Strato Industrial Raspberry Pi Server 4B 4GB UPS amp Fan (150 EUR)

Locatie **Zuid-Holland, Oegstgeest**
https://www.advertentiex.nl/x-1887572-z

7 Industriele Sferalabs Strato Raspberry Pi Server 4B 4GB + UPS & Fan units ter overname. 5 stuks zijn enkele weken tot maanden gebruikt in een pilotproject (geen gebruiksporen) en 2 zijn er nog nieuw onuitgepakt in de doos. Ze zijn door een verandering van het productontwerp inmiddels overbodig en mogen per stuk of met meerdere tegelijk (met korting) de deur uit. De nieuwprijs was/is €285 en de vraagprijs is per stuk. Zie ook mijn andere advertenties voor de bij de UPS passende loodaccu.

Specificaties:

An industrial Raspberry PiStrato Pi UPS enhances the Raspberry Pi computer with several hardware features to make it suitable for use in industrial and professional applications where reliability and service continuity are key requirements.
It is compliant with the low voltage and EMC CE directives, as well as the harmonised standards for electromagnetic compatibility, electrical safety, emission and the RoHS directive for hazardous substances. It is also compliant with the applicable FCC rules and IC standards.
FeaturesMounting:
4 modules DIN rail casepower supply and serial connections on screw terminal block
Power supply:
9-28Vdc power supply, with surge and reverse polarity protection, and 2.2A resettable fuseup to 4.0A max current to the 5V Raspberry Pi power supply input pins (at 24Vdc)auxiliary power supply output voltage, to power external devices through Strato Pi UPSintegrated uninterruptible power supply (UPS), with external lead-acid 12V battery2.2A resettable fuse on battery inputsimple UPS control and feedback via GPIO
Serial interfaces:
software RS-232 and RS-485 interfaces for the Raspberry serial line, with built-in driver and configurable slew-rate limiting function
High reliability and security:
hardware watchdog implemented in the Strato Pi board, fully independent from the Raspberry Pi, controlled via GPIOreal time clock (RTC) with replaceable back-up batteryoptional embedded Microchip ATECC608A/B secure element chipintegrated boot loader for the Strato Pi micro-controller, allowing in-field firmware upgrades directly from the Raspberry Pioptional pre-assembled SPBF10X Strato Pi Fan active cooling temperature controlled high performance fan
More:

buzzer, controlled via GPIOLEDs for power supply, battery and serial line activity
Raspberry Pi embedded:
1 x Ethernet4 x USB1 x HDMI (RPi 3+) / 2x Micro HDMI (RPi 4)1 x microSD card slot1 x jack for audio and composite videoWiFiBluetooth/BLE
HighlightsPower SupplyA high quality and stable power supply is extremely important to ensure reliable operation of your Raspberry Pi. Most USB power supplies are designed to recharge mobile devices, and not for continuous 24/7 loads in harsh industrial environments.
Strato Pi accepts a wide power supply range and is able to effectively handle substantial amounts of ripple, noise and supply voltage fluctuations. The power supply stage is a heavily protected and filtered circuit, using oversized electrolytic capacitors, diodes and inductors, and a high efficiency voltage regulator.
The step-down converter is based on advanced, high-output-current PWM converter integrated circuits with low resistance MOSFET, with approximately 95% efficiency and up to 3A continuous output current. It includes over current limiting, over voltage protection and thermal shutdown.
The power supply stage is also protected from reverse polarity with resettable fuses. Surge protection up to ±500V/2ohms 1.2/50?s ensures reliability in harsh environments.
UPSIn many cases, and specifically with database and data collection applications, losing data because of a sudden power interruption is simply not an option. Strato Pi has an integrated uninterruptible power supply that guarantees ample time to save your data and perform a clean shutdown in case of a power failure.
The battery power supply stage is a heavily protected and filtered circuit, performing the supplying of Strato Pi circuits without any interruption of its operations when the main power supply fails. This stage also performs the charging of the battery through a high efficiency step-up converter, thus generating the optimal charging voltage independently from the main supply value.
Dedicated GPIO pins are used to monitor the power status and control the shutdown cycle. Having full control of the power-down process from any software on the Raspberry Pi is a great feature that allows you to implement a clean and safe operating system shutdown when power is lost.
Real Time ClockThe Raspberry Pi relies on Internet time servers to set its internal clock to the current date and time on start-up. If your applications always requires the correct time, even when not connected to the Internet, then you need to have a local real time clock/calendar to permanently keep track of time, even when the Raspberry Pi is off.
Strato Pi features a battery-backed real time clock/calendar, directly connected to the Raspberry board through the I2C bus interface. The automatic switch-over to a lithium battery guarantees the functionality of the RTC when its main power supply fails.
The real time clock is based on the MCP79410 general purpose RTCC chip from Microchip. It is connected to the Raspberry Pi’s I2C bus and, besides the standard clock function, it has several other advanced features.
A replaceable CR1025 battery is used as a backup power source when the main power is not available. If Strato Pi is always powered, the battery should last well over 10 years.
Serial PortRS-232 and RS-485 serial ports are still widely used to connect devices in industrial

