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Agent:

KEY TO TOMORROW'S HI-TECH AUTOMATION TECHNOLOGY



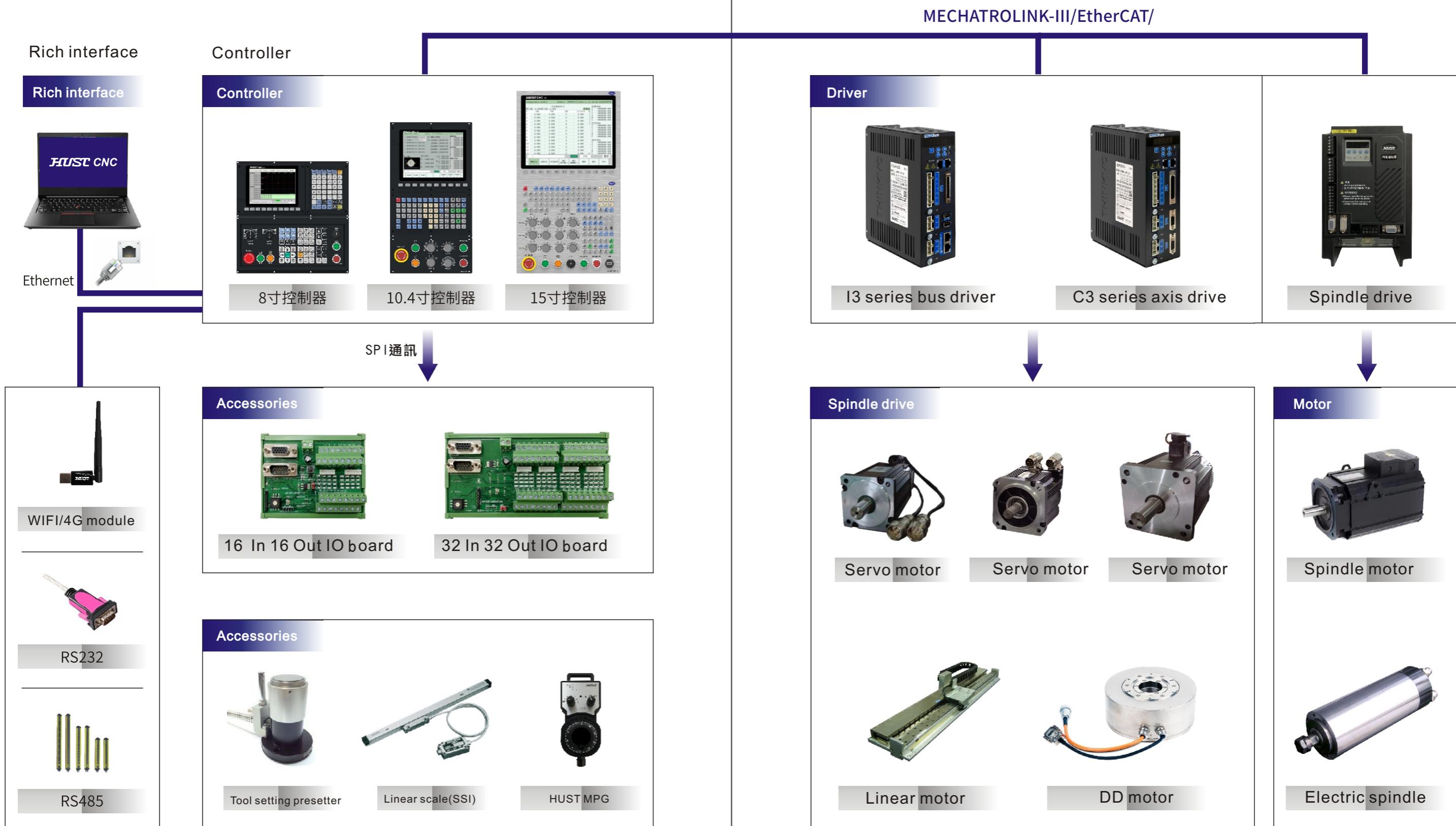
HUST CNC CONTROLLER

A6 Series Milling Machine Controller



Open CNC system leader

HUST high performance CNC controller structure



Performance improvement

- More universal
 - Support SSI absolute encoder
 - Universal + CNC proprietary HMI
 - Bus axis and universal axis hybrid control
- International standard specification
 - International standard CNC programming
 - International standard HMI scripting language
 - International standard peripheral communication module

