6090 mini Numerical Control Carving Machine manual -DSP version

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Chinacncnzone

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content

Outline

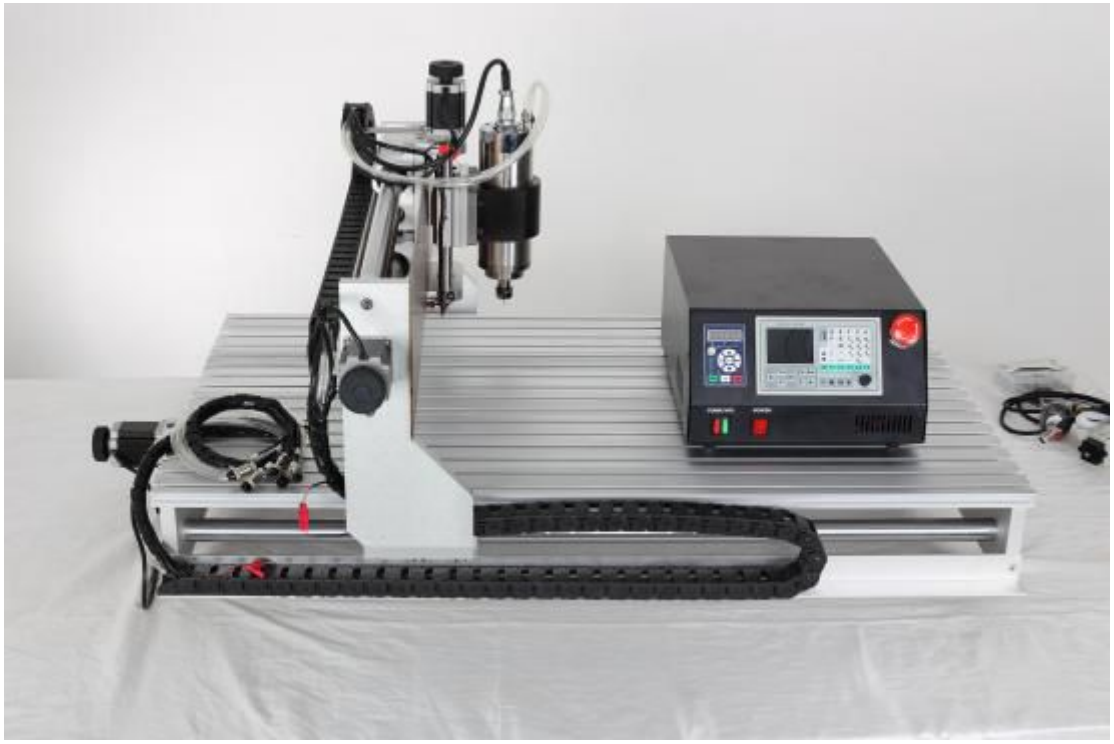
Chinacncnzone 6090 mini CNC is a kind of small-size product mainly applied in the processing and manufacture of woodworking, advertising, modeling and art ware, particularly appropriate to the carving of the materials such as wood, plastics, acrylic and soft metal as aluminum and copper.

A digital signal processor (DSP) is a specialized microprocessor (or a SIP block), with its architecture optimized for the operational needs of digital signal processing.

The goal of DSPs is usually to measure, filter and/or compress continuous real-world analog signals. Most general-purpose microprocessors can also execute digital signal processing algorithms successfully, but dedicated DSPs usually have better power efficiency thus they are more suitable in portable devices such as mobile phones because of power consumption constraints. DSPs often use special memory architectures that are able to fetch multiple data and/or instructions at the same time.

Digital signal processing algorithms typically require a large number of mathematical operations to be performed quickly and repeatedly on a series of data samples. Signals (perhaps from audio or video sensors) are constantly converted from analog to digital, manipulated digitally, and then converted back to analog form. Many DSP applications have constraints on latency; that is, for the system to work, the DSP operation must be completed within some fixed time, and deferred (or batch) processing is not viable.

The axial motion acceleration and speed adjustment interface can be adjusted according to the demand to adapt to the high-speed and high-precision processing.



