

Machine Tool Products

Siemens SINUMERIK 828 CNC Kit

for

Knee Mills

Revised: 10/08/2018

For more information or to request a quote please contact:

MTP Support
Email: support@machinetoolproducts.com
Cell: 317-830-3057

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Kit Photos (Pre-built Knee Mill Configuration)



Kit Photos (Knee Mill 3 Axis System Configuration)



Kit Photos (Knee Mill 3-Axis Electronics Configuration)



Siemens 828 CNC Kit Overview

Included in Package:

- Siemens 828 PPU with MCP
- Pre-Built Electric Enclosure
- High-End Pendant Arm with Operator Station
- S120 Drives & 1FK7 Motors on Digital Drive Bus
- (2) 6 Nm and (1) 3Nm Servo Motors
- 5 Meter Power and Feedback Cables
- MTP Source Code
- MTP Electrical Prints
- 72in/48out IO Board

Feature Overview

- ShopMill Conversational Programming
- Advanced Technology Functions
- DXF Reader (DXF PC Software available free as well)
- 3D Part Simulation (3D, top, front, rear, left, right)
- Dedicated Jog Keys (X, Y, Z)
- Up to 200ipm rapid feedrate (Dependent on pitch/ratios)
- Software Travel Limits
- 2 or 3 Axis Operation
- Tool Change Hotkey
- Gear Change Monitoring
- G54 – G59 Work Offset Activation Keys
- Feedrate/Spindle Speed Override

Available Options

- Wireless Hand Pulse Generator
- Spindle VFD Drive/Motor
- 2 or 3 Axis Systems Available
- Linear Feedback Encoders
- Probing Cycles (Automatic) – *See Measuring Cycles Brochure*
- X/Y/Z Bracket Kits, Heavy Duty Yoke, and Ball Screws
- [FREE Offline Software \(Not full feature\)](#)
- Turnkey Installation & Commissioning

Siemens 828 Control System Overview

Standard Siemens 828 Control Features

- 10.4" Color Display
- Ethernet/USB Data Transfer
- Siemens ProgramGUIDE & ISO Programming (Fanuc Dialect)
- Measure Tool/Workpiece Cycles (JOG/manual)
- 4th Axis Capable (interpolating)
- Tool Wear Monitoring
- Speeds/Feeds Calculator
- Tool Table
- Full Alphanumeric Keyboard
- in to mm toggle
- Backlash & Temperature Compensation
- 3MB of User Memory (Additional Memory - CF card)
- 128 Tools/ 256 Cutting Edges
- On Screen Help Manual

Drive/Motor Technology

- High Inertia Servo Motors with Absolute Encoders
- Absolute Encoders - NO Homing required
- Automatic Servo Tuning
- Regenerative Energy Saving Drives
- 230V or 460V Capable

ShopMill Conversational Features

**non-standard features included in our kit*

- Ability to Write and Edit G-Code
- Repeat, Rotate, Mirror, Offset, and Scaling
- Solid Model Graphics (Centered Block, Pipe, Cylinder, N Corner, and Regular Block)
- 2D or 3D Multiview Operation Graphics
- Estimated Machining Time
- *Advanced Technology Functions
- *DXF Import
- *3D Simulation

Drilling Cycles

- Centering
- Drilling
- Reaming
- Deep Hole Drilling
- Boring
- *Tapping (rigid tapping requires high performance spindle option)
- Positions (bolt hole circle, rectangle, array, position, repetition)

