

CNCmakers Limited

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928TEa TURNING MACHINE CNC SYSTEM

Brief Introduction



928TEa adopts CPU with 32-bit high capacity industrial grade composing a control core, and achieves the μ m level accuracy motion control. It is characterized by multiple functions, stability and easy operation.



Characteristics



- Z, X and Y 3 axes control, two axes linkage, support the Y axis or the servo spindle, 0.001mm interpolation accuracy, and the max. cutting speed is 15,000 mm/min; the Max. rapid traverse speed is 30,000 mm/min.
- Total interface: input 23 points/ output 18 points; the miscellaneous function: max. 16 total posts, spindle, cooling, chuck, tailstock, feeding, tri-color light, automatic lubricating, external MPG, defense door and low-pressure detection; each equipment can be defined arbitrarily by the I/O interface till it is selected fully; the free I/O point can be defined by user through M command to control other accessories.
- The max. radius of the arc machining is up to 1,000 m.
- Manual tapping and thread repair functions.
- Backlash compensation, tool length compensation, tool radius compensation and pitch error compensation.
- The electronic gear ratio is $(1 \sim 99,999) / (1 \sim 99,999)$.
- Automatic chamfering function.
- Arc miscellaneous calculation function.
- Look-ahead function: max. pre-read blocks is up to 80 sections.
- Special MPG functions: moving axis in Manual mode, rapidly browsing in Edit mode, program try-running and override adjusting in Auto mode.
- Memorizing the tool-setting point in Manual mode.
- The tool path can be simultaneously drawn in Edit mode, and the local movement path can be zoomed in/out.

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- Macro command in sentence type: realizing the complicated program machining (ellipse and parabola, etc.); defining special M commands, and defining the I/O point (similar to the PLC functions) and process monitoring.
- USB and RS232 interfaces.
- Multiple levels password management.
- Supports speed/position control of the servo spindle.

Technical Specification



Motion control	Controllable axis: X, Z and Y axis; linkage axis: two axes
	Interpolation function: X, Z two axes linear, arc and thread interpolation; Z/Y or X/Y two axes linear interpolation
	Position command range: -9999.999 mm 9999.999mm; the minimum unit: 0.001mm
	Electronic gear ratio: command multiple coefficient 1 99,999, command frequency-division coefficient 1 99,999
	Max. rapid traverse speed: 30,000mm/min; rapid override: 4 levels real-time adjustment (25%, 50%, 75% and 100%)
	Max. feeding speed: 15000mm/min; feeding override: 0 150% 16 levels real-time adjustment
	Manual traverse speed: 0mm/min 1,260mm/min 16 levels real-time adjustment or defined by user.
	MPG feeding override: 0.001mm, 0.01mm and 0.1 mm (3 level)
	Acceleration/deceleration: exponential type or linear type.
G code	34 kinds: G00, G01, G02, G03, G04, G05, (G22/G80), G26, G28, G30, G31, G32, G33, G34, G40, G41, G42, G50, G51, G52, G71, G72, G73, G74, G75, G76, G90, G92, G94, G96, G97, G98 and G99
Thread machining	Single/multiple, metric/inch straight thread, cone thread and end surface, variable pitch thread; the thread retraction length, angle and speed can be set; thread pitch: 0.001 mm~500mm or 0.06 tooth/inch ~25400 tooth/inch; consecutive thread machining and tapping.
	Spindle encoder: resolution range: 100 p/r~5000p/r; Transmission ratio between encoder and spindle is 1:1.
Precision compensation	Backlash compensation: 0 mm~10.000mm
	Pitch error compensation: Max. 300 compensation points for each axis; adopting the constant interval description or inflection point description to perform a fine linear compensation.
	Tool offset: 16 positions, 64 sets tool length compensation and radius compensation. Tool setting mode: trial cutting tool-setting and fixed point tool-setting; Tool offset executing mode: rewriting coordinate mode, tool traverse mode
M code	M00, M02, M20, M30, M03, M04, M05, M08, M09, M10, M11, M12, M32, M33, M41, M42, M43, M44, M47, M48, M78, M79, M80, M96, M97, M98, M99, M91, M92, M93, M94, M21, M22, M23 and M24; M60 M74 codes can be defined by user for special function.
T code	Max. 16 positions; tool change type is selected by parameter.
Spindle speed control	Speed switch control mode: S01-S04 (4-gear directly output) S00-S15 (16-gear BCD code output)
	Analog voltage: 0~10V voltage output; supporting 4-grade gear spindle (M41~M44); Constant surface speed control
	Supporting speed/position control of servo spindle, the servo spindle can link simultaneously with Z or X axis.

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I/O function	I/O diagnoses I/O: 23 points input / 18 points output
Macro command program	Macro command in sentence type: assignment statement (assignment, multiple arithmetic, logic calculation, etc.) Conditional statement: (conditional judge, jump, etc.)
Display	480×234 colorful LCD, Chinese or English display interface is set by parameter. Real-time tool path graph
Program edit	Program capacity: 255 programs, total 4400KB
	Full screen edit in Edit mode: calling sub-program multiple nesting Programming of the relative coordinate, absolute coordinate and hybrid coordinate Detecting the program by simulation graph
Communication	USB and RS232 interface; Transmitting or receiving programs, parameters, tool compensations, system softwares and system memory data in LST format
Matched driver	AC servo with pulse + direction signal input or step driver

Overall Installation Dimension

