# AIR-020R

## AI Inference System Based on NVIDIA® Jetson Orin™ Nano

## Features

- Extreme Compact and performance AI box up to 67 TOPS AI computing
- NVIDIA® Jetson Orin™ Nano built-in
- 12~24V wide power and -10~50 °C wide temp. supported
- Multiple IO ports: Dual LAN, DIO, 2x COM, 2x USB 3.2 and USB type C
- M.2 2280 128GB storage built-in
- Edge AI Suite AI Utility Support for pre-trained models and deep learning
- Linux Ubuntu OS and JetPack SDK preload
- IP40 Design compliance

## Specifications

| Model | | AIR-020R-S7A1U | AIR-020R-B7A1U |
|---|---|---|---|
| Platform | | NVIDIA Jetson Orin™ Nano 8GB | NVIDIA Jetson Orin™ Nano 4GB |
| Processor System | CPU | 6-core NVIDIA Arm Cortex A78AE v8.2 64-bit | |
| | GPU | 1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores | 512-core NVIDIA Ampere architecture GPU with 16 Tensor Cores |
| | AI Performance Reference | 67 TOPS | 34 TOPS |
| | Memory | 8GB LPDDR5 | 4GB LPDDR5 |
| Ethernet | Interface | RJ-45 | |
| | Controller | Intel® i210AT, Nvidia SoM | |
| | Speed | 2 x Gigabit Ethernet (10/100/1000 Mbps) | |
| Display | HDMI | 1 x HDMI (Max. resolution 3840 x 2160 @ 30Hz) | |
| IO Ports | USB | 2 x USB 3.2 Type A<br>1 x USB 3.2 Type C | |
| | OTG USB | 1 x Micro USB (for system recovery only) | |
| | CANBus | 1 x DB9 | |
| | DI/DO | 8 bit | |
| | COM | 2 x RS-232/RS-422/RS-485 | |
| Expansion | MiniPCIe | 1 x Full-size mPCIE with Nano SIM slot (USB/PCIe signal) | |
| Storage | M.2 2280 | 1 x M.2 2280 (M Key), 128GB storage built-in | |
| Power | Power Supply | Power adaptor 90W, optional | |
| | Power Type | ATX/AT mode, ATX default | |
| Environment | Operational Temperature | -10 ~ 50 °C with 0.7 m/s air flow (MAXN_Super up to 25W) | |
| | Operating Humidity | 95% @ 40 °C (non-condensing) | |
| | Vibration | 3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis | |
| Mechanical | Dimensions (W x D x H) | 138 x 110 x 56.6 mm | |
| | Weight | 1.16 kg | |
| | Mounting Support | Wall mounting | |
| Operating System | Linux | Ubuntu 22.04 LTS with JetPack 6.2 (support super mode) | |
| Software Support | Software API | Edge AI SDK compatible | |
| Certifications | EMC/Safety | CE/FCC Class B, CB, UL, CCC and BSMI (No RED Certificate) | |

