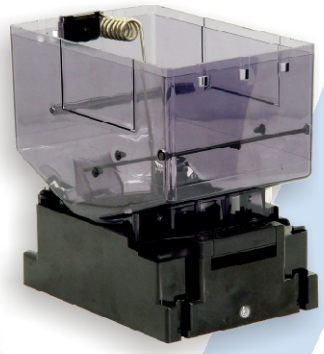
Leonid
Mini Hopper
Installation Guide

- Minimum size with maximum capacity
- Double sensors, double protection.
- Easy Installation, Easy Maintenance.
- Advanced coin size adjustment system.
- Advanced minimum coin detection system.



International Currency Technologies
NO. 24, ALLEY 38, LANE 91,NEI HU ROAD, SEC.1,
TAIPEI, TAIWAN, R.O.C.
TEL：886-2-2797-1238 FAX：886-2-2797-1634
Web site : www.ictgroup.com.tw E-mail：sales@ictgroup.com.tw

Vol. 4.0 Part Number : H4690C-R

CONNECT

(1) General Specifications :

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

Coin Capacity:

Approx.500 coins

Interface:

ICT, Pulse, Hopper, cctalk

Dispensing Speed/Coin:

MH-12XXX..
Approx.300~400 coin/minute

MH-24XXX...
Approx.400~500 coin/minute

Power Voltage:

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

Power Consumption:

50mA <standby> 2.5A <max>

Counting Method:

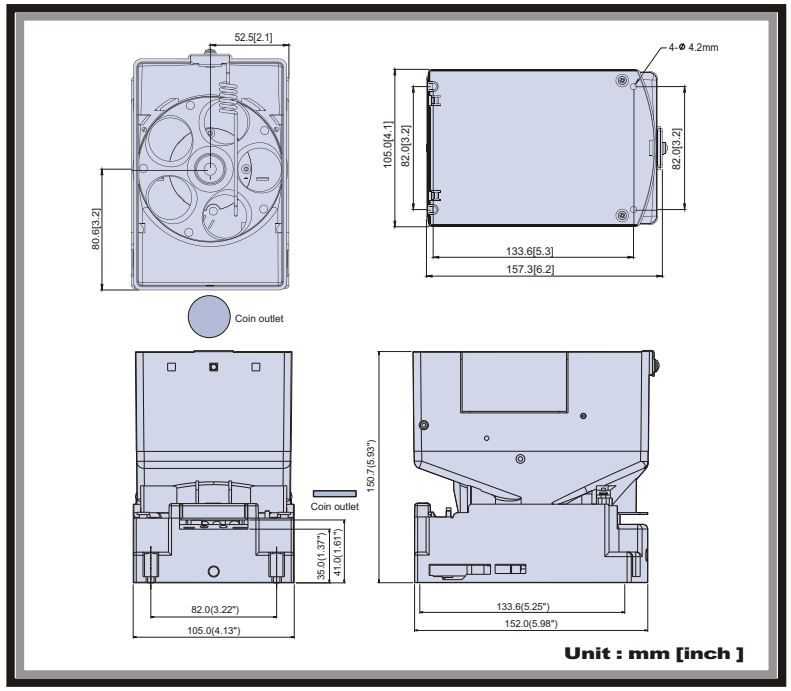
Two Optical Sensor

Environment Range:

Storage Temperature : -15°C~+70°C
Operating Temperature : 5°C~50°C

Weight:

Approx. 800 g



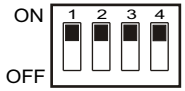
Leonid Mini Hopper

(2) ICT Mode Setting : (With CPU Board)

(A) ICT MINI HOPPER Manual

(B) ICT MINI HOPPER Tool Kit (software)

(C) ICT Download Box



Protocol	SW1	SW2	SW3	SW4
ICT	ON	ON	ON	ON

✻ The ICT Protocol installation manual please refer to
http://www.ictgroup.com.tw/eng/support_software_download.htm

Cable :

(1) #WEL-HP17 (see page 14)
(for power)

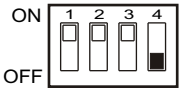
(2) #WEL-7U06 (see page 14)
(ICT protocol)

