ESL Solution

Catalog

1.System Description

1.1 Overview

Intelligent Electronic Shelf label with the development of the Internet and display technology shows rapid growth mode, this product uses electronic paper display and ultra-low-power wireless networking technology, providing an electronic shelf labeling system for the retail industry to help now paperless management, commodity information management, Inventory refinement management, batch and time-efficiency management, to help customers save a lot of labor costs, goods expired loss and other costs, while improving the overall level of information in the retail industry.

The data of the computer Processor storage label system in the system, using the TCP/IP Protocol (support wireless network) to transmit the computer data to the base station, the base station transmits the data to the label through the RF wireless signal, realizes the real-time updating of the commodity information.

计算机

TCP/IP

基站 1

TCP/IP

基站 2

RF
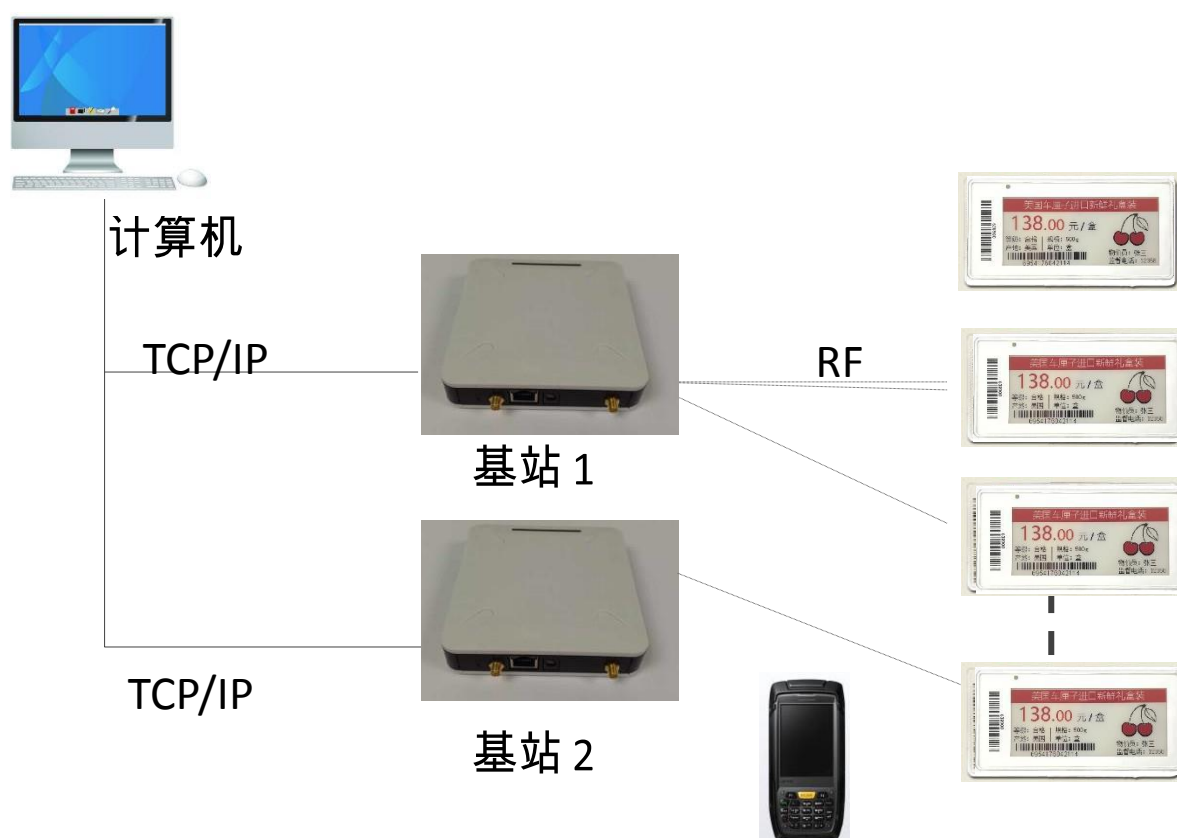
1.2 Product advantages

- Price management for paperless operation
- Real-time price change, lower error rate, reduced combined human cost 80% above
- System and Enterprise Management system docking, analysis of inventory status
- Online and online unified pricing through e-commerce platform
- Consumer live interaction to increase shopping experience

