
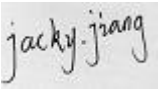

Perfect Intelligent Technology Limited

Product Specification Sheet

Product name:U231AZZ-LE1 (PDP460UUN01)

Perfect Intelligent Technology Limited				
Version	Approval Date	Approved by	Checked by	Prepared by
		(Signature)	 (Signature)	 (Signature)

Customer		
Approval Date	Approved by	Checked by
	(Signature)	(Signature)

Specification change history :

Version	Description	Date
1.0	First time released	2020.8.13

Content

1. Description	4
2. Main Specifications	4
3. Product Picture	4
4. Environment	5
5. Main Parts	5
6. Installation	5
7. Operation Instructions	5
7-1. Start-up screen.....	5
7-2. Mouse operation.....	6
7-3. WIFI Connection:.....	6
7-4. Brightness Setting.....	6
8. Precaution	6
9. Product outline dimension	7
9-1. Product drawing.....	7
9-2. Outline dimension.....	7
9-3. Weight.....	7
10. Input/Output port drawing	8
11. Packing Specification	9
11-1. Box.....	9
11-2. Box internal structural picture.....	9
11-3. Box label.....	9
11-4. Label position on the box.....	9
12. Package lists	9
12-1. Package lists:.....	9
13. Specification in detail	9
13-1. CPU	9
13-2. Main Memory.....	10
13-3. Storage.....	10
13-4. Display.....	10
13-5. Port.....	11
13-6. SD card slot.....	11
13-7. Wireless.....	11
13-8. Frame.....	12
14. Certificate	12
15. Reliability testing	12
15-1. Aging test.....	12
16. Attachment	13
Video Format Table (Table 1)	13
Picture Format Table (Table 2)	13

1. Description

This product (U231AZZ-LE1 (PDP460UUN01) V1.0) is an integrated advertising display with high-performance single chip ARM Cortex CA53 Quad, support picture and video playback, also support for Micro SD card.

2. Main Specifications

Major Items	Items in detail	Specification
System	Processor	ARM Cortex CA53 Quad, 1.5 GHz
	RAM	1G DDR3
	Flash	16GB EMMC
	Operation system	Android 9.0
	BIOS Version	20.8.10 (Remarks: Will not inform of system upgrade actively)
Display	Active Area	1171.2(H) x 48.19 (V) (46" diagonal)
	Resolution	158 x R.G.B. x 3840
	Brightness	300 cd/m2
	Viewing angle	U/D/R/L=89/89/89/89
Wireless	Wi-Fi	Wi-Fi 2.4G
		Wi-Fi 5G
	Bluetooth	4.1
I/O ports	Audio	No
	Input and Output	Micro USB interface, USB 2.0 and Micro SD Card
	Button	Power Key
	Display	TFT LCD
Mechanical	Size	1198.1* 62.4* 16.9(mm)
	Weight	1.71 kg
Power	Input	12V/3A input , USB Type-C interface

3. Product Picture



4. Environment

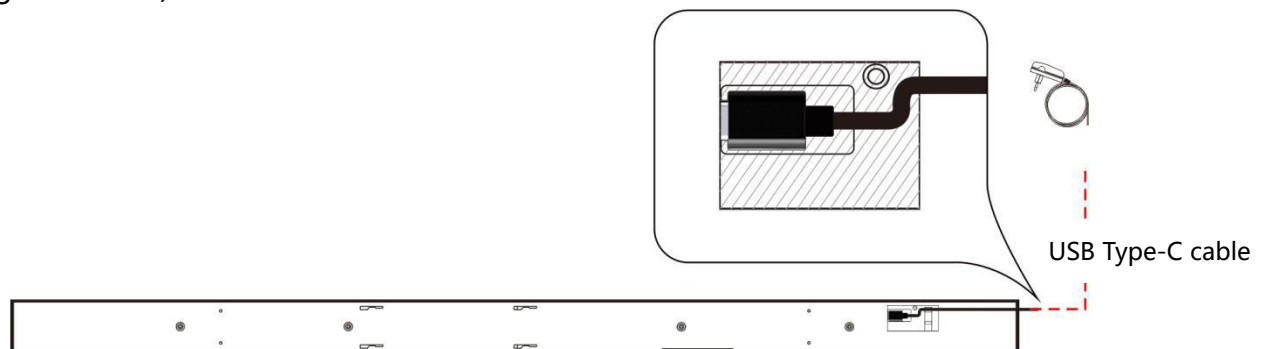
Items		Range	Remark
Operation	Temperature	0 ~ 40°C	
	Humidity	0 ~ 90%	Non-condensing
Storage	Temperature	-10 ~ 60°C	
	Humidity	0 ~ 90%	Non-condensing

