

SuperServer 6028U-TNR4T+ (Complete System Only)



Integrated Board



Super X10DRU-i+

Views: | [Angled View](#) | [Top View](#) |
| [Front View](#) | [Rear View](#) |

Complete System Only: To maintain quality and integrity, this product is sold only as a completely-assembled system (with minimum 2 CPUs and 4 DIMMs).

► [Drivers & Utilities](#) ► [BIOS](#) ► [IPMI](#) ► [Tested Memory](#) ► [NVMe Options](#) ► [Manuals](#) ► [OS Certification Matrix](#) ► [Compatible GPU List](#) ► [Quick-References Guide](#) ► [Drive Options](#) ► [Network Card \(AOC\) Matrix](#)

Key Features

Flexible Connectivity Options

1. Dual socket R3 (LGA 2011) supports Intel® Xeon® processor E5-2600 v4[†]/ v3 family; QPI up to 9.6GT/s
2. Up to **3TB[†]** ECC 3DS LRDIMM , up to DDR4- **2400[†]**MHz ; 24 DIMM slots
3. 6 PCI-E 3.0 x8 slots (4 FH, 10.5" L, 1 LP, 1 Internal LP)
4. 4x 10GBase-T ports
5. 12 Hot-swap 3.5" Drive Bays:
Default 8 SATA3 ports,
4 NVMe ports;
Optional 12 SAS3 ports via AOC;
Optional 2 hot-swap 2.5" rear drive bays for SSDs
6. 4 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 of optional parts. Please refer to parts list for standard parts included.

Specifications

Product SKUs

SYS-6028U-TNR4T+	■ SuperServer 6028U-TNR4T+ (Black)
-------------------------	------------------------------------

Motherboard

Super X10DRU-i+

Processor/Cache

CPU	■ Intel® Xeon® processor E5-2600 v4 [†] / v3 family (up to 160W TDP) * ■ Dual Socket R3 (LGA 2011)
Cores / Cache	■ Up to 22 Cores [†] / Up to 55MB [†] Cache
System Bus	■ QPI up to 9.6 GT/s
Note	[†] 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.

System Memory

Memory Capacity	■ 24x 288-pin DDR4 DIMM slots ■ Up to 3TB [†] ECC 3DS LRDIMM, 768GB ECC RDIMM
Memory Type	■ 2400 [†] /2133/1866/1600MHz ECC DDR4 SDRAM 72-bit ■ 2666/2400 ECC DDR4 NVDIMM
DIMM Sizes	■ 64GB, 32GB, 16GB, 8GB, 4GB ■ NVDIMM: 16GB
Memory Voltage	■ 1.2 V
Error Detection	■ Corrects single-bit errors

On-Board Devices

Chipset	■ Intel® C612 chipset
SATA	■ SATA3 (6Gbps) with RAID 0, 1, 5, 10
IPMI	■ Support for Intelligent Platform Management Interface v.2.0 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ■ ASPEED AST2400 BMC
Network Connectivity	■ 4x 10GBase-T ports via <u>AOC-2URN4-i4XT</u> ■ Intel® X540 10GBase-T ■ 1x Realtek RTL8211E PHY (dedicated IPMI)
Graphics	■ ASPEED AST2400 BMC

Input / Output

SATA	■ 8x SATA3 (6Gbps) ports
SAS	■ 12x SAS3 ports support via optional Add-on Card
NVMe	■ 4x NVMe ports
LAN	■ 4x RJ45 10GBase-T LAN ports ■ 1x RJ45 Dedicated IPMI LAN port
USB	■ 5x USB 3.0 ports (2 rear, 2 onboard header, 1 Type A)

Chassis

Form Factor	■ 2U Rackmount
Model	■ CSE-829UAC-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

Expansion Slots

PCI-Express	■ 6x PCI-E 3.0 x8 slots (4x FH, 10.5" L, 1x LP, 1x Internal LP) ■ (Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and AOC Support for details.)
--------------------	--

Drive Bays

Hot-swap	■ 12x 3.5" Hot-swap drive bays ■ Default 8x SATA3 ports, 4x NVMe ports ■ Optional 12x SAS3 ports via AOC ■ Note: optional storage card is required to support more than 10 drives.
-----------------	--

System Cooling

Fans	■ 4x 8cm heavy duty PWM fans
-------------	------------------------------

Power Supply

1000W Redundant Power Supplies with PMBus	
Total Output Power	■ 800W: 100 – 127Vac ■ 1000W: 200 – 240Vac ■ 1000W: 200 – 240Vdc (for CCC only)
Dimension (W x H x L)	■ 73.5 x 40 x 203 mm
Input	■ 100-127Vac / 9.8 - 7A / 50-60Hz ■ 200-240Vac / 7 - 5A / 50-60Hz ■ 200-240Vdc / 7 - 5A (for CCC only)
+12V	■ Max: 66.7A / Min: 0A (100-127Vac) ■ Max: 83A / Min: 0A (200-240Vac) ■ Max: 83A / Min: 0A (200-240Vdc)

Video	■ 1x VGA Connector
Serial Port / Header	■ 1x Serial header
DOM	■ 2x SuperDOM (Disk on Module) ports

System BIOS

BIOS Type	■ 128Mb SPI Flash EEPROM with AMI BIOS
BIOS Features	■ Plug and Play (PnP) ■ APM 1.2 ■ PCI 2.3 ■ ACPI 1.0 / 2.0 / 3.0 / 4.0 ■ USB Keyboard support ■ SMBIOS 2.7.1 ■ UEFI 2.3.1