(3) #WEL-7U03 (see page 15)
(setting and downloading , Hopper to FP-001)

(4) #WEL-087 (see page 15)
(setting and downloading , FP-001 to PC)

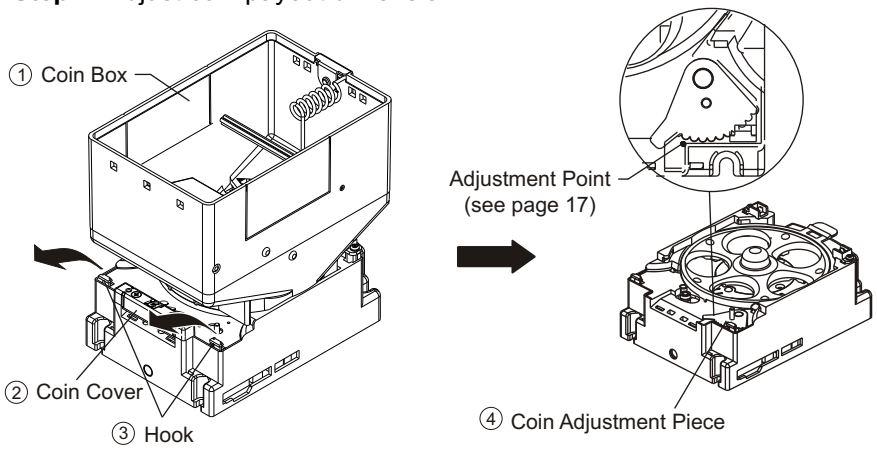
(3) Hopper Mode Setting : (With CPU Board)

Step 1. Dipswitch setting :
(The dip switch is located in the bottom of the hopper)

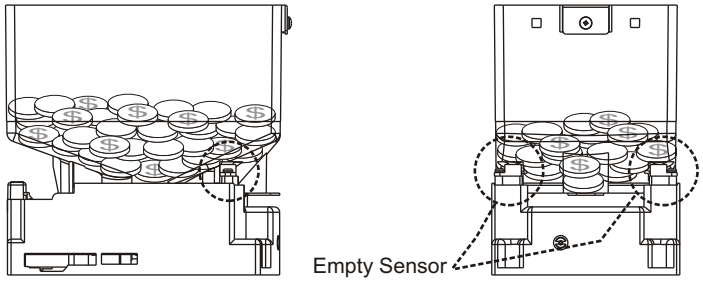


Protocol	SW1	SW2	SW3	SW4
Hopper	NA	NA	NA	OFF

Step 2. Adjust coin payout dimension.



Step 3. Put coins into coin box and the level of coins must higher than the optical sensor level.



Leonid Mini Hopper

Step 4. Connect #WEL-HP17 to Hopper. (See page 14)

Pin 1 - RED.....+24V DC (Power)
Pin 2 - BLACK.....Ground (Power)
Pin 3 - YELLOW.....CREDIT RELAY (N.O.)
Pin 4 - BLACK.....C.REDIT 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

Step 5. When hopper is turned on, it goes to self-test mode and the LED becomes Orange.

After the self-test is done, the LED becomes Green.

(4) Pulse Mode Setting : (With CPU Board)

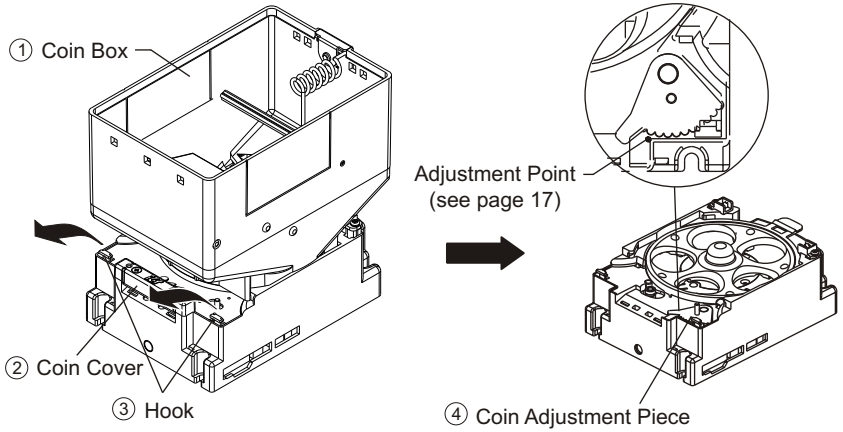
Step 1. Dipswitch setting :

