

HEIDENHAIN



TNC7: Enter a new level

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TNC7: Enter a new level

The future is beginning here and now



Machine controls from HEIDENHAIN are practical, versatile and powerful. But HEIDENHAIN is now raising the bar even higher 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
- Insightfully 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.

Development never stops

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 everyday 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
- Topical training videos in the control
- Context-sensitive dialogs, images and help functions

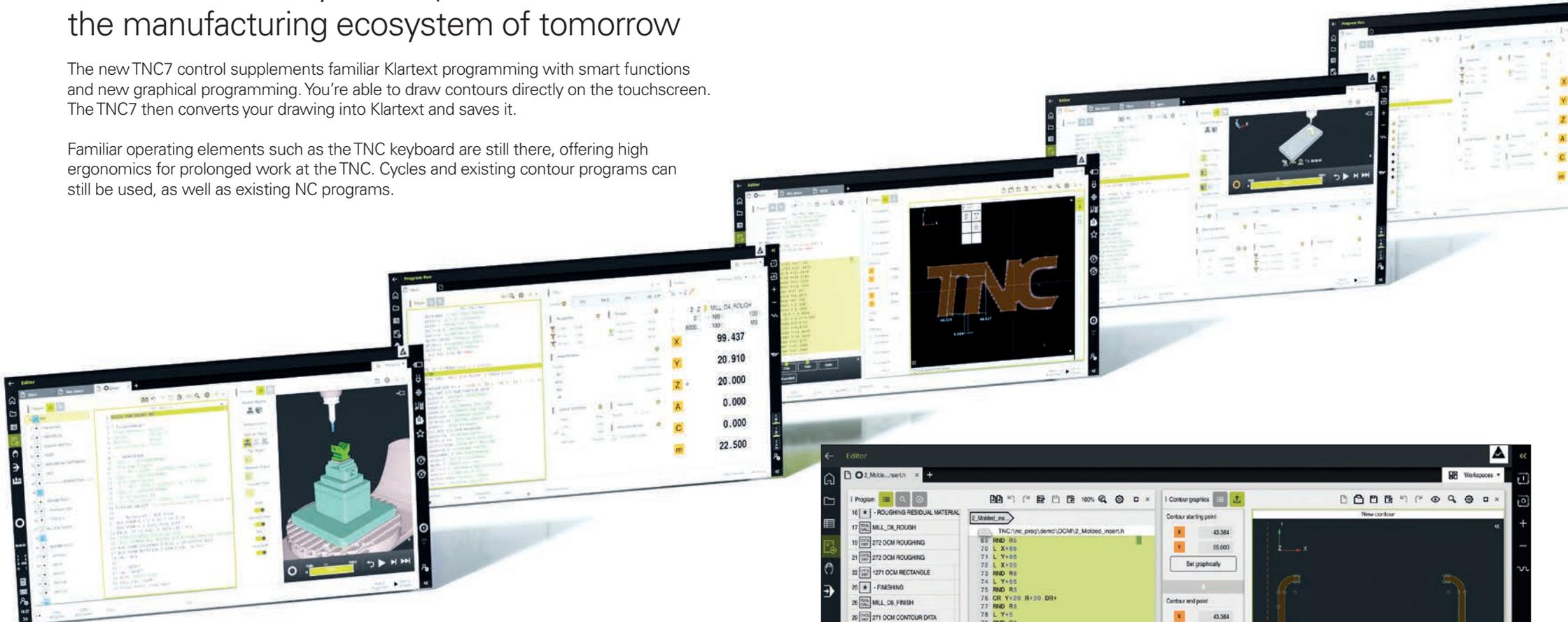


Smart programming

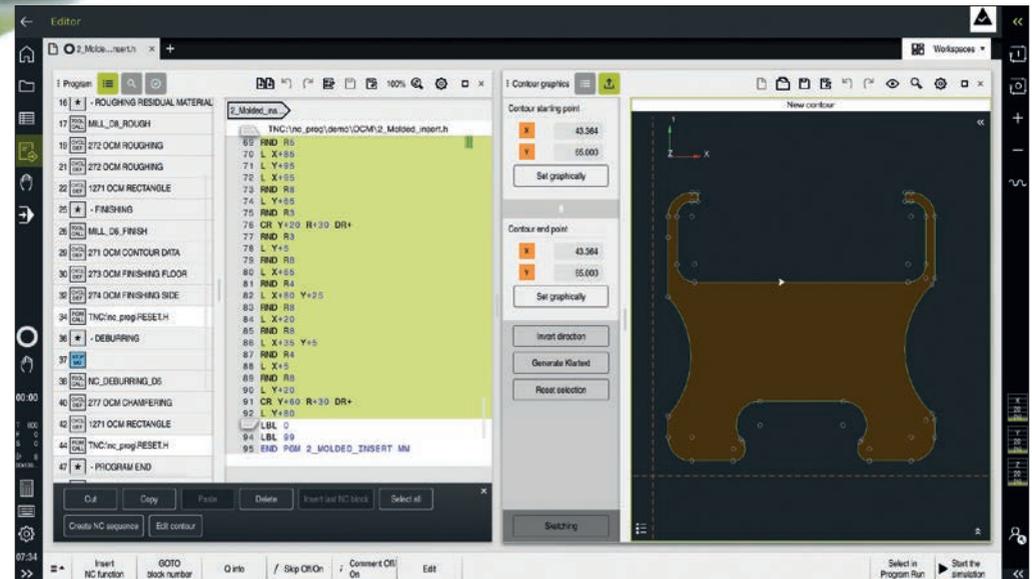
Familiar and newly developed functions for the manufacturing ecosystem of tomorrow

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 existing NC programs.



- Intuitive contour programming with gesture-controlled drawing
