



i500 inverters

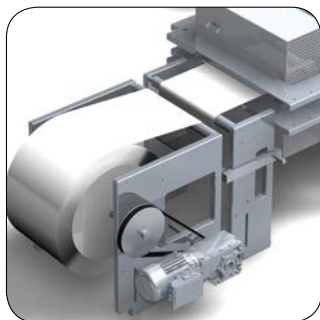
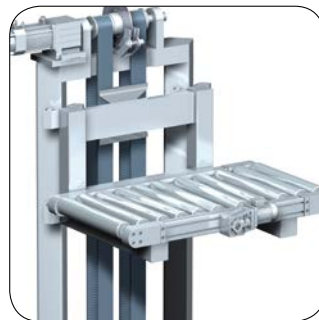
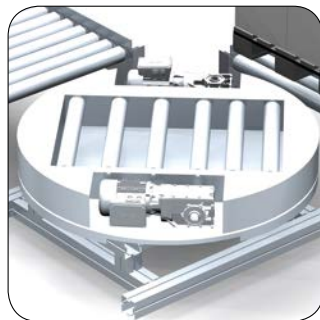
0.25 ... 132 kW

Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion - whether you are looking to optimize an existing machine or develop a new one. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

On principle: Always perfect: the new i500

The i500 is ideal for numerous applications:
travelling drives, conveyor drives, shaper drives, pumps and fans, tool drives, hoist drives and winding drives.



Less means more!

Focused on the essentials: the new i500

i500 is the new inverter series - a streamlined design, scalable functionality and exceptional user-friendliness.

Less unnecessary elements

- High scalability in terms of the mains voltage range, rated power and modular structure
- Diagnostics via keypad, USB or WLAN

More cost savings

- Optimised solution for individual customer requirements
- Flexibility

Smaller size

- Compact size:
Up to 11 kW just 130mm deep and up to 2.2 kW just 60mm wide
- Side-by-side installation: can be mounted adjacent to each other

More space in the control cabinet

- Provides solutions in limited spaces
- Smaller control cabinets reduce costs

Less engineering expenditure

- Intuitively logical structure of parameters
- Easy controller integration
- Supports all current networks

More time for the essentials

- Saves time in engineering
- Reduction in potential error sources

Less installation expense

- Keyhole mounting
- Pluggable terminals up to 2.2 kW
- Out of the box operability. Simply connect, start, go!
- Plug-in memory module

More productivity

- Saves time during installation
- Fewer faults in use
- Lower costs in the event of a service

Less energy consumption

- Fewer inverter losses thanks to the use of cutting-edge technologies
- Energy-efficient

More sustainability

- Best efficiency values, lowest energy costs
- Future-proof thanks to DIN EN 50598

Less downtime

- Robust single board design
- Entire device produced by Lenze


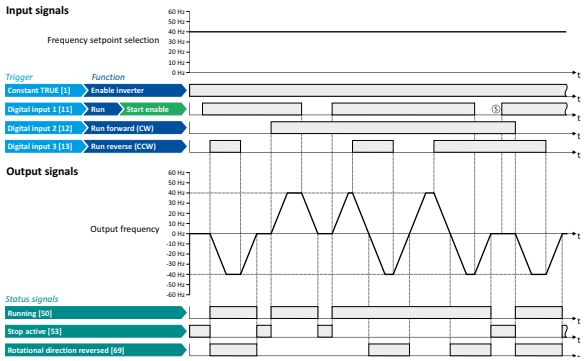

Greater reliability

- Lower quality assurance costs in manufacture
- Reduces operational guarantee costs



Functionality

i500 provides a high-quality frequency inverter that already conforms to future standard in accordance with the EN 50598-2 efficiency classes (IE). Overall, this provides a reliable and future-proof drive for a wide range of machine applications.

