



OPERATING INSTRUCTIONS MANUAL

MODEL NUMBER: UTS38

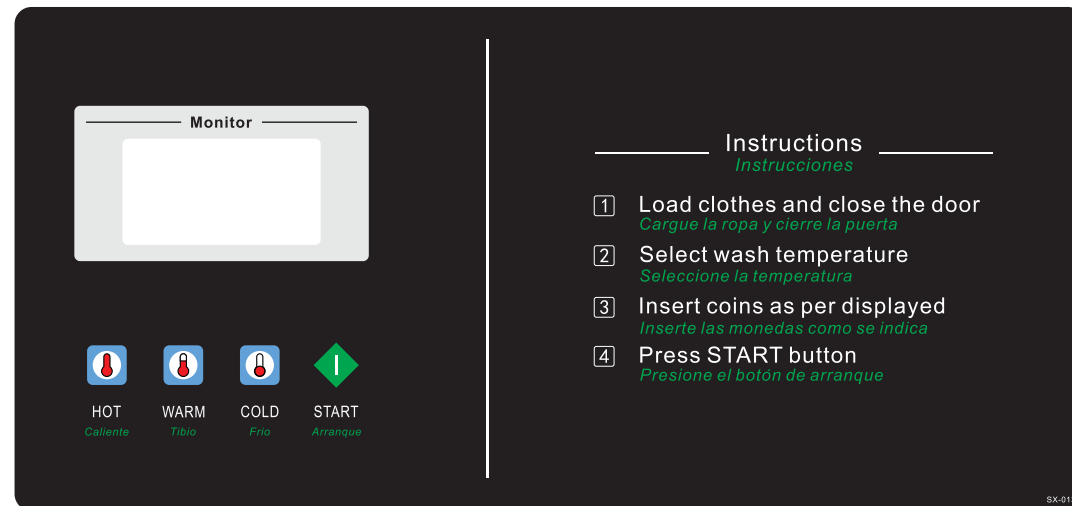
EN INSTALLATION UTS38

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INTRODUCTION



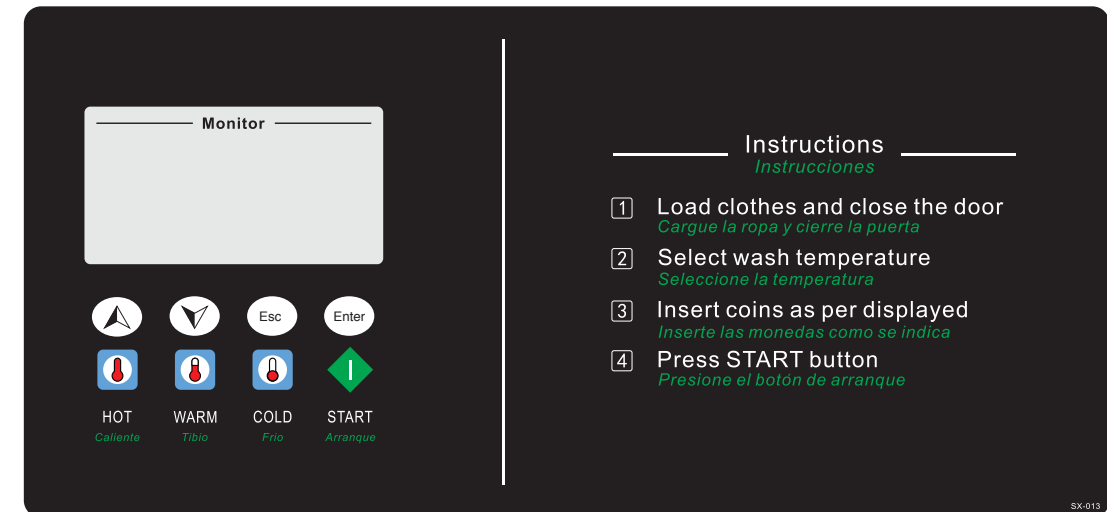
The controller is specially designed for the operation of the washer for the self-service vended market. The controller provides automatic operation of the washer. In automatic mode, the auto program will be initiated by a single touch of the [Start] key. The machine will run automatically to the end of the selected cycle.

The following are the default passwords to access the controller interface menu items.

Default factory password: ↑ ↓ ↑ ↓ ↓ ↑ ↓ ↑ ↓ ↑

Default user password: ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

01 CONTROLLER OVERVIEW



Note: the key function as shown in the figure.

The controller provides easy operation for the user and also provides access to all the menus to setup, to diagnosing error codes, and to check the status and health of the machine.

ICON	FUNCTION	MENU NAVIGATION
	[HOT] button Press this button to select hot water temperature.	↑
	[WARM] button Press this button to select medium water temperature.	↓
	[COLD] button Press this button to select cold water temperature.	Escape
	[Start] button Press this button to start executing the selected wash cycle.	Enter

The following are the default passwords to access the controller interface menu items.

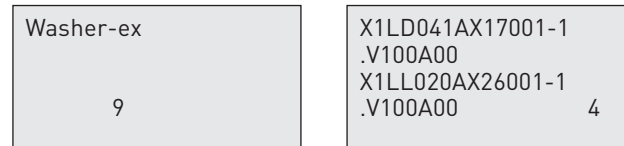
Default factory password: ↑ ↓ ↑ ↓ ↓ ↑ ↓ ↑ ↓ ↑

Default user password: ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

02 WASHER POWER UP

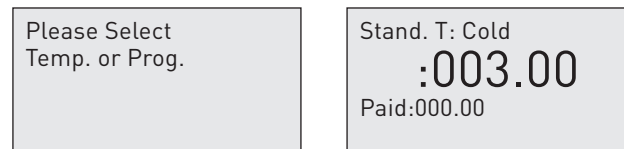
2.1 STARTUP

After power is turned on, the LCD shows the startup interface for 10 seconds.



2.2 IDLE

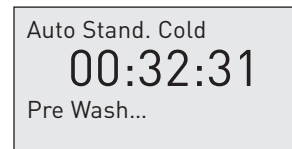
After the startup sequence is complete, the LCD shows the idle interface.



2.3 AUTOMATIC RUNNING

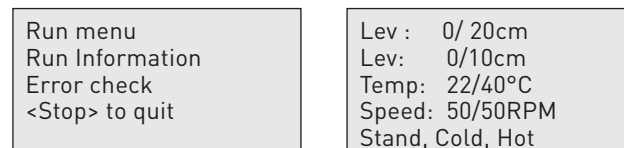
2.3.1 Start Automatic Running

On the controller, choose your desired wash temperature, Insert coins, and then press **[Start]** button to start the program.



2.3.2 Check Running Status Message

Press **[Up]** and **[Down]** for 3 seconds to exit the “running” or “Idle” menu. Your password is required to access the run status menu. Press **[Cold(Esc)]** to return to the “running” or “Idle” menu.



