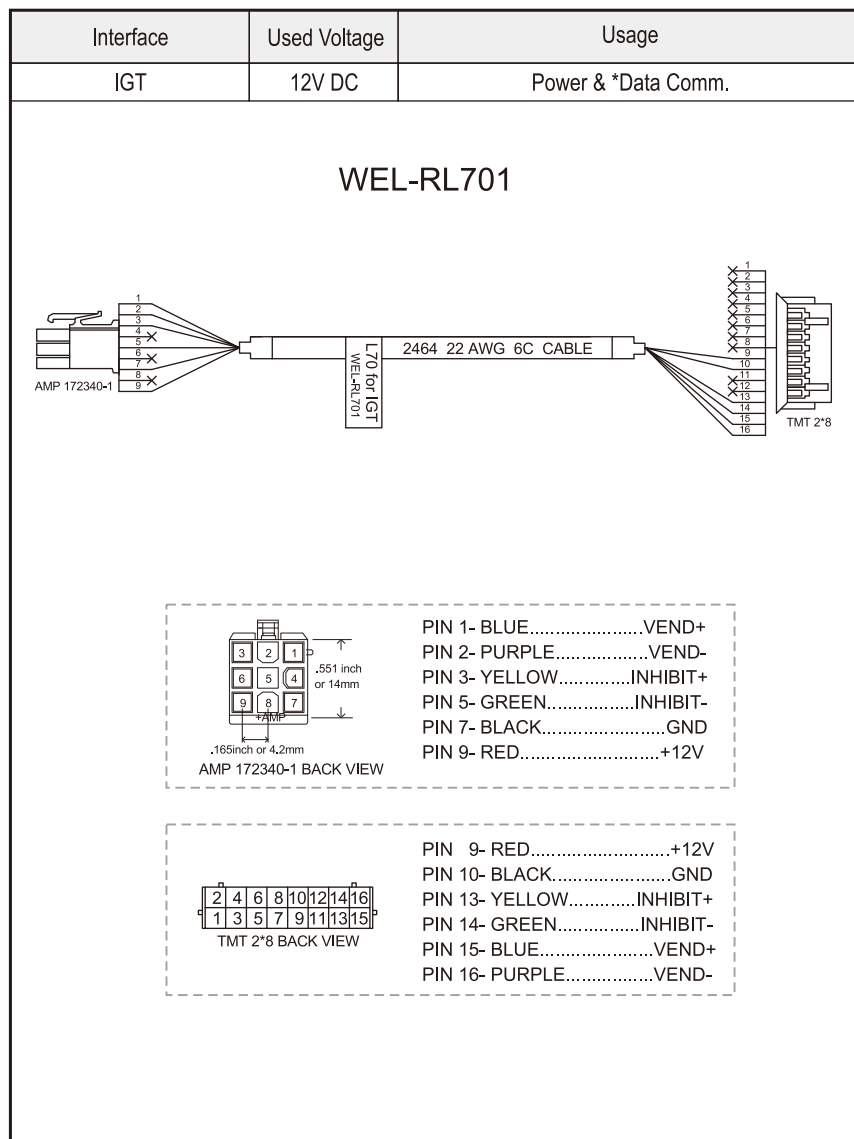
★6. "XX" varies from board version to version.

5-1 FIG. 01

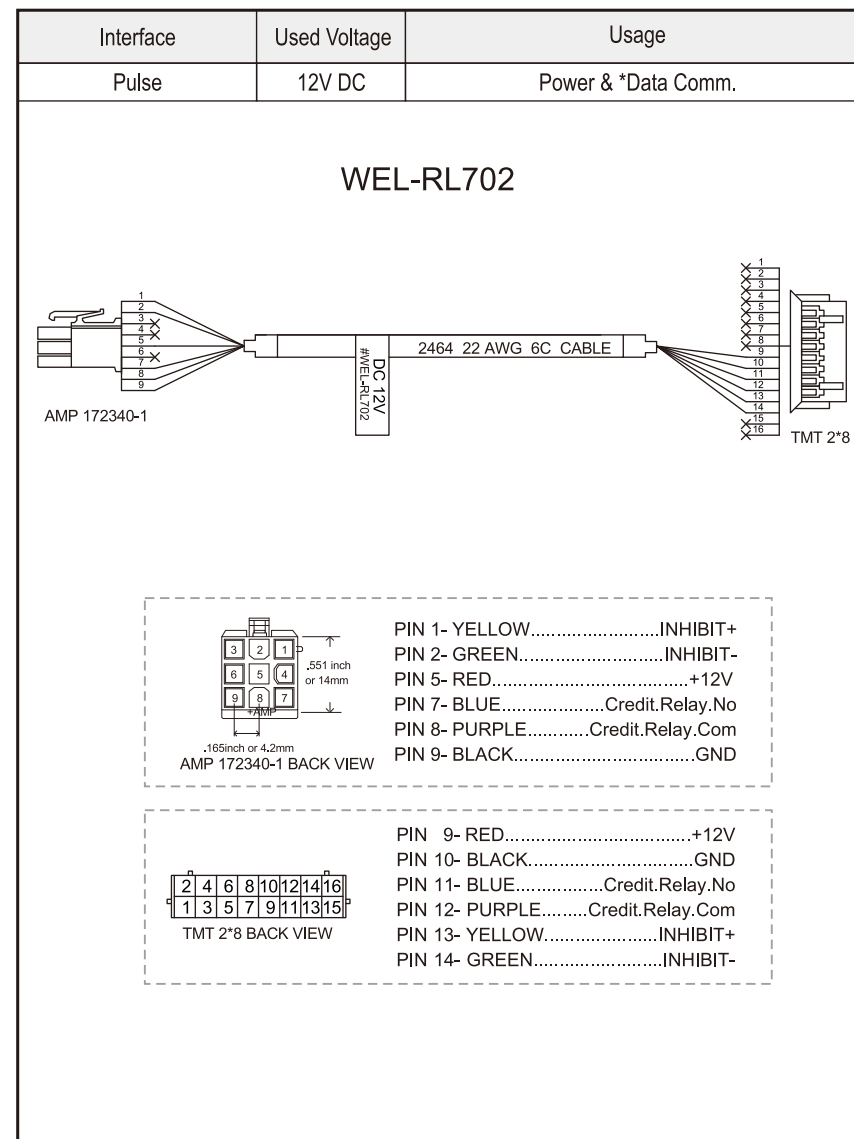
Interface	Used Voltage	Usage
Pulse	12V DC	Extension Wire for WEL-RL702
Pulse	12V DC	Extension Wire for WEL-R7U02
ICT(RS232)	12V DC	
ccNet compatible	12V DC	
RS232 A0	12V DC	
Pulse	12V DC	Extension Wire for WEL-RL802
ICT(RS232)	12V DC	
ccNet compatible	12V DC	
Pulse(Out of service)	12V DC	Extension Wire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



