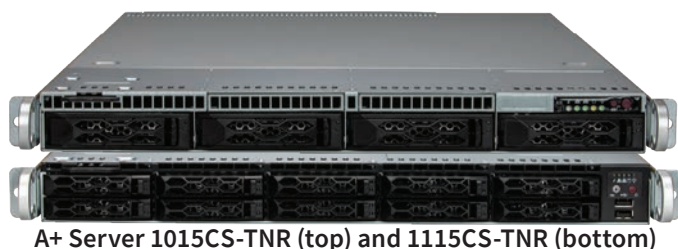


# H13 CLOUDDC Systems

## Ultimate Scalability and Flexibility for Cloud Data Centers



A+ Server 1015CS-TNR (top) and 1115CS-TNR (bottom)



A+ Server 2015CS-TNR

### Single-Socket 1U and 2U Options

Flexible configurations for I/O and storage designed for cloud data centers

- Single-socket servers with up to 128 cores of 4th Gen AMD EPYC processor performance
- Tool-less design for rapid deployment and easy maintenance
- Up to 3 TB of memory with 12 DDR5-4800 DIMMs
- PCIe 5.0 I/O with CXL 1.1+ for double the bandwidth of our prior generation servers
- Two 16-lane AIOM slots for flexible networking
- 2.5" and 3.5" NVMe and SATA drive options to meet virtually any workload storage requirements

Our cloud-data-center-optimized servers are ready to take you into the future with H13 generation technology that can help you deliver cost-optimized services in an increasingly competitive economy.

### Cloud-Optimized Single-Socket Systems

H13 CloudDC systems are single-socket systems optimized for AMD EPYC™ 9004 Series processors with up to 128 cores and 256 threads—ready to power a wide range of cloud workloads. The capacity for up to 3 TB of memory accessed through twelve high-speed channels provides the right balance of CPU-to-memory resources to power workloads ranging from financial services to virtualization. Internally, the system utilizes 128 PCIe 5.0 lanes that support high-speed, high-bandwidth networking and storage. Our 2U server's I/O capacity extends to up to four PCIe expansion slots, each with 16-lane capability.

### Advanced I/O

The H13 CloudDC line supports up to two industry-standard Open Compute Platform (OCP) 3.0-compliant Supermicro Advanced I/O Modules (AIOMs), each with x16 PCIe 5.0 connectivity. These enable you to dial in the type and bandwidth of network connectivity that meets your business needs. Support 100 Gigabit Ethernet to connect with the network you have in place today, as well as 200-Gbps InfiniBand connectivity for extremely high-bandwidth, low-latency cluster interconnections.

### Key Applications

H13 CloudDC systems are designed for cost-effective service delivery in cloud computing environments, including the following workloads:

- Internet infrastructure including Web hosting, name, and email services
- Virtualization
- Public and private cloud computing
- Content-delivery networks (CDNs)
- Deep learning inferencing
- Financial services applications

### Designed for AMD EPYC Processors

A single AMD EPYC processor gives you a no-compromise single-socket system, delivering the core density that once required two processors to achieve. With AMD you get more cores per dollar, more virtual instances on a server, and more subscribers in your data center. The CPU's 128 lanes of PCIe 5.0 connectivity eliminates the need to scale up computing power just to accommodate more I/O bandwidth. The system-on-chip nature of the processor eliminates the need for external chip sets that contribute to design complexity and power consumption. Best of all, you only need to purchase



and power a single processor for a high-performing, highly configurable system.

### Innovative, Tool-Less Design

Cloud data centers are all about scale, with a constant flow of new servers that scale capacity to new heights and also refresh existing infrastructure. Most of the time servers don't need to be touched. But when it is time to update server connectivity with a faster network, or respond to a rare component failure with a replacement part, the value of the H13 CloudDC product line can't be overstated.

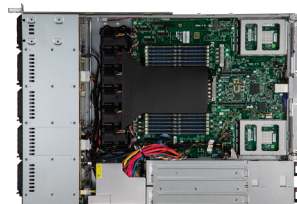
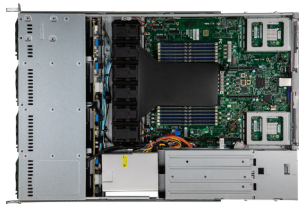
The front-panel-accessible drives and their brackets are hot swappable and require no tools. Rear-panel components including power supplies, PCIe devices, and AIOM cards are all tool-less. The chassis lid can be opened by hand and mid-chassis fans pop out for replacement.

### Open Architecture

Our open architecture approach for memory and storage gives you the convenience of preinstalled, Supermicro-qualified devices. Whatever your choice, our approach gives you flexibility, easy maintenance, and operating cost reduction.

### Open Management

Regardless of your data center's management approach, our open management APIs and tools are ready to support you. In addition to a dedicated IPMI port, and a Web IPMI interface, Supermicro® SuperCloud Composer software helps you configure, maintain, and monitor all of your systems using single-pane-of-glass management. If your DevOps teams prefer to use their own tools, industry-standard Redfish® APIs provide access to higher-level tools and scripting languages.