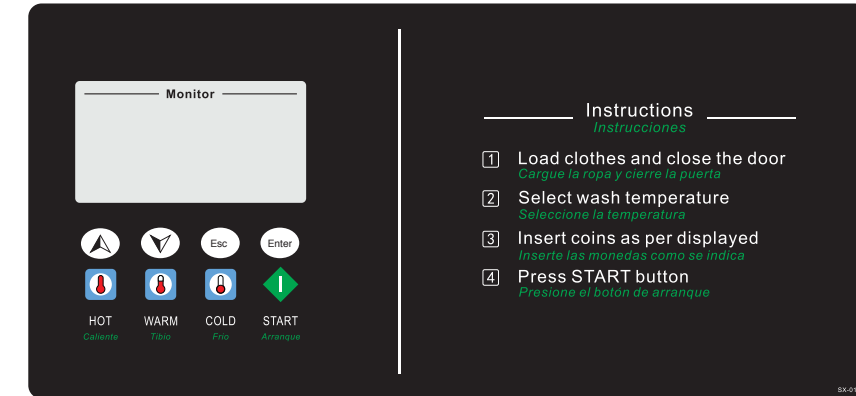
2.3.3 Ending Automatic Running

After completing the cycle, the controller enters the end status mode. The controller beeps to inform the user that the wash cycle has completed. The buzzer can be cancelled by pressing **[Start]** button.

03 RECORD REFER

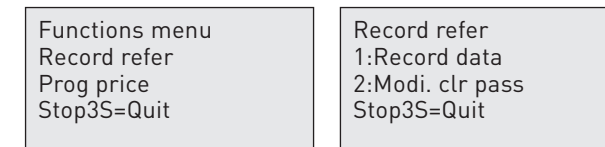
3.1 RECORD REFER

Use the Record Refer menu to check the cycle count of the machine.



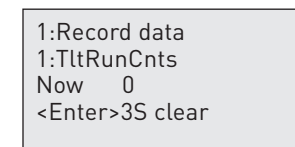
Note: the key function as shown in the figure.

On initial power up, the machine is in countdown mode for 10 seconds. During the countdown, press **[Up]+[Down]** to enter the “Functions menu”. Then select “Record Refer”, and press the key **[Enter]** and then enter the password to enter the “Record refer” menu.



The default password is ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓.

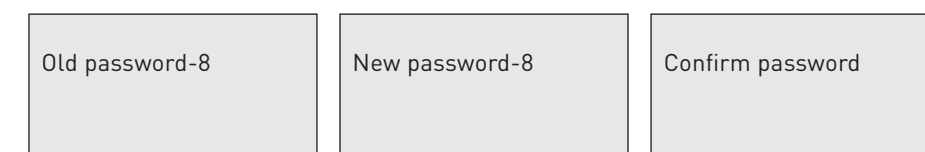
3.2 CHECK RECORD DATA



Press **[Enter]** for 3 seconds to clear the data and set the cycle count to 0.

3.3 MODIFY USER PASSWORD

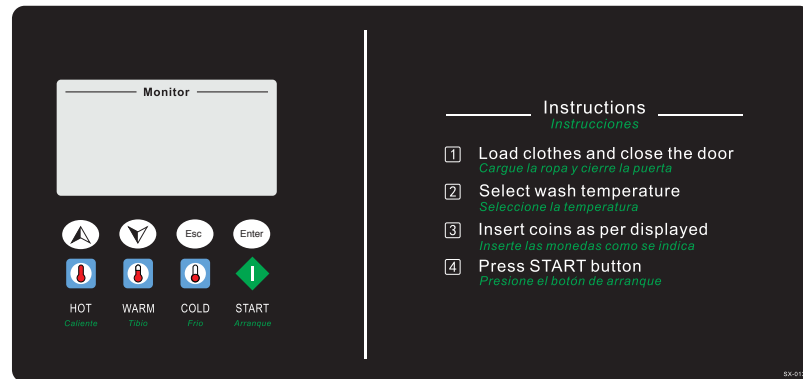
On the top menu of “Record data” setup interface, press **[Up]** or **[Down]** button to select “2: Modi. clr pass” and press **[Enter]** button to enter into this item.



In the password input screen, once a button pressed, a “*” will be displayed on the LCD. **[Enter]** is used to delete and **[Esc]** is used to exit the screen.

04 PROGRAMING PRICE

4.1 SETTING WASH PROGRAM PRICES



Note: the key function as shown in the figure.

On initial power up, the machine is in countdown mode for 10 seconds. During the countdown, press **[Up]+[Down]** to enter the "Functions menu". Then select "Prog Price", press the key **[Enter]**.

```
Functions menu
Prog price
Others
Stop3S=Quit
```

Enter the user password to have access to the "Prog price" menu.

↓↓↓↓↓↓↓↓↓

```
Prog price
1:Prog price
2:Current time
Stop3S=Quit
```

4.2 PROGRAMMING THE PRICE

1. Select "Prog price" to enter the "Prog price" menu.

```
1:Price type
2:StandardPrice
<Stop> to quit
```

2. To set prices for specific days and hours, select "Price type".

```
1: DAYS:V HOUR:X
2: DAYS:V HOUR:X
3: DAYS:V
HOUR:X
4: DAYS:V
```

Press **[Enter]** to switch the setting items.

"V" means "use", "X" means "not use".

"1" "2" "7" mean "Monday", "Tuesday" "Sunday", respectively.

04 PROGRAMING PRICE

- "Special Hour Minute Price" is used when "HOUR" is set to "V". When current time is within the "Special Hour Min Time", the value of the program price is set to the "Special Hour Minute Price".
- "Special Day Price" is used when "DAYS" is set to "V". When "Special Hour Minute Time" is not used or current time is outside the "Special Hour Min Time", the value of the program price is set to the "Special Day Price".
- Otherwise, the value of the program price is set to the "Standard Price"

Set the "Standard Price" or "Special Day Price" or "Special Hour Minute Price"

```
1HOT : 008.00
2WARM: 007.00
3COLD: 006.00
2HOT : 008.00
```

Press **[Enter]** to switch the setting items.

"1" "2" "7" mean "Monday", "Tuesday" "Sunday", respectively.

Set the "Special Hour Minute Time"

```
1:01:10—11:10
2:11:00—16:00
3:11:00—16:00
4:11:00—16:00
```

Press **[Enter]** to switch the setting items.

"1" "2" "7" mean "Monday", "Tuesday" "Sunday", respectively.

The start time is on the left, and the end time is on the right.