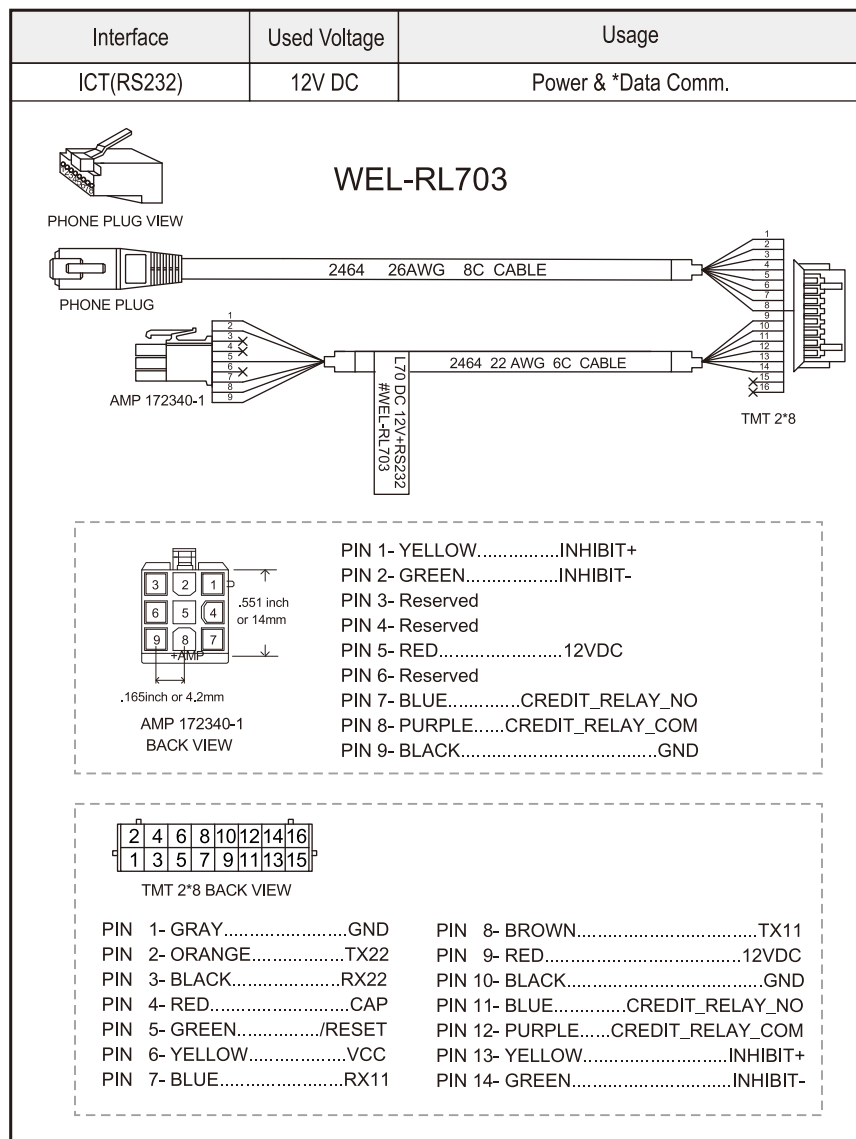
5-1 FIG. 02



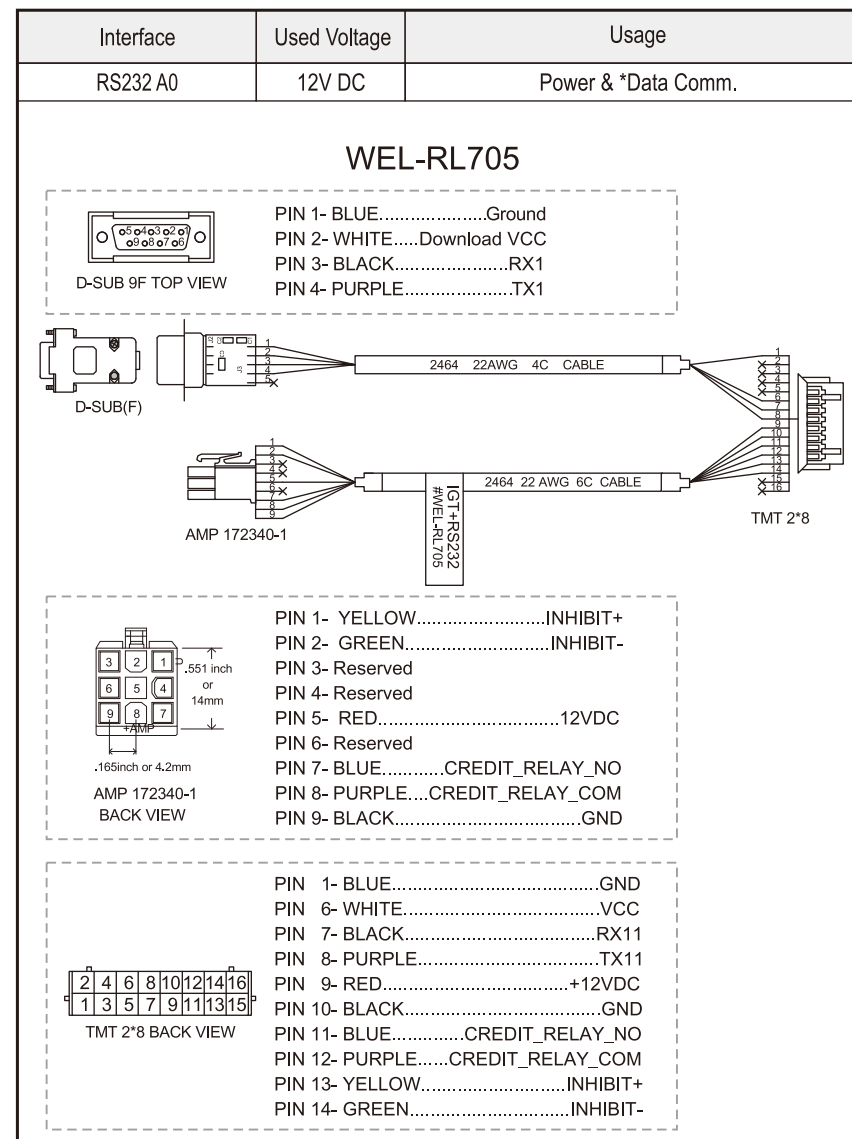
5-1 FIG. 03



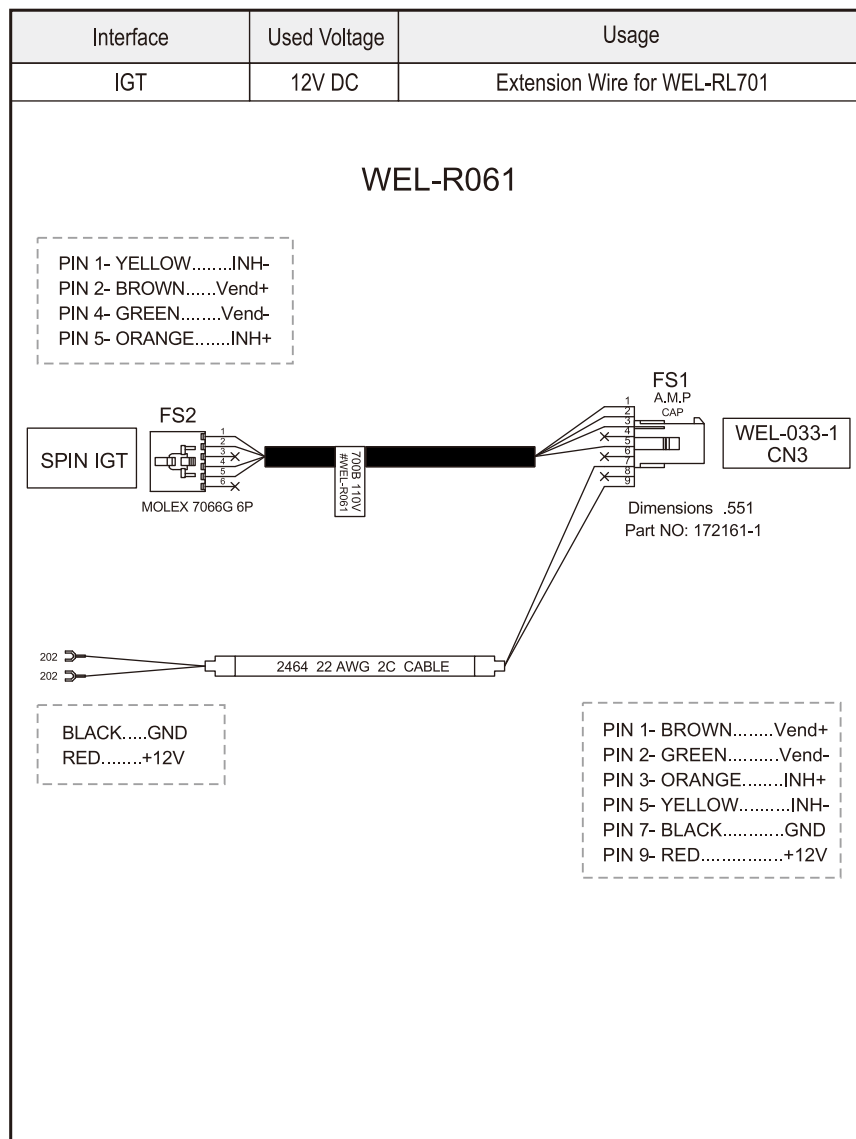
5-1 FIG. 04



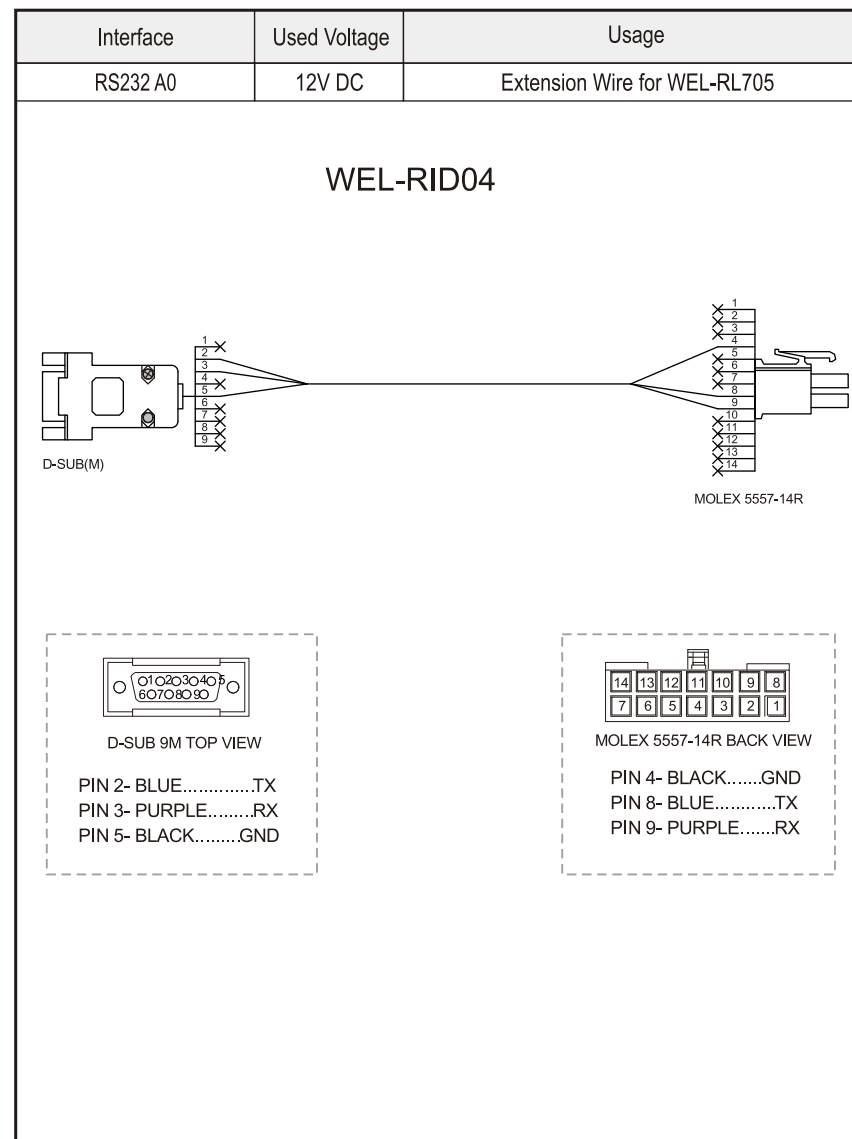
5-1 FIG. 05



5-1 FIG. 06



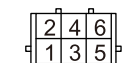
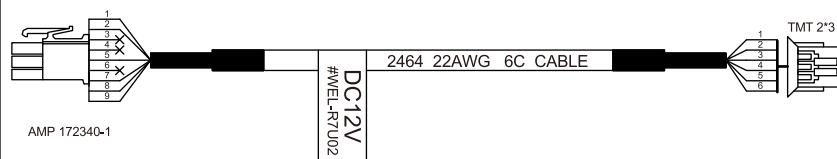
5-1 FIG. 07



5-1 FIG. 08

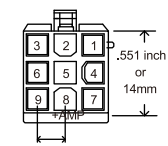
Interface	Used Voltage	Usage
Pulse	12V DC	Power & *Data Comm.
ICT(RS232)	12V DC	Power
ccNet compatible	12V DC	Power
RS232 A0	12V DC	Power

WEL-R7U02



TMT 2*3 BACK VIEW

PIN 1- RED.....12VDC HOT (POWER)
 PIN 2- ORANGE.....Ground (Power)
 PIN 3- YELLOW.....INHIBIT+
 PIN 4- GREEN.....INHIBIT-
 PIN 5- BLUE.....CREDIT RELAY (N.O.)
 PIN 6- PURPLE.....CREDIT RELAY (Common)



AMP 172340-1 BACK VIEW

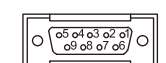
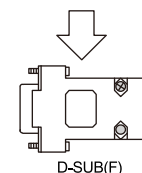
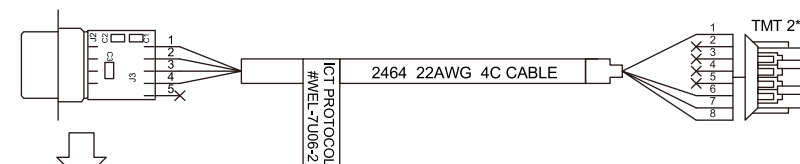
PIN 1- YELLOW.....INHIBIT+
 PIN 2- GREEN.....INHIBIT-
 PIN 5- RED.....12VDC HOT (POWER)
 PIN 7- BLUE.....CREDIT RELAY (N.O.)
 PIN 8- PURPLE.....CREDIT RELAY (Common)
 PIN 9- ORANGE.....Ground (Power)

