AIMobile

AIM-Edge psox/pson AI Computing Device

User Manual

27 January 2026
Version 1.5

Content

Revision History

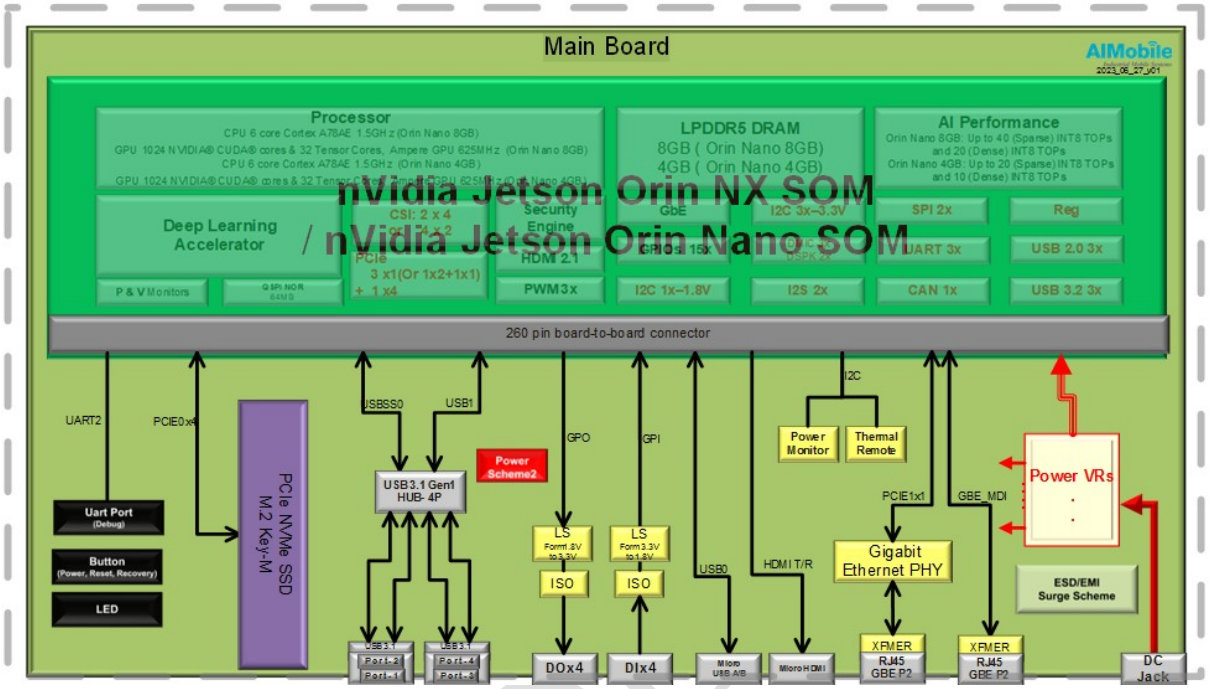
Date	Version	Modification
2023/10/25	1.0	Creation
2023/11/13	1.1	Add AIMobile container usage
2024/2/1	1.2	Specify the login password needs to be changed after the first login
2024/3/4	1.3	Specify the DO spec clearly
2024/3/8	1.4	1. Remove 5V after DO port because no current output 2. Add DO relay coil current/voltage limitation
2024/3/18	1.5	Specify the DC-in voltage range is 12~19V

1. Introduction

AIM-Edge psox/pson is a Nvidia Jetson AI computing device running on Linux platform, it supports NVidia Orin NX/Orin Nano SOM.