- High efficiency and high performance
 - BUS for MECHATROLINK-III/EtherCAT
 - 64Bit high speed and high precision contour control
 - PREFERCH8000 Block/Second
 - 32-axis linkage, 8-channel combination
 - Flexible channel synchronization
 - High speed and high precision contour control

Application example

High speed and high precision drilling and tapping machine



Vertical CNC interface with high-speed spindle motor. Tapping precision and high speed, can also be used with multi-spindle to tap and improve processing efficiency.

Machine Center



The controller has tool magazine programming and management functions, can be used with a variety of tool magazines, suitable for machine center, compound processing equipment, etc.

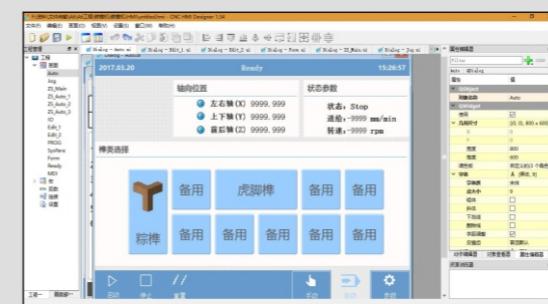
Multi-channel multi-spindle scheme



Customized controller, easy to operate, support each station independent Modular processing. Suitable for multi-axis multi-channel composite processing equipment, It can support up to 10 spindles at the same time. It can also be processed independently.

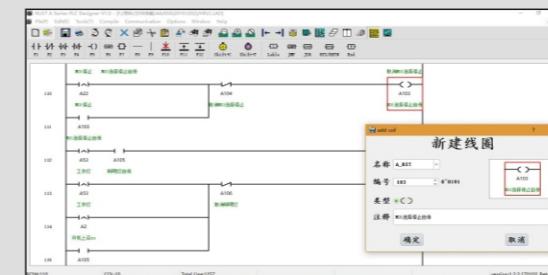
Perfect development platform

Open screen editing software - HMI



- Extensible man-machine attributes for superior performance
- Modular plug-in design, easy to learn
- Expandable plug-in technology makes configuration upgrades more convenient
- HMI.CNC.PLC, executed on the same platform
- Embedded macro editing for complex HMI logic
- Macro combined with PLC.CNC. Event, easy to develop
- Customized HMI design to provide customers with a simple and practical interface development platform

Easy to use ladder editing software - PLC



- Easy to use editing method
- Support data interaction between different channels
- Support for calling the self-defined script module
- Support multi-channel independent PLC operation
- Provide quick interface to system functions and develop faster

Open MACRO programming

- Compatible with standard CNC MACRO calculations, and development of command redefinition, decimal point redefinition, making non-standard sports customization development more convenient.
- The mixed programming mode of PREFETCH and REALTIME commands perfectly solves the shortcomings of CNC MACRO that cannot be executed in real time.

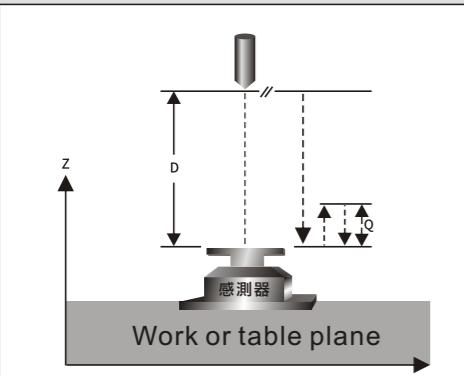
		Example
#*n	n is a positive integer	#*100
#*Expression	Expressed as:	
	(1) Digital	#*[100]
	(2) Variable	#*[#10]
	(3) Arithmetic	#*[#1*#2]
	(4) Function	#*[sin (#2)]

