



Hanshow Stellar Plus Product Manual

V1.0.0

HS-ESL-STELLARPLUS001

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ABOUT THE MANUAL

This document describes Stellar Plus, 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 Plus. Users must have 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.

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1 Overview

Stellar Plus is Hanshow’s newest generation Electronic Shelf Labels (ESLs). They adopt e-ink screen to achieve page switching, light flashing, pricing and so on based on 2.4GHz wireless communication. With ultra-thin, extended life and high-definition visual effects, Stellar Plus widely serves traditional retail, new retail, department stores and fashion, pharmacies, culture, and entertainment.

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.

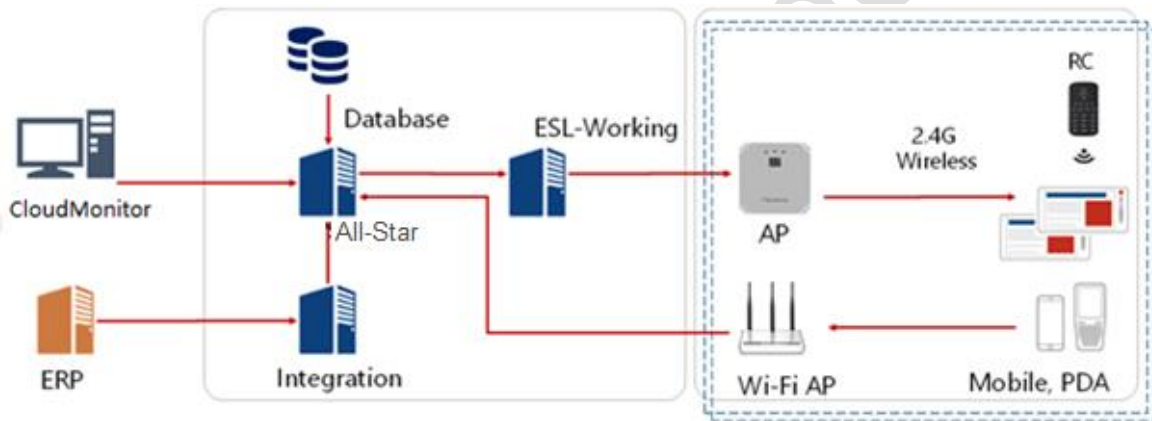


Figure 1-1 Hanshow ESL system architecture

1.2 Features

The features of Stellar Plus ESLs are as follows:

- Display color: BWRY (Black-White-Red-Yellow)
- ESL size: 2.66"
- Operating frequency band: 2402MHz ~ 2480MHz, maximum transmit power 1dBm.
- Built-in LED indicator: 7-color display assists in product geolocation.
- Embedded NFC chip: Supports NFC function.
- Stellar Plus ESLs support multiple functions, including binding/unbinding, updating, instant flashing, multi-page storage, page switching, geolocation, and temperature collection.
- Supports AES-128 encryption.
- Supports OTA (Over-The-Air) upgrade.

2 Product view

This chapter describes Stellar Plus appearance and composition.

Figure 2-1 shows the dimensions of Stellar Plus.

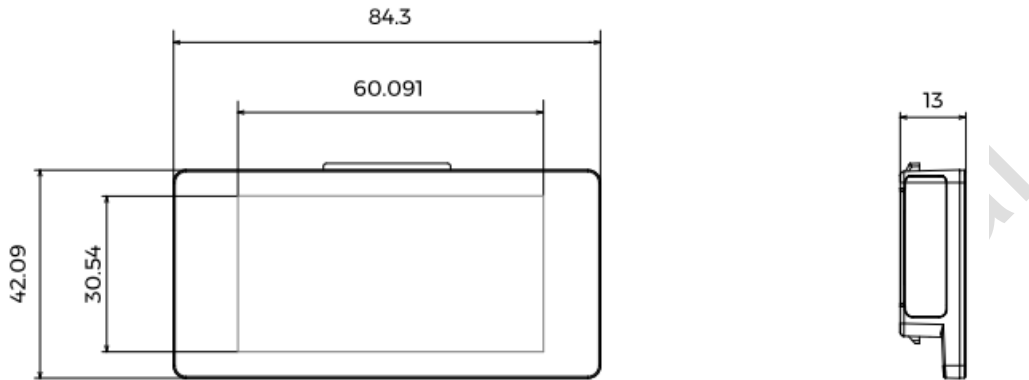


Figure 2-1 Stellar Plus

Each section of Stellar Plus and its relative description is shown in Figure 2-2 and Table 2-1.

