DINGS
Precision Motion Specialist

VER 1.1

Quick GUI User Guide

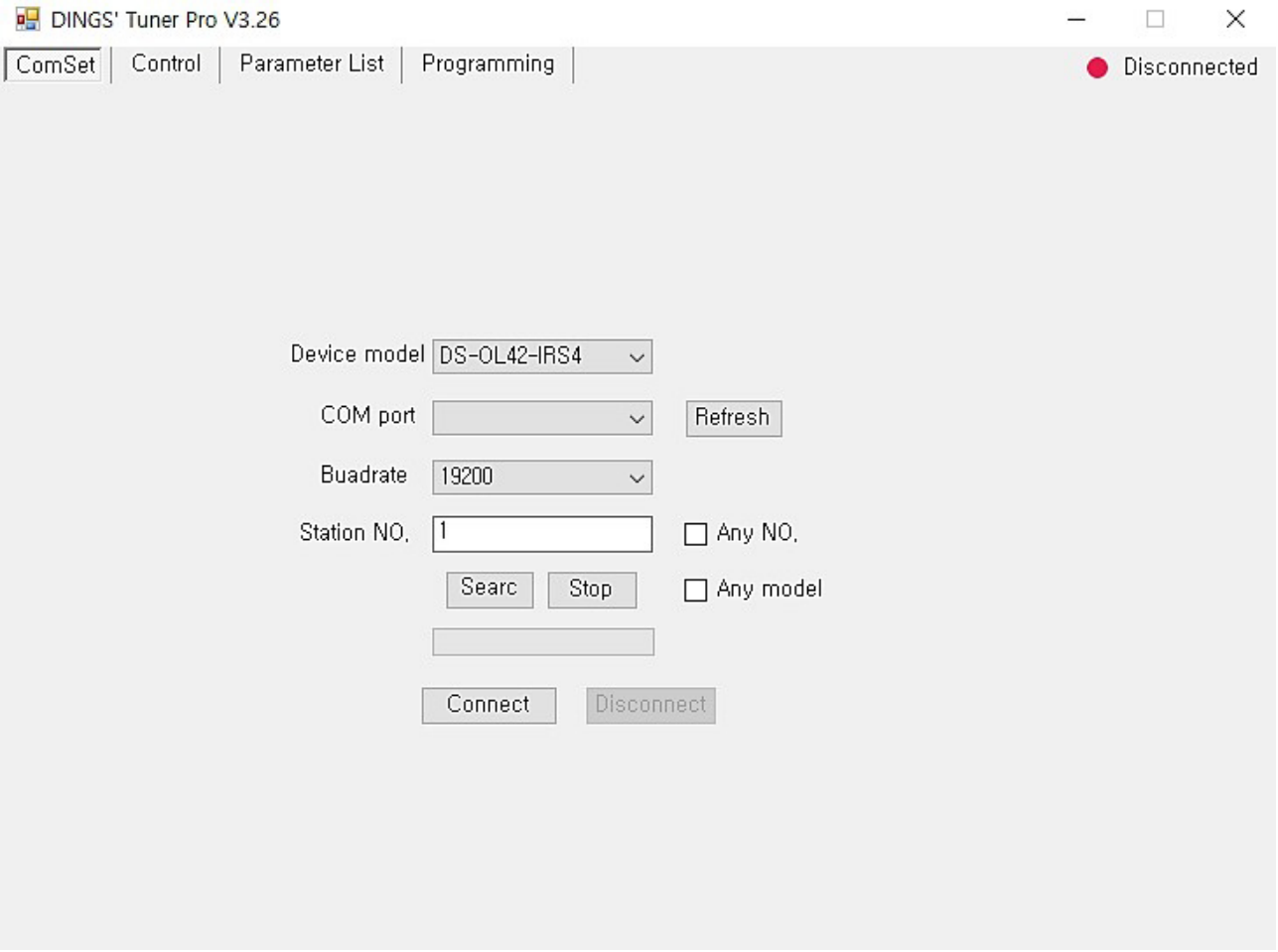
DINGS' Simple Tuner Pro GUI

DINGS
Precision Motion Specialist

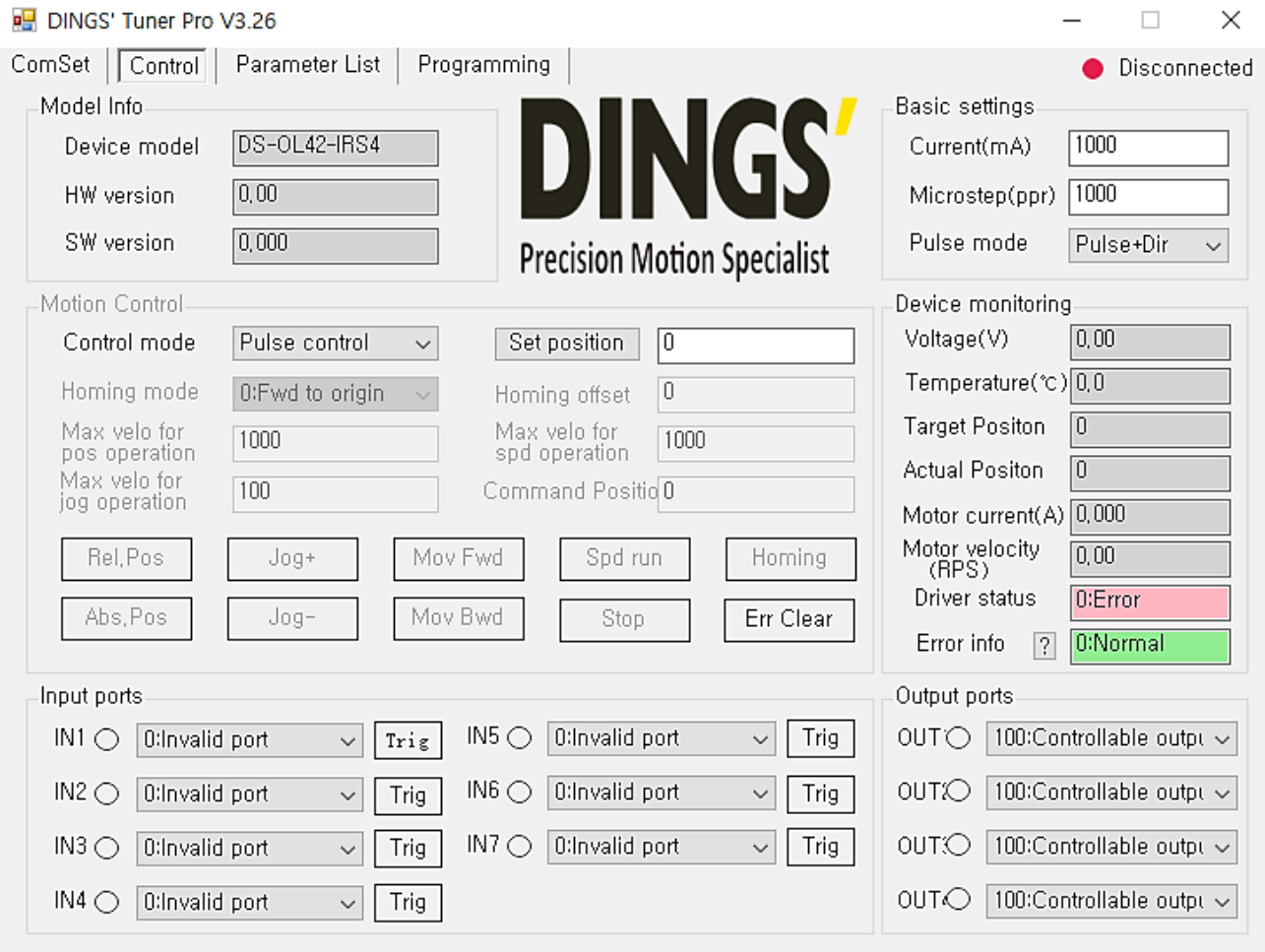
Table of Contents

1. Communication Setting Interface

- Device model：**Please choose DINGS Device Model from our software. Please click and scroll down to choose an appropriate model.**
- Port# : com3 （set port # ）
- Baudrate：19200 （communication rate ）
- Station number：1 （Driver station number ）
- Connection : The driver connects with the software