Example	Sample program: Find the odd-numbered sum of 1~100
O0095	
#1=0;	Initial value of solution
#2=1;	Initial value of the addend
WHILE[#2 LE 100]D01;	Execute the loop body when the addend is less than 100
#1=#1+#2;	Calculation solution
#2=#2+2;	Next odd number
END 1	Jump to the loop body
M30;	End of program

Note: * indicates any "V"、"V"、"u"、"U"、"s"、"S"、"r"、"R"、"m"、"M"、"b"、"B"、"c"、"C" character in <>. For example: #1、#v1、#V1、#u1、#U1、#s1、#S1、#r1、#R1、#m1、#M1、#b1、#B1、#c1、#C1

Mill function introduction

Automatic tool length measurement



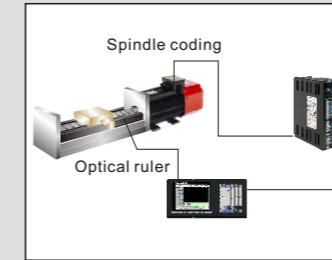
Automatic measurement of tool length by G31 function and external sensor.

The program writes the G31 command to move the Z axis downward.

When the sensor is touched, the machine stops momentarily and records the current position, and compensates the tool length compensation through the template program.

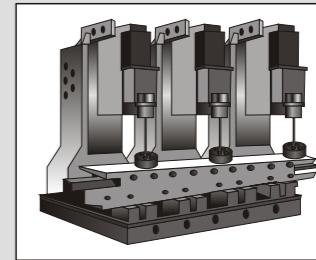
The frequency response speed is up to 20KHZ, which provides an effective solution for high-speed detection functions, greatly reducing the detection error caused by the unacceptable speed and low repeatability.

Full closed loop control



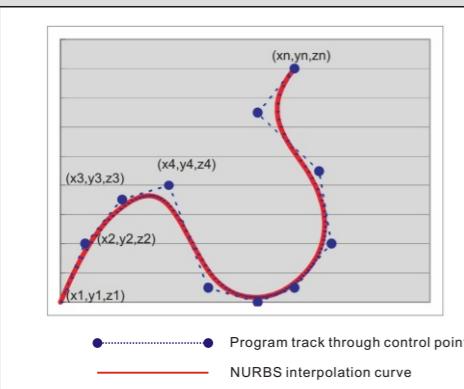
Real-time compensation is implemented by the system integrated motor encoder feedback signal and linear scale feedback signal to reduce the influence of mechanical clearance and ensure the positioning accuracy of the mechanical terminal.

Multi-spindle tapping



The high-end controller can support 10 high-speed tapping modules, and can select simultaneous tapping or independent tapping according to requirements.

High speed and high precision

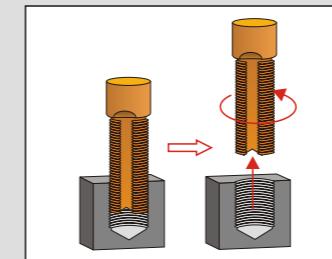


High-speed path processing technology, achieving high-speed small-line processing of up to 1000 knots/second, and NURBS optimization of line segment path, smoothing its singular points, ensuring machining accuracy and improving machining efficiency.

NURBS spline fitting technology, multiple fitting of line segments, optimizing the path, producing controllable precision, which is conducive to the smooth curve of production and processing.

Support constant JERK control technology, high speed processing is more stable.

Tapping retreat



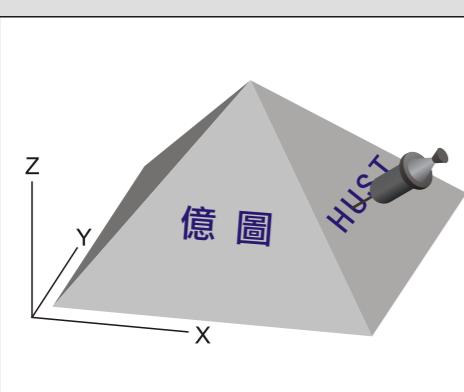
If there is an emergency interruption during the tapping process, you can enter the automatic retraction interface and automatically retract the relevant parameters.

