iSMA-D-PA

User Manual

Android PC Panel

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1 Introduction

The iSMA-D-PA panels are industrial PC panels with the Android operating system. Panels have been designed to simplify the use of the Master Application Controller: iSMA-B-MAC36NL.

They can be connected to the iSMA-B-MAC36NL, JACE, or other supervisor powered by Niagara to display graphics by web page from the Niagara system.

As PC panels with Android, they can also be used as the user interface. There is an option to install a dedicated application that allows communication with other devices in a BMS system, for example, the iSMA CONTROLLI Android application designed for connectivity with a Niagara station or any HTML 5 web-based controller.

Panels are available in three sizes: 7, 10, or 15 inches. They can be built into the wall (VESA compatibility). They have an extensive menu in over 7 languages, in which the displayed image can be easily customized.

Figure 1. iSMA-D-PA panels

1.1 Revison History

Rev.	Date	Description
1.2	10 Dec 2024	Android 11 update for 10” and 15” panels
1.1	25 May 2022	7" Android panel added Rebranded
1.0	18 Jul 2019	First edition

Table 1. Revision history

2 Interfaces

The monitor recognizes and selects the signal automatically. The only exception is the USB in the OTG mode: the USB port needs to be manually set to the OTG mode. For full instruction see section Setting USB Port to OTG mode. In the 10" Android Panel USB C is automatically set to the OTG mode; there is no need to change the settings.

2.1 iSMA-D-PA7C-B1

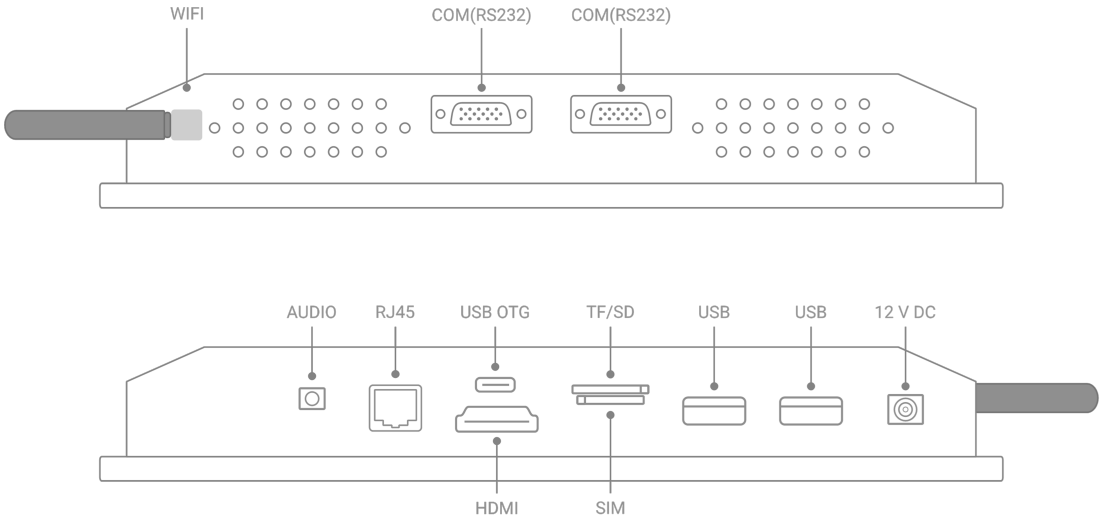

Figure 2. Interfaces of iSMA-D-PA7C-B1

2.2 iSMA-D-PA10C-B1

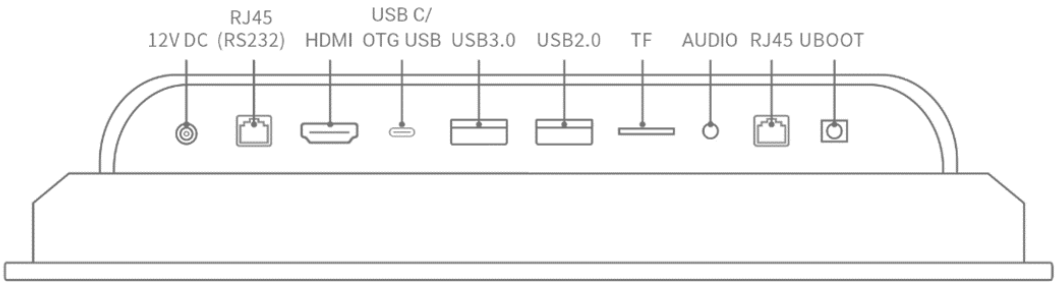

Figure 3. Interfaces of iSMA-D-PA10C-B1

2.3 iSMA-D-PA15C-B1

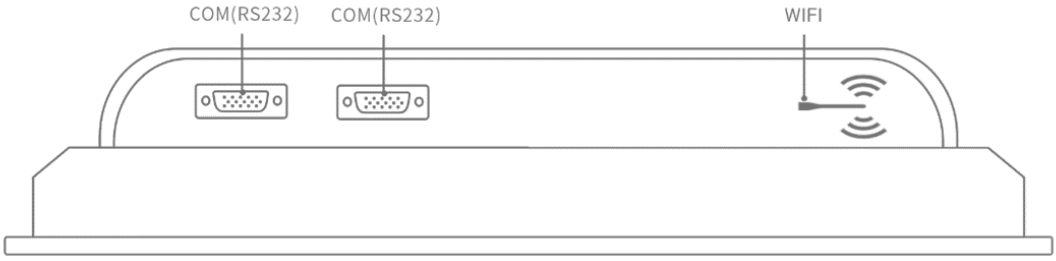

Figure 4. Interfaces of iSMA-D-PA15C-B1

2.4 Setting USB Mode to OTG

- Go to the main menu of the Android Panel PC – a round, white icon with dots at the bottom center of the screen:

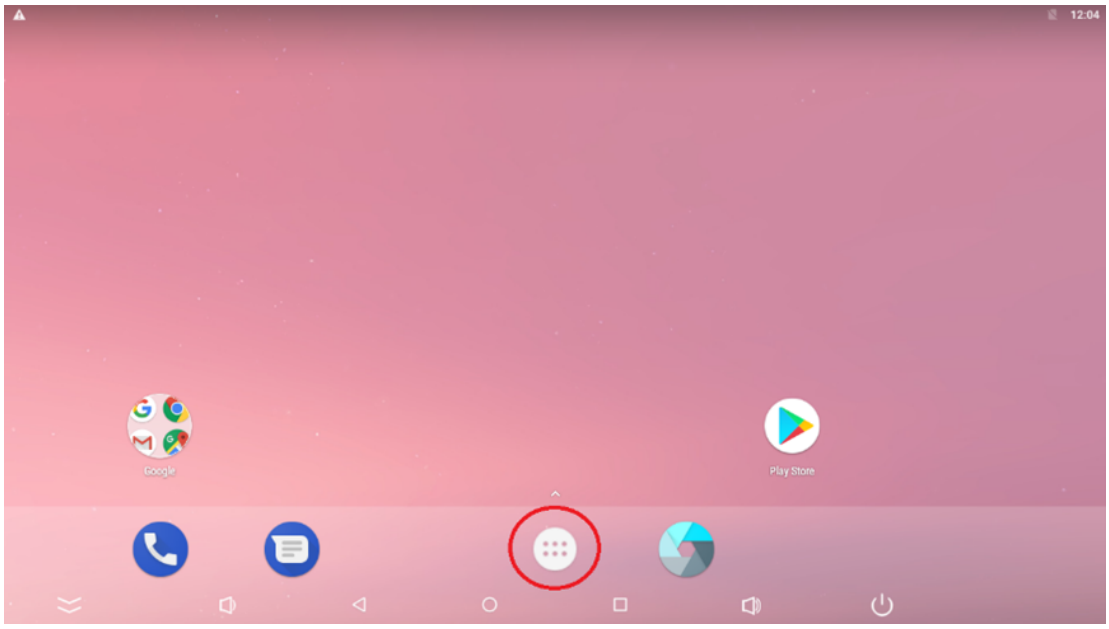

Figure 5. Main menu

- Go to the Settings:

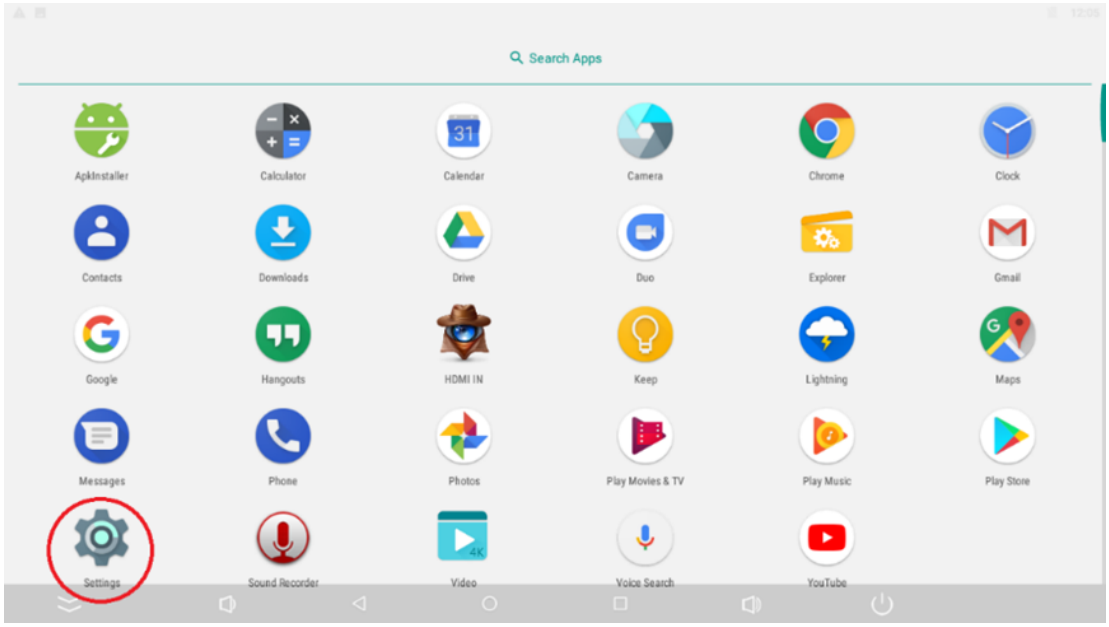

Figure 6. Settings

- Go to the Developer options:

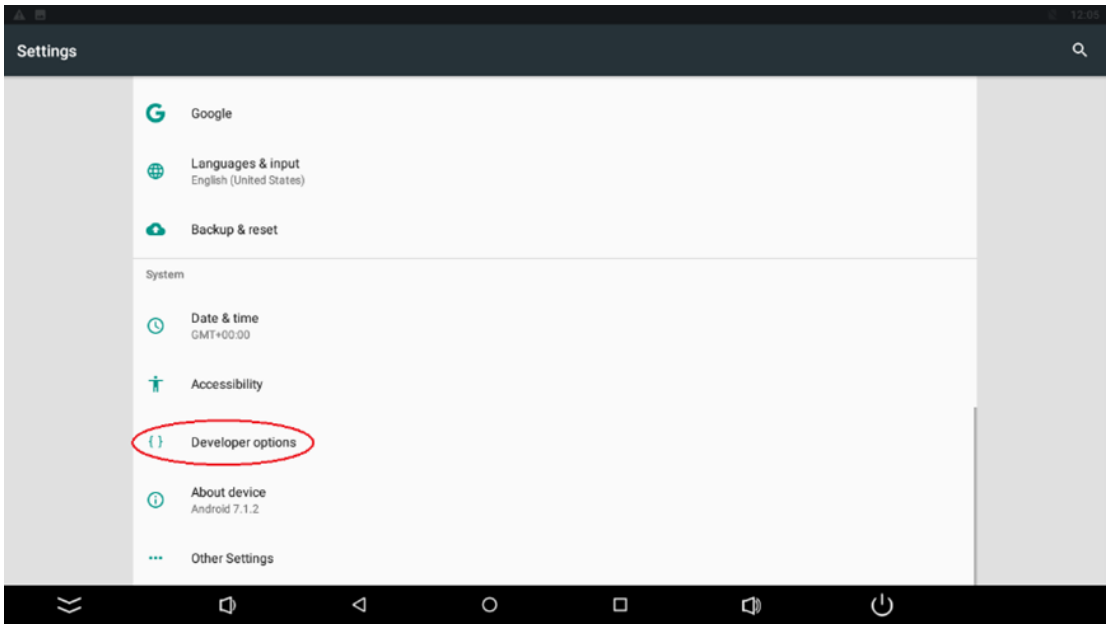

Figure 7. Developer options

- Set the USB Mode to the OTG Mode and turn on USB debugging:

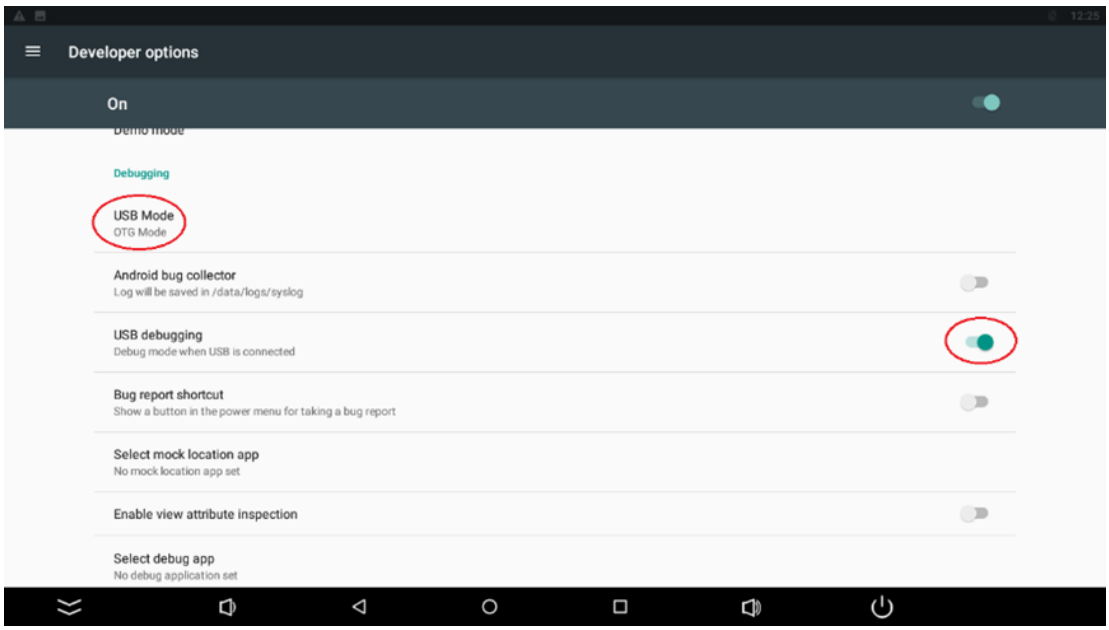

Figure 8. USB mode and USB debugging

- Set the USB Configuration to MTP:

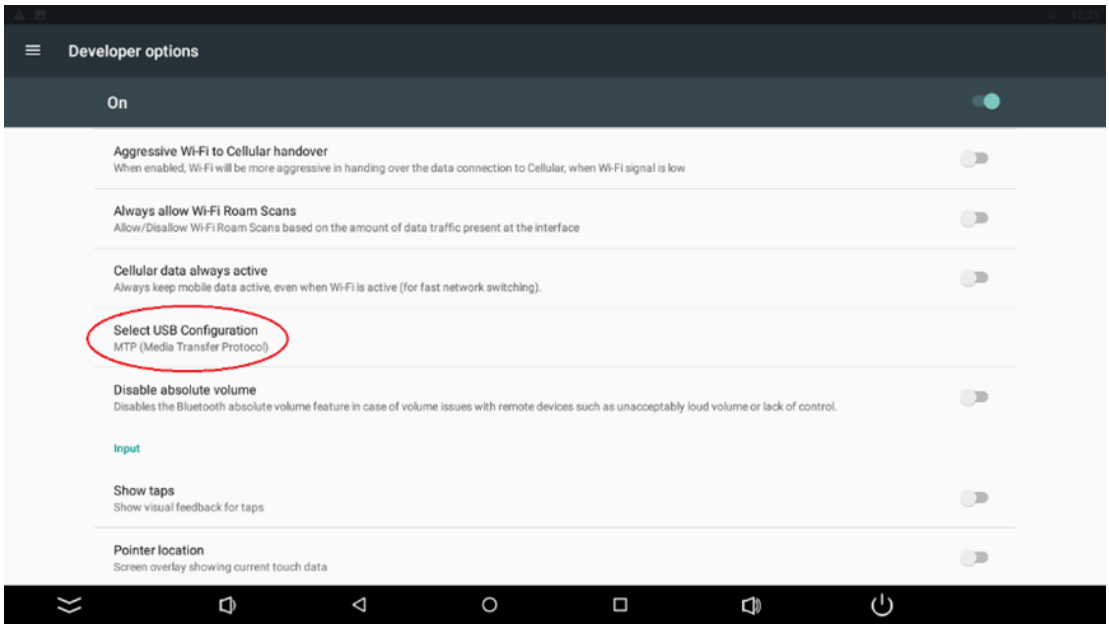

Figure 9. Select USB configuration

3 Operation Guide

3.1 Rear Navigation Buttons

The rear navigation buttons are used to turn the device on and off. Brightness +/- buttons are prepared for future development:

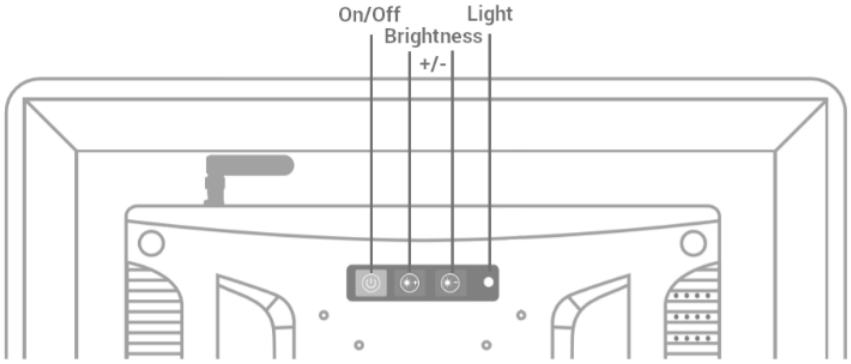

Figure 10. Rear navigation buttons

Symbol	Name	Instruction
Brightness +/-	Choose +	Buttons prepared for future development
Brightness +/-	Choose -	
On/Off	On/Off button	Start-up/Shut down the monitor. The button has to be pressed for a few seconds for both turning on and off. When turning on, wait a few seconds after pressing the button.

Table 2. Operating of rear navigation buttons

3.2 Setting Static IP Address

Follow the instruction steps to set a static IP address:

- Follow steps 1 and 2 from the point 1.7 (go to the Settings of the Adroid Panel PC).
- Go to the More option:

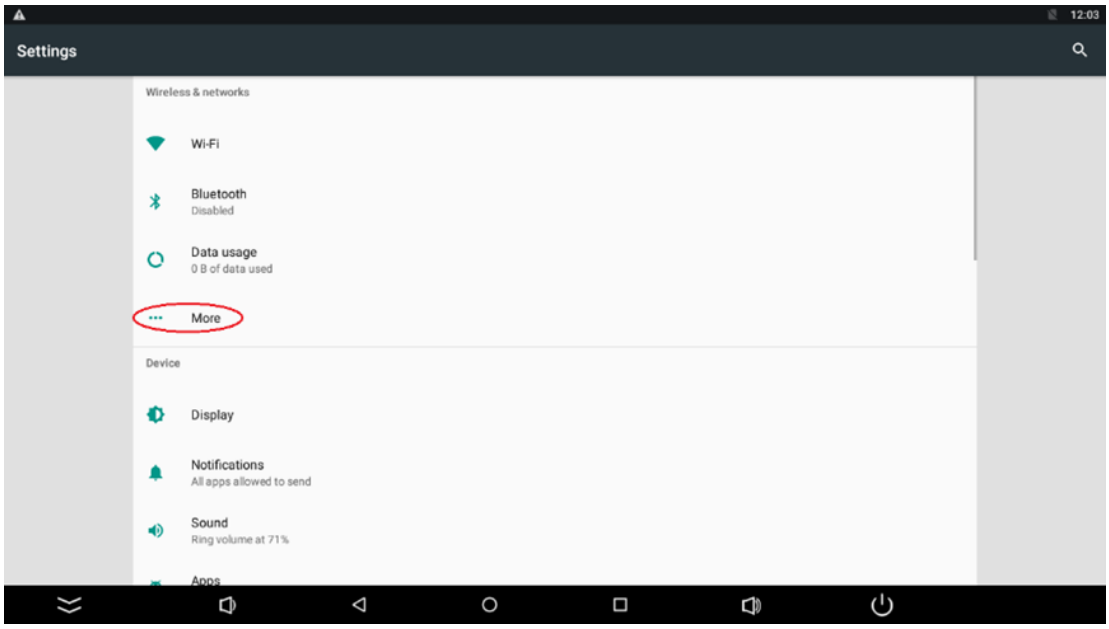

Figure 11. Settings - More

- Go to the Ethernet:

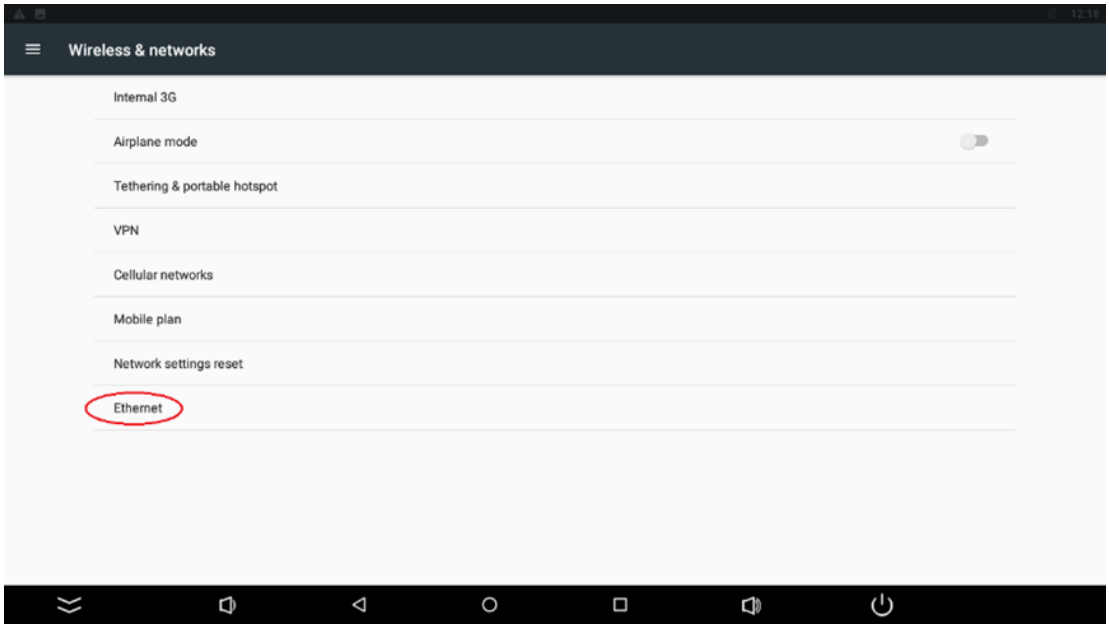

Figure 12. Ethernet

- Go to the Ethernet IP mode:

Figure 13. Ethernet IP mode

- Choose the “static” option:

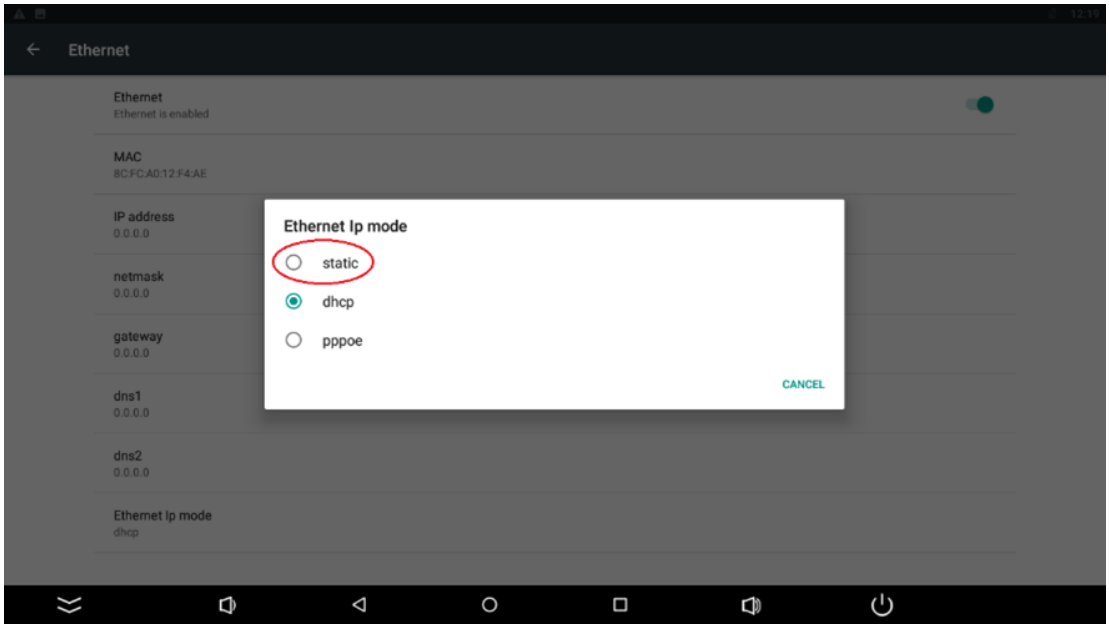

Figure 14. Setting Ethernet IP mode

- Insert the IP address and other information and click CONNECT:

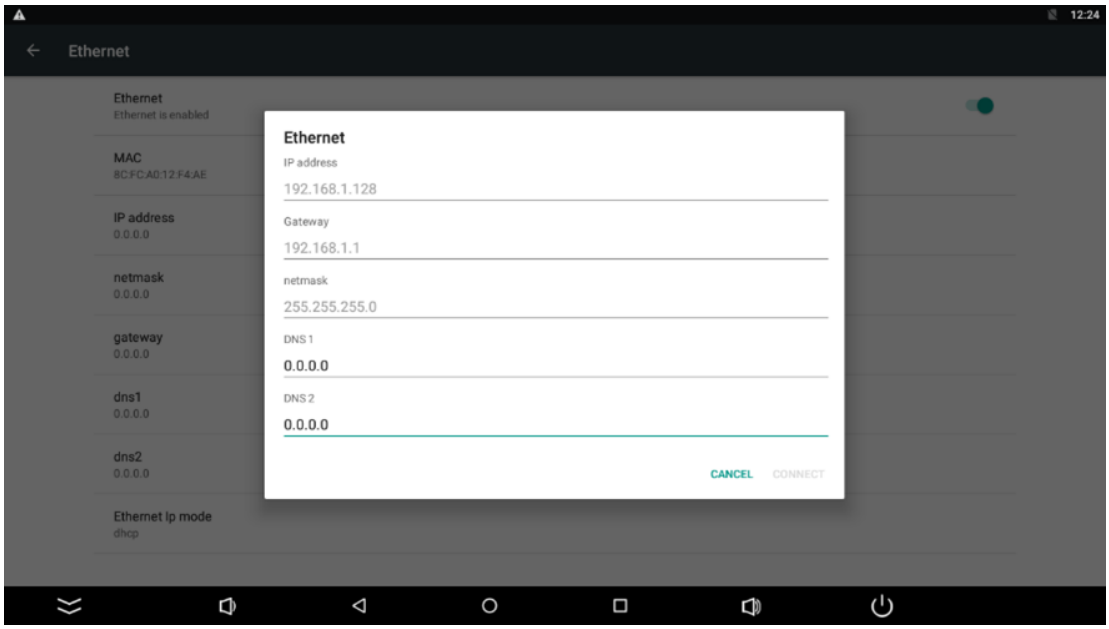

Figure 15. Inserting Ethernet information

4 Installation

- Do not place the monitor next to the radiator or heat source.
- Do not let any objects press or twine around the power cable or VGA cable.
- Do not place the monitor near a water source or humid places.
- Do not block off the back vents, which can dissipate heat generated inside it, to prevent damage of components.

4.1 Snap Joint Installation

Follow the below steps to install the monitor with four snap joints buckle hole:

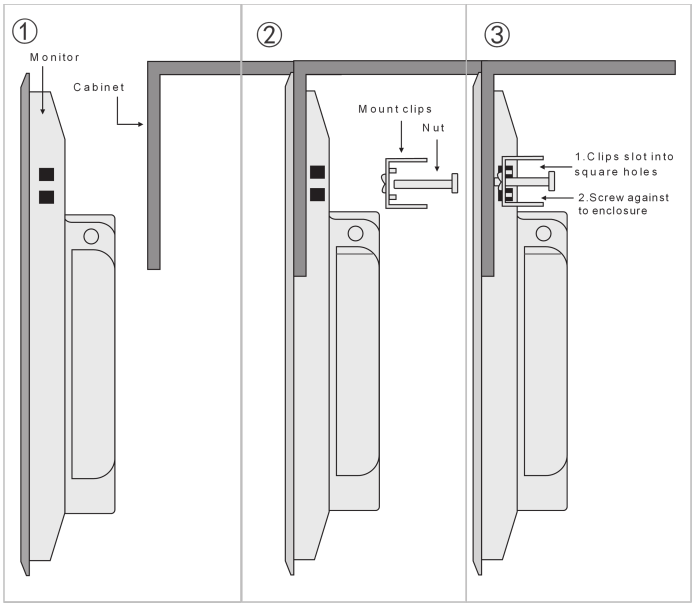

Figure 16. Embed with snap joint installation

4.2 Wall Mount Installation

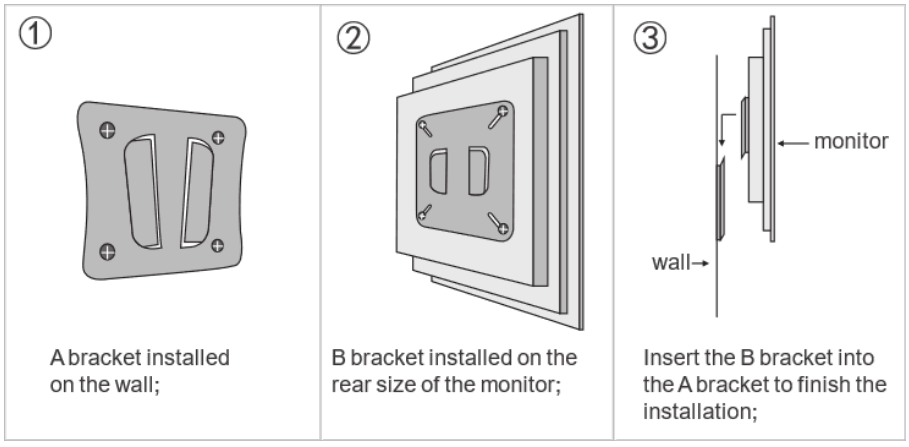

Figure 17. Wall mount installation

5 Android System

WARNING!

In case any custom modifications or any other changes are introduced to the Android system originally installed on the equipment, **the warranty automatically expires**. The only exception is when the iSMA CONTROLLI itself announces the possibility of introducing custom modifications to the Android system originally installed on the equipment **precisely specifying the range of such modifications**.

