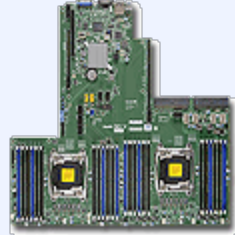


# SuperServer 6028U-E1CNR4T+ (Complete System Only)



## Integrated Board



Super X10DRU-i+

Due to the complexity of integration, this product is sold as completely assembled systems only (with minimum 2 CPU and 4 DIMM). Please contact your Supermicro sales rep for special requirements.

## Key Features

### • Flexible Connectivity Options

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v4<sup>†</sup>/ v3 family; QPI up to 9.6GT/s
2. Up to **3TB<sup>†</sup>** ECC 3DS LRDIMM , up to DDR4- **2400<sup>†</sup>**MHz ; 24x DIMM slots
3. 6x PCI-E 3.0 x8 slots (4x FH, 10.5" L, 1x LP, 1x Internal LP)
4. 4x 10GBase-T ports
5. 12x Hot-swap 3.5" Drive Bays: Default 4x NVMe ports; 12x SAS3 ports via Expander and AOC: AOC-S3108L-H8iR-16DD, AOC-S3108L-H8iR, AOC-S3008L-L8e, AOC-S3008L-L8i
6. 4x heavy duty fans w/ optimal fan speed control
7. 1000W High efficiency (96%) Redundant PSU; **Titanium Level**

Note: Image above may show a varied configuration or optional parts. Please refer to parts list for standard parts included.

## Specifications

### Product SKUs

- SYS-6028U-E1CNR4T+** ■ SuperServer 6028U-E1CNR4T+ (**Black**)

### Motherboard

**Super X10DRU-i+**

### Processor/Cache

- CPU** ■ Intel® Xeon® processor E5-2600 v4<sup>†</sup>/ v3 family (up to 160W TDP) \*  
■ Dual Socket R3 (LGA 2011)

- Cores / Cache** ■ Up to **22 Cores<sup>†</sup>** / Up to **55MB<sup>†</sup>** Cache

- System Bus** ■ QPI up to 9.6 GT/s

**Note** <sup>†</sup> BIOS version 2.0 or above is required

**Note** \* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.

### Chassis

- Form Factor** ■ 2U Rackmount  
**Model** ■ **CSE-829UE1C4-R1K02**

### Dimensions and Weight

- Width** ■ 17.2" (437mm)  
**Height** ■ 3.5" (89mm)  
**Depth** ■ 28.46" (723mm)  
**Weight** ■ Net Weight: 36 lbs (16.4 kg)  
■ Gross Weight: 72 lbs (32.7 kg)  
**Available Colors** ■ Black

### Front Panel

- Buttons** ■ Power On/Off button  
■ System Reset button  
**LEDs** ■ Power status LED  
■ HDD activity LED  
■ 2x Network activity LEDs  
■ System information (overheat/UID) LED

## System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"><li>24x 288-pin DDR4 DIMM slots</li><li>Up to 3TB<sup>†</sup> ECC 3DS LRDIMM, 768GB ECC RDIMM</li></ul>
<b>Memory Type</b>	<ul style="list-style-type: none"><li>2400<sup>†</sup>/2133/1866/1600MHz ECC DDR4 SDRAM 72-bit</li></ul>
<b>DIMM Sizes</b>	<ul style="list-style-type: none"><li>64GB, 32GB, 16GB, 8GB, 4GB</li></ul>
<b>Memory Voltage</b>	<ul style="list-style-type: none"><li>1.2 V</li></ul>
<b>Error Detection</b>	<ul style="list-style-type: none"><li>Corrects single-bit errors</li></ul>

## On-Board Devices

<b>Chipset</b>	<ul style="list-style-type: none"><li>Intel® C612 chipset</li></ul>
<b>SATA</b>	<ul style="list-style-type: none"><li>SATA3 (6Gbps) with RAID 0, 1, 5, 10</li></ul>
<b>IPMI</b>	<ul style="list-style-type: none"><li>Support for Intelligent Platform Management Interface v.2.0</li><li>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support</li><li>ASPEED AST2400 BMC</li></ul>
<b>Network Connectivity</b>	<ul style="list-style-type: none"><li>4x 10GBase-T ports via <a href="#">AOC-2URN4-i4XT</a></li><li>Intel® X540 10GBase-T</li><li>1x Realtek RTL8211E PHY (dedicated IPMI)</li></ul>
<b>Graphics</b>	<ul style="list-style-type: none"><li>ASPEED AST2400 BMC</li></ul>

