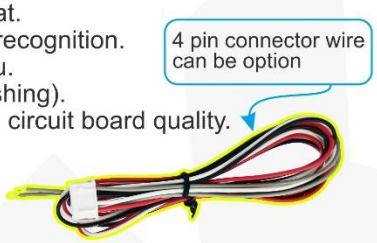
LK133S manual

Product Features

1.Programmable multi-currency coin acceptor capable of learning and storing parameters for up to 6 coin types (including tokens or national currency metal coins) and their corresponding credit signals.
2.CPU-programmed control ensures precise coin recognition and accurate scoring.
3.The “credit signal” output can be configured to feed back to the main control unit in either “protocol signal” or “pulse signal” format.
4.15 adjustable precision levels for coin recognition.
5.Customizable functions via setup menu.
6.Anti-cheating mechanisms (e.g. anti-fishing).
7.SMT assembly process ensures stable circuit board quality.
8.Built-in coin insertion indicator light.
9.Customizable panel engraving.

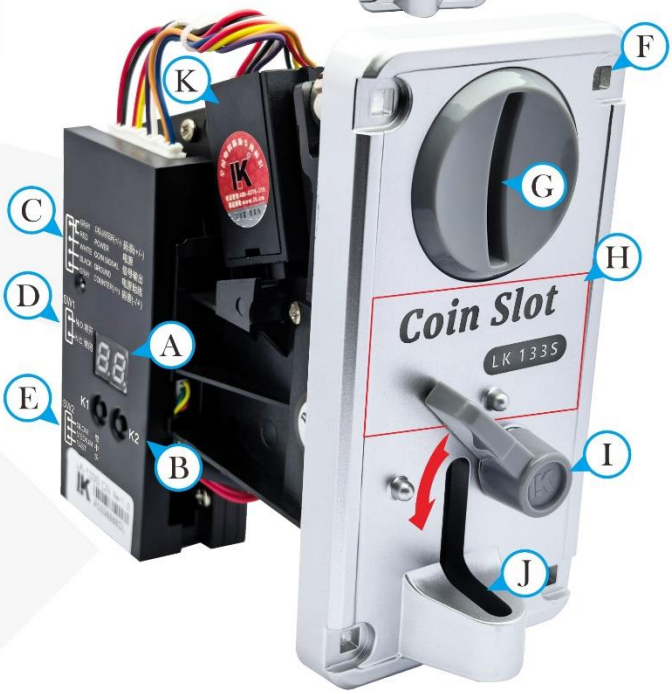


Steps for usage

1.Coin Learning & Storage (see Attachment 1).
2.Select Credit Signal Type ,the communication interfaces for the two signal types are shown in the table below:

Credit Signal	Signal 1	Signal 2
Protocol Signal①	TXD	RXD
Pulse Signal②	WHITE COIN SIGNAL	GRAY COUNTER

3.Adjust Precision Based on Coin Type, The factory default precision is optimized. (For adjustment steps, refer to Attachment 1)
(1)Small coin deviations: Decrease the precision value to enhance recognition accuracy.
(2)Large coin deviations: Increase the precision value to prevent valid coins from being rejected.
4.Mount the coin acceptor and connect the power and signal cables.
Annotation①:Protocol Signal
1)The credit signal transmits "credit value" data to the machine.
2)Protocol Signal Specifications:
a)UART serial protocol: Baud rate: 9600bps, 8-bit data, 1 stop bit, no parity.
b)TTL level (weak noise resistance): Add a 10KΩ pull-up resistor to the TXD line. Recommended to use RS232 level for better noise immunity.
(For experts only; commands and data frames are detailed in Attachment 2)
Annotation②:Pulse Signal
1)The credit signal sends pulses to the machine (traditional interface).
2)Pulse Signal Specifications:
a)SW1: Select NO/NC mode (default: NC).
b)SW2: Set pulse width (20ms/40ms/100ms, default: 100ms).

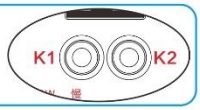


G Coin slot:
Please use metal coins when inserting coins.
1. With general inductors (factory default), coins with a diameter of Φ20~Φ29.5mm and a thickness of 1.2~2.4mm can be inserted.
2. With small inductors (customized by users), coins with a diameter of Φ20~Φ26.5mm and a thickness of 1.2~2.4mm can be inserted.

H Indicator Light (Customizable):
- Purple: Standby
- Blue blinking: Valid coin
- Red blinking: Invalid coin
- Red continuous blinking: Fault

A Digital Tube: Displays menu information

B Function Keys: K1/K2 for menu navigation



C Protocol Signal Port:
12V (red)
TXD (white)
GND (black)
RXD (gray)

D Set SW1 output mode, select NC/NO, the factory setting is NC.

E Set SW2, select the output pulse switch(20 ms/ 40ms/100 ms),the factory setting is 100ms.

F Mounting holes: With a square neck screw diameter of 4mm

I Coin bar:
When a larger diameter coin or a foreign body stuck,flip the level to exit the foreign coin.

J Coin mouth:
False coin/foreign body from here to exit.

K Inductor:
1. This coin acceptor uses a general inductor by default.
2. If the user's metal coin is small in size, which will affect precision at coin drop, a small inductor can be selected.

Communication circuit

Coin detected “real coin”, when the circuit gives a pulse signal (the pulse signal can be selected by the switch SW1,normally closed or normally open output;SW2 switch to select pulse width,see Figure 1)
The circuit output of this product is a triode collector or MOS tube drain open output , When it is used,users are advised to use optocouplers to receive signals when designing the interface circuit (see Figure 2).