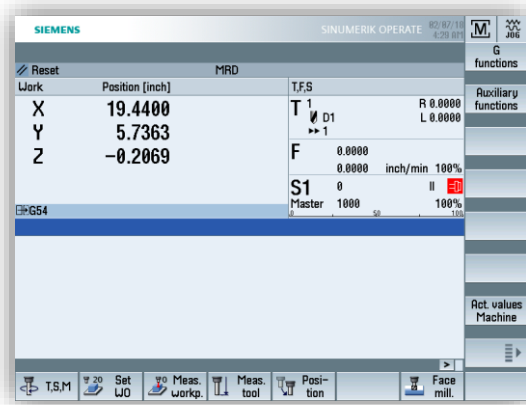
Milling Cycles

- Face Milling
- Pocket Milling (*expansion pack for pocket milling cycles included)
 - Rectangular Pocket
 - Circular Pocket
- Slot Milling (*expansion pack for slot milling cycles included)
 - Circumference Slot
 - Open Slot
 - Longitudinal Slot
- Helix Milling
- *Multi-Edge Spigot (rectangular, circular, multi)
- *Thread Milling (requires high performance spindle option)
- *Engraving

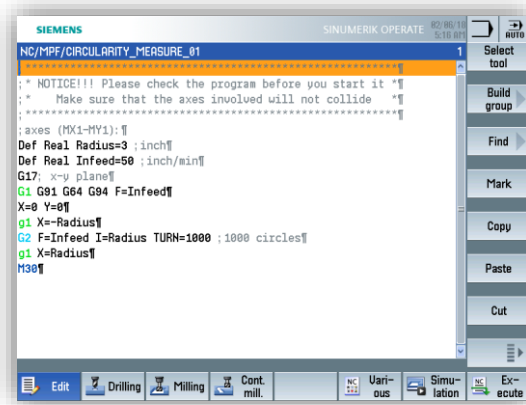
Contouring Cycles

- Path Milling (rough, finishing, chamfer)
- Rough Drill
- Pocket & Spigot
- Chamfering

