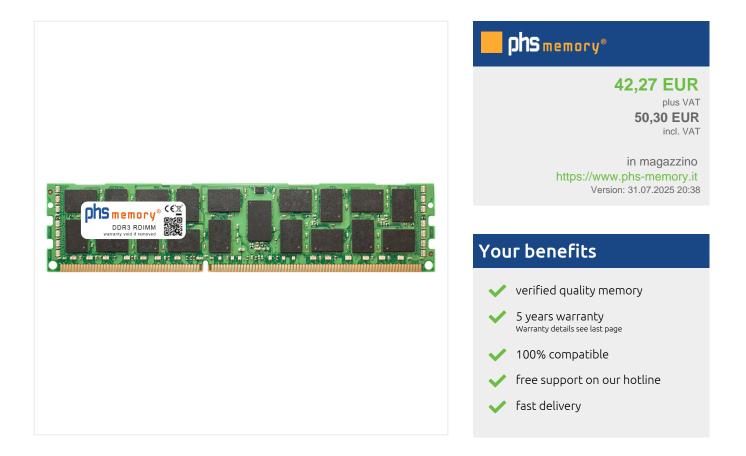
# phs memory®

## 16GB Computer memory DDR3 for Apple Mac Pro Twelve Core 2.93GHz (Mid 2010/Westmere) 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.
- 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

| -  | 133.35mm |                 |      |
|--|----------|-----------------|------|
| China menory<br>DBR3 RDIMM<br>Warranty void if removed |          | 17.3mm<br>9.5mm | 30mm |
| ◄ 54.68mm ►  |          | ×               |      |

| Memory size               | 16GB                   |
|---------------------------|------------------------|
| Memory technology         | DDR3                   |
| ECC support               | yes                    |
| JEDEC Norm                | PC3-10600R             |
| DRAM Organization         | 1Gx4                   |
| Rank                      | 2Rx4                   |
| 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                       | SP463085               |
| EAN                       | 4067488265877          |

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<br>2010/Westmere) |
| Standard memory          | 6GB (6x1GB)  |
| Maximum memory*          | 256GB / 128GB according to manufacturer            |
| Number of memory sockets | 8  |

\* 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:

- 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 64  |       |  |
| RDIMM       | 16GB RAM   | 8     | 128GB |  |
| RDIMM       | 32GB RAM   | 8     | 256GB |  |

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

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

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



## Contact Information

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

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