



Three-phase AC motors

Lenze Motor m500 + i550 motec

A matter of principle: the right products for every application.

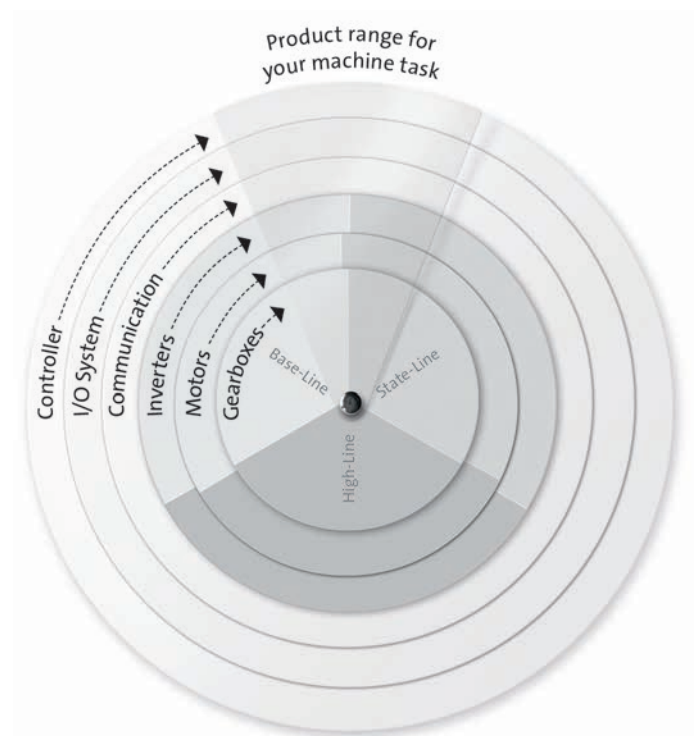
Lenze's extensive L-force product portfolio follows a very simple principle. The functions of our finely scaled products are assigned to the three lines Base-Line, State-Line or High-Line.

But what does this mean for you? It allows you to quickly recognise which products represent the best solution for your own specific requirements.

Powerful products with a major impact:

- Easy handling
- High quality and durability
- Reliable technologies in tune with the latest developments

Lenze products undergo the most stringent testing in our own laboratory. This allows us to ensure that you will receive consistently high quality and a long service life. In addition to this, five logistics centres ensure that the Lenze products you select are available for quick delivery anywhere across the globe. It's as easy as that!



The future-proof motor generation.



With the new m550 three-phase AC motors we offer you a future-proof drive solution for your machine. They also meet the legal requirements of the world's most important regions such as the USA, Europe and Asia.

The IE2-high efficiency motor type m550-H covers the power range of 0.12 ... 0.55 kW.

The IE3-premium efficiency motor type m550-P covers the power range of 0.75 ... 22 kW.

The application-oriented modular system offers solutions for a variety of machine tasks. Our digital services also enable quick selection and easy integration into your business processes.

Highlights

- Energy efficiency classes for an economic and future-proof use in many applications and countries
- Scalable modular system for optimum adjustment to machine requirements
- Easy connection via terminal box or conventional plug connectors for fast commissioning
- Optimized for use as geared motors with g500 gearboxes and i510 cabinet und i550 cabinet frequency inverters

m550 three-phase AC motors

The m550 three-phase AC motors form the basis for a coordinated mechatronic system consisting of geared motor, inverter and connection topology.

Choose the right drive from a wide range of options to solve the tasks of your machine in the best possible way.

Connection options:

- Direct mains connection or operation on frequency inverter
- Holding brake or application brake
- Feedback systems such as resolvers, incremental encoders and absolute value encoders
- Blower
- Temperature monitoring with thermal contact or PT1000 in addition
- Second shaft end with and without hand wheel

The EASY Product Finder helps you to find the right product.



m550 three-phase AC motor with 8400 motec frequency inverter as bevel geared motor

Technical data

Overview data

Motors	Power range	Supply voltage
m550-H IE2 motors	0.12 ... 0.55 kW	230/400 V and 460 V
m550-P IE3 motors	0.75 ... 22 kW	

Rated data at 400 V, 50 Hz, 4-pole

Motor			m550-H				
			63/S4	63/M4	63/L4	71/M4	71/L4
Rated power	P_N	kW	0.12	0.18	0.25	0.37	0.55
Rated current	I_{rated}	A	0.410	0.540	0.680	0.990	1.35
Rated torque	M_{rated}	Nm	0.810	1.23	1.72	2.48	3.67

Motor			m550-P					
			80/M4	90/M4	90/L4	100/M4	100/L4	112/M4
Rated power	P_N	kW	0.75	1.1	1.5	2.2	3	4
Rated current	I_{rated}	A	1.60	2.31	3.18	4.46	6.10	7.82
Rated torque	M_{rated}	Nm	4.92	7.17	9.78	14.3	19.5	26.0

Motor			m550-P					
			132/M4	132/L4	160/M4	160/L4	180/M4	180/L4
Rated power	P_N	kW	5.5	7.5	11	15	18.5	22
Rated current	I_{rated}	A	10.6	14.6	20.8	28.4	33.3	38.8
Rated torque	M_{rated}	Nm	35.5	48.4	70.7	96.5	119	142

i550/i650 motec frequency inverters



The i550 motec and i650 motec frequency inverters for wall mounting and motor mounting in protection class IP66 (UL Type 4X indoor) are the ideal decentralized drive solution. The inverters can be extended for universal use with an extension box with disconnect switch with/without Type E combination motor controller and operating elements.

