ICT

PROGRAMMER

# FP-004

Operation Manual

International Currency Technologies Corp.

## *Use of Materials Limitations*

## Contents

# 1. Specification

Voltage : DC12V~24V

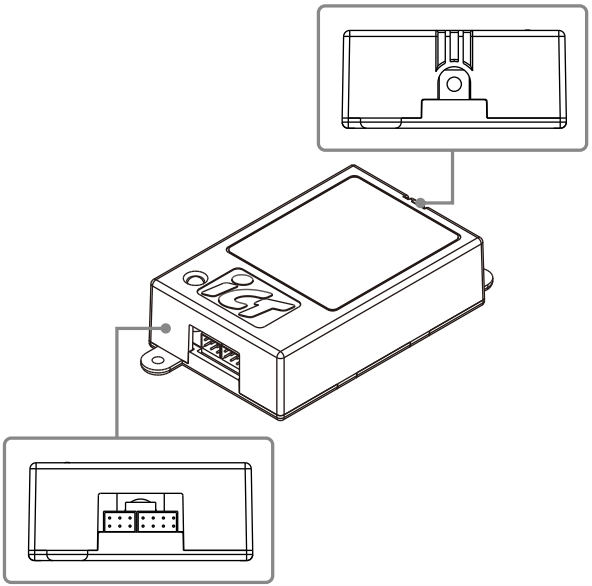
Current : 100mA

Power Consumption : 1.2W

Operating Temperature : 0°C~ 60°C

Storage Temperature : -20°C~70°C

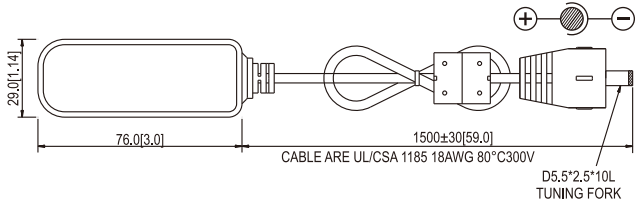
Operating Humidity : 0% ~ 85% (RH)

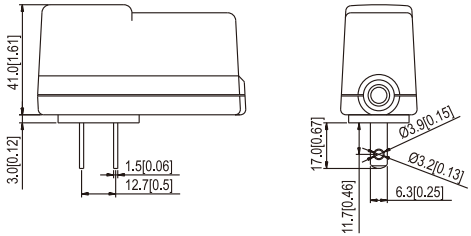


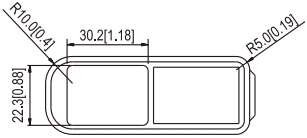
## <Optional>

Transformer Specification : Model: CIL-R2014

Input: 100-240V, 50/60Hz, 0.5A




**Unit: mm [inch]**

**The transformer is required in test mode.**

# 2. Installation

## 2-1. Harnesses Application

| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RF302** | Power & Data Communication | 9 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For BA>** | | |
| L70, L70T | | |
| L77, L77T | | |
| L83 | | |
| LX7 | | |
| S7A | | |
| S7ER | | |
| TAO-A, TAO-V | | |
| TAO-AIIU, TAO-VIIU | | |
| **Model <For Non-BA>** | | |
| DC4 | | |
| Fortune(TP) | | |
| FP-004 | | |
| UCA2, UCAES | | |

| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RF401** | Power & Data Communication | 11 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For BA>** | | |
| A6, V6 | | |
| A7, V7 | | |
| BS7 | | |
| PA6 | | |
| PA7 | | |
| **Model <For Non-BA>** | | |
| GP58 | | |
| RS232 to VCCS | | |
| VMC15, VMC50 | | |
| NDE1000 | | |

| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RF402** | Power & Data Communication | 12 |
| **WEL-RCC42** | Power & Data Communication | 13 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For BA>** | | |
| BR2300 | | |
| BR1500 | | |
| E77 | | |
| E77-B | | |
| NE77 | | |
| NE77-B2B | | |
| NK682 | | |
| NK77 | | |
| NV68, NV72 | | |
| P70, P77, P85 | | |

| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RF402** | Power & Data Communication | 12 |
| **WEL-RCC42** | Power & Data Communication | 13 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For Non-BA>** | | |
| CC6100E, CC6100M, CC6100SA, CC6100V | | |
| CSD, CVD, CVD2 | | |
| DCM5 | | |
| EX1000, EX3000 | | |
| MH | | |
| MTB | | |
| RFID CA TYPE | | |
| SCA1, SCA2 | | |

