

# 384GB (6x64GB) Kit Computer memory DDR4 for Apple MacPro 12-Core 3,3GHz (2019) LRDIMM





verified quality memory

free support on our hotline

5 years warranty Warranty details see last page

100% compatible

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	64GB		
Memory technology	DDR4		
ECC support	yes		
JEDEC Norm	PC4-23400-L		
DRAM Organization	4Gx4		
Rank	2Rx4		
Туре	LRDIMM (ECC LR DIMM)		
Number of pins	288 Pin DIMM		
Memory data transfer rate	2933MHz @ CL21		
Voltage	1,2 Volt		
Speciality	-, DDP		
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	SP373481		
EAN	4064578365356		

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 12-Core 3,3GHz (2019)	
Maximum memory*	768GB	
Number of memory sockets	12	
Device series  Device name  Maximum memory*	MacPro 12-Core 3,3GHz (2019) 768GB	

<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

The following technical specifications should be considered in advance:

- There are 12 memory slots, divided into 6 memory channels..
- Der MacPro7,1 with 8-Core and 12-Core CPU supports until 12 x 64GB or 6 x 128GB =768GB RAM
- The system supports RDIMM and RDIMM 3DS (Registered DIMM) or LRDIMM and LRDIMM 3DS (Load Reduced DIMM) memory modules. Large memory capacities can be realised with LRDIMM 3DS modules.
- RDIMM and RDIMM 3DS memory modules cannot be operated together with LRDIMM and LRDIMM 3DS main memories.
- If a memory expansion is to be made with the already existing RAM memories, it must be checked which basic memory technology (RDIMM / LRDIMM) is available.
- Memory slots without a processor may not be used.
- A higher memory clock of the memory module automatically adapts to the memory clock specified by the system. This can be the case especially with larger capacities.

## 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 Apple MacPro 12-Core 3,3GHz (2019)

Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
8GB	SP336463	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
16GB	SP336461	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
16GB	SP373495	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
8GB	SP474609	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
32GB	SP336462	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
32GB	SP373502	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
64GB	SP336460	DDR4	LRDIMM (ECC LR DIMM)	288 Pin DIMM	PHS-memory®	
64GB	SP468823	DDR4	RDIMM (ECC Registered)	288 Pin DIMM	PHS-memory®	
128GB	SP373488	DDR4	LRDIMM (ECC LR DIMM)	288 Pin DIMM	PHS-memory®	
128GB	SP468826	DDR4	RDIMM (ECC Registered) 3DS	288 Pin DIMM	PHS-memory®	
64GB	SP373481	DDR4	LRDIMM (ECC LR DIMM)	288 Pin DIMM	PHS-memory®	
128GB	SP336459	DDR4	LRDIMM (ECC LR DIMM)	288 Pin DIMM	PHS-memory®	
128GB	SP468827	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.fr/-W5Y





#### Contact Information

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

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