Variety of tool magazine modules



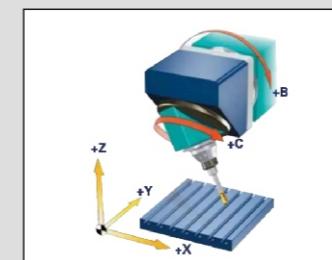
The controller can be connected to various types of tool magazines to complete various processing requirements, greatly shortening the processing time and improving the processing efficiency.

Inclined plane machining



Tilting the workpiece due to uneven mold or table, or directly planning the path in the inclined plane. According to the plane machining design program, the inclined plane machining can be completed by setting the tilt angle by parameters. Convenient for the work plane CNC program on an inclined plane, or solve the trouble that the machining program cannot be shared because of the assembly / clamping tilt of the machine.

Tool nose control (RTCP)



The controller provides 3D tool length compensation. The customer only needs to calculate the workpiece coordinate coordinate point on the CAM software. The system will automatically calculate the tool nose point position to ensure that the tool tip point is on the contour surface.

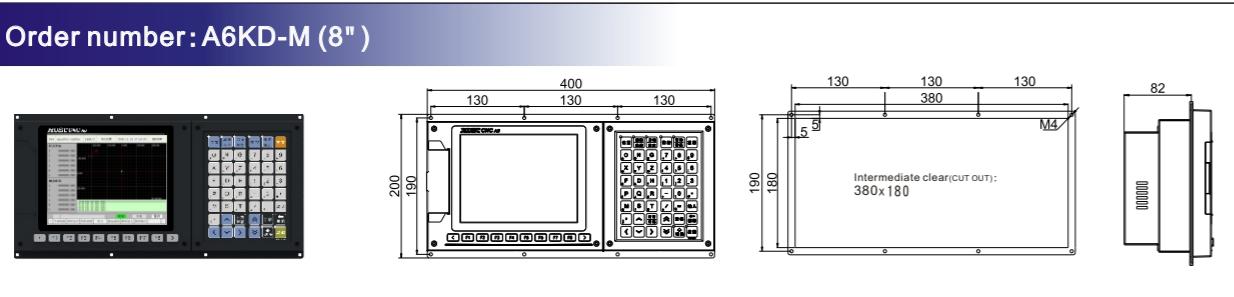
Gantry synchronization axis control



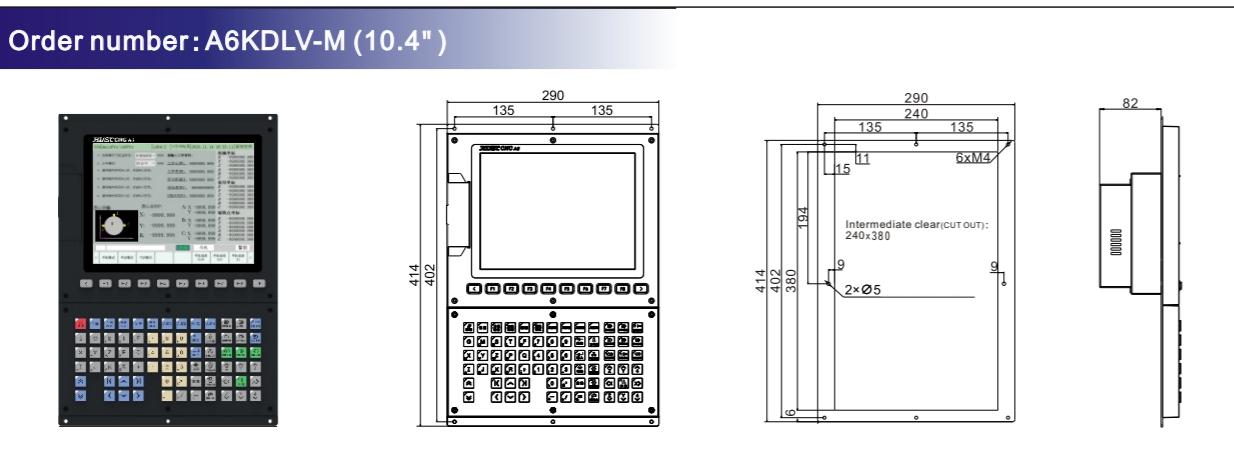
The gantry synchronous axis function can simultaneously perform the displacement of multiple pairs of feed axes without mechanical deviation. The system can quickly process the closed loop control of the synchronous axis and support the absolute value serial bus encoder such as SSI to improve the performance and efficiency of gantry synchronous control.