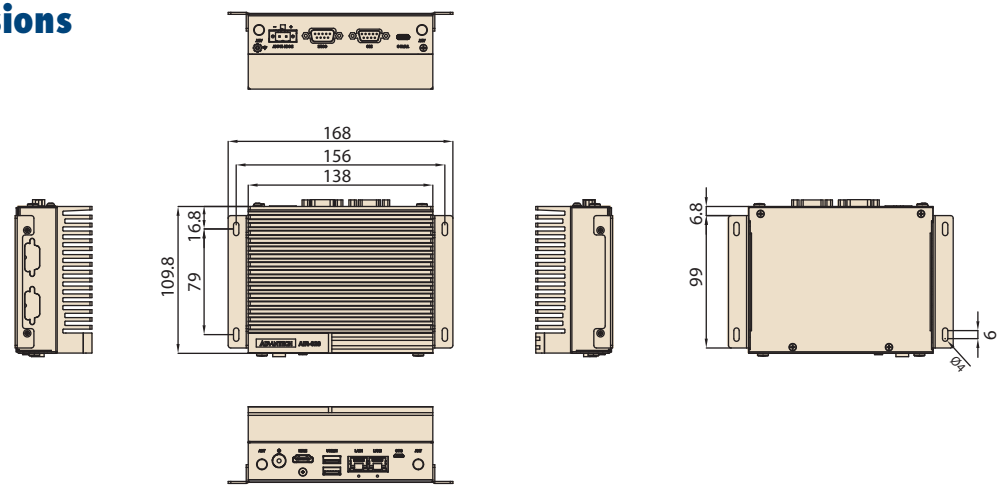




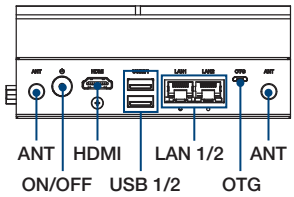
Last updated: 11-Nov-2025

## Dimensions

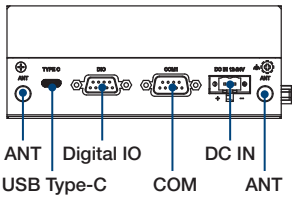
Unit: mm



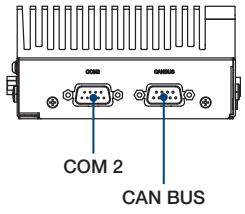

## Front Panel I/O Mechanical Layout



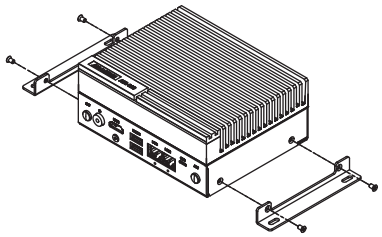

## Rear Panel I/O Mechanical Layout




## Side Panel I/O Mechanical Layout




## Wall-mount



## Ordering Information

| Part No. | NVIDIA Module | NVIDIA Module Memory | NVIDIA Module eMMC | Storage | HDMI | GbE | USB | CANBus | RS-232/422/485 | DIO | Power input | Operating Temperature |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AIR-020R-S7A1U | Orin Nano | 8GB LPDDR5 | N/A | 128GB M.2 built-in | 1 | 2 | 3 | 1 | 2 | 1 | 12-24$V_{DC}$ | -10~50 °C |
| AIR-020R-B7A1U | Orin Nano | 4GB LPDDR5 | N/A | | | | | | | | | -10~50 °C |

*The system OS will be pre-installed in a 128GB NVMe M.2 SSD.

## Packing List

| Part Number | Description | Quantity |
|---|---|---|
| AIR-020 | NVIDIA AI Inference System | 1 |
| 1652000099 | Phoenix connector counterpart | 1 |
| 1700028866-01 | Micro USB cable 40cm for system recovery | 1 |
| - | Simplified Chinese User Manuel | 1 |

## Optional

| Part Number | Description |
|---|---|
| XARK-ADP-90MDH | Power Adapter 19V 90W |
| 1700001524 | Power Cord UL 3P 10A 125V 183cm (US) |
| 170203183C | Power Cord EU 3P 2.5A 250V 183cm (EU) |
| 170203180A | Power Cord BSI 3P 2.5A 250V 183cm (UK) |
| 1702031836 | Power Cord SAA 3P 10A 250V 183cm (AU) |
| 1700008921 | Power Cord PSE 3P 7A 125V 183cm (Japan) |
| 1700019146 | Power Cord CCC 3P 2.5A 250V 183cm (China) |
| AMK-W005 | Wall mount kit |

# WISE-DeviceOn

## Edge AI OTA and Container Management

### WISE-DeviceOn End-to-End Solution for Edge AI

Even if all datasets, algorithms, trainings, UI/UX, and more are functioning, how can you easily deploy an AI application to hundreds, or thousands, of inference devices in production? How can you efficiently manage AI models (software updates, CI/CD), in addition to all remote, hardware devices, such as sensors?


### Solution Advantages

#### Performance Booster

- Inference optimization
- Open Neural Network Compiler (ONNC)
- Save over 45% DRAM consumption

#### Fleet Management

- Remote batch control for power management, reboot, terminal and screenshot
- Real-time monitoring, diagnostics and notification
- Over 10,000 devices around the globe

#### Container and OTA

- Streamlined deployment process
- Docker container management
- Software OTA (over-the-air) updates

#### AI Security

- AI containers deployed via Azure Container Registry and Harbor
- Secured data connection (TLS/SSL)
- Integrity protection based on digital signature

☞ **Find More Information about** WISE-DeviceOn End-to-End Solution for Edge AI