5-1 FIG. 09

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

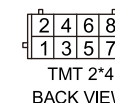
WEL-R7U06-2

PIN 1- BLUE.....Ground
 PIN 2- WHITE.....Download VCC
 PIN 3- BLACK.....RX1
 PIN 4- PURPLE.....TX1



D-SUB 9F TOP VIEW

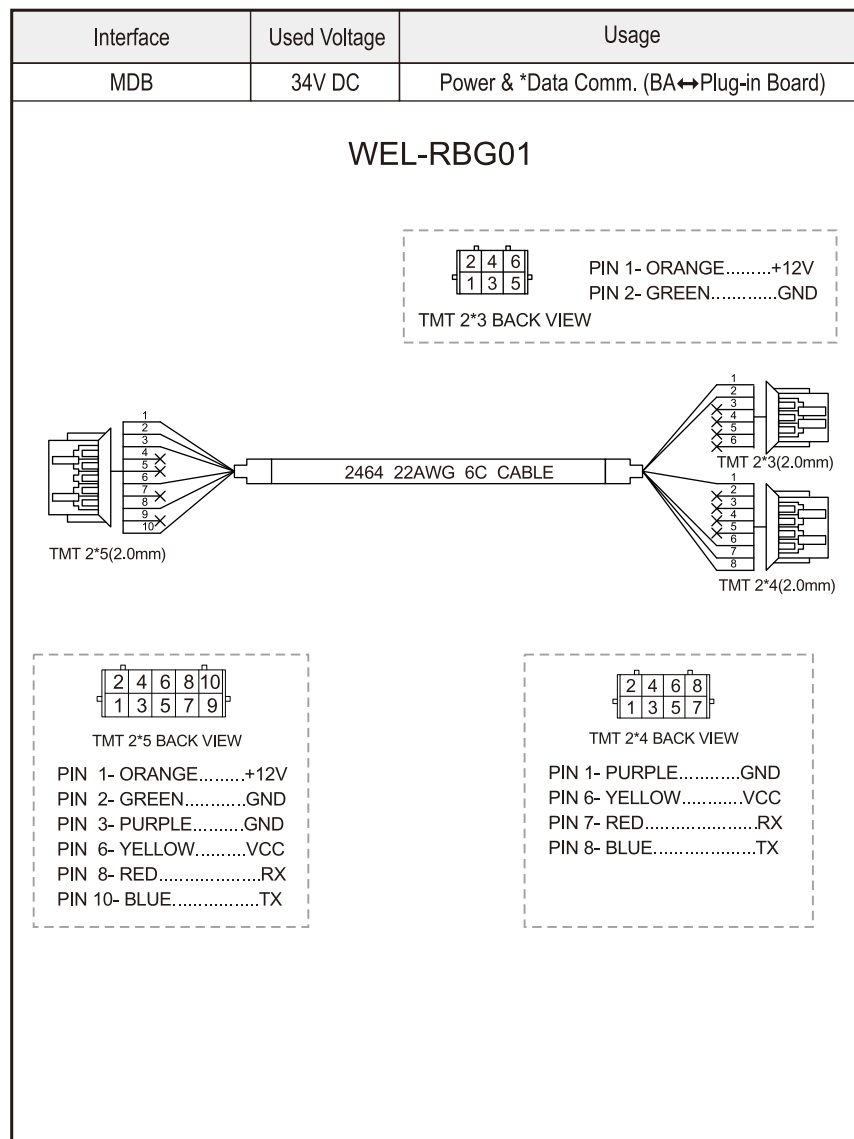
PIN 2- TXD
 PIN 3- RXD
 PIN 5- GND



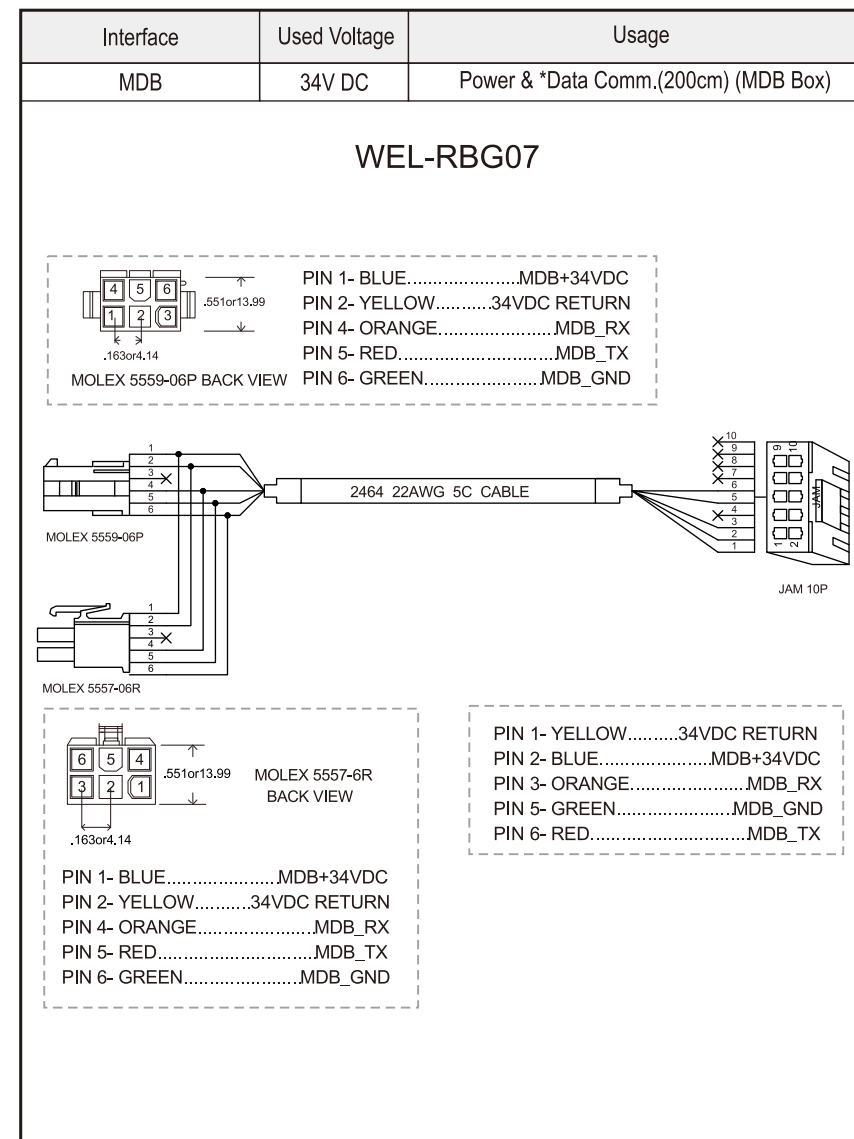
TMT 2*4 BACK VIEW

PIN 1- BLUE.....Ground
 PIN 6- WHITE.....Download VCC
 PIN 7- BLACK.....RX1
 PIN 8- PURPLE.....TX1

