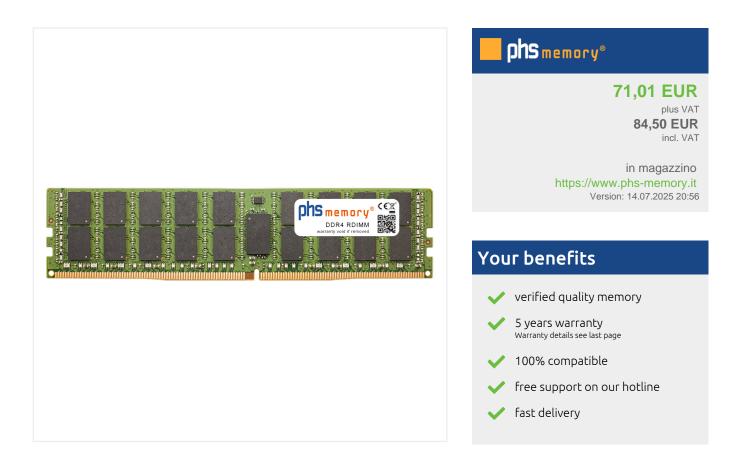


32GB Computer memory DDR4 for ASRock X99 WS RDIMM



PHS-memory® - computer memory with 100% quality

- many years of IT competence
- Free support for optimal configuration and product selection
- High availability through professional warehouse management
- Fast delivery in throughout Europe
- Short response times and professional order processing due to full digitalization throughout the entire process with complete traceability
- Incoming goods inspection include checks of the DRAMs, PCBs and the programmed SPDs in order to exclude possible errors (Controlled BOM).
- PHS-memory® brand memories guarantee 100% compatibility to the specified system.
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- Products with unique serial number for service and warranty
- Pre-sales and after-sales support by technically trained personnel



Memory Specification



| Memory size | 32GB |
|---------------------------|-------------------------|
| Memory technology | DDR4 |
| ECC support | ja |
| JEDEC Norm | PC4-2133P-R |
| DRAM Organization | 2Gx4 |
| Rank | 2Rx4 |
| Туре | RDIMM (ECC Registered) |
| Number of pins | 288 Pin DIMM |
| Memory data transfer rate | 2133MHz @ CL15 |
| Voltage | 1,2 Volt |
| Speciality | - |
| Board dimensions | 133,35 x 31,25 (LxB mm) |
| Operating temperature | 0° C - 85° C |
| Storage temperature | -40° C - +95° C |
| RoHS compliant | Yes |
| SKU | SP159520 |
| EAN | 4055069311143 |

Note: The module specified in this datasheet is one of several possible configurations available under this part number.

Some details may differ from the specifications described here and the illustration, but have no negative influence on the functionality.



System Specifications

The memory is 100% compatible with this sytem:

| System manufacturer | ASRock |
|--------------------------|---------------------------------------|
| Device type | Motherboard-memory |
| Device family | Mainboard X |
| Device series | X99 Serie |
| Device name | X99 WS |
| Maximum memory* | 2TB / 256GB according to manufacturer |
| Number of memory sockets | 8 |

* The specifications for the maximum memory upgrade may differ from those of the manufacturer ASRock. Often the information given in the manual for the maximum memory upgrade is not up to date. New memory technologies, bios updates or newer software versions often allow the use of memory modules with a higher capacity than specified by the manufacturer with the same performance and stability.

Information on memory allocation

Which memory configuration is possible?

memory for Core i7 5th Generation CPU:

- Optimal performance is achieved by 4 or 8 identical memories per CPU.
- If an i7 processor is used, UDIMM memory modules must be installed.

memory for Xeon CPU:

- When using an XEON CPU, ECC and RDIMM memory must be used.
- The device supports ECC DIMM (with error correction code) or RDIMM (Registered DIMM) RAM memories. RDIMM
 memories are recommended when large memory capacities are to be achieved.
- The different memory technologies (ECC / RDIMM) may not be mixed.
- If a memory expansion is to be made with the already existing RAM memories, it must be checked which memory technology (ECC/ RDIMM) is already installed in the system.

| CPU im System | UDIMM | UDIMM ECC | RDIMM |
|-----------------|------------|---------------|-----------|
| | | | |
| Core i7-5960X | 4GB UDIMM | | |
| Core i7-5930K | 8GB UDIMM | | |
| Core i7-5820K | 16GB UDIMM | | |
| | 32GB UDIMM | | |
| | | | |
| Xeon E5-1600 v3 | | 8GB UDIMM ECC | 8GB RDIMM |



| Xeon E5-2600 v3 | | 16GB RDIMM |
|-----------------|--|-----------------|
| | | 32GB RDIMM |
| | | 64GB RDIMM DDP |
| | | 128GB RDIMM 3DS |
| | | 256GB RDIMM 3DS |

Information on memory installation

- Turn off the system
- Remove the plug of the power supply unit (if connected)
- Remove the battery, according to the user manual of the system
- Always ground yourself before touching electronic components
- Protect the memory module from static voltages:
- Do not touch the gold pins of the memory module - Only touch the sides of the memory module
- Use a grounding strap and/or ESD glove if possible

General installation instructions are supplied by E-Mail.



Further memory options for ASRock X99 WS

| Size | SKU | Technology | Туре | Number of pins | Brand | Reference no. |
|-------|----------|------------|-----------------------------------|----------------|-------------|---------------|
| 4GB | SP159523 | DDR4 | UDIMM (Non- ECC unbuffered) | 288 Pin DIMM | PHS-memory® | |
| 8GB | SP159524 | DDR4 | UDIMM (Non- ECC unbuffered) | 288 Pin DIMM | PHS-memory® | |
| 8GB | SP159521 | DDR4 | RDIMM (ECC Registered) | 288 Pin DIMM | PHS-memory® | |
| 8GB | SP159518 | DDR4 | UDIMM ECC (ECC unbuffered) | 288 Pin DIMM | PHS-memory® | |
| 16GB | SP160756 | DDR4 | RDIMM (ECC Registered) | 288 Pin DIMM | PHS-memory® | |
| 32GB | SP159520 | DDR4 | RDIMM (ECC Registered) | 288 Pin DIMM | PHS-memory® | |
| 64GB | SP464121 | DDR4 | RDIMM (ECC Registered) 3DS | 288 Pin DIMM | PHS-memory® | |
| 128GB | SP464122 | DDR4 | RDIMM (ECC Registered) 3DS | 288 Pin DIMM | PHS-memory® | |
| 256GB | SP464123 | DDR4 | RDIMM (ECC Registered) 3DS | 288 Pin DIMM | PHS-memory® | |

PHS-memory® warranty

Every PHS-memory® is equipped with a 5-years-warranty of perfect operation. If the RAM module is defective or fails within 5 years of purchase when used properly, you will receive an appropriate RAM module free of charge. If a suitable memory module is no longer available, we will refund the purchase price.

For more information on warranty and service please visit https://www.phs-memory.it/-W5Y



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All information without guarantee. Technical changes and errors excepted. You can find current price information in our online shop at https://www.phs-memory.it