Adjustable motor controls for three-phase AC motors	
	<ul style="list-style-type: none"> • V/f characteristic control linear/square-law (VFC plus) • Sensorless vector control (SLV) • Energy saving function (VFC-ECO) • Servo control (SC-ASM) with feedback • Sensorless vector control for synchronous motors (up to 22 kW)
Motor functions	
	<ul style="list-style-type: none"> • Flying restart circuit • Slip compensation • Energy saving function (VFC-Eco) • DC braking • Oscillation damping • Skip frequencies • Automatic identification of the motor data • Braking energy management • Holding brake control • Voltage add-function • Rational Energy Ride Through (backup operation in case of mains failure) • Speed feedback (HTL encoder) • Brake resistor control (brake chopper integrated) • DC-bus connection (400 V devices)
Application functions	
	<ul style="list-style-type: none"> • Process controller (PID) • Process controller - sleep mode and rinse function • Freely assignable favorite menu • Parameter change-over • S-shaped ramps for smooth acceleration • Motor potentiometer • Flexible I/O configuration • Access protection • Automatic restart • OEM parameter set • Sequence control

Monitoring

off	off	No supply voltage
■ ■	■■■■■■■■■■	Safe torque off (STO) active
1 Hz	■■■■■■■■■■	Safe torque off (STO) active, warning active
	■■■■■■■■■■	Inverter disabled
■ ■ ■ ■	■■■■■■■■■■	Inverter disabled, no DC-bus voltage
	■■■■■■■■■■	Inverter disabled, warning active
2 Hz	■■■■■■■■■■	Inverter disabled, error available
	■■■■■■■■■■	Inverter enabled and motor running
■■■■■■■■■■	■■■■■■■■■■	Inverter enabled and motor running, warning pending
	■■■■■■■■■■	Inverter enabled, quick stop as response to a fault active
Error message	Cause and remedy (W = warning, T = trouble, F = fault)	
.2382/.2383	Ixt fault/Ixt warning	
.3210/.3211	Overvoltage DC-bus/warning overvoltage DC-bus	
.3220/.3221	DC-bus voltage too low for switch-on	
.3222	DC-bus voltage too low for switch-on	
.4310	Motor overtemperature error	
.6280	Trigger/functions incorrectly connected. In flexible mode, the controller release or Run/Stop must be allocated to an I/O. Do not use start forward/backward and run forward/backward at the same time.	
.FF37	Automatic start disabled	

- Short circuit
- Earth fault
- Device overload monitoring (i*t)
- Motor overload monitoring (i²*t)
- Mains phase failure
- Stalling protection
- Motor current limit
- Maximum torque
- Ultimate motor current
- Motor speed monitoring
- Load loss detection
- Motor temperature monitoring (PTC and thermal contact)

Diagnostics



- Error history buffer
- Logbook
- LED status displays
- Keypad language selection German, English
- PC tool (EASY Starter)
- Smartphone app (iOS and Android)



App Store



Google Play

Safety functions (optional)



