



GE Fanuc Automation

Series 16i/18i/160i/180i CNCs

The GE Fanuc Series 16i/18i/160i/180i are stunningly thin, ultra-compact CNCs based on state-of-the-art integration technologies to provide the highest levels of reliability and ease of use. These mid-range, high-performance CNCs are ideally suited for production turning, milling and grinding applications.

The Series 16i/18i/160i/180i features:

- A CNC so compact that it mounts right behind the liquid crystal display (LCD) unit. State-of-the-art Intel Pentium™ and i486™ microprocessors are combined with other purpose-built VLSI chips to deliver a CNC which is a mere 60mm (2.36") deep—the world's thinnest CNC.
- A selection of monochrome and color LCD units is available. Each provides superior VGA-style graphics. Displays are organized into familiar window formats. A touch screen option is also available to further simplify the operator interface.
- Modular construction provides for 2, 4, 6 or 8 axes of CNC servo control. Each axis may be controlled to 0.1µm, 0.00001" and traverse speeds up to 240m/min. Up to four spindles are supported. Four additional axes are available with the loader control option.
- High-speed serial links connect the CNC to the spindle and servo drives. These cables are significantly thinner than conventional cables, and are distributed in a multi-drop fashion. I/O and Operator Station units are connected via another high-speed serial link, the I/O Link. Thus, overall cabling is reduced to four cables — far less complex and much



more compact than in conventional machines.

- A built-in PMC logic controller executes logic at 0.085µS/step, controlling machine functions even more efficiently than ever before.
- An optional Personal Computer board, running Windows® 95, also mounts behind the LCD unit. Optional ISA extension slots may be installed. Adding a PC allows for creation of a more sophisticated operator interface, use of CAD/CAM right on the machine tool and a great variety of additional capabilities.
- A built-in PCMCIA card slot located to one side of the LCD unit allows for convenient backup storage of part programs, parameters and ladder logic. A modem card may also be inserted, allowing for remote download of programs, troubleshooting and maintenance.

*Ideally Suited
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	18i/180i	16i/160i
Max Controlled Axes		
1-path	4CNC+2PMC	6CNC+2PMC
2-path	(4+Cs)+(4+Cs)	(6+Cs)+(6+Cs)
Simultaneous Controlled Axes		
1-path	4	6
2-path	4+4	6+6
PMC Controlled Axes		
1-path	4	4
2-path	4+4	4+4
Loader Control Axes	4	4
Max Spindles		
1-path	3	3
2-path	2+2	2+2
Resolution (best available option)	0.1 µm 0.00001 inch 0.0001 deg	
PMC (µS per step/max steps)	RB5/RB6 0.085 µS/32K	
PMC C Language	✓	
Macro Executor	✓	
Custom Macro	✓	
C Language Executor	✓	
Open System CNC	✓	
Conversational Programming	✓	
Part Program Storage (max)	5120m (2MB)	
PCMCIA Card Interface	✓	
Program Load/Store	RS232/PCMCIA	
Remote Buffer	✓	
Display		
Ladder Monitoring	✓	
Ladder Editing	✓	
Servo/Spindle setup	✓	
Alarm/Operation History	✓	
Stored Pitch Error Comp.	✓	
Linear/Circular Interpolation	✓	
Helical Interpolation	✓	
Involute Interpolation	✓	
Cylindrical Interpolation	✓	
Polar Coordinate Interpolation	✓	
Polar Coordinate Command	✓	
Rigid Tapping	✓	
Cutter/Tool Nose Comp.	✓	
Canned Cycles	✓	
Scaling	✓	
Simple Synchronous	✓	
Communications		
DNC2	✓	

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For the location of your nearest GE Fanuc sales representative or authorized distributor contact:

GE Fanuc Automation
 Information Centers
 USA & Canada 1 800 648-2001
 Europe & Middle East (352) 727979-1
 Latin America (610) 437-7932
 Mexico 1 800 989-1244
 Internet: <http://www.industry.net/gefanuc.automation>

- Easy to understand displays are available for servo set-up, machine operation and alarm history displays. This improves productivity by simplifying operation, reducing trouble-shooting time and improving maintenance.
- An optional machine operator panel with sealed pushbuttons is available with customer definable labels.

The GE Fanuc Series 16i/18i/160i/180i are advanced CNCs for general purpose machine tools in both machine shop and high production applications. Both M and T versions are offered. The M version covers milling and surface grinding applications. The T version covers turning and cylindrical grinding applications.

The optional conversational programming function allows part programs to be easily created by entering data using the conversational mode, assisted by explanatory graphics and operation guidance.

Machine precision can be remarkably improved through features such as stored pitch error compensation (which corrects for lead-screw pitch error and other mechanical positioning errors) and automatic corner override (which prevents over-cutting at corners).

Part programming is simplified by features such as:

- Cutter Compensation: automatically generates the tool center path by offsetting the tool radius from the programmed path, thus avoiding the need for tedious calculations
- Canned Cycles: automatically perform common machining operations with a single command
- Background Editing: allows programming and machining to be performed simultaneously

Connecting the Series 16i/18i/160i/180i to a communication network enables unmanned operation for extended periods of time. Available automation functions include part program transmission, the reading and writing of CNC and PMC data, and remote operation.

Quality has been ensured by careful design and extensive testing of components and systems.