

218MC MACHINING CENTER CNC SYSTEM

Brief Introduction



218MC series CNC systems are upgraded products from GSK218M. As the high-speed spline interpolation algorithm is employed in the system, the machining speed and precision and surface fineness are greatly improved. The new-designed interface is user-friendly; The CNC system supports GSK-Link Ethernet bus function and it is much easier to connect; and supports macro programs of statement type (macro B), which makes the programming more concise. The CNC system can be applied in such areas as Milling Machine, Machining Center, high-speed Engraving, Grinding Machine and Gear Hobbing Machine.



218MC



218MC-H



218MC-V

Characteristics



- Excellent high-precision and high-speed interpolation performance; complex curve surface machining effective speed: 8m/min; optimum machining speed: 4m/min;
- Max. Positioning speed: 60m/min; max. feedrate: 15m/min;
- Up to 1000 blocks look-ahead capacity, powerful pre-processing function, featuring high speed, high precision and good finish.
- There are three structural types: horizontal, vertical and integrated, which adopting 8.4" or 10.4" color LCD with 800×600 resolution.
- The interface is comfortable, friendly and easy to use.
- Support Chinese, English, Russian, Spanish and Turkish language.
- Support PLC online monitoring, edit, compile and signal follow functions.
- Support turret type, circular and servo tool magazines etc.
- Support Statement type macro programs (macro B), which makes the programming more concise.
- With abundant help information and a big amount of prompt information, it is easy for user to learn, operate and debug.
- Support RS232, USB and network interfaces and realize data transfer, DNC machining and USB on-line machining.

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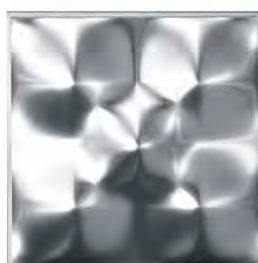
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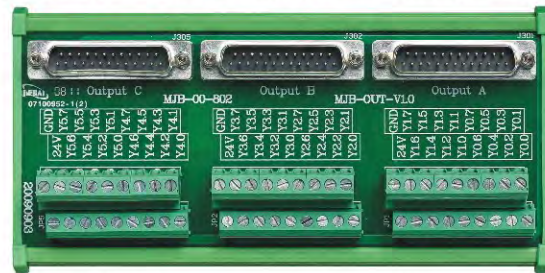
Machined Parts



MJB Deconcentrator



Input of MJB Deconcentrator (Without Relay)

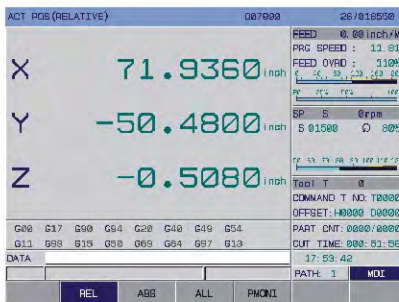


Output of MJB Deconcentrator (Without Relay)

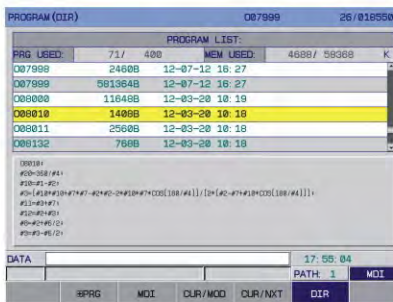


Output of MJB Deconcentrator (With Relay)

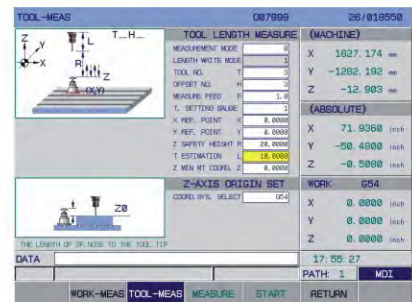
Interface



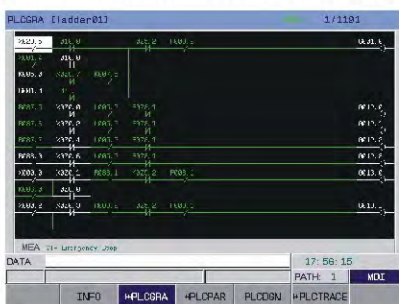
Real-time monitoring of the running state