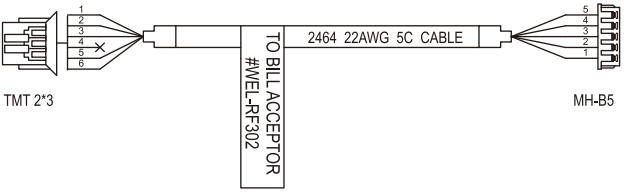
| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RF403** | Power & Data Communication | 14 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For Non-BA>** | | |
| ND Series | | |

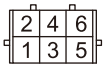
| Harnesses | Usage | Page |
|---|---|---|
| **3TM-RAA251-K1-02** | Power & Data Communication | 15 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For BA>** | | |
| TK77 | | |

| Harnesses | Usage | Page |
|---|---|---|
| **WEL-RLV7719** | Power & Data Communication | 16 |
| **WEL-RF303** | Data Communication | 10 |
| **Model <For BA>** | | |
| LV77 | | |

| Harnesses | Usage |
|---|---|
| WEL-RF302 | Power & Data Communication |

PIN 5- ORANGE .....E-PGC1-TO-BA
PIN 4- RED .....E-PGD1-DATA
PIN 3- BLACK .....GND
PIN 2- YELLOW .....CVCC
PIN 1- GREEN .....E-RESET-BA



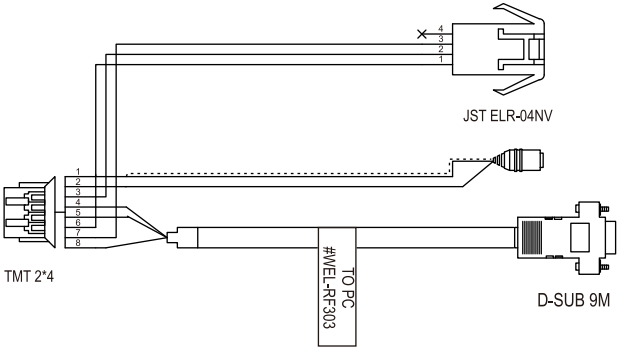

TMT 2*3
BACK VIEW

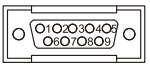
PIN 1 BLACK.....GND
PIN 2 RED.....CVCC
PIN 3 ORANGE.....E-RESET-BA
PIN 5 YELLOW.....E-PGD1-DATA 5
PIN 6 GREEN.....E-PGC1-TO-BA

| Harnesses | Usage |
|---|---|
| WEL-RF303 | Data Communication |


JST ELR-04NV BACK VIEW

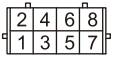
PIN 3- GREEN.....VCC RX
PIN 2- YELLOW.....VCC TX
PIN 1- BLACK.....GND




D-SUB 9M TOP VIEW

PIN 2- WHITE.....RS232 TX
PIN 3- ORANGE.....RS232 RX
PIN 5- BLACK.....GND



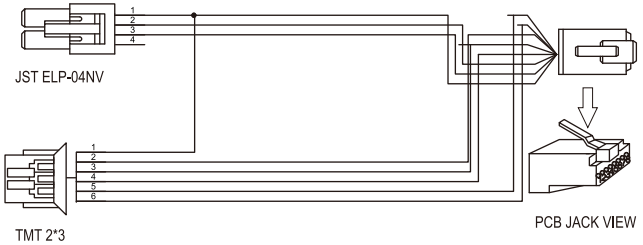

TMT 2*4 BACK VIEW

PIN 1- BLACK / WHITE.....DC+12V
PIN 2- BLACK.....GND
PIN 4- BLACK.....GND
PIN 5- WHITE.....RS232-TX
PIN 8- ORANGE.....RS232-RX

| Harnesses | Usage |
|---|---|
| WEL-RF401 | Power & Data Communication |


JST ELP-04NV
BACK VIEW

PIN 1- GRAY.....GND
PIN 2- BLACK.....3.3V RX
PIN 3- ORANGE.....3.3V TX





TMT 2*3
BACK VIEW

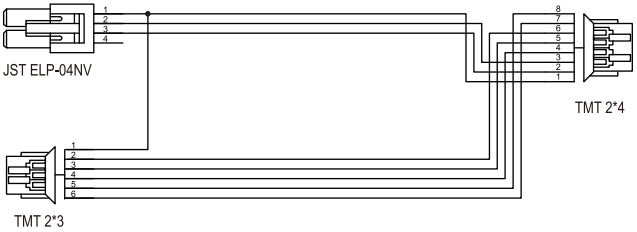
PIN 1- GRAY.....GND
PIN 2- YELLOW.....VCC

