



Main Features

- Jetson Orin NX 16GB Eight-Core - Ampere GPU + Arm Cortex-A78AE v8.2 64-bit CPU + 16 GB LPDDR5 (Super mode: 157Tops)
- Jetson Orin NX 8GB Six-Core - Ampere GPU + Arm Cortex-A78AE v8.2 64-bit CPU + 8 GB LPDDR5 (Super mode: 117Tops)
- Supports multiple AI frameworks including TensorFlow, Caffe, and PaddlePaddle
- Compatible with various AI tools such as TensorRT and DeepStream SDK
- Supports 5G, 4G, and Wi-Fi
- Fanless design, supports wide temperature range of -10°C to 55°C,
- Wide voltage input range of DC 9 ~ 30V Rich I/O interfaces
- Supports wall-mounting and rail installation
- NexRTOS real-time system ready, offer jitter cycle 30 us, timer period 1 ms.
- IGH EtherCAT Master ready for IO, Servo, Motor accessing

Product Overview

Coeus 3821S is a fan box pc with NVIDIA® Jetson Orin™ NX module (Support Super Mode, 16GB: 157 Tops, 8GB:117 Tops). It is designed to run largest and complex AI models to solve problems such as natural language understanding, 3D perception, and multi-sensor fusion. For AMR development, NVIDIA have Issac ROS (ROS 2 Humble) SDK software stack. For real-time, our NexRTOS offer jitter cycle 30 us, time period 1 ms, plus IGH, we can help you to develop EtherCAT Master application and control Servo drive/motor & Distributed I/O in real time. This is a very ideal solution that can quickly produce artificial intelligence product prototypes and accelerate the time to market.

BSP Customization Service

- Bootloader for customize carrier board.
- Kernel driver fine-tune for new add peripherals, like USB device, Bluetooth, WIFI, etc.
- Kernel device tree modification.
- Kernel Customization by Installing Additional Packages/Repackaging Debian Packages.
- Upgrade to NexRTOS realtime OS for precise latency and Jitter enhance.
- Support IGH EtherCAT Master application for controlling Servo drive/motor & Distributed I/O

Specifications

CPU Support

- Jetson Orin NX 16GB Eight-Core - Ampere GPU + Arm Cortex-A78AE v8.2 64-bit CPU + 16 GB LPDDR5 (Super Mode: 157Tops)
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GPU Support

- 1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores

Main Memory

- 16G: 16GB 128-bit LPDDR5 102.4GB/s
- 8G: 8GB 128-bit LPDDR5 102.4GB/s

I/O Interface - Front

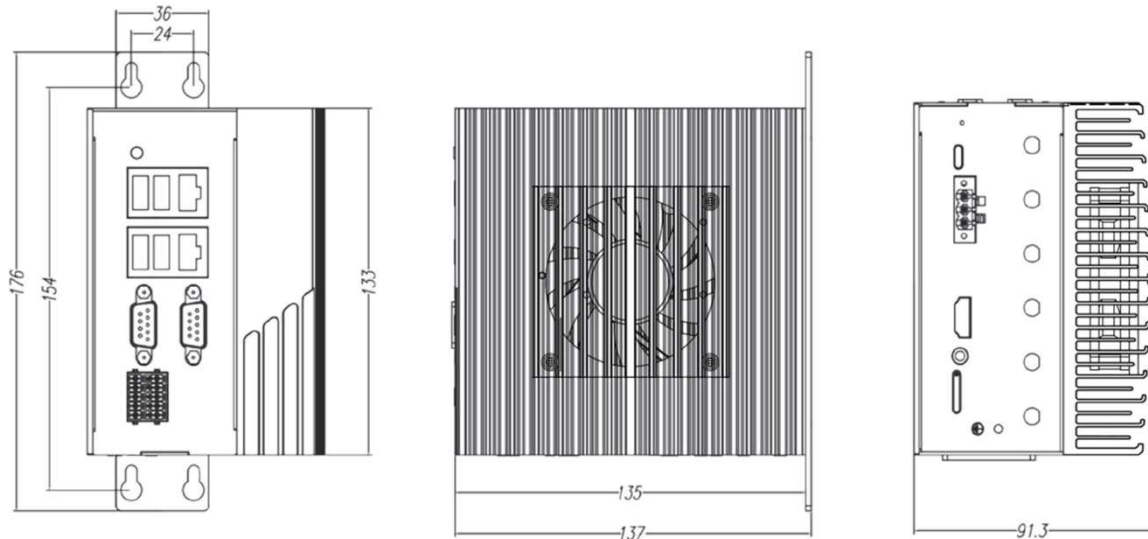
- 4 x USB3.0
- 2 x RJ45 LAN
 - 1x GbE from module
 - 1 x GbE from Intel® I210

- 1 x Power on/off switch
- 1 x GPIO (4 DI & 4DO)
- 2 x COM (1 x RS232/422/48S, 1 x RS232 via 1 x DB9)
- 1 x CAN bus via DB9

I/O Interface - Top

- 1 x HDMI
- 1 x Power connector
- 1 x OTG
- 1 x Recovery
- 1 x Ground screw hole
- 1 x Line Out
- 6 x Antenna holes
- 1 x SIM slot

Dimension Drawing



Expansion

- 1 x Micro SD
- 1 x M.2 E-Key 2230 (supports PCIe x1 /USB2.0 signal) for WIFI
- 1 x M.2 M-Key 2280 (supports PCIe x1 signal) for Storage
- 1 x M.2 B-Key 3042/3052 (support 4G/LTE/5G modules)
- 1 x miniPCIe Full-size slot with mSATA support

Dimensions

- System Dimension (WxDxH)
91.3 x 135 x 133 mm (91.3 x 137 x 176 with bracket)
- Carton Dimension (WxDxH)
320x 300 x 220 mm
- Net weight: 1.35 kg
- Gross weight: 2.45 kg

Construction

- Aluminum and metal chassis with smart fan design

Environment

- Operating temperature: Ambient with air flow: -10°C to 55° C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)

Certifications

- CE approval
 - EN61000-3-3
 - EN61000-3-2
- FCC
- LVD

OS Support

- Ubuntu 22.04, Kernel 5.15

Ordering Information

- **Coeus 3821S-16G +256GB SSD (P/N: 10JD3821S01XH)**
Nvidia Jetson Orin NX 16GB ,2xLAN,1xHDMI,1x Line out, 4xDI, 4xDO, 1xRS232, 1xRS232/422/48S, 1 x OTG & 256GB SSD /w Fan
- **Coeus 3821S-8G +256GB SSD (P/N: 10JD3821S02XH)**
Nvidia Jetson Orin NX 8GB ,2xLAN,1xHDMI,1x Line out, 4xDI, 4xDO, 1xRS232, 1xRS232/422/48S, 1 x OTG & 256GB SSD /w Fan
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 74000G0054X00)**