Novusun
CNC

MPG with display

NVMPG

Manual

Contects

Chapter 1. | Brief Introdution

1.1 Products brief introduction

We design a new Manual Pulse Generator named NVMPG. This MPG has a screen, and 10 buttons. The coordinates and some other parameter are displayed on the screen.

And user can change axis and rate by the buttons. There are also few other functions e.g. ZERO/ GOTO0/HOME on the buttons.

The encoder of NVMPG is the same as general MPG. but the choice of axis and rate use USART port instead of general port.

1.2 Specification feature

1) High performance, low prices

2) 2.2' TFT Screen

3) 10 buttons

4) Voltage   5VDC

5) 8 wire control line

6) 6 axis coordinates /RESET/FRO/SRO/SJR/SPINDLE are display on the screen

1.3 Product appearance and dimension

NVBDH+ product appearance pls see picture 1-1 to 1-3.

Figure1-1.   NVMPG appearance 1

Figure1-2.   NVMPG appearance 2

Figure1-3.   NVMPG appearance 3

Chapter 1 Brief Introdution

Figure1-4.   NVMPG appearance 4 working state

Figure1-5.   NVMPG connected to NC200

Figure1-6.　　Size of NVMPG

Product size is 150*75*35mm,as picture 1-6 shows.

1.4 Notice and Waring

·　Prohibit staying in the rain, it will cause short-circuit..

·　Pls use proper voltage power supply and motor.

·　Note the power supply connection. Prohibit reverse connection of power supply

and Hall.

Chapter 2 Connection

Chapter 2.　Connection

2.1 Connection interface definition

NVMPG has 8 wires connected to CNC system, the definition of NVMPG see as Chart 2-1.

Mark	Color	Definition	Remark
1	RED	A-	Negative of MPG's A phase
2	BLUE	A+	Positive of MPG's A phase
3	BLACK	B-	Negative of MPG's B phase
4	GREEN	B+	Positive of MPG's B phase
5	WHITE	+5V	5V Power wire
6	VIOLET	TXD	Transmission Port
7	BROWN	RXD	Receive Port
8	YELLO	GND	Ground

Chart 2-1 Wiring definition of NVMPG

There are 2 mode of terminal, which are open wire(see as Figure2-1) and RJ45 port(see as Figure 2-2).

RJ45 port mode is only compatible with NC200. See as Figure 1-5.

