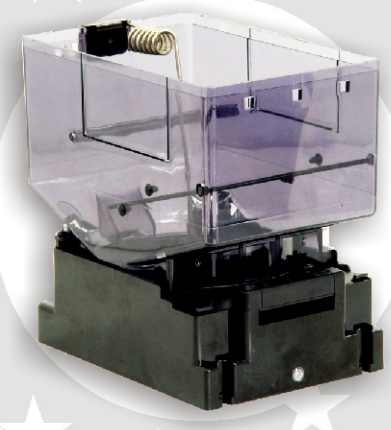
ICT

Leonid
Mini Hopper
Installation Guide



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Contacts

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1. Introduction

1-1. Overview

Mini hopper is a single denomination coin dispensing unit. Users can adjust the coin dimension with different coin payout plate and different coin adjustment points.

The design of Mini Hopper is easy operated, trouble-free and high reliability.

1-2. Features

- Dual sensors, double protection.
- Easy maintenance.
- Easy installation.
- Coin size adjustable.
- Advanced coin low level detection.
- Compact design with enormous capacity.

2. Specifications

Common

Dispensing Speed

MH-12XXX
5~6 coin/second

MH-24XXX
6~8 coin/second

Interface

Pulse, ICT, Hopper, ccTalk

Counting Method

Two Optical Sensor

Installation

Indoor

Electrical

Power Source

MH-12XXX 12V DC ±5%
MH-24XXX 24V DC ±5%

Operation Environment

Operation Temperature: 5°C~50°C
Storage Temperature: -15°C~70°C

Power Consumption

Standby: 50mA
Max : 2.5A

Mechanical

Coin Capacity

Approx. 500 coins

Weight

Approx. 800g

Outline Dimension

See Page.4

Applicable Coin Size

A TYPE
(Diameter) 22.5mm~28mm
(Thickness) 1.6mm~2.4mm

B TYPE
(Diameter) 20mm~23mm
(Thickness) 1.6mm~2.2mm

C TYPE
(Diameter) 23mm~30mm
(Thickness) 2.5mm~3.3mm

D TYPE
(Diameter) 23mm~30mm
(Thickness) 1.6mm~2.4mm

F TYPE
(Diameter) 22.5mm~28mm
(Thickness) 1.0mm~1.5mm

3. Model Number

MH - XX X X X

1 2 3 4 5 Ex. MH-125HA

1. Model Number:

MH	Mini Hopper

2. Voltage:

12	12V DC
24	24V DC

3. Coin Capacity:

5	500 coins

4. Interface:

H	Hopper Mode
C	ccTalk + Hopper Mode
G	ICT Protocol + Pulse Mode + Hopper Mode

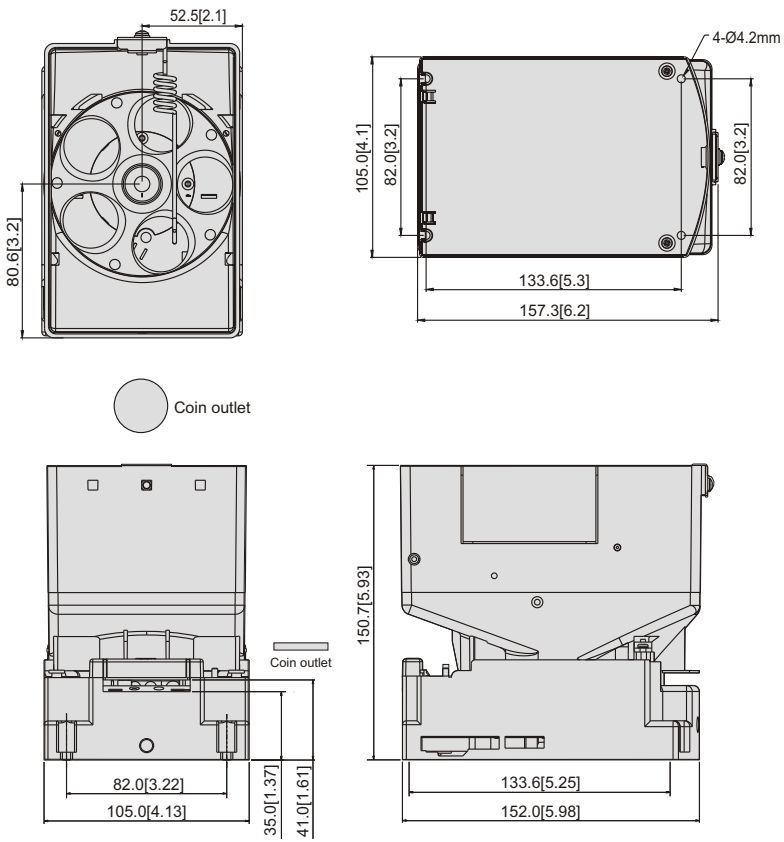
5. Applicable Coin Size:

A	(Diameter) 22.5mm~28mm (Thickness) 1.6mm~2.4mm
B	(Diameter) 20 mm~23mm (Thickness) 1.6mm~2.2mm
C	(Diameter) 23 mm~30mm (Thickness) 2.5mm~3.3mm
D	(Diameter) 23 mm~30mm (Thickness) 1.6mm~2.4mm
F	(Diameter) 22.5mm~28mm (Thickness) 1.0mm~1.5mm

4. Packing List

Main	Accessory
Mini Hopper	Harnesses: WEL-RHP01 WEL-RHP02 WEL-RHP17 WEL-R7U06 Mini Hopper Installation Guide

