reComputer Industrial Series with NVIDIA® Jetson Orin™ NX/ Orin™ Nano/ Xavier NX Module

Powerful and Compact Intelligient Edge Box with Passive Heatsink Design

Hardware Feature

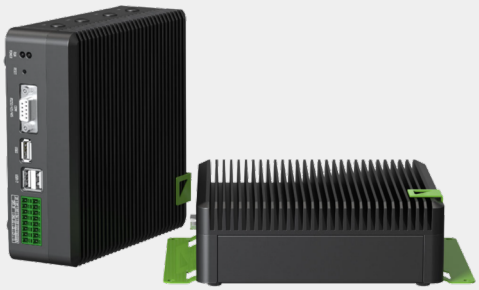
The reComputer Industrial series combines the NVIDIA Ampere™ GPU architecture and 64-bit operating capability to provide 20-100 TOPs modern AI performance at the edge based on different module choice, delivering up to 5x the performance of Jetson Xavier NX and up to 3X the performance of Jetson AGX Xavier. It is specifically designed with industry interfaces such as RJ-45 GbE, RS-232/RS-422/RS-485, DI/DO, CAN, USB3.2, and TPM2.0 (Module optional). The system is suitable for edge AI solutions in various industries, including smart cities, security, industrial automation, smart factories, and medical imaging.

Software Compatibility

The reComputer Industrial series come with pre-installed Jetpack 5.1 SDK, which includes CUDA-X accelerated libraries and other NVIDIA technologies. This provides a full development environment, including the Jetson Linux Driver package for the Linux kernel, bootloader, NVIDIA drivers, flashing utilities, sample filesystem, and toolchains. The software also includes security features, over-the-air update capabilities, and essential frameworks such as NVIDIA DeepStream SDK, NVIDIA TAO Toolkit, and NVIDIA Riva Speech AI applications for AI-based multi-sensor processing, model training acceleration, and speech recognition.

Support AI Platforms (continuing updating)

Intelligent Video Analytics	lumeo, CVEDIA
Computer Vision	ultralytics, alwaysAI
Sound AI	cochl.
Fleet management	AIXON
Cloud native deployment	aws, Microsoft Azure



reComputer Industrial J40 Orin NX

8GB 70 TOPS — 16GB 100 TOPS

reComputer Industrial J30 Orin Nano

4GB 20 TOPS — 8GB 40 TOPS

reComputer Industrial J20 Xavier NX

8GB 21 TOPS — 16GB 21 TOPS

reComputer Content

- reComputer Industrial x1
- Mounting bracket x2
- DIN rail bracket x1
- Bracket screw x4
- 16-Pin Terminal Block for DIO x1
- 19V Power adapter (power cord sold separately) x1
- 2-Pin Terminal block power connector x1

Interfaces

- 2x RJ-45 GbE (1 for POE-PSE 802.3 af)
- 1x RS-232/RS-422/RS-485
- 1x CAN
- 1x HDMI 2.0 Type A
- 3x USB3.2
- 2x CSI (2-lane 15pin)
- 1x TPM2.0 (Module optional)

reComputer Industrial Full System Series Specification Comparison

Product Name		reComputer Industrial J4012	reComputer Industrial J4011	reComputer Industrial J3011	reComputer Industrial J3010	reComputer Industrial J2012	reComputer Industrial J2011
NVIDIA Jetson Module		Orin NX 16GB	Orin NX 8GB	Orin Nano 8GB	Orin Nano 4GB	Xavier NX 16GB	Xavier NX 8GB
SKU		110110191	110110190	110110193	110110192	110110189	110110188
Processor System	AI Performance	100 TOPS	70 TOPS	40 TOPS	20 TOPS	21 TOPS	
	GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores		1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores	512-core NVIDIA Ampere architecture GPU with 16 Tensor Cores	384-core NVIDIA Volta™ GPU with 48 Tensor Cores	
	CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3		6-core NVIDIA Carmel ARM®v8.2 64-bit CPU, 6MB L2 + 4MB L3	
	Memory	16GB 128-bit LPDDR5 102.4GB/s	8GB 128-bit LPDDR5 102.4GB/s	8GB 128-bit LPDDR5 68 GB/s	4GB 64-bit LPDDR5 34 GB/s	16GB 128-bit LPDDR4x 59.7GB/s	8GB 128-bit LPDDR4x 59.7GB/s
	Video Encode	1*4K60 (H.265) | 3*4K30 (H.265) | 6*1080p60 (H.265) | 12*1080p30 (H.265)		1080p30 supported by 1-2 CPU cores		2*4K60 | 4*4K30 | 10*1080p60 | 22*1080p30 (H.265) 2*4K60 | 4*4K30 | 10*1080p60 | 20*108p30 (H.264)	
	Video Decode	1*8K30 (H.265) | 2*4K60 (H.265) | 4*4K30 (H.265) | 9*1080p60 (H.265) | 18*1080p30 (H.265)		1*4K60 (H.265) | 2*4K30 (H.265) | 5*1080p60 (H.265) | 11*1080p30 (H.265)		2*8K30 | 6*4K60 | 12*4K30 | 22*1080p60 | 44*1080p30 (H.265) 2*4K60 | 6*4K30 | 10*1080p60 | 22*1080p30 (H.264)	
Storage	eMMC	-	-	-	-	16GB eMMC 5.1	
	Expansion	M.2 Key M PCIe Gen4.0 SSD (M.2 NVMe 2280 SSD 128G included)					
I/O	Networking	1* LAN1 RJ45 GbE PoE(PSE 802.3 af 15 W)， 1* LAN2 RJ45 GbE (10/100/1000Mbps)					
	USB	3* USB3.2 Gen1, 1* USB2.0 Type C(Device mode), 1* USB2.0 Type C For Debug UART & RP2040					
	DI/DO	4*DI,4*DO,3*GND_DI,2*GND_DO,1*GND_ISO,1*CAN					
	COM	1* DB9 (RS232/RS422/RS485)					
	Display	1*HDMI 2.0 Type A					
	SIM	1* Nano SIM card slot					
Expansion	Mini PCIe	Mini PCIe for 4G/LoRaWAN® (Module optional)					
	Wi-Fi	Support SMD Wi-Fi/Bluetooth (Module optional)					
	M.2 Key B	M.2 Key B support 4G/5G (Module optional)					
	Fan	Fanless, passive heatsink, 1*Fan connectors(5V PWM)					
	TPM	1* TPM 2.0 connector (Module optional)					
	RTC	1* RTC socket (CR1220 included), 1* RTC 2-pin					
	Camera	2* CSI (2-lane 15pin)					
Power	Power Supply	DC 12V-24V Terminal block 2 pin					
	Power Adapter	19V Power Adapter(without power cord)					
Mechanical	Dimensions (W x D x H)	159mm*155mm*57mm					
	Weight	1.57kg					
	Installation	Desk, DIN rail, wall-mounting, VESA					
Environment	Operating Temperature	-20 ~ 60°C with 0.7m/s					
	Environment	95% @ 40 °C (non-condensing)					
	Vibration	3 Grms @ 5 ~ 500 Hz, random, 1 hr/axis					
	Shock	50G peak acceleration (11 msec)					
OS		Pre-installed latest Jetpack(provide Linux OS with board support package)					
Certification		FCC, CE, RoHS, UKCA					
Warranty		2 Years					

If you need any customized services, please contact us at https://www.seeedstudio.com/odm