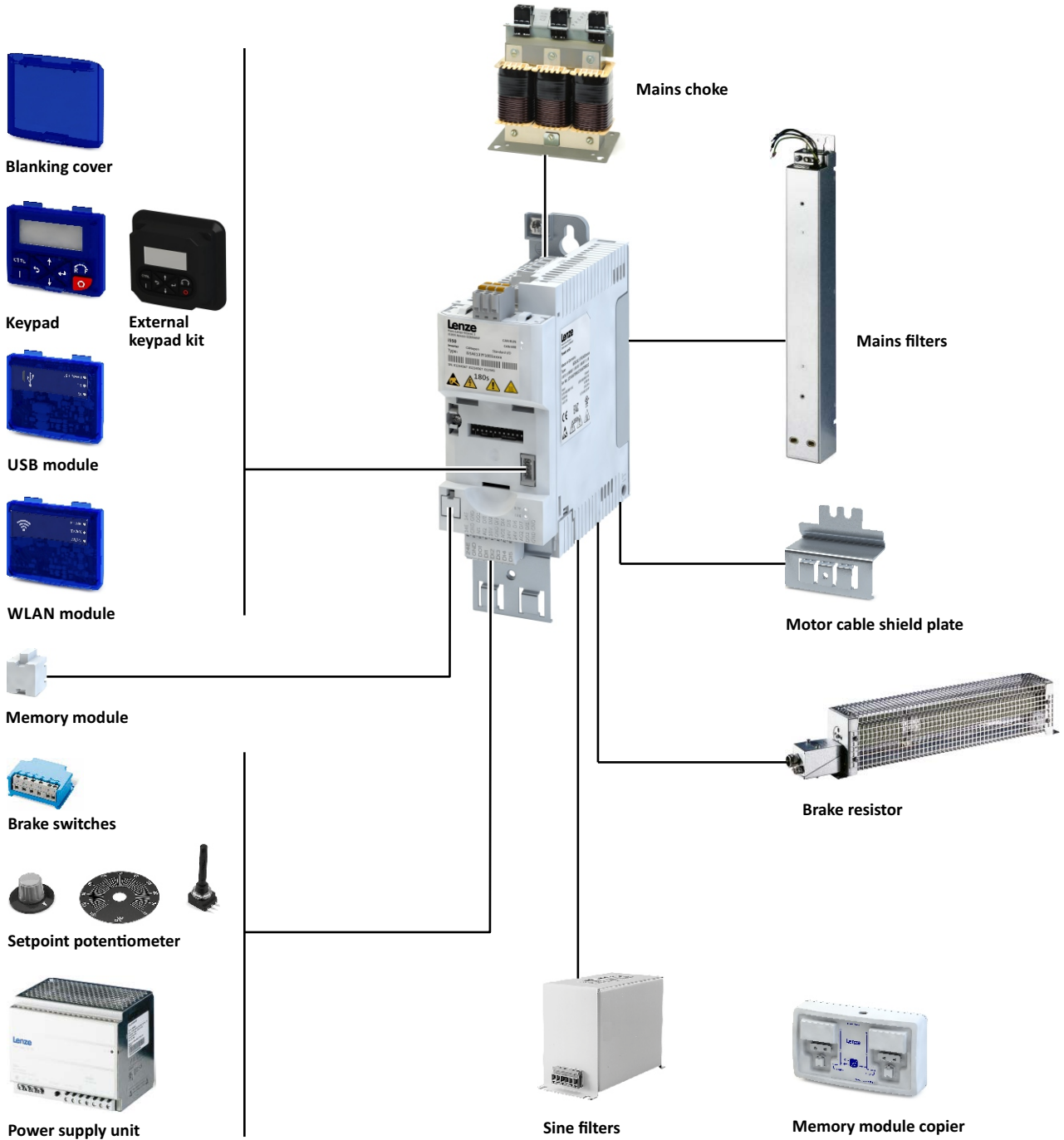
- STO (Safe torque off) with PL “e” and SIL 3

Network (optional)



- CANopen
- Modbus RTU
- ModBus TCP
- IO-Link
- EtherCAT
- EtherNet/IP
- PROFIBUS
- PROFINET
- POWERLINK

The scalable inverter is completed by an accessory kit. Simply select all the necessary components oriented to your application.



Technical data

Inverter i510; connection to 230-V mains

Conformities	CE	2014/35/EU, 2014/30/EU
	EAC	TR TC 004/2011, TP TC 020/2011
	RoHS 2	2011/65/EU
Approvals	cUL _{us}	UL 61800-5-1, CSA 22.2 No. 274
Energy efficiency	Class IE2	EN 50598-2
Protection type	IP20	EN 60529 (except in wire range of terminals)
		NEMA 250 (type 1 protection against accidental contact only)
	Open type	Only in UL-approved systems
Power systems	TT, TN	Voltage to earth: max. 300 V
	IT	Apply the measures described for IT systems!
Mains switching		3 x within one minute possible
Operation with residual current circuit breaker		Up to 2.2 kW 30 mA
Cable length for EMC	Category C2	20 m (≤0.37 kW max. 15 m)
	Category C3	≥ 35 m (≤0.37 kW max. 15 m)
Switching frequencies		2, 4, 8, 16 kHz, The rated output currents listed below apply at 45 °C and switching frequencies of 2 and 4 kHz, and at 40 °C and switching frequencies of 8 and 16 kHz
Ambient temperature		55 °C (derating of 2.5 %/°C above 45 °C)
Max. output frequency		0 Hz ... 599 Hz
Overload capacity		200 % for 3s; 150 % for 60 s

