

INDUSTRIAL PRODUCT DATASHEET

reComputer Rugged J3011 - Ruggedized IP66 Edge AI Computer with NVIDIA® Jetson Orin™ Nano 8GB

Ruggedized IP66 edge AI computer with NVIDIA® Jetson Orin™ Nano 8GB for harsh-environment autonomous vehicles and outdoor video analytics.

SKU

100002634

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PRICE

\$1299.00(Excl. VAT)



Overview



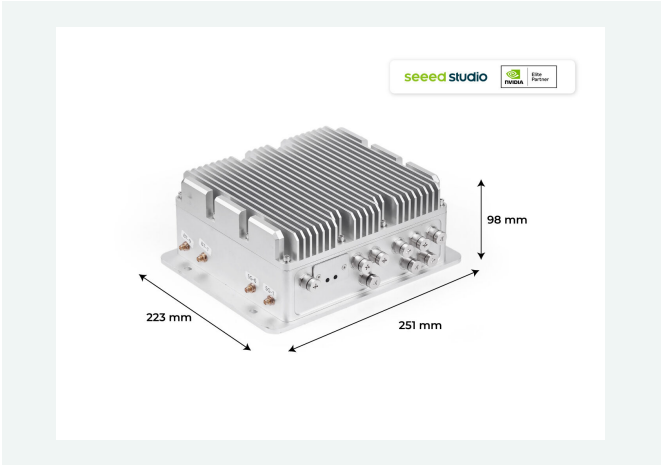
The reComputer Rugged J3011 is a ruggedized IP66 edge AI computer powered by the NVIDIA® Jetson Orin™ Nano 8GB, featuring lockable/waterproof M12 connectors and a wide operating range of -20°C to 60°C at 15W mode. It comes ready to use with JetPack 5.1.3 and a WiFi6 module, making it suitable for outdoor video analytics and autonomous logistics applications.

Key Features

- **Ruggedized Hardware Design:** Ruggedized edge AI computer with IP66 rating that can be deployed in harsh environment
- **Lockable and Waterproof connectors:** M12 for all interfaces (Ethernet (PSE), DI, DO, RS-232/422/485, and CAN), plus lockable/waterproof USB connectors.
- **Application and Benefit:** Ideal for rapid development of autonomous vehicles in harsh environments (AGV, AMR, trucks), accelerating time-to-market with ready-to-use interfaces and optimized AI frameworks.
- **Ready to Use:** Pre-installed with JetPack 5.1.3 and equipped with WiFi6 module.
- **Wide Operating Range:** Operates reliably across a temperature range of -20°C to 60°C at 15W mode

Product Gallery





Specification

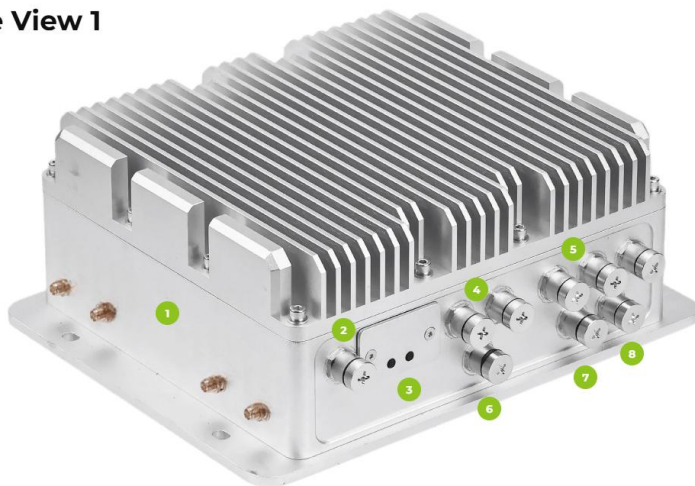
Module Specifications		
Product	reComputer Rugged J3011	
Module	NVIDIA Jetson Orin™ Nano 8GB	
AI Performance	Orin Nano 8GB – 40 TOPS	
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores	
GPU Max Frequency	625 MHz	
CPU	6-core Arm® Cortex®-A78AE	
CPU Max Frequency	1.5 GHz	
Memory	8GB 128-bit wide LPDDR5 DRAM (up to 68GB/s)	
Power	7W - 15W	
Video Encode	1080p30 supported by 1-2 CPU cores	
Video Decode	1x 4K60 (H.265) 2x 4K30 (H.265) 5x 1080p60 (H.265) 11x 1080p30 (H.265)	
Mechanical	69.6mm x 45mm 260-pin SO-DIMM connector	

