

KAYTUS

KR1280V2 Series

Powered by Intel Processors
Perfect Combination
of Computing Density and Scalability



Product Overview

The KR1280V2 series maximizes the performance, computing density, and scalability in a 1U space and is suitable for a variety of computing-intensive service scenarios such as high-performance computing and virtualization. With rich storage matrices, the KR1280V2 meets the needs of scalability and network balance to the greatest extent. It also satisfies the low-PUE needs of more high-density data centers by integrating multi-dimensional cooling solutions such as air cooling, cold plate cooling, and immersion cooling in the 1U models.

Applicable Models

Product Model	I/O	Cooling
KR1280-X2-A0-R0-00	Rear	Air cooling
KR1280-X2-A0-F0-00	Front	Air cooling
KR1280-X2-C0-R0-00	Rear	Cold plate cooling
KR1280-X2-M0-U0-00	Up	Immersion cooling

Features

■ Excellent performance and high efficiency

- > Built on the 4th Gen Intel® Xeon® Scalable processors, the KR1280V2 series supports up to 60 cores and 120 threads per CPU with a TDP of up to 350 W and a max Turbo frequency of 4.2 GHz through 4 UPI links at 16 GT/s.
- > Supports up to 32 DDR5 ECC DIMMs (4,800 MT/s, RDIMMs) to deliver high speeds and superior availability.

■ Flexible configurations and outstanding scalability

- > The KR1280V2 series supports up to 12 2.5-inch SAS/SATA/NVMe drives or 32 E1.S SSDs at the front, and up to 2 2.5-inch SAS/SATA drives at the rear (refer to the specific configurations).
- > Supports PCIe 5.0/4.0, up to 2 optional hot-swappable OCP 3.0, and provides 1 Gb, 10 Gb, 25 Gb, 40 Gb, 100 Gb, 200 Gb, and 400 Gb network interfaces.
- > With Compute Express Link (CXL), an open-source and standard cache-coherent interconnect protocol, and E3.S storage medium, the KR1280V2 provides caching media in addition to traditional DIMMs to meet the core needs of large-capacity cache services.

■ Security, reliability, and smart O&M

- > The front I/O design enables O&M personnel to operate in the cold aisle, which simplifies O&M operations, extends the service life of thermo-sensitive components such as optical modules and smart NICs, and improves data stability.
- > The redundancy design of core components, such as the BIOS and BMC, ensures that the system can start by switching to the standby flash, ensure that the system can start by switching to the standby chip, and supports the online upgrade of the BMC without suspending services, thus guaranteeing service continuity.

■ High efficiency, carbon emission reduction, and energy conservation

- > Supports cold plate cooling and immersion cooling, and provides comprehensive liquid-cooling solutions for data centers. With full-stack liquid-cooling capabilities, the KR1280V2 series can drop the PUE of data centers to below 1.1.
- > By working with unique zonal intelligent control technology, the KR1280V2 series can adjust the fan speed intelligently based on the power consumption of components in different air ducts, eliminating temperature transmission delays and realizing energy-saving fan speed regulation and accurate air supply.
- > With the focus on environmental protection, key components of the series meet the lead-free requirements (RoHS), and all packaging and packing materials are recyclable.