5. Main Parts

Parts	Description
Module	TFT
Main board	PCBA

6. Installation

Plug in the Type-C cable on the back of Shelf display, then arrange the cable. (As following diagram shown)

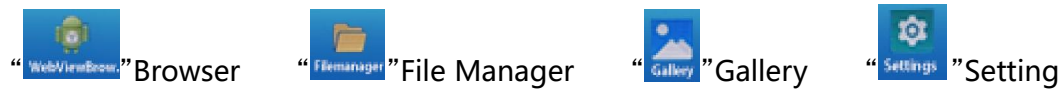


7. Operation Instructions

7-1. Start-up screen

Turn on the power, the screen will automatically enter into standby interface as picture shown





7-2. Mouse operation

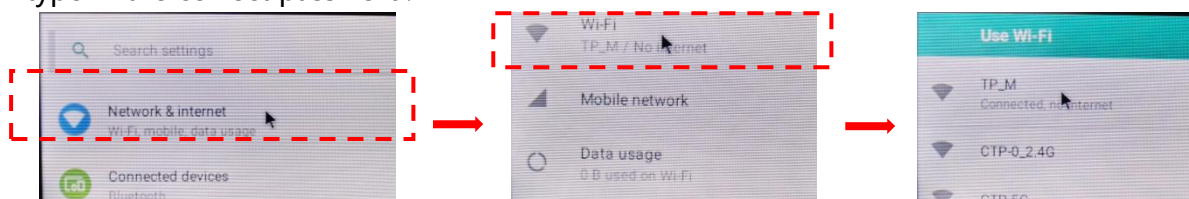
Connect the OTG cable with mouse to Micro USB slot to operate. Right click is for Return Key.

7-3. WIFI Connection:

Step 1: Click Settings




Step 2: Enter the setting interface as follows, click WLAN, connect the corresponding WLAN and type in the correct password.



7-4. Brightness Setting

Click to enter the Setting interface as follows:

Select the icon  in the settings. And then set the appropriate brightness.

8. Precaution

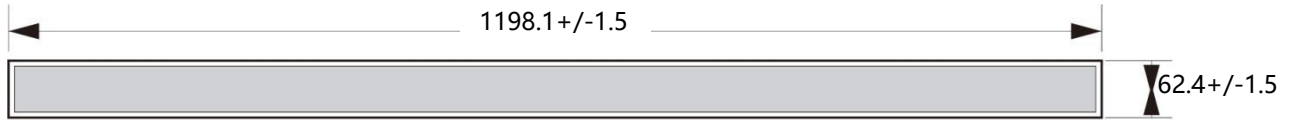
1. Before cleaning the screen, please unplug the power cord and ensure that the device is Power-off. Wipe it gently with a clean and soft cloth without thread ends.
2. Do not expose the device to rain and sunshine, so as not to affect the normal usage
3. Do not disassemble or repair the device by yourself to avoid high voltage electric shock or other dangers. Professional maintenance personnel should be invited to complete all maintenance work.
4. As the device may usually be in used in public places, voltage instability may cause equipment damage. It is recommended to use a stable municipal power supply. Do not use a power supply together with high-power equipment such as elevator power supply. For example, in places where the voltage is often unstable, such as subway stations, please use the corresponding voltage regulator for voltage stabilization, otherwise, it is easy to cause unstable work or even burn down.
5. Please read this manual carefully before inserting and unplugging Micro SD card. If Micro SD card cannot be inserted, do not insert it hard to avoid damaging the Micro SD card pin.
6. If the device does not work for a long time, please turn off the 220V power supply.

