

# SuperServer 6029P-WTR



Integrated Board



**Super X11DDW-L**

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

▶ [Drivers & Utilities](#) ▶ [BIOS](#) ▶ [IPMI](#) ▶ [Tested Memory](#) ▶ [Tested M.2 List](#) ▶ [Manuals](#) ▶ [OS Certification Matrix](#) ▶ [Quick-References Guide](#) ▶ [Compatible GPU List](#) ▶ [Drive Options](#) ▶ [Network Card \(AOC\) Matrix](#)

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

## Key Applications

Web Server, Firewall Apps.  
Corporate-Wins, DNS, Print, Login  
Gateway, provisioning servers  
Compact Network Appliance  
Cloud Computing

## Key Features

1. Dual Socket P (LGA 3647) support  
2nd Gen Intel® Xeon® Scalable  
processors (Cascade Lake/Skylake)‡
2. 12 DIMMs; up to 3TB 3DS ECC  
DDR4-2933MHz† RDIMM/LRDIMM,  
Supports Intel® Optane™ DCPMM††
3. 4 PCI-E 3.0 x8 (FHHL) slots,  
2 PCI-E 3.0 x8 (LP) slots,  
1 PCI-E 3.0 x16 for Add-on-Module  
(Support SAS3 Storage controller),  
1 PCI-E 3.0 x4 NVMe M.2 slot
4. 8 Hot-swap 3.5" SAS/SATA drive bays  
with SGPIO, 2 Fixed 3.5" drive bays
5. 1 Slim DVD-ROM drive bay (optional)
6. 2x 1GbE LAN ports via Intel C621
7. 1 VGA, 4 USB 3.0 (rear)
8. M.2 support
9. 1000W Redundant Power Supplies  
Titanium Level (96% Efficiency)

# Specifications

## Product SKUs

**SYS-6029P-WTR** ■ SuperServer 6029P-WTR (Black)

## Motherboard

**Super X11DDW-L**

## Processor

**CPU** ■ Dual Socket P (LGA 3647)  
 ■ 2nd Gen Intel® Xeon® Scalable Processors and Intel® Xeon® Scalable Processors<sup>‡</sup>, Dual UPI up to 10.4GT/s  
 ■ Support CPU TDP 70-205W

**Cores** ■ Up to 28 Cores

**Note** <sup>‡</sup> BIOS version 3.2 or above is required to support 2nd Gen Intel® Xeon® Scalable processors (codenamed Cascade Lake-R)

## System Memory

**Memory Capacity** ■ 12 DIMM slots  
 ■ Up to 3TB 3DS ECC DDR4-2933MHz<sup>†</sup> RDIMM/LRDIMM  
 ■ Supports Intel® Optane™ DCPMM<sup>††</sup>

**Memory Type** ■ 2933<sup>†</sup>/2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM

**Note** <sup>†</sup> 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro  
<sup>††</sup> Cascade Lake only. Contact your Supermicro sales rep for more info.

## On-Board Devices

**Chipset** ■ Intel® C621 chipset

**SATA** ■ SATA3 (6Gbps); RAID 0, 1, 5, 10

**Network Controllers** ■ Dual 1GbE LAN ports from Intel C621

**IPMI** ■ Support for Intelligent Platform Management Interface v.2.0  
 ■ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