4.3 SET THE CURRENT TIME AND DATE

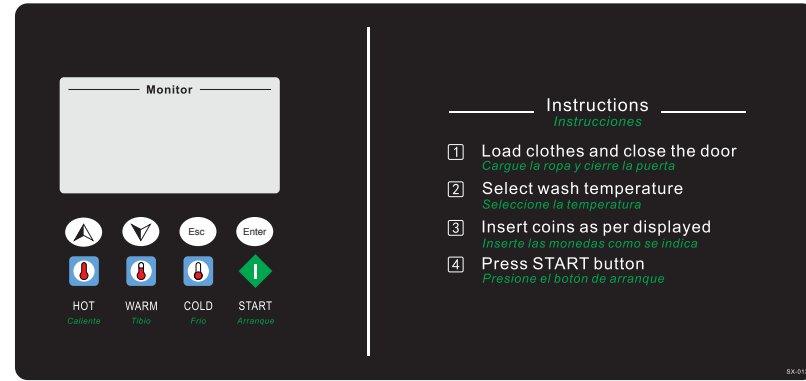
```
System time
2016/06/23
15:58:03
<Start> switch
```

Press **[Enter]** to select either the date or time

Press **[Up]** or **[Down]** to change the value.

5.1 PROGRAMMING THE WASHER

The washer comes pre-programmed with standard wash programs for the self service vended laundry market. These programs have been optimized for cleaning, gentleness and wash cycle time. If necessary, these programs can be edited to meet a specific application.



Note: the key function as shown in the figure.

On initial power up, the machine is in countdown mode for 10 seconds. During the countdown, press **[Up]+[Down]** to enter the Functions menu. Then select "Program Edit", and press the key **[Enter]** to enter the program interface and input the password to enter the Program Edit interface. The default password is ↑ ↓ ↑ ↓ ↑ ↓ ↑ ↓

Functions menu
Program Edit
Record refer
Stop3S=Quit

Then select your desired program by pressing **[Up]** or **[Down]** button.

Edit
Hot
<Stop> to quit

5.1.2 Edit a Wash Program

To select your desired step, press **[Up]** and **[Down]** and press **[Enter]**.

Sel or edit step
St01:PreW.
St02:MainW.
<HT+MT>AddSubStp

To delete or add a cycle step, press **[Up(HighT)]** and **[Down(MidT)]** button at the same time to enter the add or delete wash step. Press **[Up(HighT)]** button to add one step in front of the selected step. Press **[Down(MidT)]** button to delete the selected step.

<HT>Add <MT>Sub

Select step type
Null Rinse
PreW Drain
MainW. Extract
Extract

Press **[Enter]** button to enter the step edit interface.

Under step edit interface:

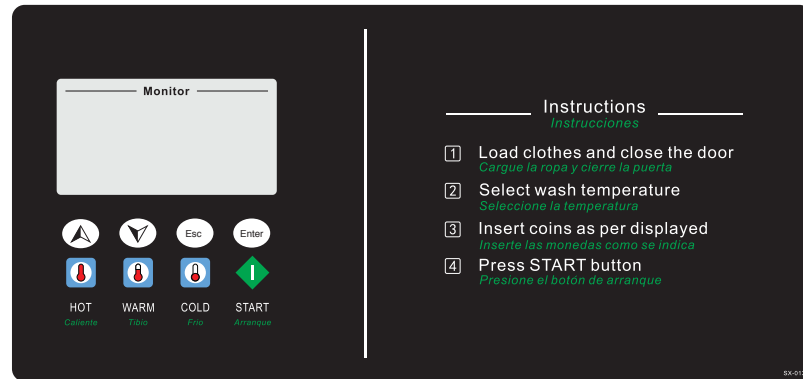
1. Press **[Enter]** to switch the status between "Selecting item" and "Changing item value".
2. Under "Selecting item" status, press **[Up]** and **[Down]** button to switch the setting items.
3. Under "Changing item value" status, Use **[Up]** and **[Down]** select the desired step and press **[Enter]** to delete the step."

5.1.3 Exit and Save

Press the **[Esc]** button under "program" status, LCD displays the information and will confirm whether to save the program. Save the program by pressing **[Enter]** button. To exit without saving by pressing **[Esc]** button.

06 WASHER PARAMETERS

Note: All parameters have been configured in the factory. Do not modify any parameter without consulting Unity Laundry Systems. Altering the parameters could lead to abnormal operation of the washer and potentially void the warranty.



Note: the key function as shown in the figure.

In “count down” interface, press **[Up]+[Down]** to enter the “Function menu”. Then select “Parameter”, and press the key **[Enter]** to enter the parameter interface.

```
Functions menu
Parameter
Program Edit
Stop3S=Quit
```

Then select your desired program by pressing **[Up]** or **[Down]** button, it will enter into “program” status.

```
Parameter
1:Set to default
2:Machine setup
Stop3S=Quit
```

06 WASHER PARAMETERS

6.1 CHANGING WASHER PARAMETERS

On the parameter menu, press **[Up]** or **[Down]** button to select “2:Machine setup” and press **[Enter]** button to enter into this item.

```
2:Machine setup
P1:Mac function
P2:Input status
<Stop> to quit
```

1. Press **[Up]** or **[Down]** button to select menu item and press **[Enter]**.
2. Under Machine setup group, select the sub-item by pressing **[Up]** or **[Down]** button.
3. Press **[Enter]** to enter the “Setting item value” status.
4. Under the “Setting item value” status, press **[Up]** or **[Down]** button to set the value.
5. After modification, press **[ESC]** button to “Selecting item”.
6. Press **[ESC]** button to back the parameter menu.

The following tables detail the washer parameters.

06 WASHER PARAMETERS

GROUP	ITEMS	DEFAULT	RANGE	LEVEL	COMMENTS
P1. Mac function	1: Machine capacity	20KG	1~200KG	Factory	
	2: Language	0-Chinese	0-Chinese, 1-English 2-Spanish	End User	
	3: Temperature units	0-Celsius	0-Celsius, 1-Fahrenheit	End User	
	4: Drain while door open	1-Yes	0-No,1-Yes	Factory	Open drain valve automatic only after opening the door for the safety of the operator.
	5: Drain valve status	1-N.C	0-N.O.,1-N.C.	Factory	Open: Drain valve is opened while draining. Close: Drain valve is closed while draining.
	6: Count time after heat	0-No	0-No,1-Yes	End User	Wash time without heat time, must reach temperature.
	7: Require lubrication	0	0~9999 times	Factory	When the run time reaches this value, it will prompt information to add lubrication under door open status. The times of run can be viewed and be cleared by pressing [Extract] button for 3 seconds from startup screen.
	8: Count time after fill	1-Yes	0-No,1-Yes	End User	Wash time without fill time, must reach water level.
	9: Use password	0-No	0-No,1-Yes	Factory	
	10: Slave port no	1	1~255		
P2. Input status setup	1: Emergency stop	1-N.C	0-N.O.,1-N.C.	Factory	
	2: Extract shock	1-N.C	0-N.O.,1-N.C.	Factory	
	3: Inverter error	1-N.C	0-N.O.,1-N.C.	Factory	
	4: Door closed	1-N.C	0-N.O.,1-N.C.	Factory	
	5: Door pin	1-N.C	0-N.O.,1-N.C.	Factory	
	6: Coin signal	1-N.C	0-N.O.,1-N.C.	Factory	