SW1~SW3 Adjust coin payout

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

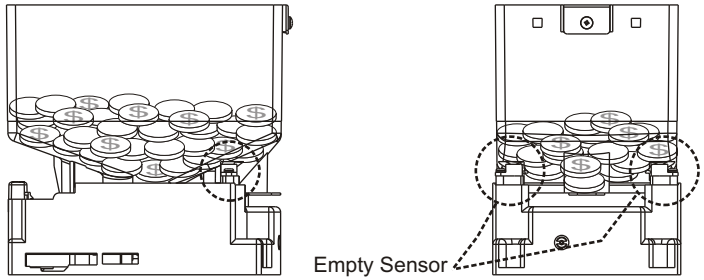
Please reset the hopper after set the dispswitch.

Step 2. Adjust coin payout dimension.



Leonid Mini Hopper

Step 3. Put coins into coin box and the level of coins must higher than the optical sensor level.



Step 4. Connect #WEL-HP17 to Hopper. (See page 14)

Pin 1 - RED.....+24V DC (Power)
Pin 2 - BLACK.....Ground (Power)
Pin 3 - YELLOW.....CREDIT RELAY (N.O.)
Pin 4 - BLACK.....C.REDIT 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

Step 5. When hopper is turned on, it goes to self-test mode and the LED becomes Orange.

After the self-test is done, the LED becomes Green.

(5) CCTalk &Hopper Mode Setting : (With CPU Board)

A. Interface Setup: Mini Hopper contains two interfaces. The following table depicts the switch detail.

Interface	SW1	SW2	SW3	SW4
cctalk	NA	NA	NA	ON
Hopper	NA	NA	NA	OFF

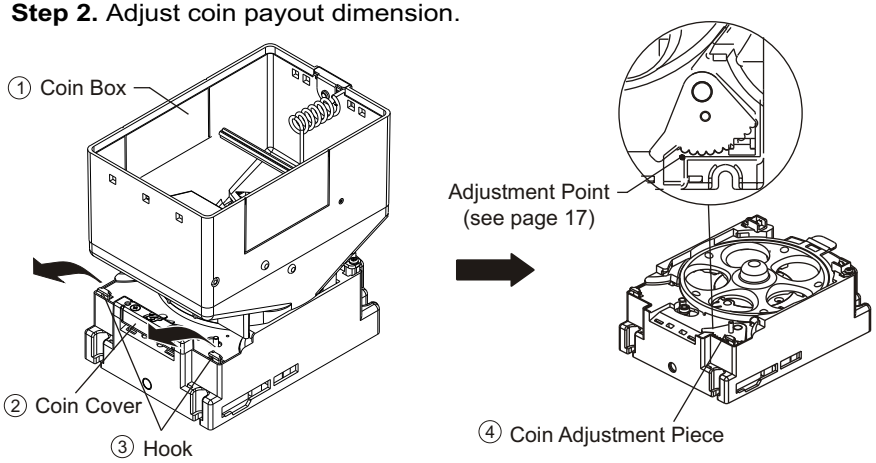
B. For cctalk communication protocol refer to the cctalk Serial communication protocol Generic Specification Issue4.2 。

(6) Hopper Mode Setting : (Without CPU Board)

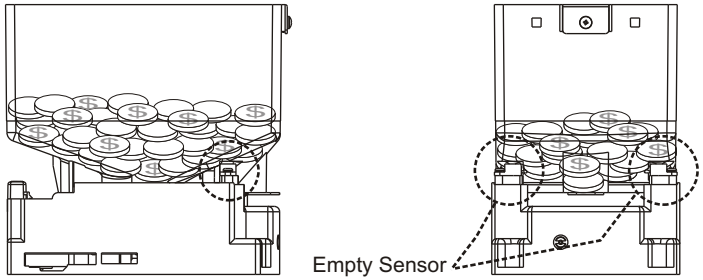
Step 1. For credit output function setting, the switch is located in the side of the hopper.