**Video** ■ ASPEED AST2500 BMC

## Input / Output

**SATA** ■ 12 SATA3 (6 Gbps) ports

**LAN** ■ 2 RJ45 Gigabit Ethernet ports  
 ■ 1 RJ45 Dedicated IPMI LAN port

**USB** ■ 4 USB 3.0 ports (rear)

**Video** ■ 1 VGA port

**DOM** ■ 2 SuperDOM (Disk on Module) ports

## System BIOS

**BIOS Type** ■ AMI 32Mb SPI Flash ROM

## Management

## Chassis

**Form Factor** ■ 2U Rackmount

**Model** ■ **CSE-825TQC-R1K03WB**

## Dimensions and Weight

**Width** ■ 17.2" (437mm)

**Height** ■ 3.5" (89mm)

**Depth** ■ 25.5" (648mm)

**Gross Weight** ■ 62 lbs (28.1 kg)

**Available Colors** ■ Black

## Front Panel

**Buttons** ■ Power On/Off button  
 ■ UID button

**LEDs** ■ Power status LED  
 ■ HDD activity LED  
 ■ Network activity LEDs  
 ■ Universal Information (UID) LED

## Expansion Slots

**PCI-Express** ■ 4 PCI-E 3.0 x8 (FHHL) slots  
 ■ 2 PCI-E 3.0 x8 (LP) slots  
 ■ 1 PCI-E 3.0 x16 for Add-on-Module (AOM)  
 ■ 1 PCI-E 3.0 x4 NVMe M.2 slot  
**(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** ■ 8 Hot-swap 3.5" SAS/SATA drive bays with SGPIO

**Internal** ■ 2 Fixed 3.5" drive bays

## Peripheral Drives

**DVD-ROM** ■ 1 Slim DVD-ROM drive (optional)

## Backplane

SAS/SATA HDD Backplane

## System Cooling

**Fans** ■ 3 Heavy duty 8cm fans with PWM fan speed control

## Power Supply (76mm Width)

1000W Redundant Power Supplies with PMBus

**Total Output Power** ■ 800W/1000W

**Dimension (W x H x L)** ■ 76 x 40 x 336 mm

<b>Software</b>	<ul style="list-style-type: none"> <li>Intel® Node Manager</li> <li><u>IPMI 2.0</u></li> <li>KVM with dedicated LAN</li> <li><u>SSM, SPM, SUM</u></li> <li><u>SuperDoctor® 5</u></li> <li>Watch Dog</li> </ul>
<b>Power Configurations</b>	<ul style="list-style-type: none"> <li>ACPI / APM Power Management</li> </ul>

#### PC Health Monitoring

<b>CPU</b>	<ul style="list-style-type: none"> <li>Monitors for CPU Cores, Chipset Voltages, Memory.</li> <li>4+1 Phase-switching voltage regulator</li> </ul>
<b>FAN</b>	<ul style="list-style-type: none"> <li>Fans with tachometer monitoring</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>Monitoring for CPU and chassis environment</li> <li>Thermal Control for fan connectors</li> </ul>

<b>Input</b>	<ul style="list-style-type: none"> <li>100-127Vac / 12-9A / 50-60Hz</li> <li>200-240Vac / 7.2-6A / 50-60Hz</li> <li>200-240Vdc / 7.2-6A (for CCC only)</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> <li>Max: 83A / Min. 0A (200-240Vdc)</li> </ul>
<b>5Vsb</b>	<ul style="list-style-type: none"> <li>Max: 4A / Min: 0A</li> </ul>
<b>Output Type</b>	<ul style="list-style-type: none"> <li>19 Pairs Gold Finger Connector</li> </ul>
<b>Certification</b>	  <b>Titanium Level</b> <b>[ Test Report ]</b>

#### Operating Environment

<b>RoHS</b>	<ul style="list-style-type: none"> <li>RoHS Compliant</li> </ul>
<b>Environmental Spec.</b>	<ul style="list-style-type: none"> <li>Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F)</li> <li>Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)</li> <li>Operating Relative Humidity: 8% to 90% (non-condensing)</li> <li>Non-operating Relative Humidity: 5% to 95% (non-condensing)</li> </ul>