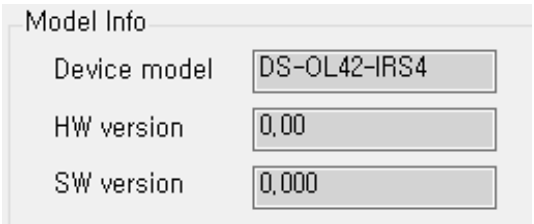


2. Device Monitoring Interface



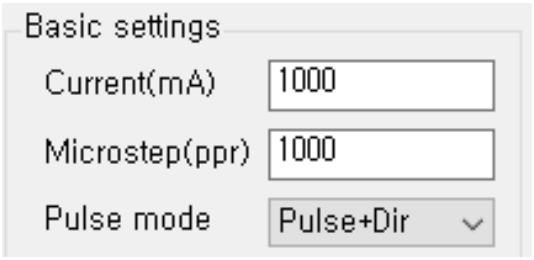
2.1 Product Information

- Product Model： Driver model
- Hardware version：
- Software version：



2.2 Basic Settings

- Current setting (Ma)：1000=1A
- resolution setting (ppr)：1000ppr/r
- Pulse mode：1 pulse, 2 pulse mode



2.3 Operation Parameters and Control

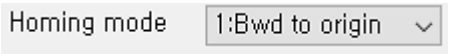
2.3.1 Control Mode

Internal pulse control RS485 communication control (if using RS485, please select internal pulse control mode)

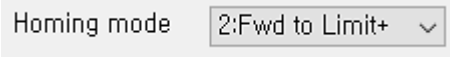
External pulse control : External Pul DIR Control

Return to Origin mode：0 Forward return to origin (detect origin sensor）

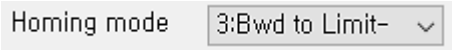
Return to Origin mode：1 Reverse to origin



Return to original point mode：2 Positive limit



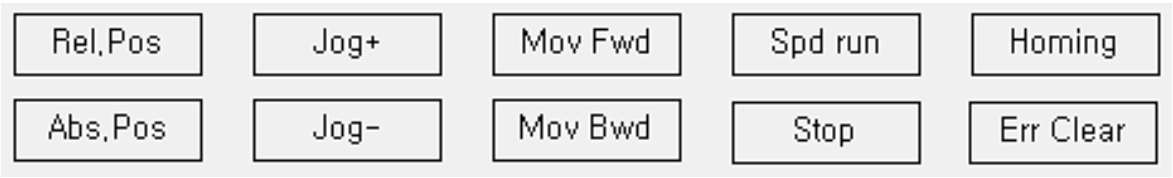
Return to origin mode：3 Reverse limit



- Position mode speed ：1000 (running speed)
- Jog mode speed ：100 (Jog speed)
- Set position: 0 (set the current position value)
- Original offset pulse ：0
- Velocity mode speed ：1000
- Operation pulse ：0（Number of shift pulses）

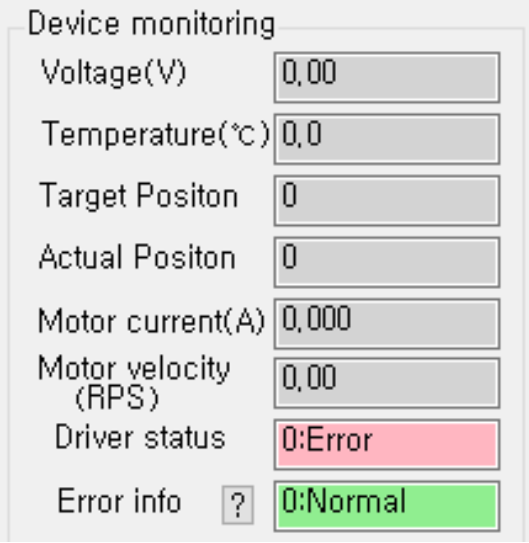
Here are controls

- Relative position : relative position movement
- Absolute position : absolute position movement
- Forward jogging : Jog+
- Reverse jogging : Jog_
- Positive movement : Move+
- Negative movement : Move-
- Constant speed mode : speed mode motion
- Deceleration stop: deceleration stop motion
- Return to origin : 回 Return to origin movement (find the origin sensor), clear alarm : clear drive alarm

