HEIDENHAIN

TNC7: Enter a new level

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The future is beginning here and now

Machine controls from HEIDENHAIN are practical, versatile, and high performing. But now HEIDENHAIN is raising the bar with its TNC7. A new future is beginning.

This new level of CNC control offers a superb user experience and puts new possibilities at your fingertips.

- Easy and intuitive operation
- Optimal assistance through virtual simulation of the machined part and work envelope
- Thoughtfully developed, task-focused solutions for your everyday work
- Pioneering machining technologies and cutting strategies
- Powerful functions for process reliability and optimization

Streamline your daily workflow at the machine using familiar Klartext functionality coupled with newly developed graphical programming capability.

This next level of CNC control assists you throughout the machining process: from initial part design to final finishing, from single-part to serial production, and from simple slots to complex contours.

> **And this is just the beginning**
>
> **More great functions are on their way, all with a single goal in mind: to take your machine shop to a new level.**

A pioneering control
Perfect design with high-quality components

The TNC7 defines the next generation of control design. But a noticeably new look and feel is only part of the equation. The TNC7 features high-quality hardware components, an advanced customizable user interface, and an extensive package of functions. User interaction with the TNC7 was redesigned from the ground up, resulting in particularly smooth and precise touchscreen operation.

- Powerful hardware for exceptional performance
- 24-inch full HD anti-reflective screen optimized for the shop floor
- Quad-core CPU for meeting high computing and graphics requirements
- Smooth and highly dynamic touchscreen operation with zero reaction delay
- Newly developed keyboard with improved mechanical design and optimized key resistance

Dynamic, convenient, intuitive
Outstanding user experience

The new user interface of the TNC7 is designed to optimally assist you in your daily work, making results fast and easy to attain. Based on fillable forms and dialog guidance, it delivers optimal operating convenience and navigation. The TNC7 achieves this level of performance thanks to its touch-operated software. You can rotate images, select functions, and navigate, all with dynamic tapping and swiping motions on the touchscreen.

- Newly developed user interface
- Fully touch-optimized operating design
- Graphical contour programming with gesture drawing
- Topic-related training videos in the control
- Context-sensitive dialogs, images, and help functions

Smart programming
Familiar and newly developed functions for the manufacturing ecosystem of tomorrow

The new TNC7 control supplements familiar Klartext programming with smart functions and new graphical programming. You're able to draw contours directly on the touchscreen. The TNC7 then converts your drawing into Klartext and saves it.

Familiar operating elements such as the TNC keyboard are still there, offering high ergonomics for prolonged work at the TNC. Cycles and existing contour programs can still be used, as well as already existing NC programs.
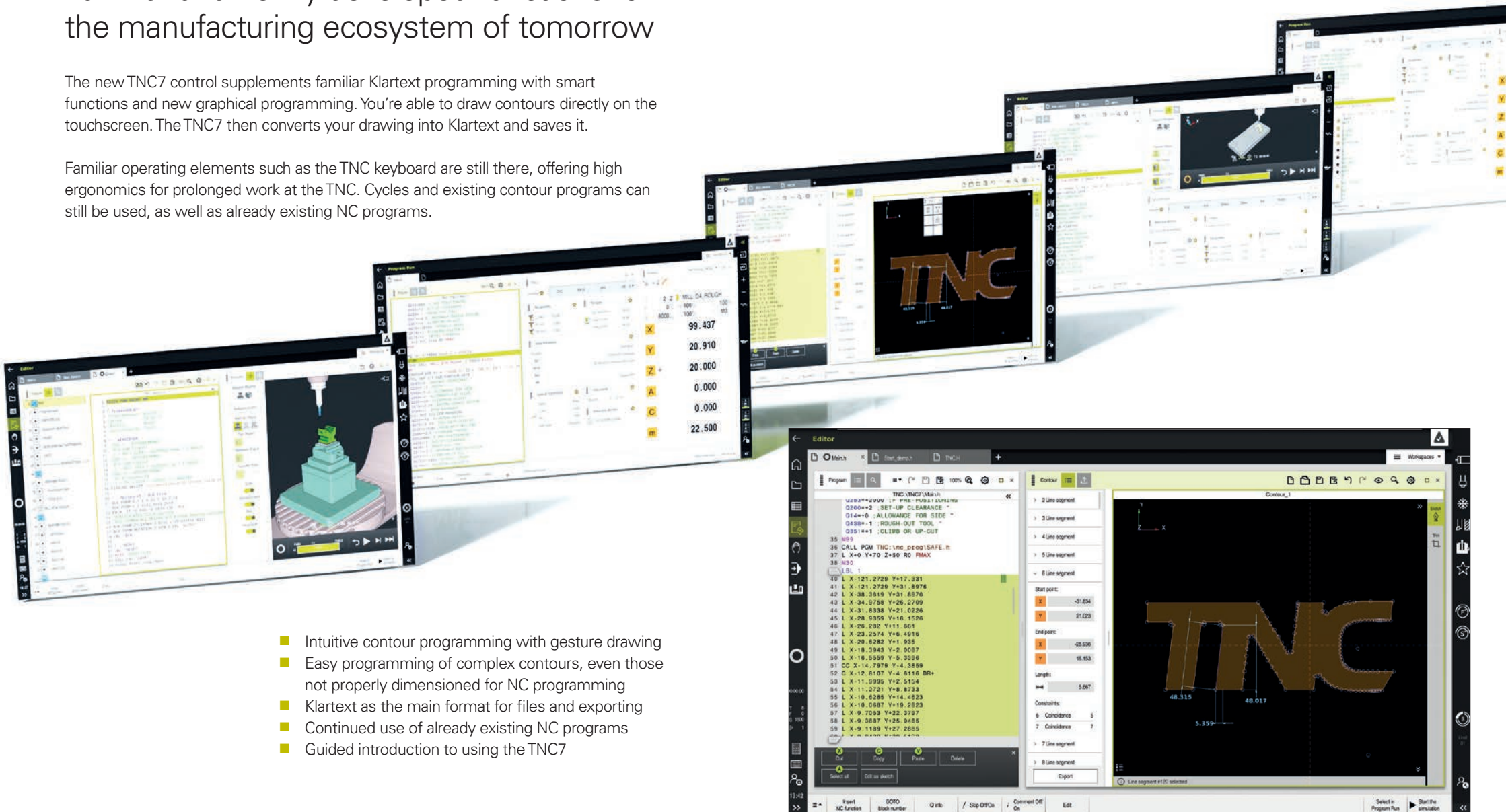
- Intuitive contour programming with gesture drawing
- Easy programming of complex contours, even those not properly dimensioned for NC programming
- Klartext as the main format for files and exporting
- Continued use of already existing NC programs
- Guided introduction to using the TNC7