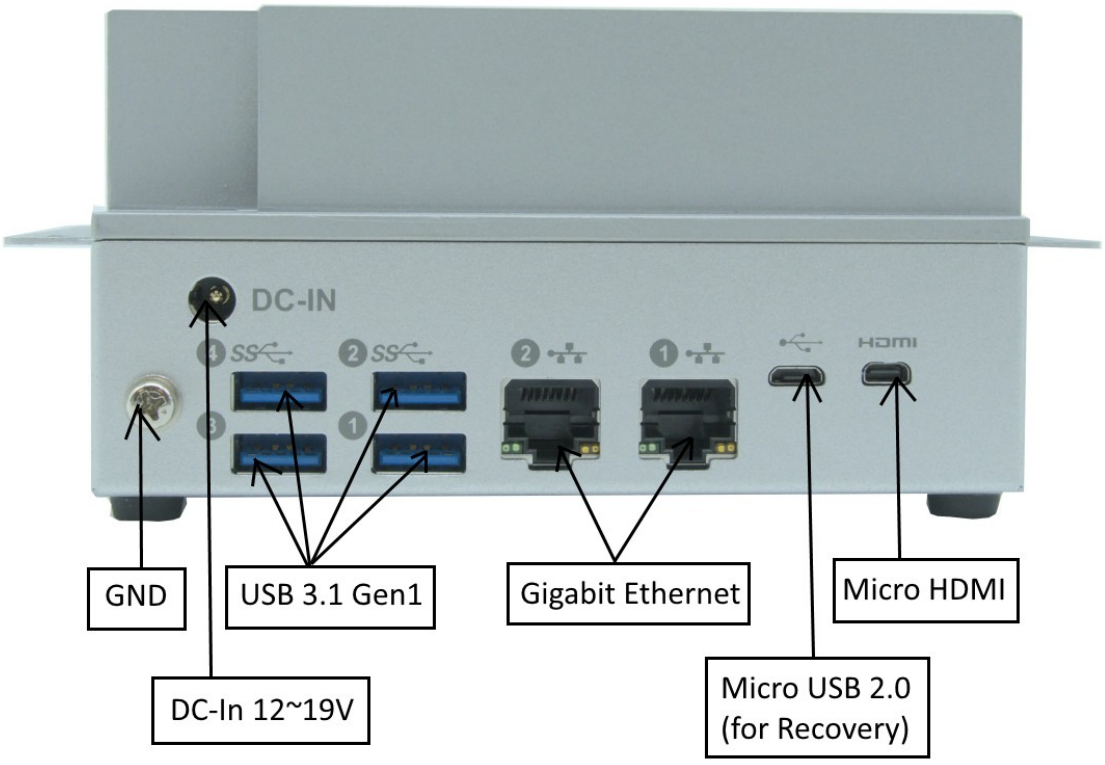
AIM-Edge psox/pson Specification	
SOM	NVIDIA Jetson Orin NX 16GB/8GB, Orin Nano 8GB/4GB
OS	Ubuntu 20.04/Linux 5.10
I/O	Gigabit Ethernet x 2 USB 3.1 Gen1 Type-A x 4 Micro USB 2.0 x 1 Micro HDMI x 1 Digital In (5V) x 4 Digital Output x 4 Power LED x 1 PCIe NVMe SSD (internal M.2) x 1 Debug UART (internal) x 1 DC-in (12~19V)
Dimension	94mm(W)X157mm(L)X70.75mm(H)
Weight	888g+-5g
Temperature	-20~60 °C (Operation)
Button/Key	1 x Power Button 1 x Recovery Button 1 x Reset Button