Control Screenshots



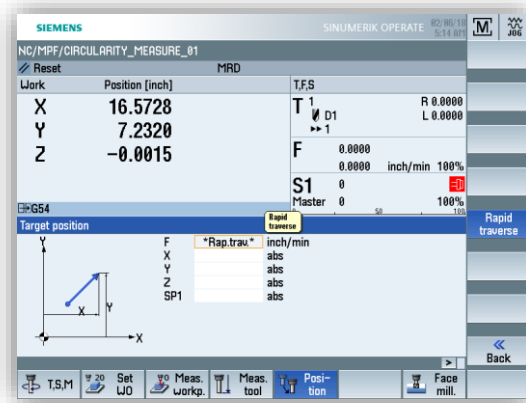
Main Start Up Screen



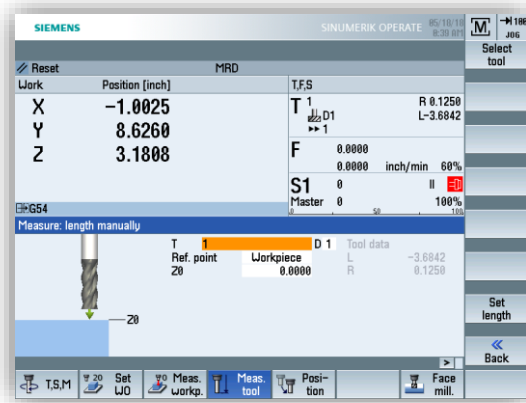
G-Code Editor



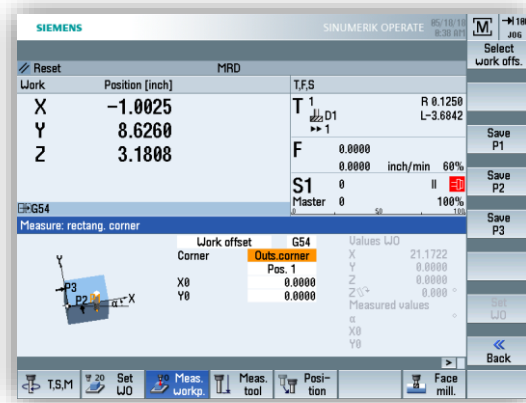
“DRO” Mode



Move Position Command

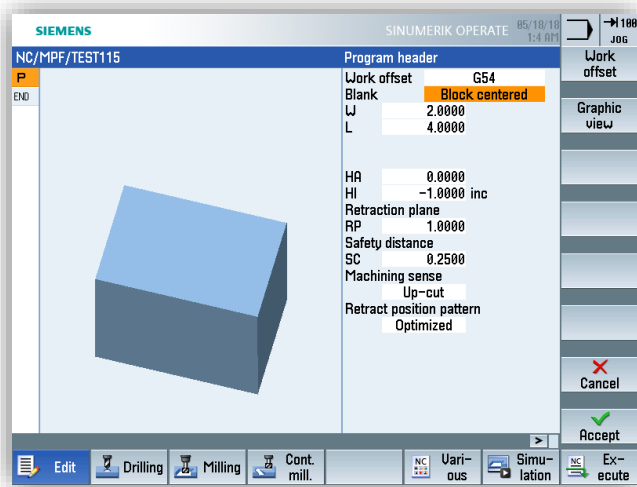


Measure Tool

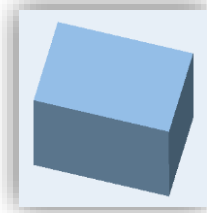


Measure Workpiece

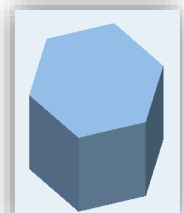
Solid Model Graphics (Blank)



Block Centered



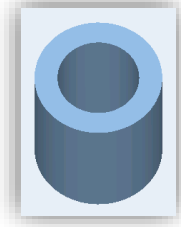
Block



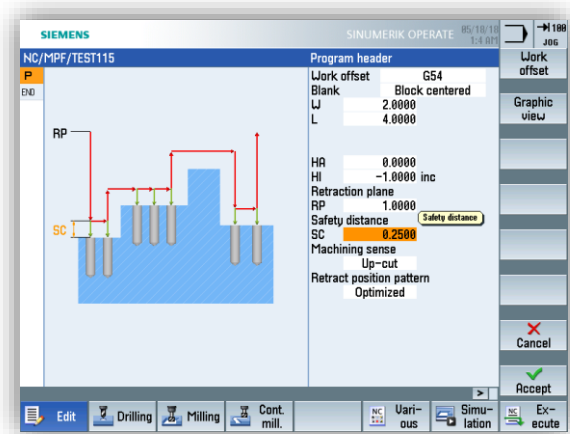
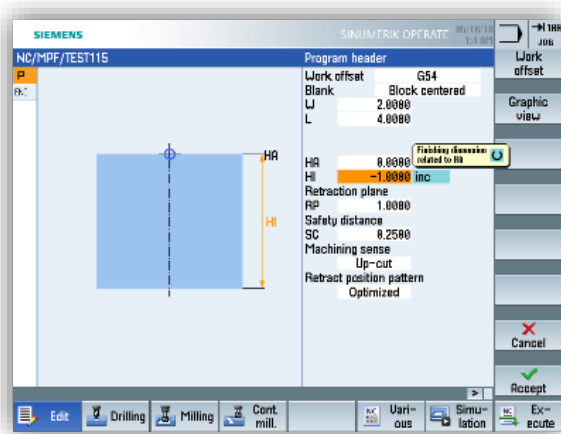
N Corner



Cylinder

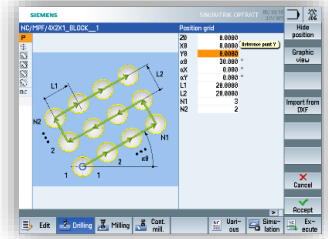
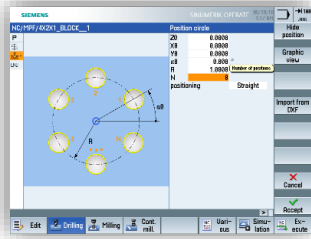
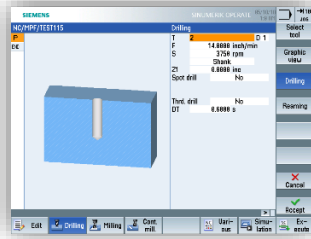