9. Product outline dimension

9-1. Product drawing

Unit : mm

Front View



Vertical View



Rear View



Upward View



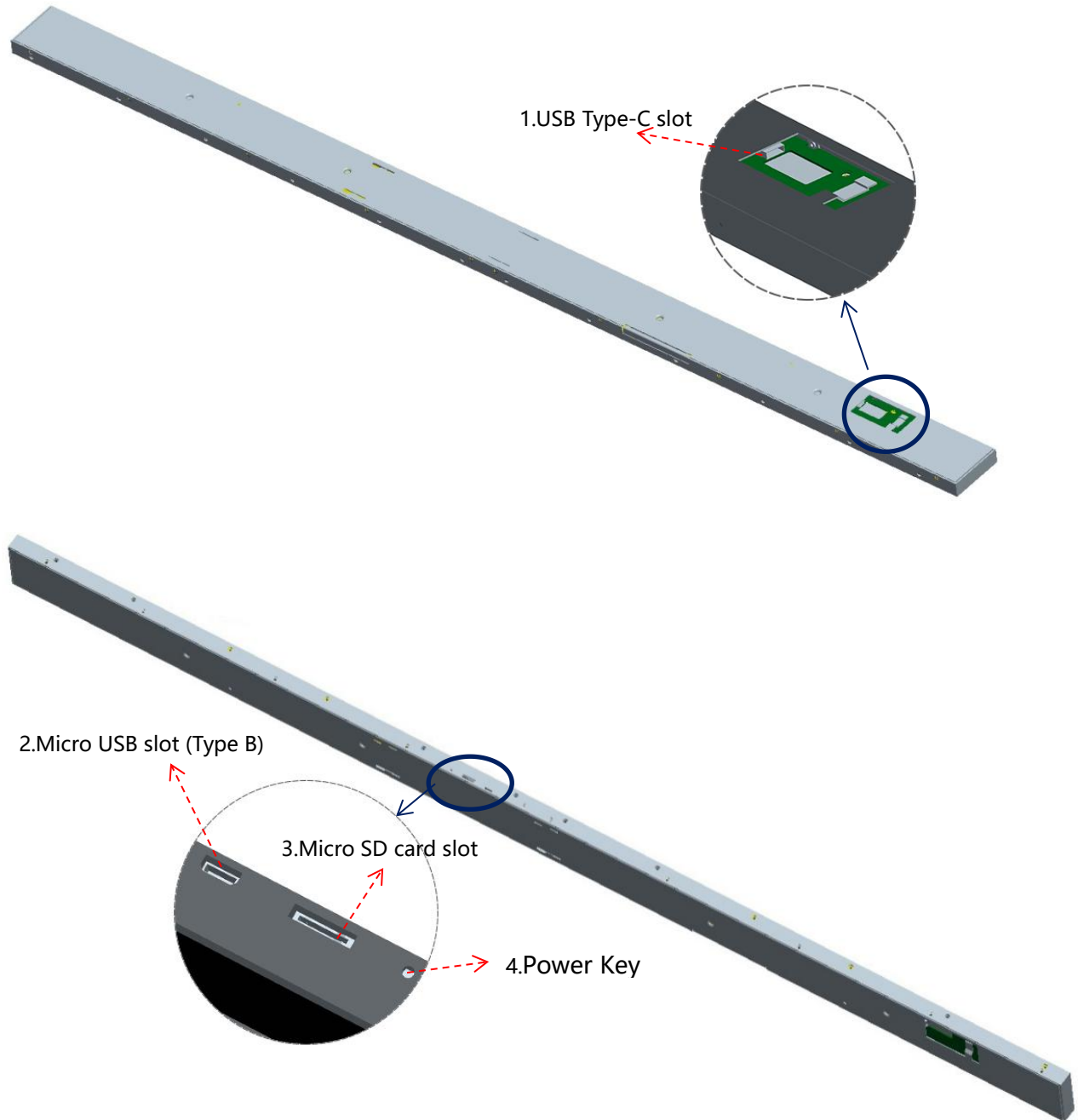
9-2. Outline dimension

1198.1* 62.4* 16.9(mm)

9-3. Weight

1.71kg +/-0.1kg (Shelf display itself)

10. Input/Output port drawing



No	items	Functions	Descriptions
1	USB Type-C	DC Power-In	USB Type-C
2	USB 2.0	HID Interface	Micro USB
3	Micro SD card	Micro SD card	Micro SD
4	Power Key	TBD	

11. Packing Specification

11-1. Box

Box material: Carton

Size : 1280 (W) x 270 (D) x 140 (H) mm

Weight : TBD

Numbers : 5PCS

11-2. Box internal structural picture

TBD

11-3. Box label

P/N label:U231AZZ-LE1 (PDP460UUN01) 5PCS

11-4. Label position on the box



12. Package lists

12-1. Package lists:

Items	PCS
Electronic Shelf Display	1
Power rails (Package separately from host)	TBD
DC power (Package separately from host)	TBD

13. Specification in detail

13-1. CPU

CPU	CPU	ARM Cortex CA53 Quad, 1.5 GHz
	Lithography	22nm
	Cores	4
	Line number	4
	Rated operating frequency	1.2GHz

	Maximum operating frequency	1.5GHz
	Final cache size	L2 cache : 1MB
	Memory bus bandwidth	16bit x 4
	Memory controller	integrated
	Support memory specification	External DDR3 1.866GHz 32bits up to 1GB or DDR4 2.3GHz 32bits up to 2GB
	The maximum memory storage	2GB