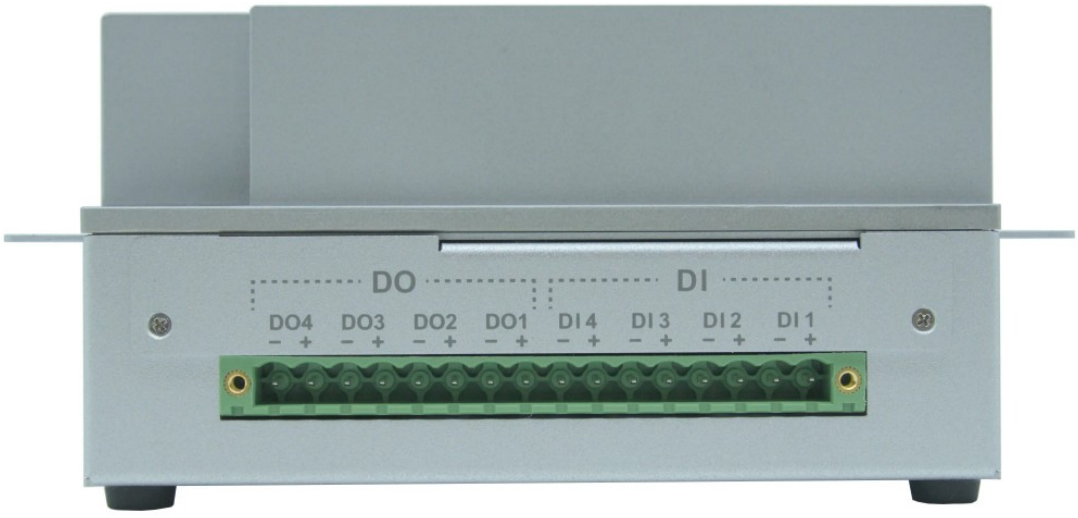
2. System Architecture

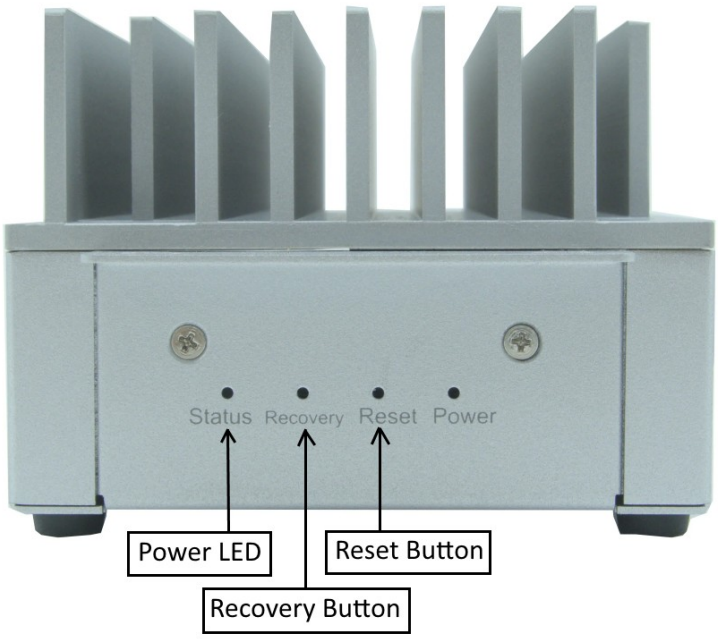


AIM-Edge psox/pson Block Diagram

3. I/O Port Overview



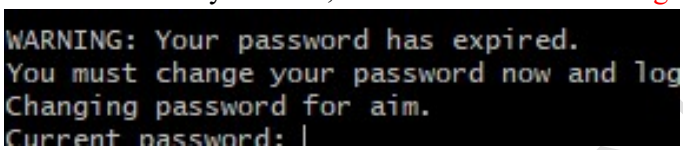




4. Getting Started

4.1. Power Up

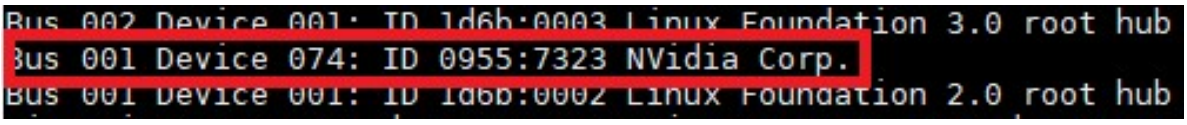
1. Connect a USB keyboard to the USB Type A connector of your device.
2. Connect an HDMI-compatible display to the micro HDMI connector on your device.
3. Connect the DC 12~19V adapter to the DC-in connector of your device.
4. Plug the power adapter into an appropriately rated electrical outlet. The system should power on directly. If not, press and release the power button in the device by paperclip.
5. When prompted, enter username and password (Username: aim /Password: aim12345).
6. Because of security concern, user will be asked to change the password on the first login.



4.2. Enter Force USB Recovery Mode

To update your device, you must be in Force USB Recovery Mode so that you can transfer system image to the Jetson device. To place device in Force USB Recovery Mode,

1. Power down the device. If connected, remove the DC power from the device. The device must be powered OFF, and not in a suspend or sleep state.
2. Connect the Micro-B plug on the USB cable to the Recovery (USB Micro-B) Port on the device and the other end to an available USB port on the host PC.
3. Connect the power adapter to the device.
4. With the system powered on:
   - Press and hold the RECOVERY button with paperclip.
   - While pressing the RECOVERY button, press and release the RESET button with paperclip.
   - Wait 2 seconds and release the RECOVERY button.
5. After psox/pson enter Force USB Recovery Mode, if it connected to Linux Host PC/NB already, execute “lsusb” command on Host PC/NB, a “0955:7323 NVidia Corp.” device will appear. If not, perform Step 4 above again.