Machine's parameters

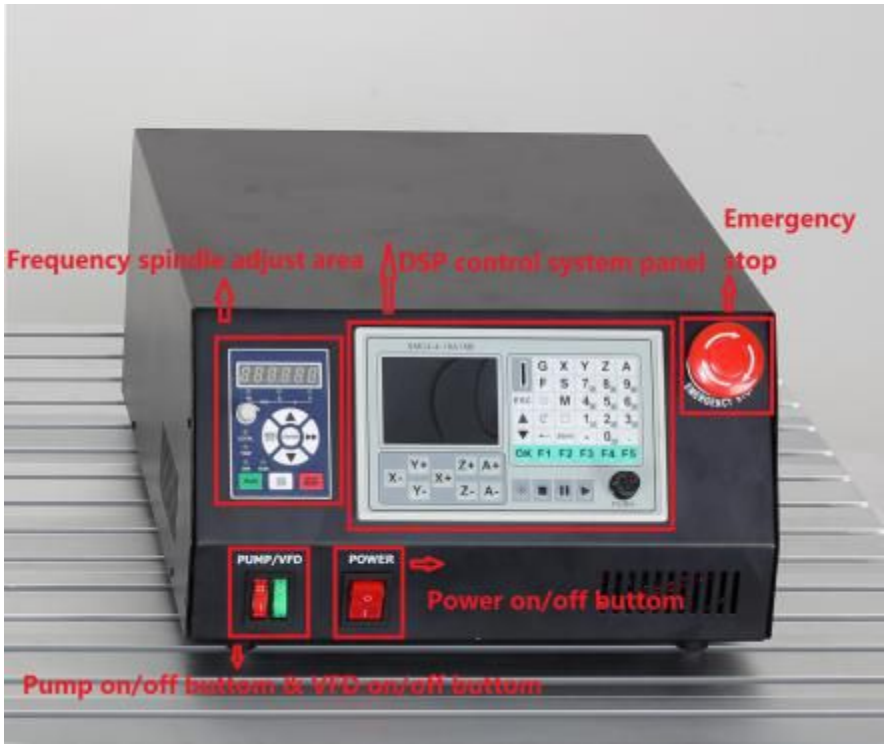
Effective working travel		580(X)mm*880(Y)mm*85(Z)mm
Shape dimension		890*1250*670mm
Work table dimension		600mm*900 mm
Frame materials		aluminum alloy 6063 and 6061 the unique and dedicated mold extrusion profiles. let counterfeiters dwarfs
acceptable material thickness		≤100mm
Driving units	X/Y/Z axis	X,Y1605 ball screw, Z 2005 ball screw
Sliding units	X axis	Dia.16mm chrome plate shafts
	Y axis	Dia.20mm chrome plate shafts
	Z axis	Dia.13mm chrome plate shafts
4 Axis size and precision		136*116*92mm, Height of centre: 50mm 0.1 degree
4Axis maximum clamping diameter		50mm Transmission ratio: 1:3
Stepping motor type		57 two-phase 3A 150N.cm
Spindle motor		Brand new 2200W water cooling spindle, 24000RPM
Principal axis collet		ER20 / 2-13mm
Repeat accuracy		0.05mm
Spindle precision		radial beat acuities 0.03 mm
Maximum speed		0-4000mm/min
Control unit		Toroidal transformer + PWM power supply module + TB6560 3axis drive board
Command code and software		G code
Protection		Emergency stop button
Operating Voltage		AC220V AC110V will provide voltage changer
Accessories		Pump, Auto checking tool , cutter, banner and so on.
Package and size		One wooden box package , 121*86*72cm
Gross weight		136KG

Highlights for this CNC 6090

1. 2200W Water Cooled Spindle
2. With live video support
3. Ball screw high precision C7
4. Independent power supply for main board, prolong using life
5. DSP control system, don't need contact with computer anymore
6. Limited switch added
7. Auto-Checking function
8. With 4 axis, can engrave cylinder object

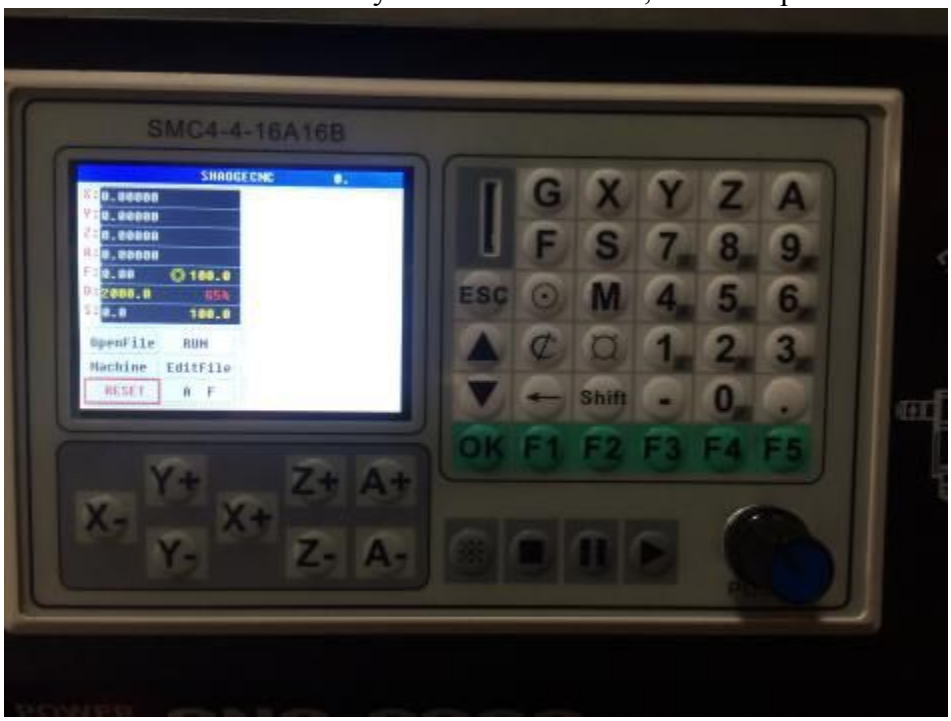
Note: Machine connect with DSP control box should according to the text in the back of control box.