13-2. Main Memory

Main Memory	DIMM or Direct	onboard
	Storage capacity	1GB
	Storage specification	DDR3L-1600
	Storage Speed	1600MHz
	Bandwidth	32bit

13-3. Storage

Storage	On-Board	onboard
	Type	eMMC 4.5.1
	Supplier	Hosin Global
	Interface speed	400MB/s
	Storage capacity	16GB

13-4. Display

Display	Internal or External	External
	Type	a-si TFT active matrix
	Display size	46"
	Display way	Normally Black
	Resolution	158 x R.G.B. x 3840
	Color depth	16.7M colors (8-bit)
	Viewing angle	U/D/R/L=89/89/89/89
	Standard measure angle	CR≥10
	Response time	9.5ms (Type)
	Contrast ratio	800:1 (Type)
	Backlight type	LED
	Brightness (cd/m2)	250(Min); 300(Type)
	Backlight lifetime	30000 hrs (Min)

13-5. Port

USB Port	Standard	USB 2.0
	Transfer rate	480M bps
	Number	1
	Port on the surface	Yes
	Type of port	Micro USB Type B
	USB bus power(Maximum)	0.5A

USB Type-C Port	Power input port	Input 12V/3A
-----------------	------------------	--------------

13-6. SD card slot

SD card	SD card	Micro SDHC/ Micro SDXC
	Size	Micro SD
	Minimum conversion rate	It depends on the Micro SD card
	Maximum capacity	Micro SDHC:32GB/ Micro SDXC: 128 GB
	Protection	It depends on the Micro SD card
	Class	Class 10
	Support CPRM	N/A

13-7. Wireless

Wi-Fi 2.4G	Standard	IEEE 802.11b/g/n/ac, WiFi compliant
	Definition of Antenna	1
	Frequency	2.400 GHz ~ 2.497 GHz (2.4 GHz ISM Band)
	Number of channels	2.4GHz : Ch1 ~ Ch13
	Integrated with Bluetooth	Yes

Wi-Fi 5G	Standard	IEEE 802.11b/g/n/ac, WiFi compliant
	Definition of Antenna	1
	Frequency	4.900 GHz ~ 5.845 GHz (5.0 GHz ISM Band)
	Support types	802.11a/n : 64-QAM,16-QAM, QPSK, BPSK 802.11ac : 256-QAM,

		64-QAM,16-QAM, QPSK, BPSK
	Integrated with Bluetooth	Yes

Bluetooth	Standard	Bluetooth V4.1 of 1, 2 and 3 Mbps.
	Definition of Antenna	1
	Frequency	2402 MHz ~ 2480 MHz
	Support types	FHSS, GFSK, DPSK, DQPSK
	Integrated with WIFI	Yes

13-8. Frame

Frame	Color	Gray/Matte finish
	Material	SPCC Steel, wall thickness 1.5MM
	Surface treatment	painting
	Weather display	No
	Water/dust proof	No

14. Certificate

Certificate	FCC	Yes
-------------	-----	-----

15. Reliability testing

Test Item	Test Condition
HT Operation	45°C 500hrs
HT Storage	60°C, 240hrs
LT Operation	0°C, 500hrs
LT Storage	-20°C , 240hrs
HTHH Operation	45°C 80%RH, 240hrs
Thermal Shock (Non-operation)	[(-20°C 30min) → (60°C 30min)]/cycle, 100cycles
ESD-Air mode Discharge	150pf , 330Ω, ±15KV
ESD-Contact Mode Discharge	150pf , 330Ω, ±8KV
Vibration	1.0G / 10-200HZ, Sweep Rate : 0.288 OCT/min, (30min/cycle), XYZ / 1cycle

15-1. Aging test

Every electronic shelf display will go through aging test for 48 hours before shipment.

16. Attachment

Video Format Table (Table 1)

Video F+A2:D16format / Codec	Decoder	Details	Supported File Type(s) / Container Formats
H.264 AVC Baseline Profile (BP)			• MP4
			• MKV
MPEG4(Xvid)	•		• MP4
H.265 HEVC			• MKV
			• MP4
MPEG4(Divx)	•		• MP4

Picture Format Table (Table 2)

Image Format / Codec	Decoder	Details	Supported File Type(s) / Container Formats
BMP	•		BMP (.bmp)
GIF	•		GIF (.gif)
JPEG	•	Base+progressive	JPEG (.jpg)
PNG	•		PNG (.png)

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's 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 should be installed and operated with minimum distance 20cm between the radiator and your body.

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.

FCC ID: 2ATVU-U231AZZLE1