PIN 8- BROWN.....RX1
PIN 7- BLUE.....TX1
PIN 6- YELLOW.....VCC
PIN 5- GREEN.....RESET
PIN 4- RED.....PROGRAM
PIN 3- BLACK.....RX2
PIN 2- ORANGE.....TX2
PIN 1- GRAY.....GND

| Harnesses | Usage |
|---|---|
| WEL-RF402 | Power & Data Communication |


JST ELP-04NV
BACK VIEW

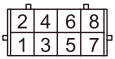
PIN 1- BLACK.....GND
PIN 2- YELLOW.....RX2
PIN 3- GREEN.....TX2





TMT 2*3
BACK VIEW

PIN 1- BLACK.....GND
PIN 2- RED.....VCC
PIN 3- GRAY.....RESET
PIN 4- ORANGE.....PROGRAM
PIN 5- BROWN.....RX1
PIN 6- BLUE.....TX1



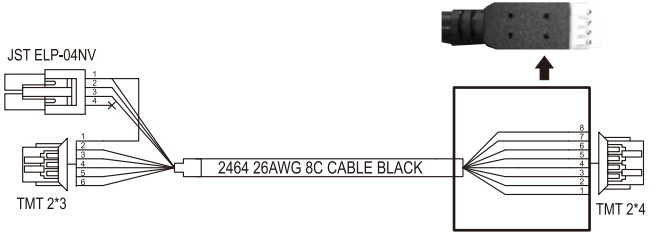

TMT 2*4
BACK VIEW

PIN 1- BLACK.....GND
PIN 2- GREEN.....TX2
PIN 3- YELLOW.....RX2
PIN 4- ORANGE.....PROGRAM
PIN 5- GRAY.....RESET
PIN 6- RED.....VCC
PIN 7- BLUE.....TX1
PIN 8- BROWN.....RX1

| Harnesses | Usage |
|---|---|
| WEL-RCC42 | Power & Data Communication |


JST ELP-04NV
BACK VIEW

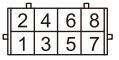
PIN 1- BLACK.....GND
PIN 2- YELLOW.....RX2
PIN 3- GREEN.....TX2





TMT 2*3
BACK VIEW

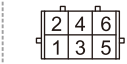
PIN 1- BLACK.....GND
PIN 2- RED.....VCC
PIN 3- GRAY.....RESET
PIN 4- ORANGE.....PROGRAM
PIN 5- BROWN.....RX1
PIN 6- BLUE.....TX1




TMT 2*4
BACK VIEW

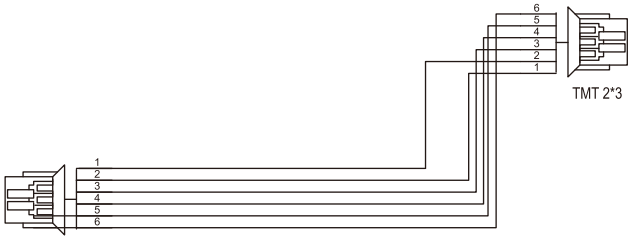
PIN 1- BLACK.....GND
PIN 2- GREEN.....TX2
PIN 3- YELLOW.....RX2
PIN 4- ORANGE.....PROGRAM
PIN 5- GRAY.....RESET
PIN 6- RED.....VCC
PIN 7- BLUE.....TX1
PIN 8- BROWN.....RX1

| Harnesses | Usage |
|---|---|
| WEL-RF403 | Power & Data Communication |




TMT 2*3
BACK VIEW

PIN 1- RED.....VCC
PIN 2- BLACK.....GND
PIN 3- BROWN.....RESET
PIN 4- YELLOW.....PROGRAM
PIN 5- GREEN.....RX1
PIN 6- BLUE.....TX1

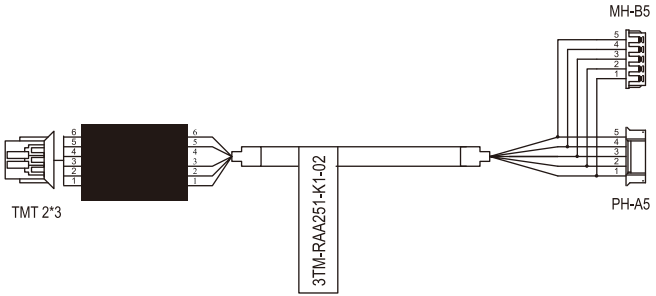




TMT 2*3
BACK VIEW

PIN 1- BLACK.....GND
PIN 2- RED.....VCC
PIN 3- BROWN.....RESET
PIN 4- YELLOW.....PROGRAM
PIN 5- GREEN.....RX1
PIN 6- BLUE.....TX1

