Rugged nano computer for industrial applications

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A particularly compact design and the Atom processors of the power-optimized E6xx series from Intel are the key features of the new Simatic IPC227D Nanobox PCs and the Simatic HMI IPC277D Nanopanel PCs from the Siemens Industry Automation Division. The devices belong to a new product line of particularly compact and energy-saving industrial PCs in the nano-format.

Siemens has launched an industrial computer about the size of a one-quart container: the Simatic IPC227D Nanobox PC.

Because the tiny device takes up less space than previous systems, industrial control cabinets can be made smaller, which cuts costs. Industrial PCs are used on production lines to process image data for quality assurance purposes, for example, or to control display and operating panels. In recognition of its innovative design, the Simatic IPC227D Nanobox PC has received the renowned iF product design

award.

Siemens is one of the leading manufacturers of industrial computers in Europe. The company's plant in Karlsruhe develops and manufactures all of the computer parts on its own — from the motherboard to the housing. These computers are used in industrial facilities, for building management, and in transportation systems. The devices frequently collect and process measurement data from a variety of sensors. Many of the computers are located directly in machines, where they are not protected by control cabinets. The devices nevertheless have to operate reliably, despite having to contend with vibrations, mechanical shocks, high temperatures, or strong stray electrical fields. This is why [Siemens](#) tests each PC for 36 hours at 40 degrees Celsius — a temperature the systems often encounter in practice. The components used for the computers are very robust and available for delivery over a period of many years.

The nano-format PC uses new, high-performance Atom processors from Intel. These processors consume little energy and generate almost no heat, which is why the computer doesn't need a fan and can be installed practically anywhere. In its basic configuration, the computer measures only 19 x 10 x 6 centimeters and is completely maintenance-free. Instead of a hard disk, it has temperature-resistant CompactFlash cards with up to eight gigabytes of capacity or solid-state drives (SSDs) of at least 50 gigabytes. What's more, the BIOS setup data is magnetically stored so that no batteries are needed as a safeguard.

The compact computer is also available for display and operating systems. Known as the Simatic HMI IPC277D Nanopanel PC, this version is embedded with 7-inch, 9-inch, or 12-inch high-resolution industrial touch displays. The displays consume very little power, thanks to LED backlighting that can be dimmed by up to 100 percent.

Source: Siemens

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