MILAXON 4000

13th Gen Intel® Core™ i7/i5 Processor (Raptor Lake-P)
Up to 14 Cores with AI Acceleration for Mission-Critical Performance

- Up to 14-core 13th Gen Intel® Core™ i7/i5 Processor (Raptor Lake-P)
- 2 DDR5 RAM up to 96GB
- Fanless -25°C to 70°C Operating Temperature
- Up to 6 LAN including 2 2.5G and (optional) 4 PoE+ with TSN Support
- Dual Front-access 2.5" SSD/HDD Trays with RAID 0/1 Support
- CMOS battery access for easy field maintenance
- 9V to 50V Redundant DC-in, 16-Mode Software Ignition Control
- Supports Intel® vPro, TCC, Time-Sensitive Networking (TSN), and TPM 2.0
- 3 USB 3.2 Gen 2 (incl. 1x USB-C), 2x COM, 2x USB 2.0
- Supports 4 Independent Displays, up to 4K resolution

AI-Optimized Processing | Rugged I/O Versatility
Marine-Grade Reliability | Intelligent System Control

The Rugged Science MILAXON4000 is a military-grade embedded computer built for naval systems, mobile command platforms, and mission-critical edge deployments. Designed for durability in extreme maritime and industrial environments, it features a 13th Gen Intel® Core™ i7/i5 processor with up to 14 cores, integrated AI acceleration, and support for up to 96GB of high-speed DDR5 memory. With redundant power input, TPM 2.0, Intel® vPro, and TSN capabilities, it offers secure, high-performance computing at the edge.

The MILAXON4000 delivers exceptional I/O and expansion flexibility with up to six LAN ports (including 2x 2.5G with TSN and 4x PoE+), dual front-access 2.5" SSD trays with RAID 0/1, and internal M.2 slots for additional storage and wireless communication modules. Display output includes HDMI and DisplayPort, supporting up to 4 independent 4K displays. Its rugged, fanless design ensures silent, reliable operation from -25°C to +70°C. Ideal for AI edge processing, sensor fusion, or advanced communications, the MILAXON4000 is configurable to meet a wide range of defense and industrial applications. Contact Rugged Science for custom configurations.

www.ruggedscience.com | sales@ruggedscience.com | (443) 595-8384

RUGGED SCIENCE

Specifications

System

Processor	- 10-core 13th Gen Intel® Core™ i7-1365UE Processor (Raptor Lake-P) - 10-core 13th Gen Intel® Core™ i5-1345UE Processor (Raptor Lake-P)
Chipset	Intel® SoC
BIOS	AMI
SIO	IT8786E
Memory	2 DDR4 RAM up to 96GB
OS	Windows 11, Windows 10, Linux

I/O Interface

Serial	2 COM RS-232/422/485
USB	- 2 USB 3.2 Gen2 Type-A - 1 USB 3.2 Gen 2x2 Type-C, support DP 1.4a - 2 USB 2.0 Type-A
Isolated DIO	16 Isolated GPIO : 8 DI, 8 DO
Display	- 2 DisplayPort 1.4a : Up to 3840 x 2160 @60Hz - 1 DisplayPort 1.4a : Up to 3840 x 2160 @60Hz by USB Type-C - 1 HDMI2.0 : Up to 3840 x 2160 @60Hz
LED	Power, HDD, PoE

Expansion

M.2	- 1 M.2 Key B Socket (2280/3052, PCIe x2/USB 3 Default) - 1 M.2 Key E Socket (2230, PCIe x1)

Storage

SATA	2 SATA III (6Gbps) support software RAID 0, 1 - 2.5" SSD/HDD internal bracket - 2 Front-access 2.5"" SSD/HDD Tray
M.2	1 M.2 Key M Socket (2280, PCIe x4)

Audio

Audio Codec	Realtek® ALC888S-VD, 7.1 Channel HD Audio
Audio Interface	1 Mic-in, 1 Line-out

Ethernet

LAN 1	Intel® I226 2.5GigE LAN supports TSN
LAN 2	Intel® I226 2.5GigE LAN supports TSN

PoE (Optional)

LAN 3	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350
LAN 4	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350
LAN 5	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350
LAN 6	GigE IEEE 802.3at (25.5W/48V) PoE+ by Intel® I350

Reminder : PoE power budget supports up to 25.5W/each, total 35W.

Power

Power Input 1	DC 9V to 50V, Redundant Power Input
Power Input 2	DC 9V to 50V, Redundant Power Input
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Ignition Control	16-mode Software Ignition Control
Remote Switch	3-pin Terminal Block

Others

TPM	Infineon SLB9672 supports TPM 2.0, SPI Interface
Watchdog Timer	Reset : 1 to 255 sec./min. per step
HW Monitor	Monitoring temperature, voltages. Auto throttling control when CPU overheats.

Mechanical

Dimensions	10.1" x 5.5" 1.9"
Weight	4.4lb

Environment

Operating Temperature	-25°C to 70°C (-13°F to 158°F) with air flow
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% @75°C
Vibration	Designed to meet MIL-DTL-167-1 integrated into various enclosures
Shock	Designed to meet MIL-DTL-901E integrated into various enclosures
EMC	Designed to meet MIL-STD-461 integrated into various enclosures

*Environmental ratings for base system only.

Dimensions & Drawing

Unit : inch