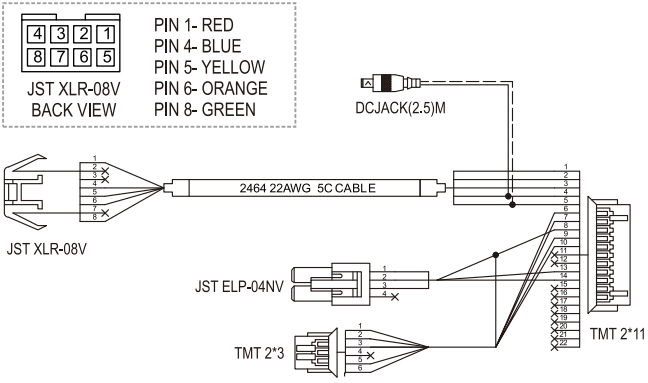
| Harnesses | Usage |
|---|---|
| 3TM-RAA251-K1-02 | Power & Data Communication |



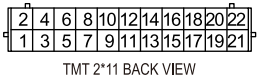

PIN 6- GREEN.....RXD
PIN 5- YELLOW.....TXD
PIN 4- BLUE.....PROGRAM
PIN 3- ORANGE.....RESET
PIN 2- RED.....VCC
PIN 1- BLACK.....GND

PIN 5- ORANGE .....RESET
PIN 4- RED .....VCC
PIN 3- BLACK .....GND
PIN 2- YELLOW.....PGD
PIN 1-GREEN .....PGC

| Harnesses | Usage |
|---|---|
| WEL-RLV7719 | Power & Data Communication |






PIN 1- ORANGE
PIN 2- BLUE
PIN 3- YELLOW
PIN 4- GREEN
PIN 5- RED
PIN 6- PINK
PIN 7- BLACK
PIN 8- BROWN
PIN 9- PURPLE
PIN 10- WHITE &
BLACK
PIN 13- WHITE
PIN 14- GRAY

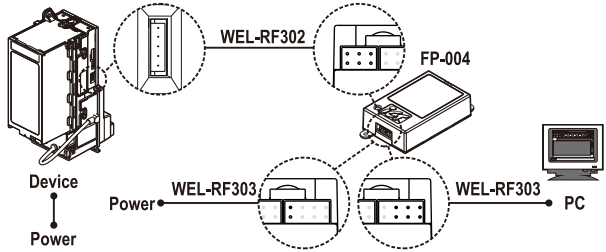
## 2-2. Direct Downloading

### < PC ➠ Device >

Step 1. Connection

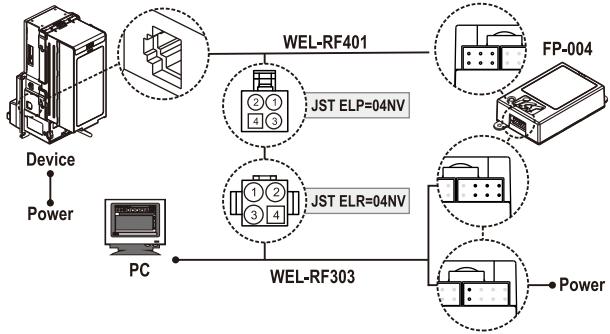
**Harnesses: WEL-RF302 / WEL-RF303**

For BA / For Non-BA (refer to page 4)




**Harnesses: WEL-RF401 / WEL-RF303**

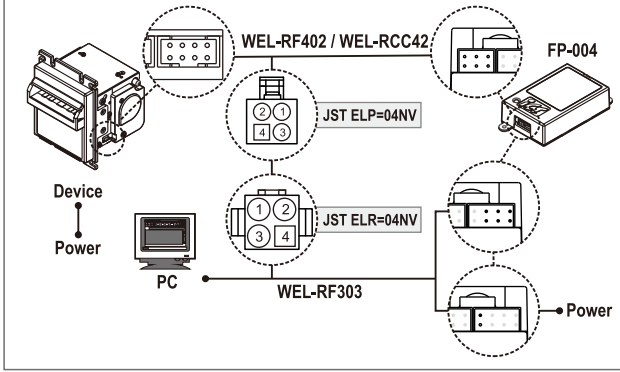
For BA / For Non-BA (refer to page 5)



