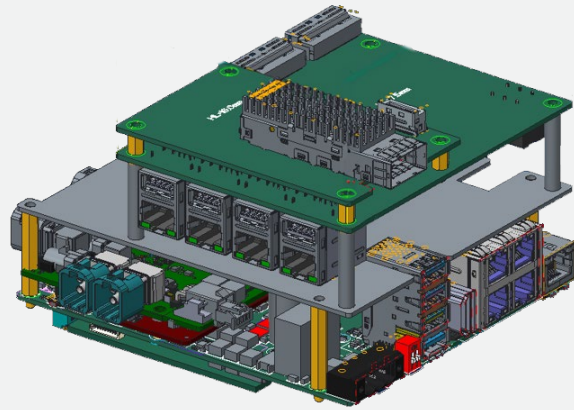
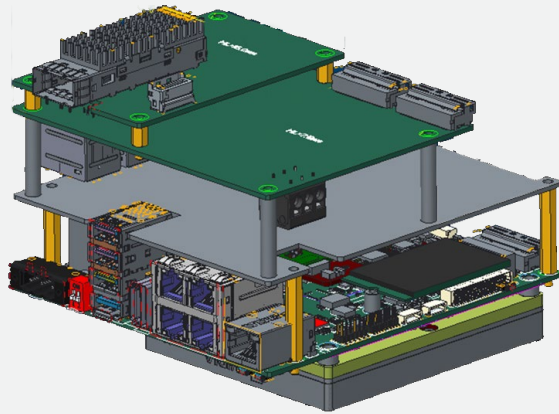


RCB400 A10-04-C

All-in-One AI Control Board: The Core Platform
for Edge Intelligence, AMR, and Robotics Applications



Main Features

- NVIDIA® Jetson AGX Orin™ System-on-Module (SOM)
- NVIDIA® Ampere GPU and Arm Cortex-A78AE
- 64GB LPDDR5 on SOM
- 64GB eMMC 5.1 on SOM
- Single Display : HDMI
- 3 x USB 3.2 Gen1 Type A
- 1 x USB 3.2 Gen1 Type C
- 2 x RSS232/422/485, 2 x RS232 by pin header
- 2 x CAN FD by pin header
- 5 x RJ45 port
- 8 x GMSL (optional)
- 3 x M.2 Slot
- 16 x GPIO by pin header
- DC 24V to 48V input.
- Support 0~60 °C operating temperature

Product Overview

The RCB400 A10-04-C is an advanced control system that integrates motion control, robotic control, and AI computing, powered by the NVIDIA® Jetson AGX Orin™ processor. Designed as a core platform for edge intelligence, AMR, and robotic applications, it combines embedded motion control with edge AI acceleration, significantly streamlining the development of humanoid and quadruped robots.

The RCB400 A10-04-C is equipped with the NVIDIA® Jetson AGX Orin™ 32GB/64GB system-on-module (SOM) featuring the Ampere GPU architecture, with up to 2,048 CUDA cores, 64 Tensor cores, and dual NVDLA 2.0 engines. It delivers up to 275 TOPS of real-time inference and computing performance, enabling precise AI decision-making and intelligent applications.

For connectivity and expansion, the system integrates a comprehensive set of validated high-speed interfaces, including 5 GbE, 4 COM, 4 USB 3.2, 2 CAN, 8 GMSL, and 8 GPIO ports. These ensure high-precision control and seamless integration with diverse sensors and actuators.

In addition, the RCB400 A10-04-C features MCIO connectors with dedicated cables for external I/O expansion boards, enabling modular scalability and flexible adaptation to industrial automation systems, mobile robotic platforms, and complex robotic frameworks. With its powerful computing capabilities and high expandability, the RCB400 A10-04-C is the ideal platform for driving innovation in next-generation AMR and intelligent robotics.

Specifications

CPU Support

- 12-core Arm® Cortex® -A78AE v8.2 64-bit Integrated cache: 3MB L2 + 6MB L3 Equipped

GPU Support

- 2048-core NVIDIA Ampere GPU with 64 Tensor Cores

Memory

- 64GB 256-bit @ 3200MHz 204.8GB/s (+ECC)

Storage

- 1 x M.2 2280 M key (PCIe4 Gen4) up to 1TB
- 64GB eMMC 5.1 on Jetson AGX Orin board

Rear I/O

- 1 x HDMI
- 5 x RJ45 LAN
- 3 x USB 3.2 Gen1 Type A
- 1 x USB 3.2 Gen1 Type C
- 1 x 3pin power connector

Internal I/O

- 1 x 120pin Samtec connector for GMSL Module
- 4 x COM port (2 x RS232/422/485, 2 x RS232)
- 2 x CAN FD
- 1 x MIC-in , 1 x Line-out
- 16 x GPIO

Expansion Slot

- 1 x M.2 Key B 3042/3052 (USB3.1, USB2.0).
 - Support 4G/5G module.
- 1 x M.2 Key E 2230 (PCIe x 1 Gen1, USB2.0)
 - Support WiFi/BT module

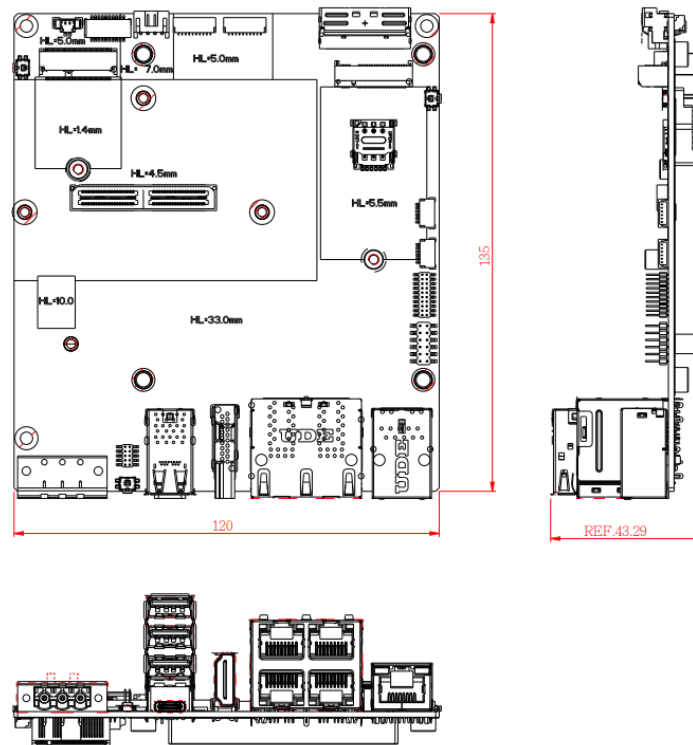
Power Requirement

- DC 24V to 48V input

Dimensions(TBD)

- 120(W) x 135(H) mm

Dimension Drawing(TBD)



Environment

- Operating temperature: Ambient with air flow: 0°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14).
- Storage temperature: -20°C to 85°C.
- Relative humidity: 25~50°C, 90% (non-condensing).

Certifications

- CE
 - EN61000-6-2, EN61000-6-4
- FCC Class A

Ordering Information

RCB400 A10-04-C (P/N: TBD)

NVIDIA® Jetson AGX Orin™ System-on-Module

Expansion I/O board:

EBK-4L4U-4CAN (4 x 2.5Gb LAN, 4 x USB3.2, 4 x CAN FD)

EBK-8I80-4COM (8DI,8DO, 4 COM with 2.5 KV Isolation)