5. Dimension



Unit : mm [inch]

6. Installation

6-1. Overview

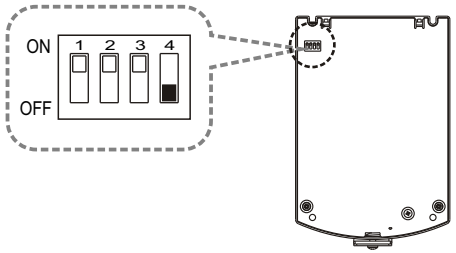
6-1-1. Mini Hopper Setup:

To setup Mini Hopper, follow the steps below:

(1). For Hopper Mode, Pulse Mode and ccTalk Mode:

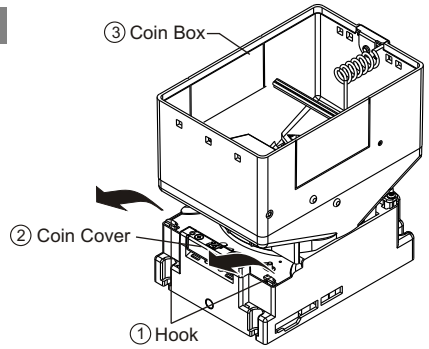
a. Setup DIP Switches which are located at the bottom of Mini Hopper according to interface.(Please refer to (P.7) 6-1-2. DIP Switch Setup.)

Figure 2



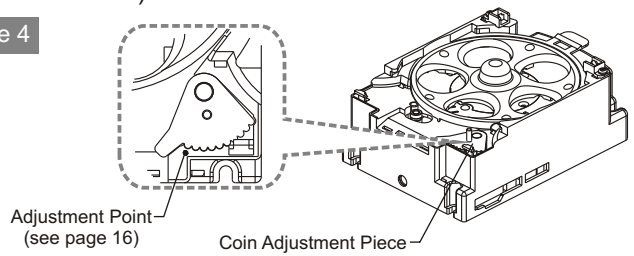
b. Remove the cover by pressing hooks, then remove coin box.

Figure 3



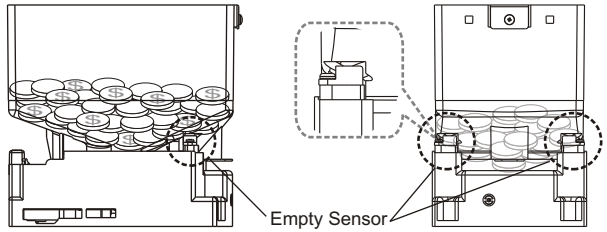
c. Adjust coin dimensions.(Please refer to (P.16) for Adjustment Coin Dimension Chart.)

Figure 4



d. Fill coins in the coin box unit the coins are higher than empty sensors.

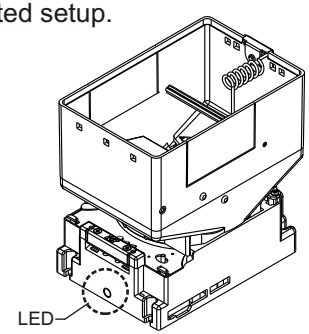
Figure 5



e. Connect the cable to one side of Mini Hopper.
(Please refer to (P.8) 6-1-3. Connection.)

f. Apply power to Mini Hopper, if LED turns from orange to green, it indicates completed setup.

Figure 6



(2). For ICT Mode:

a. Setup DIP Switches which are located at the bottom of Mini Hopper (as Figure 2) according to interface.
(Please refer to (P.7) 6-1-2. DIP Switch Setup.)

b. Connect the cable to one side of Mini Hopper.
(Please refer to (P.8) 6-1-3. Connection.)

c. Download the software (Mini Hopper Tool Kit) from PC through download box (FP-001).

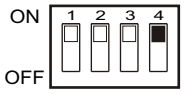
♦To purchase download box (FP-001) and cables for downloading, please contact ICT.

♦For software (Mini Hopper Tool Kit) downloading, please go on ICT website: www.ictgroup.com.tw

6-1-2. DIP Switch Setting:

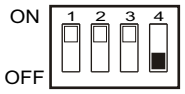
(1). For MH-XXXCX

a. ccTalk setup:



SW1	SW2	SW3	SW4
N/A	N/A	N/A	ON

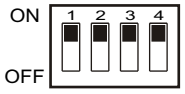
b. Hopper mode setup:



SW1	SW2	SW3	SW4
N/A	N/A	N/A	OFF

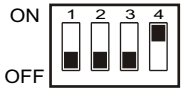
(2). For MH-XXXGX

a. ICT mode setup:



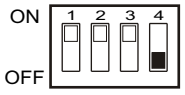
SW1	SW2	SW3	SW4
ON	ON	ON	ON

b. Pulse mode setup:



Coins/Pulse	SW1	SW2	SW3	SW4
1/1	OFF	OFF	OFF	ON
2/1	ON	OFF	OFF	ON
4/1	OFF	ON	OFF	ON
5/1	ON	ON	OFF	ON
10/1	OFF	OFF	ON	ON
20/1	ON	OFF	ON	ON
50/1	OFF	ON	ON	ON

c. Hopper mode setup:



SW1	SW2	SW3	SW4
N/A	N/A	N/A	OFF

Please reset Mini Hopper every time after DIP switch setup.