CNC Controller size

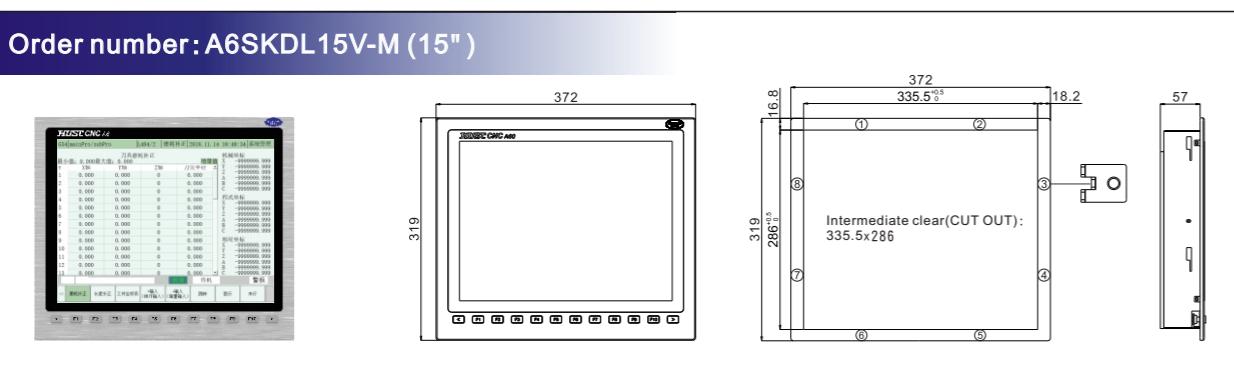
Order number: A6KD-M (8")



Order number: A6KDLV-M (10.4")

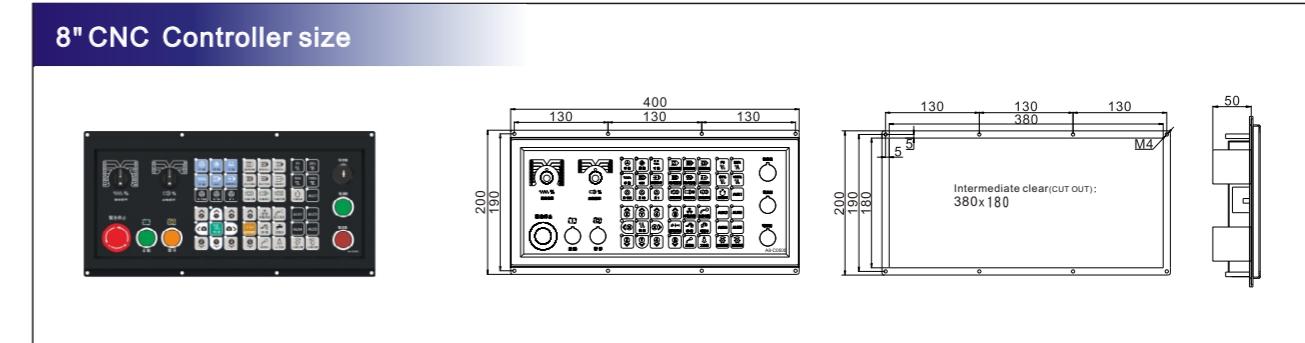


Order number: A6SKDL15V-M (15")