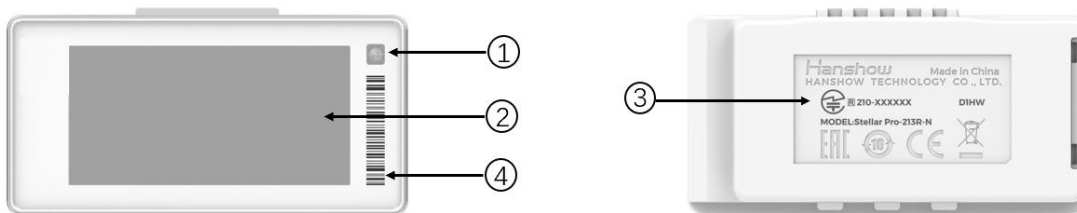


Figure 2-2 Key area of Stellar Plus

Table 2-1 Each area description of Stellar Plus

No.	Name	Description
1	LED indicator	Supports 7-color flashing.
2	Display area	Supports BWRY display on E-ink screen. <ul style="list-style-type: none"> ● Display text, images, barcode, QR code and others. ● Product information display such as name, price, origin,

No.	Name	Description
		unit, grade, phone number, barcode, and QR code. Supports customizable display position and font size. <ul style="list-style-type: none"> ● Supports 8-page storage and page switch functionality.
3	Nameplate	Product information mark, including Model, S/N and certifications.
4	Barcode area	18-digit barcode used for product binding and maintenance.

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3 Hardware performance

This chapter consists of:

- Specifications
- NFC specification
- Identifying your ESLs
- Product nameplate

3.1 Specifications

Table 3-1 lists the Stellar Plus specifications.

Table 3-1 Stellar Plus specifications

Name	Description
Dimensions (mm*mm*mm)	84.0*41.0*13.3
Weight (g)	38.4
Active display area (mm*mm)	60.1*30.7
Size (inch)	2.66
Battery life ^[3-1]	5 years
Battery capacity	2*600mAh
Battery type	CR2450
Viewing angle	~ 180 degrees
Protection level	IP65
Resolution (pixel)	296*152
DPI	125
Operating temperature (°C)	0 ~ 40
Storage temperature (°C)	0 ~ 40

Name	Description
Humidity (%RH)	30 ~ 70

3.2 NFC specification

NFC specifications are shown in [Table 3-2](#).

Table 3-2 NFC specifications

Name	Standard	Data format	Memory	Communication distance
NFC	ISO/IEC 14443 Type A	NFC NDEF	200-byte storage space, and write configurable	Up to 1cm

3.3 Identifying your ESLs

To identify your ESLs from the following Stellar Plus naming rules:

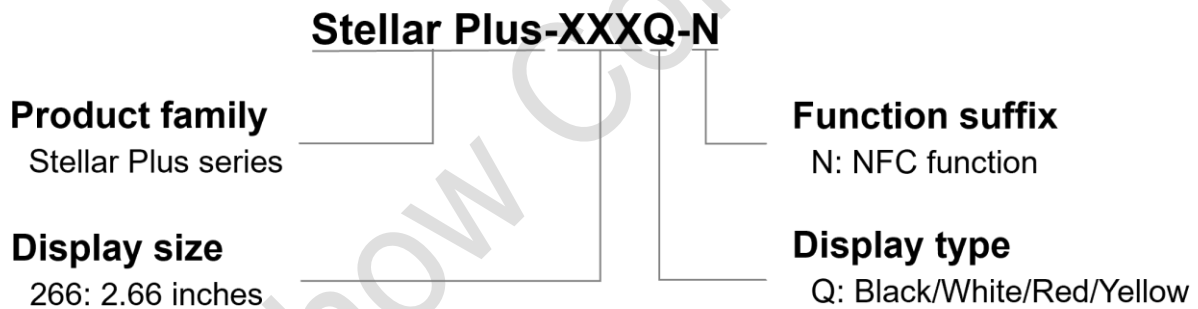


Figure 3-1 Naming rules for Stellar Plus

3.4 Product nameplate

[Figure 3-2](#) shows the nameplate of Stellar Plus.

