NEXCOM CPS 50-N01 Industrial Arm IoT Gateway Powers Future of Edge AI Computing in Industrial Applications

NextGen Machine Learning, Vision, and IoT Functions Require Power and Precision

FREMONT, CA, USA, March 28, 2023 /EINPresswire.com/ -- NEXCOM, a leading global supplier of intelligent industry 4.0 appliances, announced today launch of the CPS 50-N01 Industrial Arm IoT Gateway. The company's latest slim fanless embedded system is equipped with the powerful i.MX 8M Plus processor, capable of powering the latest machine learning, vision, advanced multimedia, and industrial IoT applications. The CPS 50-N01 is powering the future of AI-native platform and edge computing, including intelligent vision-based edge devices that require a small footprint, low latency, high power efficiency, and advanced precision.

The CPS 50-N01 delivers a highly integrated one-stop hardware solution to power advanced industrial automation applications with a high level of reliability. The i.MX 8M Plus-based next generation solution features four core 1.6 GHz Cortex®-A53 processors, supported by a Cortex® -M7 co-processor for real-time control. Dual ISPs and an integrated NPU offer additional power. Delivering up to 2.3 TOPS, the CPS 50-N01 facilitates powerful image and AI inferencing capabilities, while consuming less power compared to calculations completed by core CPUs alone. This enables powerful high-capacity AI applications like object detection, recognition, classification, and pose estimation.

"The NEXCOM CPS 50-N01 is designed to power the future of machine learning and edge AI vision applications, from facial recognition to product assembly optimization, which require premium camera inputs," said Peter Yang, President of NEXCOM. "Delivering reliability and longevity in a small package, the CPS 50-N01 is expanding capabilities and connectivity for Edge

AI.”

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>
> *Peter Yang, President*

The CPS 50-N01 offers a 1 x MIPI-CSI camera interface, with built-in hardware ISP to enable intelligent vision-based systems, delivering advanced 4K performance. It also supports one HDMI port, one dual-channel LVDS, or one 4-lane MIPI-DSI display interface, for facial recognition, object detection, digital signage, machine learning and vision applications. Delivering flexible I/O and peripherals, the CPS 50-N01 comes with 2GB of integrated LPDDR4 memory with ECC, 32GB eMMC, and Gigabit Ethernet with TSN, that provides Ethernet-connected deterministic control with precise time synchronization. It also features a module rear I/O mechanical design for connection with application-oriented I/O expansion boards. Developers can select I/O extension boards for more peripheral connectivity.

The CPS 50-N01 also provides the necessary I/O for advanced network and peripheral connectivity. Its coastline ports include 2 x GbE, 1 x HDMI, 1 x USB 3.2 Gen 1, and USB 2.0, RS-232/422/485. The internal connections include a MIPI-CSI camera interface, LVDS, or optional MIPI-DSI display interfaces. Expansion features of the CPS 50-N01 include an optional choice of expansion boards available by request, with additional RS-232, CAN, USB 2.0, and GbE ports. NexAIoT provides image and standard Board Support Package (BSP) support for Linux Yocto, with design-in services to help customers create their applications quickly.

Expansive connectivity, edge AI, and other capabilities are powered by the M.2 Key E and mini-PCIe, accompanied by a nano SIM card slot with optional Wi-Fi/BT and LTE modules. These features make the CPS 50-N01 perfect for edge AI and machine learning industrial applications, including calculations, line productivity monitoring, and improving manufacturing safety. The CPS 50-N01 provides product longevity and support for up to 15 years.

Features

- NXP i.MX 8M Plus Cortex®-A53 Quad Core processor with a Neural Processing Unit (NPU) operating at up to 2.3 TOPS
- 2 GB LPDDR4, 32 GB eMMC & SD socket for expansion
- Internal 1 x MIPI CSI, 1 x LVDS or optional 1 x 4-Lane MIPI-DSI connector
- 1 x HDMI, 1 x USB 3.2 Gen 1, 1 x USB 2.0, 1 x RS-232/422/485, 2 x GbE LAN
- 1 x Full-size mini-PCIe with nano SIM card slot for optional 5G/4G/LTE
- 1 x M.2 2230 Key E for optional Wi-Fi/BT
- Modular rear I/O design for easy customization
- Mic-in, line-out audio headers
- Support 9~30V DC input
- Dimensions: 162 (W) x 150 (D) x 26 (H) mm
- Operating system: Linux Yocto Project 3.0 (Zeus)

To learn more, please visit the NEXCOM website.

About NEXCOM
Founded in 1992, NEXCOM integrates its capabilities and operates eight global businesses, which are Industrial Mesh, Intelligent Platform @ Smart City, Intelligent Video Security, Mobile Computing Solutions, Medical and Healthcare Informatics, Network and Communication Solutions, Smart Manufacturing, and Open Robotics and Machinery. This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and services without compromising cost.

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