

SINGLE DIN-RAIL SOLUTION

Industrial server combined with programmable controller

Sfera Labs, serving the IIoT (Industrial Internet of Things) with open source solutions, has announced the Iono Pi Max. It is an industrial-grade server with integrated PLC (programmable logic controller) functionality and power management.



(Source: Sfera Labs)

The integration of a server and programmable controller makes the product an all-in-one solution for industrial control. The product joins the company's existing range of industrial controllers and servers based on open source platforms. As the name may suggest, the Iono Pi Max is based on the Raspberry Pi Compute Module single-board computer, with additional hardware to provide a complete solution based on open source technology.

The processing element of the device is a Raspberry Pi compute module, so any software or program that can run on a Raspberry Pi will run on the product as well. An additional integrated micro-controller allows further application code to run alongside the Raspberry Pi, offering real-time response and control. With analog and digital interfaces, the product can connect to and control multiple external sensors and actuators, to create control systems.

Because the platform is open, users can implement the software their application needs, and run it on an operating system that supports the Raspberry Pi. The micro-controller of the introduced product, is also in-field

programmable, through the Raspberry Pi, with custom firmware. It is supplied in a DIN-rail mountable enclosure with the option of a UPS (uninterruptible power supply) for use in applications where protection from the disruption caused by a power outage is critical, explained the company.

Besides a CAN interface, the hardware features of the device include: relays; digital I/O (bidirectional TTL, digital inputs, and open collector outputs); Wiegand, 1-Wire, Ethernet, EIA-232, and EIA-485 interfaces; voltage and current inputs and outputs; dedicated temperature sensors inputs; a hardware watchdog, and real-time clock. Security is built in and the product also features dual SD cards for redundancy and in-field software updates, along with an I²C bus for further system expansion.

By including UPS capability, the addition of one 12-V/24-V rechargeable battery means the Iono Pi Max can continue to operate in the event of a power outage. Connected sensors, as well as other external devices, like cellular routers, can also be powered. This, coupled with the ability to interface directly to solar panels, also makes the product suitable for off-grid applications.

It is compliant with the FCC and IC electromagnetic emissions limits for use in residential, industrial, or commercial environments, and with the European Market electromagnetic emissions and immunity standards for residential, commercial, and light-industrial environments.

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