Hanshow Stellar Pro multicolor Product Manual

V1.0.0

HS-ESL-STELLARPROQ001

STATEMENT

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ABOUT THE MANUAL

This document describes Stellar Pro multicolor ESLs, including features, specification, package, and precautions.

Please read this manual carefully before using the device in first, retain the manual for subsequent use or for the next owner. If the instructions contained in this manual are insufficient to resolve issues that occur during device operation or maintenance, please contact Hanshow Technical Customer Service Center (China: 400-0365-305; Netherlands: 0800-022-5037; Belgium: 0800-71-335; France: 0800-91-7602; Thailand: 1800-011-185) directly, we will provide you with multi-channel technical services.

TARGET USERS

This document provides engineers with necessary data and related guidelines of Stellar Pro multicolor ESLs. Users must master the basic knowledge on communication and network and so on. This manual is applicable for the below engineers:

- Testing Engineer

- Technical Support Engineer

- After Sales Engineer

- Installation Engineer

SYMBOL DESCRIPTION

Icon	Description
⚠	Information indicated with this icon should be paid special attention and attached great importance by the reader.
📖	Information indicated with this icon is the explanation on the formal text for the readers to comprehend the text better.
[X-X]	It means special noun definition is provided here.

EXPLANATION OF TERMS

Acronym	Expanded form	Description
PriSmart	PriSmart Smart Retail System	Manage all store product data and issue price update command, as well as support multi-store management.
ESL-Working	ESL-Working System	Manage all the APs and ESLs in store, and ESL-Working 3.0 and above supports multi-store management.
ESL Controller	ESL Controller	Also called AP that is used for data interaction between ESL-Working and ESL Controller.
ESL	Electronic Shelf Label	Used for displaying product information like promotion information, price and grade.

Table of Contents

1 Overview

The "Stellar Pro Multicolor Series" is a new generation electronic shelf label (ESL) developed independently by Hanshow Technology. It operates on a 2.4GHz wireless private protocol, enabling bidirectional communication with the ESL controller. This allows for various functions such as price changes, page switching, and flashing lights. The Stellar Pro series boasts a long lifespan and diverse display options, making it suitable for a wide range of applications including traditional retail, new retail, department stores, fashion, healthcare, culture, and entertainment industries.

1.1 System architecture

Hanshow ESL system includes ESLs, ESL Controller, ESL-Working, All-Star, Database, Integration server, CloudMonitor and Handheld Terminal (PDA), as shown in *Figure 1-1*. Specifically, the ESLs are used for electronically displaying product information such as name and price, and services available for customers.
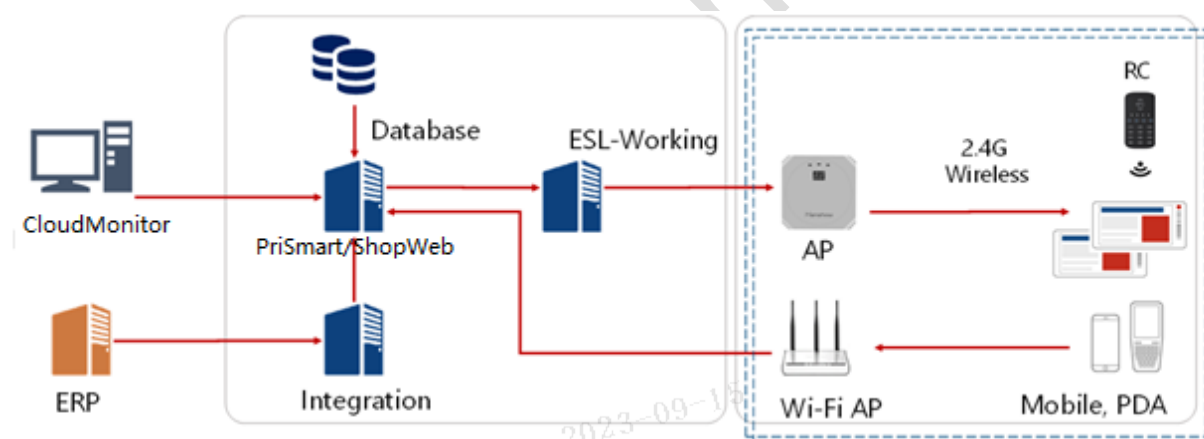

Figure 1-1 Hanshow ESL system architecture

1.2 Features

The features of Stellar Pro multicolor are as follows:

- Display colors include: BWRY(Black-White-Red-Yellow) display.

