9300 vector
frequency inverters

0.37 ... 400 kW

Flexible, precise, powerful

Lenze

9300 vector | Flexible, precise, powerful

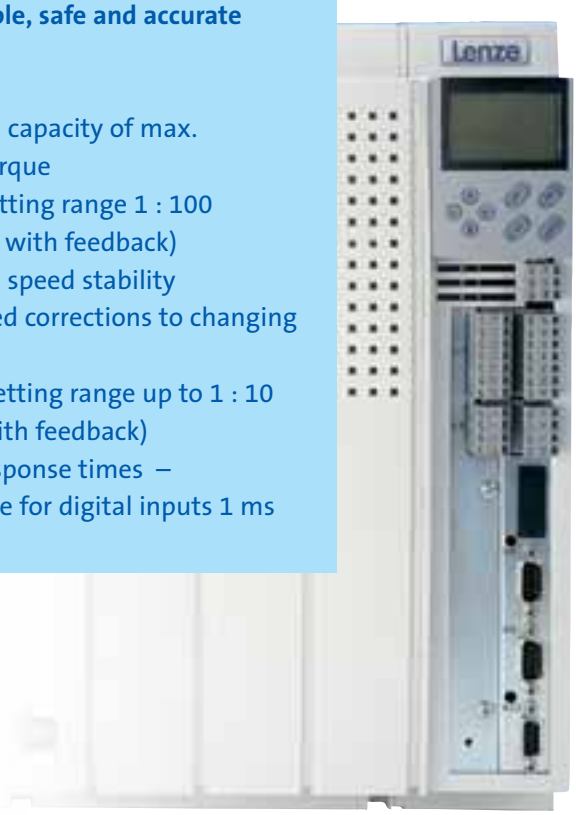
Lenze frequency inverters are used in many industrial sectors and applications for electronic speed control of drives. We offer standard products with flexible application possibilities, easy and quick commissioning, reliability and, of course, high quality. The 9300 vector is a vector-controlled frequency inverter that is best suited for demanding applications as for example material processing, dosing and feeding systems, as well as winding drives. Excellent drive behaviour – even without speed feedback – and undreamt-of possibilities for solving control tasks are only a few outstanding features provided by this frequency inverter.

Technology | Powerful, versatile, reliable

Excellent drive behaviour

ensures stable, safe and accurate processes

- Overload capacity of max. 180 % torque
- Speed setting range 1 : 100 (1 : 1000 with feedback)
- Excellent speed stability
- Fast speed corrections to changing loads
- Torque setting range up to 1 : 10 (1 : 20 with feedback)
- Rapid response times – cycle time for digital inputs 1 ms



Plug-in stations for communication
(e.g. keypad)

System bus interface (CAN)
(e.g. for networking several inverters or connecting them to a higher-level host system; also operation is possible via this interface)

Digital/analog inputs and outputs
(pluggable terminal blocks)

Incremental encoder input
(connection of a feedback system)

Digital frequency input/output
(e.g. for precise, speed-synchronous control of multi-motor drives)