DSP control box

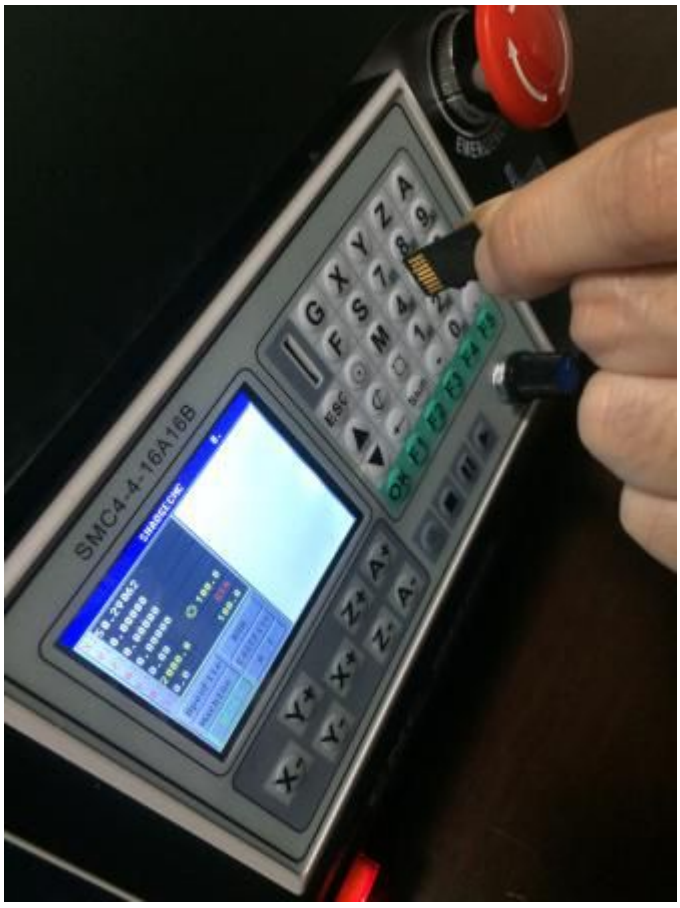


DSP control system using instruction

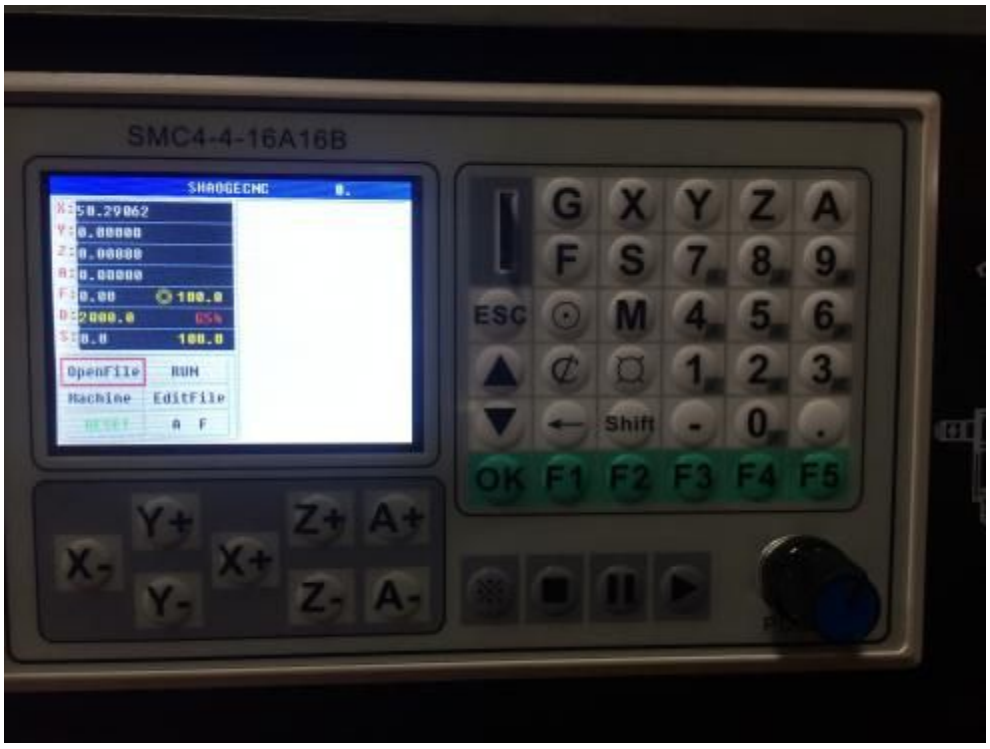
1. Power on and open the EMERGENCY STOP button. The LCD display in DSP control system will be light.
2. Using ▲ key and ▼ key or the **PUSH** button move red cursor in LCD display.
3. Moving red cursor to **RESET** key, press the **OK** key or **PUSH** key to cancel the reset function first in that way DSP can start work, as below picture.