automation and other applications. The Raspberry Pi lacks the circuitry to implement these protocols. While many USB adapters are available at reasonable price, they are usually not heavily protected and isolated.
The interface circuits of the RS-232 and RS-485 serial ports on Strato Pi are insulated from the main and battery power supply voltages, thus avoiding possible failures due to ground loops.
The insulation is obtained by means of a high efficiency isolated DC-DC converter and three hi-speed opto-couplers.
A micro-controller, using a proprietary algorithm, automatically manages the data direction of RS-485, taking into account the baud rate and the number of bits, without any special configuration. The Raspberry board can therefore communicate through its TX/RX lines without any other additional signal.
Hardware WatchdogA hardware watchdog is an electronic circuit that can reset the processor if, for any reason, the software application appears to be stuck. An automatic hardware restart after a software hang can save your day, particularly on unattended applications that need to work continuously.
Taking advantage of the Strato Pi on-board microcontroller, we have implemented an hardware watchdog circuit that can be used, upon a software hang, to reset the Raspberry Pi, as well as the auxiliary power supply output on Strato Pi UPS.
The Strato Pi watchdog is completely independent from the Raspberry Pi's internal CPU watchdog circuit and, being controlled by Raspberry Pi's GPIO pins, it is extremely easy to control from your application and very effective in recovering from unexpected malfunction.

Power supply9-28 V? (VDC)
Reverse polarity protection with 2.2 A resettable fuse. Surge protection up to ±1000V/2ohms 1.2/50?s
Battery input12 V lead acid battery (not provided).
Suggested capacity: 1.2 Ah. Reverse polarity protection with 2.2 A resettable fuse. Surge protection up to ±500V/2ohms 1.2/50?s
UPS battery maximum charge voltage15 VUPS battery charge current30…100 mAVoltage threshold for switching to battery mode7.2 V, 0.2 V hysteresisCurrent consumption at VS+ 12 V?
including Raspberry Pi 4, with Ethernet and RS-485 connected, no USB devices
low CPU load: 320 mA
100% CPU load, before throttling: 590 mA
100% CPU load, throttled: 500 mA
SPBF10X fan option, add: 50mA
Actual current consumption may vary based on working conditions
Current consumption at VS+ 24 V?
including Raspberry Pi 4, with Ethernet and RS-485 connected, no USB devices
low CPU load: 190mA
100% CPU load, before throttling: 320mA
100% CPU load, throttled: 260mA
SPBF10X fan option, add: 25mA
Actual current consumption may vary based on working conditions

Raspberry platform compatibilityPi 4 Model B
Pi 3 Model B+
Pi 3 Model B
Pi 2 Model B
(tested with Pi 4 Model B for regulatory compliance)
Serial communication portsRS-485 Half-Duplex with automatic data direction management
RS-232 Full-Duplex
Baud Rates on COMM ports1200 to 115200ESD-Protection Voltage on RS-232 TX/RX±15 kV human body model
±8 kV contact discharge
ESD-Protection Voltage on RS-485 A/B±15 kV human body model
±8 kV contact discharge
Surge protection on RS-485 A/BSurge protection up to ±500V/2ohms 1.2/50?s; 600 W peak pulse power capability at 10/1000?s waveformFail safe feature on RS-485YesElectromagnetic immunity complianceEN 61000-4-2 (ESD)
EN 61000-4-3 (Radiated RF Field)
EN 61000-4-4 (Burst/fast transient)
EN 61000-4-5 (Surge)
EN 61000-4-6 (Conducted)
EN 61000-4-8 (Power frequency magnetic field)
Real time clockInternal RTCC circuit with backup lithium battery. Only use CR1025 Lithium / Manganese Dioxide (Li/MnO2) batteries.
Expected battery life without main power supply: ~2 years
Housingstandard 4M for DIN railOperating temperatureStrato Pi UPS board only: -20…+70 °C
Strato Pi UPS server: -20…+50 °C
Strato Pi UPS server with SPBF10X: -20…+65 °C
Storage temperature-30…+70 °CProtection degreeIP20Fan noise (with SPBF10X fan option)23.6 dBAWeightStrato Pi UPS server: 155 g
Strato Pi UPS server with SPBF10X option: 165