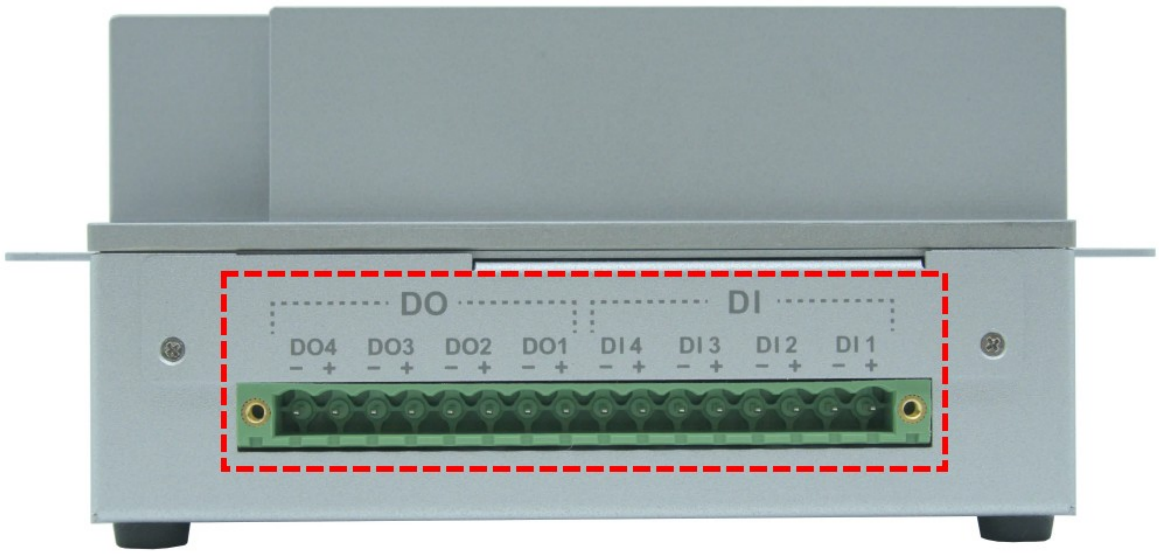


Jetson SoM	USB ID
Orin NX 16GB	0955:7323

Orin NX 8GB	0955:7423
Orin Nano 8GB	0955:7523
Orin Nano 4GB	0955:7623

4.3. DI/DO Pin Definition And Mapping

The DI/DO pin definition and mapping as below.



Pin mapping

DI1	PZ.03
DI2	PZ.04
DI3	PZ.05
DI4	PZ.06
DO1	PY.00
DO2	PY.01
DO3	PY.02
DO4	PY.03

Please use Linux kernel sysfs to control gpio.

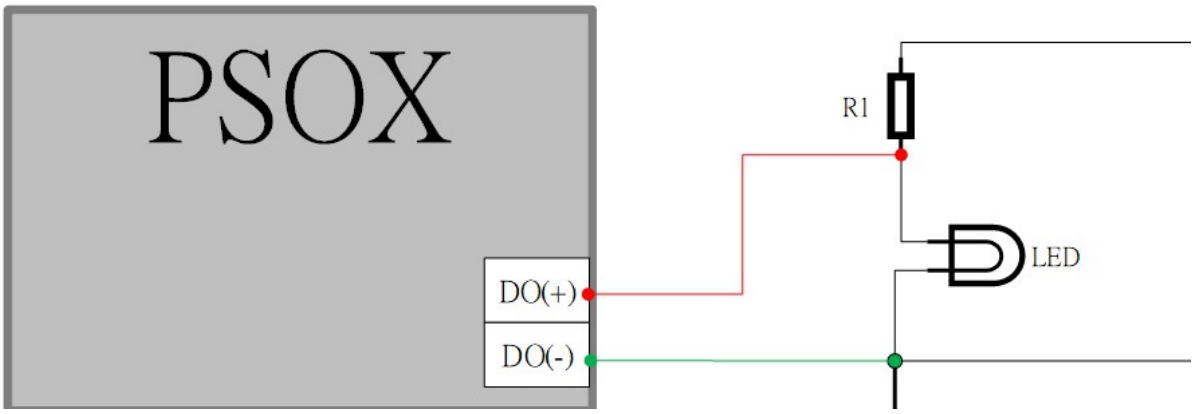
Example for DI:

```
echo PZ.03 > /sys/class/gpio/export

echo in > /sys/class/gpio/PZ.03/direction

cat /sys/class/gpio/PZ.03/value

echo PZ.03 > /sys/class/gpio/unexport
```