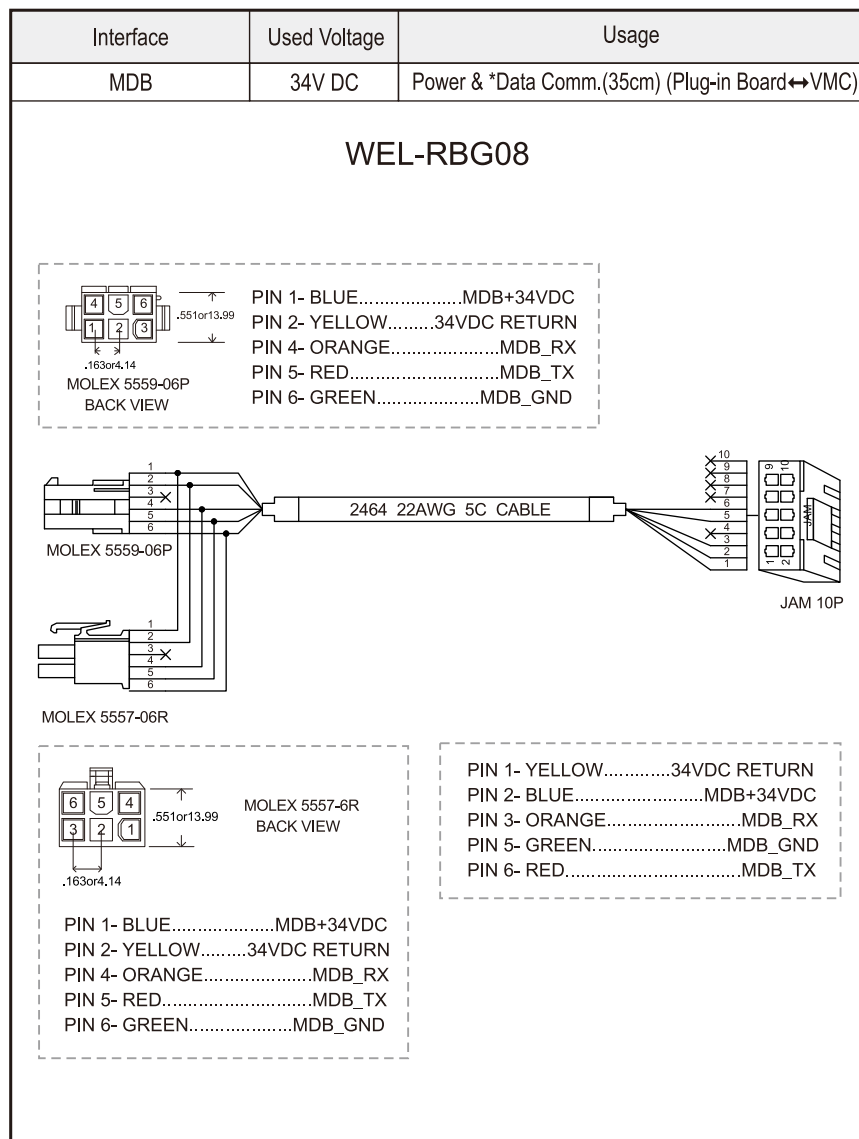
5-1 FIG. 10



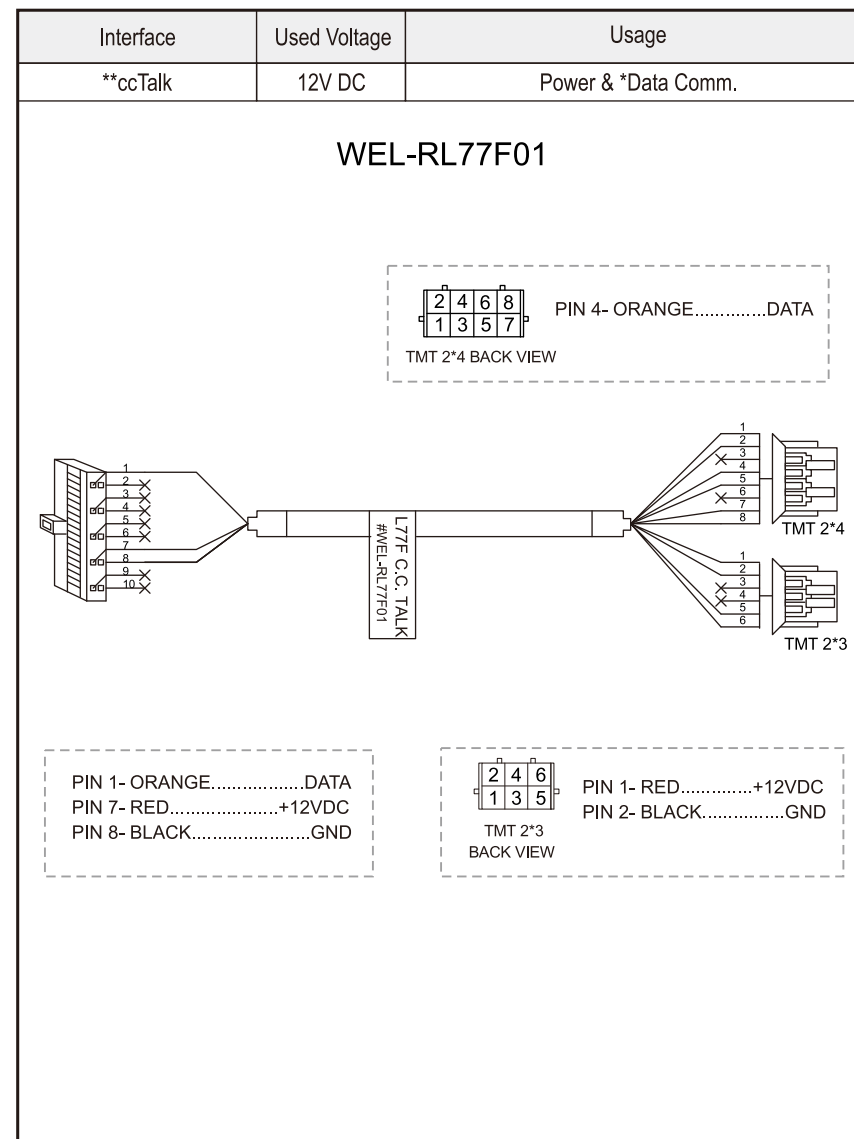
5-1 FIG. 11



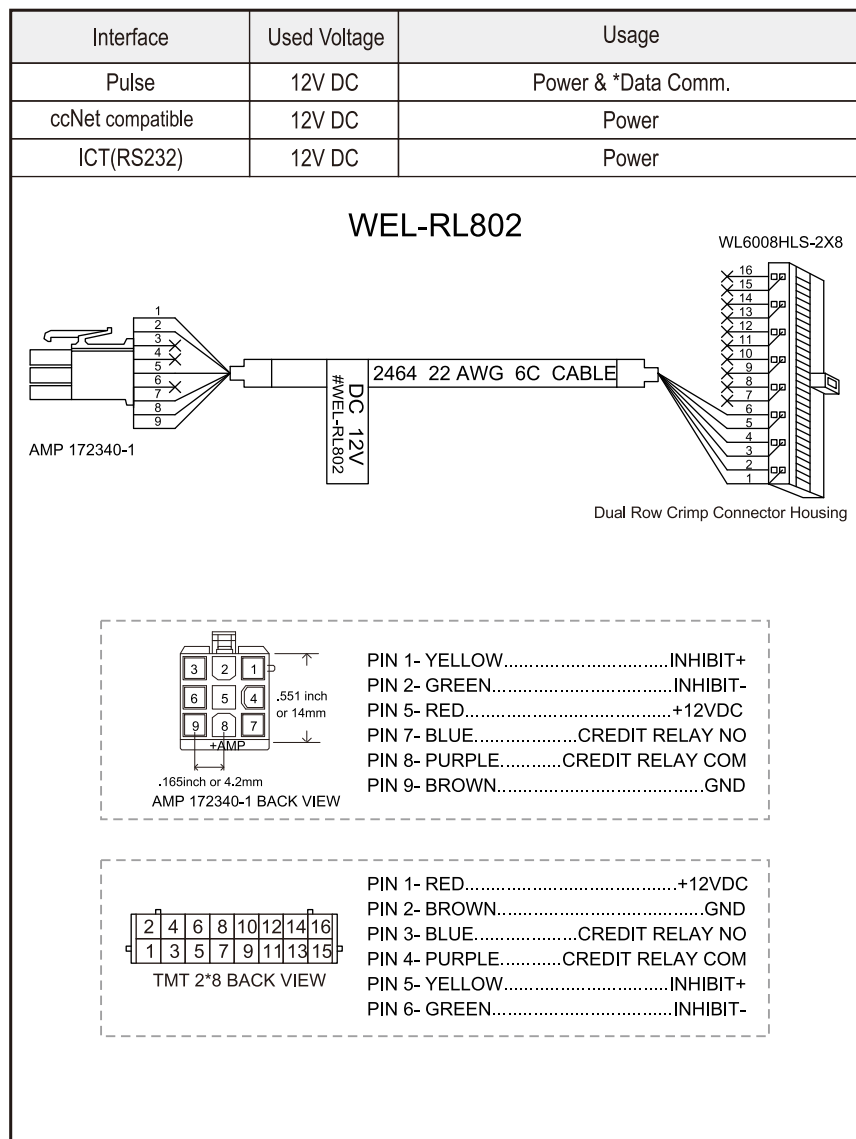
5-1 FIG. 12



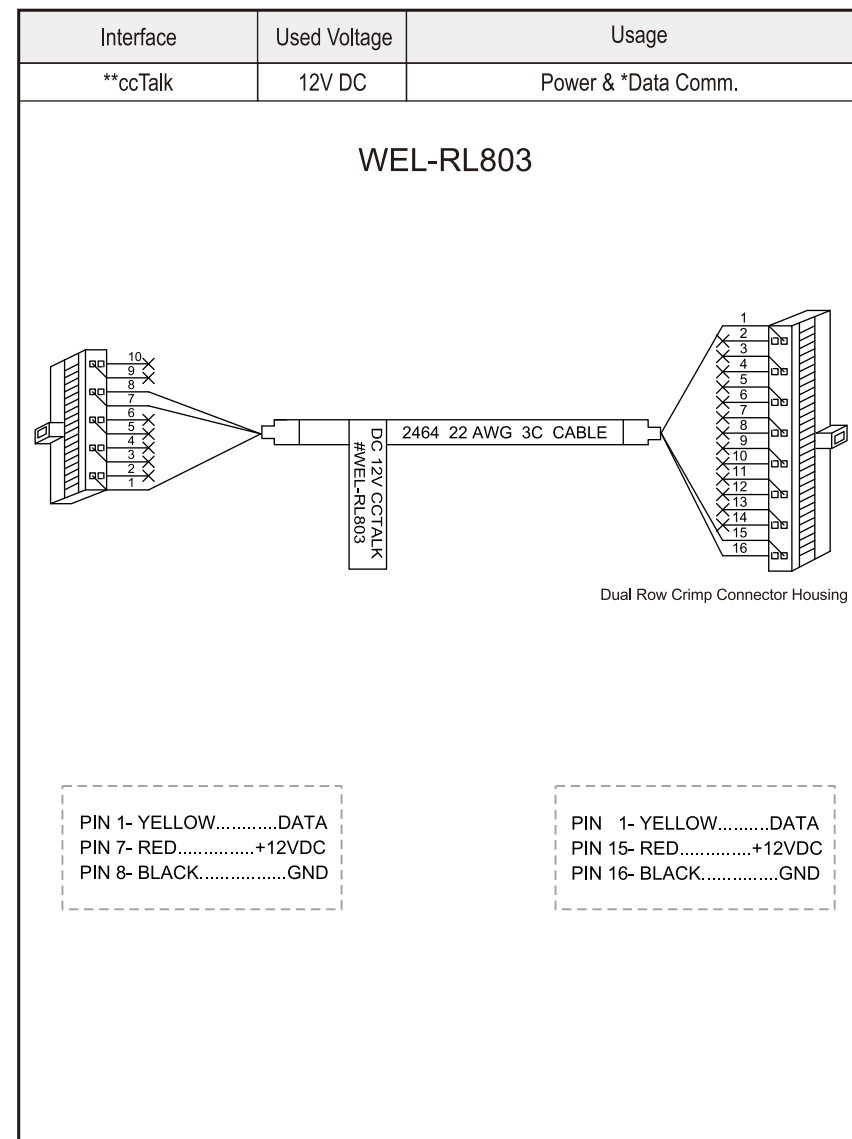
5-1 FIG. 13



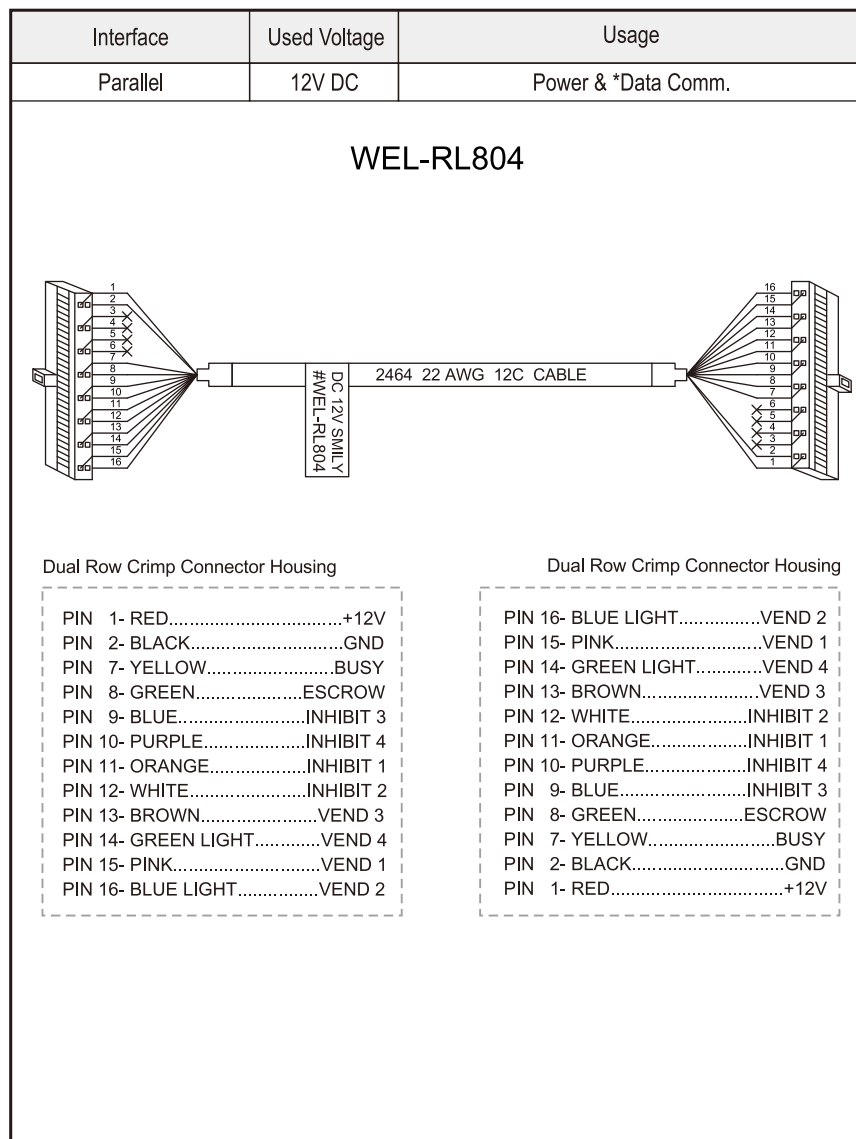