06 WASHER PARAMETERS

GROUP	ITEMS	DEFAULT	RANGE	LEVEL	COMMENTS
P3. Fill and level setup	1: Zero level	5cm	0~99cm	Factory	Set the relative zero level.
	2: Low level	20cm	0~Middle Level	End User	Set the low level for manual or auto run.
	3: Middle level	30cm	Low Level~High Level	End User	Set the middle level for manual or auto run.
	4: High level	40cm	Middle Level~Overbrim Level	End User	Set the high level for manual or aut run.
	5: Overbrim level	99cm	High Level~99cm	End User	Set the overbrim level. Drain valve will open when water higher than the overbrim level.
	6: Re-fill when low	1-Yes	0-No,1-Yes	End User	Auto re-fill when level is lower than set value.
	7: Refill evel diff	4cm	0~99cm	End User	Auto re-fill when difference between current and set is larger than level difference of re-fill.
	8: Max time of fill	10 Min	0~255 Min	End User	If level is also lower than set value in time, controller will alarm.
	9: Safety level of hot	10cm	0~99cm	End User	Auto fill cold water when level is lower than safety level while filling hot water.
	10: Hot fill intellective	1-Yes	0-No,1-Yes	End User	Fill hot water or cold water to reach set temperature value.
	11: Max time of drain	3 min	0~255 Min	End User	Set the drain time alarm.

06 WASHER PARAMETERS

GROUP	ITEMS	DEFAULT	RANGE	LEVEL	COMMENTS
P4. Heat and temp. setup	1: Min water temperature	0°C	0~Max Temperatrue	End User	The min value of water set temperature.
	2: Max water temperature	90°C	Min Temperatrue~99°C	End User	The max value of water set temperature
	3: Temperature of max heat	70°C	Min Temperatrue~Max Temperatrue	End User	The default value of temperature of heat
	4: High temp	70°C	Min Temperatrue~Max Temperatrue	End User	
	5: Mid temp	40°C	Min Temperatrue~Max Temperatrue	End User	
	6: Low temp	25°C	Min Temperatrue~Max Temperatrue	End User	
	7: Auto re-heat when low	Yes	No, Yes	End User	Auto re-heat when temperature is lower than set value.
	8: Temp. diff. of re-heat	4°C	0~99°C	End User	Auto re-heat when difference between current and set is larger than temperature difference of re-heat.
	9: Max time of heat	10 Min	0~255 Min	End User	If temperature is lower than set value in time, controller will alarm.
	10: Safety level of heat	10cm	0~100cm	End User	Auto fill cold water when level is lower than safety level while heating.
P5. Soap setup	1: Stop filling	Yes	No, Yes	End User	Stop fill cold water while soaping to avoid low water pressure.
	2: Safety level	10cm	0~99cm	End User	Auto fill water when level is lower than safety level while soaping.
	3: Set time of soap1	20 Sec	0~255 Sec	End User	Default set time of soap
	4: Set time of soap2	20 Sec	0~255 Sec	End User	
	5: Set time of soap3	20 Sec	0~255 Sec	End User	
	6: Set time of soap4	20 Sec	0~255 Sec	End User	
	7: Set time of soap5	20 Sec	0~255 Sec	End User	
P6. Inverter setup	1: Inverter type	0-Gerenal	0-Gerenal, 1-PUNP,	Factory	
	2: Inverter control.	0-Relay	0-Relay, 1-RS485	Factory	
	3: Coeff of freq and rev4	0.24	0.0001~0.9999	Factory	Coefficient of frequency and rev : Frequency = Rev *Coefficient.
	4: Base number of invert.	0	0~1	Factory	Base number of inverter while use input signal.

06 WASHER PARAMETERS

GROUP	ITEMS	DEFAULT	RANGE	LEVEL	COMMENTS
P7. Wash setup	1: Minimum pause fwd/ rev	5 Sec	1~255 Sec	Factory	Min time between forward and reverse to avoid motor overload.
	2: Standard wash run time	25 Sec	1~255 Sec	End User	Standard wash run time, includes forward and reverse.
	3: Stand. wash stop time	5 Sec	1~255 Sec	End User	Standard wash stop time, includes forward and reverse.
	4: Gentle wash run time	15 Sec	1~255 Sec	End User	Gentle wash run time, includes forward and reverse.
	5: Gentle wash stop time	5 Sec	1~255 Sec	End User	Gentle wash stop time, includes forward and reverse.
	6: Heavy wash run time	35 Sec	1~255 Sec	End User	Heavy wash run time, includes forward and reverse.
	7: Heavy wash stop time	5 Sec	0~255 Sec	End User	Heavy wash stop time, includes forward and reverse. When "Heavy wash stop time" is set to "0", it becomes single wash.
	8: Speed of normal wash	40 rpm		End User	Default speed of normal wash.
	9: Gentle speed	60 rpm	1~ Max speed of wash	End User	Max speed of wash. Wash at max speed when the set value is larger than max speed.
	10: Speed of gentle wash	40 rpm	1 ~ 100rpm	End User	Default speed of gentle wash.
	11: Speed of single wash	0-Manual	1~ Max speed of wash	End User	Default speed of single wash.
P9. Load & unload	1: Load&Unld type	1-Yes	0-Manual, 1-Auto, 2-None	End User	
	2: StartUnld safe	2 Sec	0-No, 1-Yes	End User	
	3: DelayTimeAuto	4 Sec	0~255 Sec	End User	
	4: RunTimeAuto	2 Sec	0~255 Sec	End User	
	5: StopTimeAuto	0 Sec	0~255 Sec	End User	
	6: MaxT. when man	25rpm	0~3 Sec	End User	
	7: Load&UnldSpeed	40 rpm	1 rpm~Max wash speed	End User	
P10. Door lock	1: UnlockDoorTemp	50°C	0~90°C	End User	
	2: UnlockDoor Lev	5cm	0~99cm	End User	
	3: DoorLock valve	1-Pulse	0-N.C. 1-Pulse, 2-N.O.	Factory	
	4: DoorPin Max T.	10 Sec	0~99 Sec	Factory	
	5: Door lock type	0-Series	0-Series 1-Pulsed	Factory	
	6: PulsedUnlockT.	10 Sec	0~99 Sec	Factory	