## < PC ➡ Device >

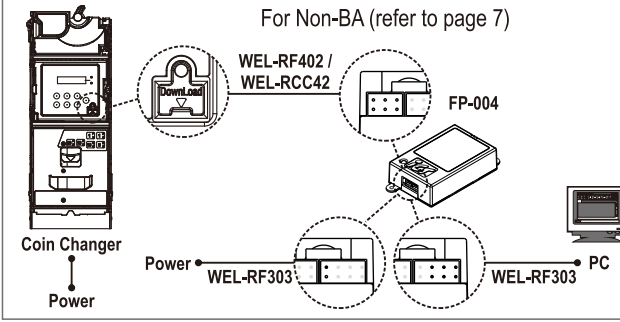
### Harnesses: WEL-RF402 / WEL-RCC42 / WEL-RF303

For BA (refer to page 6) / For Non-BA (refer to page 7)




### Harnesses: WEL-RF402 / WEL-RCC42 / WEL-RF303

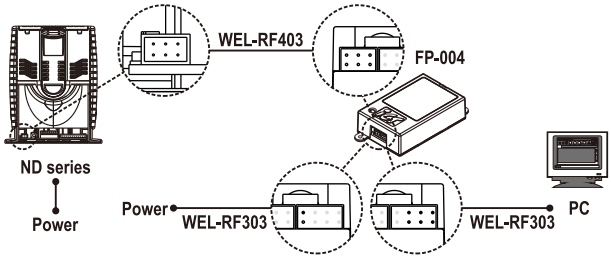
For Non-BA (refer to page 7)



## < PC ➡ Device >

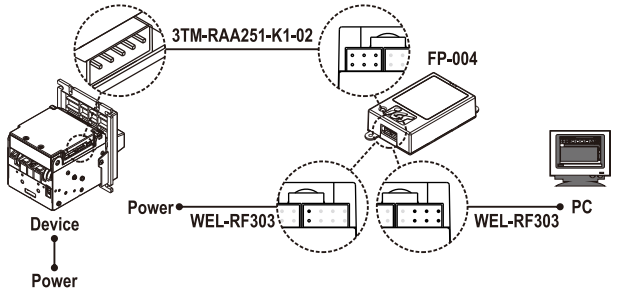
### Harnesses: WEL-RF403 / WEL-RF303

For Non-BA (refer to page 8)




### Harnesses: 3TM-RAA251-K1-02 / WEL-RF303

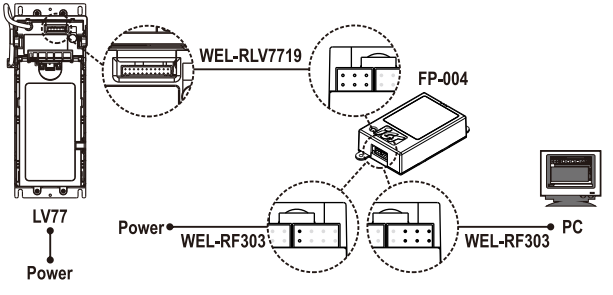
For BA (refer to page 8)



## < PC ➡ Device >

**Harnesses: WEL-RLV7719 / WEL-RF303**

For BA (refer to page 8)




1. *Power must be applied to device after connection.*
2. *Please refer to BA or Non-BA installation Guides for precise connector locations.*

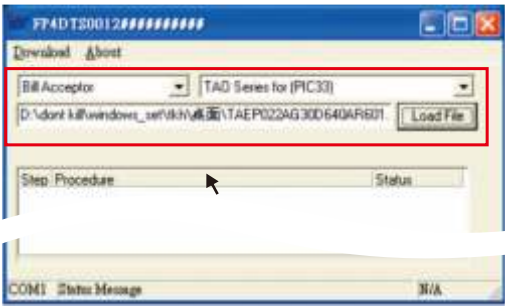
## < PC ➡ Device >

Step 2.
Launch software FP-004.
Download FP-004 from *http://www.ictgroup.com.tw/* ➡ support

Step 3.
Use notepad to edit file **"FP-004x.INI"**.
The com port setting varies according to the connection on PC.

```
[COM PORT SETTING]
PORT=COM1
BAUD=115200
DATA=8
STOP=1
PARITY=E
```