2. Product Parameters

2.1 ET0213 Feature

NO.	ITEM	DATA
1	Part NO.	ET0213
2	Outline	66mm(V) ×37.5mm(H)×13.7mm(D)
3	Weight	36g

4	Color Display	Black、White、Red
5	Display Size	2.13 inch
6	Display Resolution	212(H)×104(V)
8	Communication Band	433.92MHz
9	Communication Protocol	ETAG-TECH Protocol
10	Response Time	9S(Configurable)
11	Battery Life	Not less than 5 years，Replaceable
12	Battery	CR2450*2
13	Operating temperature	0~50℃
14	Storage temperature	-10~60℃
15	Operating humidity	Less 75%
16	Operating Voltage	2.4V~3.6V

2.2 ET0290 Feature

NO.	ITEM	DATA
1	Part NO.	ET0290
2	Outline	89mm(H) ×45mm(V)×13.5mm(D)
3	Weight	44g
4	Color Display	Black、White、Red
5	Display Size	2.90 inch
6	Display Resolution	296(H)×128(V)
8	Communication Band	433.92MHz
9	Communication Protocol	ETAG-TECH Protocol
10	Response Time	9S(Configurable)
11	Battery Life	Not less than 5 years，Replaceable
12	Battery	CR2450*2
13	Operating temperature	0~50℃
14	Storage temperature	-10~60℃
15	Operating humidity	Less 75%
16	Operating Voltage	2.4V~3.6V

2.3 ET0420 Feature

NO.	ITEM	DATA
1	Part NO.	ET0420
2	Outline	104.5mm(V) ×98mm(H)×14mm(D)
3	Weight	97g
4	Color Display	Black、White、Red
5	Display Size	4.2 inch
6	Display Resolution	400(H)×300(V)
8	Communication Band	433.92MHz
9	Communication Protocol	ETAG-TECH Protocol
10	Response Time	9S(Configurable)
11	Battery Life	5 years（refresh times is not more than 2 times a day），Replaceable
12	Battery	CR2450*3
13	Operating temperature	0~50℃
14	Storage temperature	-10~60℃
15	Operating humidity	Less 75%
16	Operating Voltage	2.4V~3.6V

3.Function

NO.	ITEM	DESCRIBE
1	Image transmission	Support full screen image wireless transmission, display the complete image data.
2	Partial image transmission	Support local small picture wireless transmission, update display partial image
3	Chinese character, English, symbol font	The tag integrates Unicode encoding more than 27000 Chinese character font, English and symbol font library, and supports coding format wireless transmission.
4	Partial text	Support partial areas to update text, numbers, symbols
5	Frequency hopping anti-jamming	System concurrency and anti-interference through this function
6	Batch processing mode	This mode can achieve 10 seconds update the 100 tags of the high-speed update function, depending on the customer system.
7	Temperature detection	Each tag supports temperature sampling, and the system can be read.
8	Electric quantity detection	• Each tag supports the power sampling function. The system can be read, depending on the client system • Low power alarm, the label displays the low power sign in the touch area when it is out of power, and the system background prompts.
9	LED light flicker setting	• Support 3 color independent control lights • Each light flashing frequency is 1 time per second • Each LED supports the number of flashing lights users can set
10	Storage page	Support to save 4 display pages

4. Functional description of tag font library coding format

The tag can realize user defined display template. The display capability is as follows:
- ➢ Support Chinese characters coding to Unicode, which can display more than 27000 Chinese characters, and support arbitrary areas to display 12 (H) * 12 (V), 16 (H) * 16 (V), 24 (H) * 24 (V), 32 (H) * 32 (V), 48 (H) * 32 (V), 64 (H) * 32 (V)
- ➢ The support character code is Unicode, which can display 96 numbers, letters and symbols of the 0x0020~0x007F interval, and support the dot matrix characters that display 7 (H) * 5 (V), 12 point unequal width, 16 point unequal width, 24 point unequal width and 32 point unequal width in any area.
- ➢ Support the display of battery power symbols in any area.
- ➢ Support any position to draw arbitrary length horizontal and vertical lines.
- ➢ It supports the anti color display function of Chinese characters, characters, horizontal lines and vertical lines.
- ➢ Support any area to display EAN13 and Code128-B standards (refer to national standard "GB/T 18347-2001")

bar code, EAN13 standard size 26 (H) x 113 (V), Code128 standard size 20 (H), and two bar codes that support doubling, removing numbers, arbitrarily designated height (more than 16 rows).