Assistance throughout the machining process
From initial design to the finished part

The TNC7 assists you with thoughtfully designed solutions. These include a vast package of cycles, smart probing functions, and graphical guidance for aligning your workholding equipment. Its new, high-performance editor lets you edit even complex NC programs with speed and reliability. Perfect visualization of the machined part and work envelope, as well as numerous smart functions, bring great convenience to your workday. It's the future of machining.

- New probing functions with improved user guidance
- Simultaneous opening of multiple programs
- Copy-and-paste, undo-and-redo, and recycle bin editor functions
- Program simulation without changing the operating mode
- Optimized structuring function for NC programs

Complete process reliability
Full protection of your machine

With the TNC7, DCM (Dynamic Collision Monitoring) is entering the next generation. DCM does more than prevent collisions between machine components and tools. It also allows workholding equipment in 3D file formats to be imported, monitored, and, thanks to a new cycle, easily aligned with graphical support.
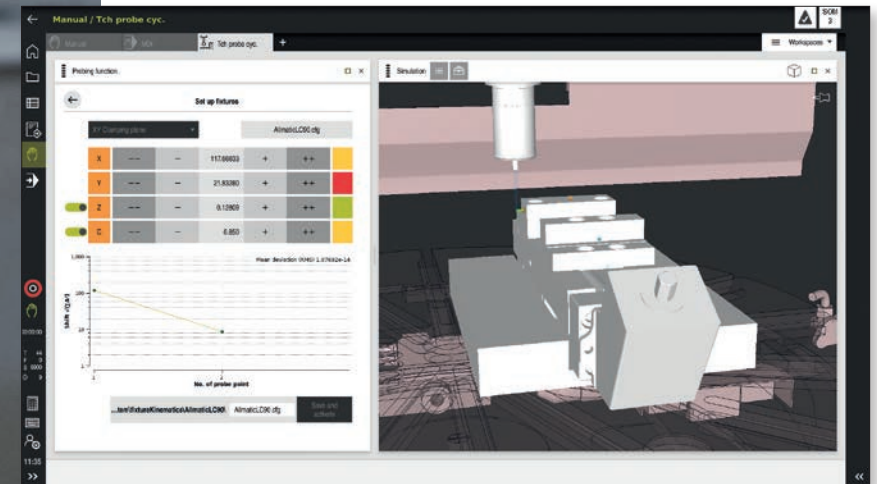

- Monitoring of machine components, tools, and workholding equipment
- Guided and interactive alignment of workholding equipment
- Collision protection in both Manual and Automatic mode
- Simulation in Test Run mode with high-detail renderings
- Easy data extraction from 3D file formats
- Full integration into the control

Fully integrated component and process monitoring

The control's new, integrated process monitoring functionality reliably detects process disturbances. The user can control this monitoring through simple Klartext syntax and an intuitive user interface. With no additional sensors required, it dependably detects deviations from reference machining operations and ensures high process quality.