5-1 FIG. 14



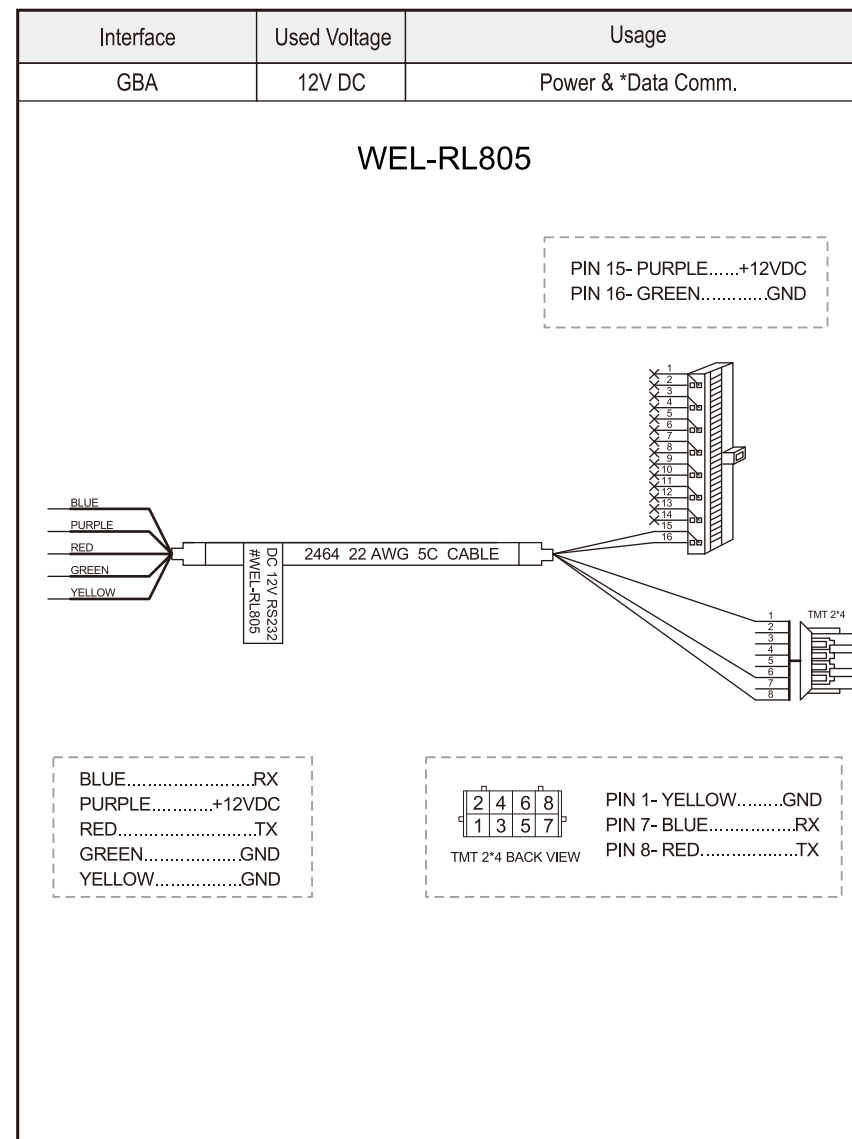
5-1 FIG. 15



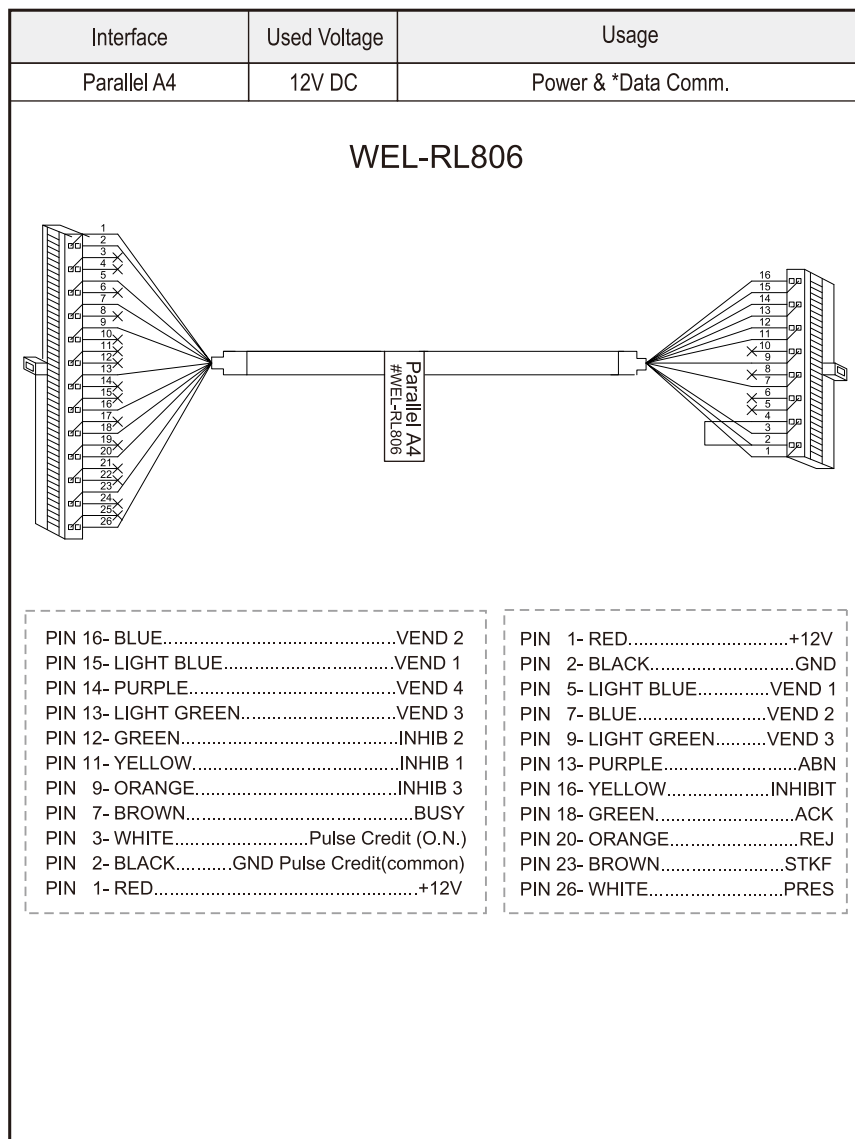
5-1 FIG. 16



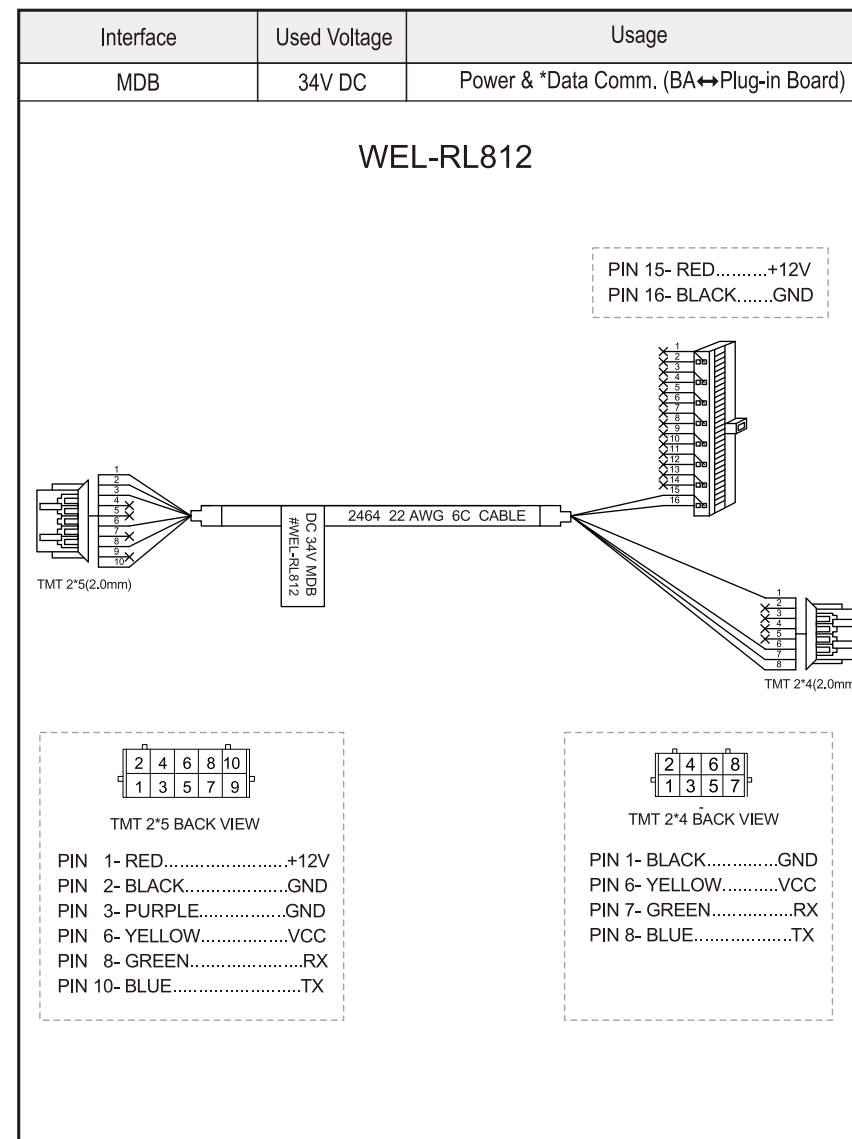
5-1 FIG. 17



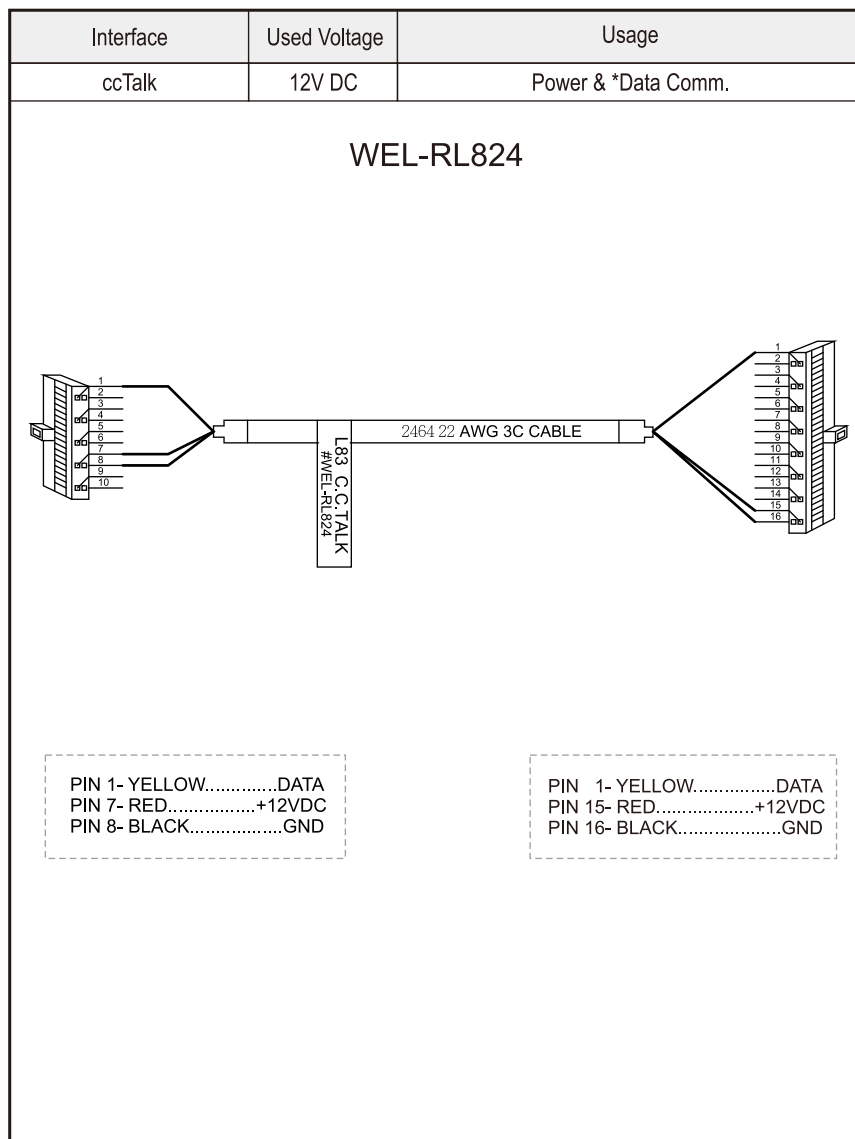