## Parts List

### Parts List - (Items Included)

	Part Number	Qty	Description
<b>Motherboard / Chassis</b>	MBD-X11DDW-L	1	Super X11DDW-L Motherboard
	CSE-825TQC-R1K03WB	1	2U Chassis
<b>Backplane</b>	BPN-SAS3-825TQ	1	8-port 2U SAS3 12Gbps TQ backplane, support up to 8x 3.5-inch SAS3/SATA3 HDD/SSD
<b>Storage Cable</b>	CBL-SAST-0388L-02	2	MINI SAS-4 SATA,INT,75/75/90/90CM,90CM SB,30AWG
<b>Rubber Pads</b>	MCP-150-00017-0B	2	Rubber pad, 6.5mm H, 10x10mm
<b>Chassis Part</b>	MCP-240-00146-0N	1	2U WIO Half Length riser card bkt for SC825, 826, 213, 216,RoHS/REACH
<b>Air Shroud</b>	MCP-310-82602-0B	1	air shroud X11DDW + CSE-826B
<b>Manual</b>	MNL-2031-QRG	1	6029P-WTR Quick Reference Guide,HF,RoHS.
<b>Riser Card (right)</b>	RSC-R2UW-2E8R	1	2U RHS WIO Riser card with two PCI-E x8 slots
<b>Riser Card (left)</b>	RSC-R2UW-4E8	1	2U LHS WIO Riser card with four PCI-E x8 slots
<b>Heatsink w/ Retention</b>	SNK-P0068PS	2	2U Passive CPU Heat Sink for X11 Purley Platform Equipped with a Narrow Retention Mechanism
<b>* Power Supply</b>	PWS-1K03A-1R	2	1U 1000W Redundant Power Supply Titanium W/PMbus 76x40x336mm,RoHS/REACH
<b>* Power Cord</b>	CBL-0160L	2	NEMA5-15P to C13 US power cord 16AWG 6ft, PBF (default for high watt)
<b>* FAN</b>	FAN-0181L4	3	80x80x38 mm, 9.4K RPM Cooling Fan
<b>* Rail Set</b>	MCP-290-00053-0N	2	Rail set, quick/quick, default for 2,3U 17.2"W

### Notes:

- Parts with \* come with the chassis
- Excessive parts might not be shipped, including but not limited to excessive drive trays, fans, riser brackets, air shrouds, IO shields, cables.....etc.

### Optional Parts List

	Part Number	Qty	Description
<b>Optional Upgrade for 2U LHS WIO Riser</b>	RSC-R2UW-2E8E16+	1	2U LHS WIO Riser card with 1 PCI-E x16 double width + 2 PCI-E x8 slots
	Or RSC-W2-66	1	2U LHS WIO Riser card with 2 PCI-E x16 double width slots
<b>3.5" to 2.5" Converter Tray</b>	MCP-220-00043-0N	-	Black Hot-swap Gen-4 2.5" to 3.5" HDD tray
<b>DVD-ROM / RW &amp; Mounting Kit</b>	DVM-TEAC-DVD-SBT5 & MCP-220-81502-0N	1	BLACK TEAC SLIM DVD SATA DRIVE, HF, RoHS Slim SATA DVD mounting kit
	DVM-TEAC-DVDRW-SBT5 & MCP-220-81502-0N		BLACK TEAC SLIM DVD-RW SATA DRIVE, HF, RoHS Slim SATA DVD mounting kit
	DVM-PLDS-DVDRW-SBT5 & MCP-220-81502-0N		PHILIPS SLIM BLACK DVD-RW SATA DRIVE, HF, RoHS/REACH Slim SATA DVD mounting kit
<b>Internal 2.5" HDD Tray (COM slot)</b>	MCP-220-00023-01	1	Black USB dummy tray support 1x 2.5" slim HDD
<b>Internal 2.5" HDD Tray (DVD Slot)</b>	MCP-290-00036-0B	1	Black DVD dummy tray support 1x 2.5" slim HDD
<b>Cable for internal HDD</b>	CBL-SAST-0624	2	SATA,INT,ROUND,ST-ST,70CM,30AWG
	CBL-0289L	1	Y split, big 4 pin to two RA SATA power extension 30cm, 20AWG
<b>Add-on card for internal M.2 NVMe</b>	AOC-SLG3-2M2	-	Low Profile PCI-E x8 add-on card supports 2 PCI-E 3.0 x4 M-Key M.2 NVMe Modules
<b>Intel VROC RAID Key</b>	<u>AOC-VROCINTMOD</u>	1	Intel VROC, RAID 0, 1, 5, 10 (Intel SSD Only)
	<u>AOC-VROCSTNMOD</u>		Intel VROC Standard, RAID 0, 1, 10
	<u>AOC-VROCPREMOD</u>		Intel VROC Premium, RAID 0, 1, 5, 10
<b>Storage Controller Card(s) &amp; Cables(s)</b>	AOM-S3108M-H8 & 2x CBL-SAST-0699	-	Supermicro LP, 8 internal ports (12Gb/s) SAS Mezzanine; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3108L-H8IR-16DD & 2x CBL-SAST-0699		Standard LP, 8 internal ports (12Gb/s) Gen-3, 16HDD; RAID 0, 1, 5, 6, 10, 50, 60
	AOC-S3008L-L8i &		Standard LP, 8 internal ports (12Gb/s) Gen-3, 63HDD:

	2x CBL-SAST-0699		RAID 0, 1, 10
	AOC-S3008L-L8e & 2x CBL-SAST-0699		Standard LP, 8 internal ports (12Gb/s) Gen-3, 122HDD; HBA
<b>CacheVault (for 3108)</b>	BTR-TFM8G-LSICVM02 & BKT-BBU-BRACKET-05 BTR-TFM8G-LSICVM02 & MCP-240-00127-0N	-	CacheVault for Broadcom 3108; SuperCap mounting bracket for PCI-E location CacheVault for Broadcom 3108; SuperCap mounting bracket for 2.5" HDD location (Installed in the fixed 3.5" bays)
<b>Network Card(s)</b>	AOC-SGP-i2 AOC-SGP-i4 AOC-STGS-i1T AOC-STGS-i2T AOC-STG-i4T AOC-STGN-i1S AOC-STGN-i2S AOC-STG-i4S AOC-S25G-i2S AOC-MCX555A-ECAT  AOC-MCX556A-ECAT	-	Standard LP, 2x GbE RJ45, PCI-E x4, Intel® i350AM2 Standard LP, 4x GbE RJ45, PCI-E x4, Intel® i350AM4 Standard LP, 1x 10GbE RJ45, PCI-E x4, Intel® X550-AT Standard LP, 2x 10GbE RJ45, PCI-E x4, Intel® X550-AT2 Standard LP, 4x 10GbE RJ45, PCI-E x8, Intel® XL710-BM1 Standard LP, 1x 10GbE SFP+, PCI-E x8, Intel® 82599EN Standard LP, 2x 10GbE SFP+, PCI-E x8, Intel® 82599ES Standard LP, 4x 10GbE SFP+, PCI-E x8, Intel® XL710-BM1 Standard LP, 2x 25GbE SFP28, PCI-E x8, Intel® XXV710 + Marvell Unionville Standard LP, 1x 100GbE (and EDR IB) QSFP28, PCI-E x16, Mellanox® ConnectX-5 Standard LP, 2x 100GbE (and EDR IB) QSFP28, PCI-E x16, Mellanox® ConnectX-5
<b>Front Bezel</b>	MCP-210-82503-0B	1	Black SC825 front bezel
<b>Cable Management Arm</b>	MCP-290-00073-0N & MCP-120-82503-0N	1	Supermicro Cable Management Arm for 2U, 3U and 4U chassis Cable arm adapter for SC825,213,829H,847B (MCP-290-00073-0N required),HF,RoHS/REACH,PBF
<b>Inlet Thermal Sensor</b>	MCP-280-00033-0N	-	Universal Thermal sensor kit with 80cm I2C cable
<b>TPM security module (optional, not included)</b>	AOM-TPM-9670V-S AOM-TPM-9671V-S	1	SPI capable TPM 2.0 with Infineon 9670 controller; vertical form factor SPI capable TPM 1.2 with Infineon 9670 controller; vertical form factor
<b>Global Services &amp; Support</b>	<u>OS4HR3/2/1</u> <u>OSNBD3/2/1</u>	-	3/2/1-year onsite 24x7x4 service 3/2/1-year onsite NBD service
<b>Software</b>	<u>SFT-OOB-LIC</u> • eStore	1	OOB Management Package (per node license)
<b>Software</b>	<u>SFT-DCMS-Single</u>	1	DataCenter Management Package (per node license)
Note: For special low power setup SKU only (3 optional parts below), contact our sales for details			
<b>Power Supply Dummy Cover</b>	CSE-PT0130L	-	Power Supply Dummy Cover
<b>Power Supply</b>	PWS-802A-1R	-	800W 100-240Vac/47-63Hz, and DC240 input
<b>Fan</b>	FAN-0126L4	-	80x80x38 mm 7K RPM Chassis Middle Fan