

**Series 0i-TD CNC
STANDARD FEATURES**

Axis Control

Digital Servo Function	
1 Controlled Path Standard, 2 Paths available.	
Simultaneously controlled axes: Up to maximum of 4; 3 if Contouring Spindle Configured	
PMC Axis Control	
Simple synchronous control	
Tandem control	
Serial Encoder Interface	
Axis Name	Selected from X,Z and Y,A,B,C
Spindle	Up to two 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
Fine Acc & Dec control	
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 and tail stock barrier	
Mirror image	Each axis
Follow-up	
Servo off	
Chamfering on/off	
Backlash compensation	
Backlash compensation for each rapid traverse and cutting feed	
Stored pitch error compensation	
Position switch	
Unexpected disturbance torque detection function	

Operation

Automatic Data Backup (R641)	
Automatic operation (memory)	
DNC operation	Reader/puncher interface is required.
MDI operation	
Schedule function	
Program number search	
Sequence number search	
Sequence number comparison and stop	
Program restart	
Manual intervention and return	
Buffer register	
Dry run	
Single block	
JOG feed	
Manual reference position return	
Reference position setting without DOG	
Reference position setting with mechanical stopper	
Manual handle feed	Max. 2 units <i>(requires MPG - order from IOetc Sheet)</i>
Manual handle feed rate	x 1, x 10, x m, x n m: 0~127, n: 0~1000
Manual handle interruption	
Incremental feed	x 1, x 10, x 100, x 1000
Jog and handle simultaneous mode	

Series 0i-TD CNC

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 1 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	

Feed Function

Rapid traverse rate	Max. 240m/min (1 μ m)	Max. 100m/min (0.1 μ m)
Rapid Traverse Feedrate Override	preset value, 25%, 50%, 100% settings	
Feed per minute		
Feed per revolution		
Tangential speed constant control		
Cutting feedrate clamp		
Automatic acceleration/deceleration	Rapid traverse: linear; Cutting feed: exponential	
Rapid traverse bell-shaped acceleration/deceleration		
Linear acceleration/deceleration after cutting feed interpolation		
Feedrate override	0~254%	
Jog override	0~655.34%	
Override cancel		
Manual per revolution feed		
Error detection		
Rapid traverse block overlap		
External deceleration		

Series 0i-TD CNC

Programming

Tape 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 number	O4-digit
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	
Diameter/radius programming (X axis)	
Plane selection	G17, G18, G19
Rotary axis designation	
Rotary axis roll-over	
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
Programmable data input	G10
Sub program call	4 folds nested
Custom macro B	
Addition of custom macro common variables	#100~#199, #500~#999
Pattern data input	
Interruption type custom macro	
Canned cycles	
Multiple repetitive cycle	
Multiple repetitive cycle II	Pocket profile
Canned cycles for drilling	
Circular interpolation by R programming	
Tape format for FANUC Series 10/11	

Series 0i -TD CNC

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	
1st spindle orientation	
1st spindle output switching function	
2nd spindle orientation	
2nd spindle output switching function	
Spindle synchronous control	
Multi spindle control	
Spindle positioning	
Rigid tapping	

Tool Functions and Tool Compensation

Tool Function	T7 + 1/T6 + 2 digits
Tool offset pairs	±6 digits 64
Tool offset	
Y-axis offset	
Tool nose radius compensation	
Tool geometry/wear compensation	
Tool life management	
Tool offset value counter input	
Automatic tool offset	
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	

Series 0i-TD CNC

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	
Directory display and punch for each group	
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

I/O Link Interface	
Punch Panel with 2m Cable	A02B-0236-C192 in LCD Mount, A02B-0120-C192 in Stand Alone.
Reader/Punch Interface 1 (RS-232)	2nd Channel may be activated
External I/O device control	
External data input: External tool offset	External message External machine zero point shift
External key input	
External program input	
External workpiece number search	9999
Expanded external workpiece number search	
External program number search	1~9999
Memory card input/output	for maintenance
Power Mate CNC manager	
Embedded Ethernet	

Other

CD-ROM containing Product Manuals	included in the BOM of the Root CNC.		
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 Screw Caps for LCD Mount.	A02B-0120-K324	CONNECTOR AND PINS