Pipe

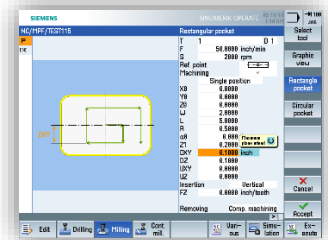
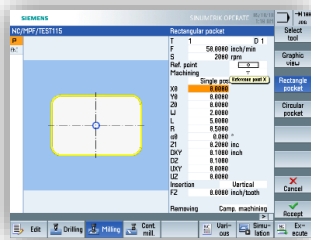
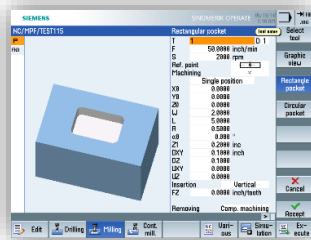


ShopMill Machining Cycles

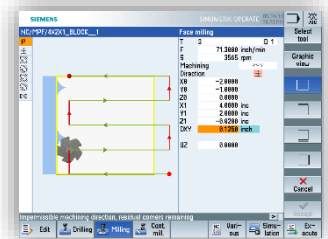
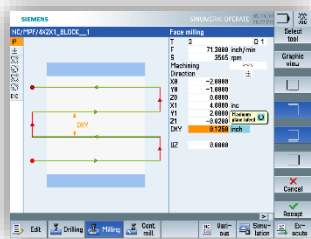
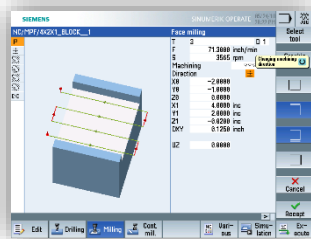
Drilling



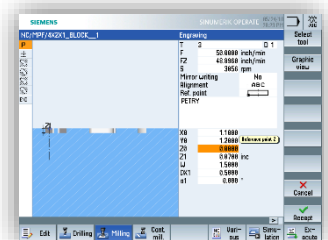
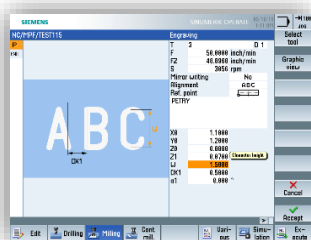
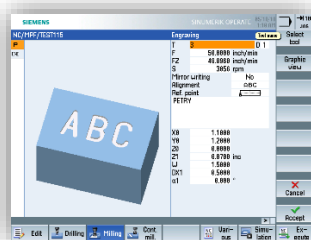
Pocket Milling



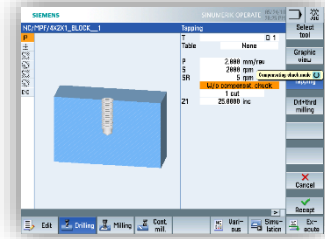
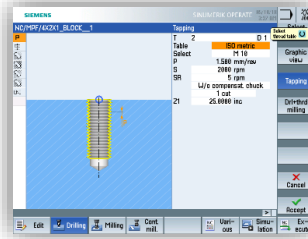
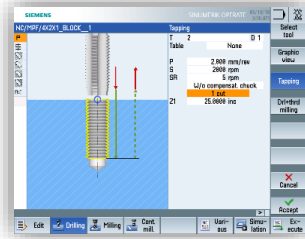
Face Milling