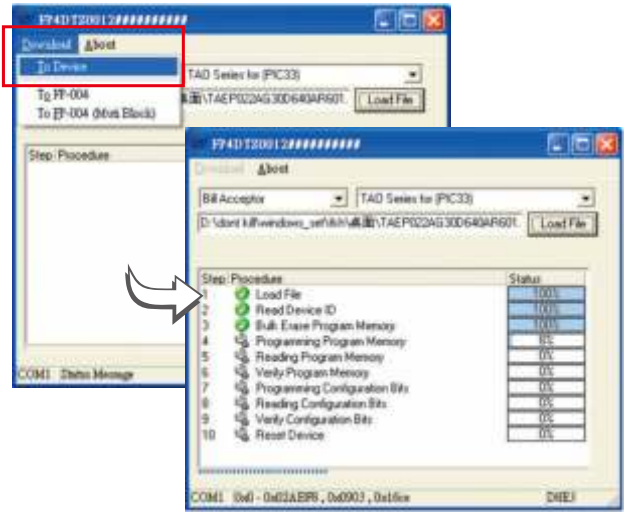
Step 4.
Select the appropriate model under **bill acceptor** type.
Retrieve the firmware path.
(Drag the firmware (hex file) into FP-004 window.)



## < PC ➡ Device >

Step 5.

Download firmware to target through FP-004.




Step 6.

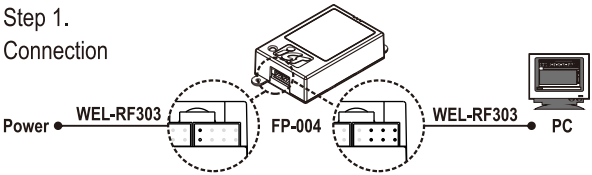
Complete downloading.

Firmware is saved in FP-004 now.

## 2-3. Indirect Downloading

**< PC ➠ FP-004 ➠ Device >**

Step 1.
Connection



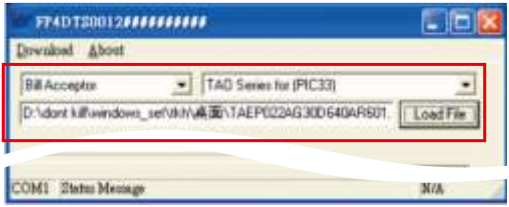

> ***Power must be applied to FP-004 after connection.***

Step 2.
Execute FP-004 download tool **"FP4DT-exe"**.

Step 3.
Use notepad to edit file **"FP-004x.INI"**.
The com port setting varies according to the connection on PC.

```
[COM PORT SETTING]
PORT=COM1
BAUD=115200
DATA=8
STOP=1
PARITY=E
```

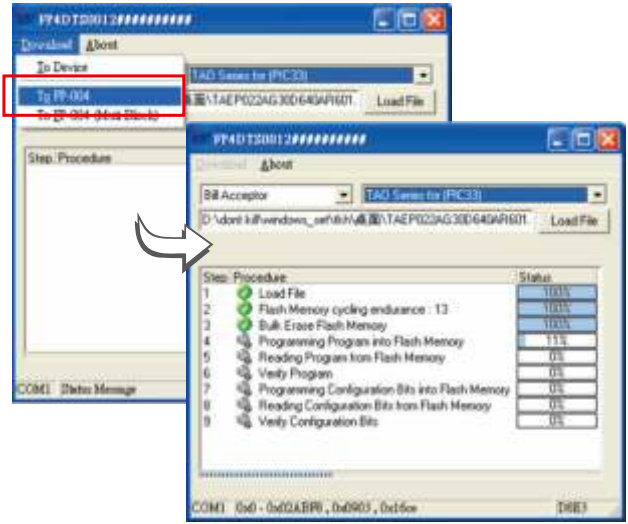
Step 4.
Select the appropriate model under **bill acceptor** type.



## < PC ➠ FP-004 ➠ Device >

Step 5.

Choose **"Download"** and **"To FP-004"** to proceed program burning.




Step 6.

Complete downloading.

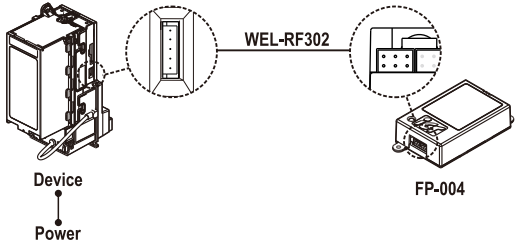
Firmware is saved in FP-004 now.