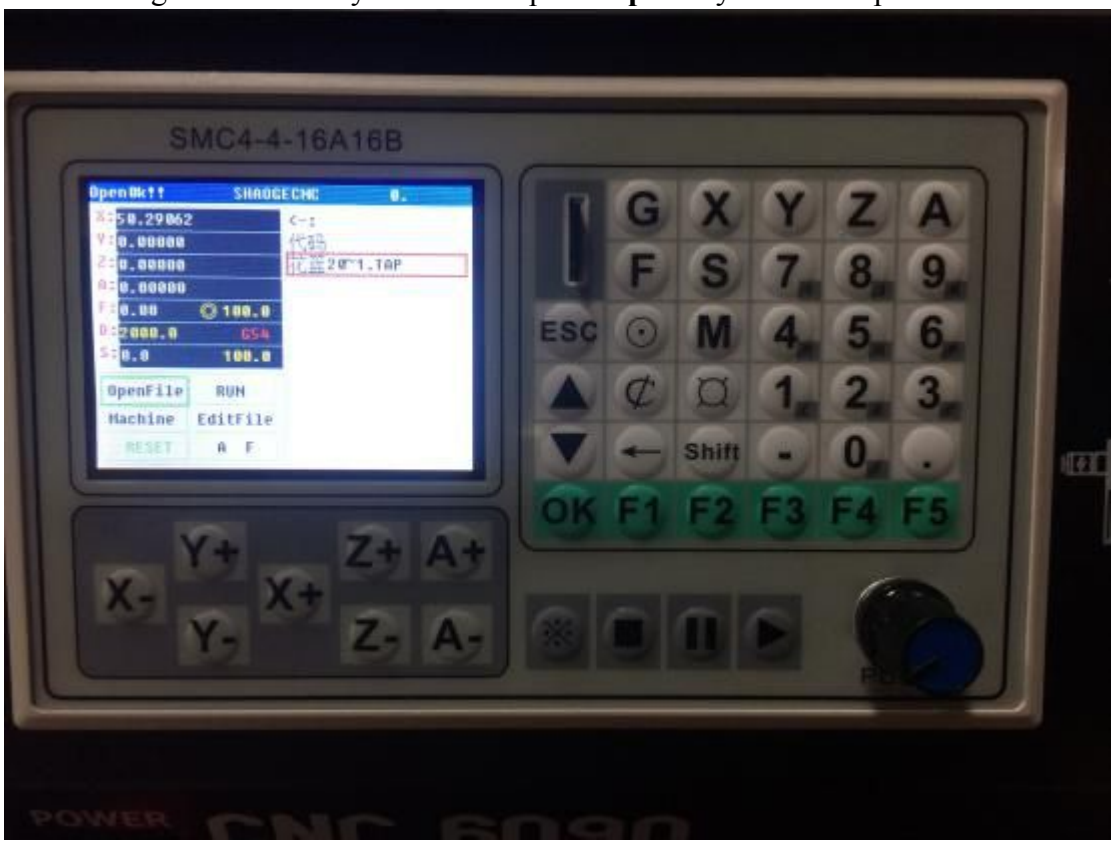
4. Plug in the TF storage card which has stored your G-CODE already. As below picture.
Noted: please use original brand TF card ,Bad TF can not recognized by machine.