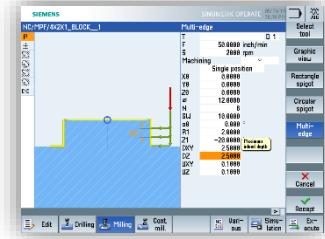
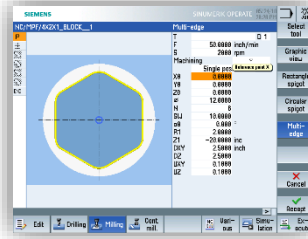
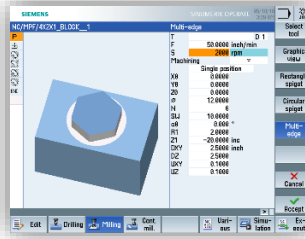
Engraving



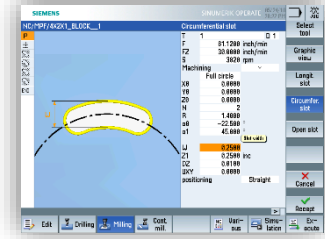
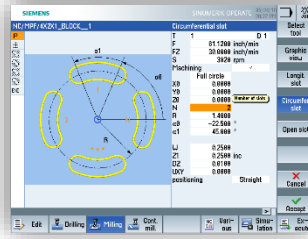
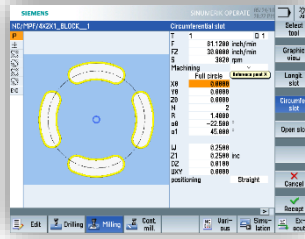
Tapping



Spigot



Slot Milling

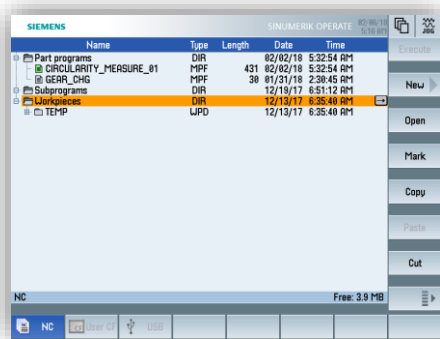


*This is not a complete list of the included machining cycles

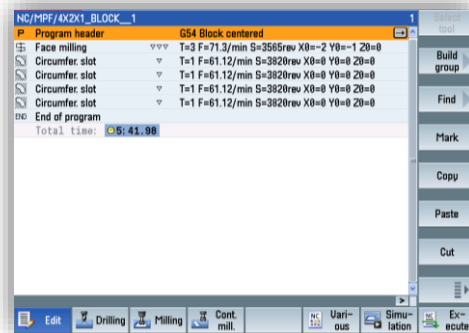
Tool Table

Loc.	Type	Tool number	D	H	Length	Radius	Tip angle	N
1	1	0	-3.6842	0.1250			2	
2	1	0	-1.6900	0.1750	90.0			
3	1	0	-2.6230	0.1250			2	
4	1	0	-1.4730	0.3750			2	
5	1	0	0.0000	0.1007			2	

Loc.	Type	Tool number	D	H	Length	Radius	Tip angle	N
1	1	0	-3.6842	0.1250			2	
2	1	0	-1.6900	0.1750	90.0			
3	1	0	-2.6230	0.1250			2	
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5	1	0	0.0000	0.1007			2	