06 WASHER PARAMETERS

GROUP	ITEMS	DEFAULT	RANGE	LEVEL	COMMENTS
P11. LZ Invt	1: Wash acc time	30.0 Sec	0.0~255.0 Sec	Factory	
	2: Wash dec time	30.0 Sec	0.0~255.0 Sec	Factory	
	3: Bal acc time	30.0 Sec	0.0~255.0 Sec	Factory	
	4: Bal dec time	30.0 Sec	0.0~255.0 Sec	Factory	
	5: MiExtr acc T.	30.0 Sec	0.0~255.0 Sec	Factory	
	6: MiExtr dec T.	30.0 Sec	0.0~255.0 Sec	Factory	
	7: HiExtr1 acc T.	30.0 Sec	0.0~255.0 Sec	Factory	
	8: HiExtr1 dec T.	30.0 Sec	0.0~255.0 Sec	Factory	
	9: HiExtr2 acc T.	30.0 Sec	0.0~255.0 Sec	Factory	
	10: HiExtr2 dec T.	30.0 Sec	0.0~255.0 Sec	Factory	
	11: HiExtr3 acc T.	30.0 Sec	0.0~255.0 Sec	Factory	
	12: HiExtr3 dec T.	30.0 Sec	0.0~255.0 Sec	Factory	
	13: HiExtr4 acc T.	30.0 Sec	0.0~255.0 Sec	Factory	
	14: HiExtr4 dec T.	30.0 Sec	0.0~255.0 Sec	Factory	
	15: LZPlatformVal	4	1~15	Factory	
	16: LZ Volume Val	8	1~15	Factory	
	17: LZOobMinSpeed	150	0~999	Factory	
	18: LZOobMaxSpeed	400	0~999	Factory	
P12. Coin setup	1: Pay type	0-Coin	0-Free 1-Coin 2-Card 3-Coin_Card	End User	
	2: Coin pulse min	0.010s	0~1.000s	Factory	
	3: Coin pulse max	0.160s	0~1.000s	Factory	
	4: Coin period	0.180s	0~1.000s	Factory	
	5: Card pulse min	0.010s	0~1.000s	Factory	
	6: Max Card pluse width	0.160s	0~1.000s	Factory	
	7: Card check period	0.180s	0~1.000s	Factory	
	8: Pay unit type	0-Number	0-Number 1-Valuta	End User	
	9: Coin Valuta	1	0-655.00	End User	
	10: Box allow coins	999	0-999	End User	

07 ALARM

7.1 CLEARING / RESETTING THE ALARM

When error occurs, the controller will signal an alarm automatically with audible sound. Pressing <Enter> button will stop audible alarm sound. Press <Enter> button again after troubleshooting. If the error has been resolved or can be ignored, the computer will go back to "open" or "close" or "locked" status. Or else the controller will alarm again.

7.2 ALARM INFORMATION AND TROUBLESHOOTING

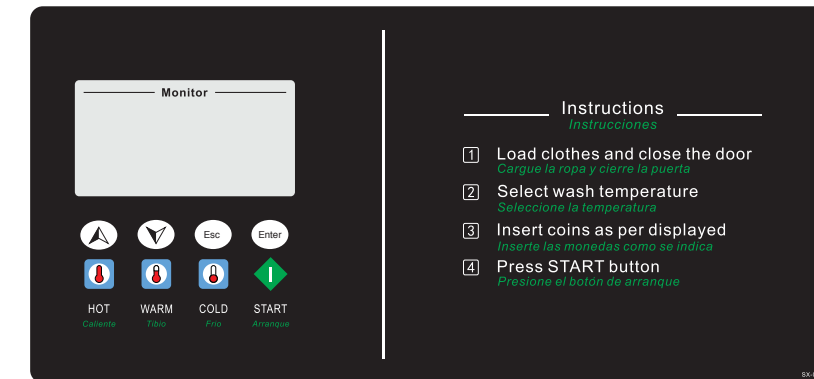
NO.	ALARM NAME	TROUBLESHOOTING
#1	Error door status	Please check the door switch or door pin.
#3	Over shock	Please check if the load in the machine is too small or too large.
#7	Inverter error	Please check the inverter, or check the input of inverter
#9	Error level sensor	Have not adjusted the level sensor, please contact Unity Laundry Systems.
#10	Temp sensor of water	Please check temperature sensor of water
#11	Temp sensor of inverter	Please check temperature sensor of inverter
#14	Overtime of fill	Can't reach the set level in time. Please check the fill valve, or check the level sensor
#15	Overtime of heat	Can't reach the set temperature in time. Please check the device of heat, or check the temperature sensor.
#16	Overtime of drain	There is remaining water in drum. Please check the drain valve.
#17	Lubrication time	The times of run can be browsed and be cleared by pressing [START(ENTER)] button for 3 seconds from startup screen.
#18	Invt comm overtime	Unable to receive replay dat from inverter. Please check power inverter, or the parameter of the inverter.
#19	Inv com err	Please check electrical connection and ground.
#20	PUNP inverter error	Please contact Unity Laundry Systems.
#21	High temp of invt	Clean lint inside machine and check the inverter fan.
#33	PUNP inverter alarm	Please contact Unity Laundry Systems
#34	Clear cilia of invt	Clean lint inside machine and check the inverter fan.
#49	Bkbd comm overtime	Unable to receive replay data from I/O Board. Please check the wiring between HMI and I/O Board.
#50	Bkbd com err	Please check electrical connection and ground.
#51	Parameter error	Please contact Unity Laundry Systems.
#52	Program error	Please contact Unity Laundry Systems.
#53	Controller failure	Please contact Unity Laundry Systems.

7.2.2 PUNP INVERTER ALARMS

ALARM NAME	DESCRIPTION	REMEDIES
1. Motor overload	Motor thermal model detects the motor temperature rise is overhigh	Refer to above table
2. Motor load overweight	Motor current exceeds the load overweight detection level, and the detection time is exceeded	Refer to above table
3. Inverter underload	Inverter output current is less than the underload protection level, and the detection time is exceeded	Refer to above table
4. Standby		
5. Standby		
6. Standby		
7. Input phase loss	Lack of input phase or imbalance among three phases	Refer to above table
8. Output phase loss	Lack of output phase	Refer to above table
9. Standby		
10. Parameter saving fail	Failure in writing parameters	Refer to above table
11. Standby		
12. DC link undervoltage	DC link voltage is lower than the threshold	It is normal for this alarm information to be displayed when the power is off
13. C1 output protection	Generated by comparator 1	Check the definition of comparator 1 output
14. C2 output protection	Generated by comparator 2	Check the definition of comparator 2 output
15. Standby		
16. Standby		
17. Standby		
18. Parameter check error	Improper parameter setting	Correct parameter setting or restore factory setting.

7.3 ALARM LOG

In the alarm interface, press **[Up]** and **[Down]** at the same time to enter the alarm log interface. It will log three new alarms and time of occurrence. Press **[Up]** and **[Down]** to switch the alarm logs.



