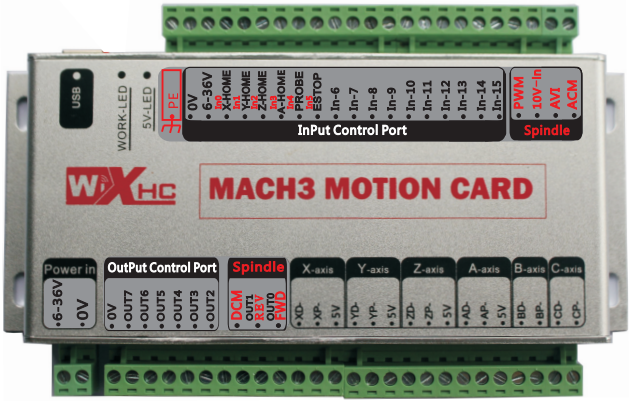
The following information describes the English

MACH3 control card

MACH3 control card manual

FOR English



Size:184x110x30mm

Model

MK3: MACH3 3-axis control card

Mk4: MACH3 4-axis control card

MK6: MACH3 6-axis control card

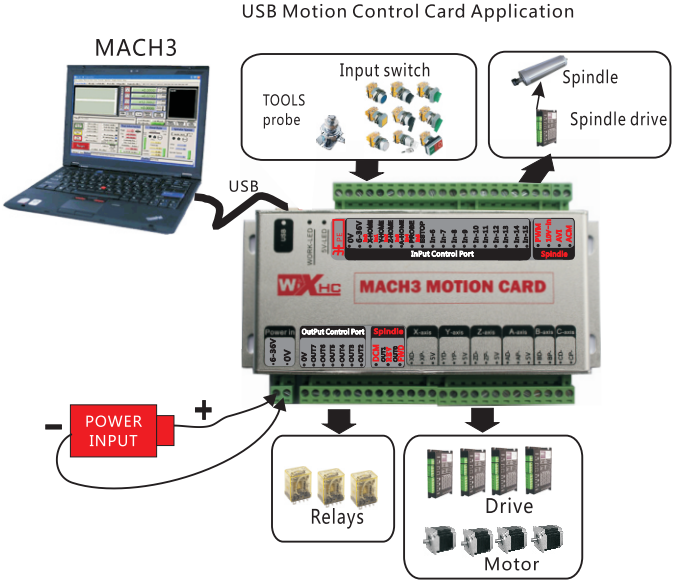
The following information describes the English

Features:

- ★ Fully supporting all Mach3 versions
- ★ Full support for USB hot-swappable, the card is Monitoring USB connection status at any time.
- ★ Supports Up 6-axis
- ★ Maximum step-pulse frequency is 400KHz
- ★ Status indicator LED can be useful to show the USB connection, and working stauts by flashing.
- ★ 16 general-purpose input
- ★ has speed function, the spindle actual speed Mach3 interface in real-time display
- ★ all IO-port isolation, interference, stable performance