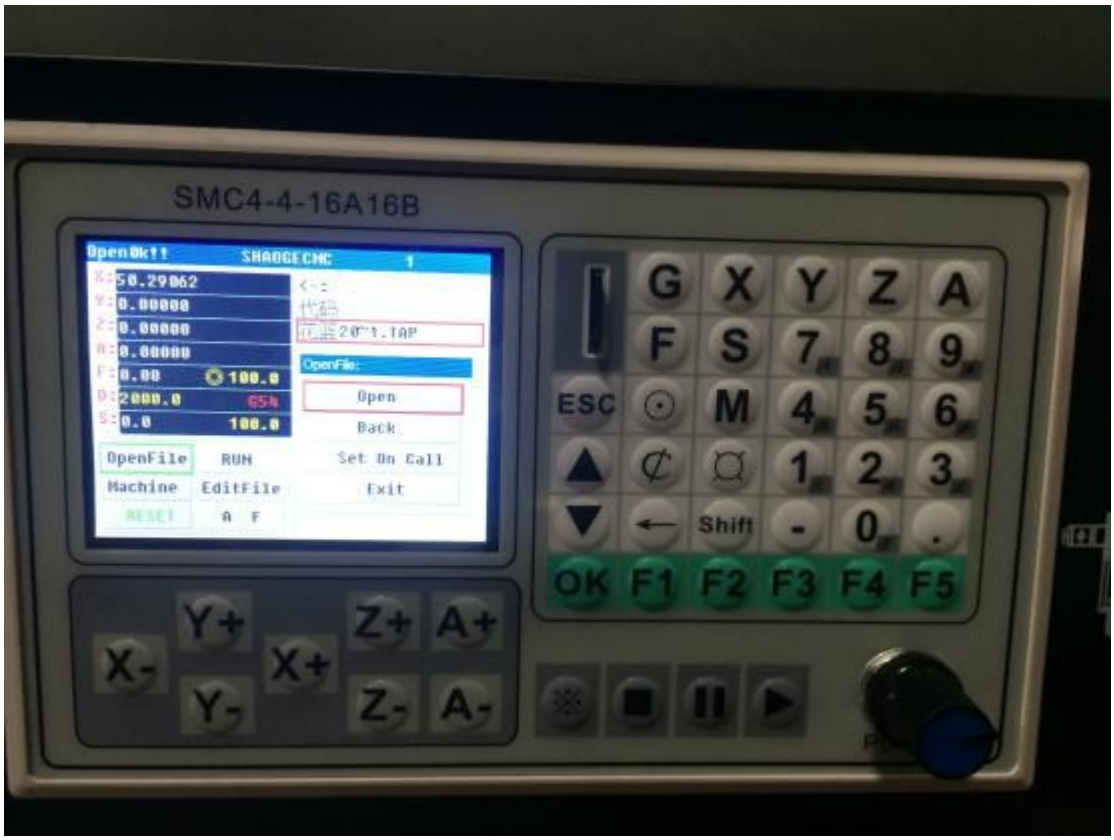


5. Moving red cursor to **OpenFile** key, and press **OK** key enter it. As below picture

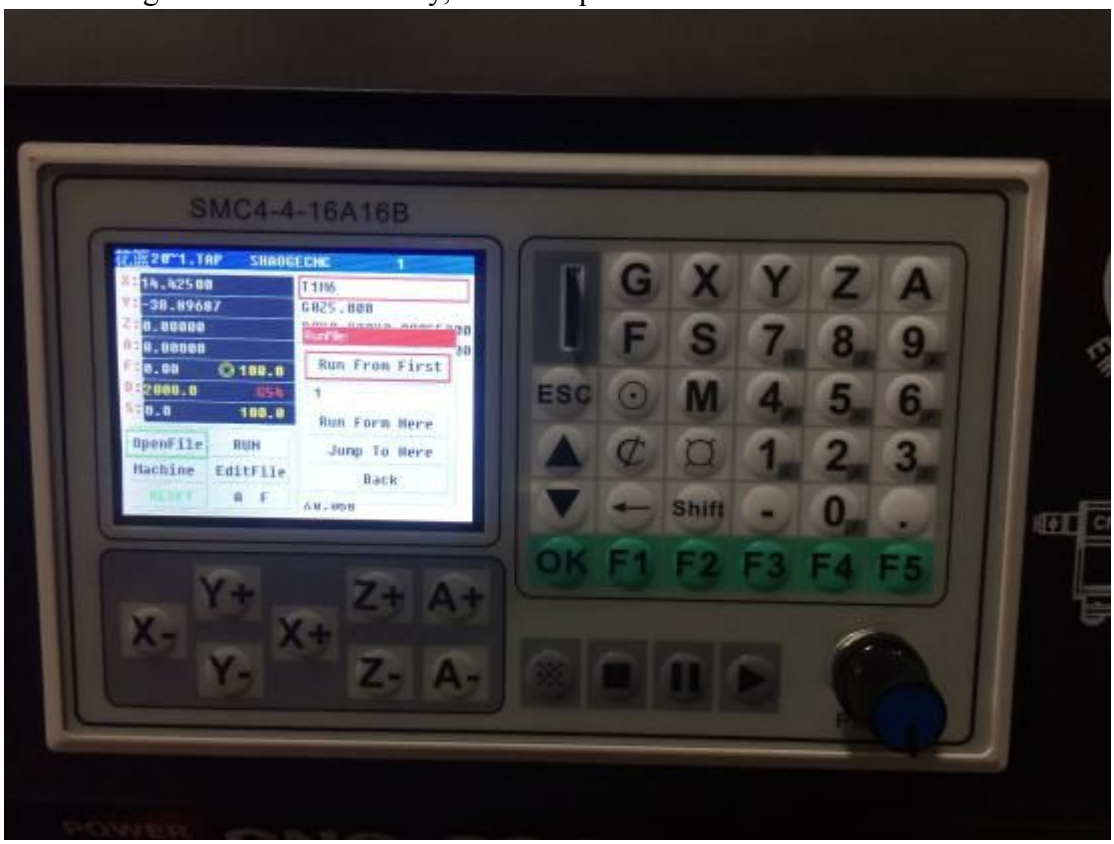


6. Choosing the G-CODE you need and