Chapter 2 Connection

Figure2-1.   Wire mark of NVMPG in open wire mode

Figure2-2.   Wire mark of NVMPG in RJ45 port mode

Chapter 2 Connection

2.2 NVMPG connection

NVMPG can be connected to NVEM/NVUM and NC200. NVMPG and NVEM
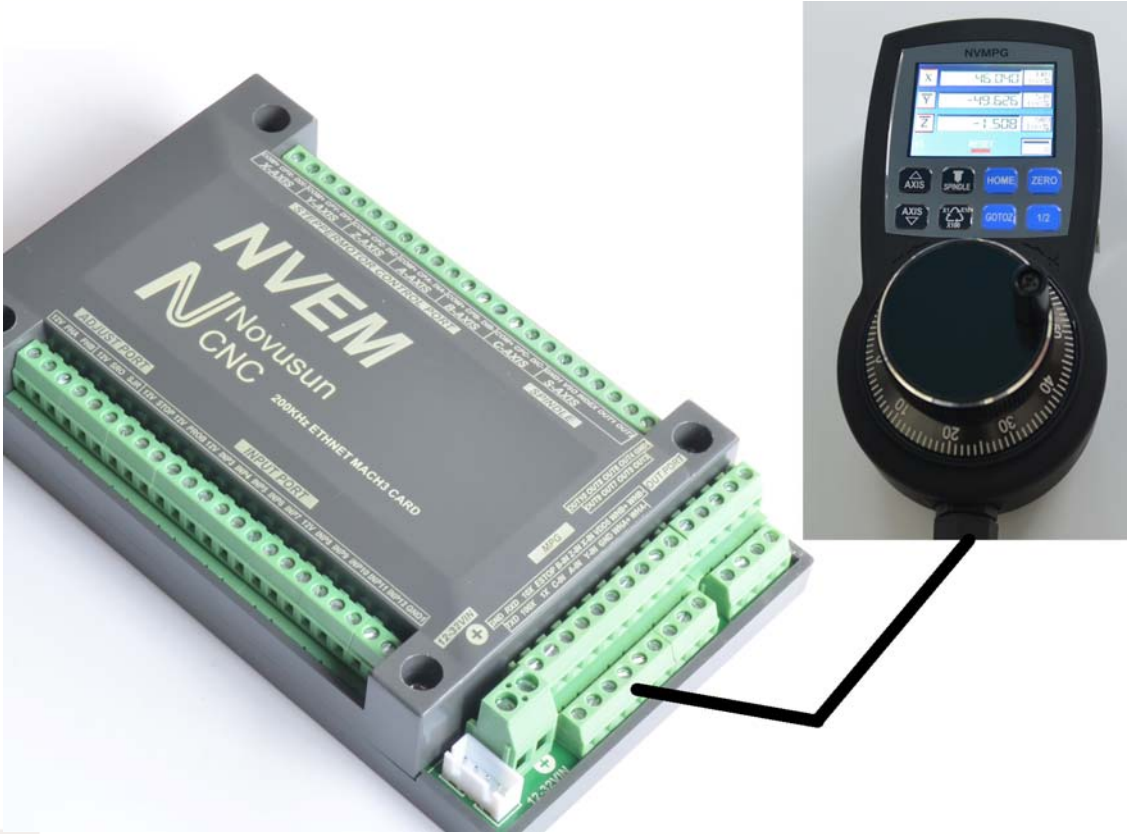
connecting method see as Figure 2-3 and Chart 2-2.

Figure 2-3 NVMPG connect to NVEM

Manual of NVMPG

NVMPG		NVEM	
Definition of NVMPG		Definition of NVEM	
RED	A-	WHA-	
BLUE	A+	WHA+	
BLACK	B-	WHB-	
GREEN	B+	WHB+	
WHITE	+5V	VDD5	
VIOLET	TXD	TXD	
BROWN	RXD	RXD	
YELLO	GND	GND	

Chart 2-2 Connecting method with NVEM

Connection between NVMPG and NC200 is very simply, it's only need to   put

NVMPG's RJ45 plug into NC200's RJ45 socket. See as Figure 1-5.

Chapter 3. Configuration & Use

3.1 Configuration

There are 2 DLL file we provide. If we use standard MPG, we should use NVEM_F.DLL, or if we use NVMPG, we should use NVEM_UART_F.DLL.

First we need to set MPG to valid, see as Figure 3-1. No need to set other parameter.