➢ It supports the display of dot matrix images in any area. The dot matrix image supports 1 times the magnification function, and the dot matrix image can be extended to full screen dot matrix.

5.Installation and Construction

5.1 Software Interface Docking

According to the existing software of different customers, the development interface is IT docking needs to be completed before the label is installed.

5.2 AP Installation

The AP network interface and power interface must be completed before the label is installed according to the scene conditions.

The AP is suspended or bundled to the top of the warehouse, and two antennas of the base station are attached to the surface of the iron material (signal enhancement).

AP installation can also be visited at the top of the shelf or other locations (see figure below), and two antennas can be adsorbed at the farthest distance.On the surface of iron material (signal enhancement).

The site needs to be inspected before installing the base station to determine the number of base stations.

ITEM	DATA	Note
Structure size	120mm(V)*120mm(H)*30mm(D)	
Operating voltage	DC 5V	Original power supply
Operating current	Less than 200mA	
Power supply Mode	DC &POE power supply	POE power supply Option
Communication Band	433mhz	
Transmitting power	-15dbm~15dbm	

Weight	Less than 600g	
Operating Temperature range	-10 ℃~55 ℃	
Storage Temperature Range	-20 ℃ ~70 ℃	
Humidity	75%	
Data Interface 1	Standard cable Interface	Standard
Data Interface 2	WIFI Network Interface	Matching
Light	Working status Indication (r/y/b)	
Communication distance	20-50 m	

5.3 Guide and other accessories

Guide: Used for placement of electronic tag terminal, upper and lower have grooves, easy to slide the tag inside, but can effectively avoid the front out, the side has anti-theft anchor, with an effective anti-theft design. In addition, the guide way is folding design, and the installation holes are hidden in the background, showing the crisp and lively front.
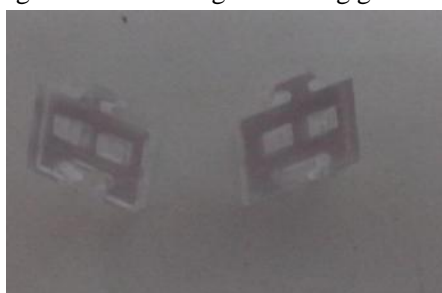

| Front view | Side view |

Triangular block: fittings for fixing guideways and shelves.

Plastic rivets: Used to install ESL electronic tags, the use of this plastic anti-theft buckle on both sides of the guide to prevent the tag from sliding out or being stolen.

5.4 Label installation

Slide labels from side to guide to install labels.

5.5 Battery replacement

The common metal screwdriver is used to insert the battery dismantling hole from the left side, so that the battery can be replaced easily and quickly, and the battery can be replaced without dismantling on the spot.

6. Common Troubleshooting

6.1 Battery failure

In any case, if the electronic tag terminal battery power shortage alarm (display ▯ symbols appear in the upper right corner or client low power alarm, etc.), should replace the battery in time, otherwise it will affect the use of electronic tags.

6.2 Communication failure

➢ Phenomenon: the electronic label has not been updated.

Problem analysis: failure of communication results in unreceived data, and insufficient battery power leads to

unupdated labels.

   Solution: The error rate of communication is less than one thousandth, the battery power is insufficient, should be promptly checked, replace the battery.

➢ Phenomenon: electronic label does not respond to feedback signal.

   Problem analysis: the lack of battery power causes the label to not work properly.

   Solution: replace the battery try again, if it can't be resolved, we need to contact technical support for maintenance.

7. List of system products

Name	Number	Unit	Note
Supermarket management software	1	Sets	Optional standard and full version
SDK Interface	1	Sets	ESL docking interface between system and user system
Label	TBD	A	
Base Stations and Accessories	TBD	Console	base station, antenna 2 Root
Guide	TBD	Meters	=Number of shelves * length according to the shelf length of the factory before the shipment , depending on the number of shelves
Fast Angle	TBD	A	=Number of shelves * Number of layers , depending on the number of shelves
Cable	TBD	Meters	According to the field network distribution
Switch	1	Console	Standard Industrial-grade switches
Android PDA	1	Console	

NOTE：

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

   —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

RF exposure compliance statement:

This device has been evaluated to meet the general RF exposure requirement, it can be used in portable exposure condition without restriction.