## < PC ➠ FP-004 ➠ Device >

Step 1. Connection

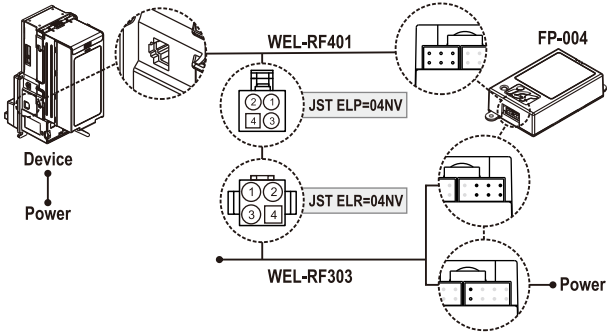
**Harnesses: WEL-RF302**

For BA / For Non-BA (refer to page 4)




**Harnesses: WEL-RF401**

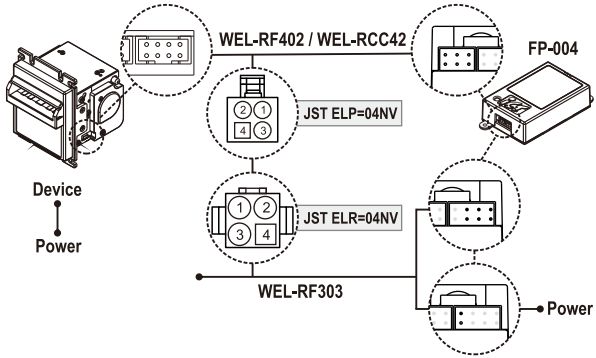
For BA / For Non-BA (refer to page5)



## < PC ➡ FP-004 ➡ Device >

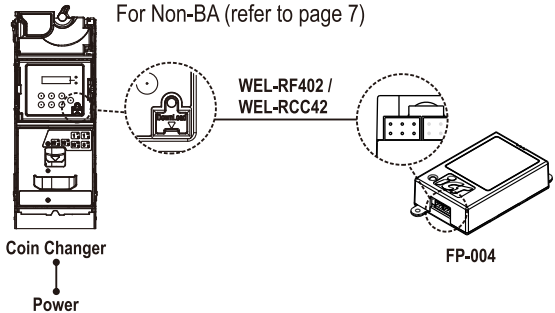
### Harnesses: WEL-RF402 / WEL-RCC42

For BA (refer to page 6) / For Non-BA (refer to page 7)




### Harnesses: WEL-RF402 / WEL-RCC42

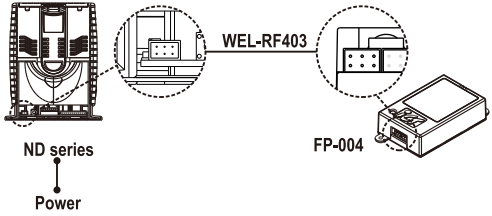
For Non-BA (refer to page 7)



## < PC ➡ FP-004 ➡ Device >

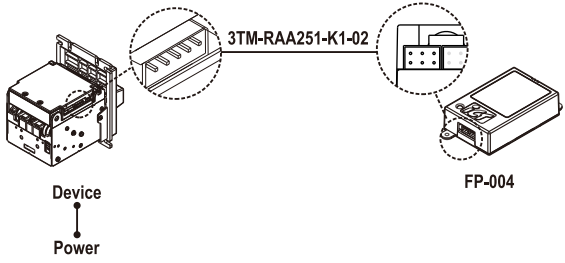
**Harnesses: WEL-RF403**

For Non-BA (refer to page 8)




**Harnesses: 3TM-RAA251-K1-02**

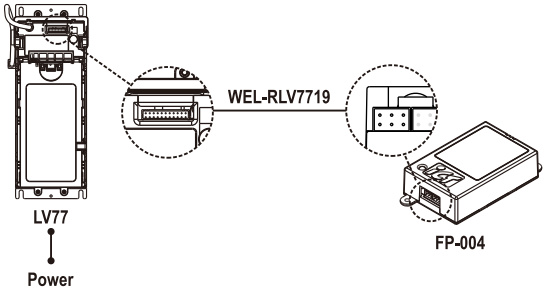
For BA (refer to page 8)



## < PC ➠ FP-004 ➠ Device >

**Harnesses: WEL-RLV7719**

For BA (refer to page 8)




***1. Power must be applied to device after connection.***
***2. Please refer to BA or Non-BA installation Guides for precise connector locations.***

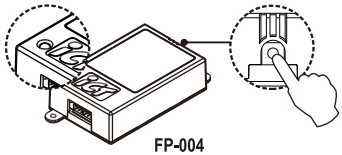
## < PC ➠ FP-004 ➠ Device >

Step 2.
Start downloading a new firmware to Device.

