

EDGE AI COMPUTER DEDICATED FOR UAV APPLICATIONS

LIGHTWEIGHT | RUGGED | MISSION READY

REAL-TIME AI AT THE EDGE
OPTIMIZED FOR SWaP

BUILT
FOR
WHAT
FLIES
NEXT



NVIDIA® Jetson Orin NX 16GB
Up to 157 TOPS



Lightweight Optimized Chassis
Approx. 1.0 kg Class



IP67 Two-Part Enclosure
Water | Dust | Harsh Environments



Fanless Conduction Cooling
Quiet | Reliable | No Moving Parts



Dual Camera Interfaces
CAM 1 | CAM 2



9-36 VDC Input
Wide Voltage for UAV Platforms



Designed to Meet
MIL-STD-810H | MIL-STD-461G
MIL-STD-704F | DO-160H



FRONT VIEW

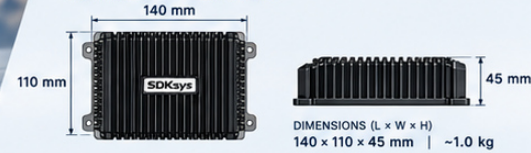


REAR VIEW



SIDE VIEW

COMPACT. CAPABLE.



DIMENSIONS (L x W x H)

140 x 110 x 45 mm | ~1.0 kg



≤ 1.0 kg
LIGHTWEIGHT
DESIGN



FANLESS
CONDUCTION
COOLING



IP67
WATER | DUST
PROTECTION



MIL-STD-810H
ENVIRONMENTAL



MIL-STD-461G
EMC / EMI



MIL-STD-704F
POWER INPUT



DO-160H
AIRBORNE
APPLICATIONS



OPTIMIZED
FOR SWaP

ENABLING
AUTONOMOUS
INTELLIGENCE
IN THE SKIES

UAVNX16-100R

LIGHTWEIGHT RUGGED EDGE AI COMPUTER - DEDICATED FOR UAV APPLICATIONS

UAVNX16-100R is a compact, fanless Edge AI computer optimized for onboard UAV, UAS and autonomous airborne payloads. Powered by NVIDIA Jetson Orin NX 16GB, it delivers up to 157 TOPS for real-time computer vision, inference, sensor fusion and payload processing at the tactical edge.

157 TOPS

Peak AI performance

≤ 1.0 kg

Lightweight target

IP67

Two-part sealed enclosure

140 x 110 x 45 mm

Compact SWaP footprint

KEY FEATURES

- NVIDIA Jetson Orin NX 16GB with up to 157 TOPS AI performance
- 16GB LPDDR5 memory, up to 102 GB/s memory bandwidth
- 1 x Gigabit Ethernet, 2 x USB 3.1 Gen 1, CAN 2.0 / CAN-FD
- Fanless conduction-cooled CNC-machined aluminum chassis
- Operating temperature target: -40 C to +70 C, configuration dependent
- 1024-core NVIDIA Ampere GPU, 32 Tensor Cores, 8-core Arm Cortex-A78AE CPU
- 2 x GMSL2 camera channels with Power-over-Coax (PoC)
- Industrial NVMe storage with 256GB / 512GB / 1TB / 2TB options
- 9-36 VDC product input; power protection and transient suppression
- Designed to meet MIL-STD-810H, MIL-STD-461G, MIL-STD-704F and applicable DO-160H sections

COMPUTE

AI Processor	NVIDIA Jetson Orin NX 16GB
AI Performance	Up to 157 TOPS (MAXN SUPER)
GPU	1024-core NVIDIA Ampere architecture GPU
Tensor Cores	32
CPU	8-core Arm Cortex-A78AE v8.2 64-bit
Memory	16GB LPDDR5
Memory Bandwidth	Up to 102 GB/s
AI Software	NVIDIA JetPack, CUDA, TensorRT, cuDNN, DeepStream, OpenCV, ROS / ROS 2

CAMERA & VIDEO INTERFACES

Camera Channels	2 x GMSL2; (*Optional MIPI CSI-2,GigE Vision / Ethernet)
Camera Power	Power-over-Coax (PoC)
Internal Video Interface	MIPI CSI-2 access to Jetson
Typical Cameras	EO, IR, thermal, navigation and machine-vision cameras