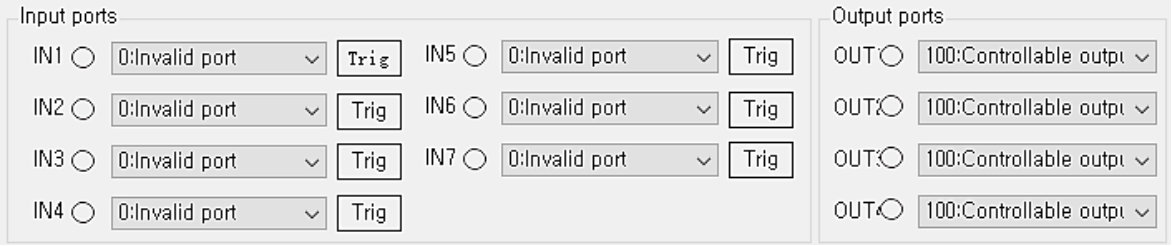


2.3.2 Device Monitoring

- Bus voltage (V) : Drive supply voltage
- Driver temperature (℃) ：driver chip temperature
- Command position : number of command position pulses
- Actual position ：Number of actual position pulses
- Motor electricity (A)：Running current
- Speed (RPS)：Operation speed
- Operation status：0 data error (error display code）
- Fault and code ：0 normal （fault code） ？： This can e opened by clicking to check the specific fault

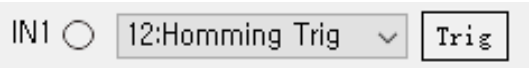


This following is the configuration of the input and output ports



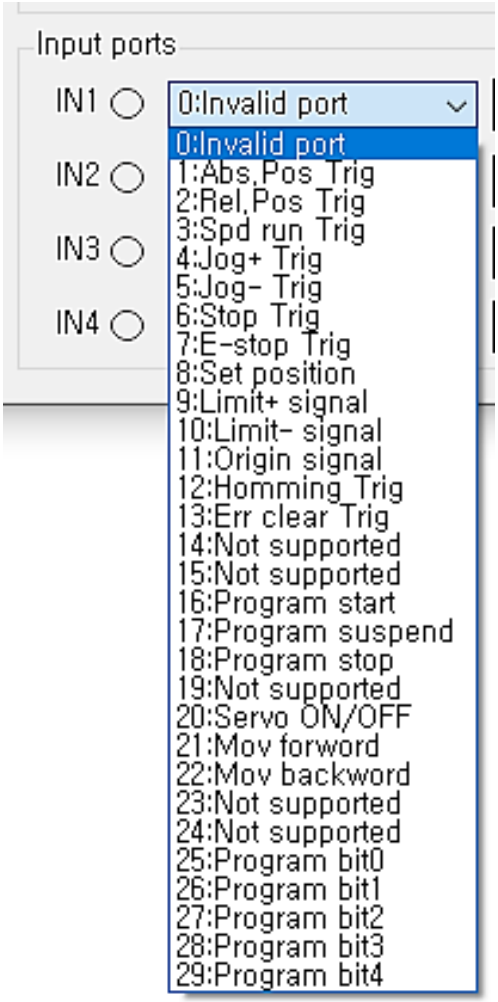
For example, IN1○ 12: return to the origin trigger.

Through the input port 1 trigger back to the origin mode, the trigger button can simulate the input signal



