



Electronic Shelf Label
(ESL)
Datasheet Ver:1.00



Good Display

Dalian Good Display Co., Ltd.

No.17 Gonghua Street, Shahekou District, Dalian 116021 China

Tel: +86-411-84619565 (16lines) Fax: +86-411-84619585-810

E-mail: info@good-display.com

Website: www.good-display.com

1. Product introduction

ifLabel electronic shelf label solution (ESL) helps you to save time with automatic price updates. It's more cost-efficient than paper, and improves your customers' experience with accurate, reliable pricing.



1.1 What is the ESL?

ESL represents Electronic Shelf Label, which is an electronic label that can be installed on the shelf. It is a label with a E-Paper display for item display, instead of the traditional paper display. The information on the screen is transmitted from the server, the screen display items such as product's name, price, logo, bar code, production area, etc. The ESL system can be managed and maintained easily by an operator in a specific area of the market. You may manage the product information on the ESL via the terminal control system on a computer, the ESL will update in real time as the update start.

1.2 How does the ESL system work?

The ESL system consisted of input device, host computer, router device, Access

Processor(AP) device and ESL tag device.

Step one, the user needs to input information for product into the database server, either by manual input or scanner device.

Step two, the server will give command and information to various Access Processor(AP) set in the market or warehouse, each AP controls a group of ESLs, the AP will transmit the information from the server to each every ESLs via RF.

Last step, each ESL will receive information and send a feedback message to AP and eventually to the server. If the feedback is correct, ESL will finally update its new item information, if failed, the server will alarm and prompt to update again.

1.3 What is the major function of ESL?

(1) Real time price update

- Easily change price of one or all product by accessing the server terminal.
- Product price may become fully synchronized with POS server database by remote control.
- The user may display different price information such as promoting price, unit price, regular price, etc.

(2) Storage management

- The user may obtain the location and stockpile of an item.
- Real time transmission for advertisement, event and discount.

1.4 What is the advantage of the ESL?

(1) Reasonable design

- Simple and apparent ESL display design.
- Convenient operation mode.
- Low power consumption and larger capacity the battery.
- (2) A high level of customer satisfaction
 - Eliminate customer complaints about price difference and error.
 - It may respond to market demand immediately when needed.
 - Convenient storage management.
- (3) Personnel expense reduction
 - Great reduce labor numbers for label exchange.
 - Great reduce labor cost and efficiency due to label lost and label exchange error.
- (4) Profitability improvement
 - High efficient storage management via internet control.
 - It is possible to take a instant action due to real time information transmission.
 - No compensation expenses from wrong display.
- (5) High performances of the system
 - Immediate ESL data update
 - High efficient network communication, no delay, low package loss rate, fault-tolerant processing mechanism.
 - High stabilization.

2. System structure and configuration

2.1 The system's structure

The entire system can be divided into three parts, which is frontal display, server data processing & command control; and wireless communication.

(1) Frontal display

This part is mainly about display item information onto ESL.

(2) Server data processing & command control

Mainly two functions. Record data sent for ESL display, eventually for storage management; one is record the commodities' information into the store management system; Command and update information to ESL.

(3) Wireless communication

We transmit data mainly via wireless communication, when the control system send a command to update product information, it is first send to router, then to AP by WIFI or Ethernet cable, and finally transmit to each ESL tag by RF.

The system structure's drawing as follow:



3. Technical specification

3.1 ESL tag

Item	Specification	
Model	IL021AF1W1	IL029AF2W2
Screen Size	2.1 inch (diagonal)	2.9 inch (diagonal)
Dimensions	65.5 x 40.0 x 12.2mm	87.0x47.0x12.1mm
External (W x H x D)	2.56 x 1.57 x 0.48"	3.43 x 1.85 x 0.48"
Visible screen area (W x H)	48.7 x 20.9mm 1.92 x 0.82"	66.9 x 29.0mm 2.63 x 1.14"
Display		
Pixels	172 x 72 (12,384)	296 x 128 (37,888)
Dots per inch (DPI)	89	112
Type	Black and white bistable EPD(E-ink E-paper)	Black and white bistable EPD(E-ink E-paper)
Orientation	Landscape or Portrait	Landscape or Portrait
Viewing angle	Near 180° viewing	Near 180° viewing
Appearance	Standard unit available with white or orange red bezel	Standard unit available with white bezel
Unit identifier barcode	Front	Front
Operational		
Operating temperature Range	0°C to 50°C +32°F to 122°F	0°C to 50°C +32°F to 122°F
Storage temperature range	-20°C to 70°C -4°F to 158°F	-20°C to 70°C -4°F to 158°F
Battery life	Up to 5-10 years (5 updates/day)	Up to 5-10 years (5 updates/day)
Replaceable batteries	1 x CR2450	1 x CR2450
Fittings	Supported by multiple fitting options – stands, adapters, individual long-length shelf-rails Additional specialist fittings also available upon request.	Supported by multiple fitting options – stands, adapters, individual long-length shelf-rails Additional specialist fittings also available upon request.
Weight	26g	37g
Communications	2.4G 16-way wireless	2.4G 16-way wireless
Options		
Bezel colours available	Yes (MOQ applies)	Yes (MOQ applies)