SW1
Normal Open
Normal Close

Step 2. Adjust coin payout dimension.



Step 3. Put coins into coin box and the level of coins must higher than the optical sensor level. Otherwise the LED will be RED.



Step 4. Connect #WEL-HP01 to Hopper. (See page 16)

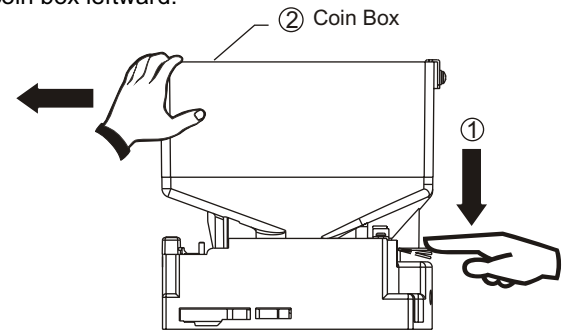
PIN 1 - RED.....12V DC (MH12X-XX IS FOR 12V)
or
24V DC (MH24X-XX IS FOR 24V)

PIN 2 - ORANGE.....GND
PIN 3 - YELLOW.....CREDIT N.O
PIN 4 - GREEN.....CREDIT COM
PIN 5 - BLUE.....PAYOUT_IN
PIN 6 - PURPLE.....CON_EMPTY_OUTPUT NORMAL OPEN ACTIVE LOW

Step 5. The LED turns on Red or Green.
The Hopper have to work properly.

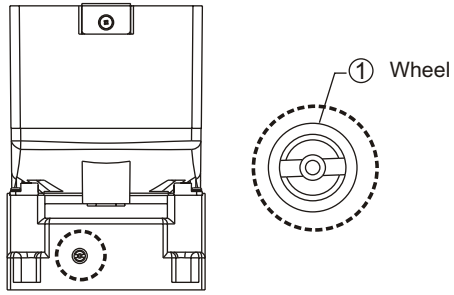
(7) How to remove the coin box :

1. To remove coin box ② press down ① lever as shown on the diagram, then move the coin box leftward.



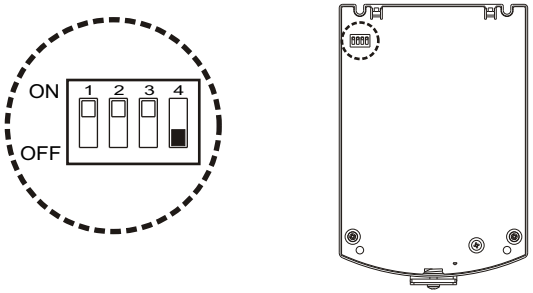
(8) Jam :

1. Turn the wheel① as shown on diagram clockwise until the jammed coin is rejected.

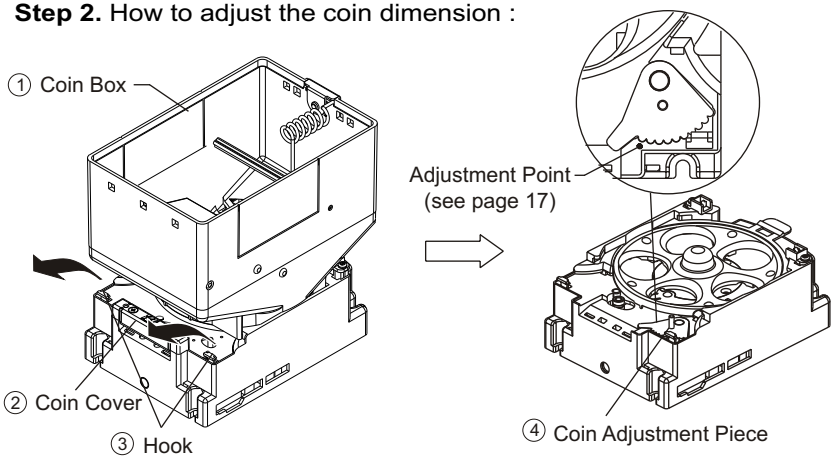


(9) How to Setting the mini Hopper Operation :

Step 1. The dipswitch is located on the bottom of the hopper.