	Rated power	Mains voltage range	Rated output current	Weight	Dimensions (h x w x d)
	[kW]	[V]	[A]	[kg]	[mm]
1-phase inverter with integrated RFI filter					
i510-C0.25/230-1	0.25	1/N/PE AC 170 V ... 264 V 45 Hz ... 65 Hz	1.7	0.75	155 x 60 x 130
i510-C0.37/230-1	0.37		2.4	0.75	155 x 60 x 130
i510-C0.55/230-1	0.55		3.2	0.95	180 x 60 x 130
i510-C0.75/230-1	0.75		4.2	0.95	180 x 60 x 130
i510-C1.1/230-1	1.1		6	1.35	250 x 60 x 130
i510-C1.5/230-1	1.5		7	1.35	250 x 60 x 130
i510-C2.2/230-1	2.2		9.6	1.35	250 x 60 x 130
1/3-phase inverter without integrated RFI filter					
i510-C0.25/230-2	0.25	1/N/PE AC or 3/PE AC 170 V ... 264 V 45 Hz ... 65 Hz	1.7	0.75	155 x 60 x 130
i510-C0.37/230-2	0.37		2.4	0.75	155 x 60 x 130
i510-C0.55/230-2	0.55		3.2	0.95	180 x 60 x 130
i510-C0.75/230-2	0.75		4.2	0.95	180 x 60 x 130
i510-C1.1/230-2	1.1		6	1.35	250 x 60 x 130
i510-C1.5/230-2	1.5		7	1.35	250 x 60 x 130
i510-C2.2/230-2	2.2		9.6	1.35	250 x 60 x 130
3-phase inverter without integrated RFI filter					
i510-C4.0/230-3	4	3/PE AC 170 V ... 264 V 45 Hz ... 65 Hz	16.5	2.1	250 x 90 x 130
i510-C5.5/230-3	5.5		23	2.1	250 x 90 x 130

Inverter i510; connection to 400-V mains

Conformities	CE	2014/35/EU, 2014/30/EU
	EAC	TR TC 004/2011, TP TC 020/2011
	RoHS 2	2011/65/EU
Approvals	cUL _{us}	UL 61800-5-1, CSA 22.2 No. 274
Energy efficiency	Class IE2	EN 50598-2
Protection type	IP20	EN 60529 (except in wire range of terminals) NEMA 250 (type 1 protection against accidental contact only)
	Open type	Only in UL-approved systems
Power systems	TT, TN	Voltage to earth: max. 300 V
	IT	Apply the measures described for IT systems!
Mains switching		3 x within one minute possible
Operation with residual current circuit breaker		Up to 2.2 kW 30 mA
Cable length for EMC	Category C2	20 m (≤0.37 kW max. 15 m)
	Category C3	35 m (≤0.37 kW max. 15 m)
Switching frequencies		2, 4, 8, 16 kHz, The rated output currents listed below apply at 45 °C and switching frequencies of 2 and 4 kHz, and at 40 °C and switching frequencies of 8 and 16 kHz
Ambient temperature		55 °C (derating of 2.5 %/°C above 45 °C)
Max. output frequency		0 Hz ... 599 Hz
Overload capacity		200 % for 3s; 150 % for 60 s

	Rated power	Mains voltage range	Rated output current	Weight	Dimensions (h x w x d)
	[kW]	[V]	[A]	[kg]	[mm]
3-phase inverter with integrated RFI filter					
i510-C0.37/400-3	0.37	3/PE AC 340 V ... 528 V 45 Hz ... 65 Hz	1.3	0.75	155 x 60 x 130
i510-C0.55/400-3	0.55		1.8	0.95	180 x 60 x 130
i510-C0.75/400-3	0.75		2.4	0.95	180 x 60 x 130
i510-C1.1/400-3	1.1		3.2	1.35	250 x 60 x 130
i510-C1.5/400-3	1.5		3.9	1.35	250 x 60 x 130
i510-C2.2/400-3	2.2		5.6	1.35	250 x 60 x 130
i510-C3.0/400-3	3		7.3	1.35	250 x 60 x 130
i510-C4.0/400-3	4		9.5	1.35	250 x 60 x 130
i510-C5.5/400-3	5.5		13	2.3	250 x 90 x 130
i510-C7.5/400-3	7.5		16.5	3.7	276 x 120 x 130
i510-C11/400-3	11		23.5	3.7	276 x 120 x 130
3-phase mains connection 400 V - Light duty; with integrated RFI filter					
i510-C3.0/400-3	4	3/PE AC 340 V ... 528 V 45 Hz ... 65 Hz	8.8	1.35	250 x 60 x 130
i510-C4.0/400-3	5.5		11.9	1.35	250 x 60 x 130
i510-C5.5/400-3	7.5		15.6	2.3	250 x 90 x 130
i510-C7.5/400-3	11		23	3.7	276 x 120 x 130
i510-C11/400-3	15		28.2	3.7	276 x 120 x 130

i510-C3.0/400-3 and i510-C4.0/400-3 of the generation "A" are 90 mm wide.
As stated, the devices of the generation "B" with a width of 60 mm are 33% smaller.

