



SINUMERIK 828D BASIC T

The all-round talent for standard turning machines



SINUMERIK 828D BASIC T represents the perfect getting-started solution in the 828D class. Together with SINAMICS drives and motors, it is accurately tailored to the requirements of modern standard turning machines. Powerful CNC functions combined with a unique 80-bit NANO^{FP} accuracy facilitate maximum workpiece precision with minimum machining times. Thanks to a flexible CNC programming language and the unique ShopTurn workstep programming, both largescale production parts as well as individual workpieces can be programmed and machined with maximum efficiency.

Featuring powerful kinematic transformations and a comprehensive set of technology cycles, SINUMERIK 828D BASIC T is also perfectly equipped for demanding machining applications with driven tools. SINUMERIK 828D BASIC T thus sets new standards in the class of compact CNC controls for workshops.

Highlights

- Compact, rugged and maintenance-free operator panel CNC
- Comfortable program and parameter input via QWERTY keyboard
- Maximum machining precision with 80-bit NANO^{FP} accuracy
- SINUMERIK® Operate graphical user interface
- Intelligent kinematic transformations for milling and drilling machining on face and peripheral workpiece surfaces
- ShopTurn: Minimum programming time for the production of individual parts and small-scale series
- programGUIDE: Minimum machining time and maximum flexibility for the production of large-scale series
- Unique range of technology cycles – from the machining of arbitrary turning and milling contours with residual material detection to process measuring
- Animated Elements: Unique operator and programming support with animated graphic sequences
- State-of-the-art data transmission via USB stick, CF card and factory network (Ethernet)
- Easy Message: Maximum machine availability thanks to process monitoring based on text messages (SMS)

CNC hardware

- Panel-based high-performance CNC control
- Rugged operator panel front made of die-cast magnesium
- Fully fledged integrated QWERTY keyboard
- 8.4" TFT color display
- Maintenance-free design (without fan and buffer battery)

CNC performance data and functions

- 80-bit NANO^{FP} accuracy
- Multi-edge machining*
- Acceleration with jerk limitation
- Dynamic feedforward control
- 4-axis simultaneous interpolation (X, Y, Z, rotary axis)
- Linear, circular and helical interpolation
- A-, B-, C-spline interpolation*
- Rigid tapping
- Oriented spindle stop
- Inch/metric selection
- FRAME concept for individual coordinate transformation, rotation, scaling and mirroring
- 50 setable work offsets
- Synchronized actions and rapid auxiliary function output
- TRANSMIT for face machining with driven tools*
- Cylinder transformation*
- Cylinder transformation with tool radius correction for parallel-walled grooves (machine with Y axis required)*

CNC programming

- SINUMERIK G-code programming with high-level language commands for the programming of medium- and large-scale production parts
- programGUIDE: Technology cycle support for SINUMERIK G-code programming
- ShopTurn workstep programming for the efficient programming of individual parts and small-scale series*
- Integrated ISO code interpreter
- Program manager with readable program names
- Program manager with unrestricted access to all memory media

CNC technology cycles

- Technology cycles available for programGUIDE and ShopTurn workstep programming
- Standard technology cycles
 - Turning, drilling and milling cycles for standard geometries
 - Simple contour stock removal cycle
- Advanced technology cycles*
 - Asymmetric grooves
 - Combined drilling and thread milling
 - Thread milling
 - Multi-edge milling
 - Engraving
 - Extended contour stock removal cycle with blank segmentation
 - Contour plunge cutting and plunge turning
 - Milling of contour pockets and spigots (with up to 12 islands)

- Large selection of position patterns for drilling and milling operations
- Geometry calculator for free contour entries
- Automatic detection and machining of residual material*
- Automatic measuring cycles with logging function*

Graphic functions

- Animated Elements: Input help system for machining parameters with animated graphic sequences
- Context-sensitive graphical online help system
- Graphical CNC simulation with plane representation
- Graphical CNC simulation with 3D representation*

CNC operation in setup mode (JOG)

- TSM input mask for easy machine function enabling
- Turning cycle for the pre-machining of blanks and clamping jaws
- Manual and automatic tool measuring
- Manual workpiece measuring

CNC operation in automatic mode

- Block search function for CNC programs with automatic provision of position, tool, spindle, feed and auxiliary function information
- Program control with single block machining, dry run feed, program test and skip levels
- Simultaneous graphical recording of current CNC machining*

CNC tool management

- Display of tool and magazine data on one screen
- Tool management with readable tool names
- Loading/unloading function for easy turret allocation
- Number of tool cutting edges: 160
- Tool management with service life monitoring
- Tool management with replacement tools*

CNC memory and communication

- Buffered CNC memory: 1 MB
- CNC memory expansion via user CF card on the operator panel front (>16 GB)
- Serial data transmission via RS232C interface (alternatively to Easy Message)
- Data transmission via USB interface on the operator panel front
- Data transmission via CF card interface on the operator panel front
- RCS Commander: Data exchange via the front-side Ethernet interface with a notebook PC
- 100 Mbit/sec TCP/IP Ethernet interface for connection to a company network*
- Easy Message: Process monitoring via cell phone (SMS) on the basis of the GSM mobile communications standard (optional SINAUT GSM quad-band modem required)
- Remote diagnostics* (optional modem required)

*CNC option