



Series 0i-TF CNC

STANDARD FEATURES

Axis Control

Digital Servo Function	
1 Controlled Path standard, expandable to 2 paths	
Simultaneously controlled axes: Up to maximum of 4; 3 if Contouring Spindle Configured	
PMC Axis Control	
Axis synchronous control, in Package B, C, D & E. Optional in Package A.	
Tandem control, in Package B, C, D & E.	
Serial Encoder Interface	
Axis Name	Selected from X,Z and Y,A,B,C
Spindle	Up to 2 spindles
Least input increment	0.001mm, 0.001deg, 0.0001inch
Increment system 1/10	0.0001mm, 0.0001deg, 0.00001inch
Flexible feed gear	Optional DMR
Inch/metric conversion	
Interlock	All axes/each axis/each direction/block start/cutting block start
Machine lock	All axes/each axis
Emergency stop	
Overtravel	
Stored stroke check 1	
Stored stroke check 2,3	
Chuck Tailstock Barrier	
Stroke limit external setting	
Mirror image	Each axis
Follow-up	
Servo off	
Backlash compensation	
Backlash compensation for each rapid traverse and cutting feed	
Position switch	
Unexpected disturbance torque detection function	

Operation

Automatic Data Backup	
Automatic operation (memory)	
DNC operation	Reader/puncher interface is required, not available with Touch Panel
MDI operation	
Schedule function	
Program number search	



Interpolation

Positioning	G00 (Linear interpolation type positioning is possible)
Linear interpolation	
Circular interpolation	Multi-quadrant is possible
Dwell	Dwell in seconds
	Dwell per revolution (synchronous cutting function is required.)
Polar Coordinate Interpolation	
Cylindrical interpolation	
Threading, synchronous cutting	
Multiple threading	
Threading Retract	
Continuous Threading	
Variable lead threading	
Polygon Turning	
Skip	G31
High-speed skip	Input signal is 4 point
Torque Limit Skip	
Reference position return	G28
Reference position return check	G27
2nd reference position return	
3rd/4th reference position return	
General purpose retract	



Nano Interpolation

Feed Function

Rapid traverse rate	Max. 240m/min (1µm) Max. 100m/min (0.1µm)
Rapid Traverse Feedrate Override	F0, 25, 50, 100% or 0~100%(1% Step)
Feed per minute	
Feed per revolution	
Tangential speed constant control	
Cutting feedrate clamp	
Automatic acceleration/deceleration	Rapid traverse: linear; Cutting feed: exponential, linear
Rapid traverse bell-shaped acceleration/deceleration	
Linear acceleration/deceleration after cutting feed interpolation	
Feedrate override	0~254%
One-digit F code feed	
Jog override	0~655.34%
Override cancel	
Cutting mode	
Tapping mode	
Rapid traverse block overlap	
External deceleration	
AI advanced preview control	

Programming

Program code	EIA RS244/ISO840
Label skip	
Parity check	Horizontal and vertical parity
Control in/out	
Optional block skip	9 Levels
Max. programmable dimension	±8-digit
Program file name	32 characters
External memory and sub program calling function	
Sequence number	N5-digit
Absolute/incremental programming	Combined use in the same block
Decimal point programming / pocket calculator type decimal point programming	
Input unit 10 time multiply	
Plane selection	G17, G18, G19
Rotary axis designation	
Rotary axis roll-over	
Polar coordinate command	
Coordinate system setting	



Automatic coordinate system setting	
Coordinate System Shift	
Direct Input of Coordinate System Shift	
Workpiece coordinate system	G52～G59
Workpiece coordinate system preset	
Direct input of workpiece origin offset value measured	
Manual absolute on and off	
Direct Drawing Dimension Programming	
G Code System	A/B/C
Chamfering/corner R	
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	
Addition of custom macro common variables	#100～#199, #500～#999
Pattern data input	
Interruption type custom macro	
Canned Cycles	
Canned cycles for drilling	
Multiple Repetitive Cycle	
Multiple Repetitive Cycle II	
Circular interpolation by R programming	
Tape format for FANUC Series 10/11	