press **Open** key. As below pictures.

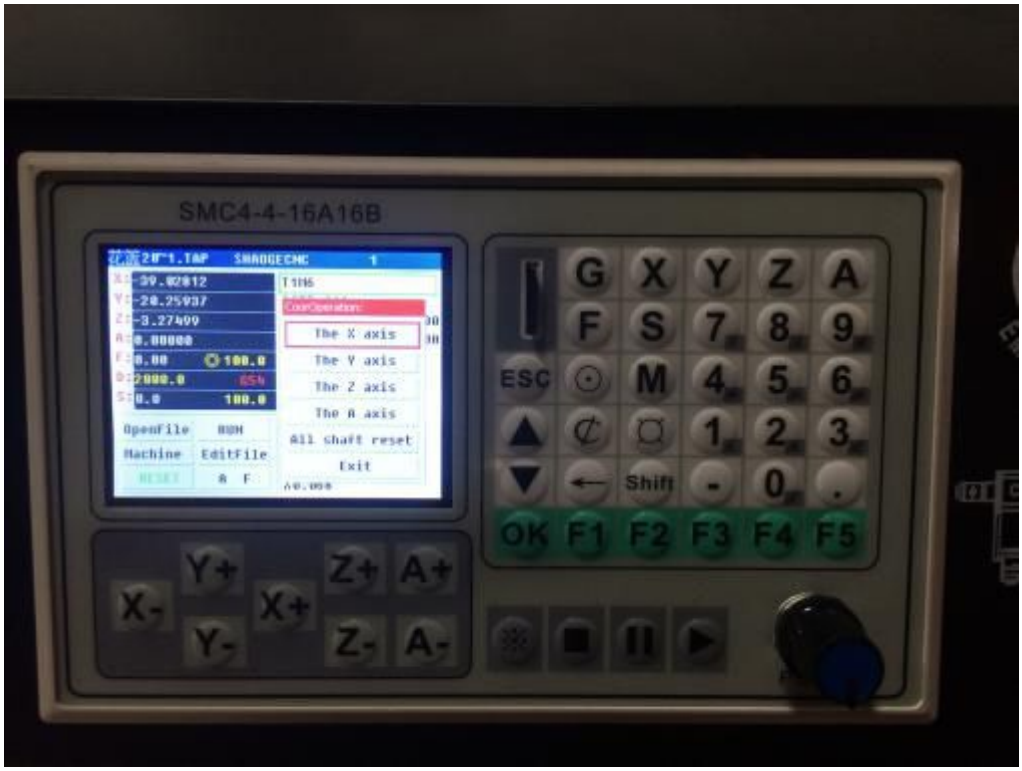




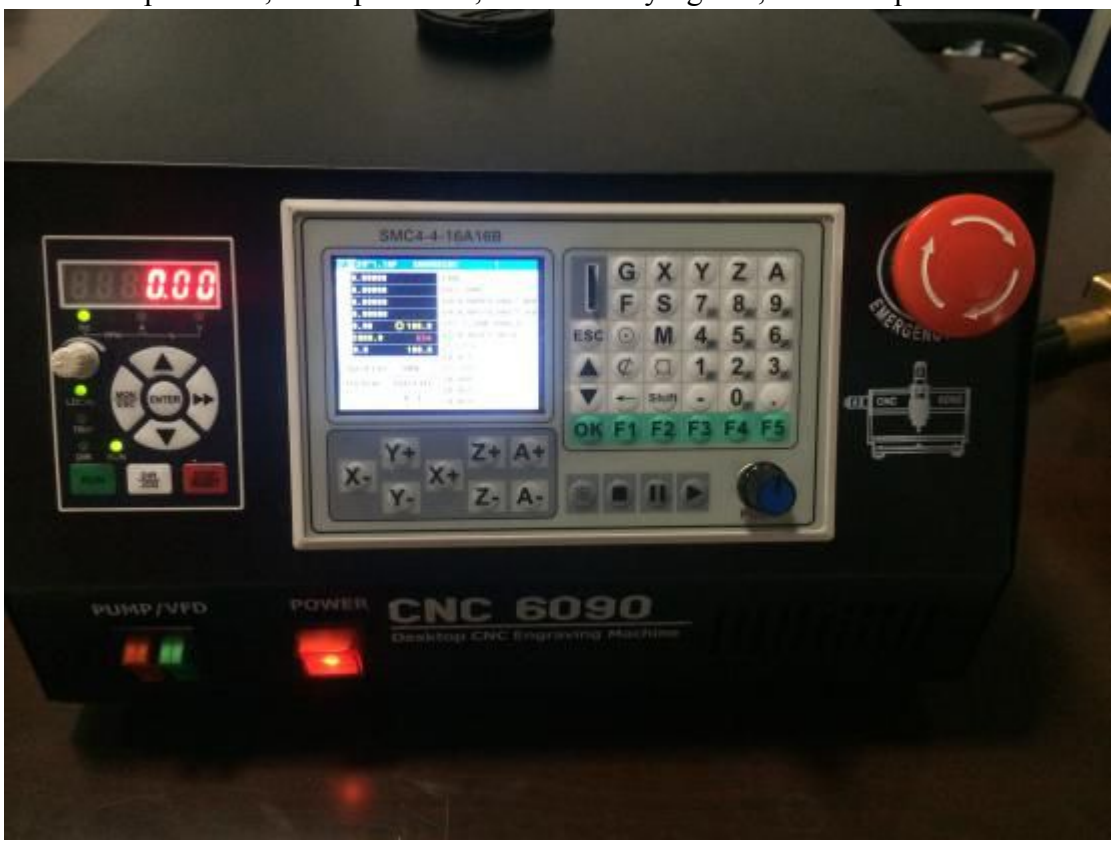
7. Choosing **Run From First** Key, as below picture



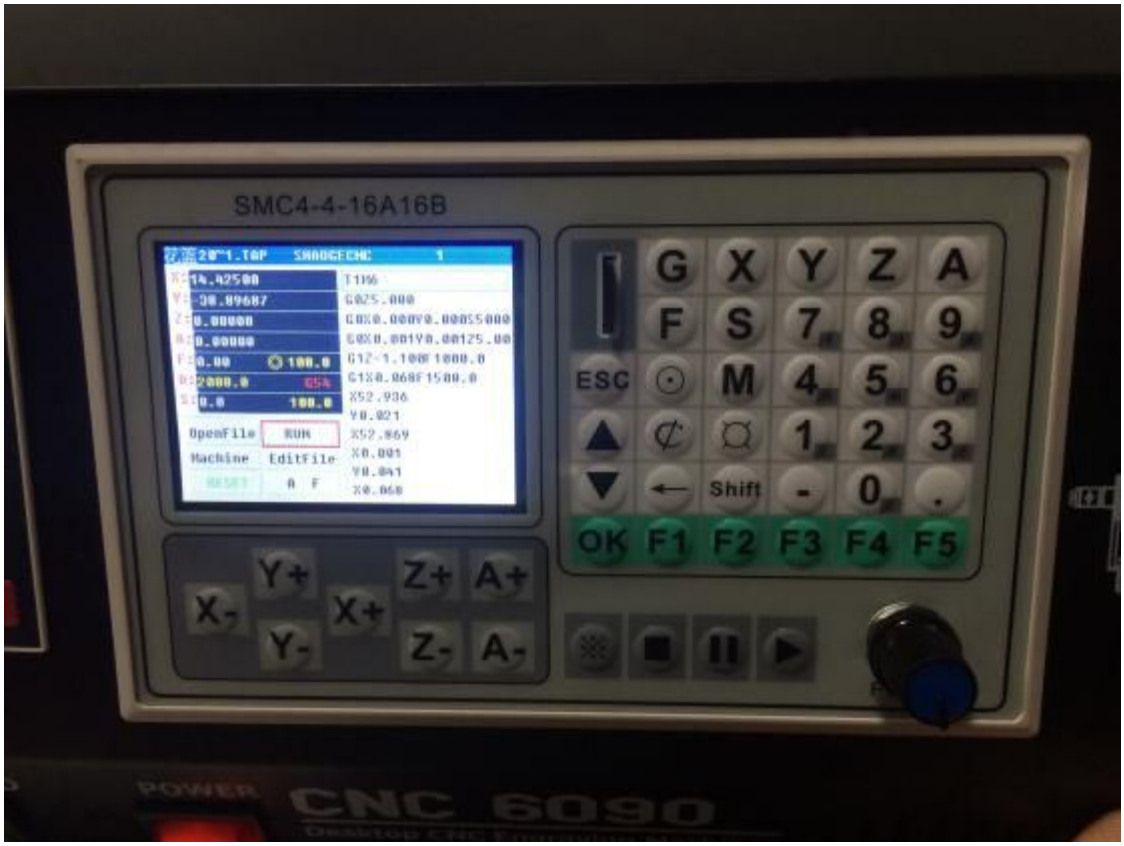
8. Setting the start point you want by **X-**, **X+**, **Y-** and **Y+** four keys. The ⌑ Key can adjust the once feed amount. Then choosing **All Shaft reset** key or just set back zero axis you want.