Machining program preview



Auto tool setting



Support ladder monitoring and edit online



Prompt a big amount of information



Clear meaning of p parameters

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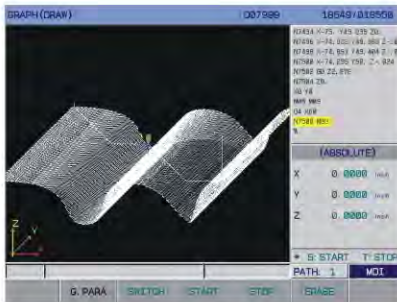
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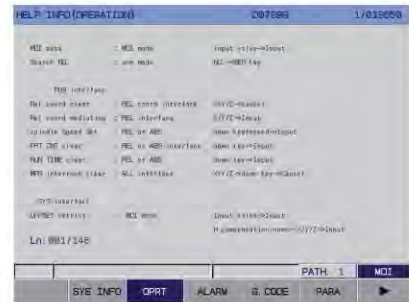
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3D wireframe processing graphic display



Abundant alarm information



Detailed help function

Technical Specification



Motion control	Controlled and linked axes: standard: 4-axis with 3-axis linkage (standard) and 4-axis linkage (option); each axis can be set to rotary or linear axis by parameter.
	Interpolation type: positioning (G00), linear (G01), arc (G02, G03), helical interpolation
	Position instruction range: Metric: -99999.999mm~99999.999mm, min. Input increment: 0.001 mm Inch : -9999.9999inch~9999.9999inch, min. Input increment: 0.0001 inch
	Electronic gear: instruction multiplication coefficient 1~65536, instruction division coefficient 1~65536
	Rapid traverse speed: max. 60m/min
	Rapid override: F0, 25%, 50%, 100% real-time adjustment in 4 levels
	Cutting feedrate: max. 15m/min (G94) or 500.00mm/r (G95)
	Feed override: 0~200% real-time adjustment in 21 levels, can be controlled by band
Acceleration and deceleration	MPG feedrate: 0.001mm, 0.01mm, 0.1mm, 3 levels;
	Single step feedrate: 0.001mm, 0.01mm, 0.1mm, 1mm, 4 levels;
	Pre acceleration/deceleration: The acceleration/deceleration before interpolation can select the linear or S type, and the acceleration/deceleration time constant can be set by parameter
	Post acceleration/deceleration: the acceleration/deceleration after interpolation can select the linear or exponential type, and the acceleration/deceleration time constant can be set by parameter
Miscellaneous function	Post acceleration and deceleration is default in manual, MPG and step mode. Pre acceleration/deceleration or Post acceleration/deceleration type can be selected in cutting and rapid positioning.
	M function can be specified by address M and 2 digits, M function can be user-defined.
	M instructions (cannot be defined again):end of program M02, M30; program stop M00; optional stop M01; tool magazine calling M06; subprogram calling M98; end of subprogram M99
Tool function	M codes defined by the standard PLC: M03, M04, M05, M08, M09, M10, M11, M16, M17, M18, M19, M20, M21, M22, M23, M24, M26, M27, M28, M29, M35, M36, M44, M45, M50, M51
	●T and 4 digits select the tool ●256 sets tool offset value ● tool length compensation ●wear compensation ●tool nose radius compensation (C type)
Spindle function	●S 2 digits (I/O gear control) / S 5 digits (analog output) ●max spindle speed limit ●constant surface speed
	Spindle encoder: resolutions can be set (100~5000p/r)
	Transmission ratio between encoder and spindle: (1~255) : (1~255)
	Spindle rate: 500~120%, real-time adjustment in 8 levels real-time adjustment in 8 levels, can be controlled by band
Automatic compensation	Tapping cycle: Rigid tapping and flexible tapping
	●Pitch error compensation: interval and origin point of compensation can be set Range: - 999~+999 pulse equivalent
	●Backlash compensation: compensated by fixed frequency or acceleration / deceleration type can be selected
	●Tool length compensation: the type (A or B type) can be selected by parameter
	●Tool radius compensation: C type tool compensation Max. compensation value: ±999.999mm or ±99.9999inch