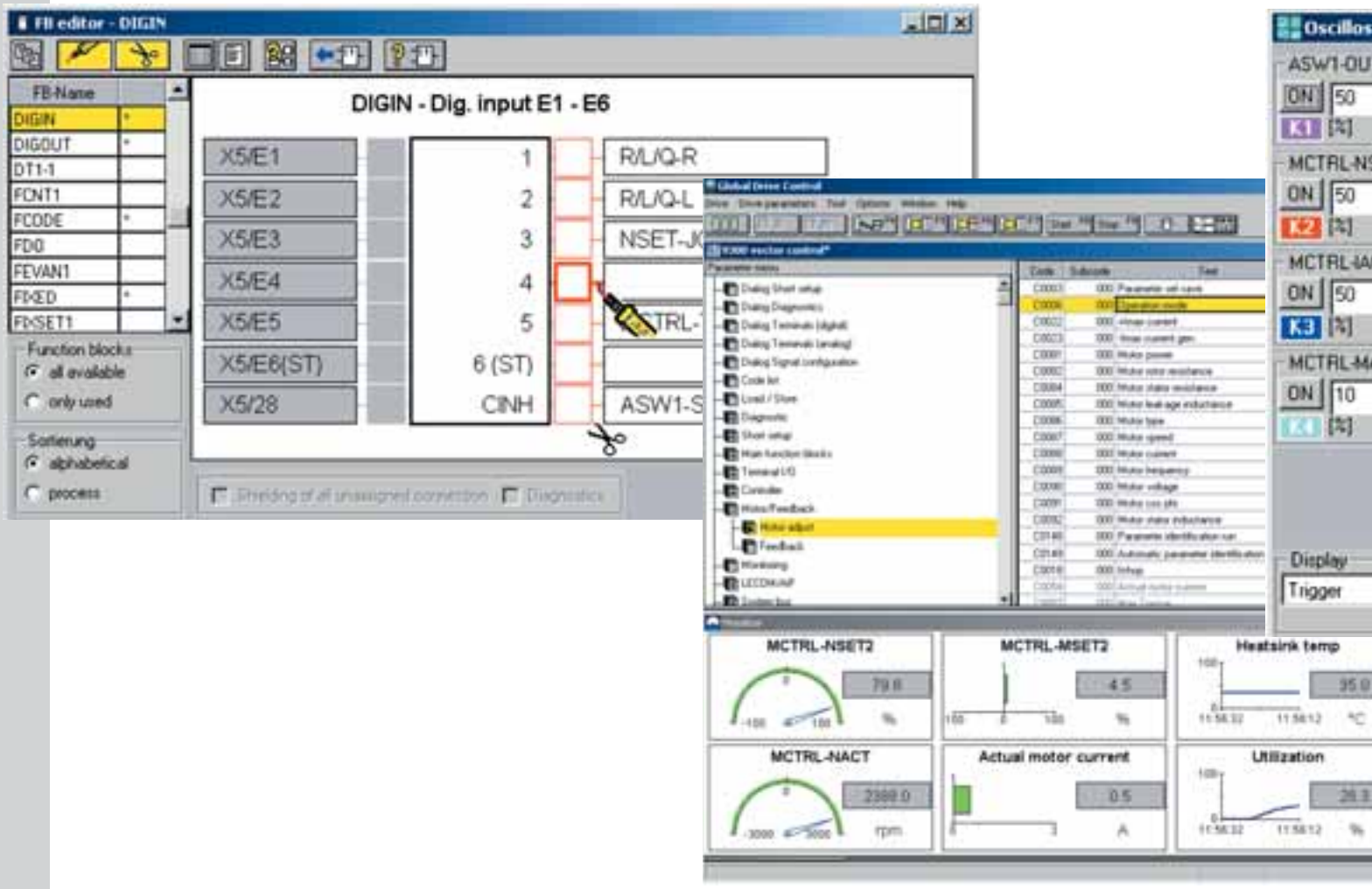
PTC input
(motor protection through PTC thermistors or thermal contacts)

Implement ideas | Flexible, comfortable, quick

More flexibility through function blocks
The almost indefinitely flexible application of the 9300 vector is made possible because of function blocks which are stored in the software of the 9300 vector and can be linked freely. More than 100 function blocks, comparators, delay elements, logic and mathematical function can only give an impression of the varied possibilities.

Free control features
Due to the freely connectable function block structure the 9300 vector can carry out additional control functions besides the drive task – similar to a PLC. Higher-level control systems can have their loads reduced or even become superfluous – without any additional costs for you.

User-friendly
Function blocks are operated, analysed and connected using the comfortable and easy-to-understand operating software “Global Drive Control”. Even inexperienced users can intuitively operate a system with this software. The 9300 vector can be connected with a PC via an RS232/485-interface or a PC system bus converter.



