



Sfera Labs Extends Family of Pi-Based Edge Computing Servers with Strato Pi CM v3 and Strato Pi CM Duo v3

Latest Raspberry Pi solutions for industrial applications combine support for Raspberry Pi CM4S with higher precision RTC, extended battery back-up and enhanced RS-485 protection

February 8th, 2023 – Sfera Labs has expanded its Strato Pi CM family of compact Raspberry Pi-based Compute Module (CM) servers with two new models that provide support for the new Raspberry Pi Compute Module 4S (CM4S) alongside other performance improvements. The Strato Pi CM v3 and Strato Pi CM Duo v3 are ideally suited to industrial and IoT applications ranging from energy management and data collection to building automation and control of marine systems.

Sfera Labs introduced Strato Pi CM, a powerful, compact, 2 DIN-Rail module edge-computing server, in 2018. In 2019 Strato Pi CM Duo - the first Raspberry Pi based device supporting dual SD cards - was added to the Strato Pi CM product line. These products play a critical role where reliability and fault tolerance are essential; for example, distributed edge computing solutions, where servers are often installed in remote locations and expected to have a very long service life yet where physical access to the devices is limited and expensive. In these conditions, it is crucial to allow safe in-field software and firmware upgrades and to implement specific hardware features to recover from the most likely hardware and software issues.

The latest Strato Pi CM / CM Duo v3 versions provide users with the benefits of the improved performance of CM4S, which is based on the CPU used in the Raspberry Pi 4 Model B and is significantly more powerful than the CM 3+ and the older CM 3, which are all supported for back compatibility. The new Strato Pi v3 models feature enhanced protection of the RS-485 lines and a re-designed real-time-clock circuit with improved timekeeping accuracy and extended backup battery life. Each product retains the same watchdog, isolated RS-485 port, and USB ports with independent power control and fault detection that has been built into previous generations of Strato Pi CM / CM Duo.

Strato Pi CM and Strato Pi CM Duo include two USB ports. These can be individually power-cycled and there is circuit fault protection and detection on each port. Among the benefits that this offers is the ability to turn off and back on an external USB-powered device under the module's control should the device becoming locked, thus avoiding long downtimes and costly on-site maintenance.

Strato Pi CM Duo has two microSD card slots and an innovative high-speed switch matrix that allows the Raspberry Pi Compute Module to boot the operating system from either SD card while at the same time having full access to the other SD card for additional storage or to keep an up-to-date failover image of the operating system and

data. This architecture enables a full-image upgrade of the Pi's operating system to be performed on one SD card while the system runs from the other. Following verification of the new image, the Strato Pi CM Duo can restart the Compute Module, booting from the second SD card. If the boot process is unsuccessful, it will safely roll back to the original SD card.

Furthermore, the Strato Pi CM and Strato Pi CM Duo microcontroller's firmware can be upgraded remotely from the Pi itself, with the Raspberry Pi remaining fully functional during the upgrade, thanks to the pre-installed boot loader and our open-source utilities.

The Strato Pi CM and Strato Pi CM Duo include a Secure Element chip, enabling the storage of security keys and the implementation of other security features on a dedicated hardware device.

Both Strato Pi CM v3 and Strato Pi CM Duo v3 are ready to ship and can be ordered on the Sfera Labs online store or at mouser.com

<https://www.sferalabs.cc/product/strato-pi-cm-duo-v3/>

<https://www.sferalabs.cc/product/strato-pi-cm/>

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About Sfera Labs

Founded in 2016, Sfera Labs is an Italian private company that designs, manufactures and sells servers, embedded systems, I/O modules and sensors for industrial automation, IoT and edge computing based on innovative, widespread, open source, community-supported technologies such as Raspberry Pi and Arduino. Sfera Labs also offers OEM solutions as well as custom product design and branding, and software development services. The company is dedicated to delivering high-quality, innovative, flexible solutions to meet the requirements of the modern industrial automation market. Visit Sfera Labs at www.sferalabs.cc.

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