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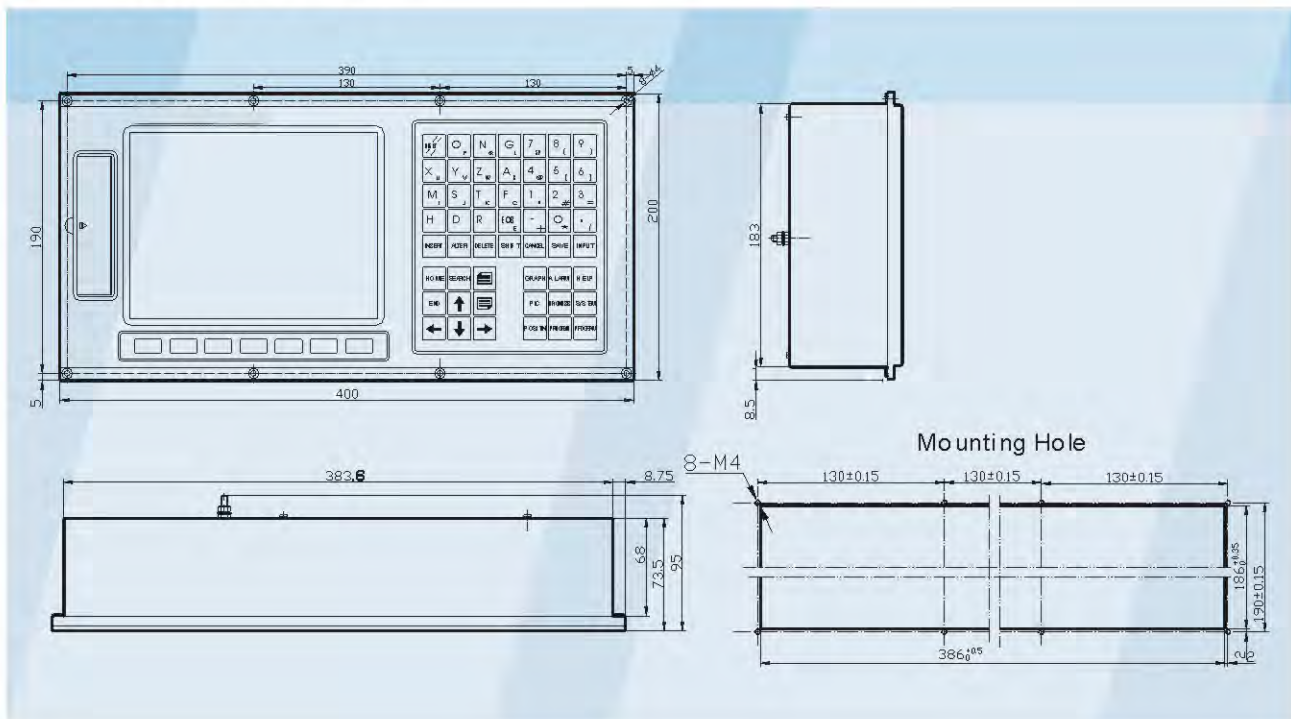
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Reliability and safety	State signals: ●emergency stop ●overtravel ●stored stroke limit ●NC ready signal ●servo ready signal ●MST completion signal ●automatic run start light signal ● automatic running signal ●feed hold light signal
	Self-diagnosis function: ● signal abnormality ●system abnormality● position control abnormality● servo abnormality ● communication abnormality ● spindle abnormality and so on.
	NC alarm: ●program error ●operation error ●overtravel error; ●servo error; ●connection error ●PLC error ●memory (ROM and RAM) error
Operation function	●edit ● auto ● MDI ● zero return ●Manual ● step ●MPG ● DNC ● single block ●skip ● dry run ● M.S.T. Lock ●program restart ●MPG interruption ● step interruption ●Manual intervention ● machine lock ● interlock ● feed hold ● cycle start ● emergency stop ●external reset signal ● external power switch (ON/OFF)
Display	● GSK218MC and GSK218MC-V adopt 10.4● color LCD with 800×600 resolution; ● GSK218MC-H adopt 8.4● color LCD with 800×600 resolution; ● Chinese, English, Russian, Spanish and Turkish interfaces can be selected by parameter.
	● Position message ●User program● system setting ●PLC● diagnosis information● system parameter ● graph ● alarm information ●Help
	●actual federate and spindle speed● real-time wave diagnosis ●System running time and other NC instructions and state messages
Program edit	Program capacity: 57MB, max. 400 programs; ● program preview ●program edit ●Background edit
PLC function	PLC processing speed: 3 μs / per step; up to 4700 steps; including 10 basic instructions and 35 functional instructions; ladder can be edited on-line;
	I/O: 48 input / 48 output, expandable
Communication	Support RS-232 serial port, USB and network interface, can realize data transfer, DNC machining (serial port or net interface) and USB on-line machining.
Optional drive unit	DA98 series and GS series digital AC Servo etc.