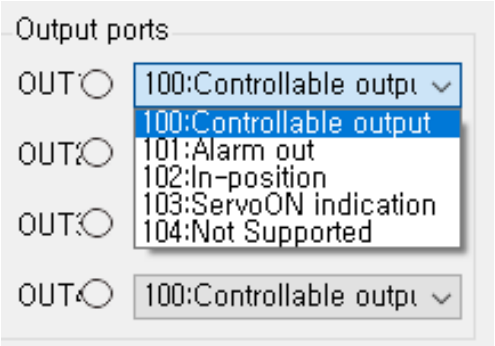
2.3.3 Input Port Definition

- 0 : Invalid port
- 1 : Absolute position start
- 2 : Relative position start
- 3 : Speed mode
- 4 : Jog+（Jog+）
- 5 : Jog-（Jog-）
- 6 : Slow down and stop
- 7 : Emergency stop
- 8 : Set position
- 9 : Positive limit signal
- 10 : Negative limit signal
- 11 : Origin signal
- 12 : Go back to Origin
- 13 : Alarm
- 14 : Reserve
- 15 : Reserve
- 16 : Multi axes start
- 17 : Multi axes pause
- 18 : Multi axes end
- 19 : Reserve
- 20 : Offline recovery
- 21 : Forward move (Move+)
- 22 : Reverse move (Move-)
- 23 : Reserve
- 24 : Reserve
- 25 : Multi axes Bit0
- 26 : Multi axes Bit1
- 27 : Multi axes Bit2
- 28 : Multi axes Bit3
- 29 : Multi axes Bit4



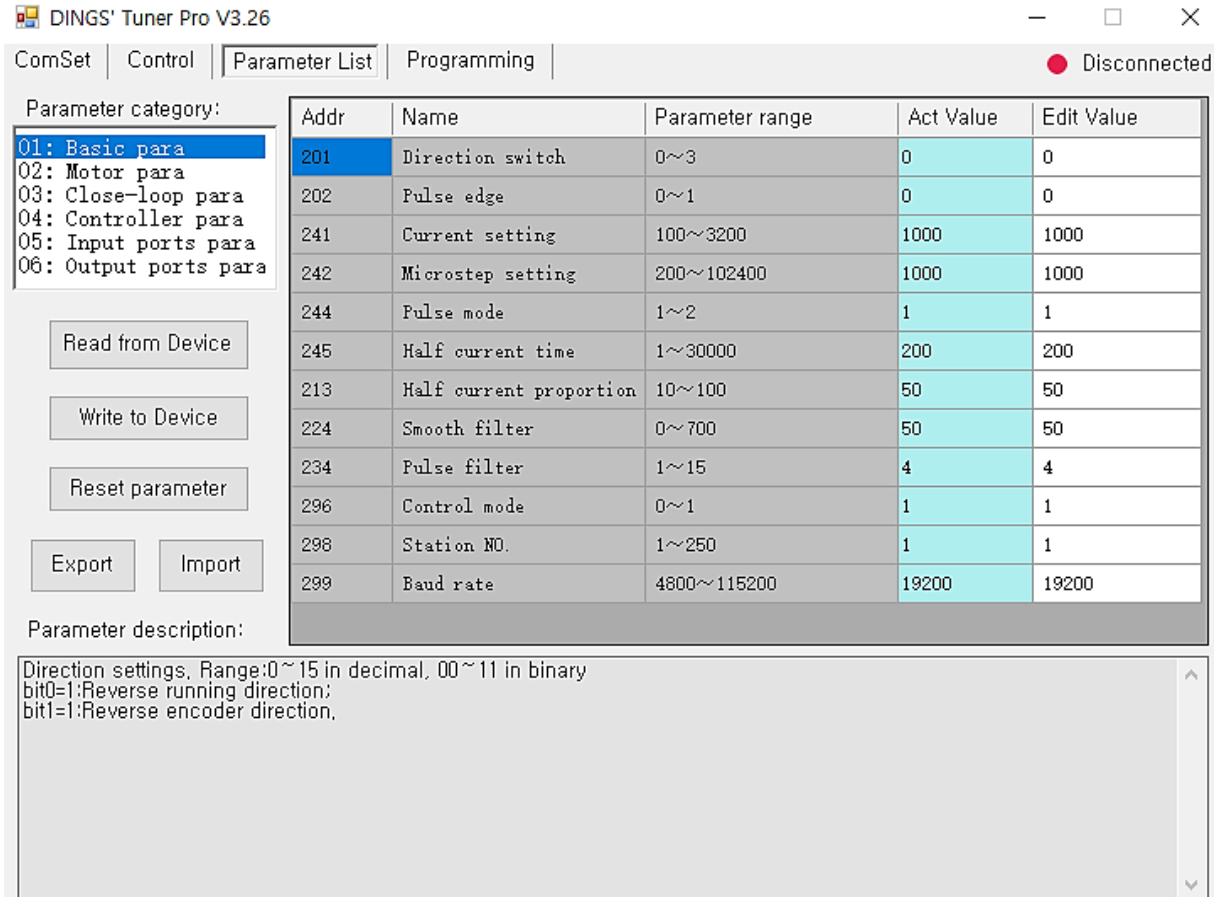
2.3.4 Output Port Configuration

- 100 : General output
- 101 : No alarm status output
- 102 : Positioning complete output
- 103 : Enable control
- 104 : Invalid