Example for DO:

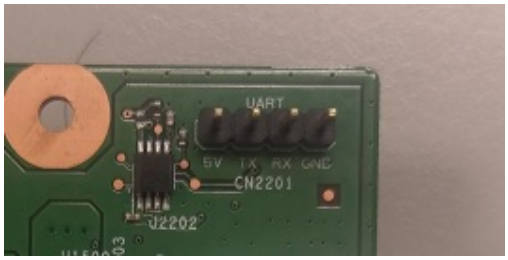
```
echo PY.00 > /sys/class/gpio/export

echo out > /sys/class/gpio/PY.00/direction

echo 1 > /sys/class/gpio/PY.00/value

echo 0 > /sys/class/gpio/PY.00/value

echo PY.00 > /sys/class/gpio/unexport
```

Reference schematic of DO (open drain/isolation):



Each DO port is capable of driving relay coils rated up to 150mA at 12V, 24V or 40V.

4.4. Use Serial Debug Console (Internal only)



Any serial port console program should work as a debug console. Examples are PuTTY, gtkTerm, and minicom. Connection speed is 115200, with 8 bits, no parity, and 1 stop bit (115200 8N1). Flow control will be RTS/CTS.

4.5. AIMobile Container Usage

Please check readme.txt on Ubuntu desktop about pre-installed AIMobile container usage including how to relocate the container image.
The AIMobile container image is pre-installed to root file system, it takes around 13GB, and it can be removed with "docker system prune -af" command.

```
aim@AIM-dev-4737:~$ docker images
REPOSITORY              TAG       IMAGE ID       CREATED        SIZE
aimobile/l4t-jetpack    r35.4.1   353b9824dd21   2 weeks ago    12.9GB
```

5. Declaration of the Presence Condition of the Restricted Substances Marking

限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

設備名稱： 視頻編碼器 型號（型式）： AIM-Edge psox (SKU1) AIM-Edge psox (SKU2) AIM-Edge pson (SKU3) AIM-Edge pson (SKU4)
Equipment name: AI analytics decoder Type designation (Type)

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
電路板	—	○	○	○	○	○
內外殼(外殼、內部框架…等)	—	○	○	○	○	○
主機板	—	○	○	○	○	○
記憶體	—	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。
Note 1："Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2："○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝－〞係指該項限用物質為排除項目。
Note 3：The "–" indicates that the restricted substance corresponds to the exemption.

茲切結保證所提供之商品限用物質含有情況標示內容係經執行測試作業或採適當之品質管理措施，並備置前述相關文件，確認正確無誤後提供貴局。並同意配合貴局執行後市場管理作業所需，依商品檢驗法第49條之規定，於限期28個工作天內提供相關證明文件以供審查。

I hereby ensure that "the presence conditions of the restricted substance" provided above have been proved by testing or appropriate quality control measures, and make sure the relevant documents provided are correct and ready. Also, I agree to cooperate with BSMI, as the Article 49 of the Commodity Inspection Act stipulates, to provide the relevant documents, if needed, for verification within 28 working days when BSMI carries out the market surveillance activities.

此致 to

經濟部標準檢驗局 The Bureau of Standards, Metrology and Inspection

申請人： 英研智能移動股份有限公司
Applicant

負責人： 葉力誠 （簽章）
Person in charge (Signature)

中 華 民 國 年 月 日
DATE (year) (month) (day)