2-1. Press and hold the button for at least 3 seconds, and wait until the faceplate LED turns to purple.

2-2. The faceplate LED will flash faster and faster as It's approaching the end of download progress.

2-3. After downloading, the faceplate LED will indicate "Green" as successful downloading or "Red" as failed downloading in 3 seconds.



FP-004

**Note:**
As downloading the firmware to Device in this mode, PC Tool shows the download progress automatically.

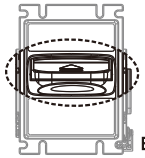
Step 3.
Complete indirect downloading.

## 2-4. Sensor Calibration

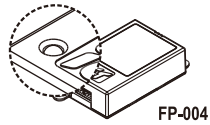
Calibrate sensor of the Bill Acceptor with calibration card every time after download can keep high recognition rate. In addition to the regular bill acceptor calibration by connecting to PC, there is another option allows users to calibrate Bill Acceptor after indirect downloading without PC.

Please follow the steps below to calibrate BA:

Step 1.
After download complete, FP-004 would be back to standby mode, and BA will be in white card calibration mode automatically (LED constantly stays green).



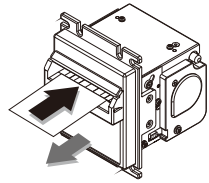
Stays green



Flashes green

Step 2.
Insert white card in BA to calibrate.

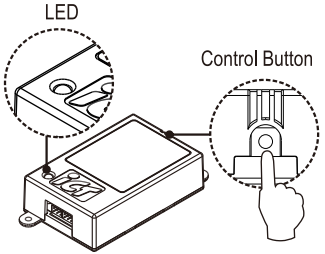
Step 3.
White card will be rejected when calibrating succeed.




Step 4.
Restart BA after calibrating

## 3. LED Status

| Flashes | | Mode | Status |
|---|---|---|---|
| **GREEN** | Flashing | Idling | FP-004 to Device Mode |
| | ON | Download | Download Successful |
| **BLUE** | ON | Idling | PC to BA RS232 Mode |
| **YELLOW** | ON | Idling | PC to BA Test Mode |
| **RED** | Flashing | Idling | Memory Problem |
| | ON | Download | Download Fail |
| **PURPLE** | ON | Download | Busy |
| | Flashing | | Download in Progress |




Step 1.
Click to switch between PC and Device.

Step 2.
Press and hold three seconds to start downloading from FP-004 to Device.

## *Attachment Table 1*

| BA Model Type | Models |
|---|---|
| A / V Series for (549) | A6, A7, V6, V7, PA6, PA7 |
| V Series for (PIC33) | V7E, V77E, BS7, LX7 |
| E Series for (549) | E77 |
| L Series for (PIC33) | L70, L70T, L77, L77T, L83 |
| N Series for (549) | N6, N7 |
| NK Series for (487) | NK682, NK77 |
| P Series for (549) | P70, P77, P85 |
| S Series for (PIC33) | S7A, S7ER |
| TAO Series for (PIC33) | TAO-A, TAO-AIIU, TAO-V, TAO-VIIU |
| NV Series for (STM32) | NV68, NV72 |
| LV77 for (PIC33) | LV77 |
| Bill Recycle Series | BR2300, BR1500, E77 B2B, NE77, NE77 B2B, |
| Coin Changer Series | CC6000, CC6100 |
| Coin Dispenser for (STM8S207) | Coin Dispenser |
| Coin Dispenser for (626) | CSD, CVD, CVD2 |
| ID Verifier Series | DC4, DCM5 |
| Money Changer Series | EX1000, EX3000 |
| Ticket Printer for (PIC32) | FORTUNE |
| Note Dispenser Series | ND Series |
| RS232 to VCCS Converter Board (487) | RS232 to VCCS Converter Board |

***Attachment Table 2***

| BA Model Type | Models |
|---|---|
| RFID Series | RFID CA type |
| SCA Series | SCA1, SCA2 |
| UCA Series | UCA2, UCAES |
| TK77 Series | TK77 |
| Vending Machine | VMC15, VMC50 |

***Please contact ICT for any other questions.***

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