Management

Software	■ <u>SuperDoctor® 5</u> ■ Intel® Node Manager 3.0 ■ Watch Dog ■ NMI ■ <u>SSM</u> and <u>SSM</u> ■ Optional IPMI 1.5 / 2.0
Power Configurations	■ ACPI Power Management ■ Power-on mode for AC power recovery

12Vsb	■ Max: 2.1A / Min: 0A
Output Type	■ 25 Pairs Gold Finger Connector
Certification	  Titanium Level [Test Report]

PC Health Monitoring

Voltage	■ Monitors for CPU Cores, +1.8V, +3.3V, +5V, +12V, +3.3V Standby, +5V Standby, VBAT, Memory Voltages. ■ 5+1 Phase-switching voltage regulator
FAN	■ 8x 4-pin fan headers ■ Status monitor for speed control ■ Pulse Width Modulated (PWM) fan connectors
Temperature	■ Support to monitor Supermicro AOC temperatures from IPMI or SD 5 ■ Monitoring for CPU and chassis environment ■ CPU thermal trip support ■ Thermal Control for 8x Fan Connectors ■ Thermal Monitor 2 (TM2) support ■ PECI
LED	■ Memory DIMM ECC error LEDs ■ CPU / System Overheat LED ■ Suspend static indicator LED ■ UID/Remote UID
Other Features	■ 4x 8-pin GPU power connectors ■ Chassis intrusion detection ■ Chassis intrusion header ■ SDDC Support ■ RoHS

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
Motherboard / Chassis	MBD-X10DRU-i+	1	Super X10DRU-i+ Motherboard
	CSE-829UAC-R1K02	1	2U Chassis
Add-on Card / Module	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
Air Shroud	MCP-310-82912-0N	1	
Backplane	BPN-SAS3-826A-N4	1	12-port 2U SAS3 12Gbps hybrid backplane, support up to 8x 3.5-inch SAS3/SATA3 HDD/SSD and 4x SAS3/SATA3/NVMe Storage Devices
Cable 1	CBL-SAST-0655	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,47CM,SB,30AWG
Cable 2	CBL-PWEX-0652	1	8 pin female to 2x RA(Right Angle) big 4 pin female power, 60/65CM, 18AWG,RoHS/REACH
Cable 3	CBL-PWEX-0673	1	8 pin female to 2x big 4 pin female power, 65/70CM, 18AWG,RoHS/REACH
Cable 4	CBL-SAST-0658	4	MINI SAS HD,INT,PCIe NVMe SSD, 60CM,30AWG
Cable 5	CBL-SAST-0657	1	MINI SAS HD(ST)-MINI SAS(RA-RS EXIT),6G,INT,55CM,SB,30AWG
Drive Tray(s)	MCP-220-00116-0B	4	Black gen-5 3.5-to-2.5 NVMe drive tray, Orange tab (for hotswap NVMe drive),RoHS/REACH
Label	LBL-0108	1	CAUTION LABEL FOR REDUNDANT PWR SYSTEMS
Manual	MNL-1641-QRG	1	SYS-6028U-TR(4/4T/T/TP)+, QRG,HF,RoHS/REACH
Riser Card	RSC-R1UW-E8R	1	1U RHS WIO Riser card with one PCI-E x8 slot
Riser Card	RSC-R2UW-4E8	1	2U LHS WIO Riser card with four PCI-E x4 slots
Heatsink / Retention	SNK-P0058PSU	2	2U Passive CPU Heat Sink for X10 2U 24-DIMM Ultra Series Servers,RoHS/REACH
Power Supply	PWS-1K02A-1R	2	1U 1000W Redundant Power Supply 73.5mm width Titanium Level,RoHS/REACH
Mounting Rails	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
Mounting Rails	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
2U Ultra optional rear drive kit	MCP-240-82922-0N-OEM & MCP-240-82915-0N-OEM	1	Rear 2x2.5" HDDs riser bracket kit for SC829U/219U, tool-less
2U Cable Management Arm	MCP-290-00128-0N & MCP-290-00127-0N	1	2U Supermicro Cable Management Arm 2nd Gen (Compatible for racks that are 42" in depth)
Storage Control Card and Cable(s)	AOC-S3008L-L8e & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 122HDD, HBA; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s
	AOC-S3008L-L8i & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 63HDD, RAID 0,1,1E; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s
	AOC-S3108L-H8iR & 2x CBL-SAST-0593	-	Std LP, 8 internal ports, 12Gb/s per port- Gen3, 240HDD, RAID 0, 1, 5, 6, 10, 50, 60; Internal Mini-SAS HD to Mini-SAS HD 60cm,30AWG,12Gb/s
Network Card(s)	AOC-SGP-i2/4	-	Standard LP, 2/4x GbE RJ45, PCI-E x4, Intel i350
	AOC-STGN-i1S/i2S	-	Standard LP, 1/2x 10GbE SFP+, PCI-E x8, Intel 82599EN
	AOC-STG-b4S	-	Standard LP, 4x 10GbE SFP+, PCI-E x8, Broadcom BCM57840S
	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
	AOC-S40G-i2Q	-	Standard LP 2-port 40GbE controller, based on Intel Fortville XL710
	More	-	AOC Compatibility Matrix

CacheVault(s)	BTR-CV3108-U1	-	CacheVault for Broadcom 3108 with Supercap mounting for 2U Ultra
Global Services & Support	OS4HR3/2/1	-	3/2/1-year onsite 24x7x4 service
	OSNBD3/2/1	-	3/2/1-year onsite NBD service
Software	SFT-OOB-LIC • eStore	1	OOB Management Package (per node license)
Software	SFT-DCMS-Single	1	DataCenter Management Package (per node license)