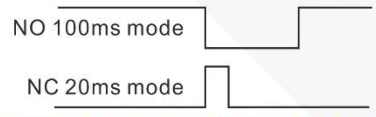


Figure 1

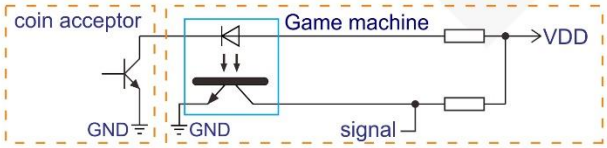
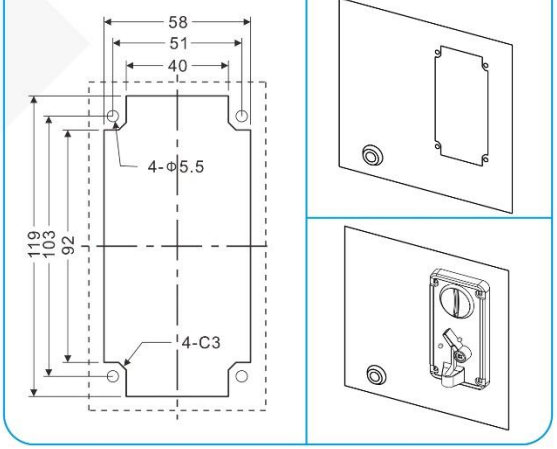


Figure 2

The size diagram and effect diagram Unit:mm



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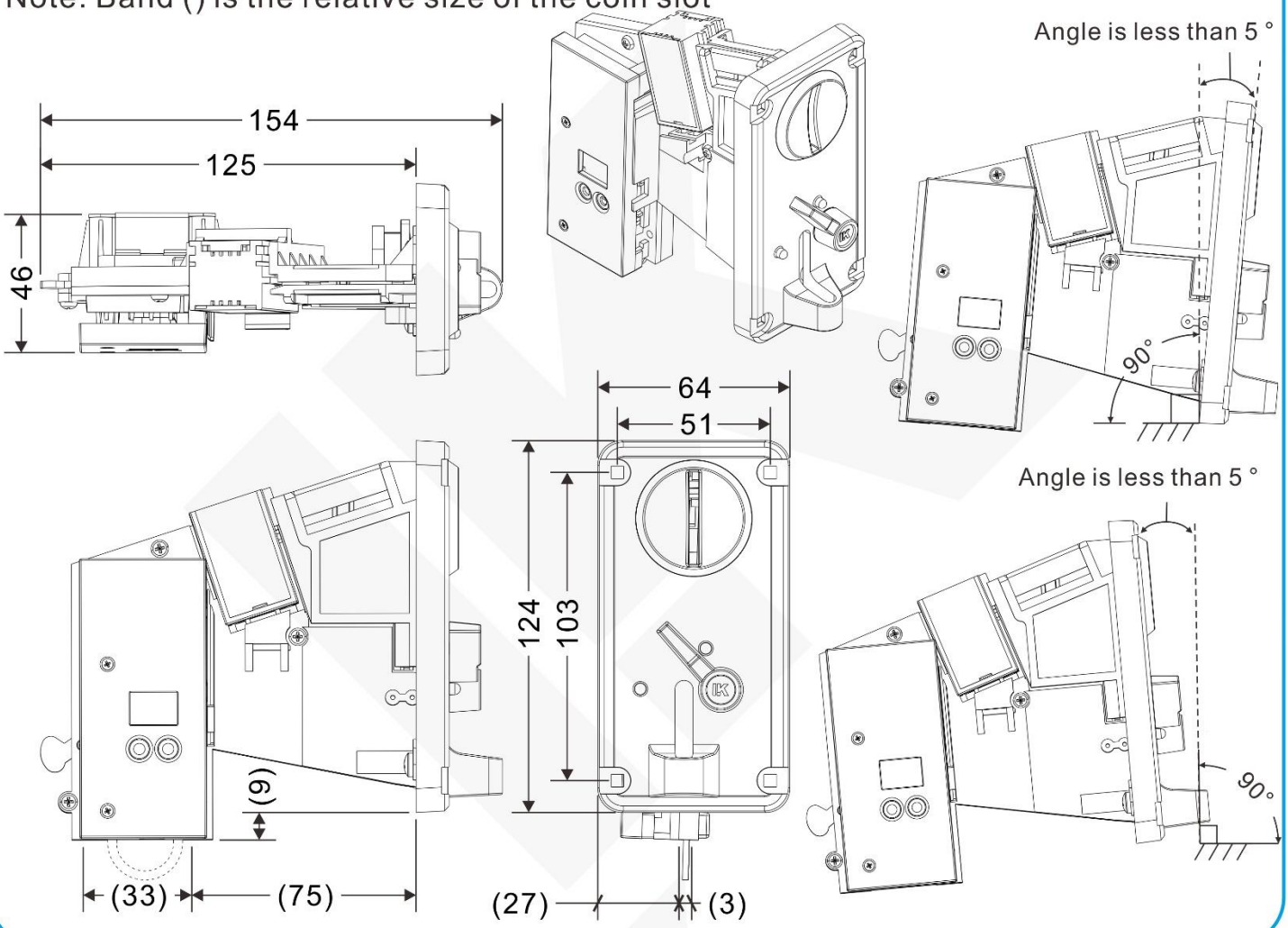
Product size Unit: mm

Note: Band () is the relative size of the coin slot



Common abnormalities handling

A.Coin not passed
1.If there is poor contact in the coin power outlet;
2.If the wiring is correct;
3.If there is a foreign body in the coin track;
4.If power supply 12V is normal;
5.If the out mouth of coin is smooth;
6.If mounting depth is enough;
7.If there is a foreign body in the coin track, such as electric eye position is blocked.

B. Coin not score
1.If SW1 NO/NC is set matched;
2.If SW2 plus width is matched;
3.If the signal is connected well,if connection method is correct;
4.Coin signal and open collector output,if the target board is connected with pull-up resistor.

