GAP-251R-S8-SOLO

2U Rugged Edge Server- Rear I/O & Rear Power supply

Single Socket 5th/4th Gen Intel® Xeon® Scalable Processors





GAP is a product family of Rugged aluminium Servers and Workstations designed for Edge applications that require a robust MIL-GRADE certified computing platform, suitable for operations in critical environments.

2U	510 MM	1	2TB	UP TO 9	4
PLATFORM	DEPTH	CPU	RAM	HOT SWAP SSD	I/O BOARDS

GAP-251R-S8-SOLO Rugged Edge Servers are powered by single-socket 5th Gen Intel® Xeon® / 4th Gen Intel® Xeon® Scalable Processors renowned for their robust architecture with enhanced AI acceleration and advanced security capabilities. Offering improved performance and efficiency, these servers are tailored to meet the demanding requirements of modern computing environments at the Edge.
The integrated IPMI services support monitoring, control, and management functions, sending alarm notifications in case of critical events.

GAP-251R-S8-SOLO are designed for 19" rackmounting and have a 2U chassis with a total overall lenght of 540mm. Notably, the 19" front brackets of the chassis are strategically positioned in a backward orientation, reducing the required cabinet space to just 510mm once fully installed.
The rear I/O and rear power supply layout offers versatile storage options, including support for an on board M.2 NVME SSD and either up to three 2.5" SAS SSD or six U.2 NVMe SSD or nine 2.5" SATA removable SSD. An internal tray can host an additional 2.5" NVME / SATA / SAS SSD. Moreover GAP-251R-S7-SOLO can accommodate up to two full-height, double-width, full-length PCIe cards and two low-profile cards.

Additional boards can be provided with a dedicated retainer kit for an optimal protection against shocks and vibrations also during transport.

Built to meet MIL-STD-810F standards for temperature and shock resistance, as well as MIL-STD-167-1A standards for vibration tolerance, GAP Rugged Edge Servers ensure reliable operation under the challenging conditions often found at the Edge. Additionally, they can optionally be configured to comply with MIL-STD-461 standards for EMI/EMC, featuring MIL-grade connectors for either the power input or both the I/O connectors and power supply inputs.

All units are shipped with an inventory list to guarantee configuration control and reproducibility over time. Additionally, upon request, all server configurations can undergo specific thermal or mechanical environmental stress tests.

Technical Specifications

System

CPU	5th Gen Intel® Xeon® / 4th Gen Intel® Xeon® Scalable processors, Single Socket LGA-4677 (Socket E) supported, CPU TDP Up to 270W TDP
Memory	Up to 2TB ECC RDIMM, DDR5-4800MT/s in 8 DIMM slots
Chipset	Intel® C741
Graphics	1 Aspeed AST2600 BMC port
Network Connectivity	1x Dedicated IPMI LAN port 2x 10GbE with RJ45 connectors
Storage	On Board: 1x M.2 NVMe; M-Key, 2280/22110 2x SATA Disk on Module Internal: Up to 1x 2.5" NVMe U.2 / SATA / SAS Removable: Up to 3x 2.5" SAS SSD or Up to 6x U.2 NVMe SSD or Up to 9x 2.5" SATA SSD
TPM	1x TPM Header
Motherboard I/O shield	1x VGA, 2x USB 3.2, 2x USB 2.0, 2x 10GbE, 1x IPMI, 1x COM (available on the rear panel)
Expansion slots	2x PCIe 5.0 x16 slots, FHFL 2x PCIe 5.0 x8 slots, LP
Operative Systems	Windows® 11 IoT Enterprise, Windows® 10 IoT Enterprise LTSC, Windows® Server 2022, Windows® Server 2019, Linux
IPMI	IPMI2.0, SPM, Watchdog; SNMP and e-mail alarms and notifications
Remote Monitoring	Monitoring, control, and management functions (fan speed, temperature, voltage, redundant power failure, power consumption, disk health, RAID health, and memory health)

Power Supply

Power Supply	AC or DC Redundant Power Supply - Optional AC Single

Mechanical

Dimensions	483 x 88 x 510 mm 540 mm full depth (W x H x D)
Material	Aluminum with surface passivation treatment
Colour	Black / RAL 9005 - Powder Coating
Mounting	2U 19" rackmount chassis Optional Telescopic slides
Configuration	Rear I/O - Rear Power Supply
Front Panel Leds / Buttons / Connectors	Power On/Off button with LED Reset button with LED 2x USB 3.0
Fans	3x internal PWM fans

Environmental - (Design to meet)

Operating Temperatures	0°C to +50°C MIL-STD-810H, Method 501.7 & 502.7 -20°C to +60°C (depending on configuration)
Storage Temperature	-40°C to +70°C MIL-STD-810H, Method 501.7 & 502.7
Humidity	5% – 95% non-condensing MIL-STD-810H 507.6
Operating Vibrations	MIL-STD-167-1A, Type I
Not Operating Vibrations	1.17 Grms, 5-500 Hz MIL-STD-810H, Method 514.8
Operating Shocks	20g / 11ms – half sine MIL-STD-810G, Method 516.7
EMC	Directive 2014/35/UE-LVD | Directive 2014/30/UE-EMC | Directive 2011/65/UE - RoHS Regulation EC No 1907/2006 | MIL-STD-461G (on request)

GAP servers and workstations are designed in accordance with the environmental specifications indicated.
Some parameters depend on the configuration. Equipment may be subjected to dedicated test profiles.