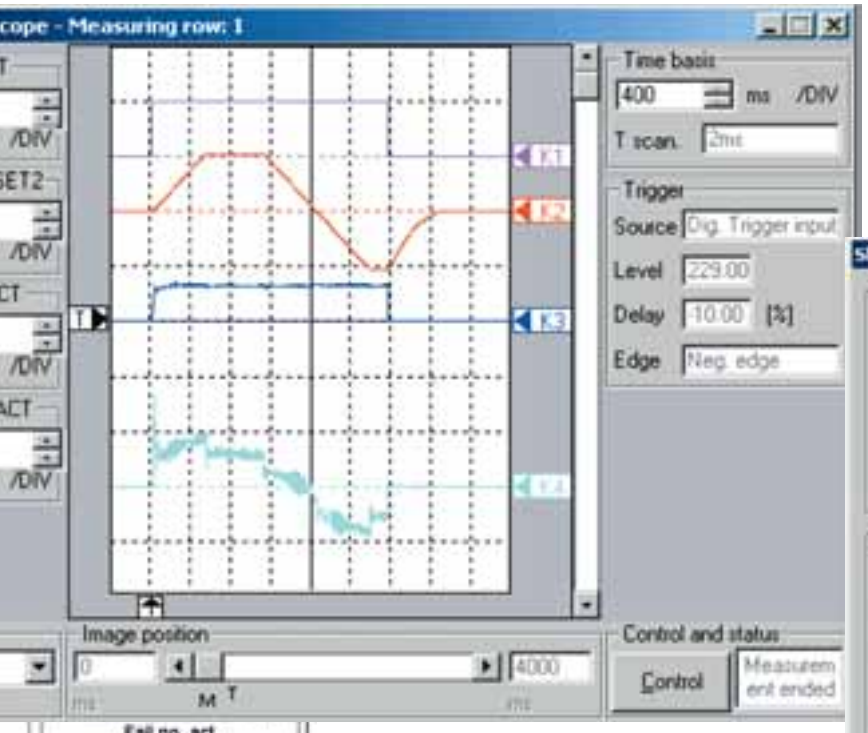
Operation and diagnostics are made even easier by the following features

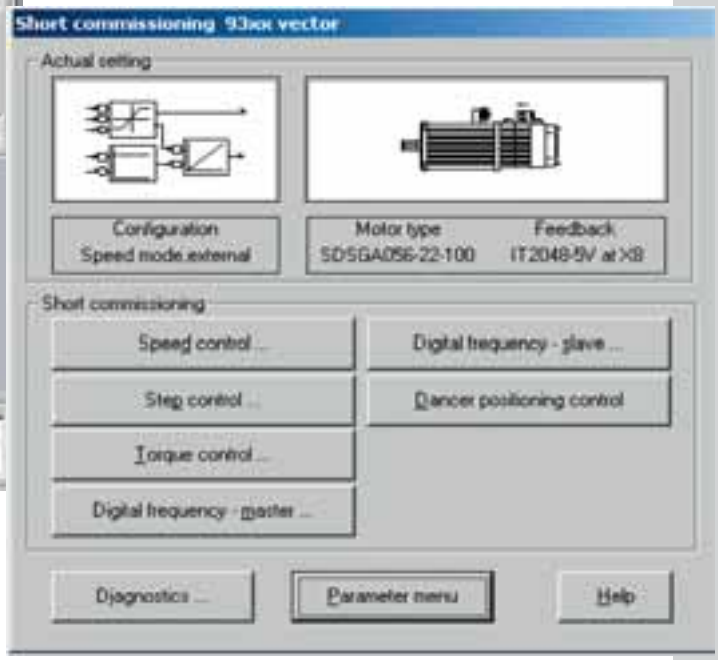
- Short commissioning
- Monitor window
- Oscilloscope function
- Numerous help functions
- “Soldering iron” for building function block connections
- “Scissors” for disconnecting function blocks
- Copying and transferring settings to the next 9300 vector
- Automatic detection of the motor parameters with self-optimisation

All operation options are also available when you use the plug-in keypad.