C. Coin not smooth
1..If coin slot is smooth,such as hopper tank depositing port and slot machine outlet slot are aligned;

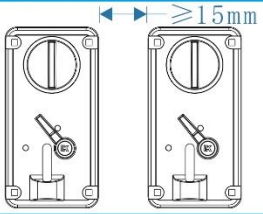
D. . Code mode doesn't move
1.If the wiring is correct(An end of the code table is connected with code table line , the other end of DC+12V);
2.If the code mode is bad;
3.Cable resistance is too large, resulting in power is below standard;
4.The power supply voltage and rated voltage code table required are the consistent.

Basic parameters

Operating voltage			DC12V±10%
Standby currency			<50mA
Operating currency (Maximum current)			<650mA
Operating temperature			-15℃~65℃
Output mode			OC.
Output signal			20ms/40ms/100ms
Coin diameter (General inductor)			Ø20~Ø29.5mm
Coin diameter (Small inductor)			Ø20~Ø26.5mm
Coin thickness			1.2~2.4mm
Angle assembly			-5°~5°
Individual packaging	Meas		161*69*131mm
	Gross weight	Without wire	300g
		With wire	309g
Carton packaging	Package		30PCS/SET
	Meas		51*37*28cm
	Gross weight	Without wire	9.8KG
		With wire	10.1KG

Assemble requirements

To prevent interference from adjacent signals, the adjacentmounting distance should be greater than 15mm.



If product technology improved, it will be edited in the new manual without notice.
The ultimate interpretation of this manual is up to GuangzhouLikang Electronic Technology Co.,Ltd.

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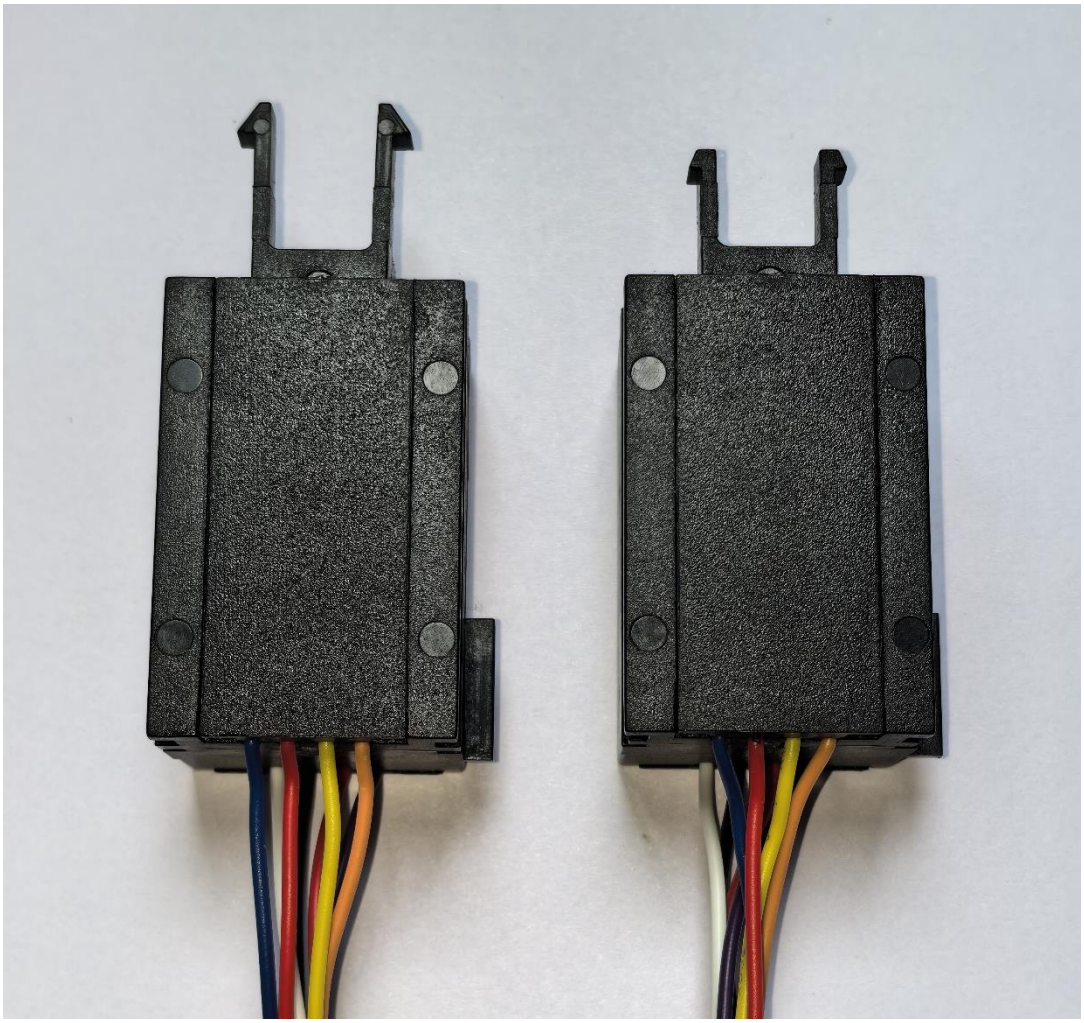
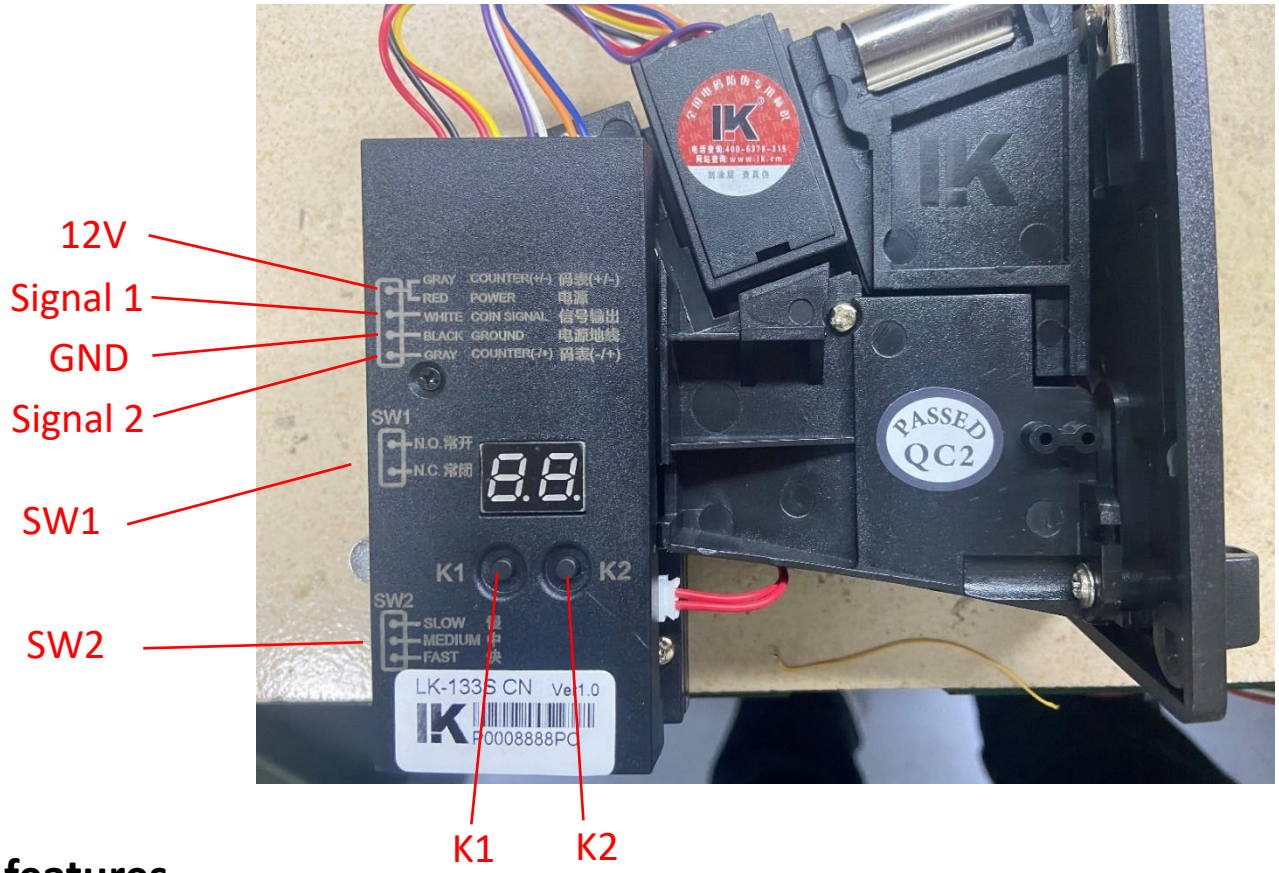
Note: The factory default coin diameter of this coin acceptor is Φ20~Φ29.5mm, and the thickness is 1.2~2.4mm. However, some users have smaller coin sizes. In order to ensure better recognition accuracy, our company can also use small inductors to customize coin acceptors with coin diameters of Φ20~Φ26.5mm for users. If needed, please feel free to communicate with us.

