Vision Box AI

EMBEDDED GPGPU PLATFORM

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For a successful image processing application, not only a powerful CPU and GPU is important, but also image processing relevant interfaces. The VisionBox AI is a GPGPU computer that meets all requirements for practical use: It offers ports for GigE and Camera Link cameras, real-time capable IO (Real-Time Communication Controller) as well as an encoder interface to support incremental encoders. Especially for line scan and hyperspectral applications, Camera Link is still a powerful interface for real-time applications.

Key Features

- NVIDIA Jetson AGX Orin SoM
- Embedded system, fanless design
- Quad Gigabit Ethernet
- Camera Link interface
- Ubuntu based Linux
- Long-term availability
- Isolated digital IN / OUT
- RS-422 IN / OUT
- Camera Link trigger (CC)

Computing / Storage

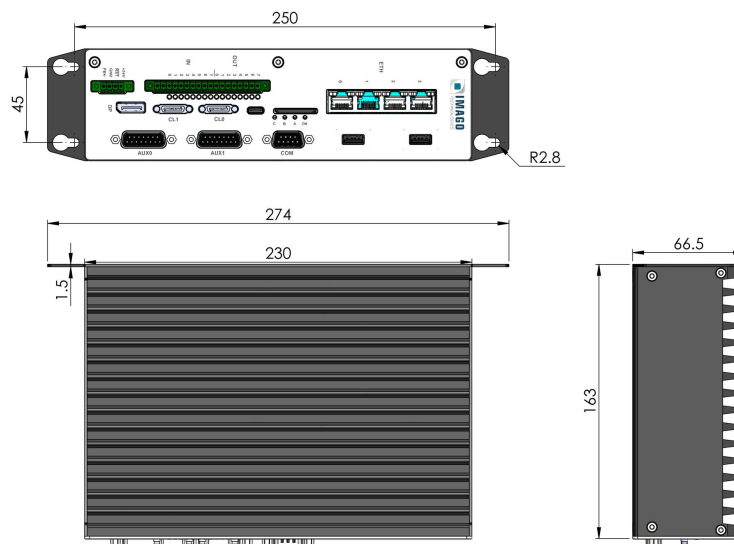| System-On-Module	Jetson AGX Orin 32GB	Jetson AGX Orin 64GB
Type	ARM Cortex-A78	ARM Cortex-A78
Processor Clock	8 x 2.2 GHz	12 x 2.2 GHz
Ampere-GPU Cores	1792 CUDA / 56 Tensor	2048 CUDA / 64 Tensor
AI Performance	200 TOPS (INT8)	275 TOPS (INT8)
DL Accelerator	2x NVDLA v2.0, 1.4 GHz	2x NVDLA v2.0, 1.6 GHz
Vision Accelerator	PVA v2.0	PVA v2.0
DDR RAM	32 GB, DDR5 204.8 GB/s	64 GB, DDR5 204.8 GB/s
Mass Storage	64 GB eMMC, M.2 for 2nd SSD prepared	64 GB eMMC, SD Card, M.2 SSD

Interfaces

Ethernet	4 x 1000 Mbit/s	5 x 1.000 Mbit/s (4x for GigE Vision Cameras)
Digital In/Out	8 x Input / 8 x Output	8 x Input / 8 x Output
Camera Link	2 x Base or 1 x Medium/Full/Deca (2 x SDR 26)	2 x Base or 1 x Medium/Full/Deca (2 x SDR 26)
RS-232	1 x	1 x
RS-422	6 × Input / 6 × Output (option)	-
USB 2.0	2 x USB-A 2.0	1 x USB-A 2.0
USB 3.2	1 x USB-C 3.2 Gen 2	1 x USB-C 3.2 Gen 2
DisplayPort	1 x	1 x
LED Strobe Controller	-	2 x

Mechanical / Electrical

Dimension L × W × D	230 mm × 164 mm × 67 mm	230 mm × 164 mm × 67 mm
Weight	2.2 Kg	2.2 Kg
Typical Power Consumption (CPU: 100% GPU: idle) (CPU: 100% GPU: 90%)	31 W 41 W	34 W 60 W
Power Supply Current Rating	2 A	3 A
Temperature Range	5°C … 45°C (Distance to heatsink > 50 mm)	5°C … 45°C (Distance to heatsink > 50 mm)
Power Supply	18 V … 30 V (DC)	18 V … 30 V (DC)
Mounting Plate	274 mm × 67 mm	274 mm × 67 mm
Mounting	4 × M5	4 × M5

Dimensional Drawing

The smartest embedded vision components

For more than 30 years, IMAGO has been supplying machine vision technology to machine builders to improve product quality, make processes smoother, avoid production errors, reduce manufacturing costs and make systems more efficient.

What we do
With the focus on what counts for our customers, we develop hardware components for industrial image processing. Be it in factory automation, the printing industry, for the food and beverage industry, pharmaceutical or logistics industry. IMAGO supplies vision systems, smart cameras, vision sensors and the appropriate software for the optimized use of our products. We pay special attention to miniaturization, high frame rates, increasing computing power and environmentally friendly power consumption. These characteristics already distunguish our products today.
And we are proud of them.