***w w w . i ei w or l d .c om***

GRAND-MF

Powered by a high-performance AMD R-Series quad-core processor with up to 64GB DDR4 RAM, the GRAND-MF provides two M.2 SATA 6Gb/s SSD slots that allows the greatest ﬂexibility in tiered storage configuration and enables cache acceleration. This powerful hardware can also double the encrypted file transfer performance with AES-NI encryption acceleration. The GRAND-MF is designed for small and medium-sized businesses looking for private cloud, cross-platform file sharing and collaboration, efficient backup/restoration, storage for virtualization, and to future-proof their IT infrastructure with maximized ROI.

# *Features*



## IAMD R Series RX-421ND quad-core 2.1 GHz CPU (Turbo Core up to 3.4 GHz)

* 4 x DIMM Slots, up to 64 GB memory with 4 x 16GB DIMMs
* Ready to support 10GbE network card
* Storage expandable, up to 1PB

**AMD R-Series quad-core CPU, up to 64GB RAM, and AES-NI encryption acceleration**

The GRAND-MF is equipped with a next-gen AMD R-Series RX-421ND quad- core 2.1 GHz processor (burst up to 3.4 GHz), dual channel 8GB/16GB/64GB DDR4 RAM (upgradable to 64GB), and four Gigabit LAN ports for lightning-fast multi-tasking with low power consumption and the ability to deliver up to 1531 MB/s throughput with a 10GbE configuration. The GRAND-MF's accelerated encryption engine with AES-NI provides unmatched encryption performance in its class (up to 1315 MB/s with AES 256-bit full storage server volume encryption) to boost system performance, security, and ensure the safety of sensitive business data stored in the storage server.



**Sequential Throughput via Encrypted Volume (10GbE, 64KB)**

Read **1030**

Write **880**



**Sequential Throughput (10GbE, 64KB)**

Read Write

**1120**

**880**

MB/s 0

300

600 900

1200

# *Specifications*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model** | **GRAND-MF- 16C-RP** | **GRAND-MF-16C** | **GRAND-MF- 12B-RP** | **GRAND-MF-12B** | **GRAND-MF- 08B-RP** | **GRAND-MF-08B** |
| **CPU** | AMD R-Series RX-421ND quad-core 2.1 GHz processor, turbo core up to 3.4 GHz | | | | | |
| **Encryption Acceleration** | AES-NI | | | | | |
| **Memory** | Maximum 64GB (4 x 16GB)  4 x UDIMM DDR4, up to 2400MHz  (For dual- or quad-DIMM configurations, you must use a pair of identical DDR4 modules.) | | | | | |
| **Drive Types** | 16 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | | 12 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | | 8 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs | |
| **M.2 SSD Slots** | 2 x M.2 2280/2260 SATA 6Gb/s SSDs | | | | | |
| **Gigabit LAN Port** | 4 x Gigabit RJ45 LAN ports | | | | | |
| **PCIe Slot** | 1 x PCIe Gen 3 x4 | | | | | |
| **USB Ports** | 2 x USB 3.1 Gen 1 (5Gb/s) port, 4 x USB 2.0 port | | | | | |
| **LED Indicator** | Status/Power, LAN, USB, Drive 1 - 16 | | Status/Power, LAN, USB, Drive 1 - 12 | | Status/Power, LAN, USB, Drive 1 - 8 | |
| **Button** | Power/Status, Reset | | | | | |
| **Maintenance Port** | 1 x 3.5 mm console port | | | | | |
| **Form Factor** | 3U Rackmount | | 2U Rackmount | | | |
| **Dimension (H x W X D)** | 130 x 481 x 536 mm  5.12 x 18.94 x 21.10 inch | | 89 x 482 x 534 mm  3.5 x 18.98 x 21.02 inch | | | |
| **Net Weight** | 15.42 kg (34 lbs.) | 14.25 kg (31.42 lbs.) | 11.81 kg (26.04 lbs.) | 10.71 kg (23.62 lbs.) | 10.96 kg (24.16 lbs.) | 9.86 kg (21.74 lbs.) |
| **Operating Temperature & Relative Humidity** | 0 to 40ºC (32 to 104ºF), 5 ~ 95% RH non-condensing, wet bulb: 27ºC | | | | | |
| **Power Suply** | 500W (x2),  100-240V AC, 50/60 Hz | 350W,  100-240V AC, 50/60 Hz | 300W (x2),  100-240V AC, 50/60 Hz | 350W,  100-240V AC, 50/60 Hz | 250W (x2),  100-240V AC, 50/60 Hz | 250W,  100-240V AC, 50/60 Hz |
| **Fan** | 4 x 92 mm, 12V DC | | 2 x 70 mm, 12V DC | | | |

***Ordering Information***

|  |  |
| --- | --- |
| **Part No.** | **Description** |
| **GRAND-MF-08B-R10** | 2U 8Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 250W single PSU, RoHS |
| **GRAND-MF-08B- RP-R10** | 2U 8Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 250W redundant PSU, RoHS |
| **GRAND-MF-12B-R10** | 2U 12Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 350W single PSU, RoHS |
| **GRAND-MF-12B-RP-R10** | 2U 12Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 350W redundant PSU, RoHS |
| **GRAND-MF-16C-R10** | 3U 16Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 350W single PSU, RoHS |
| **GRAND-MF-16C-RP-R10** | 3U 16Bay front 3.5" HDD or SSD support, rackmount storage server system (Barebone) with AMD RX-421ND, 500Wredundant PSU, RoHS |

\*Pre-install Memory by Request

# *Packing List*

***Options***

|  |  |  |
| --- | --- | --- |
| **Item** | **Order P/N** | **Description** |
| **Network card** | **LAN-10G2SF-MLX** | Dual-port 10GbE SFP+ network expansion card |
| **Network card** | **LAN-10G2T-X550** | Dual-port 10GbE 10GBASE-T network expansion card |
| **Network card** | **LAN-1G2T-I210** | Dual-port Gigabit network expansion card |
| **USB card** | **USB-U31A2P01** | USB 3.1 Gen 2 10Gbps Type-A dual-port PCIe card |
| **M.2 SSD** | **SSD-M2080- 256GB-A01** | SSD module |
| **Heatsink** | **HS-M2SSD-01** | Heatsink for M.2 SSD module,14 x 14mm |
| **SAS Card** | **SAS-12G2E** | Dual port storage expansion, SAS 12Gbps |
| **Rail kit** | **RAIL-A03-57** | A03 series (Chassis) slide, Maxmium load 57 kg |
| **Cable** | **CAB- SAS10M-8644** | MiniSAS Cable (SFF-8644 to SFF-8644),1.0m |
| **CAB- SAS05M-8644** | MiniSAS Cable (SFF-8644 to SFF-8644), 0.5m |



GRAND-MF-2019-V10

***Data Storage***

|  |  |
| --- | --- |
| Ethernet Cable x 2 | Flat head screws (for 2.5” HDD) |
| Power cord x 2 (non RP model only one power cord) | Flat head screws (for 3.5” HDD) |