Attachment:



General inductor Small inductor

LK133S Memory Coin Acceptor User Guide



i. Product features

1. This device is a memory type and multi-coin acceptor, which can program and save parameters and signals of up to 6 coins according to the user's requirements.
2. It supports two communication modes: Pulse Signal and Protocol Signal.

ii. Communication interface

Use a 4PIN signal cable to connect the machine and the coin acceptor. The interface is defined as follows:

Communication Modes	Signal 1	Signal 2
Protocol Signal①	TXD	RXD
Protocol Signal②	WHITE COIN SIGNAL	GRAY COUNTER

Note①：1）The score corresponding to the signal will be sent to the machine in the form of data.

2）Description of the Protocol Signal：

a）UART serial port communication protocol, Baud Rate: 9600 bps, Data Bit: 8 bit, Stop Bit: 1 bit, with no Parity Bit

b）TTL levels (It is recommended to connect a 10KΩ pull-up resistor to the TXD to enhance anti-interference capability.) The level signal has weak anti-interference ability. It is recommended to use the "RS-232" Signal levels.

3）For example: insert two 0.5CNY coins to get 1 score, insert one 1CNY to get 1 score..... These information will be sent to the machine in the form of data, and the machine will also reply in the form of data to inform the coin acceptor that it has been received, thus forming a complete data "send-receive" process. (Refer to the attachments for the specific data frame structure)

Note②：1）The score corresponding to the signal will be sent to the machine in the form of pulses.(traditional machine interface)

2）Description of the Pulse Signal：

a）Use the "SW1" switch to select "normally open, normally closed signal"

b）Use the "SW2" switch to select the width of the pulse signal. Three levels are available: "Fast - 20ms", "Medium - 40ms", "Slow - 100ms"

3）For example:

a）"0.5CNY": 1-score 2-coins, i.e. insert two 0.5CNY to send 1 pulse signal.

b）"1CNY": 1-score 1-coin, i.e. insert one 1CNY to send 1 pulse signal.

Note: This content is operated by professional technicians and can be skipped by ordinary users. Refer to the attachments for detailed parameters such as specific data frames and instructions.

iii. *How to enter the function menu when using the coin acceptor for the first time:*

Table 1：Introduction to the function menu

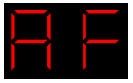
No.	Function	Describe
	**Programming Mode 1**	Set the ratio of "1-coin multi-scores," insert coins to program, and save the parameters after programming.
	**Programming Mode 2**	Set the ratio of "1-score multi-coins," insert coins to program, and save the parameters after programming.
	**Accuracy Adjustment**	When the coin is not smooth, reduce the accuracy to relax. When the anti-counterfeit effect is poor, improve the accuracy to prevent. (Default: Level "07")
	**Enable Coins**	Allow the selected coin to be put into the coin acceptor for scores, provided that the parameters of the coin have been programmed and saved. (Default: All coins enabled.)
	**Disable Coins**	Prohibit the selected coin to be put into the coin acceptor for scores, provided that the parameters of the coin have been programmed and saved.
	**Delete Coins**	Delete all parameters and settings of the selected coin, provided that the parameters of the coin have been programmed and saved.
	**Set the Score Ratio**	Set the score ratio to meet the scoring requirements of different machines.(Default ratio: "01")
	**Set the Protocol Signal**	Change the scoring mode to UART serial communication protocol. (Default: Protocol Signal.)
	**Set the Pulse Signal**	Change the scoring mode to Pulse Signal.
	**Restore Factory Settings**	Clear all settings and saved parameters, restore to factory settings.