Overall Installation Dimensions



218MC-H NC Unit



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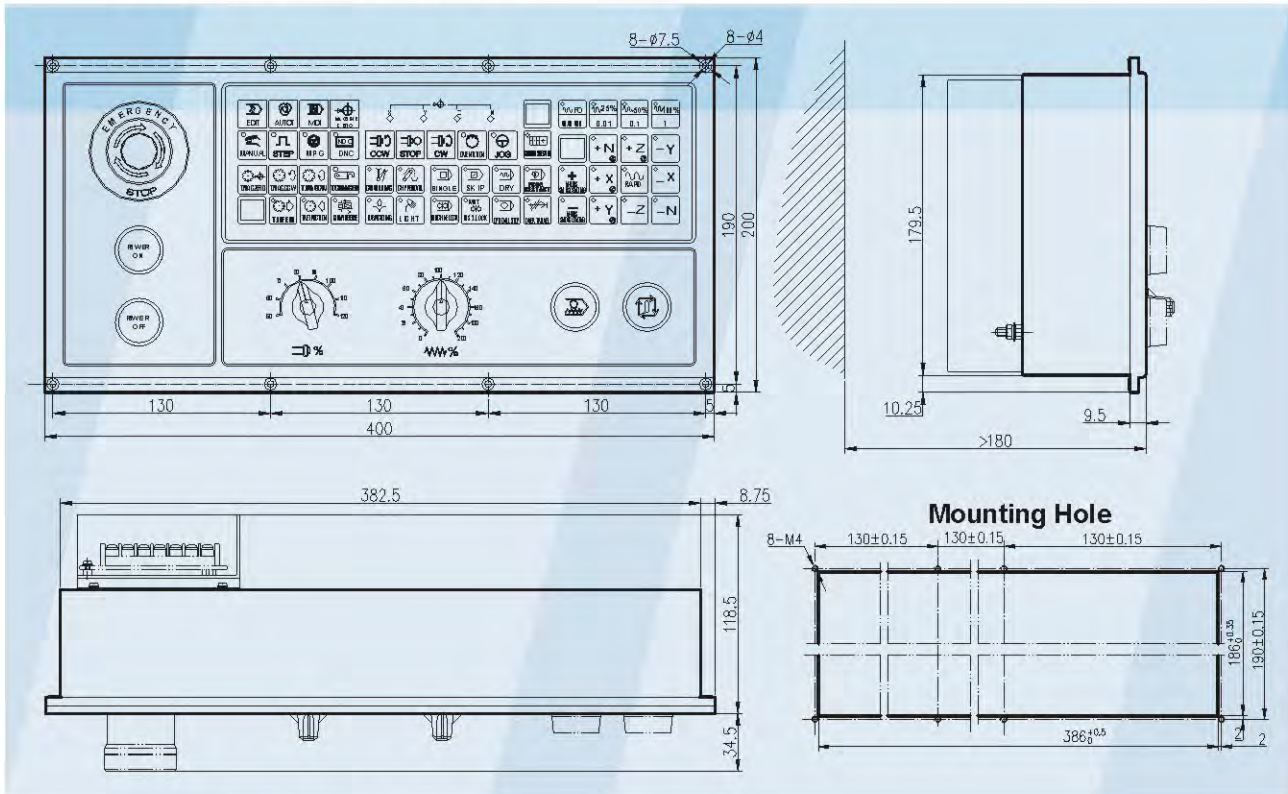