Inverter i550; connection to 120 V mains and 230 V mains

Conformities	CE	2014/35/EU, 2014/30/EU
	EAC	TR TC 004/2011, TP TC 020/2011
	RoHS 2	2011/65/EU
Approvals	cUL _{us}	UL 61800-5-1, CSA 22.2 No. 274
Energy efficiency	Class IE2	EN 50598-2
Protection type	IP20	EN 60529 (except in wire range of terminals) NEMA 250 (type 1 protection against accidental contact only)
	Open type	Only in UL-approved systems
Power systems	TT, TN	Voltage to earth: max. 300 V
	IT	Apply the measures described for IT systems!
Mains switching		3 x within one minute possible
Operation with residual current circuit breaker		up to 2.2 kW 30 mA, above this 300 mA
Cable length for EMC	Category C2	20 m (≤0.37 kW max. 15 m)
	Category C3	≥ 35 m (≤0.37 kW max. 15 m)
Switching frequencies		2, 4, 8, 16 kHz, The rated output currents listed below apply at 45 °C and switching frequencies of 2 and 4 kHz, and at 40 °C and switching frequencies of 8 and 16 kHz
Max. ambient temperature		55 °C (derating of 2.5 %/ °C above 45 °C)
Max. output frequency		0 Hz ... 599 Hz
Overload capacity		200 % for 3s; 150 % for 60 s

	Rated power	Mains voltage range	Rated output current	Weight	Dimensions (h x w x d)
	[kW]	[V]	[A]	[kg]	[mm]
1-phase mains connection 120 V; without integrated RFI filter					
i550-C0.25/120-1	0.25	1/N/PE AC 90 V ... 132 V 45 Hz ... 65 Hz	1.7	1	180 x 60 x 130
i550-C0.37/120-1	0.37		2.4	1	180 x 60 x 130
i550-C0.75/120-1	0.75		4.2	1.35	250 x 60 x 130
i550-C1.1/120-1	1.1		6	1.35	250 x 60 x 130
1-phase mains connection 230/240 V; with integrated RFI filter					
i550-C0.25/230-1	0.25	1/N/PE AC 170 V ... 264 V 45 Hz ... 65 Hz	1.7	0.8	155 x 60 x 130
i550-C0.37/230-1	0.37		2.4	0.8	155 x 60 x 130
i550-C0.55/230-1	0.55		3.2	1	180 x 60 x 130
i550-C0.75/230-1	0.75		4.2	1	180 x 60 x 130
i550-C1.1/230-1	1.1		6	1.35	250 x 60 x 130
i550-C1.5/230-1	1.5		7	1.35	250 x 60 x 130
i550-C2.2/230-1	2.2		9.6	1.35	250 x 60 x 130
1-phase mains connection 230/240 V; without integrated RFI filter					
i550-C0.25/230-2	0.25	1/N/PE A 170 V ... 264 V 45 Hz ... 65 Hz	1.7	0.8	155 x 60 x 130
i550-C0.37/230-2	0.37		2.4	0.8	155 x 60 x 130
i550-C0.55/230-2	0.55		3.2	1	180 x 60 x 130
i550-C0.75/230-2	0.75		4.2	1	180 x 60 x 130
i550-C1.1/230-2	1.1		6	1.35	250 x 60 x 130
i550-C1.5/230-2	1.5		7	1.35	250 x 60 x 130
i550-C2.2/230-2	2.2		9.6	1.35	250 x 60 x 130
3-phase mains connection 230/240 V; without integrated RFI filter					
i550-C0.25/230-2	0.25	3/PE AC 170 V ... 264 V 45 Hz ... 65 Hz	1.7	0.8	155 x 60 x 130
i550-C0.37/230-2	0.37		2.4	0.8	155 x 60 x 130
i550-C0.55/230-2	0.55		3.2	1	180 x 60 x 130
i550-C0.75/230-2	0.75		4.2	1	180 x 60 x 130
i550-C1.1/230-2	1.1		6	1.35	250 x 60 x 130
i550-C1.5/230-2	1.5		7	1.35	250 x 60 x 130
i550-C2.2/230-2	2.2		9.6	1.35	250 x 60 x 130
i550-C4.0/230-3	4		16.5	2.1	250 x 90 x 130
i550-C5.5/230-3	5.5		23	2.1	250 x 90 x 130