The function menu is completed by the cooperation of the "K1, K2" keys and the digital tube. The specific operation steps are as follows:

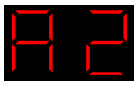
1. Press the “K1” key twice to display  . Note: The digital tube will flash every time you click.

2. Then press the “K2” key twice to display  . Note: The digital tube will flash every time you click.

3. Press the K1 key once again to display the sequence number  .

4. At this point, the system has successfully entered the sequence number switching selection status of the function menu. The sequence number is switched from  to  . Press the "K1" key or "K2" key to cyclically switch the sequence number to select the desired function. For details, see <IV. Description and specific operation of each function.

iv. Description and specific operation of each function

（A）、  **Programming Mode 1** 、  **Programming Mode 2**

1. Detailed description：

（1）Through **Programming Mode 1** or **Programming Mode 2**, the parameter Signals of up to 6 coins can be programmed and saved, and each coin needs to be programmed and saved separately.

（2）The saved parameter Signals is called a “group”. Each “group” can be set to its corresponding proportion value according to the user's requirements. The description of the proportion value is shown in Table 2 and Table 3.

Table 2:**Programming Mode 1**, the proportion of "1-coin multi-scores"

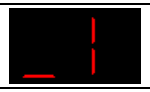
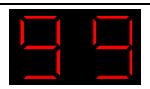
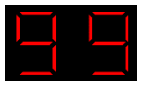
Display	Coin quantity	Scores	Definition
	cannot be set (fixed to 1)	0.1	Insert 10 coins, get 1 score
		0.2	Insert 5 coins, get 1 score
		0.5	Insert 2 coins, get 1 score
		1	Insert 1 coin, get 1 score
		2	Insert 1 coin, get 2 scores
. . .		. . .	. . .
		99	Insert 1 coin, get 99 scores

Table 3: **Programming Mode 2**, the proportion value of "1-score multi-coins"

Display	Coin quantity	Scores	Definition
	1	cannot be set (fixed to 1)	Insert 1 coin, get 1 score
	2		Insert 2 coins, get 1 score
	3		Insert 3 coins, get 1 score
. . .	. . .		. . .
	99		Insert 99 coins, get 1 score

Note:

（1） When Selecting Programming Mode 1, each "group" can be set to the ratio of "1-coin 0.1/0.2/0.5/1/2…/99 -scores" . The minimum ratio of the scores can be set to "1-coin 0.1-scores," and the maximum can be set to "1- coin 99 scores".  *represents the decimal point.*

（2）When selecting Programming Mode 2, each "group" can be set to "1-score 1 / 2 / 3 • • / 99- coins. The minimum ratio of the coins can be set to "1-score 1-coin," and the maximum can be set to "1-score 99-coins".

（3）If Programming Mode 1 and Programming Mode 2 are set to the same ratio, (For example,  *and*  *both represent the "group" of "1-coin 1-score"),they will automatically be classified into the same "group". It is recommended to program the same ratio in one mode for convenient operation.)*

（4）If all groups are used up and the new group is not in the programmed group, the  -  *flash alternately, indicating that the group is full.*

2．For example：

（1）For 1CNY coins,insert 1 coin to get 1 score, i.e. “1-coin 1-score". (Prepare at least twenty 1CNY coins.)

（2）Below let’s select the *Programming Mode* 1  , program and save the "1-coin 1-score" parameter Signals  .

Table **4： Operation steps of the Programming Mode**

steps	operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  > > >  moving from left to right.
c)	Release the “K1” key to display  .
d)	Press the “K1” key or “K2” key and select  , i.e. "1 coin / 1 score." (Press the “K1” key or “K2” key to increase and decrease the proportion value.
e)	Press and hold the “K1” key to display  > > >  moving from left to right.
f)	Release the “K1” key to display  -  flashing alternately, and you can start coin insertion. Put the prepared coins in sequence.
g)	Coin Insertion completed, press and hold the "K1" key to display the cycling  . After release, the digital tube turn off  .Parameters and settings are successfully programmed and saved. The coin acceptor is in standby mode. Insert 1 coin, get 1 score.

Notes:

（1）The operation steps of Programming Mode 2 is the same as that of Programming Mode 1

（2）When the coin insertion is completed, if no operation is performed, after 30 seconds, it will also display the cycling  *,turning off*

 *,programming, saving successfully and exiting.*

（B）、  Accuracy Adjustment

1. detailed description

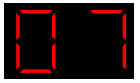
（1）"01-15" level adjustments, factory default accuracy is level "07"

（2）The higher the level, the lower the precision and the smoother the coin insertion.

（3）The lower the level, the higher the accuracy and the better the anti-counterfeit effect.

（4）  Level "01" with the highest accuracy,  and Level "15" with the lowest accuracy.

2. For example, to adjust the accuracy to level "05". The specific operation are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  > > > >  moving from left to right.
c)	Release the “K1” key to display the current accuracy level, such as level "07"  .
d)	*Press the “K1” or “K2” key to select level "05"*  *. (Press the "K1" key or "K2" key to increase or decrease the accuracy level).*
e)	Press and hold the"K1" key to display the cycling  .After release, the digital tube turns off  .The accuracy level is set to "05" successfully and exits.