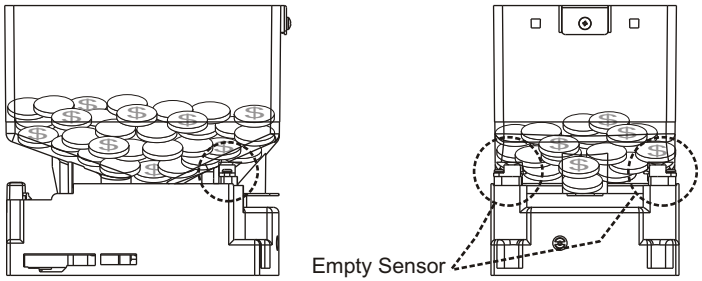


Step 2. How to adjust the coin dimension :



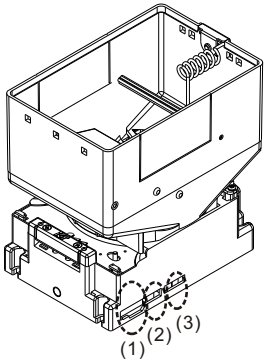
Leonid Mini Hopper

Step 3. Put coins into coin box and the level of coins must higher than the optical sensor level.



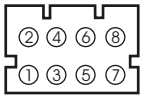
Step 4. Connection

(With CPU Board)

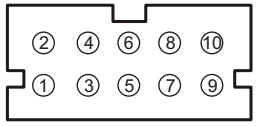


(1) CCTalk Interface Connecter

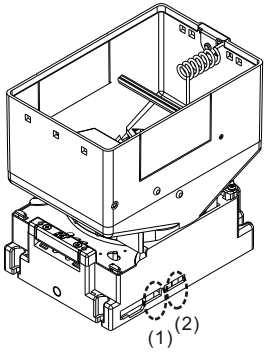
(2) Download and Interface Connecter



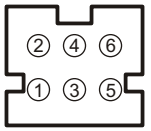
(3) **WEL-HP17**(see page 14)
Power and I/O Connecter
(Hopper Mode &Pulse Mode)



(Without CPU Board)



(1) **WEL-HP01**(see page 16)
Power and I/O Connector



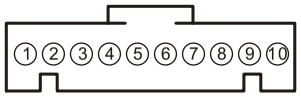
TMT2*3

(2) SW1
Credit Output Function Setting

(10) Connecter

(With CPU Board)

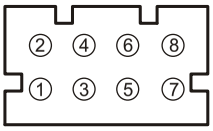
cctalk Interface Connector



MOLEX 42375 10PIN

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

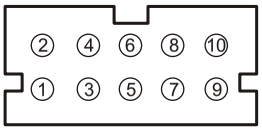
Download and Interface Connector



TMT2*4

PIN 1 Ground
PIN 2 TXD2
PIN 3 RXD3
PIN 4 Program
PIN 5 /Reset
PIN 6 VCC
PIN 7 RXD1
PIN 8 TXD1

WEL-HP17 (see page 14)
Power and I/O Connector

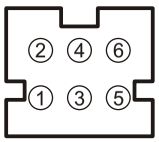


TMT2*5

Pin 1 +24V DC (Power)
Pin 2 Ground (Power)
Pin 3 CREDIT RELAY (N.O.)
Pin 4 CREDIT RELAY (Common)
Pin 5 PAYOUT_IN
Pin 6 COIN_EMPTY_O
Pin 7 METER_N.O
Pin 8 METER_COM
Pin 9 INHIBIT_N.O
Pin10 INHIBIT_COM

(Without CPU Board)

