

# 192GB (6x32GB) Kit Computer memory DDR4 for Apple MacPro 28-Core 2,5GHz (2019) RDIMM





# Your benefits ✓ verified quality memory ✓ 5 years warranty Warranty details see last page ✓ 100% compatible ✓ free support on our hotline ✓ fast delivery

#### 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.
- PHS-memory® memories can be used together with existing memories in the device depends on to the configuration rules of the system.
- The "fallback option" in the SPD of PHS-memory® allows DRAMs with higher clock rates to be operated together with older memory modules with lower clock rates within the system.
- 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   | yes  |
| JEDEC Norm  | PC4-23400-R                                  |
| DRAM Organization   | 2Gx4   |
| Rank  | 2Rx4   |
| Туре  | RDIMM (ECC Registered)                       |
| Number of pins  | 288 Pin DIMM                                 |
| Memory data transfer rate   | 2933MHz @ CL21                               |
| Voltage   | 1,2 Volt                                     |
|   |  |
| Speciality  | -  |
| Speciality  Board dimensions  | -<br>133,35 x 31,25 (LxB mm)                 |
|   | -<br>133,35 x 31,25 (LxB mm)<br>0° C - 85° C |
| Board dimensions  |  |
| Board dimensions Operating temperature                                    | 0° C - 85° C                                 |
| Board dimensions  Operating temperature  Storage temperature              | 0° C - 85° C<br>-40° C - +95° C              |
| Board dimensions Operating temperature Storage temperature RoHS compliant | 0° C - 85° C<br>-40° C - +95° C<br>yes       |

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      | Apple                        |  |  |
|--------------------------|------------------------------|--|--|
| Device type              | Workstation                  |  |  |
| Device family            | MacPro                       |  |  |
| Device series            | MacPro7,1 - 2019             |  |  |
| Device name              | MacPro 28-Core 2,5GHz (2019) |  |  |
| Maximum memory*          | 1,5TB                        |  |  |
| Number of memory sockets | 12                           |  |  |

<sup>\*</sup>The specifications for the maximum memory upgrade may differ from those of the manufacturer Apple. 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

#### Information on memory configuration

Our memory team will be happy to help you choose the right memory and configure your server. Folgende technischen Gegebenheiten sollten im Vorfeld beachtet werden:

- There are 12 memory slots, divided into 6 memory channels.
- MacPro7,1 with 24-Core and 28-Core CPU unterstützen until zu 12 x 128GB= 1,5TB RAM
- Sie können RDIMM Computer memory or LRDIMM Computer memory einsetzen. LRDIMM memory sind gerade dann empfehlenswert, wenn große memorykapazitäten erreicht werden sollen.
- Registered DIMM and Load Reduced LRDIMM memory modules must not be mixed. Bei einer Aufrüstung sollten Sie deshalb wissen, welche memory bereits vorhanden sind or komplett auf RDIMM or LRDIMMcomputer memory upgrade.
- Höhere memoryfrequenzen passen sich ggf. anderen memorytaktungen in der Systemumgebung an and unterstützen entsprechend langsamere Taktraten

### 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

#### Product Datasheet | SP336477 32GB Computer memory for MacPro 28-Core 2,5GHz (2019)



General installation instructions are supplied by E-Mail.



# Further memory options for Apple MacPro 28-Core 2,5GHz (2019)

| Size  | SKU      | Technology | Туре                          | Number of pins | Brand       | Reference no. |
|-------|----------|------------|-------------------------------|----------------|-------------|---------------|
| 8GB   | SP336478 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 16GB  | SP336476 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 16GB  | SP373498 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 8GB   | SP474612 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 32GB  | SP336477 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 32GB  | SP468838 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 64GB  | SP336475 | DDR4       | LRDIMM (ECC<br>LR DIMM)       | 288 Pin DIMM   | PHS-memory® |               |
| 64GB  | SP468839 | DDR4       | RDIMM (ECC<br>Registered)     | 288 Pin DIMM   | PHS-memory® |               |
| 128GB | SP373491 | DDR4       | LRDIMM (ECC<br>LR DIMM)       | 288 Pin DIMM   | PHS-memory® |               |
| 128GB | SP468841 | DDR4       | RDIMM (ECC<br>Registered) 3DS | 288 Pin DIMM   | PHS-memory® |               |
| 64GB  | SP373484 | DDR4       | LRDIMM (ECC<br>LR DIMM)       | 288 Pin DIMM   | PHS-memory® |               |
| 128GB | SP336474 | DDR4       | LRDIMM (ECC<br>LR DIMM)       | 288 Pin DIMM   | PHS-memory® |               |
| 128GB | SP468842 | DDR4       | RDIMM (ECC<br>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 <a href="https://www.phs-memory.es/-W5Y">https://www.phs-memory.es/-W5Y</a>





#### Contact Information

PHS-electronic gmbh - www.phs-memory.es -Karl-Götz-Str. 5 97424 Schweinfurt Alemania Phone: +49 9721 784678 E-Mail: info@phs-memory.es Web: www.phs-memory.es

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