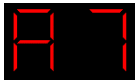
（C）、  Enable Coins、  Disable Coins、  Delete Coins、  Set the Score Ratio

1. detailed description

（1）  To enable the selected coins to be inserted and got scores, provided that the parameters of the coin have been programmed and saved.(By default, all coins are allowed to be put into the coin acceptor and scored.)

（2）  To prohibit the selected coins to be inserted and got scores, provided that the parameters of the coin have been programmed and saved.

（3）  To delete all related parameters and settings of the selected coin, provided that the parameters of the coin have been programmed and saved.

（4）  To set the score ratio. The default score ratio is "01"  .  "01" has the smallest score ratio and  "99" has the largest score ratio.

SET01： If the current score ratio is "01", insert two 0.5CNY coins to get 1 score, and insert one 1CNY coin to get 1 score.

SET02： If the current score ratio is "02", insert two 0.5CNY coins to get 2 scores, and insert one 1CNY coin to get 2 scores.

SET03： If the current score ratio is "03", insert two 0.5CNY coins to get 3 scores, and insert one 1CNY coin to get 3 scores.

. . .

SET99： If the current score ratio is "99", insert two 0.5CNY coins to get 99 scores, and insert one 1CNY coin to get 99 scores.

2. For example:

（1）. The following "groups" have been programmed and saved through  *Programming Mode 1* and are all enabled by default:

Coins	Display	Coin quantity	Scores	Definition
0.5 CNY		cannot be set (fixed to 1)	0.5	insert 2 coins,get 1 score
1 CNY			1	insert 1 coin,get 1 score

（2）. An example of setting the score ratio: to set the score ratio "02." The specific operation are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  > > >  moving from left to right.
c)	After release, the current score ratio is displayed, such as level "01"  .
d)	Press the "K1" key or "K2" key to select the level "02"  . (*Press the "K1" key or "K2" key to increase or decrease the accuracy level.)*
e)	Press and hold the "K1" key to display the cycling  . After release, the digital tube turns off  .The score ratio is set to "02" successfully and exit.
f)	At this point: insert two 0.5CNY coins to get 2 scores(one 0.5CNY coin for no score), and insert one 1CNY coin to get 1 score.

（3）. An example of disabling coins: to disable 0.5CNY coins. The specific operation are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  > > >  moving from left to right.
c)	Release the “k1” key to display  .(It indicates that the current “group” is programmed in Programming Mode 1. If Mode 2 is programmed at the same time, it can also be displayed by switching with the key.)
d)	Press the “K1” key to display the cycling  > > >  > > >  .(Only display the "groups" that are currently enabled.) Select 
e)	Press and hold the “K1” key to display the cycling  .After release, the digital tube turns off  .The 0.5CNY coins are prohibited successfully and exit.
f)	At this time: insert 0.5CNY coins will be returned.

（4）. An example of enabling coins: to enable 0.5CNY coins. The specific operation are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  >>>  moving from left to right.
c)	Release the “k1” key to display  .(It indicates that the current “group” is programmed in Programming Mode 1. If Mode 2 is programmed at the same time, it can also be displayed by switching with the key.)
d)	Press the “K1” key to display the cycling  >>>  .(Only display the "groups" that are currently disabled.) Select  .
e)	Press and hold the “K1” key to display the cycling  .After release, the digital tube turns off  .The 0.5CNY coins are enabled successfully and exit.
f)	At this time: insert 0.5CNY coins will get scores.

（5）. An example of deleting coins:to delete 0.5CNY coins. The specific operation are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  >>>  moving from left to right.
c)	Release the “k1” key to display  .(It indicates that the current “group” is programmed in Programming Mode 1. If Mode 2 is programmed at the same time, it can also be displayed by switching with the key.)
d)	Press the “K1” key to display the cycling  >  >  . Select 
e)	Press and hold the “K1” key to display the cycling  .After release, the digital tube turns off  .The 0.5CNY coins are deleted successfully and exit.
f)	At this time: insert 0.5CNY coins will be returned. If 0.5CNY coins are required again, you need to re-enter the programming mode to program.

Notes:

（1） For coins programmed through "Programmed Mode 1" and "Programmed Mode 2", the operation steps in “Enable coins”、“Disable Coins”、“Delete Coins” are the same. Just select different keys.

（D）、  Set the Protocol Signal

（1）Change the scoring mode to UART serial port communication protocol.

（2）The format of the content of the communication is shown in the attachments.

The specific operation steps are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the K1 key to display  > > >  moving from left to right.
c)	Release the k1 key to display  . (It indicates that the current operation is to set the scoring mode to Protocol Signal)
d)	Press and hold the K1 key to display the cycling  .After release, the digital tube turns off  .The Protocol Signal is set successfully and exits.
e)	After the setting is completed, the coin acceptor will automatically restart and reset.
f)	The "WHITE COIN SIGNAL" interface changes to the "TXD" interface, and the "GRAY COUNTER" interface changes to the "RXD" interface.

（E）、  **Set the Pulse Signal**

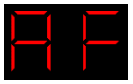
（1）Change the scoring mode to Pulse Signal. As with traditional coin acceptors, the machine detects the pulse signal from the coin acceptor to determine the scores .

The specific operation steps are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the K1 key to display  > > >  moving from left to right.
c)	Release the k1 key to display  . (It indicates that the current operation is to set the scoring mode to Pulse Signal.)
d)	K1 key to display the cycling  .After release, the digital tube turns off  .The Pulse Signal is set successfully and exits.
e)	After the setting is completed, the coin acceptor will automatically restart and reset.
f)	The "TXD" interface changes to the "WHITE COIN SIGNAL" interface, the "RXD" interface changes to the "GRAY COUNTER" interface.

