

# HEIDENHAIN



## Gen<sup>3</sup>

## The New Drive Generation

Control technology that moves intelligently

[www.heidenhain.com/motor-technology](http://www.heidenhain.com/motor-technology)

# Maximum performance for your machine

Powerful control packages

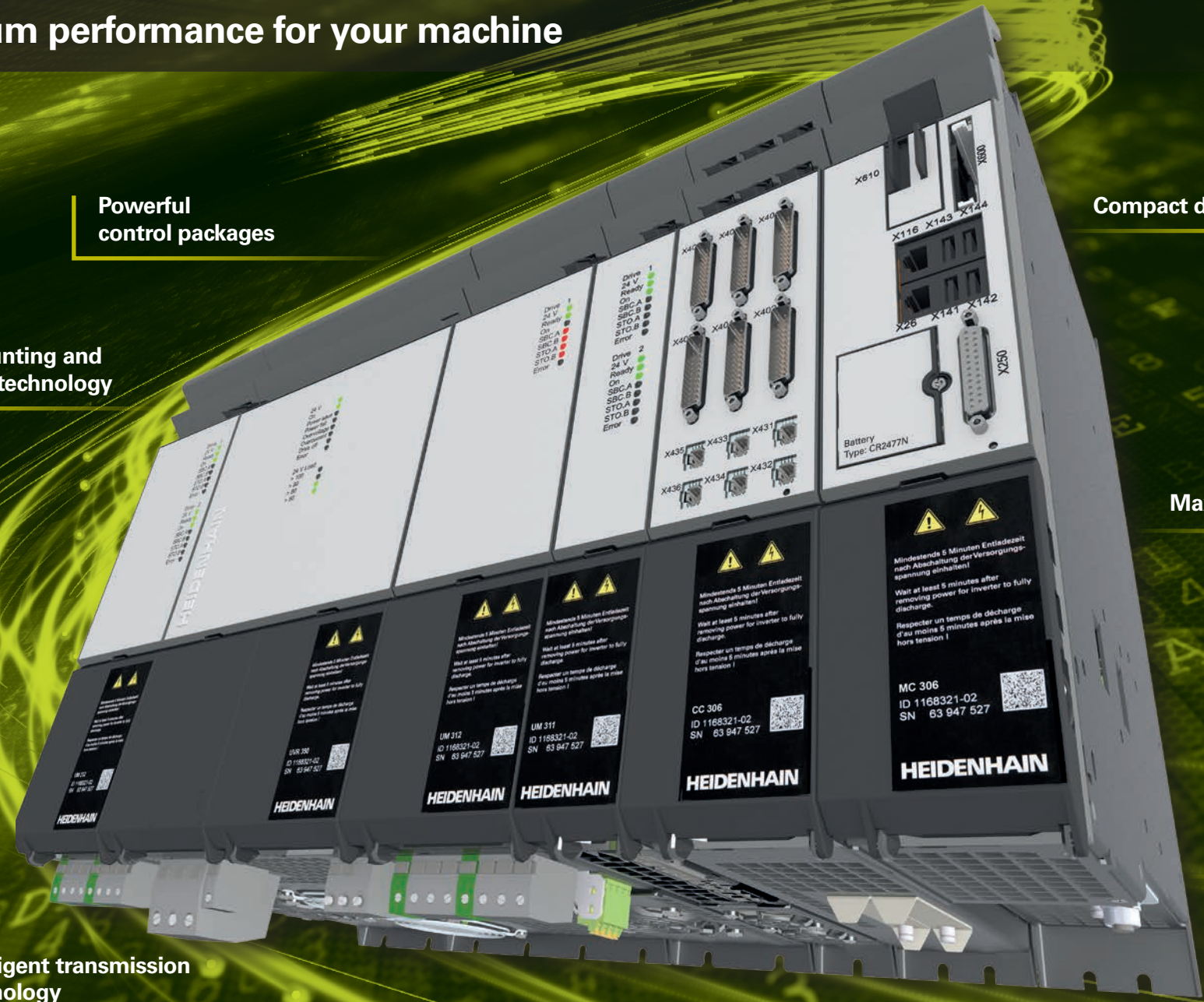
Compact dimensions

Simple mounting and connection technology

Maximum performance

Powerful diagnostics

Intelligent transmission technology



## Powerful control packages



Control packages from HEIDENHAIN are perfectly matched systems consisting of the following components:

- Software
- Control hardware and real-time hardware
- Drive electronics
- Motors
- Encoders

The emphasis of these systems is on the inverter and control technology. That's because, ultimately, motion control and control strategies have a direct influence on the machined results.

With the new Gen 3 components, HEIDENHAIN is offering a complete system that is based on highly innovative and future-oriented technologies. You benefit from state-of-the-art interface technology, improved performance data, and increased controller performance. This makes the Gen 3 drive technology an important key component for machines that must fulfill stringent requirements regarding availability, surface quality, and machining time.