6 Safety Rules

- Improper wiring of the product can damage it and lead to other hazards. Make sure that the product has been correctly wired before turning the power on.
- Before wiring or removing/mounting the product, make sure to turn the power off. Failure to do so might cause an electric shock.
- Do not touch electrically charged parts such as power terminals. Doing so might cause an electric shock.
- Do not disassemble the product. Doing so might cause an electric shock or faulty operation.
- Use the product only within the operating ranges recommended in the specification (temperature, humidity, voltage, shock, mounting direction, atmosphere, etc.). Failure to do so might cause a fire or faulty operation.
- Firmly tighten the wires to the terminal. Failure to do so might cause a fire.
- Avoid installing the product in close proximity to high-power electrical devices and cables, inductive loads, and switching devices. Proximity of such objects may cause an uncontrolled interference, resulting in an instable operation of the product.
- Proper arrangement of the power and signal cabling affects the operation of the entire control system. Avoid laying the power and signal wiring in parallel cable trays. It can cause interferences in monitored and control signals.
- It is recommended to power controllers/modules with AC/DC power suppliers. They provide better and more stable insulation for devices compared to AC/AC transformer systems, which transmit disturbances and transient phenomena like surges and bursts to devices. They also isolate products from inductive phenomena from other transformers and loads.
- Power supply systems for the product should be protected by external devices limiting overvoltage and effects of lightning discharges.
- Avoid powering the product and its controlled/monitored devices, especially high power and inductive loads, from a single power source. Powering devices from a single power source causes a risk of introducing disturbances from the loads to the control devices.
- If an AC/AC transformer is used to supply control devices, it is strongly recommended to use a maximum 100 VA Class 2 transformer to avoid unwanted inductive effects, which are dangerous for devices.
- Long monitoring and control lines may cause loops in connection with the shared power supply, causing disturbances in the operation of devices, including external communication. It is recommended to use galvanic separators.
- To protect signal and communication lines against external electromagnetic interferences, use properly grounded shielded cables and ferrite beads.
- Switching the digital output relays of large (exceeding specification) inductive loads can cause interference pulses to the electronics installed inside the product. Therefore, it is recommended to use external relays/contactors, etc. to switch such loads. The use of controllers with triac outputs also limits similar overvoltage phenomena.
- Many cases of disturbances and overvoltage in control systems are generated by switched, inductive loads supplied by alternating mains voltage (AC 120/230 V). If they do not have appropriate built-in noise reduction circuits, it is recommended to use external circuits such as snubbers, varistors, or protection diodes to limit these effects.

7 Standards and Norms

7.1 EN 55022:2010+AC:2011

Electromagnetic compatibility of multimedia equipment. Emission Requirements.

7.2 EN 61000-3-2:2014

Electromagnetic compatibility (EMC). Limits for harmonic current emissions for equipment input current ≤ 16 A per phase).

7.3 EN 61000-3-3:2013

Electromagnetic compatibility (EMC). Limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase.

7.4 EN 55024:2010 + A1:2015

Information technology equipment. Immunity characteristics. Limits and methods of measurement.

7.5 EN 60950-1:2006 + A11:2002 + A1:2010 + A12:2011 + A2:2013

Information technology equipment. Safety General requirements specifies requirements intended to reduce risks of fire, electric shock or injury for the OPERATOR and layman who may come into contact with the equipment and, where specifically stated, for a SERVICE PERSON.

8 Technical Specification

8.1 iSMA-D-PA7C-B1

Panel Type	Industrial LCD panel A grade
Operating System	Android 6.0
Screen Type	LED; backlight lifetime ≥50000 h,
Size	7”
Aspect Ratio	16:9
Resolution	1024x600
Luminance	300 nit
Contrast	800:1
Active Area	154.81x86.52 mm
Display Color	16.7 M
View Angle	75/75/70/75
Response Time	6.5 ms
Installation	Compatible with VESA, for embedding
Menu Languages	English, French, German, Spanish, Chinese, Italian, Russian, Portuguese, Arabic
Touch Type	10-point capacitive touch screen
Material	Metal/aluminum alloy
Interfaces	IP, 2 RS232, TF/SD card, 2 USB 2.0, USB OTG (mini USB), RJ45, audio output
Power Port	12 V DC
Anti-interference	Anti-interference electromagnetic compatibility; electromagnetic interference
Anti-vibration	5-19 HZ/1.0 mm amplitude; 19-200 HZ/1.0 g accelerated speed

Temperature	Operating temperature: 0°C to 50°C (32°F to 122°F)	Storage temperature: -20° C to 70° C (-4° F to 158° F)
Humidity	Operation humidity: 25% to 85% RH	Storage humidity: 10% to 90%

		R H
Anti-static	4 KV-8 KV; (customized max. 16 KV)	
Rated Voltage	100 V ~ 240 V AC to 12 V-24 V DC	
Rated Frequency	50 Hz/60 Hz	
Power Supply	110-240 V AC, 50/60 Hz	
Power Supply Adapter	EU, UK, or US	
Power	Power consumption ≤30 W	Power standby ≤1.5 W
Dimensions	196.54x152.20x38.90 mm (7.73x5.99x1.53 in)	
IP	IP65 – for front panel	

Table 3. Technical specification of the iSMA-D-PA7C-B1 panel

8.2 iSMA-D-PA10C-B1/ iSMA-D-PA15C-B1

Panel Type	Industrial LCD panel A grade
Operating System	Android 11
Screen Type	LED; backlight lifetime ≥50000 h,
Size	10.1”/15.6”
Aspect Ratio	16:9
Resolution	1366x768/1920x1080