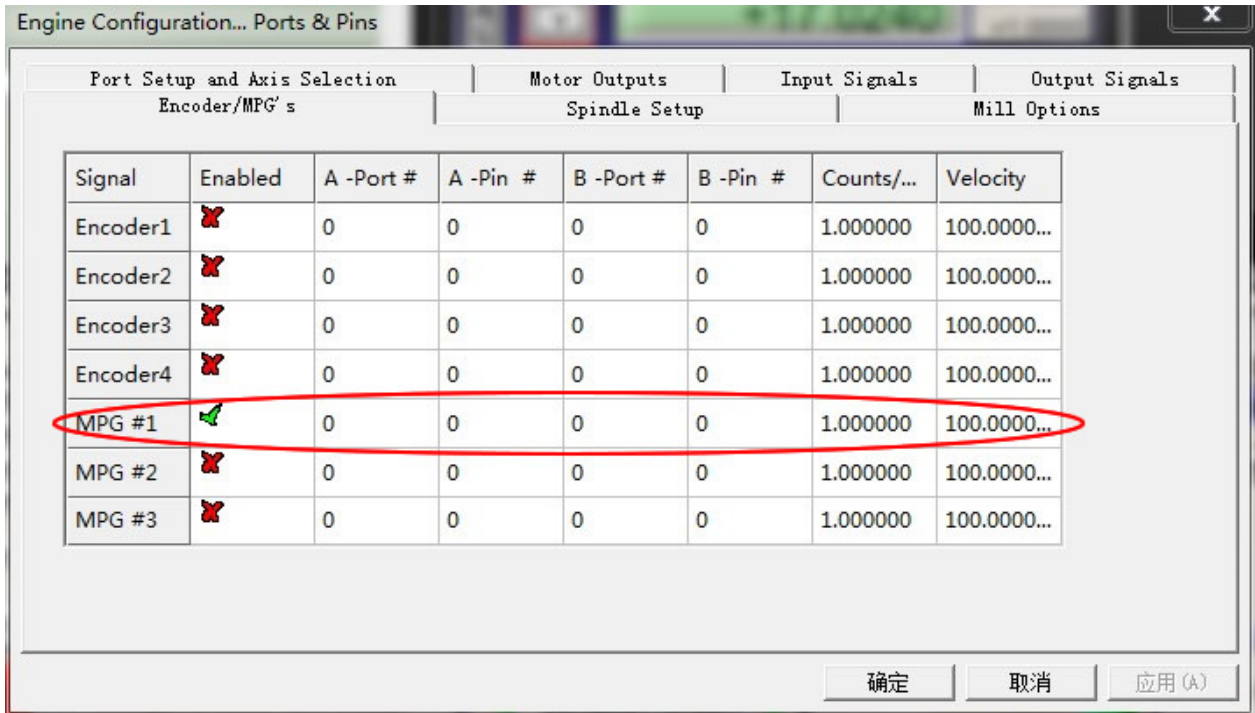| Signal	Enabled	A -Port #	A -Pin #	B -Port #	B -Pin #	Counts/...	Velocity
Encoder1	✗	0	0	0	0	1.000000	100.0000...
Encoder2	✗	0	0	0	0	1.000000	100.0000...
Encoder3	✗	0	0	0	0	1.000000	100.0000...
Encoder4	✗	0	0	0	0	1.000000	100.0000...
MPG #1	✓	0	0	0	0	1.000000	100.0000...
MPG #2	✗	0	0	0	0	1.000000	100.0000...
MPG #3	✗	0	0	0	0	1.000000	100.0000...

Figure3-1.　　Set MPG to valid

Second, if we need to use MPG, we should change Manual operation mode into MPG mode, see as Figure 3-2.
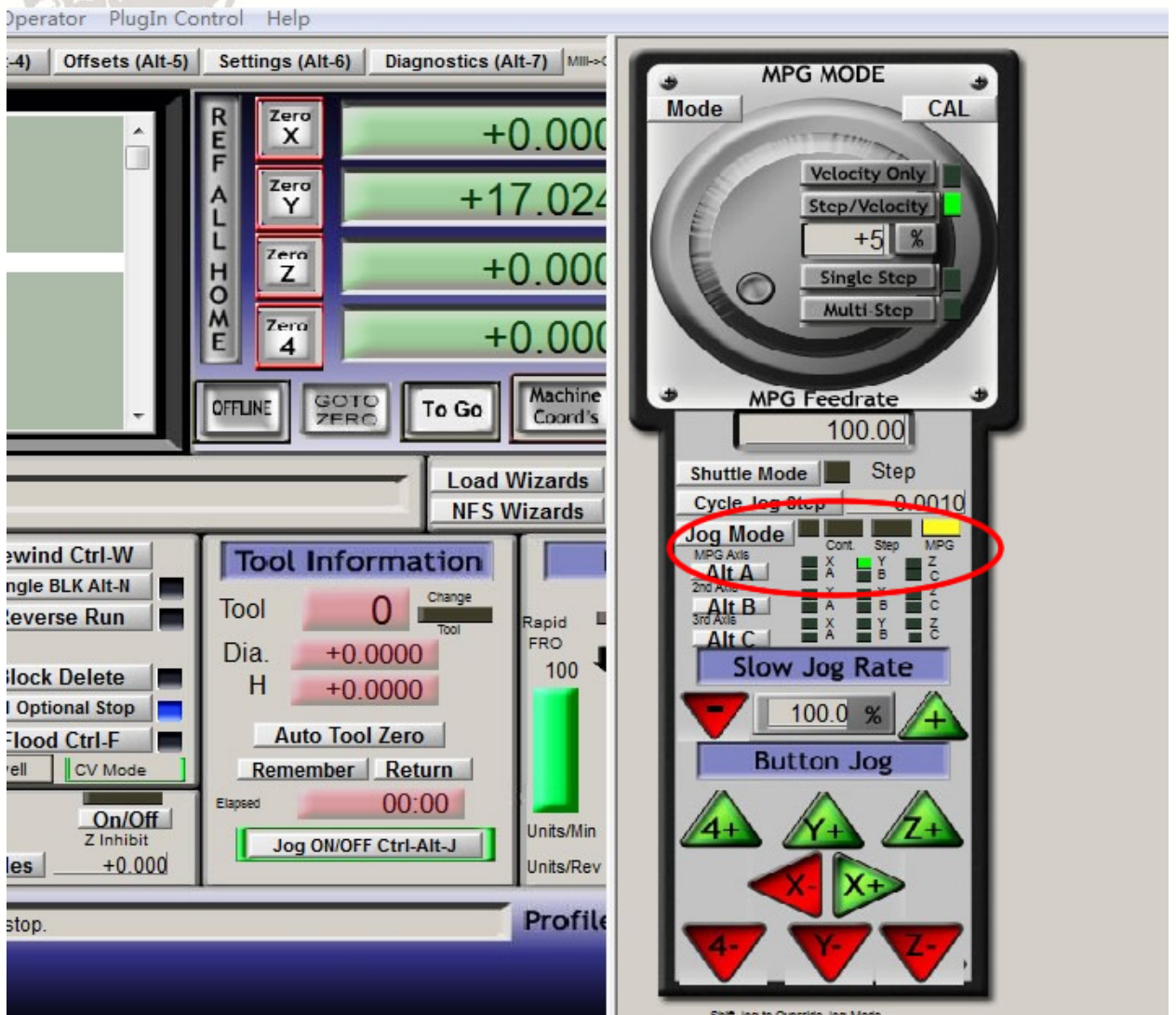
Figure3-2.　　Set to MPG mode