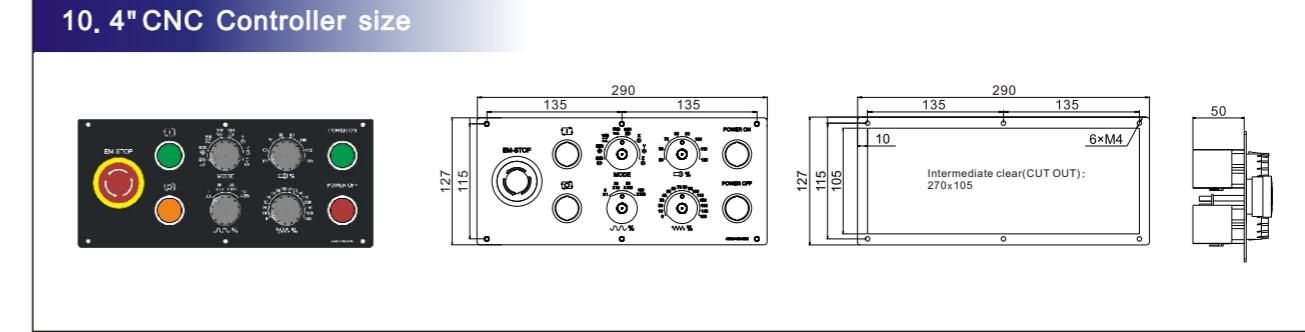


輔助面板尺寸圖

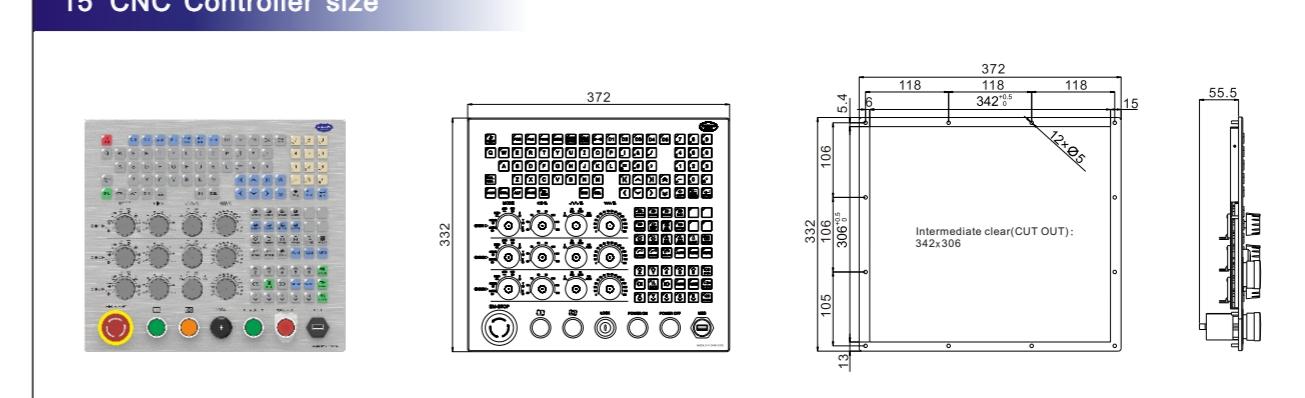
8" CNC Controller size



10. 4" CNC Controller size



15" CNC Controller size



Accessories specifications

Order number: A6\SI0(I:32 O:32)



A6\SI0\I32O32\V4
Size: 158 x 86 x 46 (mm)
Input mode: NPN.PNP
Input Current: 10mA
Single point output maximum current: 1A
32 points output maximum current: 16A

Order number: A6\SI0(I:16 O:16)



A6\SI0\I16O16\V4
Size: 100 x 86 x 46 (mm)
Input mode: NPN.PNP
Input Current: 10mA
Single point output maximum current: 1A
16 points output maximum current: 16A

Order number: A6\SSR(O:4)



Size: 76 x 86 x 42 (mm)
AC input: maximum current 8A
Factory fuse setting: 5A
AC output: maximum current 4A