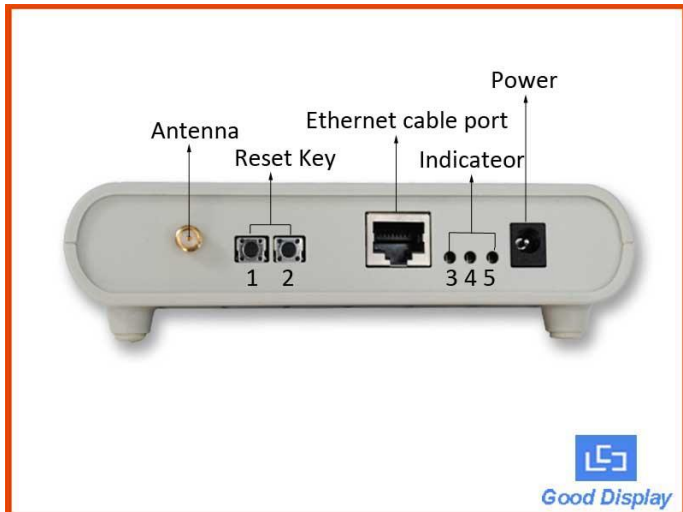


2.1" ESL

2.9" ESL

3.2 Access Processor (AP)

Item	Specification
Model	ILA300ZV12
Communication	2.4G 16-way wireless
Number of ILA300ZV12 Cover	Each covers 500 ESLs
Covered distance	30m (Radius)
Size	140.0 x 120.0 x 38.0mm
Weight	130g
Working Temperature	-20°C ~ + 70°C
Operating Voltage	DC +5.0V
Adapter	Input: AC 10C-240C 50/60Hz Output: DC 5.0V 1000mA
Power supply	Adaptor or Ethernet cable
Port to Server	WIFI or Ethernet cable



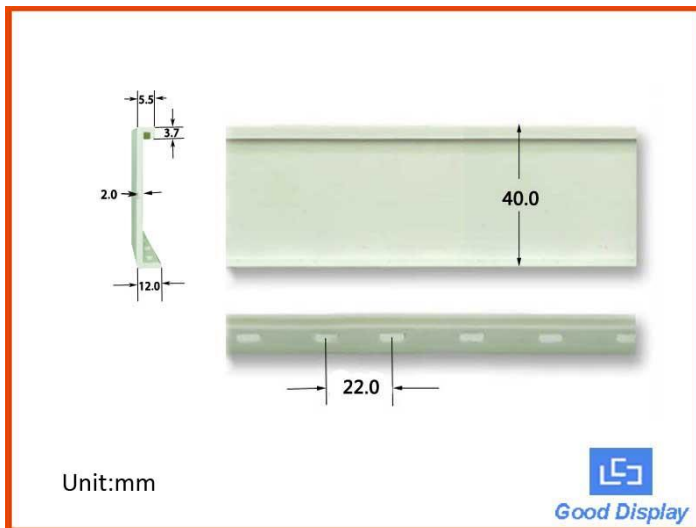
Note:

1. The reset key for CC2530.
2. The reset key for STM32.
(Please note the RF address list will be cleared while pressing this key for more than 3 seconds.)
3. For Data.
4. For Power.
5. For Ethernet.



3.3 Shelf Rail

Item	Specification
Model	ILMS-B
Appearance	Standard unit available with white shelf rails
Size	L x 40mm, the length of Rail is flexible, up to the customer
Weight	135g/m
Fixing hole pitch	22mm 0.87"
Theft proof function available	Yes
Dismounting tool available	Yes
Shelf Rails colours available	Yes (MOQ applies)



3.4 Mounting Clip

Item	Specification	
Model	ILMS-H01 (for 2.1" ESL)	ILMS-H02 (for 2.9" ESL)
Appearance	Standard unit available With white mounting clip	Standard unit available With white mounting clip
Size	58.5 x 44.5 x 17mm 2.3 x 1.75 x 0.67"	80.0 x 45.0 x 17mm 3.15 x 1.77 x 0.67"
Weight	6g	8g
Fixing hole pitch	43mm 1.69"	64mm 2.52"
Rails colours available	Yes (MOQ applies)	Yes (MOQ applies)



4. Why choose ifLabel?

Advantages	Pictures
<p>Superior readability</p> <ul style="list-style-type: none"> • Black on 'paper-white' electrophoretic E-Paper display (EPD) • Near 180° viewing angle with excellent readability 	
<p>Freeform Template design</p> <p>Freeform label Template design enables any combination of text, images including QR codes, manufacturer logos, image etc, to be displayed allowing ultimate flexibility</p>	
<p>Lower power, longer life</p> <ul style="list-style-type: none"> • E-Paper displays require zero power to retain their image and only consume power when updating • Replaceable batteries for extended life:5-10 years 	
<p>Versatility</p> <ul style="list-style-type: none"> • ESLs available in a range of different sizes and specifications to suit all requirements across an entire retail estate • Every ESL can be managed across the same RF infrastructure 	