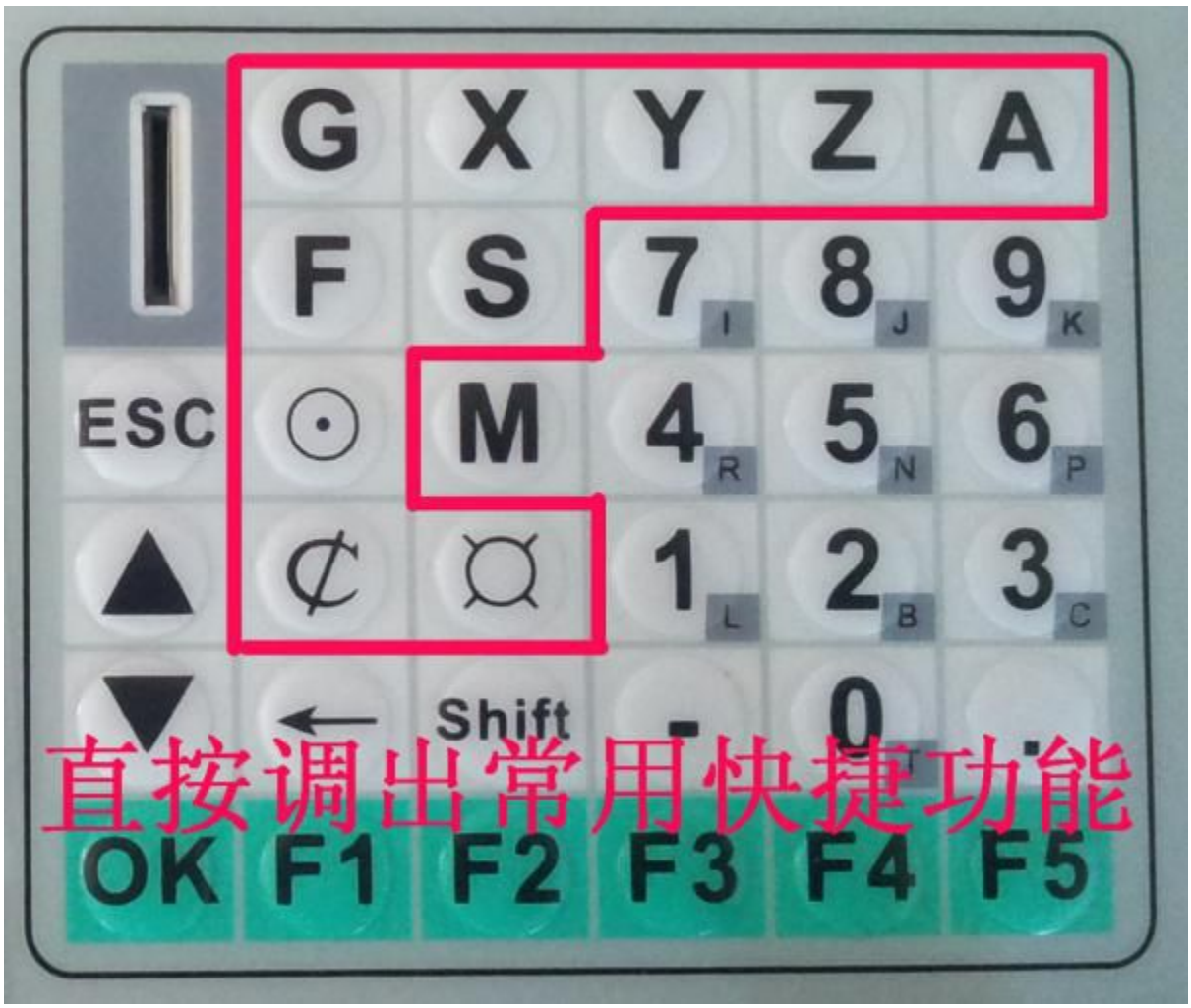


9. **PUMP** power on, **VFD** power on, the **RUN** key lighted, as below picture show.



10. Red cursor choosing **RUN** key, press **OK** key, DSP system control machine start work.





Panel button ⊙ is Home Point Setting

Panel button ⊄ is Coordinate Cleaning Operation

Panel button ⌑ is Manual Point Moving

Panel button X Y Z A is Coordinate Operation Directly

Panel button S is Spindle Operation

Panel button F is Manual Feed Speed Adjustment

Panel button G is Work piece coordinate system operation