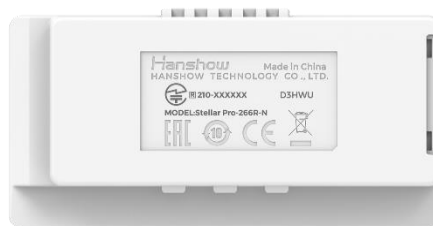


Figure 3-2 Nameplate of Stellar Plus

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

4 Packaging and accessories

This chapter describes packaging and required accessories of Stellar Plus.

4.1 Packaging

Stellar Plus packaging and the specific ESL quantity are shown in *Figure 4-1*.

Screen size (inch)	2.66
ESL qty per inner box (M, pcs)	25
Inner box qty per outer box (N, box)	8

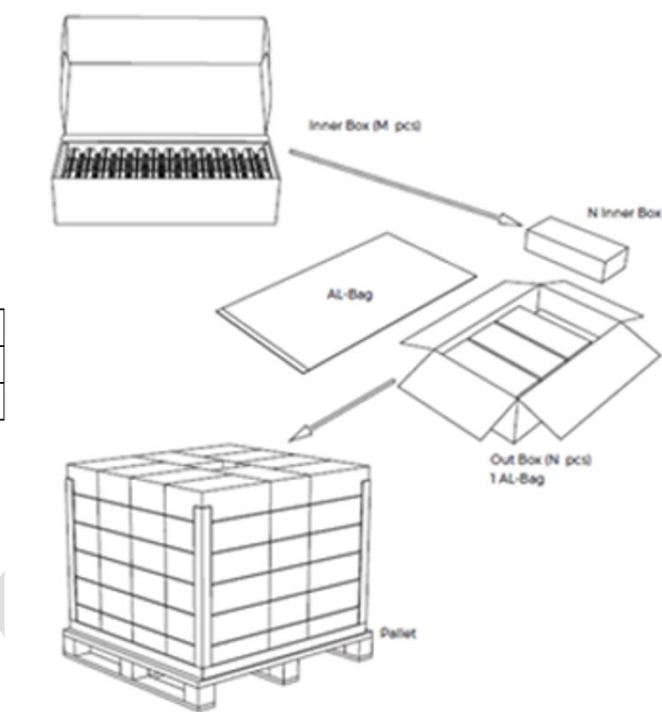
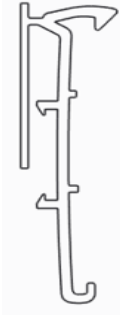
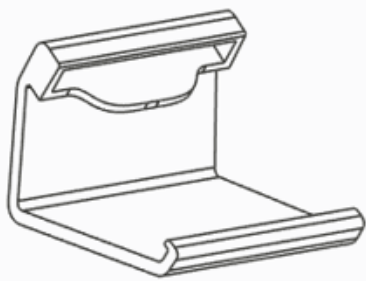
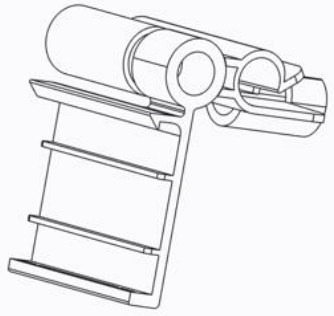
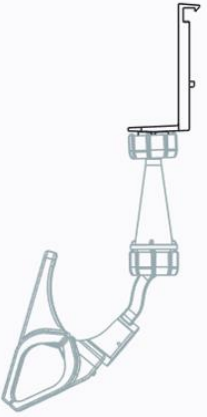


Figure 4-1 Stellar Plus packaging

4.2 Product accessories

Common accessories of Stellar Plus are shown in [Table 4-1](#).

Table 4-1 Common accessories of Stellar Plus series

<p>Rail</p>	
<p>Table stand</p>	
<p>T-hook</p>	
<p>Basket clip</p>	

5 Application scenarios

Stellar Plus ESLs are available to hypermarket, supermarket, and retail stores. The ESLs are mainly applicable to freezer areas.

6 Precautions

During transportation and usage of Stellar Plus 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°C

6.2 Precautions for use

Follow the precautions:

- The room-temperature ESLs operate best in normal operating and storage environment, 0°C ~ 40°C, 30% ~ 70%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.

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FCC Warning:

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.

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

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.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 0cm between the radiator and your body.