Luminance	Standard 300 nit	
Contrast	800:1/1000:1	
Active Area	222.7x125.2 mm/344.2x193.6 mm	
Display Color	16.7 M	
View Angle	80/80/80/80 / 89/89/89/89	
Response Time	5 ms	
Installation	Compatible with VESA, for embedding, wall mount	
Menu Languages	English, French, German, Spanish, Chinese, Italian, Russian, Portuguese, Arabic	
Touch Type	10-point capacitive touch screen	
Material	Metal/aluminum alloy	
Interface	IP, RS232, TF/SD card, USB 2.0, USB 3.0, USB C (OTG USB)/ USB 3.0 (OTG USB), HDMI (10" panel), RJ45, audio output	
Power Port	12 V DC	
Anti-interference	Anti-interference electromagnetic compatibility; electromagnetic interference	
Anti-vibration	5-19 HZ/1.0 mm amplitude; 19-200 HZ/1.0 g accelerated speed	
Temperature	Operating temperature: -10°C to 60°C (14°F to 140°F)	Storage temperature: -10° C to

		60°C (140°F to 140°F)
Humidity	Operation humidity: 10% to 80% RH	Storage humidity: 10% to 90% RH
Anti-static	4 KV-8 KV; (customized max. 16 KV)	
Rated Voltage	100 V ~ 240 V AC to 12 V-24 V DC	
Rated Frequency	50 Hz/60 Hz	
Power Supply	110-240 V AC, 50/60 Hz	
Power Supply Adapter	EU, UK, or US	
Power	Power consumption ≤30 W	Power stand

		by ≤ 1.5 W
Dimensions	293.6x193.6x48.5 mm (11.560x7.622x1.909 in)/ 420.0x269.0x70.0 mm (16.535x10.591x2.756 in)	
IP	IP65 – for front panel	

Table 4. Technical specification of the iSMA-D-PA10C-B1/ iSMA-D-PA15C-B1 panels

9 Dimensions

9.1 iSMA-D-PA7C-B1

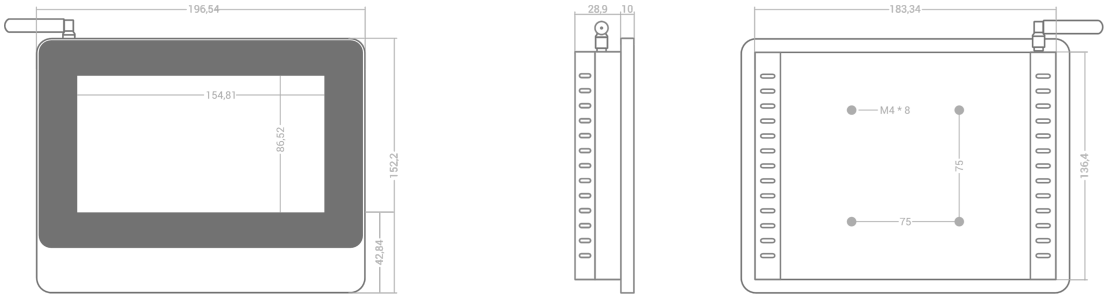

Figure 18. Dimesions of iSMA-D-PA7C-B1

9.2 iSMA-D-PA10C-B1

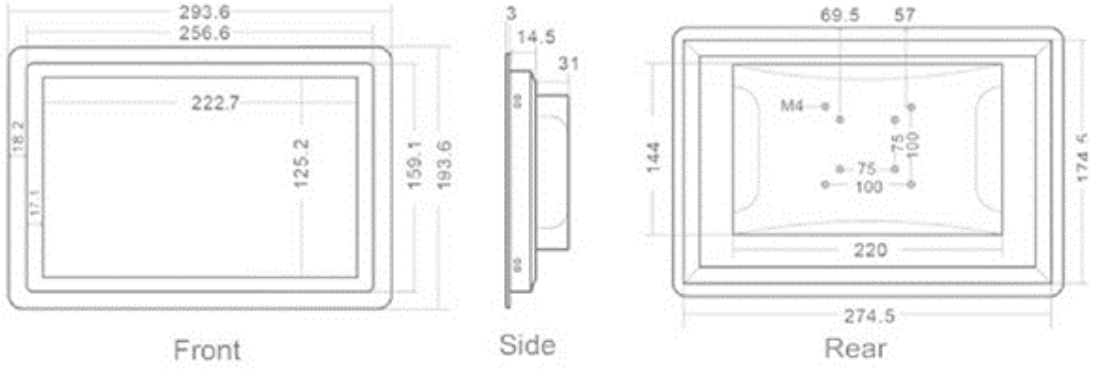

Figure 19. Dimensions of iSMA-D-PA10C-B1

9.3 iSMA-D-PA15C-B1

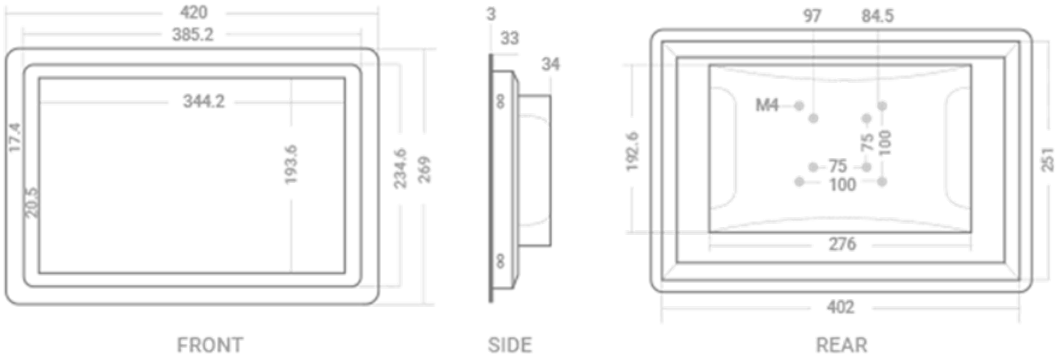

Figure 20. Dimensions of iSMA-D-PA15C-B1