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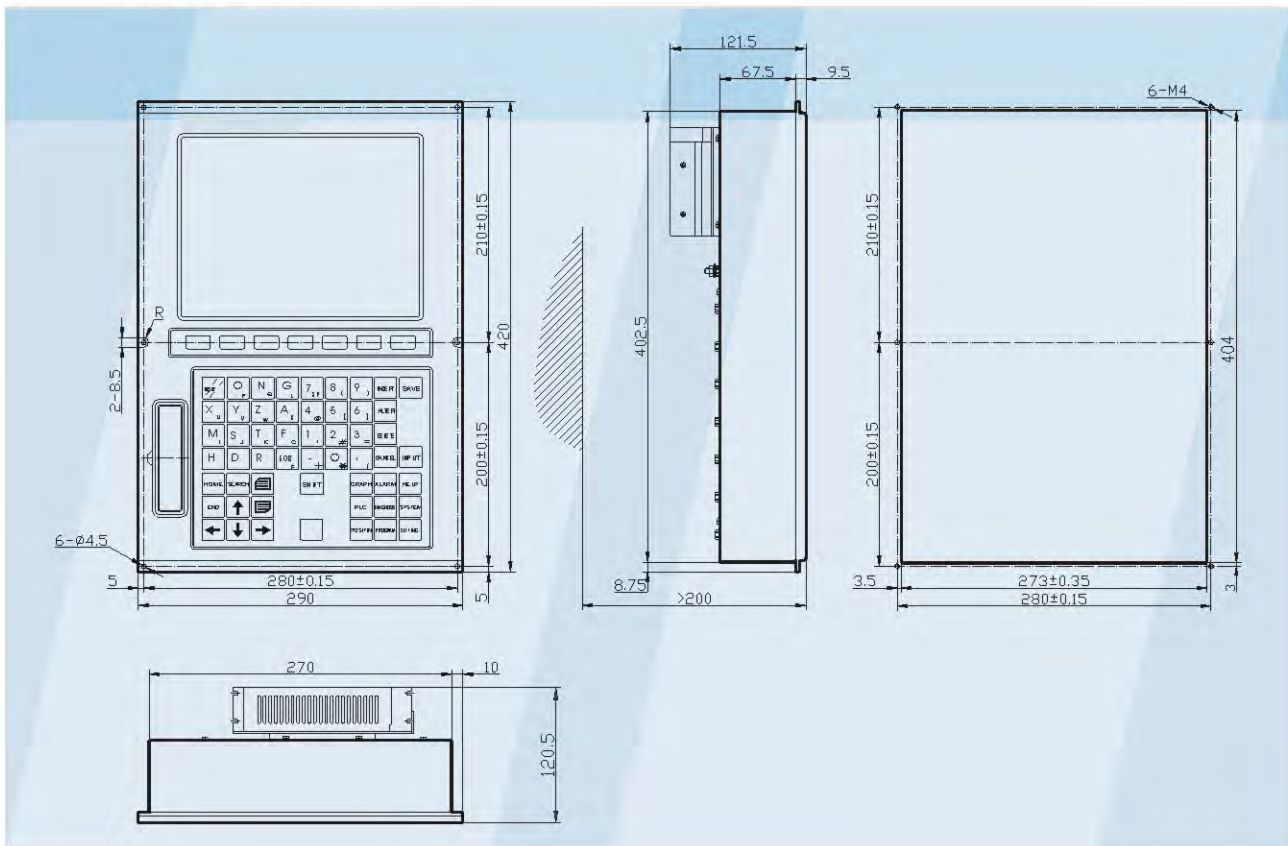
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218MC-H Operation Panel