WEL-HP01 (see page16)
Power and I/O Connector



TMT2*3

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

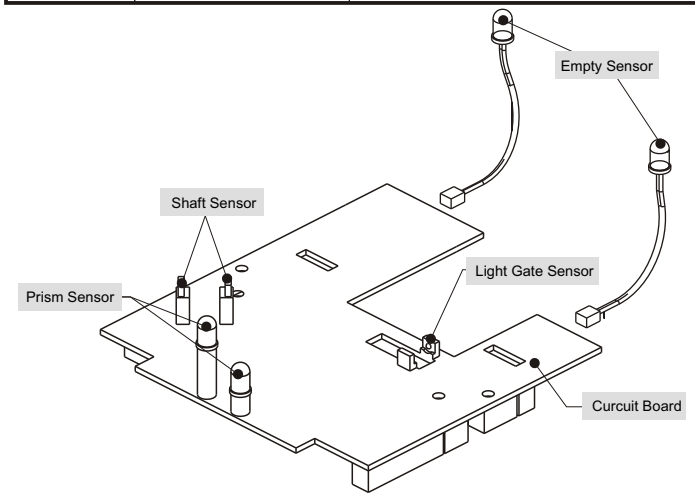
SW1
Credit Output Function Setting

N.C N.O

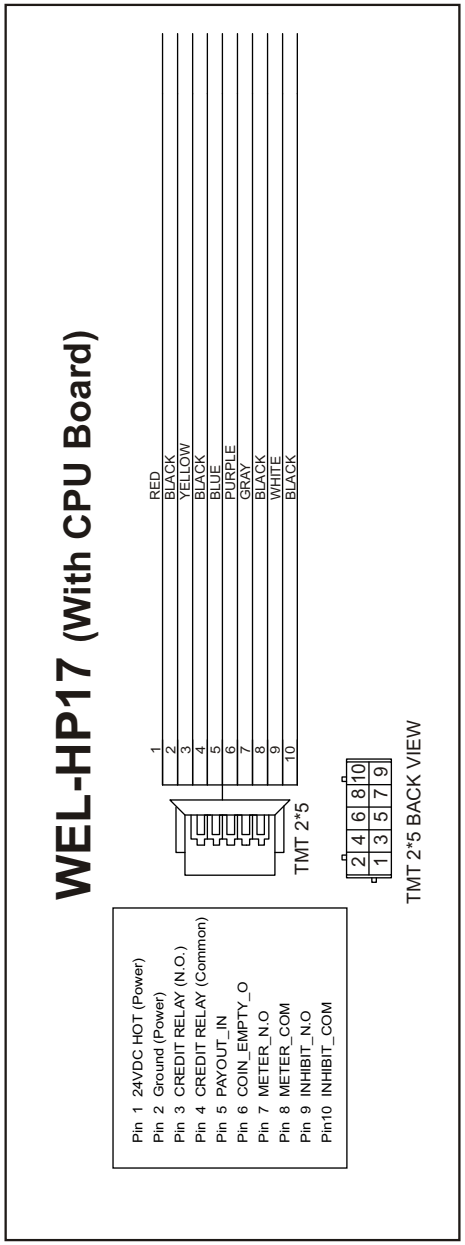
Leonid Mini Hopper

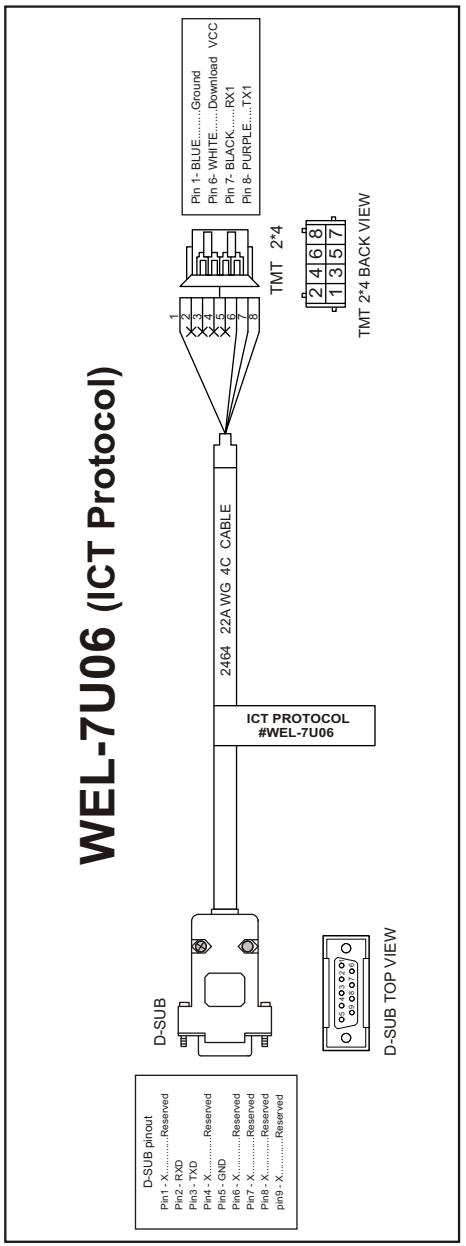
(11) Trouble shooting table :