Mill function specification sheet

	Name	A6KD-M	A6KDLV-M	A6SKDLV-M	A6SKDL15V-M
System specification	Maximum support channel	2	2	2	8
	Maximum number of axes (single channel)	6	6	6	12
	Maximum number of linked axes (single channel)	6	6	6	6
	Maximum number of spindles	10	10	10	10
	Maximum number of extended axes	40	40	40	40
	Display size	8寸	10.4 inch		15寸
	DA/AD		8/8 (standard, expandable to 64 groups)		
	Operating system		RT Linux		
	RAM		512MB		
	Program memory		4GB		
	Pre-read single block number		1000b/s		
	Minimum control unit		0.00001mm		
	Maximum number of tool compensation groups		160 groups		
	Transmission		USB/RS232/RS485/LAN/WIFI		
	Bus function		MECHATROLINK-III/EtherCAT		
	Absolute function		Support MIII、EtherCAT、MODBUS 485、SSI Absolute		
Program function	I/O		Standard: 16/16 or 32/32 Maximum expansion: 512/512		
	IOT Industrial Internet of Things Processing program international standard (G code)		Support		
	Macro programming standard		Support		
	Background edit		Macro B		
	Conversational intelligent programming		Support		
	Program USB transfer		Support		
	Automatic program error detection		Support		
Compound function	Program lock function		Limit program editing (optional)		
	Multi-channel function		Support (optional) 16 channels		
	Backlash function		Support		
	Multi-spindle function		Supports up to 10 spindles simultaneously tapping		
	Axis Coupling/Exchange/Mixing function Robot independent channel control module		Support		
High speed and high precision	Spindle (C) axis dynamic positioning		No need to stop switching, positioning can be performed directly(requires servo spindle)		
	Single block non-stop mode		Support		
	CONSTANT JERK control		Support		
	Automatic corner control		Support		
	Arc radius speed limit		Support		
	NURBS fitting		Support		
	Full closed loop control function		Speed control full closed loop. Bus control full closed loop		
Compensation function	Taper compensation		Support		
	Backlash compensation		Support		
	Arc angle compensation		Support		
	Two-way screw error compensation		Support		
	Feed forward compensation		Support		
Inclined plane	Tilting axis processing		Support		
	Inclined plane machining		Support		
Five-axis function	Five-axis tool nose control (RTCP)		Support		
	Smooth tool nose function (Smooth TCP)		Support		

	Name	A6KD-M	A6KDLV-M	A6SKDLV-M	A6SKDL15V-M
Auxiliary function	Custom-defined boot screen			Support	
	Custom-defined M-code			Support	
	Custom-defined G-code			Support	
	Bus axis and universal axis control			Support	
	I/O redefinition function			Support	
	DMC processing			Support	
	Scale			Support	
	Acceleration/deceleration type		Linear type (support JERK). S type. Exponential type		
	Tool life management		Time limit. Number limit management		
	Protective function		Safety door. Hard limit. Soft limit. Chuck is not clamped into the test. Tool change tool detection		
	MPG test		Support MPG test. MPG retract function		
	MPG interrupt		Support		
	Tapping quickly retracts		Support		
	Restart function		Program breakpoints automatically find and restart. Custom-defined restart		
	Multi-function MPG hand-wheel		Support		
	Graphical simulation		Graphic preview before program execution, dynamic drawing during program execution		
	Authority management		Parameter authority management		
G-code command	Perpetual calendar lock machine		Support		
	Axial load monitoring		Support		
	Oscilloscope function		Real-time monitoring of system commands and servo feedback pulse waveforms		
	Following error detection		Support		
	Spindle speed arrival detection		Support		
	Diversified tool magazine		Turntable Tool Magazine. Carousel Tool Bank. Customized tool magazine		
	Automatic tool setting		Support		
	Data backup		Program backup. Parameter backup. Tool compensation backup		
	High precision track control mode		Support		
	Path smoothing mode		Support		
	NURBS curve interpolation		Support		
	Tool offset		Support		
	Thread cutting		Support		
	High-speed peck drilling canned cycle		Support		
	Left hand tapping canned cycle		Support		
	Fine boring canned cycle		Support		
	Drilling canned cycle		Support		
	Pause drilling canned cycle at the bottom of the hole		Support		
	Peck drilling canned cycle		Support		
	Tapping canned cycle		Support		
	Drilling canned cycle		Support		
	High speed drilling canned cycle		Support		
	Semi-automatic fine boring canned cycle		Support		
	Pause bottom of the hole boring canned cycle		Support		
	Multiple sets of high speed and high precision parameters		Support		