5-1 FIG. 18



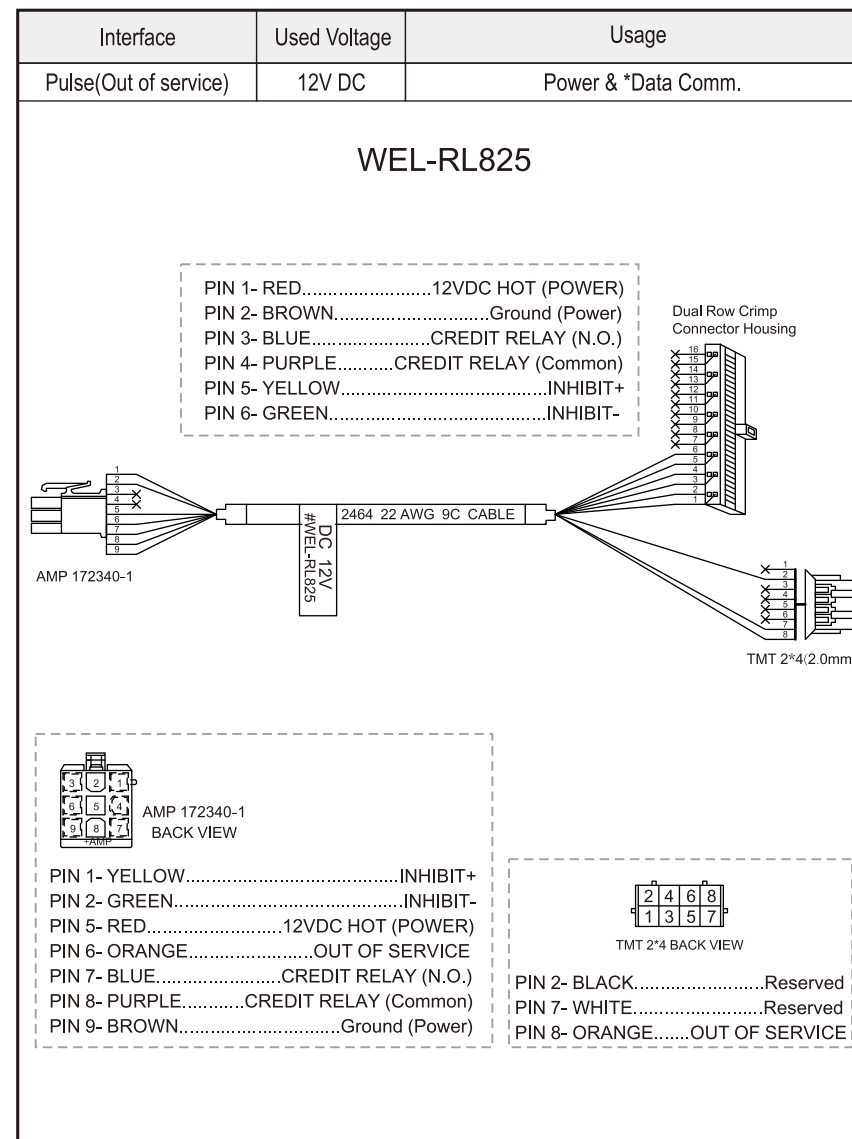
5-1 FIG. 19



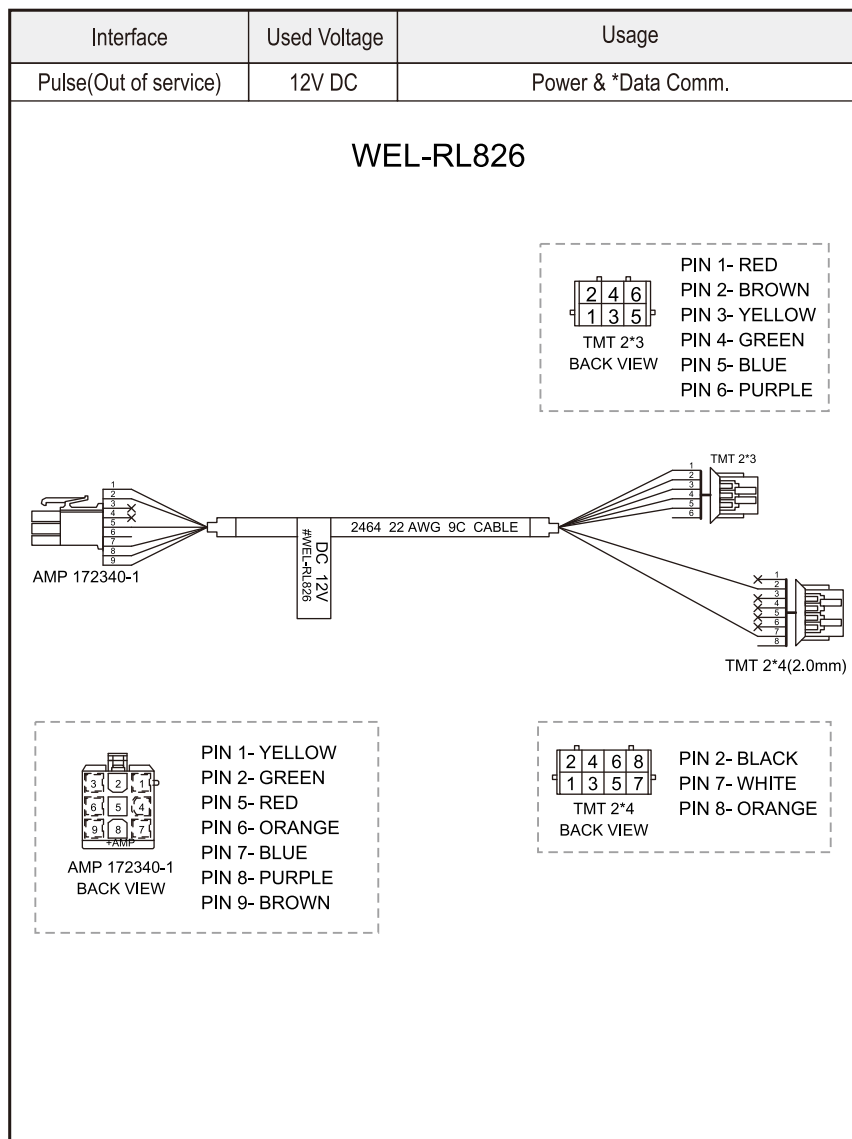
5-1 FIG. 20



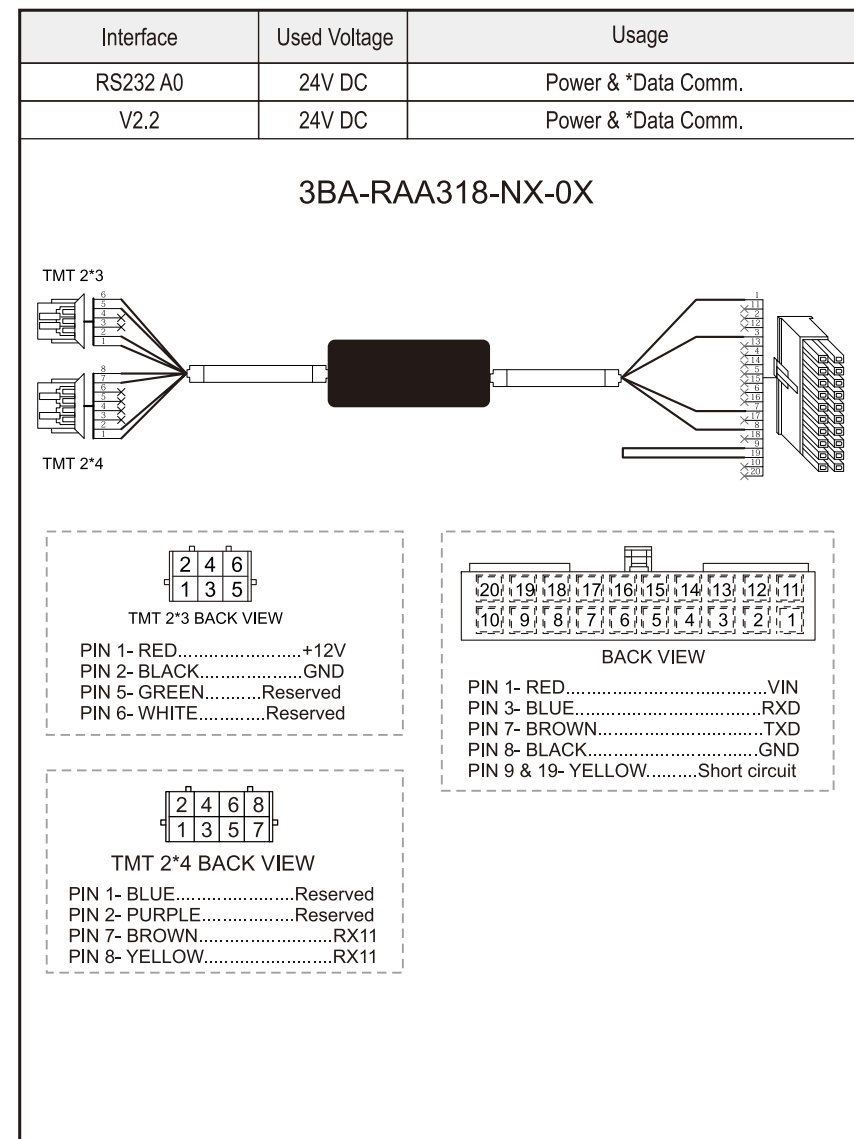
5-1 FIG. 21



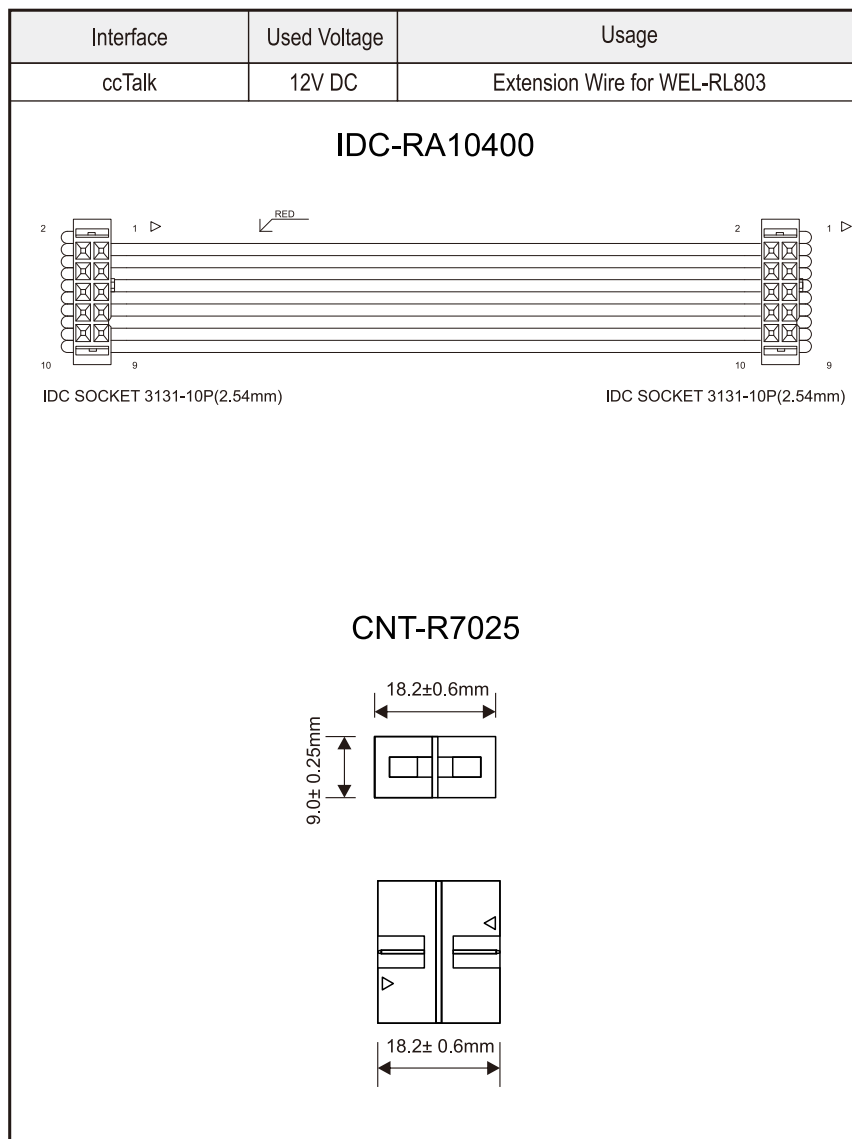
5-1 FIG. 22



5-1 FIG. 23



