

Preliminary



Torvex

Part: Torvex | **Platform:** NVIDIA Jetson Orin AGX

Sealevel System's Torvex AI Computer is a powerful, rugged AI system built around the NVIDIA Jetson Orin AGX Industrial module that is fully compatible with both AGX Orin 32GB and 64GB variants. With a compact 200mm x 250mm x 100mm footprint and a weight of approximately 7kg, this system is engineered for maximum reliability in extreme environments, supporting a wide 11-36VDC input range and operating temperature from -40°C to 60°C, with -40°C to 71°C as a target for extended applications.

The Torvex AI Computer features high-performance I/O and expansion capabilities, including PCIe Gen 4 and Gen 3 M.2 slots for storage and SDI capture, multiple Ethernet ports (up to 10Gbe), and advanced wireless options with support for Wi-Fi 6E and Wi-Fi 7. This system offers extensive connectivity such as USB 3.1 Gen 2, isolated serial console, RS232/422/485, CAN bus, optically isolated inputs, and dry contact digital inputs, all housed in a rugged, IP67-rated enclosure with IP68-rated military connectors for uncompromised durability. It provides DisplayPort 1.4 video output, a galvanically isolated power supply, and accessible cable mounted controls for power, reset, and recovery.

The Torvex AI Computer system is designed for mission-critical deployments with compliance to MIL-STD-461G, MIL-STD-810G, DO-160G, MIL-STD-1275E, ISO IEC 60529:2013, FCC Class A, and CE standards, and supports Red Hat and Ubuntu 22.04 operating systems with a path to Ubuntu 24.04 and Jetpack 7, ensuring both performance and regulatory peace of mind for the most demanding applications.

Features & Specifications

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Features

- 1x M.2 M-key 2280 Slot PCIe Gen 4 x4 (Provisions for 2280 and 2230)
 - SSD Mass Storage
- 1x M.2 M-key 2280 Slot PCIe Gen 3 x4 (Provisions for 2280 and 2230)
 - SDI capture card capable of 4x 3G SDI cameras
 - (Optional) Mass storage device
- 2x 2.5GbE Ports
- 1x 1GbE Port
- 1x 10GbE Port
- 1x M.2 E Key for Wireless capability (Wi-Fi 6E, Wi-Fi 7)
- 3x USB 3.1 Gen 2 Ports
 - 2x USB Type A Pinset
 - 1x USB Type A with USB recovery mode support
- 1x Isolated USB Serial console for headless access in Linux
 - Type B pinout
- 2x RS232/RS422/RS485 Ports with full modem control
- 8x Digital inputs that are dry contact, switch-sensing inputs that are internally biased with 5VDC
- 4x Optically isolated inputs with 1000VDC isolation to ground
- 2x Can Bus Networks
- 1x Display Port 1.4 Port
- 11-36VDC military rated galvanically isolated power supply
- 1x Momentary soft-on/soft-off power button on a sealed connector
- 1x Momentary reset button on a sealed connector
- 1x Momentary button to access recovery mode on a sealed connector
- IP67-Rated Enclosure
- IP68-rated military round connectors
- Red Hat or Ubuntu 22.04
- Jetpack 6.2.1 with Jetpack 7 support (support for Ubuntu 24.04)
- Compatible with the AGX Orin 32GB and the AGX Orin 64GB

Certifications (Pending)

- MIL-STD-461G
- DO-160G
- MIL-STD-810G
- ISO IEC 60529:2013
- MIL-STD-1275E
- FCC Class A
- CE

Specifications

Dimensions	200mm x 250mm x 100mm (~7kg)
Humidity Range	10 – 90% Relative Humidity Non-Condensing
Operating Temperature	-40°C to 60°C (-40°C to 71°C for extended applications)
Power Requirement	11-36VDC
Storage Temperature	-40°C to 85°C