Fast mounting and easy commissioning thanks to user-friendly tools as well as connections for commercially available connectors are the focus of these inverters. Parameters, drive behavior and usability correspond to our proven frequency inverters. Rounded off by high energy efficiency, we thus offer a modern and sustainable drive solution.

The i650 motec frequency inverter stands out from the i550 motec due to its extended range of functions: For simple automation tasks, a logic PLC based on CODESYS in accordance with the IEC 61131-3 standard is integrated in the i650 motec. Table positioning is available for the realization of independent axes and machine modules. The "Extended Safety" option (safety technology with various functions) rounds off the overall package.

Highlights

- Compact solution for decentralized drive technology, wall-mounted or motor-mounted, with high protection class IP66 (UL Type 4X indoor)
- Wall-mounted expandable: Extension box with disconnect switch with/without Type E combination motor controller and operating elements
- Fast mounting due to pluggable, standardized connections (plug & play)
- Four IO-Link ports with limited IO-Link master functionality for easy data exchange between IO-Link sensors and actuators
- Integrated regenerative module for very high energy efficiency - a brake resistor is no longer required
- Extended range of functions with the i650 motec: Logic PLC, Table positioning, and Extended Safety

Inverters



	i550 motec	i650 motec
Design/mounting	Wall or motor	Wall or motor
Degree of protection	IP66	IP66

Mains connection/power range

	i550 motec	i650 motec
3 AC 230/240 V	0.37 ... 22 kW	0.37 ... 22 kW
3 AC 400 V	0.37 ... 45 kW	0.37 ... 45 kW
3 AC 480 V	0.37 ... 45 kW	0.37 ... 45 kW

Market approvals

	i550 motec	i650 motec
CE	✓	✓
UKCA	✓	✓
cULus	✓	✓
RoHS	✓	✓
Energy efficiency	Class IE2	Class IE2

Ambient conditions

	i550 motec	i650 motec
Degree of pollution	2	2
Vibration resistance during operation	Up to 1 g	Up to 1 g
Insulation resistance	Category III	Category III
Operation (EN 60721-3-3)	3K3 (-30 ... +60 °C)	3K3 (-30 ... +60 °C)
Derating	2.5 % / °C above 40 °C	2.5 % / °C above 40 °C
Storage (EN 60721-3-1)	1K3 (-30 ... +60°C)	1K3 (-30 ... +60°C)
Transport (EN 60721-3-2)	2K3 (-30 ... +70 °C)	2K3 (-30 ... +70 °C)

Control connections

	i550 motec	i650 motec
Digital inputs	4/3 or 8/4	8/4
Digital outputs	0/1 or 0/4	0/4
Analog inputs	-	-
Analog outputs	-	-
Relay	-	-

Operation on public supply systems

	i550 motec	i650 motec
Devices below 1 kW (EN IEC 61000-3-2)	✓	✓
Devices above 1 kW up to 16 A (EN IEC 61000-3-2)	✓	✓
Devices above 16 A up to 75 A (EN IEC 61000-3-12)	Rsce ≥ 250	Rsce ≥ 250

Communication

	i550 motec	i650 motec
EtherCAT	✓	✓
EtherNet/IP	✓	✓
IO-Link	✓ (Master)	✓ (Master)
Modbus TCP	✓	✓
PROFINET	✓	✓

Feedback

	i550 motec	i650 motec
HTL incremental encoder	✓	✓

Motor controls

	i550 motec	i650 motec
V/f characteristic control	✓	✓
Vector control for asynchronous motors	✓	✓
Vector control for synchronous motors with frequency support at low speeds	✓	✓
V/f characteristic control with feedback	✓	✓
Vector control for asynchronous motors with feedback	✓	✓

Additional functions for the motor controls

	i550 motec	i650 motec
Boost	✓	✓
Slip compensation	✓	✓
Oscillation damping	✓	✓
Torque control	✓	✓
Skip frequencies	✓	✓
Stall protection	✓	✓
Motor monitoring	✓	✓

Component control

	i550 motec	i650 motec
Fixed frequencies (jog values)	✓	✓
Motor potentiometer	✓	✓
Logic PLC		✓ (Version Logic PLC & Table positioning)
Table positioning		✓ (Version Logic PLC & Table positioning)
PID controller	✓	✓
Position counter	✓	✓
Parameter set changeover	✓	✓

Energy efficiency

	i550 motec	i650 motec
Energy-saving function "VFC eco"	✓	✓
Regenerative feedback mode	✓	✓

Additional motor functions

	i550 motec	i650 motec
Flying restart circuit	✓	✓
DC-injection brake	✓	✓
Holding brake control	✓	✓
Switching frequency setting	✓	✓

Safe stop functions

	i550 motec	i650 motec
Safe torque off (STO)	✓	✓
Safe stop 1 (SS1)	-	✓

Auxiliary and maintenance functions for functional safety

	i550 motec	i650 motec
Safe Muting (MUT)	-	✓

Safety bus

	i550 motec	i650 motec
CIP Safety	-	✓

🏢 Lenze Drives GmbH
Postfach 10 13 52, D-31763 Hameln
Breslauer Straße 3, D-32699 Extertal
Germany
HR Lemgo B 6478
☎ +49 5154 82-0
📠 +49 5154 82-2800
@ sales.de@lenze.com
🌐 www.lenze.com