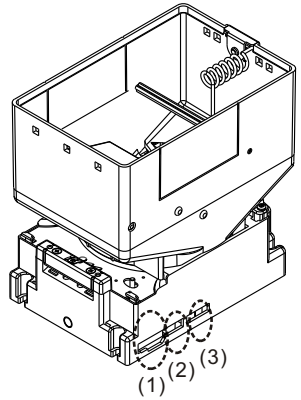
6-1-3. Connection:

(1) CCTalk Interface Connecter

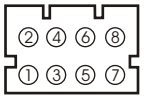


MOLEX 42375 10PIN

PIN 1- Address select 3	PIN 6- Ground
PIN 2- Address select 2	PIN 7- Ground
PIN 3- Address select 1	PIN 8- DATA
PIN 4- +24VDC	PIN 9- Reserved
PIN 5- +24VDC	PIN 10- Reset



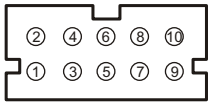
(2) Download and ICT Interface Connecter



TMT2*4

PIN 1- Ground	PIN 5- /Reset
PIN 2- TXD2	PIN 6- VCC
PIN 3- RXD2	PIN 7- RXD1
PIN 4- Program	PIN 8- TXD1

(3) Power and I/O Connecter (Hopper Mode or Pulse Mode)



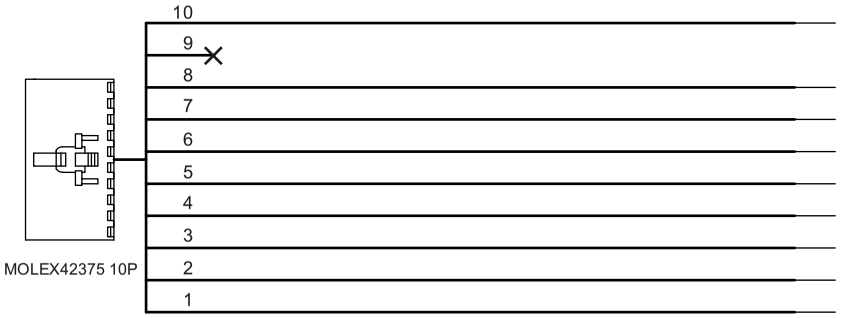
TMT2*5

PIN 1- +12V/+24V DC(Power)	PIN 6- COIN_EMPTY_O
PIN 2- Ground(Power)	PIN 7- METER_N.O
PIN 3- CREDIT RELAY(N.O.)	PIN 8- METER_COM
PIN 4- CREDIT RELAY(Common)	PIN 9- INHIBIT_N.O
PIN 5- PAYOUT_IN	PIN10- INHIBIT_COM

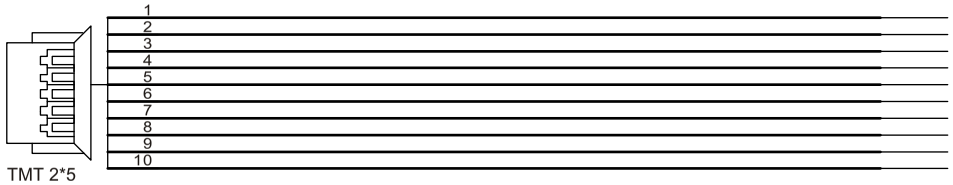
Interface	Voltage	Harness	Page
ccTalk	24V DC	WEL-RHP02	9
Hopper Mode	12V DC(MH-12XXX) 24V DC(MH-24XXX)	WEL-RHP17	10
Pulse Mode			
ICT Mode	12V DC(MH-12XXX) 24V DC(MH-24XXX)	WEL-RHP17	10
		WEL-R7U06	11

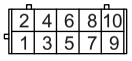
WEL-RHP02
(ccTalk interface)

Pin 10- GRAY.....RESET
Pin 9- Reserved
Pin 8- PURPLE.....DATA
Pin 7- BLUE.....GND
Pin 6- GREEN.....GND
Pin 5- YELLOW.....+24V DC
Pin 4- ORANGE.....+24V DC
Pin 3- RED.....Address select 1
Pin 2- BROWN....Address select 2
Pin 1- BLACK.....Address select 3