Specifications

Item	Description								
Form Factor	1U rack server								
Processor	Up to two 4 th Gen Intel® Xeon® Scalable processors Up to 60 cores, with a max Turbo frequency of 4.2 GHz 4 UPI links per CPU and up to 16 GT/s per link TDP up to 350 W								
Chipset	Intel Emmitsburg								
Memory	Up to 32 DDR5 DIMMs (4,800 MT/s) 16 DIMMs per CPU and 32 DIMMs for 2 CPUs RDIMMs supported								
Storage Drive	<table border="1"> <thead> <tr> <th>General</th> <th>Front I/O</th> </tr> </thead> <tbody> <tr> <td> Front: 32 × E1.S SSD 12 × 2.5-inch SAS/SATA/NVMe drive (up to 12 NVMe SSDs) 10 × 2.5-inch SAS/SATA/NVMe drive 8 × 2.5-inch SAS/SATA/NVMe drive + 2 × M.2 SSD + 2 × E1.S SSD 4 × 3.5-inch SAS/SATA/NVMe drive + 2 × M.2 SSD + 2 × E1.S SSD 4 × 3.5-inch SAS/SATA/NVMe drive + 4 × 2.5-inch SAS/SATA/NVMe drive </td> <td> Front: 12 × E1.S SSD + 2 × M.2 SSD 4 × E3.S SSD/4 × 2.5-inch SAS/SATA/NVMe drive </td> </tr> <tr> <td> Rear: 2 × 2.5-inch SAS/SATA drive (hot-swap) </td> <td> Rear: - </td> </tr> <tr> <td> Internal Storage: Up to 3 TF cards, 1 for BMC, 2 for PCH Up to 2 SATA M.2 SSDs or 2 PCIe x4 M.2 SSDs </td> <td></td> </tr> </tbody> </table>	General	Front I/O	Front: 32 × E1.S SSD 12 × 2.5-inch SAS/SATA/NVMe drive (up to 12 NVMe SSDs) 10 × 2.5-inch SAS/SATA/NVMe drive 8 × 2.5-inch SAS/SATA/NVMe drive + 2 × M.2 SSD + 2 × E1.S SSD 4 × 3.5-inch SAS/SATA/NVMe drive + 2 × M.2 SSD + 2 × E1.S SSD 4 × 3.5-inch SAS/SATA/NVMe drive + 4 × 2.5-inch SAS/SATA/NVMe drive	Front: 12 × E1.S SSD + 2 × M.2 SSD 4 × E3.S SSD/4 × 2.5-inch SAS/SATA/NVMe drive	Rear: 2 × 2.5-inch SAS/SATA drive (hot-swap)	Rear: -	Internal Storage: Up to 3 TF cards, 1 for BMC, 2 for PCH Up to 2 SATA M.2 SSDs or 2 PCIe x4 M.2 SSDs	
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Storage Controller	RAID/SAS controller Onboard PCH that supports 14 SATA connectors Intel onboard NVMe controller and optional Intel NVMe RAID Key								
Network	2 × optional hot-swap OCP 3.0 module								
I/O Expansion Slot	Up to 6 PCIe expansion slots, including 1 mezz RAID and 2 hot-swappable OCP 3.0 Up to 4 PCIe expansion slots for cold-plated configuration, including 2 hot-swappable OCP 3.0								
	3 × optional hot-swap OCP 3.0 module								
	Up to 8 PCIe expansion slots, including 1 RAID mezzanine, 3 hot-swappable OCP 3.0 (1 for front, 2 for rear)								

Port	Front: 1 × USB 2.0 port 1 × USB 3.0 port 1 × DB15 VGA port 1 × type-C port	Front: 1 × USB 2.0 port 1 × USB 3.0 port 1 × DB15 VGA port 1 × RJ45 port
	Rear: 2 × USB 3.0 port 1 × DB15 VGA port 1 × COM port (Micro USB) 1 × RJ45 port	Rear: 2 × USB 3.0 port 1 × DB15 VGA port 1 × COM port (Micro USB) 1 × RJ45 port
	Internal: 1 × USB 3.0 port	Internal: 1 × USB 3.0 port
Fan	8 hot-swap dual-rotor fans with N+1 redundancy (none for immersion-cooling models)	
Power Supply	Supports 550/800/1,300/1,600/2,000 W CRPS standard PSUs with 1+1 redundancy	
System Management	Integrated with 1 independent 1,000 Mbps network port, dedicated to IPMI remote management	
Security Features	Two-factor authentication, TPM 2.0, security panel, intrusion alert, BIOS/BMC chipset-level redundancy, power capping, etc.	
Operating System	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, CentOS, etc.	
Dimensions (H × W × D)	10 × 2.5-inch drive configuration (equipped with conventional heatsinks) With mounting ears: 43 × 482 × 830 mm (1.69 × 18.98 × 32.68 in.) Without mounting ears: 43 × 438 × 815 mm (1.69 × 17.24 × 32.09 in.)	
	12 × 2.5-inch drive configuration: With mounting ears: 43 × 482 × 881 mm (1.69 × 18.98 × 34.69 in.) Without mounting ears: 43 × 438 × 858 mm (1.69 × 17.24 × 33.78 in.)	
	Other configurations: With mounting ears: 43 × 482 × 880 mm (1.69 × 18.98 × 34.65 in.) Without mounting ears: 43 × 438 × 865 mm (1.69 × 17.24 × 34.06 in.)	
Weight	Full configuration: <31 kg (68.34 lbs) (For details, see the white paper)	
Operating Temperature	5°C to 50°C (41°F to 122°F) (For details, see the white paper)	