

Press Release

Lenze: Decentralized i-series motec inverters open up new perspectives for energy efficient production

Hamelin/Stuttgart, March 19, 2024. Increasing demands on energy efficiency and system transparency are constantly presenting industry with new challenges. With its i-series motec decentralized frequency inverters, automation specialist Lenze offers an intelligent, cost- and energy efficient solution. Machine builders and operators in the intralogistics, automotive and consumer goods production sectors are the main beneficiaries.

The increasing digitalization of industry plays a key role in public discourse. Ueli Allenspach, Product Manager Inverters at Lenze, says: "Digitalization also opens up scope for sustainable innovations in drive technology. We use intelligent technologies and comprehensive connectivity in the i550 and i650 motec frequency inverters. This opens up new standards for efficient production processes."

Digital in every respect

With its digital functions, the frequency inverter takes on several tasks at once: It acts as an efficient sensor in the system, collects data and forwards it to IIoT platforms and higher-level edge systems in a standardized and reliable manner. The connectivity of the motec accelerates and facilitates ongoing production processes. The DrivesDataHub software provided by Lenze enables direct access to important drive data via numerous communication interfaces. The integrated IO-Link master in particular provides machine operators with high-quality information about the drive technology. The sensor data analyzed in real time paves the way for condition monitoring and predictive maintenance. "This gives customers a comprehensive overview of the condition of their machine, enabling them to plan service and maintenance activities in advance, thereby saving time and money," explains Allenspach.

Before and during commissioning, the decentralized frequency inverter makes an essential contribution to an improved value chain, as important product data can be viewed at any time. The digital nameplate supports asset management standards and can be read via a smartphone or directly via the frequency inverter. This gives machine operators quick and easy access to relevant data such as product codes, CAD files and spare parts information.

Energy-efficient through and through

An important lever for saving energy is the motec's integrated energy recovery unit. Machine operators can rest assured that regenerative energy is not lost in braking resistors, as it is fed back into the grid automatically and without additional hardware costs.

The inverter also controls synchronous motors completely without sensors. The compact drive package consisting of gearbox, motor and inverter is particularly energy efficient. In combination, the three components ensure a minimal CO2 footprint for the application. The savings are particularly evident in intralogistics, as conveyor lines can be several kilometers long with thousands of drives in use - that adds up.

In addition, functions such as "VFC eco" improve the energy balance of the system. If Lenze's EASY System Designer is also used, optimum system design is guaranteed. The intelligent software avoids oversizing and leads to energy savings of up to 30 percent compared to previous designs.

Powerful, user-friendly, secure

The connectivity of the frequency inverter supports the entire system and simplifies the process chain right from the start. Voltage-free parameterization, simple menu navigation and practical factory settings are other noteworthy features that make commissioning easier.

With integrated positioning, the motec also masters dynamic motion control, which previously only a servo inverter could fulfill. This opens up new

applications for the inverter, creating further potential for cost savings. In addition, scalable, integrated safety levels from "STO" to "Extended Safety" with functions such as "SLS" through to "STO over CIP" ensure comprehensive machine protection and guarantee constant productivity. "Overall, our customers have the opportunity to solve decentralized safety applications without sensors, quickly and in a space-saving manner," adds Allenspach.

About Lenze

Lenze is a leading automation specialist and focuses on designing efficient and sustainable processes for production and material flow. For over 75 years, the company has been a pacesetter in automation and a strong partner at the side of its customers from the machine and plant manufacturing industry. With the help of a triad consisting of electrical engineering, software and a platform strategy, Lenze supports its customers in digitization and helps them to cut costs, optimize the utilization and lifecycle of machine systems and reduce their energy consumption. Lenze's portfolio consists of high-quality mechatronic solutions, powerful systems made of hardware and software for machine automation, and digital services for the machine and plant manufacturing industry.

The Lenze Group, headquartered in Aerzen, employs more than 3,700 people globally and is represented in 45 countries. The company generated revenue amounting around one billion euros across the Group in the 2022/2023 financial year.

www.Lenze.com



Press contacts, Lenze Group:

Corporate Communications

Head of Corporate Communications

Cornelia Müller

Telephone: +49 5154 82-6255

E-mail: cornelia.mueller@lenze.com

Head of Trade Press & Social Media

Ines Oppermann

Telephone: +49 5154 82-1512

E-mail: ines.oppermann@lenze.com

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