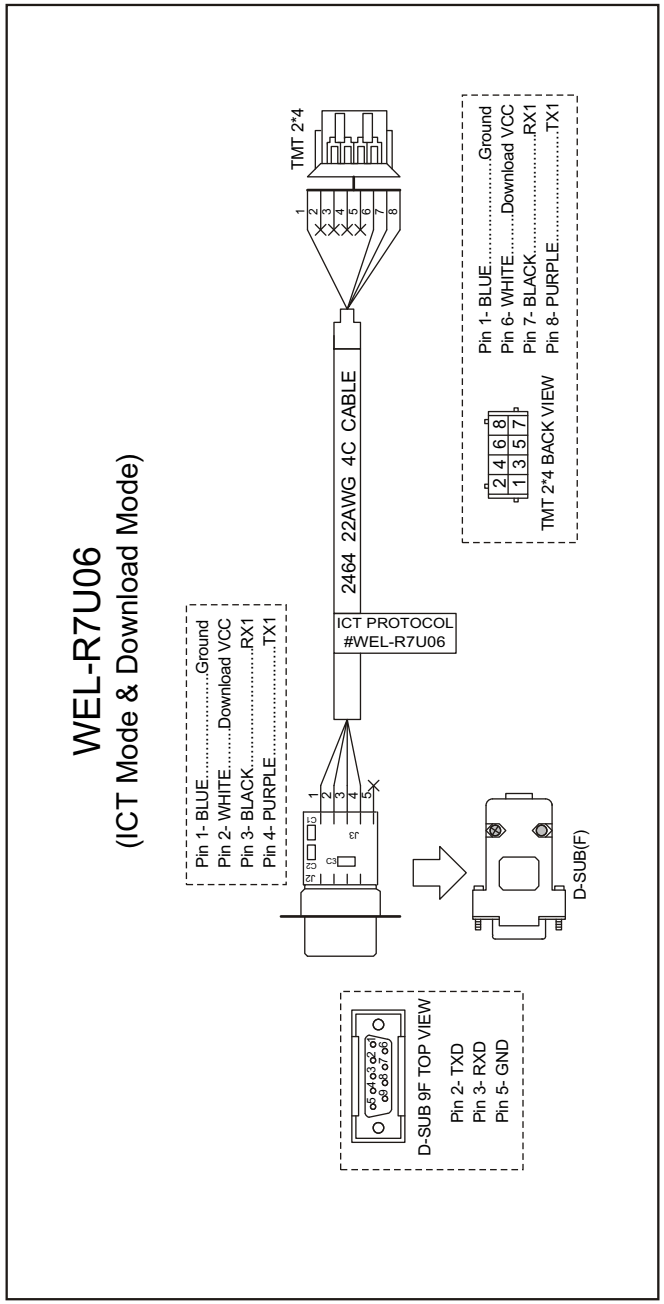


WEL-RHP17
(Hopper/Pulse for 12 or 24V DC & ICT Mode)





Pin 1- RED.....+12V/+24V DC (Power)
Pin 2- BLACK.....Ground(Power)
Pin 3- YELLOW.....CREDIT RELAY(N.O.)
Pin 4- BLACK.....CREDIT RELAY(Common)
Pin 5- BLUE.....PAYOUT_IN
Pin 6- PURPLE.....COIN_EMPTY_O
Pin 7- GRAY.....METER_N.O
Pin 8- BLACK.....METER_COM
Pin 9- WHITE.....INHIBIT_N.O
Pin10- BLACK.....INHIBIT_COM



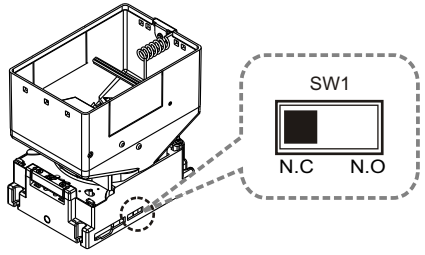
6-2. Mini Hopper Without CPU Board

6-2-1. Mini Hopper Setup:

To setup Mini Hopper, follow the steps below:

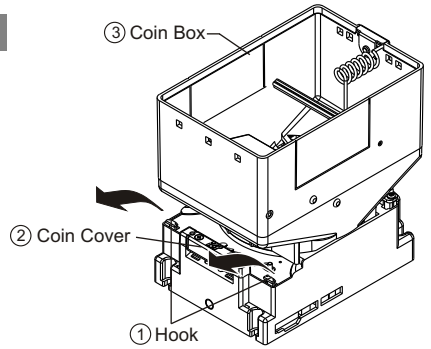
a. Setup DIP Switches which are located at the bottom of Mini Hopper according to interface.(Please refer to (P.14) 6-2-2. DIP Switch Setup.)

Figure 7



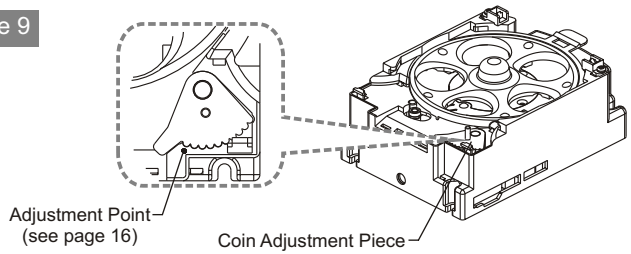
b. Remove the cover by pressing hooks, then remove coin box.

Figure 8



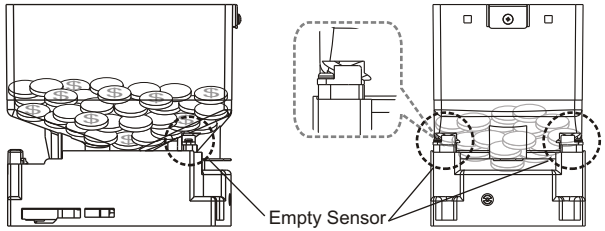
c. Adjust coin dimensions.(Please refer to (P.16) for Adjustment Coin Dimension Chart.)

Figure 9



d. Fill the box with coins unit the coins are higher than empty sensors.

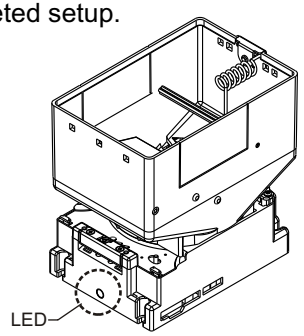
Figure 10



e. Connect the cable to one side of Mini Hopper.
(Please refer to (P.14) 6-2-3. Connection.)

f. Apply power to Mini Hopper, if LED turns from orange to green, it indicates completed setup.

