Hanshow Polaris Pro-Q Series Product Manual

V1.0.3

HS-ESL-EPDPQ001

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ABOUT THE MANUAL

This manual describes features, specification, package, and precautions of Hanshow Polaris Pro-Q series Electronic Shelf Label (ESL) Products.

Please read this manual carefully before using the device for the first time, 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 Polaris Pro-Q series. Users have to 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 Polaris Pro-Q series 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, the Polaris series widely serves traditional retail, new retail, department stores and fashion, pharmacies, culture, and entertainment.

The features of Polaris series are as follows:

- Polaris ESLs come in 9 sizes: Polaris pro-160Q-N, Polaris Pro-230Q-N, Polaris Pro-230F-N, Polaris Pro-280Q-N, Polaris Pro-280F-N, Polaris Pro-310Q-N, Polaris Pro-420Q-N, Polaris Pro-590Q-N, Polaris Pro-590F-N, Polaris Pro-750Q-N, Polaris Pro-970Q-N.

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

- Operating frequency band: 2,402MHz ~ 2,480MHz.

- IP54 waterproof and dustproof design.

- Built-in LED indicator: 7-color display assists in product location, promotion reminder, out-of-stock reminder, and low power reminder.

- Supports NFC function.

- Supports AES-128 encryption.

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

2 Hardware performance

This chapter consists of:

- *Specifications*

2.1 Specifications

Table 2-1 lists the Polaris Pro-Q specifications.

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Table 2-1 Polaris specifications

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Name	1.6"	2.0"	2.3"	2.6"	2.8"	3.1"	4.2"				
2.8" F								7.5"	9.7"	2.3" F	2.8" F

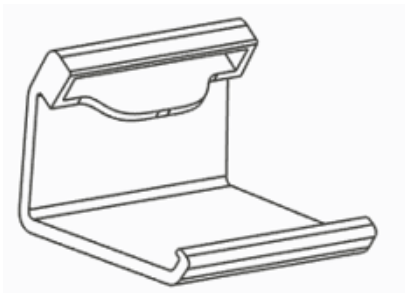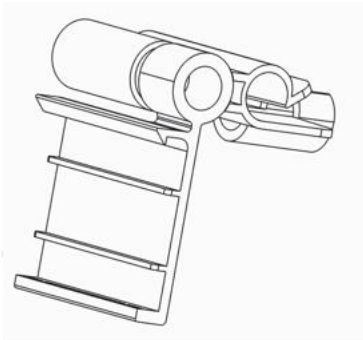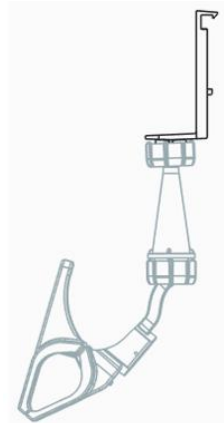| Dimensions (mm*mm*mm)	42.3 * 35.9 * 10	62.9 * 33.6 * 9.5	67 * 34.1 * 9.5	72.2 * 38.1 * 9.5	78.6 * 40.7 * 9.5	72.2 * 64.2 * 9.7	100.2 * 88.1 * 10.6	178.1 * 125.7 * 10.6	171.9*232.5*13.3	67.0 * 34.1 * 9.5	78.6 * 40.7 * 9.5
Active display area (mm*mm)	28.2 * 27.4	43.4 * 23.7	51 * 24.2	56.2 * 28.1	62.6 * 30.7	56.3 * 53.4	84.8 * 63.6	163.2 * 97.9	141.1*201.6	51.0 * 24.2	62.6 * 30.7
Size (inch)	1.6	2.0	2.3	2.6	2.8	3.1	4.2	7.5	9.7	2.3	2.8
Resolution (pixel)[3-1]	200*200	250*128	250*122	296*152	296*152	300*300	400*300	800*480	960*672	250 * 122	296 * 152
DPI[3-1]	183	144	125	134	121	137	120	126	121	125	121
FCC ID	2AYMH-PP160				2AYMH-P280		2AYMH-P280	2AYMH-P280	2AYMH-PP280		2AYMH-P280F
Viewing angle	Nearly 180 degrees										
Battery life[3-2]	Up to 10 years										
Page switch	8 pages										
Protection level	IP54									IP68	IP68
Operating temperature[3-3]	0 ~ 40									-25~0	
Storage temperature[3-3]	0 ~ 40									-25~0	
Humidity (%RH)	30 ~ 70										

 Note:

➢ [3-1]: The resolution and DPI might be subject to slight variations.

➢ [3-2]: Battery life is calculated based on the following scenarios: The battery life is up to 10 years if updated twice a day for the following sizes: 1.6" (pouch battery)/2.0"/2.3"/2.6"/2.8" /3.1"/4.2"/7.5"/9.7"/2.3" F/2.8" F; The battery life is up to 5 years if updated twice a day for the following sizes: 1.6" (button battery).

➢ [3-3]: Room-temperature ESLs operate within 0°C ~ 40°C, however low temperatures (0°C~10°C) might impact the ESL lifespan.

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3 Product accessories

Common accessories of Polaris series are shown in *Table 3-1*.

Table 3-1 Common accessories of Polaris series

Rail	
Table stand	
T-hook	
Basket clip	

4 Application scenarios

Polaris series 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

5 Precautions

During transportation and usage of Polaris series, please note the following precautions.

5.1 Transportation considerations

Avoid the following considerations during transport:

- Water leakage or heavy moisture.
- Heavy stacking.
- High heat conditions above 40°C.

5.2 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.
- Do not disassemble ESL batteries.
- Do not scratch ESL bodies with sharp objects.
- Use Polaris dedicated disassembly tools when disassembling.
- 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.
- Avoid direct contact with chemical detergent.
- Avoid direct sunlight or incandescent light on ESLs.
- Do not install ESLs in a strong magnetic environment.
- Do not place ESLs near or in a fire.
- Do not place ESLs near kitchen appliances such as a stove, a microwave oven.
- 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.

6 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

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.

FCC ID:2AYMH-PP160