Press Release

Faster, more efficient, more sustainable: Lenze has the drive solution for the challenges of modern intralogistics

Stuttgart/Hameln, March 24, 2026. Intralogistics managers are under increasing pressure to operate their systems in a powerful, efficient and future-proof manner despite rising energy prices, ambitious climate targets and a shortage of skilled workers. Systems with many drives in particular often run in continuous operation and require solutions that save energy, can be used flexibly and at the same time enable fast project implementation and reduced maintenance costs. This is precisely where the new IE5/IE6 Motor Drive System with the decentralized frequency inverter i650 motec comes in, which Lenze will be presenting at LogiMAT 2026.

The IE5/IE6 Motor Drive System combines the i650 motec with the m550 or m650 synchronous motors and offers operators a solution that combines high energy efficiency with maximum performance. Thanks to the integrated Logic PLC and the positioning function, the drive takes over motion control independently, streamlining the system architecture and eliminating the need for higher-level controllers. For applications such as conveyor and stroke drives, this results in noticeable simplifications that significantly reduce both project runtimes and operating costs.

At the same time, the system delivers impressive performance: with up to 300 percent overload torque, the drive starts effortlessly from standstill under full load, completely without motor feedback. This enables precise, non-oversized design for continuous operation and reliably provides the required power at all times. The motors cover power ranges between 0.25 and 22 kW and can be combined with various gearbox types, so that the right solution can be found for every conveyor line and every dynamic requirement. The motors meet the highest energy efficiency classes IE5 and IE6. The IE5 motor is often more compact than a standard IE3 motor, which makes installation much easier. Another plus point: commissioning the IE5/IE6 motor on the i650 motec is just as easy as with an AC motor - which sets it apart from many other sensorless controlled synchronous motors.

Smart design and transparent energy efficiency

Customers who have worked with the EASY System Designer have confirmed how easy it is to design precise and energy-efficient drive solutions with this web-based tool. The assistant transparently shows the energy consumption in the respective application so that the best possible combination of motor, gearbox and drive can be found.

The high energy efficiency of the system is a major advantage for the customer. The combination of motor, gearbox and drive reduces energy losses by up to 60 percent. At the same time, the integrated energy recovery system automatically feeds excess energy back into the mains without the need for additional hardware. In intralogistics systems with long conveyor lines and many drives, this enables considerable savings to be made - both economically and in terms of CO_2 emissions. Machine operators also receive high-quality information from the machine sensors via the IO-Link interface and benefit from increased system transparency.

Encoderless intelligence and integrated safety

The system sets new standards in terms of operational safety and reliability. Thanks to the precise control of the synchronous motors, the i650 motec enables encoderless positioning, which eliminates the need for additional sensors and cabling. This not only lowers costs, but also reduces the likelihood of malfunctions and simplifies mounting.

Integrated safety functions such as Safe Torque Off and Safe Torque Off over CIP ensure a high level of protection for man and machine. In the future, the system will be expanded to include further encoderless safety functions such as SLS and the PROFISAFE and FSoE protocols, making the solution fit for future regulatory requirements and offering additional investment security.

Sustainable, low-maintenance and ideal for dynamic applications

The elimination of feedback systems, complex cables and superfluous hardware results in an extremely resource-efficient system that simplifies installation and commissioning and significantly reduces maintenance costs. In combination with the decentralized operation, which does not require brake resistors, the system underlines its role as a sustainable and economical solution. The i500 cabinet inverters can also exchange excess energy via the DC network and make it available to other axes.

Dynamic applications in particular - for example in airport logistics or the beverage industry - benefit from the sensorless and precise positioning via the SLSM algorithm. The system thus achieves the accuracy of a closed control loop without the need for feedback from the motor or special cabling.

About Lenze

Lenze is a leading drive specialist for mechanical and plant engineering. For more than 75 years, the company has been a pacemaker and strong partner at its customers' side. With the help of the triad of electromechanics, electronics and software, Lenze accompanies its customers and helps them to optimize production and logistics processes, cut costs and reduce their energy consumption.

The Lenze Group, based in Aerzen, employs more than 3,600 people worldwide and is represented in 45 countries. Group-wide, the company generated a turnover of 828 million euros in the 2023/2024 financial year.

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