Note: the key function as shown in the figure.

1. Remove top panel and soap dispenser panel to access USB port
2. Power on the machine, and the controller will automatically detect the USB disk. If detected, "U disk inserted" will be displayed on the screen for two seconds.
3. Enter the factory password to access the USB menu..

```
Welcom to USB
1:ParaFromUSB
2:ProgFromUSB
Stop3S=Quit
```

Note: The Factory password can be used to access to all the items. User password can only be used to access to download and upload the parameter and wash program.

4. Press **[UP]** or **[DOWN]** button to select item and press **[START]** button to enter into this item.
5. Press **[STOP]** button for 3 seconds to exit the USB operation interface.
6. Power off and pull out the USB disk.

8.1 COPY PARAMETER FROM USB DISK TO CONTROLLER

Press **[UP]** or **[DOWN]** button to select "1:Copy parameters from USB" and press **[ENTER]** button to enter.

```
Welcom to USB
1:ParaFromUSB
Start=Confirm
```

Press **[START]** button to confirm. This operation will upload all of the parameters from USB disk to controller. Press **[STOP]** button to cancel.

Note: The file path of parameter on USB disk should be: "H:\LDXXX\PARAMETER". "H" is the USB disk recognized on the personal computer.

8.2 COPY PROGRAM(FORMULA) FROM USB DISK TO CONTROLLER

Press [UP] or [DOWN] button to select "2:ProgFromUSB" and press [START] button.

```

Welcom to USB
2:ProgFromUSB
Start=Confirm
```

Press [START] button to confirm. This operation will upload all of the formulas from USB disk to controller.
Press [STOP] button to cancel.

Note: The file path of parameter on USB disk should be: "H:\LDXXX\PARAMETER". "H" is the U disk recognized on the personal computer.

8.3 COPY PARAMETER FROM CONTROLLER TO USB DISK

Press [UP] or [DOWN] button to select "3:CopyParaToUSB" and press [START] button.

```

Welcom to USB
3:CopyParaToUSB
Start=Confirm
```

Press [START] button to confirm. This operation will upload all of the parameters from controller to USB disk.
Press [STOP] button to cancel.

Note: The parameters will be reserved under the file path: "H:\LDXXX\PARAMETER". The existing parameters under this file path will be covered by this one.

8.4 COPY PROGRAM (FORMULA) FROM CONTROLLER TO USB DISK

Press [UP] or [DOWN] button to select "4:CopyProgToUSB" and press [START] button.

```

Welcom to USB
4:CopyProgToUSB
Start=Confirm
```

Press [START] button to confirm. This operation will download all of the formulas from controller to USB disk.
Press [STOP] button to cancel.

Note: The formulas will be reserved under the file path: "H:\LDXXX\PARAMETER". The existing formulas under this file path will be covered by this one.

8.5 UPDATE LLXXX (CONTROL BOARD) SOFTWARE FROM USB DISK

Press [UP] or [DOWN] button to select "6:Update LLXXX" and press [START] button.

```

6:Update LLXXX
X1LL019AX16001-1.V100A0
X1LL019AX16001-1.V100A1
Start=Confirm
```

Press [UP] or [DOWN] button to select software file and press [START] button to confirm. Press [STOP] button to cancel.

```

6:Update LLXXX
X1LL019AX16001-1.
V100A0
Waiting... 05%
```

```

6:Update LLXXX
X1LL019AX16001-1.
V100A0
Ok,please restart!
```

Note: The file path of llxxx software on the USB disk should be: "H:\LLXXX\IPSP\PROGRAM".

After the software has been downloaded completely, please restart the controller.

8.6 COPY PUNP INVERTER PARAMETER FROM USB DISK TO CONTROLLER

Press [UP] or [DOWN] button to select "7:InvParaFromUSB" and press [START] button.

```

Welcom to USB
7:InvParaFromUSB
Start=Confirm
```

Press [START] button to confirm. This operation will upload all of the parameters of PUNP inverter from USB disk to controller.
Press [STOP] button to cancel.

Note: The file path of parameter on U disk should be: "H:\LDXXX\PARAMETER".

The inverter installed on the machine should be made by PUNP and the parameter "Inverter type" should be set as "PUNP Inverter".

8.7 COPY PUNP INVERTER PARAMETERS FROM CONTROLLER TO USB DISK

Press [UP] or [DOWN] button to select "8:InvtParaToUSB" and press [START] button.

```

Welcom to USB
8:InvtParaToUSB
Start=Confirm
```

Press [START] button to confirm. This operation will download all of the parameters of PUNP inverter from controller to U disk.
Press [STOP] button to cancel.

Note: The PUNP inverter parameters will be reserved under the file path: "H:\LDXXX\PARAMETER". The existing PUNP inverter parameters under this file path will be covered by this one.

The inverter installed on the machine should be made by PUNP and the parameter "Inverter type" should be set as "PUNP Inverter".

08 USB INTERFACE

8.8 ALARM INFORMATION AND TROUBLE SHOOTING FOR USB OPERATION

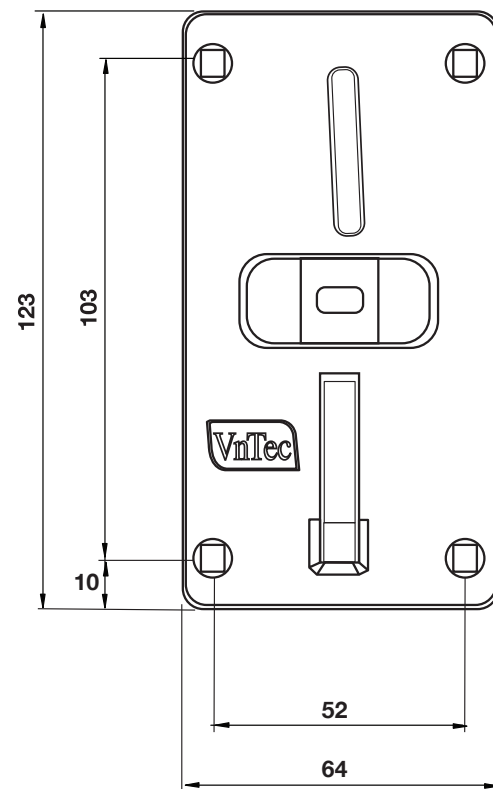
ALARM NAME	TROUBLE SHOOTING
E1: Please insert the USB	Please insert the USB disk again.
E2: Please copy the file	Please check path. Please check whether file exists or not.
E3: Please check the file	Please check the file. Please contact Unity Laundry Systems
E4: File read-write error	Please check the file. Please contact Unity Laundry Systems
E5: FLASH error	Please contact Unity Laundry Systems
E6: Backboard commu err	Please check Lines of Communication and power on again.
E7: Invt commu err	
E8: Invt model not match	Please contact Unity Laundry Systems

