AICRAFT



EDGE COMPUTING HUB

NEO-1

Introducing the ultra-compact system companion for all artificial intelligence (AI) applications in a low-power, high-speed portable device.

This computing hub will deliver a powerful 140 TOPS peak, meeting the demands of many fielded systems with limited lift-off capacity, power or endurance.

Install custom libraries and use the software API to rapidly load and run AI models. Over 20 leading-edge AI frameworks are supported. The processor also supports various RTOS/ROS, useful for any real-time navigation while applying AI-inference on sensor data, all in one device.

Execute multiple neural networks in parallel and process high-resolution multi-sensor data simultaneously with four high-speed USB connectors.

With dual Ethernet ports, the device can simultaneously be networked and connected to other NEO-1 hubs and computing systems.

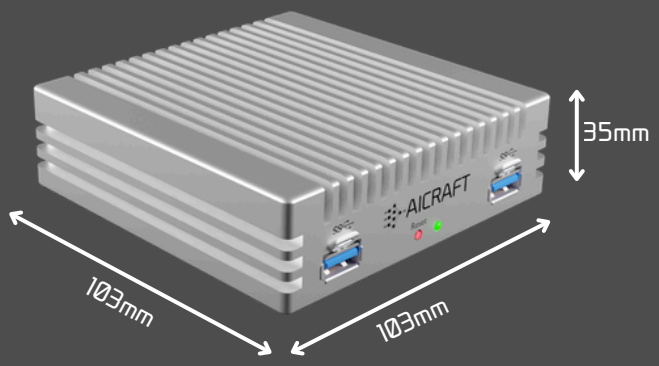
Product applications

- Autonomous surface vessels
- Drones
- Autonomous underwater vehicles
- Rovers
- Visual recognition & tracking
- Industrial inspection system
- Signal classification
- Smart IoT

More info
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Key benefits

- → Advanced AI performance
- → Ultra-compact size and lightweight
- → Granular configuration for maximum power saving
- → Usable with standard 5V mobile phone power bank
- → Wide operating temperature
- → Dual GbE and quad-USB for cameras and Lidar connectivity

Technical specifications

Computing performance	
Processor	Multi-core ARMv8, 64-bit operations
ML co-processor	140 TOPS peak performance
RAM	4 GB DDR4 SDRAM (up to 8 GB)
Storage	64 GB eMMC & 128 GB SSD
Interfaces	
USB	4x USB 3.0 Type-A
Ethernet	2x 1 Gbps (options: 2.5 Gbps, 10 Gbps)
20-pin female GPIO header	1x RS-422, 1x UART, 1x I2C, 1x SPI, 4x GPIO, 1x 3.3V
Networking	Real-time clock with leap year adjustment (up to 7 years)
Software	
Operating system	Custom Linux (Options: Yocto, ROS2, RTOS)
ML compiler	Supports common frameworks (e.g., Keras, Pytorch, Darknet)
Sensors	
Vibrations	3-axis lateral and 3-axis longitudinal
Temperature	Device, processor, co-processor
Power monitors	Device (total power), processor, co-processor
Properties	
Input voltage	5VDC
Power consumption	7W (nominal) up to 50W (maximum)
Mass	300g
Dimensions (L x W x H)	103mm x 103mm x 35mm (4.05” x 4.05” x 1.38”)
Operating temperature	-20°C to +70°C (-4°F to +158°F)