Start immediately

- Often standard applications only require the default settings. Further configurations are not necessary.
- The connections of function blocks for more demanding applications are already stored in predefined basic configurations (e.g. dancer-position control, torque control, traversing control, digital-frequency connection). Select the basic configuration suitable for your application and, if necessary, “refine” it with an operating module or PC – now the system is ready for operation.





System | as complete solution

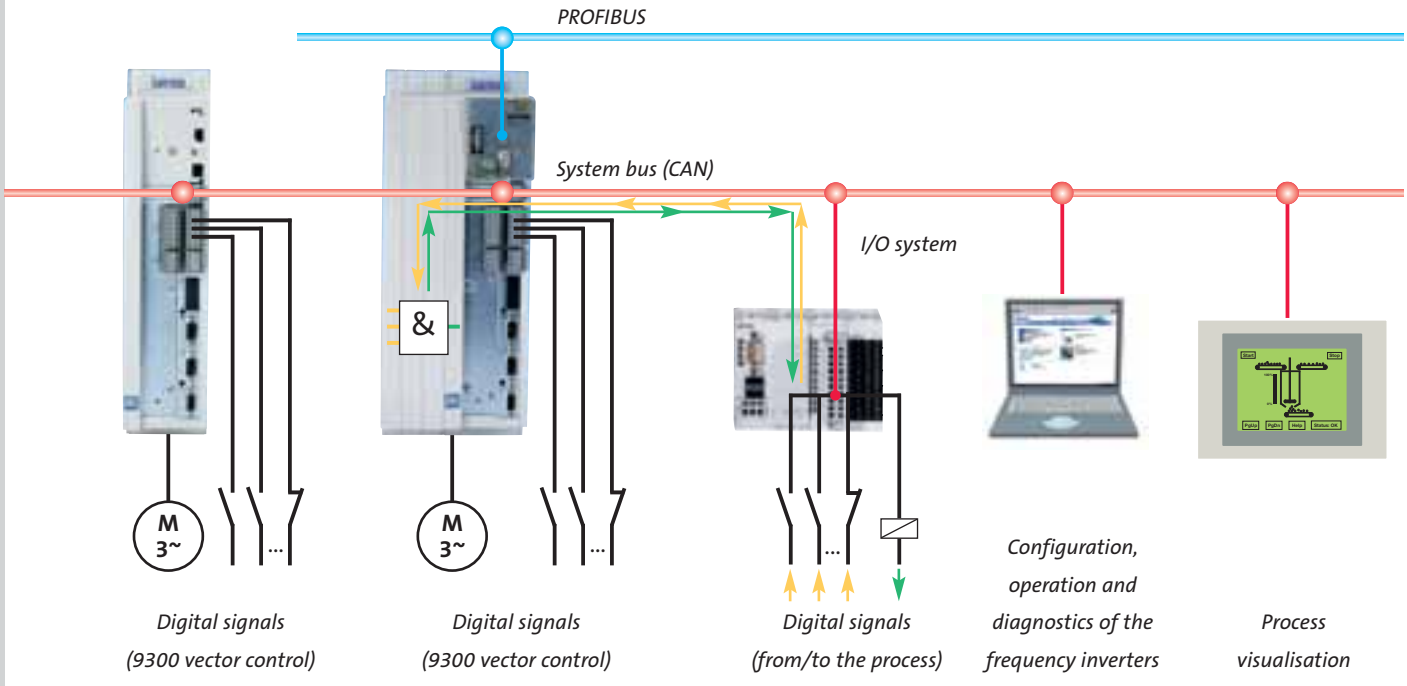
The 9300 vector cannot only be connected to common bus systems via communication modules, but interconnect several Lenze controllers to a self-sufficient bus connection. This is possible thanks to the system bus (CAN) which is included in the 9300 vector as standard. Lenze also offers matching system bus-compatible components for a consistent implementation of automation concepts, e.g. I/O systems and operating/diplay units (human machine interface).