Auxiliary and Spindle Functions

Auxiliary function	M8-digit
2nd auxiliary function	B8-digit
Auxiliary function lock	
High-speed M/S/T/B interface	
Multiple command of auxiliary function	3
Spindle speed function	S5-digit, binary output
Spindle serial output	S5-digit, serial output
Constant surface speed control	
Spindle override	0～254%
Actual Spindle Speed Output	
Spindle Speed Fluctuation Detection	Package B, C, D & E
Spindle orientation	
Spindle output switching function	
Spindle synchronous control	Package B, C, D & E
Spindle Positioning	
Rigid tapping	



Tool Functions and Tool Compensation

Tool Function	T7 + 1/T6 + 2/T5 + 3 digits (Tool Selection + Tool Offset)
Tool offset pairs	±6 digits 128
Tool offset	
Y-Axis Offset	
Tool Nose Radius Compensation	
Tool geometry/wear compensation	
Tool life management	
Tool offset value counter input	
Direct input of tool offset value measured	
Direct input of tool offset value measured B	

Part Program Storage & Editing

Part Program Storage	512KB
Number of registerable programs	400
Part program editing	
Program protect	
Background editing	
Extended part program editing	
Playback	
Password function	

Display

Status display	
Clock function	
Current position display	
Program comment display	Program name 31 characters
Parameter setting and display	
Self-diagnosis function	
Alarm display	
Alarm history display	
Operator message history display	
Operation history display	
Help function	
Run hour and parts count display	
Actual cutting feedrate display	



- Display of spindle speed and T code on all screens
- Directory display of floppy cassette
- Servo setting screen
- Display of hardware and software configuration
- Periodic maintenance screen
- Maintenance information screen
- Trouble diagnosis
- Software operator's panel
- Software operator's panel general purpose switch
- English Language Display, Multiple Languages Selectable:
 - Jap, Ger, Fr, Sp, It, Chi, Kor, Por, Dut, Swe, Hun, Cz, Pol, Rus, Tur
- Data protection key
 - 4 types
- Erase CRT screen display

Data Input/Output and Communications

Other

CD-ROM containing Product Manuals included in the BOM of the Root CNC.

Assorted items that vary per Package:

24V Power Cable	44C741911-001	CBL +24V M3 TERM-AMP 5M	USA
Spare Fuses:	A02B-0236-K100	Fuse, LCD Mount CNC	
	A02B-0319-K100	FUSE, Stand Alone CNC	
Cable Clamps	A02B-0124-K001	CABLE CLAMPS	
Grounding Bar	44B295864-001	GROUNDING BAR 11 SLOT	



Miscellaneous Items: A02B-0319-K191
A02B-0120-K324 Screw Caps for LCD Mount.
CONNECTOR AND PINS

SERIES 0i-TF PACKAGE CHOICES

Pkg A – Type 3 8.4" LCD/MDI	Pkg B – Type 1 10.4" LCD Mount	Pkg C – Type 1 10.4" LCD Mount w/ Touch Screen	Pkg D – Type 1 15" LCD Mount w/ Touch Screen	Pkg E – Type 1 Stand Alone
A02B-0338-B520 Basic Unit	A02B-0338-B512 Basic Unit	A02B-0338-B512 Basic Unit	A02B-0338-B512 Basic Unit	A02B-0338-B802 Basic Unit
A02B-0338-H144#T Horz. LCD/MDI 200x400mm	A02B-0338-H351 10.4" Color LCD G 220x290mm	A02B-0338-H354 10.4" Color LCD G w/ Touch Screen 220x290mm	A02B-0338-H358 15" Color LCD G w/ Touch Screen 400x320mm	No LCD Available
HRV3 Servo Control	HRV3 Servo Control standard, HRV2 when 11/12 axes are used.			
I/O Link 1	I/O Link 1	I/O Link 1	I/O Link 1	I/O Link 1
3 Axes, up to 5 supported.	3 Axes, up to 12 supported.			
0 Expansion Slots	2 Expansion Slots	2 Expansion Slots	2 Expansion Slots	2 Expansion Slots
PMC-L 5000 Steps	PMC 24000 Steps	PMC 24000 Steps	PMC 24000 Steps	PMC 24000 Steps
Approx 1280m Part Program Storage	Approx 1280m Part Program Storage	Approx 1280m Part Program Storage	Approx 1280m Part Program Storage	Approx 1280m Part Program Storage
Embedded Ethernet	Embedded Ethernet	Embedded Ethernet	Embedded Ethernet	Embedded Ethernet
No HSSB	No HSSB	No HSSB	No HSSB	HSSB