218MC-V NC UNIT



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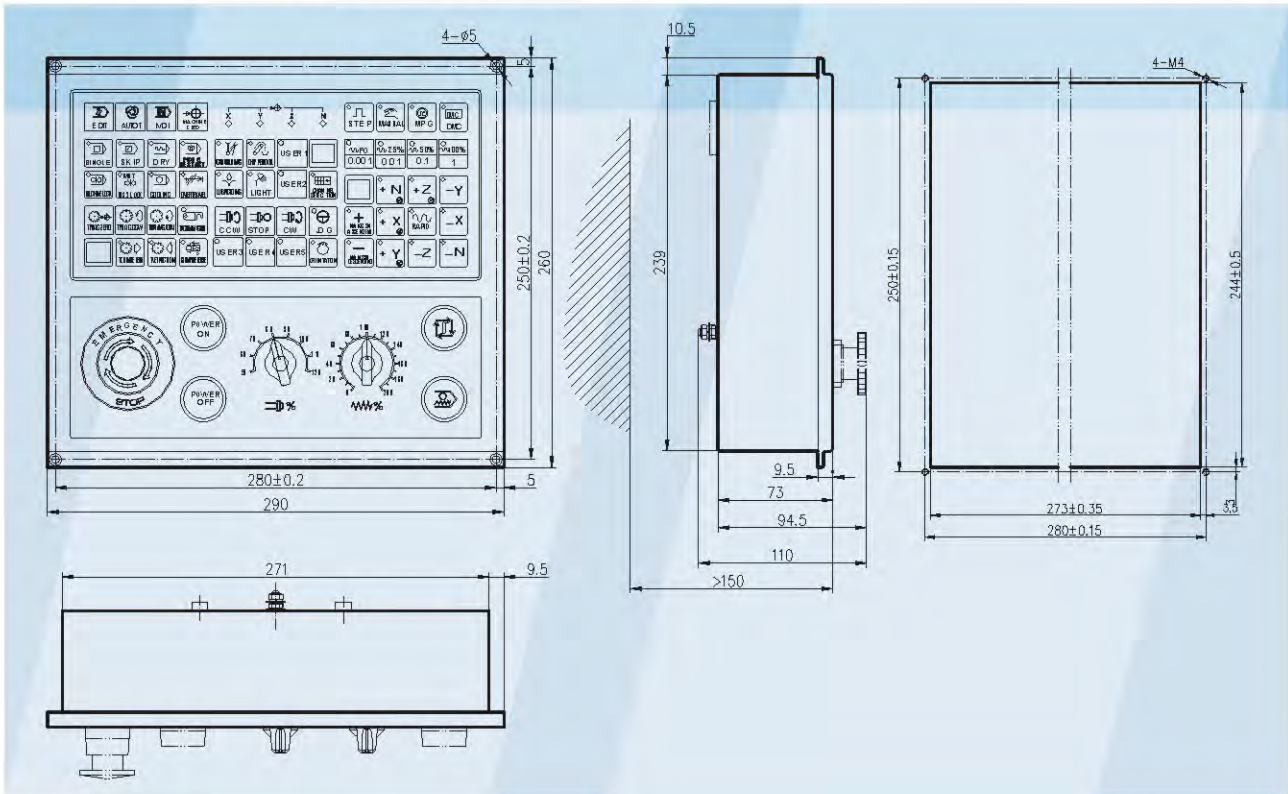
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218MC-V Operation Panel



218MC NC UNIT