Example

- 9300 vector frequency inverter networked with automation components in the system bus (CAN)
- Control of the frequency inverter via digital inputs
- Configuration, operation and diagnostics of the frequency inverters through a PC
- Process visualisation with operating/display unit
- „Collection“ of signals from the process via the I/O system, processing of the signals through the frequency inverter and return of the corresponding control signals to the process via the I/O system
- Process-overriding signal exchange with the host (speed setpoints, messages, . . .) via PROFIBUS

Advantages

- Less installation required (no parallel wiring)
- Operation/diagnostics during operation (quick commissioning, easier setting-up operation)
- Combination of drive and automation technology to form a clear and independent (sub) system
- Complete and matching drive, control and automation solutions



Details | Technical data and features

Drive features

- Power range:
  0.37 ... 90 kW, 400 V / 480 V
  110 ... 400 kW, 400 V / 500 V
- Overload capacity:
  Depending on the type up to 180 % rated torque for 60 s
- Control methods: Vector control, V/f-characteristic control (linear and square)

Input and output terminals

- 2 bipolar analog inputs
- 2 bipolar analog outputs (freely assignable)
- 7 digital inputs (6 of them freely assignable) with changeable logic
- 4 digital outputs (freely assignable) with changeable logic
- Input for external supply of the control electronics (back-up operation in the event of a mains failure)

Communication interfaces (optional)

- RS232/485 interfaces, optionally as optical fibres
- Connection to common fieldbus systems (PROFIBUS, INTERBUS, DeviceNet, CANopen)

Protection

- Protective function against unintentional start-up (safe standstill to EN954-1) as option
- Adjustable current limitation, error messages in the event of overcurrent
- Overvoltage and undervoltage protection
- Warnings and error messages in the event of overtemperature of the frequency inverter
- Input for PTC and thermal contact
- Motor-phase failure detection
- Mains failure control

Standard functions (selection)

- 2 PID controllers
- Slip and mains voltage compensation
- Smooth starting and stopping along S ramps
- DC braking
- Electronic motor potentiometer
- 4 freely configurable parameter sets
- 3 frequencies to skip mechanical resonances
- Freely connectable function blocks

Operation and diagnostics

- Menu-guided keypad with clear-text display
- Copying and transfer of inverter settings using the keypad
- Password protection
- Predefinded basic configurations
- Fault history
- Comfortable operating software “Global Drive Control” with oscilloscope function

It's good to know | why we are there for you

"Our customers come first. Customer satisfaction is what motivates us. By thinking in terms of how we can add value for our customers we can increase productivity through reliability."

"The world is our marketplace. We develop and manufacture internationally. Wherever you are in the world, we are nearby."

"We will provide you with exactly what you need – perfectly co-ordinated products and solutions with the right functions for your machines and installations. That is what we mean by 'quality'."

"Take advantage of our wealth of expertise. For more than 50 years we have been gathering experience in various fields and implementing it consistently and rigorously in our products, motion functions and pre-prepared solutions for industry."

"We identify with your targets and strive towards a long-term partnership which benefits both sides. Our competent support and consultation process means that we can provide you with tailor-made solutions. We are there for you and can offer assistance in all of the key processes."

You can rely on our service. Expert advice is available 24 hours a day, 365 days a year, in more than 30 countries via our international helpline: 008000 24 Hours (008000 2446877).

www.Lenze.com

13139857

Lenze Drive Systems GmbH · Postfach 10 13 52 · D-31763 Hameln · Technical alterations reserved · Printed in Germany 5.2006 · Version 1.0 en · **5 4 3 2 1**