- Currently there are 3 available ESL sizes: 1.54", 2.13" and 2.66".

- Operating frequency band: 2402MHz ~ 2480MHz, 2473.3MHz-2493.5MHz (Japan only) maximum transmit power 1dBm.

- Built-in LED indicator: 7-color display assists in product location.

- Embedded NFC chip: Supports NFC function.

- Stellar Pro ESLs support multiple functions, including binding/unbinding, updating, instant flashing, multi-page storage, page switching, geolocation, temperature collection and so on.

- Supports AES-128 encryption.

- Supports OTA (Over-The-Air) upgrade.

2 Product view

This chapter describes appearance and composition of Stellar Pro multicolor ESLs.

2.1 Product appearance

Figure 2-1 to *Figure 2-3* respectively show the six views of Stellar Pro multicolor ESLs.
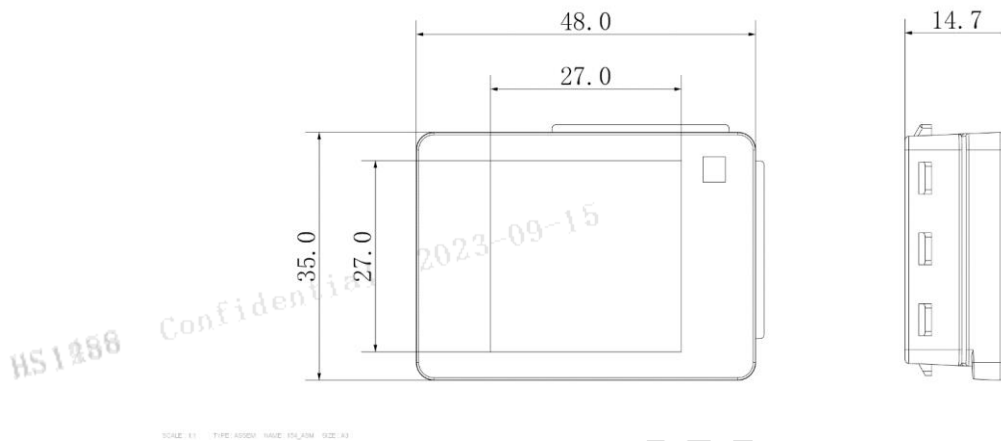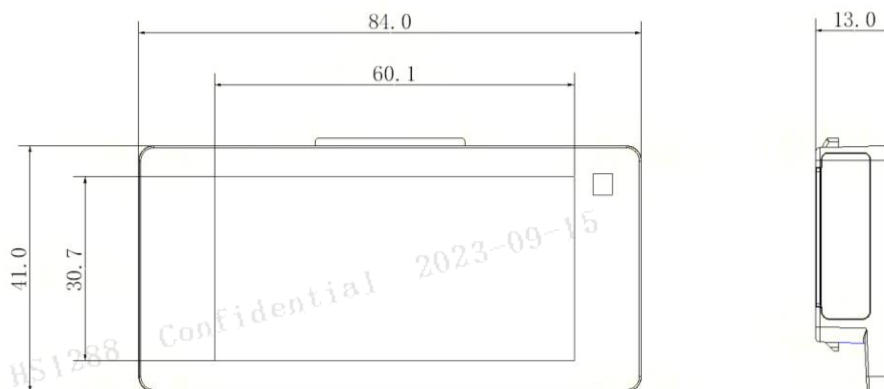