Series 0i-TD CNC

SERIES 0i-TD PACKAGE CHOICES

0i-TD requires at least Version 5.7 of FANUC Ladder III	Package A	Package B	<p>This Form assumes the use of HRV2. If HRV3 servo control is required, please complete this form as close as possible to your desired configuration, then e-mail the form and your requested changes to: cnc_express@fanucamerica.com</p> <p>CNC Express will modify the form per your request and return the form to you.</p> <p>Automatic Data Back-up, 3 Sets of Back-up Data, SRAM + PPS</p> <p>USB Memory I/O is available on LCD Mount CNCs.</p>
	Basic Func Pkg 1 2 Axes, up to 4 supported A02B-0319-B502 LCD Mount with 2 Slots A02B-0319-H160 220x290mm 10.4" Color LCD A02B-0319-C125 Horizontal MDI 220x230mm Embedded Ethernet PMC for 0i-D 24K Steps Approx 1280m PPS HRV3 servo control	Basic Func Pkg 1 2 Axes, up to 4 supported A02B-0319-B802 Stand Alone 2 Slots No LCD Available HSSB 10m F/O cable J800 Drivers & Libraries Embedded Ethernet K775 Screen Disp Disk PMC for 0i-D 24K Steps Approx 1280m PPS HRV3 servo control	
	PACKAGE DEPENDENT OPTIONS		
Two Path Control Manual Guide í I/O Link 2nd Channel I/O Link 3rd Channel Dual Check Safety PMC for 0i-D 32K Steps	Two Path Control Manual Guide í I/O Link 2nd Channel I/O Link 3rd Channel Dual Check Safety PMC for 0i-D 32K Steps	The maximum number of axes in a one path system = 7. The maximum number of spindles in a one path system = 3. The maximum number of axes + spindles in a one path system = 8. The maximum number of axes in a two path system = 9, 7 in one path. The maximum number of spindles in two path system = 4, 3 in one path. The maximum number of axes + spindles in a two path system = 11.	
Shading indicates restrictions, see Package Options for details			

Basic Function Package 1 is the full featured 0i-TD version, containing the largest PMC steps and PPS.

**Series 0i-TD CNC
ORDER FORM**

<input type="checkbox"/>	Series 0i-TD CNC Express Package A 10.4" Color LCD Mount	Must choose only one.	Pick One
<input type="checkbox"/>	Series 0i-TD CNC Express Package B 2 Slot Stand Alone w/ HSSB Connection		Pick One
Manual Guide í Options			
<input type="checkbox"/>	Manual Guide í (S790) (includes Manuals) Cannot order J973, S772		
<input type="checkbox"/>	Manual Guide í (S786) Multi Path Lathe. Requires 2 Path Control and S790.		
Package A MDI Options			
<input type="checkbox"/>	Separate Type MDI (Standard key) (Vertical)	A02B-0319-C126 or equivalent	
Package A or B Options			
<input type="checkbox"/>	I/O Link expansion 2nd Channel (S981) w/ A20B-1007-0680 and 1m cable.		
<input type="checkbox"/>	Dual Check Safety (S661) Req's I/O 3rd Channel (S985) or PROFIBUS Master. No Analog Spindle.		
<input type="checkbox"/>	I/O Link expansion 3rd Channel (S985) w/ A20B-1008-0360 and 1m cable. Req's (S661).		
<input type="checkbox"/>	I/O Link expansion 2nd Channel (S981) for use with (S985).		
<input type="checkbox"/>	PMC for 0i-D 32K Steps (R006#32K)		
<input type="checkbox"/>	Two Path Control (S801#2) Includes 4th Servo Axis Interface. Approx 1280m PPS per path.		
<input type="checkbox"/>	5th Servo Axis Interface		
<input type="checkbox"/>	6th Servo Axis Interface	At least two axes are required per path.	
<input type="checkbox"/>	7th Servo Axis Interface	A max of four axes per path are available.	
<input type="checkbox"/>	8th Servo Axis Interface	More than 4 axes in a path requires (R689)	
<input type="checkbox"/>	9th Servo Axis Interface	Note: Only up to 8 axes of Separate Feedback available.	
<input type="checkbox"/>	Controllable Axis Expansion (R689) - Required for more than 4 axes in a path		
<input type="checkbox"/>	Interference check for each path (J839)		
<input type="checkbox"/>	Balanced Cutting (J834)		