2.3.5 Parameter Setting

- 01 : Basic parameter setting
- 02 : Motor parameter setting
- 03 : Closed loop parameter setting
- 04 : Control parameter setting
- 05 : Input port setting
- 06 : Output port setting



2.3.5.1 Basic parameter setting

201 : motor direction switching 0~3

(select motor running direction and set encoder direction：

bit1=0 do not change encoder direction、bit1=1: change encoder direction；

bit0=0 do not change running direction、bit0=1: change running direction

202 : Effective edge of pulse signal 0~1（falling edge：set“0”，set“1”rising edge）

241 : Input current 100~3200（set current value, Unit mA，1000mA = 1A.）

242 : Set the resolution 200~102400（set the resolution value to indicate the number of ppr）

244 : Pulse mode 1~2（1：Pulse direction mode。2：2 pulse mode.）

245 : Half current 1~3000（Delay time for motor to enter half current state after stopping operation (ms).

213 : Half current ratio 10~100（stop current is the % of running current.）

224 : Angle filtering 0~700（Smaller value, smoother motor operation, but higher the delay. input range：1～100）

234 : Digital filter 1~15（The larger the filter coefficient of input pulse, the lower the frequency response of input pulse. Input range : 1～15）

296 : Operation mode 0~1（0：External pulse mode，1：Internal pulse mode.）

299 : Communication baud rate 4800~115200（communication baud rate setting It can be setting as 4800, 9600, 14400, 19200, 38400, 57600, 115200

Addr	Name	Parameter range	Act Value	Edit Value
201	Direction switch	0～3	0	0
202	Pulse edge	0～1	0	0
241	Current setting	100～3200	1000	1000
242	Microstep setting	200～102400	1000	1000
244	Pulse mode	1～2	1	1
245	Half current time	1～30000	200	200
213	Half current proportion	10～100	50	50
224	Smooth filter	0～700	50	50
234	Pulse filter	1～15	4	4
296	Control mode	0～1	1	1
298	Station NO.	1～250	1	1
299	Baud rate	4800～115200	19200	19200

2.3.5.2 Motor Parameter Setting (no modification)

200： Current loop Kp 50~20000

215： Current loop Ki 0~30000

222： Current loop Kp Maximum 50~30000

228： Current loop Ki Maximum 50~20000

225： Maximum current ratio 1000~2000

277： Anti-Resonance coefficient 0~500

295： Automatic detection coefficient 0~1

Addr	Name	Parameter range	Act Value	Edit Value
200	Current Kp	50～20000	800	800
215	Current Ki	0～30000	800	800
222	Current Kp Max	50～30000	800	800
228	Current Ki Max	50～20000	800	800
225	Current boost propor...	1000～2000	1000	1000
277	Anti resonance	0～500	100	100
295	APD switch	0～1	0	0

2.3.5.3 Closed Loop Parameter Setting (no modification)

2.3.5.4 Control Parameter Setting

301：Start speed 1~1000 (start speed, effective internal pulse 0.01rps ，unit.)

302： Stop speed 1~1000（stop speed, effective internal pulse 0.01rps ，unit.）

303： acceleration 5~10000 (acceleration, effective internal pulse rps2，unit)

304： deceleration 5~10000（deceleration，effective internal pulse, unit rps2）

305：return to origin mode 0~10

（back to the origin mode, the internal pulse is valid。

0：forward return to origin；

1：reverse to the origin；

2：forward return limit；

3：reverse return limit；

Other : Invalid.）

306：position mode speed 1~5000

(maximum speed used to run position command, internal pulse is valid, unit 0.01rps）

307：speed mode speed -5000~5000

(maximum speed used when running speed command, internal pulse is valid ，unit 0.01rps)

308：jog mode speed 1~5000

(maximum speed used in jog, internal pulse is valid, unit : 0.01rps)

309：return to origin speed 1~5000

(return to origin speed, internal pulse is valid, unit 0.01rps)

310：return to origin approach speed 1~5000

(return to origin approach speed, internal pulse is valid, unit 0.01rps)

311：return to origin offset pulse -2000000000~2000000000

(original signal offset is used as the new origin, internal pulse is valid)

317：forward soft limit -2000000000~2000000000

(positive soft limit setting, effective in internal pulse control mode.)

