

UAV-N8RC

Ultra-Compact Rugged Edge AI Computer for UAV Applications

The UAV-N8RC is an ultra-compact rugged Edge AI computer engineered for UAV, UAS, and airborne payload applications where size, weight, and power are critical. Built around the NVIDIA® Jetson Orin™ Nano 8GB module, it delivers up to 67 TOPS in Super Mode for real-time AI inference, machine vision, and autonomous mission processing at the edge.

COMPACT. RUGGED. AUTONOMOUS.
MISSION READY.



EDGE AI
FOR A SAFER
TOMORROW

67 TOPS
AI performance in Super Mode

2× GMSL2
Camera inputs with PoC

9–60 VDC
Wide-range input

IP67
Sealed enclosure

Key Features

SMALLER | SMARTER | STRONGER

- NVIDIA® Jetson Orin™ Nano 8GB
- Up to 67 TOPS AI performance in Super Mode
- 1024-core NVIDIA Ampere GPU with 32 Tensor Cores
- 6-core Arm® Cortex®-A78AE 64-bit CPU
- 8GB LPDDR5 memory
- 2× GMSL2 camera inputs with Power-over-Coax
- 1× Gigabit Ethernet
- 2× USB 3.1 Gen 1
- CAN 2.0 / CAN-FD
- M.2 NVMe storage
- M.2 Key-E expansion for Wi-Fi / Bluetooth
- Wide-range 9–60 VDC input
- Fanless conduction-cooled sealed aluminum enclosure
- IP67 ingress protection

AI AT THE EDGE FOR REAL-WORLD MISSIONS

Technical Overview

ENGINEERED FOR DEMANDING ENVIRONMENTS

Compute	
AI Processor	NVIDIA® Jetson Orin™ Nano 8GB
AI Performance	Up to 67 TOPS (Super Mode)
GPU	1024-core NVIDIA Ampere GPU
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit
Memory	8GB 128-bit LPDDR5
Memory Bandwidth	Up to 102 GB/s

Camera & Video	
Camera Inputs	2× GMSL2 camera inputs
Camera Power	Power-over-Coax (PoC)
Video Interface	MIPI CSI-2 access to Jetson
Typical Cameras	EO, IR, thermal, navigation and machine-vision cameras

Storage & I/O	
Primary Storage	1× M.2 M-Key NVMe SSD
PCIe	4-lane PCIe Gen 4
Ethernet	1× 10/100/1000BASE-T
USB	2× USB 3.1 Gen 1
CAN	1× CAN 2.0 / CAN-FD
UART	1× debug UART
I²C	1× I²C bus
Optional I/O	GNSS / PPS / GPIO / RS-232 / RS-422 / RS-485

Power & Mechanical	
Input Voltage	9–60 VDC
Protections	Reverse polarity, OVP, UVP, OCP, SCP and transient protection
Overall Dimensions	Approx. 130 × 90 × 40 mm
Estimated System Weight	Approx. 650 g typical
Construction	CNC-machined aluminum
Cooling	Fanless conduction cooling

Environmental / EMC / Power Compliance

- MIL-STD-810H**
Shock, vibration, temperature, humidity
- DO-160H**
Airborne environmental conditions
- MIL-STD-461G**
EMC / EMI
- MIL-STD-704F**
Aircraft DC power
- IP67**
Ingress protection

Typical UAV Applications

- Small tactical UAVs
- Autonomous drones
- ISR payloads
- EO / IR payload processing
- Object tracking
- Terrain recognition
- Obstacle avoidance
- Autonomous landing
- Search and rescue

Configuration Options

- 256GB / 512GB / 1TB / 2TB NVMe
- Wi-Fi / Bluetooth
- GNSS / PPS
- RS-422 / RS-485
- Additional GPIO
- Rugged connector options
- Conformal coating
- Custom BSP / OS image

UAV-N8RC

TECHNICAL SPECIFICATIONS

SDK Embedded Systems Ltd.
Compact Edge AI for UAV Integration

RUGGED COMPUTING
FOR A SMARTER TOMORROW

ULTRA-COMPACT RUGGED EDGE AI COMPUTER

Optimized for UAV, UAS, loitering platform, and airborne payload applications where size, weight, and power are critical. The UAV-N8RC, powered by NVIDIA® Jetson Orin™ Nano 8GB, delivers up to 67 TOPS in Super Mode for real-time AI inference, machine vision, and autonomous mission processing at the edge.