## Input / Output

<b>SAS</b>	<ul style="list-style-type: none"><li>12x SAS3 ports support via expander and storage Add-on Cards</li><li>One of the following storage Add-on cards required:  AOC-S3108L-H8iR-16DD (12Gbps SAS3/RAID 0, 1, 5, 6, 10, 50, 60, 2GB DDR3 cache, PCI-E Gen3 16 HDD)</li> AOC-S3108-H8iR (12Gbps SAS3/RAID 0, 1, 5, 6, 10, 50, 60, 2GB DDR3 cache, PCI-E Gen3) AOC-S3008L-L8i (12Gbps SAS3/RAID 0,1 and 10, PCI-E Gen3) AOC-S3008L-L8e (12Gbps SAS3/HBA, PCI-E Gen3)</ul>
<b>NVMe</b>	<ul style="list-style-type: none"><li>4x NVMe ports</li></ul>
<b>LAN</b>	<ul style="list-style-type: none"><li>4x RJ45 10GBase-T LAN ports</li><li>1x RJ45 Dedicated IPMI LAN port</li></ul>
<b>USB</b>	<ul style="list-style-type: none"><li>5x USB 3.0 ports (2 rear, 2 onboard header, 1 Type A)</li></ul>
<b>Video</b>	<ul style="list-style-type: none"><li>1x VGA Connector</li></ul>
<b>Serial Port / Header</b>	<ul style="list-style-type: none"><li>1x Serial header</li></ul>
<b>DOM</b>	<ul style="list-style-type: none"><li>2x SuperDOM (Disk on Module) ports</li></ul>

## System BIOS

<b>BIOS Type</b>	<ul style="list-style-type: none"><li>128Mb SPI Flash EEPROM with AMI BIOS</li></ul>
<b>BIOS Features</b>	<ul style="list-style-type: none"><li>Plug and Play (PnP)</li><li>APM 1.2</li><li>PCI 2.3</li><li>ACPI 1.0 / 2.0 / 3.0 / 4.0</li><li>USB Keyboard support</li><li>SMBIOS 2.7.1</li></ul>

## Expansion Slots

<b>PCI-Express</b>	<ul style="list-style-type: none"><li>Up to 6x PCI-E 3.0 x8 slots (4x FH, 10.5" L, 1x LP, 1x Internal LP)</li></ul> <p><b>(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and <a href="#">AOC Support</a> for details.)</b></p>
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## Drive Bays

<b>Hot-swap</b>	<ul style="list-style-type: none"><li>12x 3.5" Hot-swap drive bays</li><li>Default 4x NVMe ports</li><li>12x SAS3 ports via Expander and AOC</li></ul> <p><b>Note: Storage Add-on card is required</b></p>
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## System Cooling

<b>Fans</b>	<ul style="list-style-type: none"><li>4x 8cm heavy duty PWM fans</li></ul>
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## Power Supply

1000W Redundant Power Supplies with PMBus	
<b>Total Output Power</b>	<ul style="list-style-type: none"><li>800W/1000W</li></ul>
<b>Dimension (W x H x L)</b>	<ul style="list-style-type: none"><li>73.5 x 40 x 203 mm</li></ul>
<b>Input</b>	<ul style="list-style-type: none"><li>100-127Vac / 9.8 - 7A / 50-60Hz</li><li>200-240Vac / 7 - 5A / 50-60Hz</li></ul>
<b>+12V</b>	<ul style="list-style-type: none"><li>Max: 66.7A / Min: 0A (100-127Vac)</li><li>Max: 83A / Min: 0A (200-240Vac)</li></ul>
<b>12Vsb</b>	<ul style="list-style-type: none"><li>Max: 2.1A / Min: 0A</li></ul>
<b>Output Type</b>	<ul style="list-style-type: none"><li>25 Pairs Gold Finger Connector</li></ul>

<b>Certification</b>	  UL/cUL/CB/BSMI/CE/CCC <b>Titanium Level [ Test Report ]</b>
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## PC Health Monitoring

<b>Voltage</b>	<ul style="list-style-type: none"><li>Monitors for CPU Cores, +1.8V, +3.3V, +5V, +12V, +3.3V Standby, +5V Standby, VBAT, Memory Voltages.</li><li>5+1 Phase-switching voltage regulator</li></ul>
<b>FAN</b>	<ul style="list-style-type: none"><li>8x 4-pin fan headers</li><li>Status monitor for speed control</li><li>Pulse Width Modulated (PWM) fan connectors</li></ul>
<b>Temperature</b>	<ul style="list-style-type: none"><li>Support to monitor Supermicro AOC temperatures from IPMI or SD 5</li><li>Monitoring for CPU and chassis environment</li><li>CPU thermal trip support</li><li>Thermal Control for 8x Fan Connectors</li><li>Thermal Monitor 2 (TM2) support</li><li>PECI</li></ul>
<b>LED</b>	<ul style="list-style-type: none"><li>Memory DIMM ECC error LEDs</li><li>CPU / System Overheat LED</li><li>Suspend static indicator LED</li><li>UID/Remote UID</li></ul>
<b>Other Features</b>	<ul style="list-style-type: none"><li>4x 8-pin GPU power connectors</li><li>Chassis intrusion detection</li><li>Chassis intrusion header</li><li>SDDC Support</li><li>RoHS</li></ul>

- UEFI 2.3.1

## Management

<b>Software</b>	<ul style="list-style-type: none"> <li>▪ SuperDoctor® 5</li> <li>▪ Intel® Node Manager 3.0</li> <li>▪ Watch Dog</li> <li>▪ NMI</li> <li>▪ <u>SUM</u> and <u>SSM</u></li> <li>▪ Optional IPMI 1.5 / 2.0</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>▪ ACPI Power Management</li> <li>▪ Power-on mode for AC power recovery</li> </ul>

