

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

Axis Control

Digital Servo Function	
1 Controlled Path Standard	
Simultaneously controlled axes: Up to maximum of 4; 3 if Contouring Spindle Configured	
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	

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	
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	

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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	
Skip	G31
Torque limit skip	
Reference position return	G28
Reference position return check	G27
2nd reference position return	
3rd/4th reference position return	

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		

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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	
Addition of custom macro common variables	#100~#199, #500~#999
Canned cycles	
Multiple repetitive cycle	
Canned cycles for drilling	
Circular interpolation by R programming	
Tape format for FANUC Series 10/11	

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Auxiliary and Spindle Functions

Auxiliary function	M8-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%
Spindle speed fluctuation detection	
1st spindle orientation	

Spindle positioning
Rigid tapping

Tool Functions and Tool Compensation

Tool Function	T7 + 1/T6 + 2 digits
Tool offset pairs	±6 digits 64
Tool offset	
Tool nose radius compensation	
Tool geometry/wear compensation	
Tool life management	
Tool offset value counter input	
Direct input of tool offset value measured	

Part Program Storage & Editing

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

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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	
English Language Display, Multiple Languages Selectable Sp,Chi,Por,Rus,Tur,Hindi	
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
Reader/Punch Interface 1 (RS-232)		
External data input:	External tool offset	External message
External key input		External machine zero point shift
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
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, CONTROL UNIT
Cable Clamps	A02B-0124-K001	CABLE CLAMPS
Grounding Bar	44B295864-001	GROUNDING BAR 11 SLOT
Miscellaneous Solder Connectors	A02B-0120-K324	CONNECTOR AND PINS

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SERIES 0i-TD Mate PACKAGE CHOICES

0i-TD Mate requires at least Version 5.7 of FANUC Ladder III	Package A	
	Basic Func Pkg 5 2 Axes, upto 4 supported A02B-0321-B530 LCD Mount with 0 Slots A02B-0319-H174#T 200x400mm 8.4" Color LCD/MDI USB Port Embedded Ethernet R641 Auto Data Backup PMC/L for 0i-D 5K Steps Approx 1280m PPS HRV3 servo control	<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 Input/Output is available on LCD Mount Controls.</p>
	PACKAGE DEPENDENT OPTIONS	
	PMC/L for 0i-D 8K Steps PMC/L for 0i-D 24K Step	
Shading indicates restrictions, see Package Options for details		

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

Series 0i-TD Mate CNC Express Package A 8.4" Color LCD Mount	Pick One
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PMC Options -

PMC/L for 0i-D 8K Steps (R002#8K)	
PMC/L for 0i-D 24K Steps (R002#24K)	

Options

3rd Servo Axis Interface (R419#3)	
4th Servo Axis Interface (R419#4), Controllable Axes Expand(R689), increase controllable axes to 5. Simultaneous Controllable Axis Expansion - Allows 4 axes to be controlled simultaneously. (J803)	
5th Servo Axis Interface (R419#5)	
Spindle Axes Expansion (R604) - Allows up to 2 Spindles, 2 Serial or 1 Serial & 1 Analog. Analog Spindle Interface required for Analog Spindle. Axis Count + Spindles must be <= 6.	
Analog Spindle Interface. (Serial Spindle Interface Standard). See Drives Tab for Spindle Encoder.	
Axis Control by PMC (J804)	
Extended PMC ladder instruction function (R851)	
Function Block function (R852)	
Multi Language PMC Message 128K (S977#128K)	
Dynamic Graphic Display (J973)	
(enhanced tool path plotting, preview cutting path)	
Grinding Function A (S682) (includes multi-step skip and canned cycles for grinding)	
Grinding Function B (S683) incl's Angular Axis Control and Grinding Function A features.	
Multi-step skip (J849)	

Manual Guide 0i

Manual Guide 0i (S772)	
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Macro Executor Related Options - require Development Tools. (See Tools Page)

Macro Executor (J888) Requires Custom SW size. System SW reserves 96KB.	
Macro Executor & C-lang Executor (J734) Req's >= 2MB Custom SW. System SW reserves 700KB.	
FANUC PICTURE Executor (R644) Requires >=3MB Custom SW size. System SW reserves 2MB.	
Custom SW size 512KB. (J738#512K) (J888)	
Custom SW size 4MB. (J738#4M)	

Flash Card

Compact Flash Card Kit 128MB	0	
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I/O unit for 0i

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.	
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Analog Servo Interface

Analog Servo Inf for 2 axes Incl's Analog Inf Module, Conn's & Fuse - Req F/O cbl on 230V Drives	
Analog Servo Interface for 3rd axis Includes Analog Interface Module, Ribbon Cable & Connector's	
Analog Servo Interface for 4th axis Includes Connectors	
Analog Servo Inf for 5th axis Incl's Analog Inf Module, Conn's & Fuse - Req F/O cbl on 230V Drives	
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 "**")*

Series 0i-D, 0i-D Mate Description Manual,	B-64302EN	0	
Series 0i-D, 0i-D Mate Conn H/W Manual,	B-64303EN	0	
Series 0i-D, 0i-D Mate Conn Func Manual,	B-64303EN-1	0	
Series 0i-D, 0i-D Mate Maintenance Manual *,	B-64305EN	0	
Series 0i-D, 0i-D Mate Parameter Manual *	B-64310EN	0	
Series 0i-MD Mate Operator's Manuals *, Common and Lathe specific,	B-64304EN & -1	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.*

Series 0i-D Operation & Maintenance Handbook, B-64307EN	0		
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Check here if no I/O is needed.

Check here if I/O has already been purchased	
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