# of Flashing Red Light	Errors	Possible Cause or Solutions
1	Motor problem	1. Motor malfunction 2. Light Gate detection malfunction 3. Coin Jam 4. Incorrect Voltage
2	Insufficient Coins	1. Check for coin availability 2. Empty LED or Sensor malfunction
3	Detects coin dispensing activity after suspending the dispense signal	1. Re-adjust Shaft. 2. Insufficient pulling force in push rod spring 3. Coins size varies 4. Hardware failure.
4	Reserved	Reserved
5	Prism Sensor Failure	1.Coin jammed in front of the sensor 2.Prism Sensor detections fails.
6	Shaft Sensor Failure	1. Coin stays in front of sensor 2. Shaft sensor detection fails 3. Inconsistent coin sizes 4. Adjustment error on Shaft-bloc.



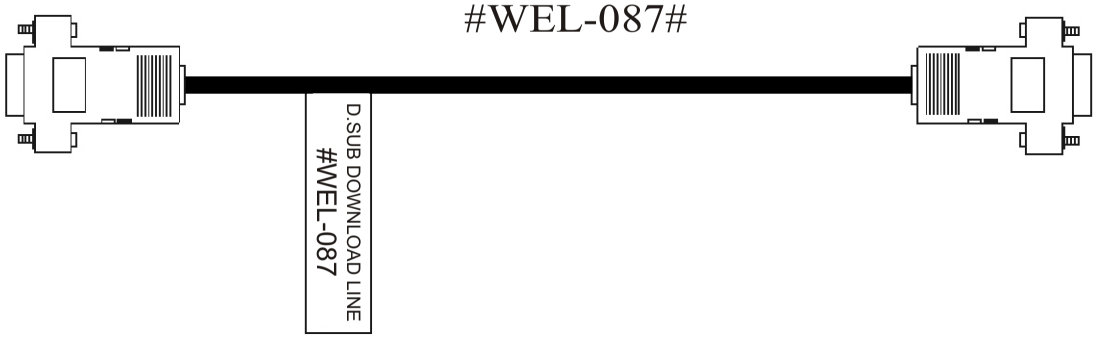
(12) Cable





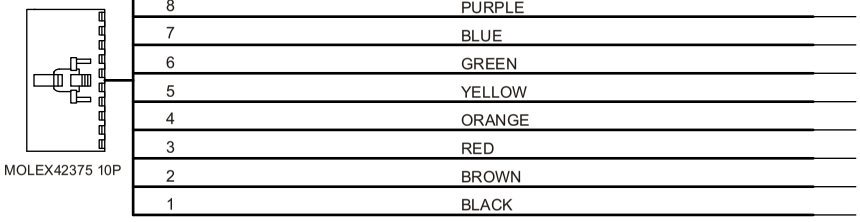
WEL-7U03

D-SUB DOWNLOAD LINE
#WEL-087#



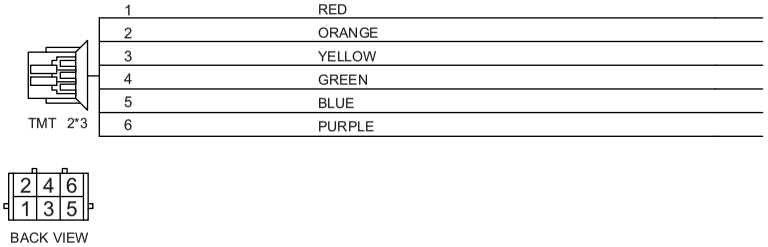
WEL-HP02 (CCTALK Cable)

Pin 10 /RESET
Pin 9 Reserved
Pin 8 /DATA
Pin 7 0 V
Pin 6 0 V
Pin 5 +24V DC
Pin 4 +24V DC
Pin 3 Address select 1
Pin 2 Address select 2
Pin 1 Address select 3