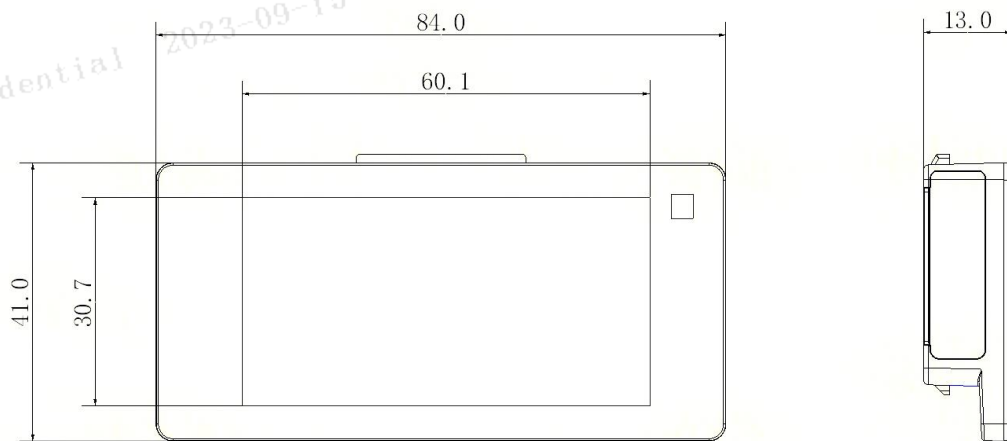**Figure 2-1 Dimensions of 1.54" ESL**

Figure 2-2 Dimensions of 2.13" ESL

Figure 2-3 Dimensions of 2.66" ESL
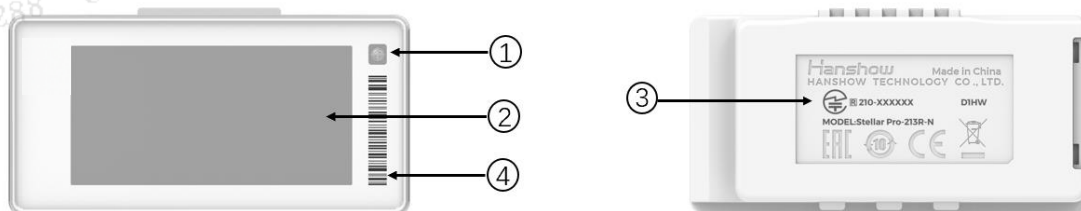
Figure 2-4 Key areas of Stellar Pro Multicolor ESL

Table 2-1 Each area description of Stellar Pro

No.	Name	Description
1	LED indicator	Supports 7-color flashing.
2	Display area	Supports BWRY display on E-ink screen. ● Display text, images, barcode, QR code and others. ● Product information display such as name, price, origin, unit, grade, phone number, barcode, and QR code. Supports customizable display position and font size. ● Supports 8-page storage and page switch functionality.
3	Nameplate	Product information mark, including Model, and certifications.
4	Barcode area	18-digit barcode used for product binding and maintenance.

3 Hardware performance

This chapter consists of:

- Specifications

- NFC specification

- Identifying your ESLs

- Product nameplate

3.1 Specifications

Table 3-1 lists the Stellar Pro multicolor ESL specifications.

Table 3-1 Stellar Pro multicolor ESL specifications

Name	1.54"	2.13"	2.66"
Dimensions (mm*mm*mm)	48.0*35.0*14.7	70.0*35.0*13.2	84.0*41.0*13.0
Weight (g)	21.7	32.8	38.4
Active display area (mm*mm)	27.0*27.0	48.6*23.7	60.1*30.7
Display Size (inch)	1.54	2.13	2.66
Battery life	5 Years	10 Years	10 Years
Battery Specifications	1*600mAh	2*600mAh	2*600mAh
Battery Model	CR2450		
Viewing angle	0 ~ 180 degrees		
Protection level	IP65		
Resolution (pixel)[3-1]	200*200	250*122	296*152
DPI	188	130	125
Operating temperature	0°C~40°C		
Recommended storage temperature	0°C ~40°C		
Humidity (%RH)	45 ~ 65		

3.2 NFC specification

NFC specifications is shown in *Table 3-2*.