**67 TOPS**
AI PERFORMANCE

**2× GMSL2**
CAMERA INPUTS

**9–60 VDC**
POWER INPUT

**IP67**
SEALED



COMPUTE

AI Processor	NVIDIA® Jetson Orin™ Nano 8GB
AI Performance	Up to 67 TOPS (Super Mode)
GPU	1024-core NVIDIA Ampere architecture GPU
Tensor Cores	32
CPU	6-core Arm Cortex-A78AE v8.2 64-bit
Memory	8GB 128-bit LPDDR5
Memory Bandwidth	Up to 102 GB/s in Super Mode
Reference Module Power	7W / 15W / 25W / MAXN SUPER, thermal design dependent
AI Software	NVIDIA JetPack, CUDA, TensorRT, DeepStream, OpenCV, ROS / ROS 2

CAMERA & VIDEO

GMSL2	2× GMSL2 camera inputs
Camera Power	Power-over-Coax (PoC)
Internal Video	MIPI CSI-2 access to Jetson
Typical Cameras	EO, IR, thermal, navigation and machine-vision cameras

STORAGE

Primary Storage	1× M.2 M-Key NVMe SSD
PCIe	4-lane PCIe Gen 4
SSD Format	M.2 2242
Standard Capacity	256GB or 512GB industrial NVMe
Options	1TB / 2TB

ENVIRONMENTAL / EMC / POWER

-  MIL-STD-810H — shock / vibration / temperature / humidity (designed to meet)
-  DO-160H — airborne environmental conditions (designed to meet)
-  MIL-STD-461G — EMC / EMI (designed to meet)
-  MIL-STD-704F — aircraft DC power (designed to meet)
-  IP67 ingress protection

NETWORK & I/O

Ethernet	1× 10/100/1000BASE-T
USB	2× USB 3.1 Gen 1
CAN	1× CAN 2.0 / CAN-FD
UART	1× debug UART
I²C	1× I²C bus
Expansion	1× M.2 Key-E, PCIe Gen 3 + USB 2.0
Wireless	Wi-Fi / Bluetooth optional
Optional External I/O	GNSS / PPS, GPIO, RS-232 / RS-422 / RS-485

POWER

Input Voltage	9–60 VDC
Typical UAV Bus	12V / 24V / 28V / 48V
Power Conditioning	Integrated wide-range regulated power stage
Protection	Reverse polarity, OVP, UVP, OCP, SCP and transient protection
Aircraft Power	Designed to meet MIL-STD-704F

MECHANICAL

Construction	CNC-machined aluminum
Cooling	Fanless conduction cooling
Ingress Protection	IP67
Mounting	4-point UAV / airborne payload mounting
Overall Dimensions	Approx. 130 × 90 × 40 mm
Estimated System Weight	Approx. 650 g typical
Weight Range	Approx. 600–720 g, configuration dependent
Finish	Black anodized aluminum

TYPICAL UAV APPLICATIONS

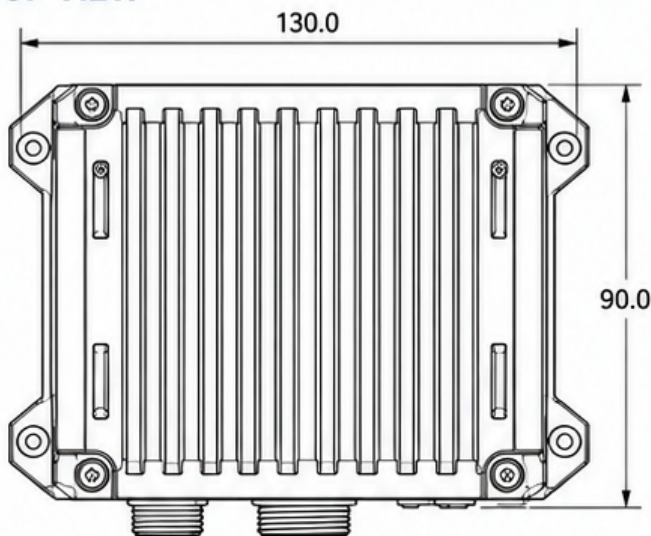
-  Small tactical / battery-powered UAVs
-  ISR and EO/IR payload processing
-  Real-time object detection & tracking
-  Visual navigation / terrain recognition
-  Obstacle avoidance / autonomous landing