## Operating Environment / Compliance

### RoHS

- RoHS Compliant

### Environmental Spec.

- Operating Temperature: 10°C to 35°C (50°F to 95°F)
- Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)
- Operating Relative Humidity: 8% to 90% (non-condensing)
- Non-operating Relative Humidity: 5% to 95% (non-condensing)

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X10DRU-i+	1	Super X10DRU-i+ Motherboard
	CSE-829UE1C4-R1K02	1	2U Chassis
<b>Add-on Card / Module</b>	AOC-2URN4-I4XT	1	2U Ultra Riser based on Intel X540 controller with 4 10Gbase-T ports, 4 NVMe ports, and 1 internal PCI-E x8 3.0 slot
<b>Air Shroud</b>	MCP-310-82912-0N	1	
<b>Backplane</b>	BPN-SAS3-826EL1-N4	1	12-Port 2U Backplane with Expander support up to 8 x 3.5" SAS3/SATA3 HDD/SDD and 4 x SAS3/SATA3/NVMe Storage Devices, HF, RoHS/REACH
<b>Cable 1</b>	CBL-PWEX-0652	1	8 pin female to 2x RA(Right Angle) big 4 pin female power, 60/65CM, 18AWG, RoHS/REACH
<b>Cable 2</b>	CBL-SAST-0593	2	Internal Mini-SAS HD to Mini-SAS HD 60cm, 30AWG, 12Gb/s, HF, RoHS/REACH, PBF
<b>Cable 3</b>	CBL-SAST-0658	4	Internal Mini-SAS HD cable for PCIe SSD NVMe, 12Gb/s, 60cm, 30AWG, RoHS/REACH
<b>Cable 4</b>	CBL-PWEX-0673	1	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG, RoHS/REACH
<b>Drive Tray(s)</b>	MCP-220-00116-0B	4	Black gen-5 3.5-to-2.5 NVMe drive tray, Orange tab (for hotswap NVMe drive), RoHS/REACH
<b>Label</b>	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
<b>Manual</b>	MNL-1751-QRG	1	SYS-6028U-E1CNR(4)T+, QRG, HF, RoHS/REACH
<b>Riser Card</b>	RSC-R2UW-4E8	1	RSC-R2UW-4E8-O-P
<b>Riser Card</b>	RSC-R1UW-E8R	1	RSC-R1UW-E8R-O-P
<b>Heatsink / Retention</b>	SNK-P0058PSU	2	2U Passive CPU Heat Sink for X10 2U 24-DIMM Ultra Series Servers, RoHS/REACH
<b>Power Supply</b>	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level, RoHS/REACH
<b>Mounting Rails</b>	MCP-290-00053-0N	1	Inner/outer rail set, quick-release type, 26.5" to 36.4"
	MCP-290-00060-0N	1	Threaded rail adapter default for round hole rack

Optional Parts List			
	Part Number	Qty	Description
<b>Mounting Rails</b>	MCP-290-00053-0N	-	Inner/outer rail set, quick-release type, 26.5" to 36.4"
	MCP-290-00060-0N	-	Threaded rail adapter default for round hole rack
<b>Storage Control Card and Cable(s)</b>	AOC-S3008L-L8e	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA
	AOC-S3008L-L8i	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E
	AOC-S3108L-H8iR	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3108L-H8iR-16DD	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 16HDD, RAID 0, 1, 5, 6, 10, 50, 60
<b>Network Card(s)</b>	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	AOC-SGP-i2	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel i350AM2
	AOC-SGP-i4	-	Standard LP, 4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	AOC-STGN-i2S	-	Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel 82599ES
	AOC-STGN-i1S	-	Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel 82599EN
	AOC-STG-i2T	-	Standard LP, 2x 10GbE RJ45, PCI-E x8, Intel X540
	AOC-STG-i2	-	Standard LP, 2x 10GbE CX4, PCI-E x8, Intel 82598EB
<b>CacheVault(s)</b>	BTR-CV3108-U1	-	CacheVault for LSI 3108 with Supercap mounting for 2U Ultra
	BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05	-	CacheVault for LSI 3108; Supercap mounting bracket for PCI-E location
	BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	-	CacheVault for LSI 3108; Supercap mounting bracket for 2.5" HDD location
<b>Hot-swap 3.5" to 2.5" Hard Disk Drive Tray</b>	MCP-220-00043-0N	-	Black hot-swap 3.5" to 2.5" HDD tray
<b>Global Services &amp; Support</b>	<a href="#">OS4HR3/2/1</a>	-	3/2/1-year onsite 24x7x4 service
	<a href="#">OSNBD3/2/1</a>	-	3/2/1-year onsite NBD service
<b>Software</b>	SFT-OOB-LIC	1	OOB Management Package (per node license)
<b>Software</b>	SFT-DCMS-Single	1	DataCenter Management Package (per node license)