Table 3-2 NFC Specifications

Name	Standard	Data Format	Storage	Communication Range
NFC	ISO/IEC 14443 Type A	NFC NDEF	200 bytes of storage space, configurable for content.	1cm

3.3 Identifying your ESLs

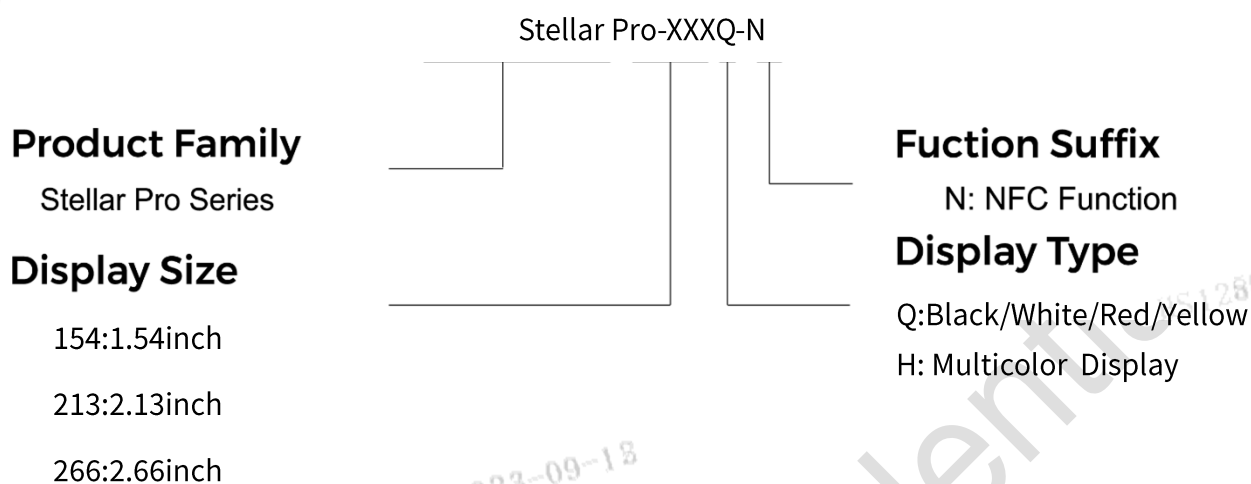You can identify your ESLs from the Stellar Pro naming rules shown in *Figure 3-1*.

Stellar Pro-XXXQ-N

Product Family
Stellar Pro Series

Display Size

154:1.54inch

213:2.13inch

266:2.66inch

Fuction Suffix
N: NFC Function

Display Type

Q:Black/White/Red/Yellow

H: Multicolor Display

Figure 3-1 Naming rules for Stellar Pro multicolor ESL

3.4 Product nameplate

Figure 3-2 shows the nameplate of Stellar Pro multicolor ESL.

Figure 3-2 Nameplate of Stellar Pro multicolor ESL

 Note: The above is for reference only, actual label information may vary.

4 Packaging and accessories

This chapter describes Stellar Pro multicolor ESL packaging and required accessories.

4.1 Packaging

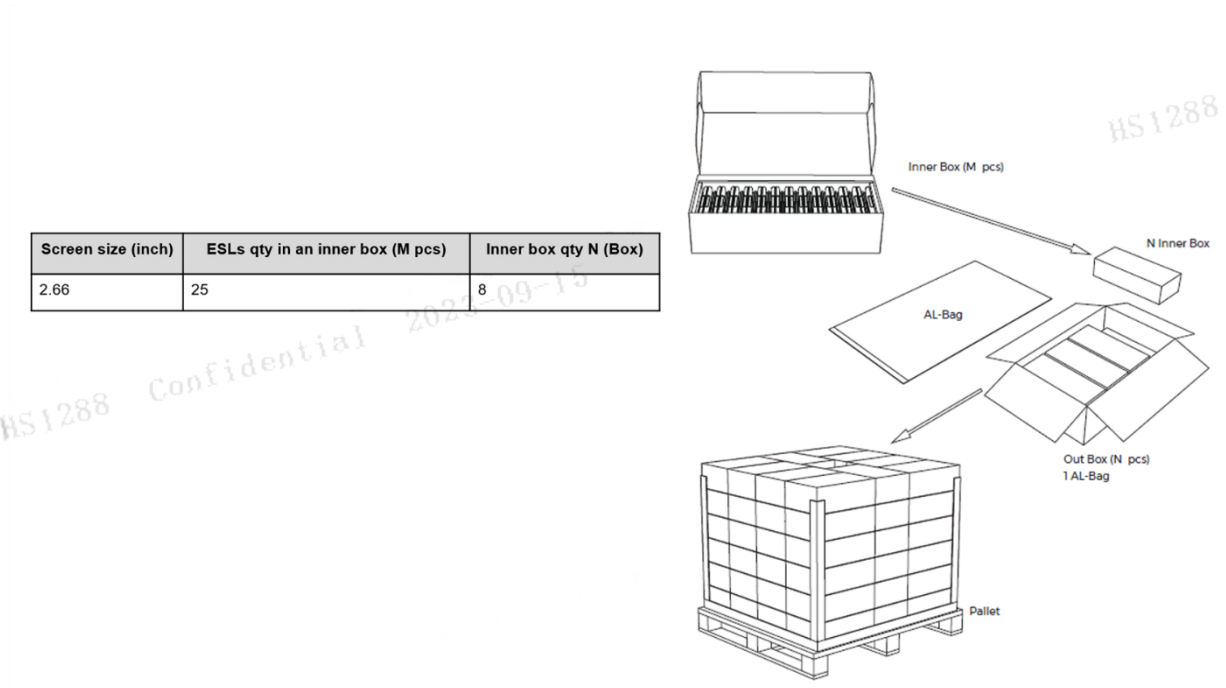*Figure 4-1* shows Stellar Pro multicolor packaging and the specific ESL quantity.