- Easy programming of complex contours, even those not properly dimensioned for NC programming
- Klartext as the main file type and export format
- Continued usability 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
- Graphically guided workpiece setup in six dimensions
- Reliable 5-axis machining
- Program simulation without changing the operating mode
- Optimized structuring function for NC programs



Complete process reliability

Full protection of your machine



The TNC7 is taking Dynamic Collision Monitoring (DCM) to 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.

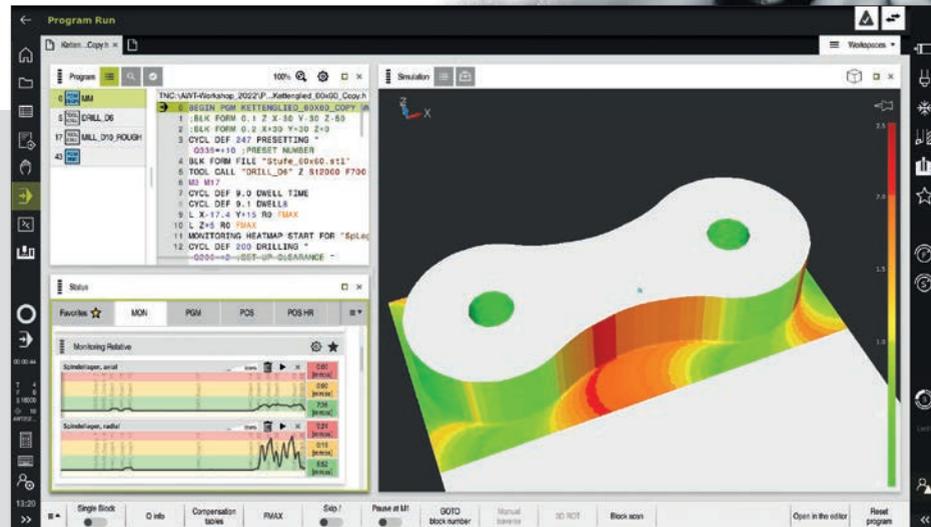


- Monitoring of machine components, tools and workholding equipment
- Guided and interactive alignment of workholding equipment
- Collision protection in both Manual and Automatic mode
- Simulation in Test Run mode with high-detail renderings
- Easy data extraction from 3D file formats
- Full integration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

