Series 0i-MF 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,Y,Z and U,V,W,A,B,C
Spindle Up to 2 spindles in Package B, C, D, E. 1 spindle with Package A.
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
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
Sequence number search
Sequence number comparison and stop
Program restart
Manual intervention and return
Retraction for rigid tapping
Buffer register
Dry run
Single block
JOG feed
Manual reference position return
Reference position setting without DOG
Reference position setting with mechanical stopper
Reference position shift
Manual handle feed Max. 3 units (requires MPG - order from I/O Tab)
Manual handle feed rate \(x 1, x 10, x m, x n\) \(m: 0 \sim 127, n: 0 \sim 1000\)
Manual handle interruption
Incremental feed \(x 1, x 10, x 100, x 1000\)
Jog and handle simultaneous mode

**Interpolation**

Positioning G00 (Linear interpolation type positioning is possible)
Single direction positioning G60
Exact stop mode G61
Exact stop G09
Linear interpolation
Circular interpolation Multi-quadrant is possible
Dwell Dwell in seconds
Dwell per revolution (synchronous cutting function is required.)
Cylindrical interpolation
Helical interpolation Circular interpolation plus max. 2 axes linear interpolation
Skip G31
High-speed skip Input signal is 4 point
Reference position return G28
Reference position return check G27
2nd reference position return
3rd/4th reference position return
Normal direction control Standard in Package B, C, D & E. Optional in Package A.
Index table indexing
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**
- **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**
- **Workpiece coordinate system**: G52～G59
Workpiece coordinate system preset
Addition of workpiece coordinate system pair 48 pairs
Direct input of workpiece origin offset value measured
Manual absolute on and off
Optional 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 for drilling
 Small-hole peck drilling cycle
 Circular interpolation by R programming
 Automatic corner override
 Automatic corner deceleration
 Feedrate clamp based on arc radius
 Scaling
 Coordinate system rotation
 Programmable mirror image
 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%
Spindle orientation
Spindle output switching function
Spindle synchronous control Package B, C, D & E
Rigid tapping
Tool Functions and Tool Compensation

- Tool Function: T8 digits
- Tool offset pairs: ±6 digits 400
- Tool offset memory C: Distinction between geometry and wear, or between cutter and tool length compensation.

- Tool length compensation
- Tool offset
- Tool life management
- Extended tool life management
- Tool length measurement
- Automatic tool length measurement

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
- 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, 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 i 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,
2nd channel used for Touch Screen
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.

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 Screw Caps for LCD Mount.
A02B-0120-K324 CONNECTOR AND PINS
## SERIES 0i-MF PACKAGE CHOICES

<table>
<thead>
<tr>
<th>Pkg A – Type 3 8.4” LCD/MDI</th>
<th>Pkg B – Type 1 10.4” LCD Mount</th>
<th>Pkg C – Type 1 10.4” LCD Mount w/ Touch Screen</th>
<th>Pkg D – Type 1 15” LCD Mount w/ Touch Screen</th>
<th>Pkg E – Type 1 Stand Alone</th>
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<tbody>
<tr>
<td>A02B-0338-B520 Basic Unit</td>
<td>A02B-0338-B512 Basic Unit</td>
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<td>A02B-0338-B802 Basic Unit</td>
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<tr>
<td>A02B-0338-H144#M Horz. LCD/MDI 200x400mm</td>
<td>A02B-0338-H351 10.4” Color LCD G 220x290mm</td>
<td>A02B-0338-H354 10.4” Color LCD G w/ Touch Screen 220x290mm</td>
<td>A02B-0338-H358 15” Color LCD G w/ Touch Screen 400x320mm</td>
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<td>PMC-L 5000 Steps</td>
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