09 COIN MECHANISM

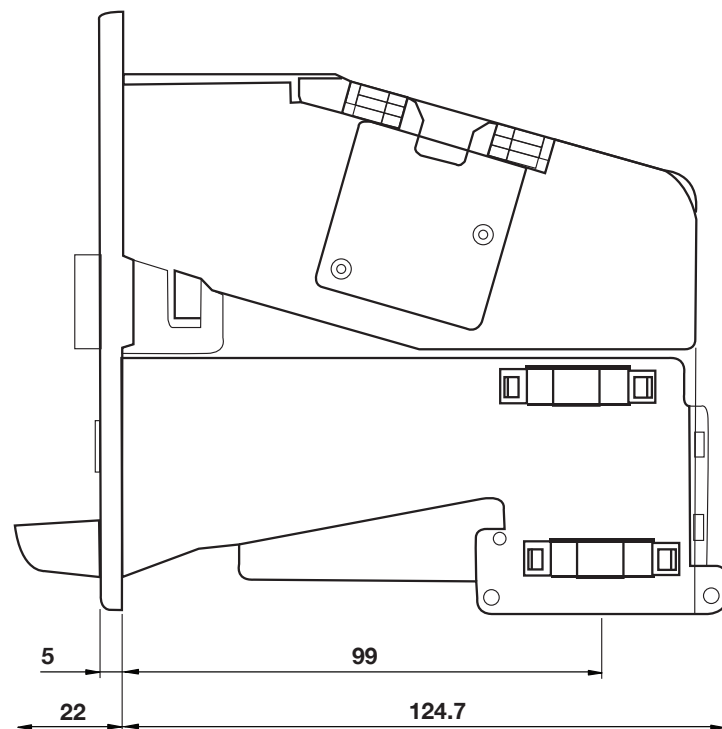
9.1 SPECIFICATIONS

POWER REQUIREMENTS	
Voltage	DC12V (11-13VDC)
Standby Mode	0.1A
Peak Current	0.5A
Operating Temperature	-10 to +50 Degrees Celsius
Storage Temperature	-20 to +80 Degrees Celsius
Relative Humidity	30% to 85% Non-condensing
Coin Size Range	16mm to 32.5mm Diameter, 1.0mm to 3.4mm Thickness

9.2 MECHANICAL DIMENSIONS



9.3 SWITCHES, BUTTONS & CONNECTION DESCRIPTIONS



SWITCH SW1

Switch SW1 is located next to the 4 pins cable connector behind the coin acceptor. The switch is used to select the pulse output timing. The minimum interval in between pulses is 100ms.

Options25 ms, 50 ms and 100 ms

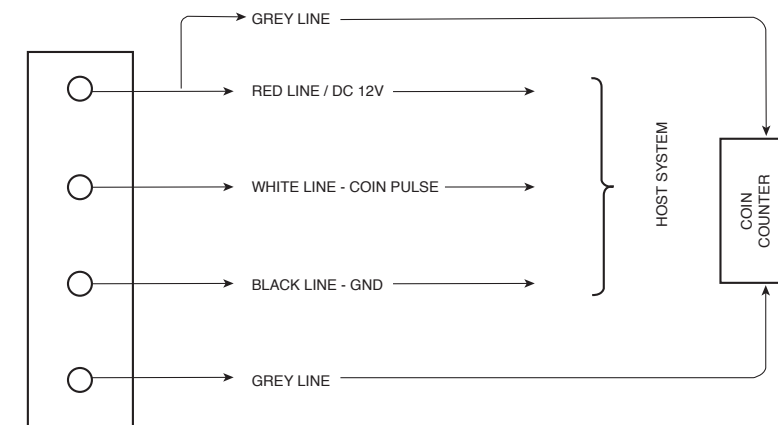
SWITCH SW2

Switch SW2 is being housed underneath the digital display of the coin acceptor. The switch is used to select the output pulse format. (The internal circuitry is an open collector designs)

NC (Normal Close) or Active High Pulse

NO (Normal On) or Active Low Pulse

FOUR PIN CONNECTOR OUTPUT INTERFACE DIAGRAM



BUTTON FUNCTION

INDICATION	DESCRIPTION	FUNCTION
Ent	ENTER	• Long press (>2 sec) to enter the setting mode • Short press (<2 sec) to confirm a selection
Esc	ESCAPE	Long press (>2 sec) to escape
+	INCREASE	Short press (<2 sec) to browse the menu
-	DECREASE	Short press (<2 sec) to browse the menu Select Channel number from c1 to c12 to adjust the tolerance

9.4 MENU SETTINGS

INDICATION	DESCRIPTION	(STEP 2)	(STEP 3)	(STEP 4)
tH	Teaching Mode	Select Channel: From c1 to c12	Set Coin Value: Min 0, Max 255	Insert 6 coins: 00 to 05 (Blink indicates setting is
Pr	Price	Set Price:	Default : 1 Min 0 , Max 255	
Cn	Coin Value	Select Intended Channel (c1 to c7)	Set New Coin Value Min 0, Max 255	
tL	Coin / Token Acceptance Tolerance Number	Select Channel number from c1 to c12 to adjust the tolerance	Select Tolerance: t1 and t2: Diameter t3 to t6 : Material	Default: 08 Min 0, Max 15 Higher Number: Wider Tolerance Lower Number: Narrower Tolerance
dL	Delete	Select Intended Channel (e.g., c6)	Enable Channel : 00 Delete Channel : 01	
In	To Enable Inhibit Mode	No Inhibition	: no Low Inhibition :Lo High Inhibition : HI	

9.5 EXAMPLE OF SETTING / TEACHING 50 CENTS TO CHANNEL 2

To set 50 cents on Channel 2 (c2):

1. Enter the setting mode.
2. Select "tH" from the menu and press "Ent" to confirm.
3. The display will show "c1." Use "+" to look for "c2" and press "Ent" to confirm.
4. The original coin value will appear on the display. Keep pressing "+/-" and stop at coin value "5." Press "Ent" to confirm.
5. The display will show "00" with blinking. Insert 6 pieces of 50 cents coin. The menu will automatically return to "c2." (use multiple 50 cents coins to maximize the coin acceptance rate)
6. Press "Esc" for more than 2 seconds to exit and press "Esc" again for more than 2 seconds to return to the setting mode.

9.6 EXAMPLE OF CHANGING THE PRICE

To change price from 1 (default value) to 5:

1. Enter the setting mode.
2. Navigate to "Pr" by using "+/-" and press "Ent" to confirm.
3. The original price "1" will appear on the display, use "+" to search for "5" and stop.
4. Press "Ent" to confirm. The menu will return to "Pr."
5. Press "Esc" for more than 2 seconds to save to exit.

