

NEW

Lenze
engineered to win

Motor Drive System IE5/IE6

In sync
with efficiency



Performance “in sync” with energy efficiency and cost-effectiveness

We present our new Drive System based around the first synchronous motor that is as easy to use as an asynchronous motor. The permanent magnet inside is so intelligently designed that **efficiency classes IE5 and IE6** are achieved.

The drive system comprising the m550/m650 motor, g500 gearbox and the current i550 and i650 generation of frequency drives also performs sensorlessly in dynamic applications.

The new Motor Drive System is “**in sync**” with current and future challenges for a wide range of industrial applications:



- **Performance:** 300% overload torque accelerates the motor from standstill to full load
- **Motor losses:** Are reduced by more than 60%
- **Reduced hardware costs:** between 20% – 50% compared to conventional solutions
- **Sustainability:** High energy efficiency reduces energy costs and the CO₂ footprint by more than 10%
- **Easy design-in:** Space-saving installation of the motor system thanks to compact design



Innovative motor design

The innovative **motor design** of the synchronous motor achieves top-class efficiency **IE5/IE6** together with the Lenze frequency drives.



Energy efficiency increases profitability

- 64 MWh electricity
- 12,000 EUR
- 27 t CO₂

Compared to IE3 motors, motors in efficiency class IE5 save the **specified amounts** of electricity, energy costs and CO₂ emissions every year. *

If an IE6 motor is used, these savings are doubled again.

*Use case:

800 Motor Drive Systems IE5 operating in a large warehouse of a logistics company, in one year at an average utilization rate.

In sync

with innovative
drive solutions

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Market requirements such as ever-increasing efficiency regulations, resource-saving production for international applications and ease of use played a leading role in motor development.

The new **Motor Drive System IE5/IE6** meets these requirements. The sensorless motor is perfectly matched to the innovative drives software Sensorless Synchronous Motor Control (SLSM) of the current frequency drives from Lenze.

Simple from the start

Easy engineering along all phases.

Energy is used intelligently right from the **planning** and the Lenze System Designer shows how much electricity and **energy costs can be saved** later in production. Sensorless motor operation makes an expensive feedback system superfluous. This keeps **installation costs** and additional hardware to a minimum and reduces complexity and errors. The actual **commissioning** of the motor is achieved by setting a single parameter.

Full load from standstill

Overload torque of 300%.

Starting from standstill to full load is no problem, when case conveyors have to start up again or bottle conveyors restart after the weekend. This means that the **system** can be **designed smaller and more efficiently** for continuous operation and delivers the required power immediately. Combined with the **high torque**, and low power losses this makes the Motor Drive System IE5/IE6 an efficient powerhouse.

Sustainable pays off

Motor losses reduced by more than 60%.

This leads to direct savings during operation. Regenerating braking energy with the **decentralized motec drive** has also proven its worth. With the motec's integrated energy recovery, energy is not wasted but as electricity fed back into the grid. Both have a positive effect in the short-term, but also have a sustainable and **resource-saving** effect on an **optimized CO₂ footprint** in the long-term.

Versatile in use

Makes life easier for users in intralogistics, packaging technology and numerous other applications: **Motor Drive System IE5/IE6**. At its heart is the new **m550** permanent synchronous motor with a **power range of 0.25 to 11 kW** or the **m650** which has a **power range of 0.75 to 22 kW**, predestined for dynamic applications.

