



GE Fanuc Automation

Series 18/180 CNCs

The GE Fanuc Series 18/180 are popular members of a new generation of modular CNCs using leading-edge CNC technologies. It is a mid-range, high-performance CNC for production machines.

The GE Fanuc Series 18/180 CNCs include:

- *A compact, 80486-based control unit with high density printed circuit boards mounted in a multi-slot rack*
- *Up to 6 axes of servo control. Each axis may be controlled to 1 μ m, (or 0.0001") increments (optionally 0.1 μ m, 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.*
- *Maximum of 4 contouring axes enhances exportability*
- *The Series 180 CNCs offer a variety of open architecture configurations*
- *Choice of a variety of CRT and LCD displays*
- *Operation and alarm history displays, which simplify trouble-shooting and improve maintenance*
- *An optional machine operator panel with sealed pushbuttons and customer definable labels*
- *Choice of built-in high speed PMCs to control machine functions using advanced Ladder Diagram programming and C language programming*
- *Convenient built-in PCMCIA card slot for backup storage of part programs, parameters and ladder logic*



The GE Fanuc Series 18 is an advanced CNC for general purpose machine tools in both machine shop and high production applications.

Innovative new generation control technology employs very high density circuitry that minimizes the size and maximizes the reliability of the control unit. In addition, thinner cables are used to connect the control unit to the machine tool. The result is a control unit that is compact, and takes up minimal space when installed in the power magnetics cabinet.

The Series 18 features an easy-to-understand display for improved operation and maintainability. On the servo and spindle setting screens, the operator can easily set parameters while viewing the actual motor speed displayed on a graph. Easy-to-use function keys assist the operator in selecting the correct screen, while a specially designed help key supplies instructions for the user to follow.

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.

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**An Innovative
New
Generation of
Control
Technology**

**Quality
has been
ensured by
careful
design and
extensive
testing**

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).

Programming is simplified by features such as:

- *Cutter Compensation: automatically generates the tool center path by offsetting the tool radius from the programmed path, 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*

Up to 1280m of built-in part program storage is available. Individual part programs and control parameters can be conveniently stored on MS-DOS® compatible 3.5" floppy disks using the GE Fanuc Handy File, a factory hardened portable file transfer and storage unit.

The Series 18 may be connected to a variety of communication networks, enabling 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.

Max Controlled Axes	
1-path	4CNC+2PMC
2-path	(4+Cs)+(4+Cs)
Simultaneous Controlled Axes	
1-path	4
2-path	4+4
PMC Controlled Axes	
1-path	4
2-path	4+4
Loader Control Axes	
	4
Max Spindles	
1-path	3
2-path	2+2
Resolution (best available option)	
	0.1µm
	0.00001 inch
	0.0001 deg
PMC (µS per step/max steps)	
RA1	5.0µS/12K
RB3/RB4	1.0µS/24K
RC3/RC4	0.1µS/24K
PMC C Language	✓
Macro Executor	✓
Custom Macro	✓
C Language Executor	✓
Open System CNC	MMC-IV, HSSB
Part Program Storage (max)	1280m
Program Load/Store	RS232

Conversational Programming	✓
PCMCIA Memory Card Interface	✓
Data Server	✓
CRT Display	
Ladder Monitoring	✓
Ladder Editing	✓
Servo /Spindle setup	✓
Alarm/Operation History	✓
Graphic Display	✓
Background Graphics	✓
Stored Pitch Error Comp.	✓
Linear/Circular Interpolation	✓
Helical Interpolation	✓
Involute Interpolation	✓
Cylindrical Interpolation	✓
Polar Coordinate Interpolation	✓
Polar Coordinate Command	✓
Rigid Tapping	✓
Cutter/Tool Nose Compensation	✓
Canned Cycles	✓
Scaling	✓
Simple Synchronous	✓
Communications	
DNC2	✓
Remote Buffer	✓
OSI-Ethernet	✓

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