Note: Changing the price value will affect the coin slot pulse output. Refer to "Understanding Coin Value/ Price Vs Pulse Output" for more information.

9.7 EXAMPLE OF CHANGING THE COIN VALUE

To change the coin value from 5 to 10 on Channel 2 (c2).

1. Enter the setting mode.
2. Use "+" to search for "Cn" and press "Ent" to confirm.
3. The display will show "c1," use "+" and stop at "c2." Press "Ent" to confirm.
4. The original coin value "5" will be shown, use "+" to increase and stop at "10."
5. Press "Esc" to exit to "Cn" and repress "Esc" to return to the setting mode.

9.8 EXAMPLE OF CHANGING THE TOLERANCE

To change t3 on Channel 2 (c2) from 5 to 7:

1. Enter the setting mode.
2. Use "+" to search for "tL" and stop at it. Press "Ent" to confirm.
3. The display will show "c1", use "+" and stop at "c2", press enter to confirm
4. Navigate to "t3" by using "+" and press "Ent" to confirm. The display will appear the original tolerance "5."
5. Use "+" to increase the tolerance to "7" and press "Ent" to confirm.
6. Press "Esc" for 3 times to return to the setting mode.

Note: Increase tolerance when the coin acceptance is low and decrease it to reject off forgery.

9.9 EXAMPLE OF DELETING THE PREDEFINED SETTING

To delete Channel 3:

1. Enter the setting mode.
2. Navigate to "dL" by using "+" and press "Ent" to confirm.
3. Use "+" to search for "c3" and then press "Ent" to confirm.
4. Select "01" to delete predefined setting and press "Ent" to confirm.
5. Press "Esc" to exit.

9.10 UNDERSTANDING COIN VALUE / PRICE VS PULSE OUTPUT

The VN-5 coin acceptor is designed to enhance its versatility to cater to different types of systems, and thus suitable for worldwide applications.

To receive correct pulse output with each coin inserted, the accuracy of Coin Value/ Price vs Pulse Output setting is crucial.

Insertion of sufficient Coin Value or correct piece of coins that is equivalent to the Price will trigger the coin acceptor to deliver a pulse. Extra Coin Value being paid will be stored in the coin acceptor memory as a remainder for later coin value accumulation.

COIN VALUE / PRICE = Number of PULSE

Remainder is kept in coin acceptor memory. Example 1: Most common scenario

When the host accepts one pulse for every 10 cents inserted, Coin Value setting is recommended as follows:

- 10 cents01
- 20 cents02
- 50 cents05
- 1 dollar10
- Price selection01

The coin acceptor will deliver: 1 Pulse for every 10 cents

- 2 Pulses for every 20 cents
- 5 Pulses for every 50 cents
- 10 Pulses for every 1 dollar Example 2: Rare Scenario

When the smallest denomination of the host is 1 dollar for every pulse, Coin Value setting is recommended as follows:

- 10 cents01
- 20 cents02
- 50 cents05
- 1 dollar10
- Price selection10

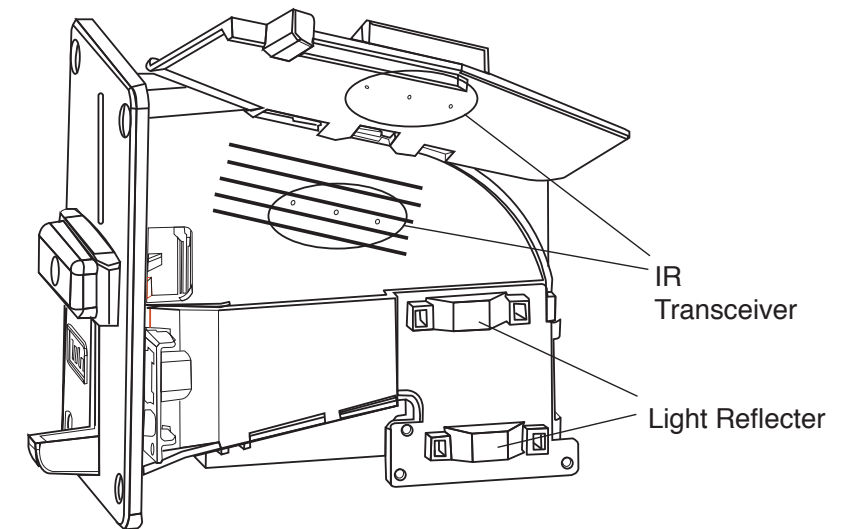
The coin acceptor will deliver a single pulse each time the paid Coin Value is equivalent with the Price. If the Coin Value being paid is greater than the Price, the overpaid will be kept in the coin acceptor memory for later coin value accumulation.

9.11 TROUBLE SHOOTING

When a coin is inserted into the coin acceptor, the coin should roll down the coin path and drop into the coin vault if the validating process is successful. The onboard display will show the coin value.

During the initial setup, if the coin does not fall into coin vault, make sure the machine is level and all the settings are carried out properly or repeat the teach mode.

If the coin does fall into the coin vault but system does not register the signal, check the requirement of the host system and make sure SW1 & SW2 is switched to the correct position as well as the coin value and price are correctly set.



TROUBLE	PROCEDURE	REMEDY
Coin Jams	<ol style="list-style-type: none"> 1. Remove the coin acceptor from the panel 2. Open the cover. It must not be opened wider than 90° 3. Remove the lodged coin 4. Check for any residue or lint 	Clean the coin path with a soft, dry cloth
Coin Rejects	<ol style="list-style-type: none"> 1. Check if the power supply tolerates DC12V 2. Check if the settings are properly done 3. Check any blockage at the IR Transceiver hole 	Clean the IR transceiver holes or adjust tolerance. Contact distributor if problem remains
Incorrect Pulses	<ol style="list-style-type: none"> 1. Check if the switch SW1 & SW2 is correctly positioned 2. Check if the Price and Coin value is correctly set 	Double check the interface requirement with the host system

9.12 MAINTENANCE

The cleaning frequency depends on the environment and number of transactions of the coin acceptor. It is recommended to clean the coin acceptor every six months for normal environment or/and infrequent usage, and every three months for harsh environment or/and frequent usage.

1. Disconnect the power supply before removing and cleaning the acceptor
2. Remove the coin acceptor from its front panel
3. Open the side cover. Do not overbend the spring by opening it wider than 90 degrees
4. Clean the coin path with a soft brush and wipe it with an alcohol-dampened cloth
5. Do not clean the coin path with oil-based cleaning agent as the residue will prevent or block the IR signal
6. Clean IR Transceiver holes with soft brush or air spray duster
7. Make sure the light reflector at the bottom is clean
8. Reinstall the coin acceptor back to the front panel
9. Reconnect the wire to ensure the coin acceptor is working properly.