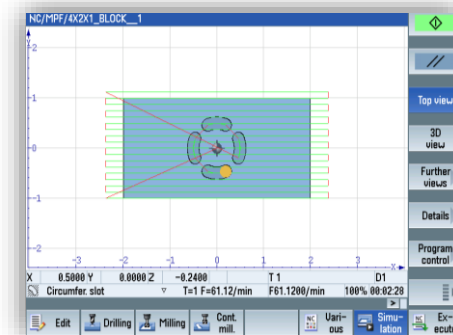
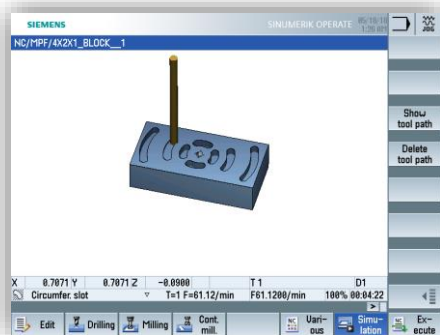
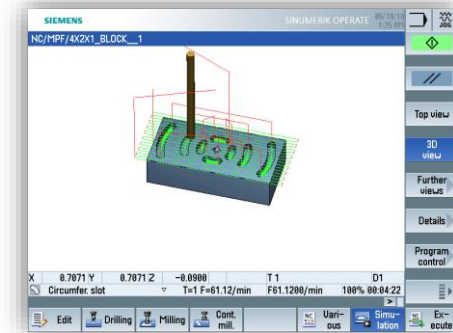
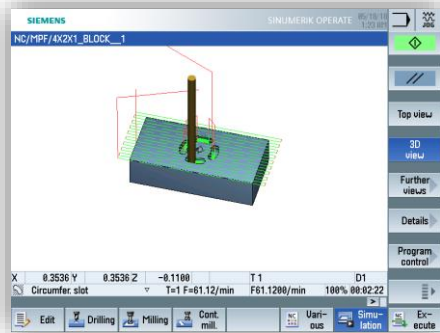


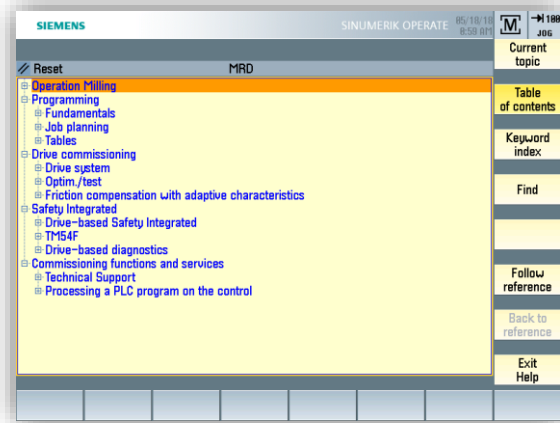
Program Manager



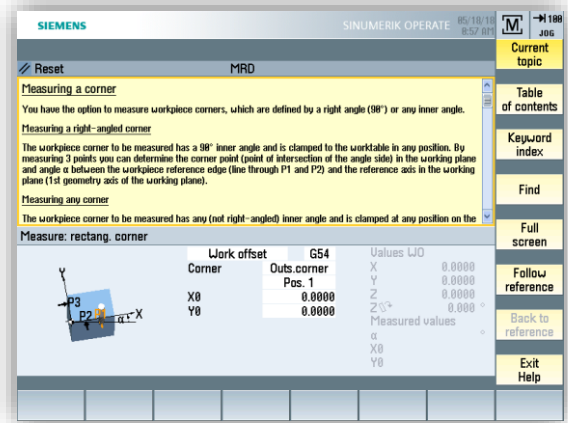
Program Edit Screen

3D Simulation



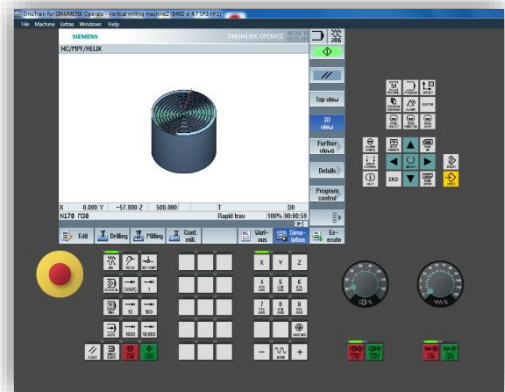


Help Manual Main Menu



Help Manual Example

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FREE Training Webinars covering the following:

- Workpiece/Tool Setup
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- Program Simulation
- Create & Manage Tools/Offsets
- Conversational Standard/Advanced Cycles (ShopMill/ShopTurn)
- Working with CAD/CAM Programs
- DXF Programming
- Automatic Calculations (trig, contours, etc.)
- Probing Cycles (Manual/Automatic)
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