Box Specifications		
Storage	1x M.2 KEY M PCIe (128G SSD included)	
Networking	M.2 KEY E	1x M.2 Key E for WiFi/Bluetooth module (WiFi Module Included)
	M.2 KEY B	1x M.2 Key B for 5G module
	SIM	1x Nano-SIM slot
	Ethernet	5x RJ-45 Gigabit Ethernet (4x PSE, all M12)

I/O	USB	4x USB 3.0 Type-A (5Gbps) 1x USB 3.0 Type-C (Recovery) 1x USB 2.0 Type-C (Debug)
	CAN	2x CAN (M12)
	Display	1x HDMI
	DI/DO	2x DI, 2x DO (M12)
	Serial	1x RS-232/422/485 (M12)
	RTC	1x RTC 2-pin 1x RTC Socket (CR1220 Battery Included)
	LED	2x LED (PWR, SSD)
	Button	1x Recovery 1x RESET
	Antenna Hole	4x Antenna Hole
Power	19-48V M12 A-code connector	
Jetpack Version	Jetpack 5.1.3	
Mechanical	Dimensions (W x D x H)	210mm*190mm*95mm (Bottom Panel is 250mm * 210mm)
	Weight	3.5kg
	Installation	Desk, Wall-mounting
Operating Temperature	-20°C~60°C (15W Mode)	
Warranty	2 Years	
Certification (Pending)	RoHS, CE, FCC	

Hardware Overview

Side View 1



- 1 Antenna x 4
- 2 DC 19~ 48 V
- 3 Reset and Recovery Button
USB Type-C x 2 (Debug+Recovery)
- 4 1 GbE x 1
- 5 1 GbE (PSE) x 4
- 6 CAN x 2
- 7 RS-232/422/485 x 1
- 8 DI x 2 DO x 2

Side View 2



- 1 Power LED
- 2 SSD LED
- 3 Vent Valve
- 4 USB 3.1 x 2
- 5 Display
- 6 USB 3.1 x 2

Applications

- **Outdoor video analytics:** For outdoor video analytics and monitoring, equipment must operate reliably outdoors despite constant exposure to UV radiation, moisture, temperature fluctuations, and mechanical vibration. With its IP66-rating enclosure, reComputer Rugged can be used in outdoor environments for such purposes. Paired with computing power of NVIDIA Jetson Orin modules, reComputer Rugged J30 is a powerful edge AI gateway for remote monitoring stations.
- **Autonomous Logistics:** Outdoor AMRs are increasingly deployed in urban and facility management environments to perform autonomous security patrols and last-mile delivery services. These multi-purpose robots are designed to navigate seamlessly through both indoor and outdoor environments. Therefore they need reComputer Rugged with NVIDIA® Jetson Orin™ as brain of AI-powered navigation systems that combine LiDAR, ultrasonic sensors, cameras, and GPS to map complex environments and avoid pedestrians, vehicles, and obstacles in real-time.

Part List

Jetson Orin™ Nano 8GB module	x1
Seeed Carrier Board (reComputer Rugged J401)	x1
128GB NVMe SSD	x1
Aluminum Case and Heatsink	x1
Waterproof USB Cable; Type A to Type A	x1
M12 A-code Power Cable	x1
M12 A-code 8-pin Cable	x1
M12 X-code to RJ45 Cable	x1
Terminal Block female	x1
Terminal Block male	x1
DC Power cable	x1
USB Type-C to Type-A Cable	x1
User Manual	x1

Compliance & Logistics

HSCODE	8471419000
USHSCODE	8517180050
UPC	
EUHSCODE	8471707000
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/reComputer-Rugged-J3011-p-6921.html>
- [User Manual & Datasheet](#)
- [Carrier Board Schematic](#)
- [PSE Board Schematic](#)
- [3D File](#)
- [Seeed NVIDIA Jetson Product Catalog](#)
- [Nvidia Jetson Comparison](#)
- [Seeed Nvidia Jetson Success Cases](#)
- [Seeed Jetson One Pager](#)

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