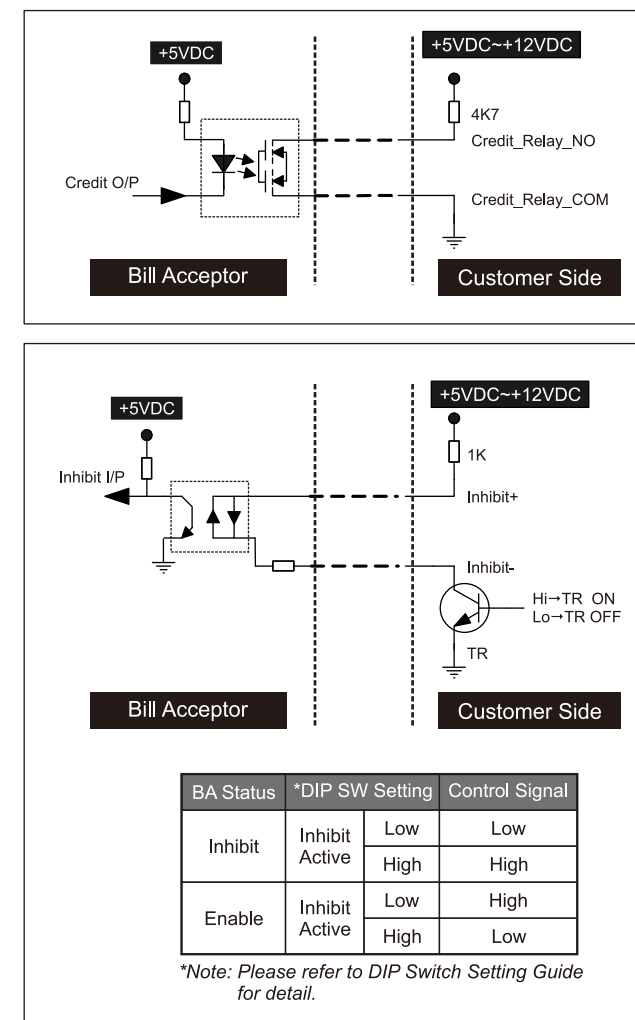
5-1 FIG. 24



5-1-1. I/O Circuit

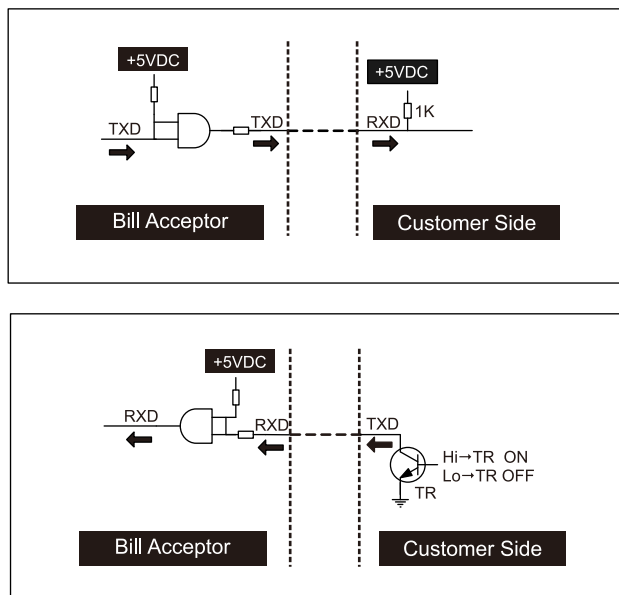
Pulse Interface.

5-1-1 FIG. 01



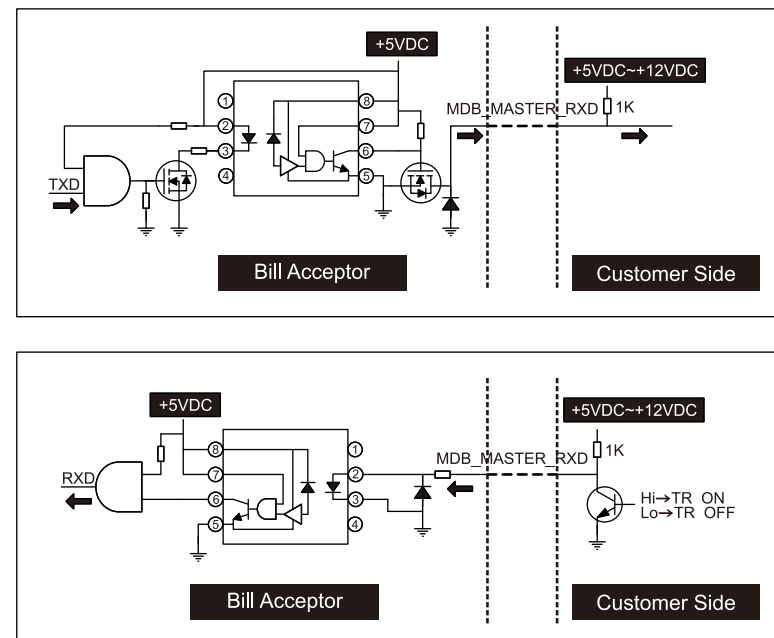
RS232, RS232 A0, GBA, ccNet compatible Interface.