H13 Generation	AS -1015CSCS-TNR <sup>1</sup>	AS -1115CS-TNR <sup>1</sup>	AS -2015CS-TR <sup>1</sup>
Form Factor	<ul style="list-style-type: none"> <li>• 1U rackmount</li> </ul>	<ul style="list-style-type: none"> <li>• 1U rackmount</li> </ul>	<ul style="list-style-type: none"> <li>• 2U rackmount</li> </ul>
Mechanical	<ul style="list-style-type: none"> <li>• Tool-less drive trays and brackets</li> </ul>	<ul style="list-style-type: none"> <li>• Tool-less drive trays and brackets</li> </ul>	<ul style="list-style-type: none"> <li>• Tool-less drive trays and brackets</li> </ul>
Processor Support	<ul style="list-style-type: none"> <li>• Single SP5 socket for AMD EPYC™ 9004 Series processors, including those with AMD 3DV-Cache™ technology, up to 128 cores, up to 400W cTDP<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Single SP5 socket for AMD EPYC™ 9004 Series processors, including those with AMD 3DV-Cache™ technology, up to 128 cores, up to 400W cTDP<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Single SP5 socket for AMD EPYC™ 9004 Series processors, including those with AMD 3DV-Cache™ technology, up to 128 cores, up to 400W cTDP<sup>2</sup></li> </ul>
Memory Slots & Capacity	<ul style="list-style-type: none"> <li>• 12-channel DDR5 memory support</li> <li>• 24 DIMM slots for up to 3 TB ECC DDR5-4800 RDIMM</li> </ul>	<ul style="list-style-type: none"> <li>• 12-channel DDR5 memory support</li> <li>• 24 DIMM slots for up to 3 TB ECC DDR5-4800 RDIMM</li> </ul>	<ul style="list-style-type: none"> <li>• 12-channel DDR5 memory support</li> <li>• 24 DIMM slots for up to 3 TB ECC DDR5-4800 RDIMM</li> </ul>
Expansion Slots	<ul style="list-style-type: none"> <li>• 2 PCIe 5.0 x16 (FHHL) slots</li> <li>• 2 x16 AIOM/OCF 3.0 slots for flexible networking</li> </ul>	<ul style="list-style-type: none"> <li>• 2 PCIe 5.0 x16 (FHHL) slots</li> <li>• 2 x16 AIOM/OCF 3.0 slots for flexible networking</li> </ul>	<ul style="list-style-type: none"> <li>• 4 PCIe 5.0 x16 (FH, 10.5" L) slots to support up to two double-width GPUs; optional 2 x16 and 4 x8 slots</li> <li>• 2 x16 AIOM slots for flexible networking</li> </ul>
Storage	<ul style="list-style-type: none"> <li>• 4 Hot-swap 3.5" NVMe/SAS/SATA drive bays<sup>3</sup></li> <li>• 2 M.2 NVMe/SATA PCIe 3.0 x4</li> </ul>	<ul style="list-style-type: none"> <li>• 10 Hot-swap 2.5" NVMe/SAS/SATA drive bays<sup>3</sup></li> <li>• 2 M.2 NVMe/SATA PCIe 3.0 x4</li> </ul>	<ul style="list-style-type: none"> <li>• 12 Hot-swap 3.5" NVMe/SAS/SATA drive bays<sup>3</sup></li> <li>• Optional 2x 2.5" SATA drive bays via rear drive bay kits</li> <li>• 2 M.2 NVMe/SATA PCIe 3.0 x4</li> </ul>
I/O Ports	<ul style="list-style-type: none"> <li>• 2 USB 3.0 ports (rear) and 2 USB 2.0 ports (front)</li> <li>• 1 VGA, 1 COM</li> <li>• ASPEED AST2600 BMC graphics</li> </ul>	<ul style="list-style-type: none"> <li>• 2 USB 3.0 ports (rear) and 2 USB 2.0 ports (front)</li> <li>• 1 VGA, 1 COM</li> <li>• ASPEED AST2600 BMC graphics</li> </ul>	<ul style="list-style-type: none"> <li>• 2 USB 3.0 ports (rear),</li> <li>• 1 VGA, 1 COM</li> <li>• ASPEED AST2600 BMC graphics</li> </ul>
Security	<ul style="list-style-type: none"> <li>• TPM 2.0 header</li> <li>• Hardware root of trust</li> </ul>	<ul style="list-style-type: none"> <li>• TPM 2.0 header</li> <li>• Hardware root of trust</li> </ul>	<ul style="list-style-type: none"> <li>• TPM 2.0 header</li> <li>• Hardware root of trust</li> </ul>
System Management	<ul style="list-style-type: none"> <li>• Built-in server management tool (IPMI 2.0, KVM/media over LAN) with dedicated LAN port</li> <li>• Redfish APIs</li> <li>• Supermicro SuperCloud Composer</li> <li>• Supermicro Server Manager (SSM) and Supermicro Update Manager (SUM)</li> </ul>		
System Cooling	<ul style="list-style-type: none"> <li>• 6 Counter-rotating 40x40x56mm PWM fans</li> </ul>	<ul style="list-style-type: none"> <li>• 6 Counter-rotating 40x40x56mm PWM fans</li> </ul>	<ul style="list-style-type: none"> <li>• 3x 80x80x38mm middle cooling fans</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• Redundant 860W Platinum Level PSUs<sup>4</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Redundant 860W Platinum Level PSUs<sup>4</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Redundant 1200W Titanium Level PSUs<sup>4</sup></li> </ul>

1. Sold only as a completely assembled system

2. 280W TDP and higher CPUs may be supported only under specific conditions. Please contact Supermicro Technical Support for additional information about specialized system optimization.

3. Optional parts are required for NVMe/SATA configurations

4. Full redundancy based on configuration and application load.