## Compact dimensions

Along with their excellent functional characteristics, Gen 3 components are distinguished by their optimized design. The modern and ergonomic design of the Gen 3 inverter components is compact, sturdy, and especially practical. Even subsequent system expansions are very simple, since the components can be arranged in any sequence in the electrical cabinet.



Variable arrangement



Plug and play



### Facts

- New semiconductor technology
- Fewer system components required
- Plug-and-play technology
- Ergonomic design



### Your benefits

- Fast and simple installation
- Variable arrangement of components
- Easy expansion of the configuration
- Low space requirements



Contiguous bus mounting  
for supply voltages

## Simple mounting and connection technology

Many different components must be installed during the assembly of a CNC machine tool. Simple handling and a practical design of the components and assemblies play an important role here. After all, these factors have a direct influence on the cost efficiency and quality of the production process. The Gen 3 components offer you enormous benefits during installation and wiring.



### Facts

- Simple handling
- Practical connection technology
- Contiguous bus mounting for supply voltages



### Your benefits

- Convenient expandability of the machine tool (e.g., retrofitting)
- Safe and quick wiring
- Rapid recommissioning if service is needed
- Low assembly costs

## Intelligent transmission technology

High-performance systems require a fast and reliable exchange of data. Gen 3 components offer optimum conditions for this. They combine the latest transmission technologies with intelligent and practical connection technologies. With the Gen 3 transmission technology, you receive a forward-looking system with process reliability.

### Your benefits

- Rapid setup
- High noise immunity
- Reduced cabling
- High data transfer rate

### Facts

- Purely digital data transfer
- Fiber-optic cable technology
- Miniaturized connector technology
- Hybrid connector for combined power and signal transmission
- Gigabit HSCI

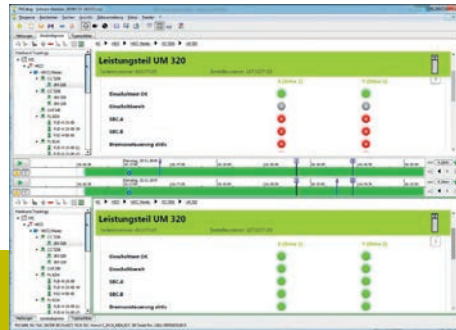


## Powerful diagnostics

A comprehensive set of diagnostic functions is an extremely important factor when errors need to be found and fixed quickly. Sophisticated diagnostics are also essential during initial setup in order to configure a machine tool easily and systematically. With Gen 3 components, you have a fully-diagnosable system. Together with the TNCdiag software it supplies you with extensive and reliable information.

### Your benefits

- Clearly structured display of information
- Comprehensive diagnostic capabilities
- Increased process reliability
- Documentation and archiving of data
- Reduced servicing time



### Facts

- Optimized display of diagnostic information with TNCdiag for the PC or on the control
- Static information:
  - Electronic ID label
  - Direct assignment of devices and drives
- Dynamic information:
  - Current status of devices and measured values (e.g., quality of optical fiber connection)



Performance

## Maximum performance

Increasing the performance of the drive technology simultaneously makes it possible to improve the machine's overall performance. This is an important opportunity to increase the performance data and efficiency of your machines. The Gen 3 drive technology is the optimal foundation for this.

### Your benefits

- Excellent control loop performance for highly dynamic motors
- Short acceleration phases of spindles and axes
- Little space required in electrical cabinet
- Very high spindle speeds

### Facts

- High power density
- Future-proof hardware concept
- Improved performance data
- Higher and longer peak currents and peak load capability
- PWM frequency of up to 16 kHz



# Compact high-performers

The UEC compact inverters combine a PLC, controller, frequency inverter, and power supply unit in a single device, making it possible to implement space-saving, cost-efficient system solutions, particularly for smaller machines. State-of-the-art interface technology and a practical design enable highly convenient installation and expansion.

## The UEC compact inverters

- Rated power: 15 kW to 30 kW
- Rated current: up to 44 A
- Motors: up to five motors with the standard version
- Energy recovery: via an RM regenerative module
- Functional safety: integrated

Powerful  
diagnostics



Versatile  
expandability



Plug-and-play  
technology



Everything in one device



Easy mounting



Compact dimensions



## Customized control systems

HEIDENHAIN offers a variety of control components featuring different characteristics, thereby making customized solutions available for each individual machine. From simple machines to highly complex machining centers with up to 18 axes and multiple spindles, HEIDENHAIN offers the optimal solution.

### The right components for any challenge

- Main computers
- Monitors
- Keyboard units
- Machine operating panels
- Inverter systems
- Motors
- PLC input/output modules
- Accessories (e.g., handwheel)







# HEIDENHAIN

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