5-1-1 FIG. 02



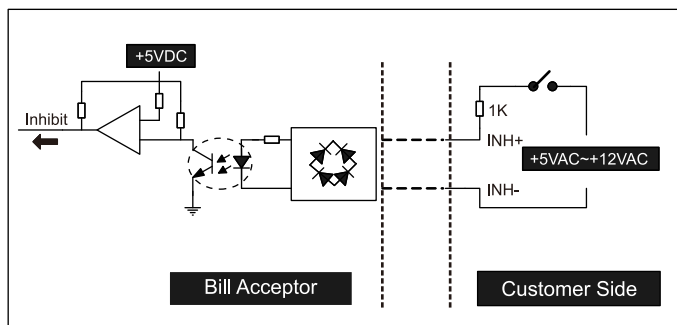
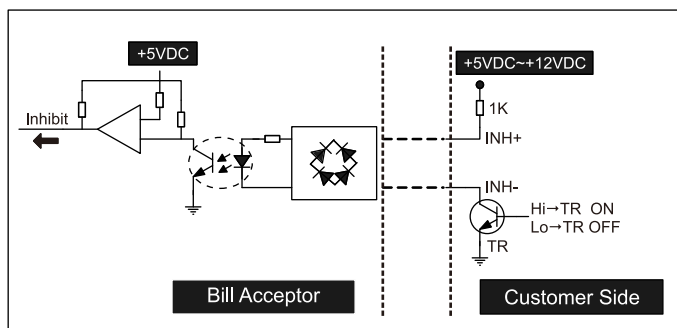
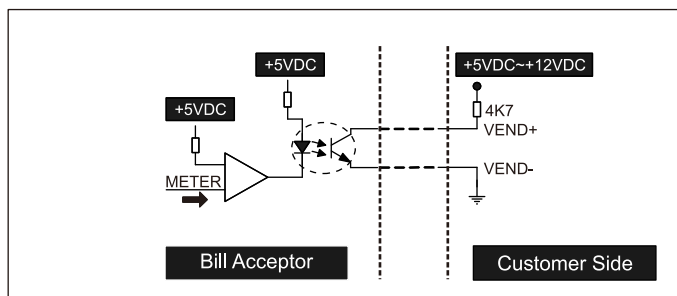
MDB Interface.

5-1-1 FIG. 03



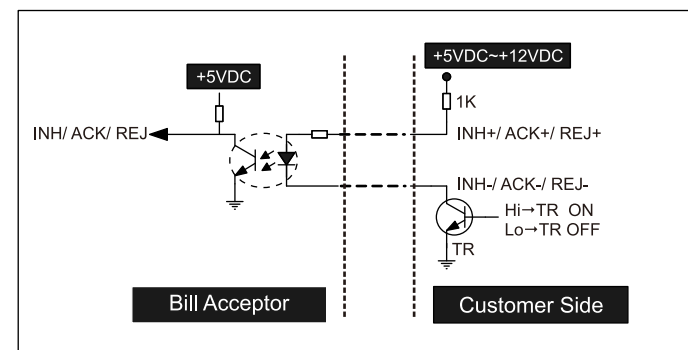
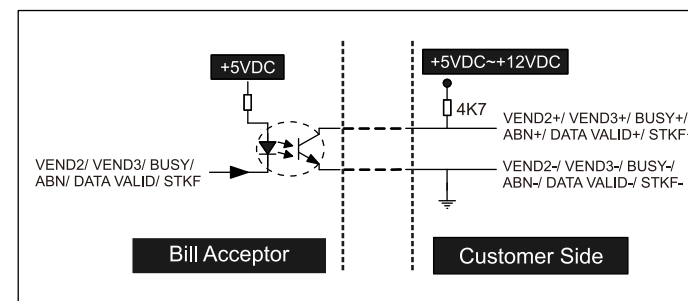
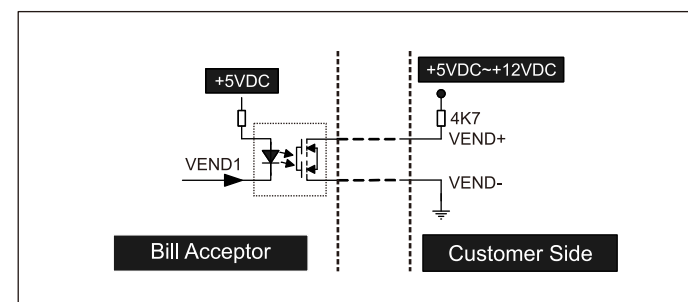
IGT Interface.

5-1-1 FIG. 04



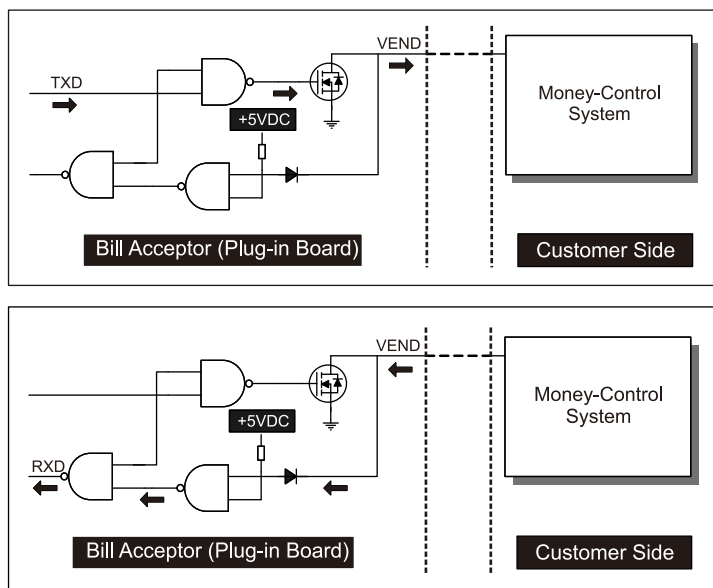
Parallel Interface.

5-1-1 FIG. 05



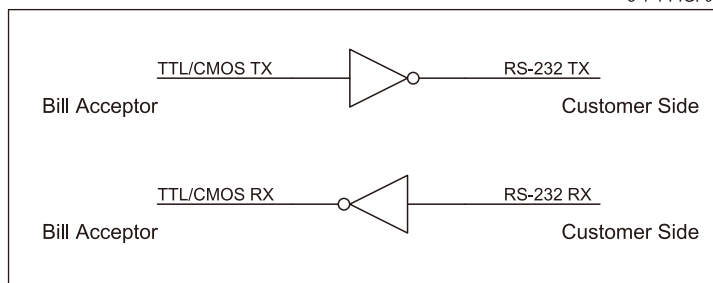
ccTalk Interface.

5-1-1 FIG. 06



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

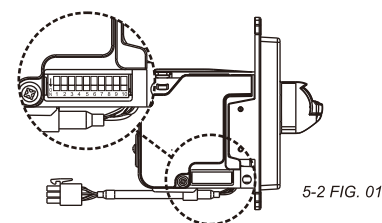
5-1-1 FIG. 07



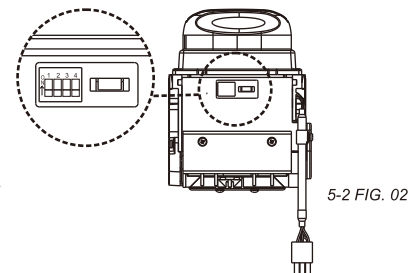
5-2. DIP Switch Setting

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.



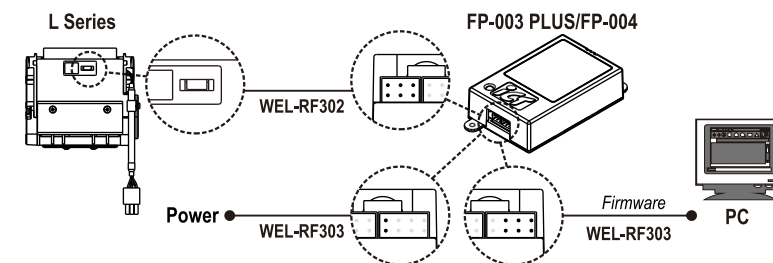
5-2 FIG. 01



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.



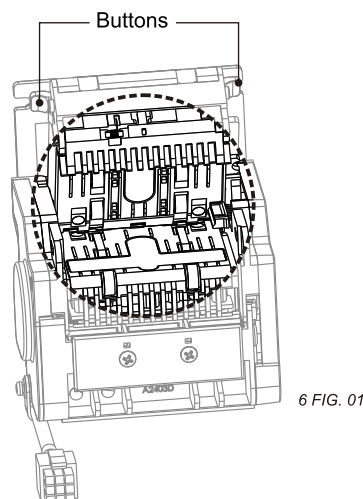
Turn on Bill Acceptor after connecting.

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.



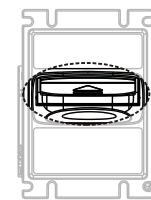
6 FIG. 01

Maintenance Notice
(Any improper maintenance will result invalid warranty.)

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

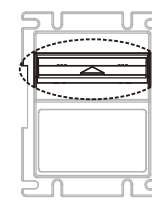
7. Troubleshooting

Bezel LED Errors



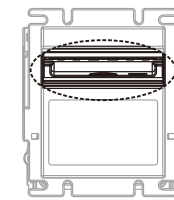
L70

7 FIG. 01



L77F

7 FIG. 02



L83

7 FIG. 03

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.

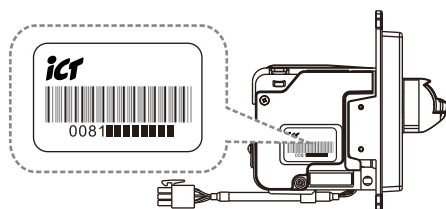


If the error can not be solved after corrective actions or happen again, please contact ICT for technical support.

◆ 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.

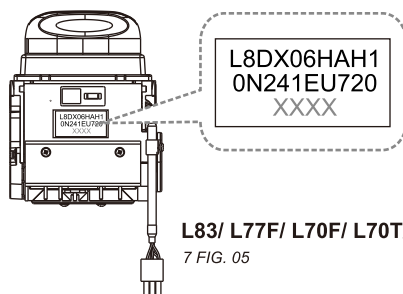
Default: 12345678



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.

ict Taiwan

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