3.2 Use

See as Figure 3-3,it's definition of NVMPG's screen. Specific description is as follows.

1: Coordinate value of 6 axis

2:Axis identification

3:MPG rate.

4:State of RESET.

5:State and value of Spindle

6:Value of SRO

7:Value of SJR

8:Value of FRO

Figure3-3.　　Screen of NVMPG

Figure3-4.　　buttons of NVMPG

Chapter3 Configuration & use

See as Figure 3-4, there are 10 buttons in NVMPG. Each key has a function. We list the function of these buttons in Chart 3-1.

No.	Mark	Definition
1	(LEFT BUTTON)	Start/Run G code
2	AXIS↑	Change active axis AXIS++
3	AXIS↓	Change active axis AXIS--
4	SPINDLE	START/STOP spindle
5	X1/X10/X100	Change rate of MPG
6	HOME	Trigger HOME function of system
7	GOTOZ	Trigger go to 0 function of system
8	ZERO	Trigger ZERO function of system
9	1/2	Make active axis' coordinate halve
10	(RIGHT BUTTON)	RESET/ESTOP

Chart 3-1 Function of keys

Button 1(START) : After loading G code, push this button to run G code.

Button2(AXIS↑):

Button3(AXIS↓): AXIS↑ and AXIS↓ are 2 button for change active axis. Each axis has a block above the axis label. Active axis' block is yellow, and invalid axis' block is black. You can notice the color of the block when you change active axis.

Button4(SPINDLE):Open or shut down the spindle.

Button5(X1/X10/X100):Change the rate of MPG, The rate of MPG is displayed on the screen.

Button6(HOME):Push this button is making machine to find it's Machine zero port. If we set a active axis, e.g. X, then push this button is going to find X axis' machine zero port. Or if

we set no active axis, then push this button is going to find all axes' machine zero port.

Button7(GOTOZ):Push is button is making machine to go to workpiece zero port. The method refer to button 6.

Button8(ZERO):Push this button is making current coordinates to 0. The method refer to button 6.

Button9(1/2):Push this button is making current coordinates halve. The method refer to button 6.

Button10(RESET): This button is RESET function.

>> **Chapter 4.   Contract us**