（F）、  Restore factory settings

Clear all settings and saved parameters, restore to factory settings. The specific operation steps are as follows:

Steps	Operation
a)	Select the sequence number  in the function menu.
b)	Press and hold the “K1” key to display  >>>  moving from left to right.
c)	Release the “k1” key to display  . (It indicates that the current operation is to restore factory settings.l)
d)	Press and hold the “K1” key to display the cycling  .After release, the digital tube turns off  .All parameters and settings are cleared, and the system is restored to the factory state and exits.
e)	After the setting is completed, the coin acceptor will automatically restart and reset.

Attachments:

Instruction/Data Overview

Instruction/Data	Byte Content(Frame Structure)	Sender	Receiver
Instruction 1:Communication Handshake Protocol	4C 4B 4F 4B 0A	Coin Acceptor	Arcade Machine
Data1: “Coin Score” Frame Protocol 1	byte0 10 byte1 byte2 byte3 byte4 byte5 0A	Coin Acceptor	Arcade Machine
Data2:”Coin Score” Frame Protocol 2 (Factory Default)	byte0 10 byte1 byte2 byte3 byte4 byte5 bytex bytey 0A	Coin Acceptor	Arcade Machine
Instruction 2:Set Mainboard IP (Factory Default “00”)	4C 4B 43 4D 44 00 byte0 0A	Arcade Machine	Coin Acceptor
Instruction 3:Set Data Frame to Protocol 1	4C 4B 43 4D 44 01 0A	Arcade Machine	Coin Acceptor
Instruction 4:Set Data Frame to Protocol 2 (Factory Default)	4C 4B 43 4D 44 02 0A	Arcade Machine	Coin Acceptor
Instruction 5:Set Data Auto-Transmit (Factory Default)	4C 4B 43 4D 44 05 0A	Arcade Machine	Coin Acceptor
Instruction 6:Set Data to be Sent After Querying	4C 4B 43 4D 44 06 0A	Arcade Machine	Coin Acceptor
Instruction 7:Data Query Command	4C 4B 43 4D 44 07 0A	Arcade Machine	Coin Acceptor
Instruction 8:Restore Factory Settings	4C 4B 43 4D 44 08 0A	Arcade Machine	Coin Acceptor
Instruction 9:Set Score Ratio (Factory Default “01”)	4C 4B 43 4D 44 09 byte0 0A	Arcade Machine	Coin Acceptor
Instruction 10: Set Coin Acceptor to Reject	4C 4B 43 4D 44 0A 0A	Arcade Machine	Coin Acceptor

Instruction 11: Set Coin Acceptor to Accept (Factory Default)	4C 4B 43 4D 44 0B 0A	Arcade Machine	Coin Acceptor
Instruction 12:Set Accuracy Level (Factory Default "07")	4C 4B 43 4D 44 0C byte0 0A	Arcade Machine	Coin Acceptor
Instruction 13:Enable Coins (Factory Default)	4C 4B 43 4D 44 0D bytex bytey 0A	Arcade Machine	Coin Acceptor
Instruction 14:Disable Coins	4C 4B 43 4D 44 0E bytex bytey 0A	Arcade Machine	Coin Acceptor
Instruction 15:Delete Coins	4C 4B 43 4D 44 0F bytex bytey 0A	Arcade Machine	Coin Acceptor
Instruction 16:Retrieve Saved Coin/Score Ratios	4C 4B 43 4D 44 10 0A	Arcade Machine	Coin Acceptor
Character 1:No Data Generated	6E 75 6C 6C	Coin Acceptor	Arcade Machine
Character 2:Error Command/Data Transmission Detected	65 72 72 6F 72	Coin Acceptor	Arcade Machine

Notes:

The Coin Acceptor processes commands received from the host device through the following workflow: Upon receiving command, it validates the instruction. If validated, the validator executes the corresponding operation and returns a confirmation signal upon task completion. If validation fails, an error code or invalid data packet is returned to the host.

1. **Instruction 1: Communication Handshake Protocol：** Upon power-on, the machine unit and coin acceptor initiate a ***communication handshake*** to verify signal transmission/reception integrity: The coin acceptor transmits a signal to the machine unit every 1 second, accompanied by a flashing blue LED. Upon receiving the signal, the machine unit responds with an identical signal. When the coin acceptor successfully receives and confirms signal integrity, it ceases further transmissions. Both the blue and red LEDs on the coin acceptor then remain steadily illuminated, indicating successful ***communication handshake***, established device connectivity, and activation of standby mode in the coin acceptor.

2. Data1: “Coin Score” Frame Protocol 1:

（1）byte0: Mainboard IP (default: 00, user-configurable if required)
（2）10: Device type byte:10: Coin acceptor
（3）byte1:High-order byte of sequence number since power-on

byte2:Low-order byte of sequence number since power-on

Sequence number range: 0-0xFFFF

（4）byte3: High-order byte of score in sequence

byte4: Low-order byte of score in sequence

Score range: 0-0xFFFF

（5）byte5: Checksum = (~(Device ID + Sequence Number Bytes + Score Bytes)) + 1

（6）0A: Line feed character

Example:

Coin Information	Customer Coin Insertion	Coin Acceptor Send	Arcade Machine Response	Result
0.5CNY : 1-score 2-coins 1CNY : 1-score 1-coin	Insert 0.5CNY twice Insert 1CNY once	00 10 00 01 00 01 EE 0A	00 10 00 01 00 01 EE 0A	First Data Frame Processed
---	---	00 10 00 02 00 01 ED 0A	00 10 00 02 00 01 ED 0A	Second Data Frame Processed

Notes:

（1）The data frame does not include coin information.
（2）The coin acceptor sends the first data frame first and transmits the second frame only after receiving a reply from the machine unit.
（3）It is recommended to reply immediately upon receiving data. If the machine unit fails to reply promptly, subsequent coin insertion data will accumulate and be sent in bulk after the current data transaction is completed.

