

Scaled portfolio for machine building

Competitiveness in machine equipment building is becoming increasingly challenging due to rising requirements in terms of energy efficiency, machine intelligence, and market needs, along with a shortage of skilled personnel and cost pressure. Lenze frequency inverters rise to these challenges.



i510 cabinet and i550 cabinet

- For control cabinets with cabinet space-optimized bookshelf design
- i510 cabinet for economic solutions and i550 cabinet for full flexibility and functionality



i550 protec

- i550 protec for full flexibility and harsh decentral installations in IP55/IP66 Indoor & Outdoor



i550 motec

- Motor and wall mounting in IP66
- Focus on installation time (connectors)
- Regenerative applications

Compact design

The smallest of their class for low space requirements in decentral installations or in the control cabinet e.g. only 60 mm width up to 4 kW and only 130 mm depth up to 11 kW.

Flexibility

No matter what power, mains voltage, communication interfaces, or diagnostic options are required, we have the right solution in our portfolio, optimized for the requirement.

User-friendliness

Many small details in the device facilitate handling and significantly reduce the time required for installation, commissioning, and service. These include voltage-free parameterization, simple menu navigation, practical factory settings, and pluggable connections, etc.

Innovations

Easy engineering and reduction of system costs by the integrated IO-Link master functionality of the i550 motec. Regenerative energy feedback by i550 motec in case of dynamic braking reduces energy consumption, simplifies engineering, and saves the cost of a brake resistor.

Energy efficiency





The Lenze inverters comply with the Ecodesign Directive and achieve the lowest energy losses and thus ensure optimal efficiency in the machine design.

Centralized/decentralized

In many applications, a mixture of centralized and decentralized drive technology is useful. All frequency inverters show the same drive behavior and have a uniform parameter structure.

Product information

Frequency inverters

	i510 cabinet	i550 cabinet	i550 protec	i550 motec *
				
Design/Mounting	Cabinet		Wall	Wall or motor
Degree of protection	IP20	IP20	IP55/66	IP66
Mains connection/power range				
1 AC 230 V	0.25 ... 2.2 kW	0.25 ... 2.2 kW	0.37 ... 2.2 kW	
3 AC 230 V	0.25 ... 5.5 kW	0.25 ... 5.5 kW	0.37 ... 45 kW	0.37 ... 15 kW
3 AC 400 V	0.37 ... 15 kW	0.37 ... 132 kW	0.37 ... 75 kW	0.37 ... 30 kW
Market approvals				
Approval	CE, UKCA, UL, CSA, CCC, UKSepr			
Environment	RoHS			
Energy efficiency	IE2 according to EN IEC 61800-9-4			
Functions				
Motor controls	Energy-saving function (VFC eco), V/f characteristic control linear/square-law (VFC plus), sensorless vector control (SLVC), sensorless control for synchronous motors			
	-	Motor HTL encoder 100 kHz	Motor HTL encoder 100 kHz	Motor HTL encoder 200 kHz or other encoder with IO-Link interface
Properties	DC-injection braking, brake management for low-wear brake control, dynamic braking via brake resistor, S-ramps for smooth acceleration and deceleration, flying restart circuit, PID control, cascade function for pumps and fans			
	Sequencer (16 steps), operation on UPS			-
	-	Dynamic braking through resistor	Dynamic braking through resistor	Dynamic braking through regeneration
	-			IO-Link master functionality
	-			
Functional safety	-	Safe torque off (STO)	Safe torque off (STO)	Safe torque off (STO)
	-			Extended Safety (planned)
Overload behavior	200 % for 3 s; 150 % for 60 s			
Cooling	Ambient operating temperature: 3K3 (-10 ... +60 °C) EN IEC 60721-3-3 (derating of 2.5 %/°C above +45 °C)			
Inputs/Outputs				
Digital input/output	5/1		4/0, 3/1 or 2/2 (configurable)	
Analog input/output	2/1		-	
NO/NC relay	1		-	
Communication				
	CANopen - - - Modbus RTU - - -	CANopen EtherCAT EtherNet/IP IO-Link Modbus RTU Modbus TCP Powerlink PROFIBUS PROFINET	CANopen EtherCAT EtherNet/IP IO-Link Modbus RTU Modbus TCP - - PROFINET	- EtherCAT EtherNet/IP - - Modbus TCP - - PROFINET
Diagnostic	Keypad, WLAN module, USB module			USB, RFID (planned), WLAN (planned)
Compliances				
EN 61000-3-2	> 1 kW up to 16 A: no additional measures, < 1 kW: with mains choke			No additional measures
EN 61000-3-12	- -		> 16 A: with mains choke From 30 kW mains choke integrated	
EMC category C1	-	Max. 3 m up to 2.2 kW, above that RFI filter	Max. 3 m up to 2.2 kW	Motor mounting
EMC category C2	Max. 20 m (up to 0.37 kW 15 m), above that RFI filter		Max. 20 m up to 11 kW >11 kW 15 m	Max. 10 m
RCD operation	Up to 11 kW: 30 mA			Up to 30 kW: 30 mA

* i550 motec up to 5.5 kW (3 ph/400 V) with PROFINET communication will be available by mid-2022.