Simple connection description

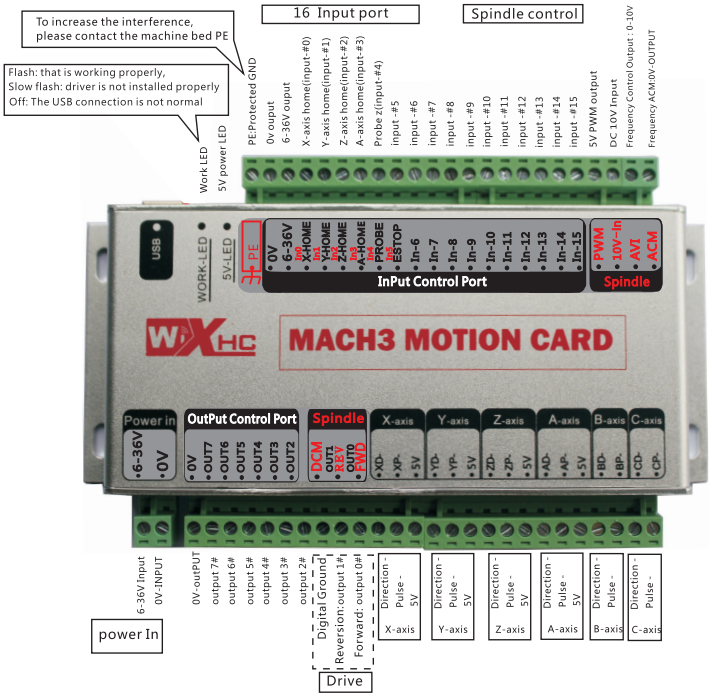
Application Connection Diagram



Support: 3-axis or 4-axis, or 6-axis

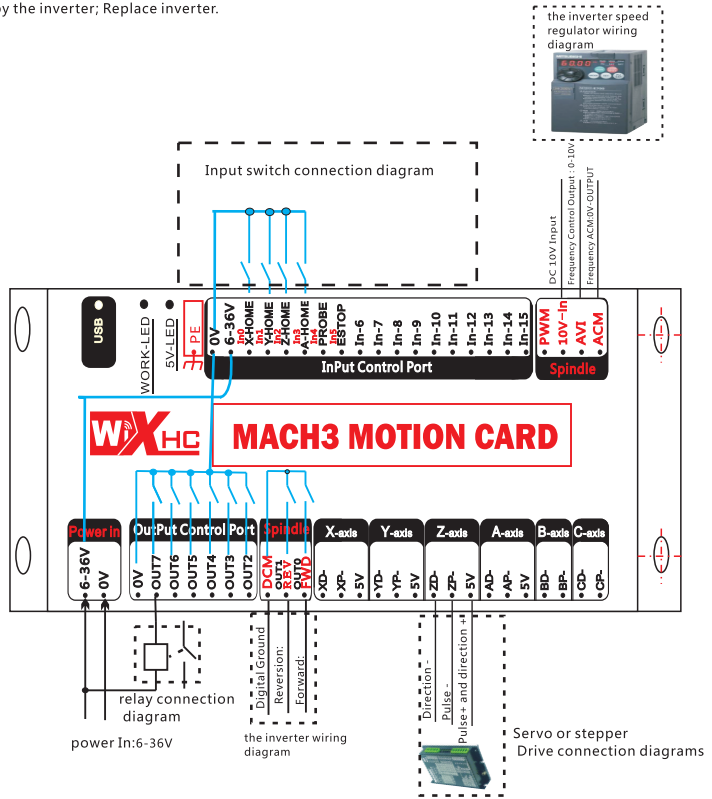
Mk3: 3-axis; Mk4: 4-axis: Mk6: 6-axis

Signal Description

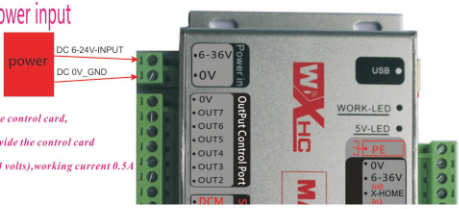


Wiring diagram shows

NOTE: If the inverter is turned on, the control card is not working properly because of interference caused by the inverter; Replace inverter.



1 power input



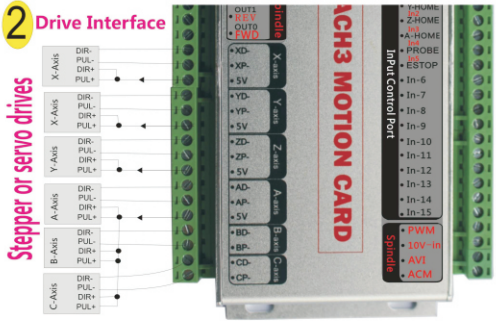
Use notes:

Before using the control card,

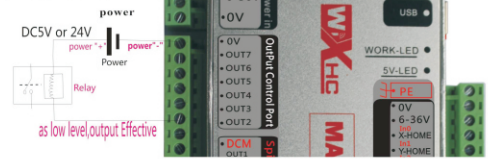
you need to provide the control card

with DC (6 to 24 volts),working current 0.5A

2 Drive Interface

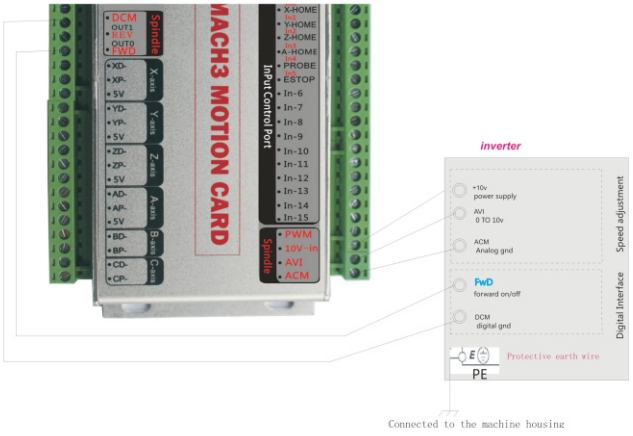


3 Relay Interface



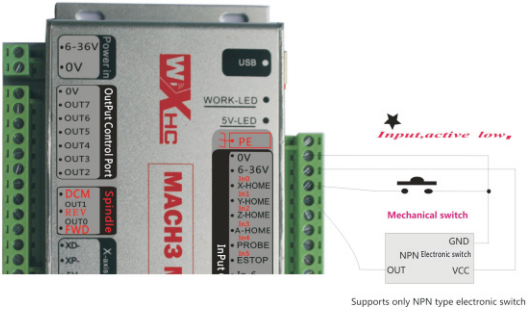
4 OUTPUT:spindle control-Inverter connection

inverter Interface



4. *INPUT: Limit switch "level power output Effective*

input Interface



Supports only NPN type electronic switch

Input signal

16 Input signal, active low Input, Input current 5 mA, support 5~36V signal Input.

signal is defined as follow

X-home: X axis home signal Input, corresponding MACH3 IO:P1.0

Y-home: Y axis home signal Input, corresponding MACH3 IO:P1.1

Z-home: Z axis home signal Input, corresponding MACH3 IO:P1.2

A-home: A axis home signal Input, corresponding MACH3 IO:P1.3

PROBE: tool probe signal, corresponding MACH3 IO:P1.4

IN5-IN15: definable Input, corresponding MACH3 IO:P1.5-P1.15

Spindle drive

MKX MACH3 controller support spindle speed control ,support inverter,and PWM.Spindle speed control export support two ways :0-10V analog voltage output,0-5V analog voltage output or 0-5V PWM.

When use analog voltage putput to control spindle speed, need provide a DC voltage for MKX MACH3 controller. DC voltage can determines the maximum analog voltage export. For example, DC voltage 10V, so analog voltage export 0-10V.

Power supply

6-36V DC power supply for MKX MACH3 controller.

Output

MKX MACH3 controller support 8 output, active low Input,

Drive current 50 mA, support maximum 36 V signal,

Spindle control:OUT 0, corresponding MACH3 output P1.0

Definable output :OUT1-7, corresponding MACH3 output P1.1-1.7

Axis drive

MKX support maximum 6 axis, Mk3 for 3 axis,MK4 for 4 axis, MK6 for 6 axis.

MKX support stepper and servo motors.

Maximum pulse output 400 KHZ.

Drive current 20 mA, with optical isolation.

Electrical Characteristics

	Parameter Description	
axis output control:	Drive Current	Isolated open collector output; 5V, 20mA
	Drive	Pulse + direction output
	Output frequency	400KHZ
	axes	MK3:3-axis;MK4:4-axis;MK6:6-axis
	Isolation Voltage	3.5KV
Spindle inverter output: 3 types of output modes	Analog voltage output	0—10V
	PWM output	5V,1KHZ, Duty;0-100%
	Pulse+direction output	5V,15HZ to 4KHZ
8 IO output	Drive Current	Isolation:50mA, 25V
	Isolation Voltage	3.5KV
16 IO output	Inupt Current	Isolated inputs, 5 mA, maximum voltage 25V
	Isolation Voltage	3.5KV
USB interface	Complies with USB2.0 standard	