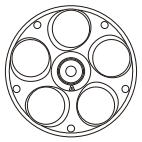
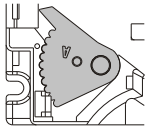
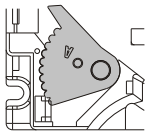
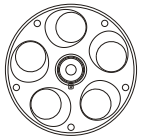
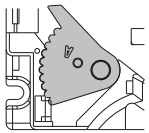
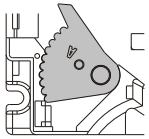
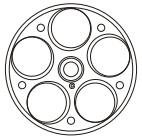
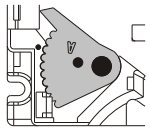
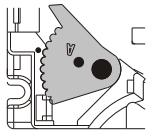
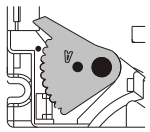
WEL-HP01 (Without CPU Board)

Pin 1 +12V DC or +24V DC HOT(Power)
Pin 2 Ground (Power)
Pin 3 CREDIT RELAY (N.O.)
Pin 4 CREDIT RELAY (Common)
Pin 5 PAYOUT_IN
Pin 6 COIN_EMPTY_OUTPUT
NORMAL OPEN ACTIVE LOW

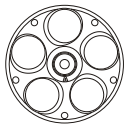
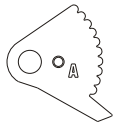
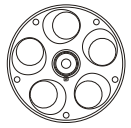
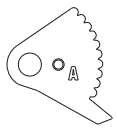
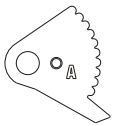


Leonid Mini Hopper

(13) Adjustment coin dimension :

Coin Payout Plate (A)	Coin Payout Adjustment	Diameter	(22.5mm ≦ D ≦ 28mm)
		thickness	(1.6mm ≦ t ≦ 2.4mm)
 PART NUMBER A25140		Diameter	(25.5mm ≦ D ≦ 28mm)
		Thickness	(1.6mm ≦ t ≦ 2.4mm)
		Diameter	(22.5mm ≦ D ≦ 25.5mm)
		Thickness	(1.6mm ≦ t ≦ 2.4mm)
Coin Payout Plate (B)	Coin Payout Adjustment	Diameter	(20mm ≦ D ≦ 23mm)
		thickness	(1.6mm ≦ t ≦ 2.2mm)
 PART NUMBER A25920		Diameter	(22.5mm ≦ D ≦ 23mm)
		Thickness	(1.6mm ≦ t ≦ 2.2mm)
		Diameter	(20mm ≦ D ≦ 22.5mm)
		Thickness	(1.6mm ≦ t ≦ 2.2mm)
Coin Payout Plate (C)	Coin Payout Adjustment	Diameter	(23mm ≦ D ≦ 30mm)
		thickness	(2.5mm ≦ t ≦ 3.3mm)
 PART NUMBER A26740		Diameter	(25.5mm ≦ D ≦ 28mm)
		Thickness	(2.5mm ≦ t ≦ 3.3mm)
		Diameter	(23mm ≦ D ≦ 25.5mm)
		Thickness	(2.5mm ≦ t ≦ 3.3mm)
		Diameter	(28mm ≦ D ≦ 30mm)
		Thickness	(2.5mm ≦ t ≦ 3.3mm)

Leonid Mini Hopper

Model Type	Coin Payout Plate	Coin Payout Adjustment	Applicable Coin Size
MH-245XA			**Diameter**
			22.5mm~28mm
MH-125XA	PART NUMBER A25140	PART NUMBER C1607A	**Thickness**
			1.6mm~2.4mm
MH-245XB			**Diameter**
			20mm~23mm
MH-125XB	PART NUMBER A25920	PART NUMBER C1607A	**Thickness**
			1.6mm~2.2mm
MH-245XC			**Diameter**
			23mm~30mm
MH-125XC	PART NUMBER A26740	PART NUMBER C1607A	**Thickness**
			2.5mm~3.3mm

MH-245**X**C — ***Interface***

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

Example : MH-245GA or MH-125CB or MH-125HC