3. Data2: “Coin Score” Frame Protocol 2 (Factory Default):

（1）byte0: Mainboard IP (default: 00, user-configurable if required)

（2）10: Device type byte : 10: Coin acceptor

（3）byte1: High-order byte of sequence number since power-on

byte2: Low-order byte of sequence number since power-on

Sequence number range: 0-0xFFFF

（4）byte3: High-order byte of score in sequence

byte4: Low-order byte of score in sequence

Score range: 0-0xFFFF

（5）byte5: Checksum = (~(Device ID + x Coins + y Points + Sequence Number Bytes + Score Bytes)) + 1

（6）bytex: Coin information – x Coins

（7）bytey: Coin information – y Points

（8）0A: Line feed character

Example:

Coin Information	Customer Coin Insertion	Coin Acceptor Send	Arcade Machine Response	Result
0.5CNY : 1-score 2-coins	Insert twice	00 10 00 01 00 01 EB 02 01 0A	00 10 00 01 00 01 EB 02 01 0A	Second Data Frame Processed
1CNY :1-score 1-coin	Insert once	00 10 00 01 00 01 EC 01 01 0A	00 10 00 01 00 01 EC 01 01 0A	

注意：Notes:

（1）The data frame includes coin information.

（2）The two data frames above are transmitted alternately until two replies are received from the machine unit. The number of pending coin data types determines the number of alternating frames sent.

（3）It is recommended to reply immediately upon receiving data. If the machine unit fails to reply promptly, subsequent coin insertion data will accumulate and be sent in bulk after the current data transaction is completed.

4. Instruction 2:Set Mainboard IP (Factory Default “00”):

（1）byte0： "IP" byte. Assign unique IP addresses (0-0xFF) to distinguish coin acceptors if required.

（2）Example: To set “IP” to “0x02”, specific data frame structure:

Arcade Machine Send	Coin Acceptor Response	Result
4C 4B 43 4D 44 00 02 0A	4C 4B 43 4D 44 00 02 0A	Settings saved successfully

5. Instruction 9:Set Score Ratio (Factory Default “01”):

（1）byte0： “Fractional Ratio Value”, Configurable range: 0x01-0x63.

（2）Example: To set “Fractional Ratio Value” to“0x02”, specific data frame structure:

Arcade Machine Send	Coin Acceptor Response	Result
4C 4B 43 4D 44 09 02 0A	4C 4B 43 4D 44 09 02 0A	Settings saved successfully

6. Instruction 12:Set Accuracy Level(Factory Default “07”):

（1）byte0：“Precision level ”(0x01-0x0F).

（2）Example: To set “precision level” to “0x05”, specific data frame structure:

Arcade Machine Send	Coin Acceptor Response	Result
4C 4B 43 4D 44 0C 05 0A	4C 4B 43 4D 44 0C 05 0A	Settings saved successfully

7. Instruction 13:Enable Coins (Factory Default)

Instruction 14:Disable Coins

nstruction 15:Delete coins

（1）bytex: Number of coins

（2）bytey: Number of points

Example: 1CNY coin = 1-coin 1-score

（1）bytex：01

（2）bytey：01

Arcade Machine Send	Coin Acceptor Response	Result
4C 4B 43 4D 44 0D 01 01 0A	4C 4B 43 4D 44 0D 01 01 0A	1CNY Coins Acceptance Successfully Enabled
4C 4B 43 4D 44 0E 01 01 0A	4C 4B 43 4D 44 0E 01 01 0A	1CNY Coins Acceptance Successfully Disabled
4C 4B 43 4D 44 0F 01 01 0A	4C 4B 43 4D 44 0F 01 01 0A	1CNY Coins Acceptance Successfully Deleted

8. Instruction 16:Retrieve Stored Coin/Score Ratios

（1）If the following coins have been stored

Coin Information	Number of coins	Number of scores
0.5CNY	2	1
1CNY	1	1

Score Ratio Set to: “01”

Query as follows

Arcade Machine Send	Coin Acceptor Response(Interleaved Transmission)	Result
4C 4B 43 4D 44 10 0A	4C 4B 43 4D 44 10 02 01 01 0A	0.5CNY Coins Information:02: Number of coins,01: Number of scores,01: Score Ratio
	4C 4B 43 4D 44 10 01 01 01 0A	1CNY Coins Information:01: Number of coins,01: Number of scores,01: Score Ratio
	4C 4B 43 4D 44 10 00 00 01 0A	/
	4C 4B 43 4D 44 10 00 00 01 0A	/
	4C 4B 43 4D 44 10 00 00 01 0A	/
	4C 4B 43 4D 44 10 00 00 01 0A	/

9. The following commands contain only command content without configurable parameters.

Instruction	Arcade Machine Send	Coin Acceptor Response	Result
Instruction 3:Set Data Frame to Protocol 1	4C 4B 43 4D 44 01 0A	4C 4B 43 4D 44 01 0A	Settings saved successfully
Instruction 4:Set Data Frame to Protocol 2 (Factory Default)	4C 4B 43 4D 44 02 0A	4C 4B 43 4D 44 02 0A	Settings saved successfully
Instruction 5:Set Data Auto-Transmit (Factory Default)	4C 4B 43 4D 44 05 0A	4C 4B 43 4D 44 05 0A	Settings saved successfully
Instruction 6:Set Data to be Sent After Querying	4C 4B 43 4D 44 06 0A	4C 4B 43 4D 44 06 0A	Settings saved successfully
Instruction 7:Data Query Command	4C 4B 43 4D 44 07 0A	4C 4B 43 4D 44 07 0A	Settings saved successfully
Instruction 8:Restore Factory Settings	4C 4B 43 4D 44 08 0A	4C 4B 43 4D 44 08 0A	Settings saved successfully
Instruction 10: Set Coin Acceptor to reject	4C 4B 43 4D 44 0A 0A	4C 4B 43 4D 44 0A 0A	Settings saved successfully
Instruction 11: Set Coin Acceptor to accept(Factory Default)	4C 4B 43 4D 44 0B 0A	4C 4B 43 4D 44 0B 0A	Settings saved successfully