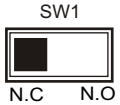
Figure 11



6-2-2. DIP Switch Setting:

(1). For MH-XXXHX

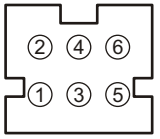
a. Credit output function setup:



SW1
Normal Open
Normal Close

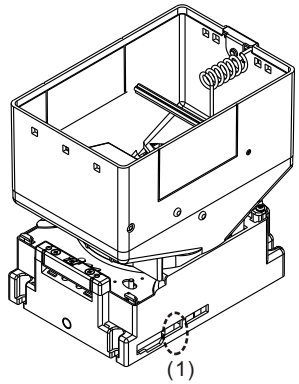
6-2-3. Connection:

(1) Power and I/O Connecter (Hopper Mode)

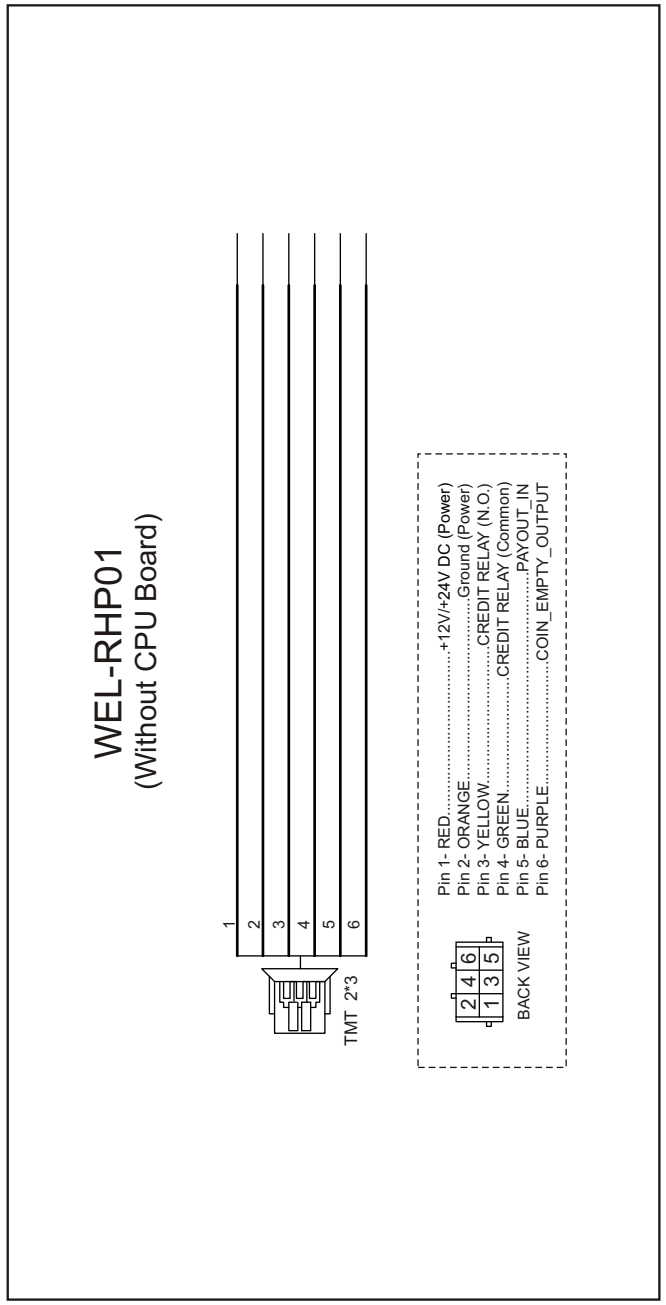


TMT2*3

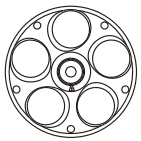
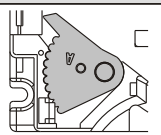
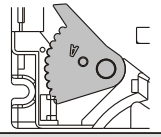
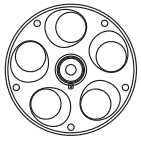
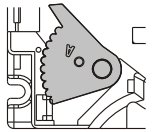
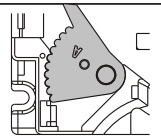
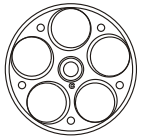
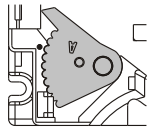
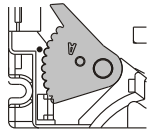
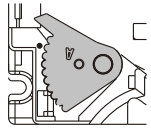
PIN 1- +12V/+24VDC (Power)
PIN 2- Ground (Power)
PIN 3- Credit Relay (N.O.)
PIN 4- Credit Relay (Common)
PIN 5- Payout_Input
PIN 6- Coin_Empty_Output (Normal Open Active Low)

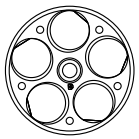
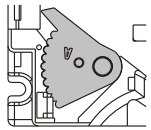
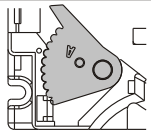
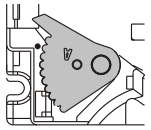
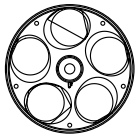
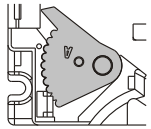
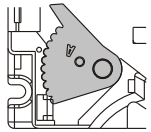


Interface	Voltage	Harness	Page
Hopper Mode	12V DC(MH-12XXX) 24V DC(MH-24XXX)	WEL-RHP01	15