Series 0i -TD CNC

Options Compatible with all Packages

<input type="checkbox"/>	3rd Servo Axis Interface	
<input type="checkbox"/>	4th Servo Axis Interface	
<input type="checkbox"/>	5th Servo Axis Interface - includes Controllable Axes Expansion (R689) and Axis Card A3	
<input type="checkbox"/>	6th Servo Axis Interface	
<input type="checkbox"/>	7th Servo Axis Interface - includes Axis Card A4	
<input type="checkbox"/>	Spindle Axes Expansion (R604) - Max 3 one path, 4 Total - Servo & Spindles 1 path = 8, 2 path = 11 includes Spindle Signal Divider, A13B-0180-B001 and cable A02B-0236-K845	
<input type="checkbox"/>	Analog Spindle Interface (serial spindle interface is standard)	
<input type="checkbox"/>	See Drives Tab for Spindle Separately Mounted Position Encoder.	
<input type="checkbox"/>	Dual Position Feedback (J704)	
<input type="checkbox"/>	Linear Scale I/F w/ absolute address reference mark (J670). Requires Separate Detector I/F.	
<input type="checkbox"/>	Bi-Directional Pitch Error Compensation (S656)	
<input type="checkbox"/>	Manual Handle Retrace (J998)	
<input type="checkbox"/>	Extended PMC ladder instruction function (R851)	
<input type="checkbox"/>	Function Block function (R852)	
<input type="checkbox"/>	Multi Language PMC Message 128K (S977#128K)	
<input type="checkbox"/>	Dynamic Graphic Display (J973) Not with Manual Guide <i>i</i> . (enhanced tool path plotting, preview cutting path)	
<input type="checkbox"/>	Grinding Function A (S682) (includes multi-step skip and canned cycles for grinding)	
<input type="checkbox"/>	Grinding Function B (S683) incl's Angular Axis Control and Grinding Function A features.	
<input type="checkbox"/>	Multi-step skip (J849)	

Option Boards

<input type="checkbox"/>	PROFIBUS DP Master	Includes PROFIBUS DP Master Board	<i>uses one option slot</i>	
<input type="checkbox"/>	PROFIBUS DP Slave	Includes PROFIBUS DP Slave Board	<i>uses one option slot</i>	
<input type="checkbox"/>	Ethernet without Data Server (Uses FOCAS2 Protocol)		<i>uses one option slot</i>	
<input type="checkbox"/>	Data Server Function (req's ATA Flash Card) (Uses FTP for data transfer)		<i>uses one option slot</i>	
<input type="checkbox"/>	Compact Flash Card Kit 1GB for use with Data Server.			0
<input type="checkbox"/>	Data Server Editing/Operation (R643) Provides Operation similar to 3xi Family CNC's			
<input type="checkbox"/>	Ethernet (Requires Data Server Function) (Uses FOCAS2 Protocol)			

Ethernet or HSSB Options

<input type="checkbox"/>	Basic Operation Package (BOP2) Function (J814)	Requires Ethernet or Pkg D/E	
<input type="checkbox"/>	Dual CNC Screen Disp (S884) (CNC Screen Disp and Enlarged Screen Disp 1024x768, are Basic.)		
<input type="checkbox"/>	K776 Disk for CNC Screen Display - Ethernet. Req'd for CNC Screen Disp or Dual CNC Screen Disp.		
<input type="checkbox"/>	Machining Status Monitor Package Function (J870)		
<input type="checkbox"/>	Application Disk for Ethernet (A02B-0207-K783)		
<input type="checkbox"/>	Application Disk for HSSB (A02B-0207-K781)		
<input type="checkbox"/>	Ladder Edit Package Function (J820)		

Manual Guide 0i

<input type="checkbox"/>	Manual Guide 0i (S772) Not available with Manual Guide <i>i</i> or Touch Panel C.	
--------------------------	---	--

Series 0i-TD CNC

Macro Executor Related Options - require Development Tools. (See Tools Page)

<input type="checkbox"/>	Macro Executor (J888) Requires Custom SW size. System SW reserves 96KB. Choose only one.	
<input type="checkbox"/>	Macro Executor & C-lang Executor (J734) Req's >= 2MB Custom SW. System SW reserves 700KB.	
<input type="checkbox"/>	FANUC Picture Executor (R644) Requires >= J738#3M. Sys SW reqs 2MB. Available w/ J888/J734.	
<input type="checkbox"/>	Custom SW size 512KB. (J738#512K) (J888) 1 Path Only	
<input type="checkbox"/>	Custom SW size 1MB. (J738#1M) (J888) 2 Path Only	
<input type="checkbox"/>	Custom SW size 2MB. (J738#2M) (J888) 1 Path Only, (J734) 1 or 2 Paths, not for (R644)	
<input type="checkbox"/>	Custom SW size 3MB. (J738#3M) (J888) or (J734) 2 Path Only, (R644) OK for 1 Path	
<input type="checkbox"/>	Custom SW size 4MB. (J738#4M)	
<input type="checkbox"/>	Custom SW size 5MB. (J738#5M) 2 Path Only Choose the appropriate Custom SW size	
<input type="checkbox"/>	Custom SW size 6MB. (J738#6M) If (J888), 2 Path Only to support the ordered Macro Executor.	
<input type="checkbox"/>	Custom SW size 8MB. (J738#8M) 2 Path Only	

