

## 32GB Computer memory DDR3 for Apple Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere) 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	DDR3		
ECC support	yes		
JEDEC Norm	PC3-10600R		
DRAM Organization	2Gx4		
Rank	4Rx4 (4DRx4 DDP)		
Туре	RDIMM (ECC Registered)		
Number of pins	240 Pin DIMM		
Memory data transfer rate	1333MHz @ CL9		
Speciality	DDP		
Board dimensions	133,35 x 30 (LxB mm)		
Operating temperature	0° C - 85° C		
Storage temperature	-40° C - +95° C		
RoHS compliant	yes		
SKU	SP463086		
EAN	4067488265884		

# overRAMing - maximize your RAM



Most systems - including the Apple Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere) - can be upgraded with more memory than originally specified by the device manufacturer.

Therefore, our memory specialists continuously analyze new memory solutions in selected systems. Due to improved manufacturing technologies, new memories with higher performance and capacity will be tested for stability and functionality.

Then the new memory solutions are released for the respective systems. Use the benefits of larger computer memory capacity with the PHSmemory® overRAMing memory solutions.

https://www.phs-memory.es/-BOR

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	MacPro5,1 - Mid 2010
Device name	Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere)
Standard memory	6GB (6x1GB)
Maximum memory*	256GB / 128GB according to manufacturer
Number of memory sockets	8

<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.

Memory modules with our overRAMing-symbol are approved by us for maximum memory expansion.

### Information on memory allocation

### Information on memory configuration

The following technical specifications should be considered in advance:

- 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.
- 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.
- Memory slots without a processor may not be used.

Technologie	GB / Modul	Count	Total	
UDIMM ECC	8GB RAM	8	64GB	
RDIMM	16GB RAM	8	128GB	
RDIMM	32GB RAM	8	256GB	

### Information on memory installation

### Product Datasheet | SP463086

32GB Computer memory for Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere)



- 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 Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere)

Size	SKU	Technology	Туре	Number of pins	Brand	Reference no.
4GB	SP125228	DDR3	UDIMM ECC (ECC unbuffered)	240 Pin DIMM	PHS-memory®	
8GB	SP414277	DDR3	RDIMM (ECC Registered)	240 Pin DIMM	PHS-memory®	
8GB	SP125229	DDR3	UDIMM ECC (ECC unbuffered)	240 Pin DIMM	PHS-memory®	
16GB	SP463085	DDR3	RDIMM (ECC Registered)	240 Pin DIMM	PHS-memory®	
32GB	SP463086	DDR3	RDIMM (ECC Registered)	240 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.





### 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