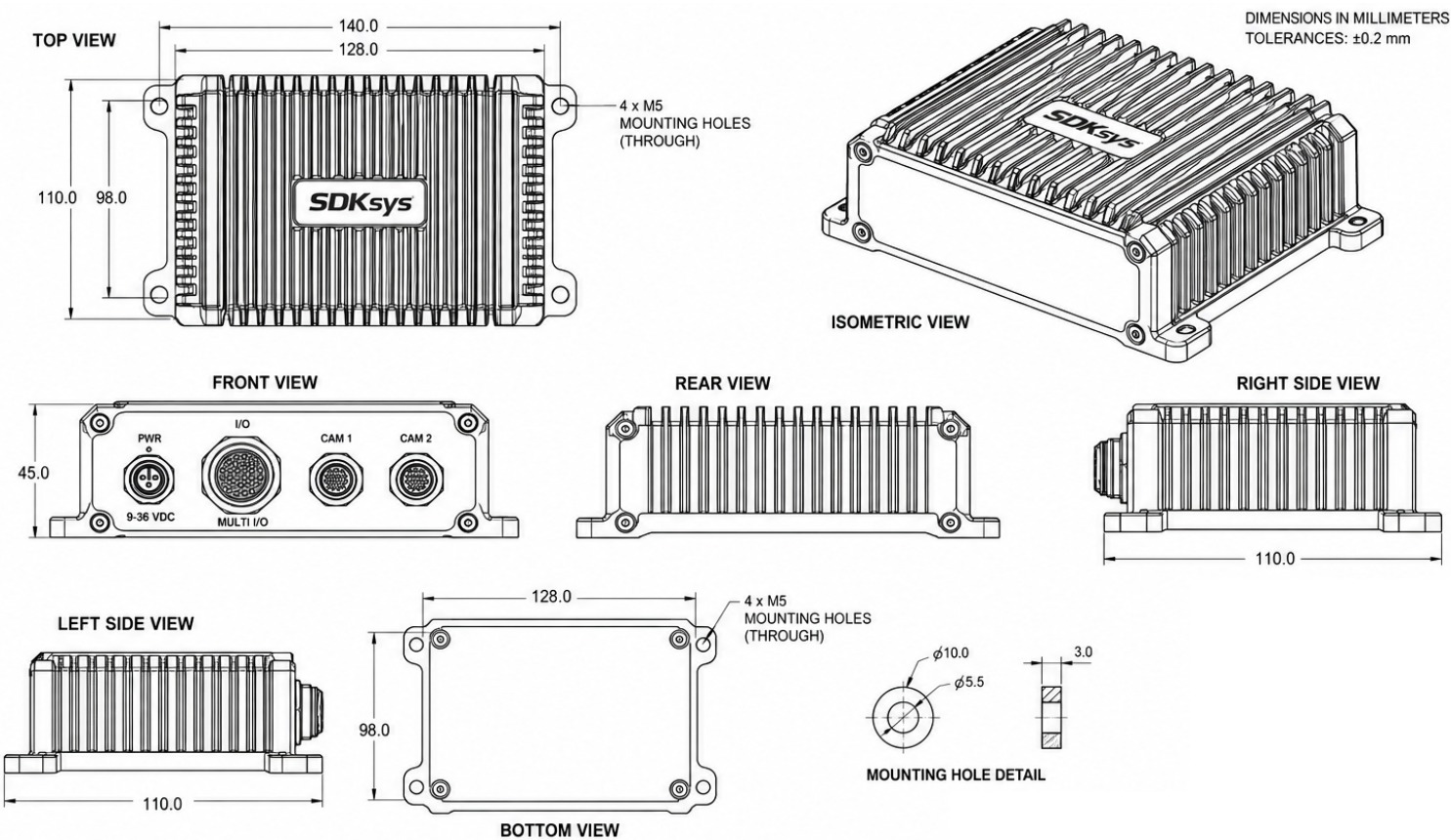
STORAGE

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

NETWORK & I/O

Ethernet	1 x 10/100/1000BASE-T
USB	2 x USB 3.1 Gen 1
CAN	1 x CAN 2.0 / CAN-FD
UART	1 x debug UART
I2C	1 x I2C bus
Expansion	1 x 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

MECHANICAL DESIGN



Construction	CNC-machined aluminum alloy 6061-T6
Finish	Black anodized, MIL-A-8625 Type II style finish
Enclosure	Two-part top/bottom housing optimized for IP67 sealing
Cooling	Fanless conduction cooling with top, side and rear heat-dissipation fins
Dimensions	140 x 110 x 45 mm
Target Weight	<= 1.0 kg, configuration dependent
Mounting	4 x mounting provisions / M5 through-hole design shown

ENVIRONMENTAL / EMC / POWER

Ingress Protection	IP67
Operating Temperature	-40 C to +70 C target, configuration dependent
Shock / Vibration / Temperature / Humidity	Designed to meet MIL-STD-810H
EMC / EMI	Designed to meet MIL-STD-461G
Aircraft DC Power	Designed to meet MIL-STD-704F
Airborne Environmental Conditions	Designed to meet applicable DO-160H sections

POWER

Input Voltage	9-36 VDC product input
Typical UAV Bus	12 V / 24 V / 28 V nominal systems
Power Conditioning	Integrated regulated power stage
Protection	Reverse polarity, OVP, UVP, OCP, SCP and transient protection
Aircraft Power	Designed to meet MIL-STD-704F

TYPICAL UAV APPLICATIONS

- Onboard AI processing
- Object detection and classification
- Sensor fusion
- Obstacle avoidance
- ISR payload processing
- Mapping / photogrammetry
- Border / perimeter surveillance
- EO / IR image processing
- Multi-object tracking
- Autonomous navigation
- Visual navigation
- Real-time video analytics
- Search and rescue
- UAV swarm edge-processing nodes

CONFIGURATION OPTIONS

- 256GB / 1TB / 2TB NVMe
- Wi-Fi / Bluetooth
- RS-422 / RS-485
- Micro-D / Nano-D option
- Conformal coating
- Customer-specific harness
- SSD
- GNSS / PPS
- Additional GPIO
- Custom aircraft power input
- Custom thermal solution
- Custom BSP / OS image

ORDERING INFORMATION

UAVNX16-100R

Standard configuration: Jetson Orin NX 16GB / 512GB industrial NVMe / 2 x camera channels / rugged I/O / 9-36 VDC

Custom storage, I/O, coating, harness and software configurations available for project requirements.

NOTE:

Weight and thermal performance depend on final connector, storage, power-conditioning and coating configuration.