

# Connections

## The Lenze i500 Drive Series

This month, I'd like to visit the Lenze i500 Variable Frequency Inverter or Drive. It is a great piece of hardware, and has pushed some new limits on what to expect from a VFD.

**“A picture is worth a thousand words.  
An interface is worth a thousand pictures.”**

- Ben Schneiderman

As New England Drives & Controls constantly strives to become a better asset to our customers, our whitepaper series will feature new technologies or helpful insights that may be pertinent to the reader. It is our sincere hope that this information will be beneficial in both relating, and applying content to your industrial needs.

We hope you find this whitepaper series an enjoyable and informative read.

We always welcome your questions and comments.



The first thing that I noticed when I first saw the Drive, was the fact that there was not a keypad or display on it. It turns out that there can be one, but the display is made so that it is removable after you have used it to change parameters. This has several advantages. One is that it lessens the cost of the drive. Another is the fact that you can prevent unauthorized personnel from “playing” with the settings. Of course, you can always leave the keypad on if you like.

Being able to remove the keypad also has other advantages. It allows for different modules that can be attached instead of the keypad. There is an interface with a USB type connector to connect to a laptop. This can save time when configuring and commissioning a drive for sure.

Another option is a WiFi or NFC adapter, which allows wireless connectivity to the drive.



You can now use your cell phone to store the configurations and load them wirelessly to the drive, or make changes as needed. This prevents having to lug a PC all the way down to the factory floor.



Another striking feature is the physical size of these inverters. They are much thinner than most inverters out there in the market. They can also be “book-shelved,” meaning they can be placed on a DIN rail directly touching one-another without clearance around them needed for air-flow and cooling. All-in-all, these units are ahead of the curve!

If you are in need of an inverter drive, motor, or any other automation equipment, give us a call. We would love the opportunity to assist you with all of your automation needs

-Peter Lavoie (Engineering Manager)

**All i500 Series Drives Feature:**

- Space saving design: 2.36in (60mm) wide up to 3hp
- Fits in a 6" deep cabinet up to 15 hp
- Zero clearance mounting (bookshelving the drive) with no derating!
- IP20/NEMA1 Protection Rating
- Innovative interface options enable set-up times faster than ever before.
- Wide-ranging modular system provides various product configurations
- Overload current: 200% for short term transient loads, 150% for 60 seconds
- 5 digital inputs/1 digital output
- 2 analog inputs/1 analog output
- CE, UL, CSA, EAS, RoHS2, IE2 in accordance with EN 50598-2
- V/f controls (linear, quadratic, VFCeco) Sensorless Vector control
- Motor braking (DC-injection braking and compound braking)
- S-ramps for smooth acceleration and deceleration
- Flying restart circuit, PID controller
- This easy to integrate drive has three set-up methods; keypad, smart keypad for Android app and the EASY Starter engineering tool.

**i510 Features:**

- Available .33 to 3 hp in single phase or single/3 phase, 230V
- Available .5 to 3hp in 3 phase, 480V
- CANopen, Modbus

**i550 Features:**

- Available .33 to 3hp in single phase or single/3 phase, 230V
- Available .5 to 60hp in 3 phase, 480V
- CANopen, EtherCAT, EtherNet/IP, Modbus, PROFIBUS, PROFINET
- Internal 24VDC, 100mA supply to power your devices
- PTC thermal contact input
- HTL incremental encoder (100kHz)
- Integrated brake chopper (DC injection braking)
- Vector control with feedback
- DC bus connection
- Dynamic braking through brake resistance
- Safe torque off (STO)
- Optional relay extension
- Future releases will include 75, 100, 125 and 150 hp



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