Integrated component and process monitoring

The control's new, integrated Process Monitoring function 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 function 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 benefit from 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

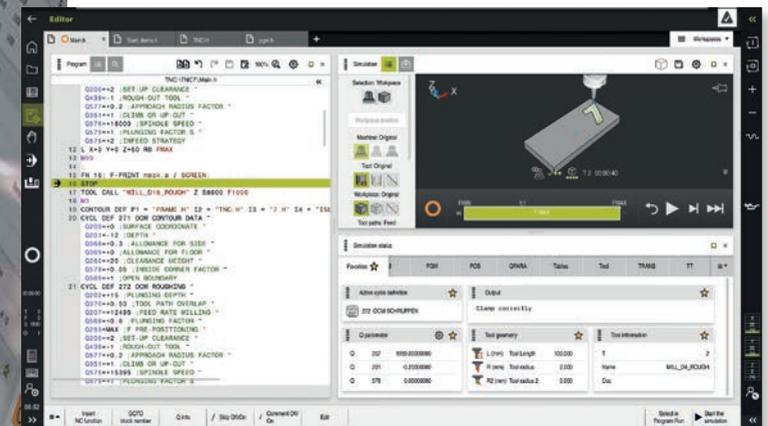
Enjoy a customizable user interface

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
- Work better in low ambient light with Dark mode
- Configurable favorites for files, NC functions, status notifications and more
- Home menu for a fast start
- Enjoy personalized settings in the user administration area

A product line with a flexible design

The right version for each application



TNC7 with 24-inch screen and keyboard unit

With its different hardware versions, the TNC7 offers you exactly the right solution for your machine. The intuitive user interface of the TNC7 fits seamlessly into the various screen formats. No matter which version you choose, the TNC7 will impress you with its exceptional user experience.

Here's what you get in all versions of the perfectly coordinated hardware portfolio:

- High-end hardware components
- Full HD anti-reflective screens
- Consistently high ease of use
- Perfect solutions for individual machine designs
- High-performance main computers with touch operation
- Ergonomic and practical keyboards and machine operating panels
- Pioneering CPU for meeting high computing and graphics requirements



**TNC7 with 19-inch screen
and keyboard unit or
machine operating panel**



**TNC7 basic with 16-inch screen
and keyboard unit or
machine operating panel**

TNC7 basic

The new compact performance class



For years now, the TNC 620 has been proving itself as a compact and versatile control day after day on milling machines and machining centers. With the generation change to the TNC7, the TNC7 basic now succeeds the TNC 620 and offers considerable added value in the compact performance class.

With the TNC7 basic you also profit from the advantages of the TNC7:

- Up to eight control loops, of which up to two can be spindles
- Ideal assistance through virtual simulation of the machined part and work envelope
- Optimized Contour Milling (OCM)
- Dynamic Collision Monitoring (DCM)
- Graphical support for aligning the workholding equipment with DCM v2
- Graphical 6D workpiece setup with the Model Aided Setup function
- Predictive monitoring of machine components with Component Monitoring

Enter a new level

A pioneering control

Dynamic, convenient,
intuitive

Virtual simulation
of machining steps

Smart programming

Complete process
reliability

Assistance throughout
the machining process



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INTUITIVE

- Exceptionally intuitive machine operation
- Graphically guided setup for workpieces and workholding

COMPATIBLE

- Compatible with all older TNCs
- Retains the proven Klartext NC program format

FUTURE-READY

- New machining technologies and cutting strategies such as OCM
- Integrated process monitoring for automated tasks
- Digitalization interfaces such as our OPC UA NC Server

TASK-FOCUSED

- Step-by-step approach for all machining tasks
- New structuring for related work steps

MANAGEABLE

- Perfect overview of the program, machine and workpiece
- Customizable workspaces

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