UAV-N8RC

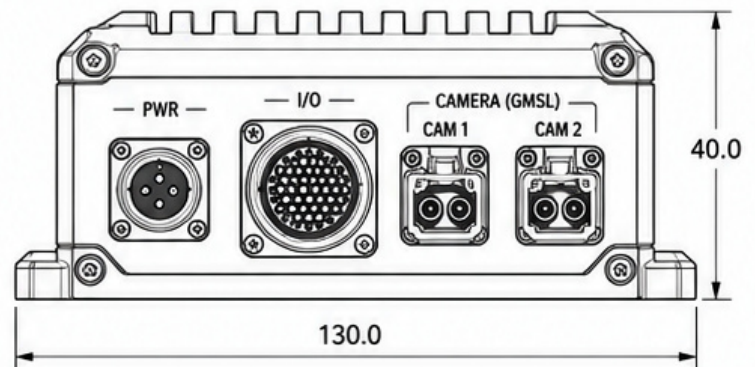
Mechanical Drawing

SDK
Embedded Systems Ltd.

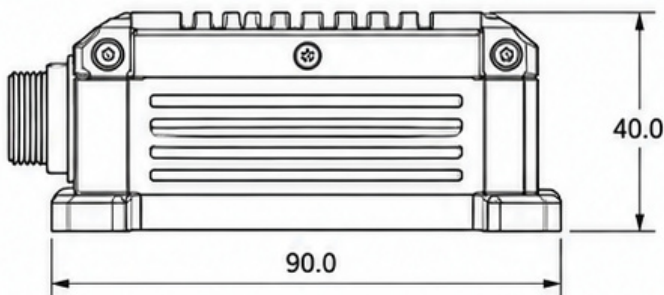
TOP VIEW



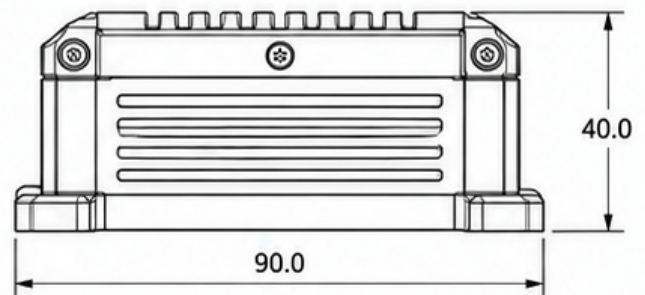
FRONT VIEW (CONNECTORS)



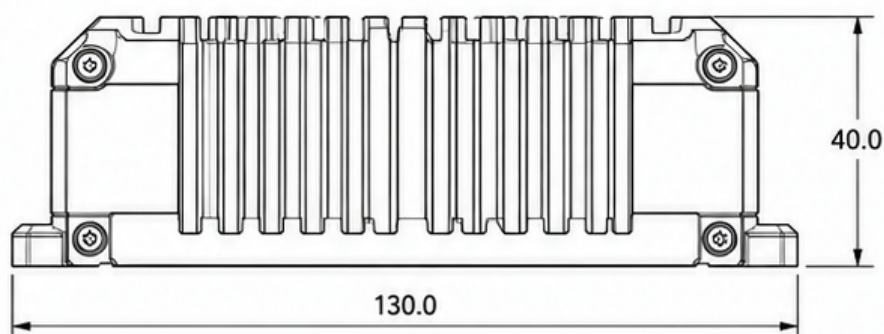
SIDE VIEW (LEFT)



SIDE VIEW (RIGHT)



REAR VIEW



Units: mm

DIMENSIONS

130 × 90 × 40 mm

EST. WEIGHT

~650 g typical

CONSTRUCTION

CNC aluminum / IP67

UAV-N8RC | Compact Edge AI for UAV Applications

Specifications subject to change without notice.