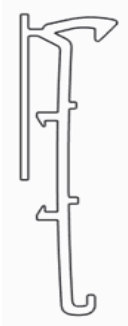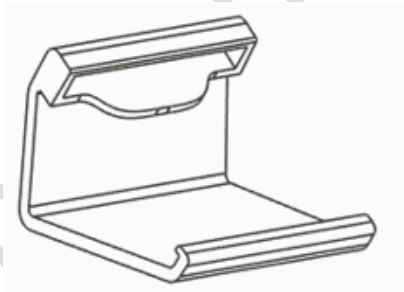| Screen size (inch)	ESLs qty in an inner box (M pcs)	Inner box qty N (Box)
2.66	25	8

Figure 4-1 Stellar Pro family packaging

4.2 Product accessories

Common accessories of Stellar Pro series are shown in *Table 4-1*.

Table 4-1 Common accessories of Stellar Pro Multicolor ESL

Rail	
Table Stand	
T-hook	
Basket clip	

5 Application scenarios

Stellar Pro multicolor ESLs are available to various zones and shelves of hypermarket, supermarket, and retail stores. The ESLs are applicable to areas with different fixtures:

- Shelves

- Hooks

- Fences

- Tables

6 Precautions

During transportation and usage of Stellar Pro multicolor ESLs, please note the following precautions.

6.1 Transportation considerations

Avoid the following considerations during transport:

- Water leakage or heavy moisture

- Heavy stacking

- High heat conditions above 40℃

6.2 Precautions for use

Follow the precautions:

- The room-temperature ESLs operate best in normal operating and storage environment, 0°C ~ 40°C, 45% ~ 65%RH.

- Keep ESLs within the specified temperature range, otherwise ESL screens might be damaged and the battery life might be shortened.

- The output capacity will degrade at low temperature.

- Frequent communications or updates might shorten battery life during the use.

- Avoid dropping or tossing ESLs.

- Do not disassemble ESLs without permission.

- If the screen creaks due to external factors, deal with it quickly.

- The mineral substances in rainwater, moisture or liquids might corrode the electronic circuit. Avoid water on the product as much as possible.

- Regularly clean the screen.

- Promptly remove cosmetics, perfume and other dirty on ESLs to avoid screen, case, or lens damaged.

- Do not use ESLs in water, otherwise no warranty will be provided.

- Avoid direct contact with chemical detergent.

- Do not install ESLs in a strong magnetic environment.

- ESLs communications might be limited or affected by other wireless communication systems that share the 2.4GHz frequency-band, such as Wi-Fi, Bluetooth, or Zigbee.

- Do not place ESLs near kitchen appliances such as a stove, a microwave oven.

7 FCC ID warning

7.1 Warning for nameplate

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.

7.2 Warning for product manual

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

8 IC STATEMENT

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

(1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils.

radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.