- Detect deviations from a reference machining run
- Enjoy reliable monitoring thanks to robust program synchronization down to the block level
- Ensure productivity through an extensive range of possible reactions, such as inserting a replacement tool
- Readily verify process outcomes via a graph and a 3D visualization of the workpiece
- Program and use this functionality with ease
- Benefit from zero installation effort
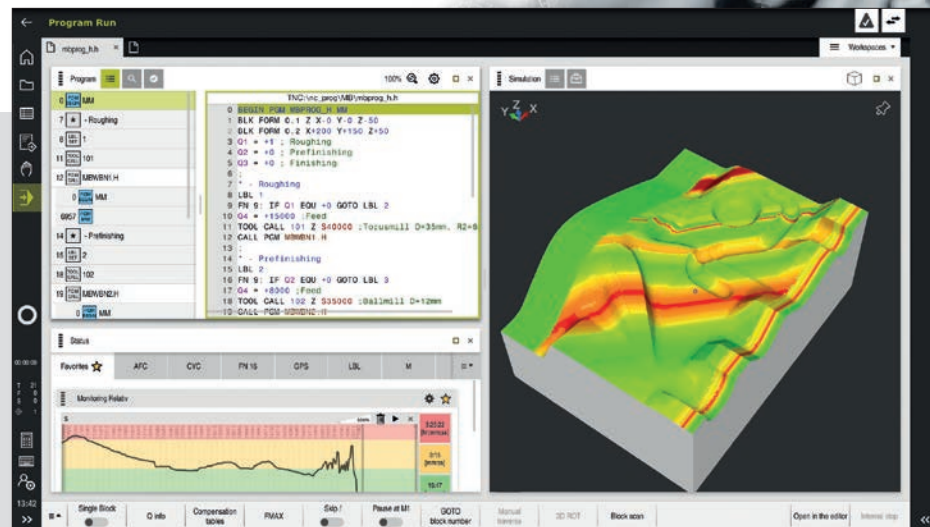
The component monitoring functionality of the TNC7 protects your valuable investment in a machine tool. It's a toolbox that allows machine manufacturers to implement extensive monitoring functions. During machining, this function can protect the spindle bearing from overloading, detect increased component wear in the drive chain, and more. It also delivers valuable data about actual loads acting on the machine, thus helping you evaluate process capability and plan maintenance within the context of predictive maintenance.

The Component Monitoring function can also record and display the amount of wear on the recirculating ball screw or even warn you about spindle overload.

- Protect machine components
- Detect problems in the drive train
- Display wear levels and receive warnings

Enjoy a customizable user interface
Employ convenient favorites and a home menu

CNC machine tools must handle a wide variety of tasks and requirements. The TNC7 supports you in every situation, whether it be programming, machine setup, or part measurement. With its highly extensive package of functions, the TNC7 brings maximum flexibility to your work.

Different tasks require individualized work environments, and the operating screen of a control is no different. The TNC7 lets you customize your screen content as desired, giving you information and functionality exactly where you need it.
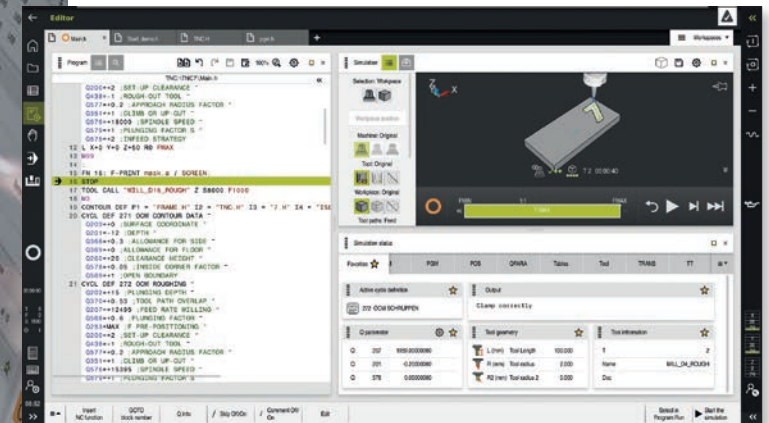
- Adapt your screen workspace to your individual needs and wishes
- Utilize favorites for NC functions, status notifications, files, and much more
- Get started quickly thanks to a home menu
- Enjoy personalized settings in the user administration area

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A pioneering control

Dynamic, convenient, intuitive

Virtual simulation of machining steps

Smart programming

Complete process reliability

Assistance throughout the machining process

TNC7

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