<input type="checkbox"/>	i AdaptS	Check to override required DVD.	
<input type="checkbox"/>	i AdaptS (S898) maintains a constant load during part processing by modifying the feedrate override. This allows for the fastest possible cycle time based on the condition of the tool, part geometry and material variation. By maintaining the manufacturer's recommended load on the tool, tool life can also be extended. i AdaptS works on the first serial spindle in the first path only. Req's J738#2M, J734.		
<input type="checkbox"/>	i AdaptS S/W DVD D75F-0102-PB00	Each MTB/Retrofitter must purchase a DVD once.	

Flash Card			
<input type="checkbox"/>	Compact Flash Card Kit 128MB	0	

I/O unit for 0i			
<input type="checkbox"/>	I/O unit for 0i-D	This is compatible with the DI/DO I/F of I/O card of Series 0i-B. DI/DO : 96/64 pts. See the IOetc page for the available I/O Link signal cables.	

Analog Servo Interface			
<input type="checkbox"/>	Analog Servo Inf for 1 axis	Includes Analog Inf Module, Connectors & Fuse - Req's F/O cmd cbl.	
<input type="checkbox"/>	Analog Servo Interface for 2 axes	Includes Connectors.	
<input type="checkbox"/>	Analog Servo Interface for 3 axes	Includes Analog Inf Module, Ribbon Cbl & Connectors	
<input type="checkbox"/>	Analog Servo Interface for 4 axes	Includes Connectors.	
<input type="checkbox"/>	Analog Servo Inf for 5 axes	Includes Analog Inf Module, Connectors & Fuse - Req's F/O cmd cbl.	
<input type="checkbox"/>	Analog Servo Interface for 6 axes	Includes Connectors.	
<input type="checkbox"/>	Analog Servo Interface for 7 axes	Includes Analog Inf Module, Ribbon Cbl & Connectors	
<input type="checkbox"/>	Analog Servo Interface for 8 axes	Includes Connectors.	
<input type="checkbox"/>	Analog Servo Inf for 9 axes	Includes Analog Inf Module, Connectors & Fuse - Req's F/O cmd cbl.	
Required Fiber Optic Command Cable is ordered on the 230V Drives tab.			
Enter Analog Quote Number: _____		See Sales Engineer for Quote Number.	

Product Manuals *The Operator's, Parameter and Maintenance manuals, (marked with an "**")*

<input type="checkbox"/>	Series 0i-D, 0i-D Mate Description Manual,	B-64302EN	0	
<input type="checkbox"/>	Series 0i-D, 0i-D Mate Conn H/W Manual,	B-64303EN	0	
<input type="checkbox"/>	Series 0i-D, 0i-D Mate Conn Func Manual,	B-64303EN-1	0	
<input type="checkbox"/>	Series 0i-D, 0i-D Mate Maintenance Manual *,	B-64305EN	0	
<input type="checkbox"/>	Series 0i-D, 0i-D Mate Parameter Manual *	B-64310EN	0	
<input type="checkbox"/>	Series 0i-MD Mate Operator's Manuals *, Common and Lathe specific,	B-64304EN & -1	0	
<input type="checkbox"/>	Oper Manual - Fast Ethernet/Data Server,	B-64414EN	0	
<input type="checkbox"/>	Manual Guide i Operator's Manuals & Setup Guide,	B-63874EN, -1 & -2	0	

This Manual is NOT included on any CD. A complimentary copy is shipped with the CNC. Extra hard-copy manuals, if required, may be ordered here.

<input type="checkbox"/>	Series 0i-D Operation & Maintenance Handbook, B-64307EN	0	
--------------------------	---	---	--

Check here if no I/O is needed.			
<input type="checkbox"/>	Check here if I/O has already been purchased		