

i510/i550 cabinet variable frequency drives



The **i510 cabinet** and **i550 cabinet** variable frequency drives (VFD) offer cost efficiency and compact size in the power range 0.33 to 175 hp (0.25 to 132 kW). Select basic or premium models to take advantage of low installation costs and improved ROI. As an exceptional component in any automation application, they are engineered to be versatile, reliable, and easy to use.

The basic i510 cabinet from 0.33 to 20 hp (0.25 to 15 kW) focuses on cost savings and simple functionality; while the premium and universally applicable i550 cabinet from 0.33 to 175 hp (0.25 to 132 kW) expands the power range along with additional fieldbus options. Both drives are well positioned for optimal price/performance ratio and value.

The i510 cabinet and i550 cabinet are ideal drives for conveyor, traversing, winding, pump and fan, as well as many other machine applications. Innovative interaction over WLAN makes market-leading commissioning times and convenient diagnostics a reality.

Features and benefits

- **Low installation cost and improved ROI**
- **Quick commissioning** via operation/diagnostic interface
- **Flexible communications** thanks to modular fieldbuses
- **Space-saving design** with a width of 2.36 in (60 mm) up to 5.5 hp (4 kW) and a depth of 5.12 in (130 mm) up to 15 hp (11 kW) saves space in the control cabinet
- **Modular design system** enables various product configurations based on machine requirements
- **Optional Safe Torque Off (STO)** with SIL 3 (ISO 13849-1 (EN 954-1)) and Performance Level e (EN 62061/ EN 61800-5-2)
- **Multiple options** — Purchase as a complete device or in individual components (Power Unit, Control Unit and Safety Unit)

	i510 cabinet	i550 cabinet
		
Design/Mounting	Cabinet	
Degree of protection	Open Type/IP20 NEMA 250	
Mains connection/Power range		
1 AC 120V	-	0.33 ... 1.5 hp (0.25 ... 1.1 kW)
1 AC 230V	0.33 ... 3.0 hp (0.25 ... 2.2 kW)	0.33 ... 3.0 hp (0.25 ... 2.2 kW)
1/3 AC 230V	0.33 ... 3.0 hp (0.25 ... 2.2 kW)	0.33 ... 3.0 hp (0.25 ... 2.2 kW)
3 AC 230V	0.33 ... 7.5 hp (0.25 ... 5.5 kW)	0.33 ... 7.5 hp (0.25 ... 5.5 kW)
3 AC 400V	0.5 ... 20 hp (0.37 ... 15 kW)	0.5 ... 175 hp (0.37 ... 132 kW)
3 AC 480V	0.5 ... 20 hp (0.37 ... 15 kW)	0.5 ... 175 hp (0.37 ... 132 kW)
Market approvals		
Approval	CE, UKCA, UL, CSA, CCC, UKSePro	
Environment	RoHS	
Energy efficiency	IE2 according to EN IEC 61800-9-2	
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	
	-	Closed-loop vector with HTL encoder (100 kHz)
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
Functional safety	-	Safe torque off (STO)
Overload behavior	200 % for 3s; 150 % for 60s	
Cooling		
Ambient operating temperature	3K3 (+14 ... +140°F) EN IEC 60721-3-3 (derating of 2.5 %/°C above +113°F)	
Inputs/Outputs		
Digital input/output	5/1	
Analog input/output	2/1	
NO/NC relay	1	
IO-Link		
Operation	-	Device
Communication		
	CANopen	CANopen
	-	EtherCAT
	-	EtherNet/IP
	Modbus RTU	Modbus RTU
	-	Modbus TCP
	-	Powerlink
	-	PROFIBUS
	-	PROFINET
Diagnostics		
	Keypad, WLAN module, USB module	
Compliances		
EN 61000-3-2	>1.5 hp up to 16 A: no additional measures, <1.5 hp: with mains choke	
EN 61000-3-12	>16 A: with mains choke	
EMC category C1	-	Max. 120 in up to 3 hp, above that RFI filter
EMC category C2	Max. 800 in (up to 0.5 hp 600 in), above that RFI filter	
RCD operation		
	Up to 15 hp: 30 mA	