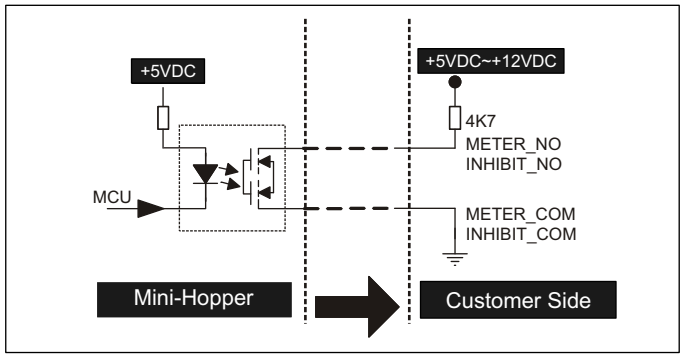
❖Adjustment coin dimension :

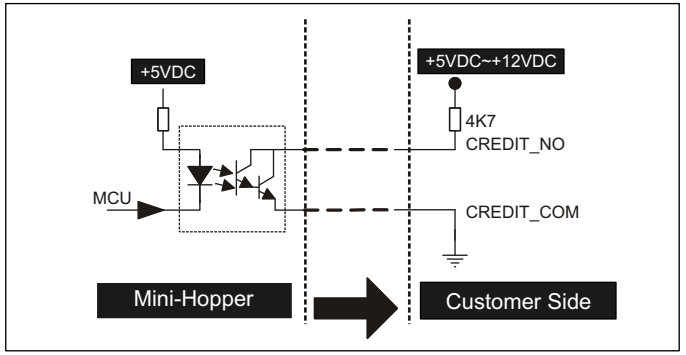
Coin Payout Plate	Coin Payout Adjustment	Diameter	22.5mm ≦ 28mm
A	C1607A	thickness	1.6mm ≦ 2.4mm
 Part number A2514-R		Diameter	25.5mm ≦ 28mm
		thickness	1.6mm ≦ 2.4mm
		Diameter	22.5mm ≦ 25.5mm
		thickness	1.6mm ≦ 2.4mm
Coin Payout Plate	Coin Payout Adjustment	Diameter	20mm ≦ 23mm
B	C1607A	thickness	1.6mm ≦ 2.2mm
 Part number A2592-R		Diameter	22.5mm ≦ 23mm
		thickness	1.6mm ≦ 2.2mm
		Diameter	20mm ≦ 22.5mm
		thickness	1.6mm ≦ 2.2mm
Coin Payout Plate	Coin Payout Adjustment	Diameter	23mm ≦ 30mm
C	C1607A	thickness	2.5mm ≦ 3.3mm
 Part number A26740-R		Diameter	25.5mm ≦ 28mm
		thickness	2.5mm ≦ 3.3mm
		Diameter	23mm ≦ 25.5mm
		thickness	2.5mm ≦ 3.3mm
		Diameter	28mm ≦ 30mm
		thickness	2.5mm ≦ 3.3mm

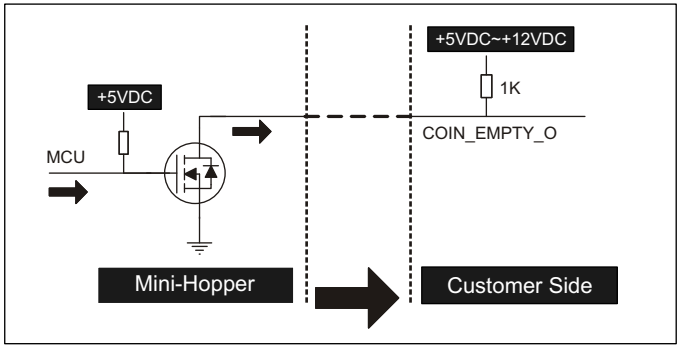
Coin Payout Plate	Coin Payout Adjustment	Diameter	23mm ≦ 30mm
D	C1607A	thickness	1.6mm ≦ 2.4mm
 Part number A28730-R		Diameter	25.5mm ≦ 28mm
		thickness	1.6mm ≦ 2.4mm
		Diameter	23mm ≦ 25.5mm
		thickness	1.6mm ≦ 2.4mm
		Diameter	28mm ≦ 30mm
		thickness	1.6mm ≦ 2.4mm
Coin Payout Plate	Coin Payout Adjustment	Diameter	22.5mm ≦ 28mm
F	C1607A	thickness	1.0mm ≦ 1.5mm
 Part number A31150-R		Diameter	25.5mm ≦ 28mm
		thickness	1.0mm ≦ 1.5mm
		Diameter	22.5mm ≦ 25.5mm
		thickness	1.0mm ≦ 1.5mm

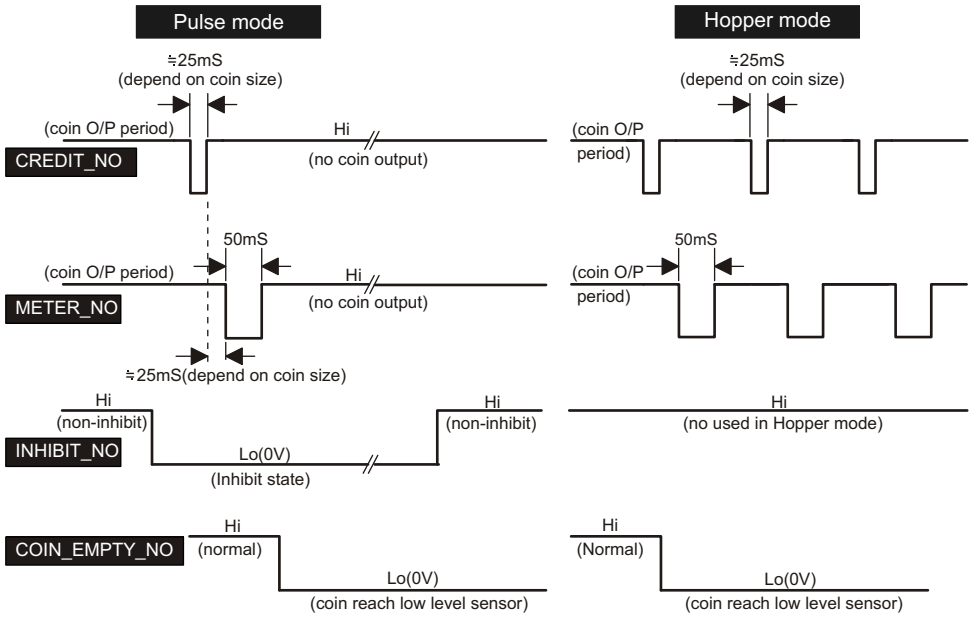
6-3. I/O Circuit

Hopper & Pulse interface use-1

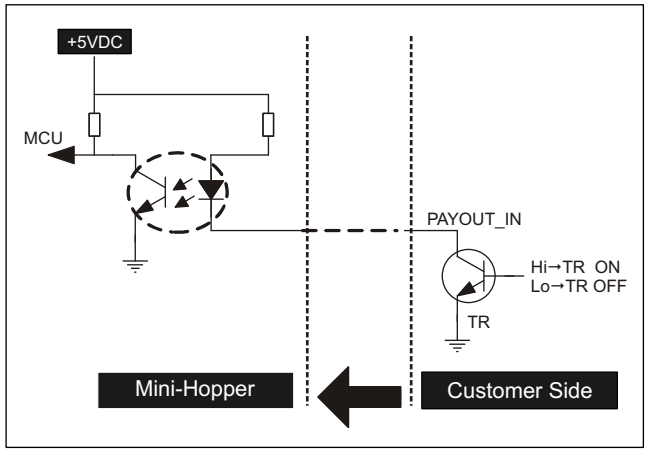


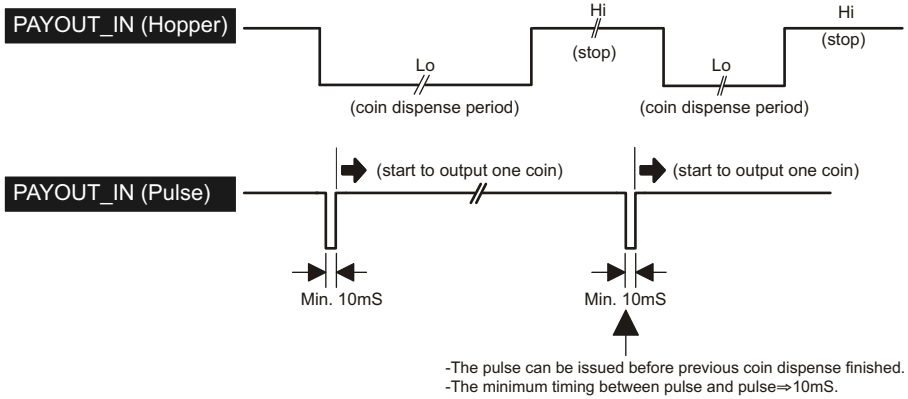




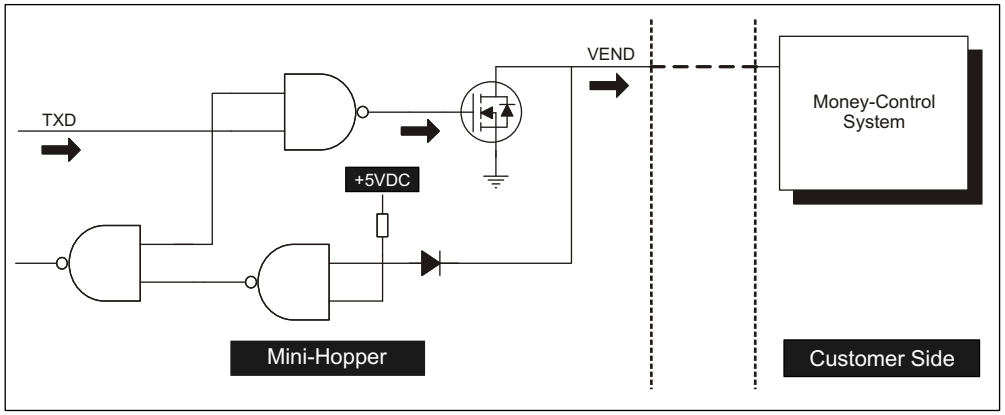


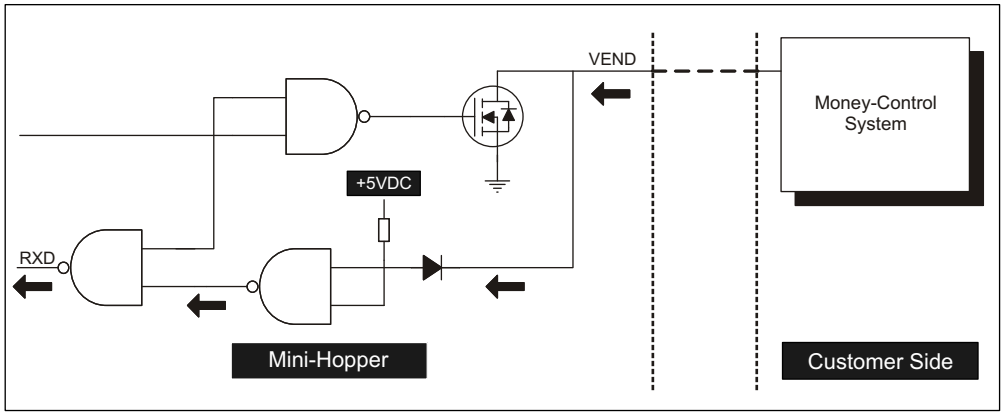
Hopper & Pulse interface use-2



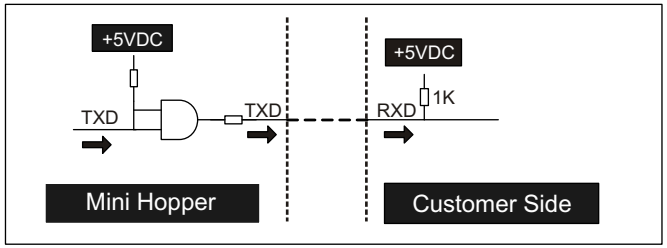


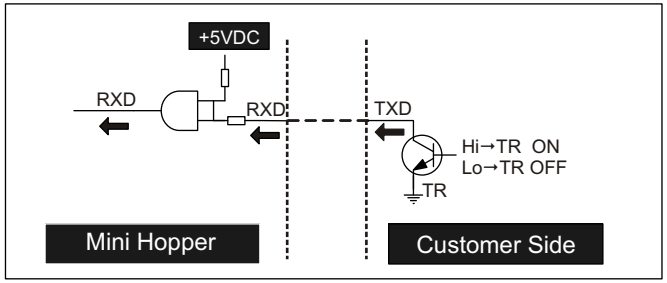
ccTalk interface





ICT-Protocol Interface





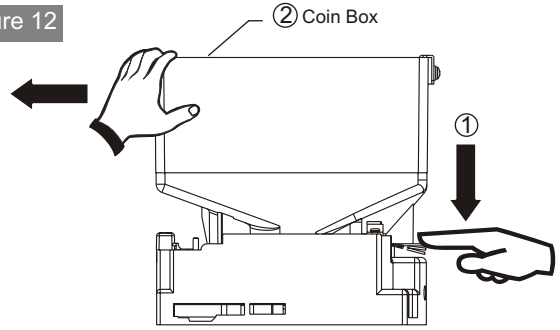
7. Maintenance

To make sure the Mini Hopper always works smoothly, we suggest you to clean the internal parts of Mini Hopper from every two weeks to every two moths.

Please make sure Mini Hopper is turned OFF before cleaning.

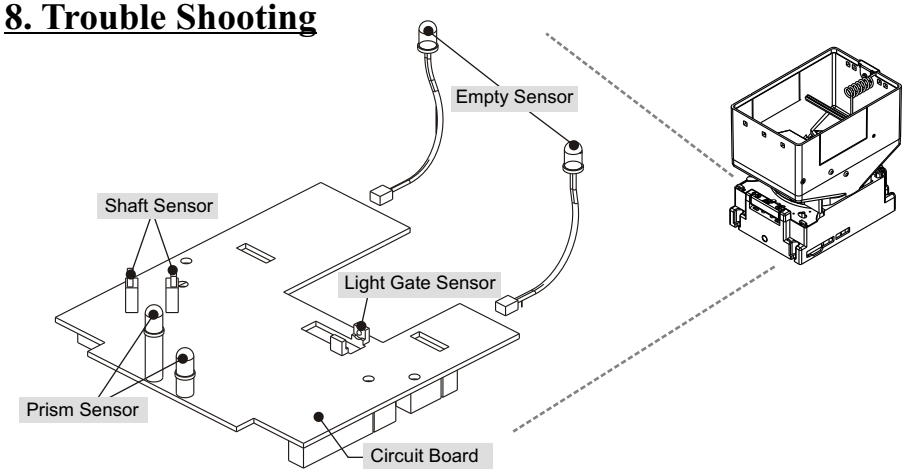
To clean the internal parts:
1. Remove the coin box.
2. Use a dry, soft cloth or brush to clean internal parts and coin path.
3. Use a dry, soft cloth or towel to clean the coin box.

Figure 12



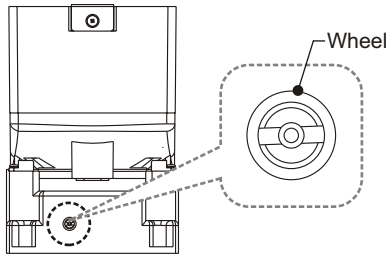
Do not use an organic solvent such as gasoline or paint thinner to clean the unit.

8. Trouble Shooting



FLASHES	STATUS	CORRECTIVE ACTIONS
1	1. Incorrect voltage 2. Coin jammed 3. Motor problem	1. Confirm the voltage which is applied to Mini Hopper. 2. Clockwise turn the wheel which is on the front of Mini Hopper to remove the jammed coin(as Figure 13) and check the shaft-block.
2	Insufficient coins	Refill the box with coins.
3	Overpay logic error	Re-adjust coin size and shaft.
5	Prism sensor error	Inspect for foreign objects on prism sensor or jammed coins.
6	Shaft sensor error	Inspect for foreign objects on shaft sensor or jammed coins.

Figure 13



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