319 ： reverse soft limit -2000000000~2000000000

(reverse soft limit setting, valid in internal pulse control mode.）

325 : maximum acceleration 5~10000

(maximum acceleration, effective internal pulse, unit rps2)

Addr	Name	Parameter range	Act Value	Edit Value
301	Start velocity	1~1000	100	100
302	Stop velocity	1~1000	100	100
303	Acceleration	5~10000	50	50
304	Deceleration	5~10000	50	50
305	Homing mode	0~10	3	3
306	Max pos velocity	1~5000	1000	1000
307	Max spd velocity	-5000~5000	1000	1000
308	Max jog velocity	1~5000	100	100
309	Homing approach velo...	1~5000	200	200
310	Homing creep velocity	1~5000	100	100
311	Homing offset	-2000000000~2000000000	0	0
317	Soft limit+	-2000000000~2000000000	2000000000	2000000000
319	Soft limit-	-2000000000~2000000000	-2000000000	-2000000000
325	Max acceleration	5~10000	0	0

2.3.5.5 Input Port Settings

400~406 IN1~IN7 function selection

000：Invalid；

001：absolute motion, internal pulse valid : run to the specified position at the set speed and acceleration and deceleration

002：relative motion, internal pulse effective: run once at the set speed, acceleration, deceleration and pulse number

003：run at constant speed, effective internal pulse: run at the specified speed until the top speed is received

004：forward jog, internal pulse effective : forward jog according to the set speed, release to stop

005：reverse jog, internal pulse effective : reverse jog according to the set speed, release to stop

006：deceleration stop, internal pulse valid; deceleration stop: internal pulse; slow down and stop

007：emergency stop; stop the output immediately and give a warning

008：set position： set the current position according to the value of the set position；

009：positive limit signal；

010：negative limit signal；

011：origin signal；

012：return to the origin, internal pulse is effective : start to return to the origin according to the return to origin mode；

013：clear alarm；

014：reserved；

015：reserved；

016：multi axes operation starts, internal pulse is effective；

017：multi axes operation is suspended, internal pulse is effective；

018：multi axes operation is finished, internal pulse is effective；

019：reserved；

020：0-on enable，1-off enable

021：positive jog, effective internal pulse : forward movement for a certain distance

022：negative jog, effective internal pulse : reverse movement for a certain distance

023：reserved；

024：reserved；

025：Multi axes selection Bit 0, internal pulse is effective

026：Multi axes selection Bit 1，internal pulse is effective

027：Multi axes selection Bit 2，internal pulse is effective

028：Multi axes selection Bit 3，internal pulse is effective

029： Multi axes selection Bit 4，internal pulse is effective

Addr	Name	Parameter range	Act Value	Edit Value
400	IN1 function	0~30	12	12
401	IN2 function	0~30	0	0
402	IN3 function	0~30	0	0
403	IN4 function	0~30	0	0
404	IN5 function	0~30	0	0
405	IN6 function	0~30	0	0
406	IN7 function	0~30	0	0
429	Input port logic	0~65535	0	0

429：Input port logic

(input port logic, input range :1～65535，corresponding port [8:1]:00000000～11111111)

2.3.5.6 Output Port Settings

420~423 Out1~ Out 4 function selection

100：general output, the status is controlled by the value of address：0459 value control of the system；

101：alarm output function: there is output signal when no alarm, there is no output signal when alarm. It can be used for holding brake control output function and external relay is required after optocoupler output
(brake lead is connected to normally open contact, that is, it is powered on when there is no alarm)

102：positioning completion output function. output signal when the motor position deviation is less than the set value. There is no output signal when the motor is running；

103：enable control output, there is output signal when offline but no output signal when enabling；

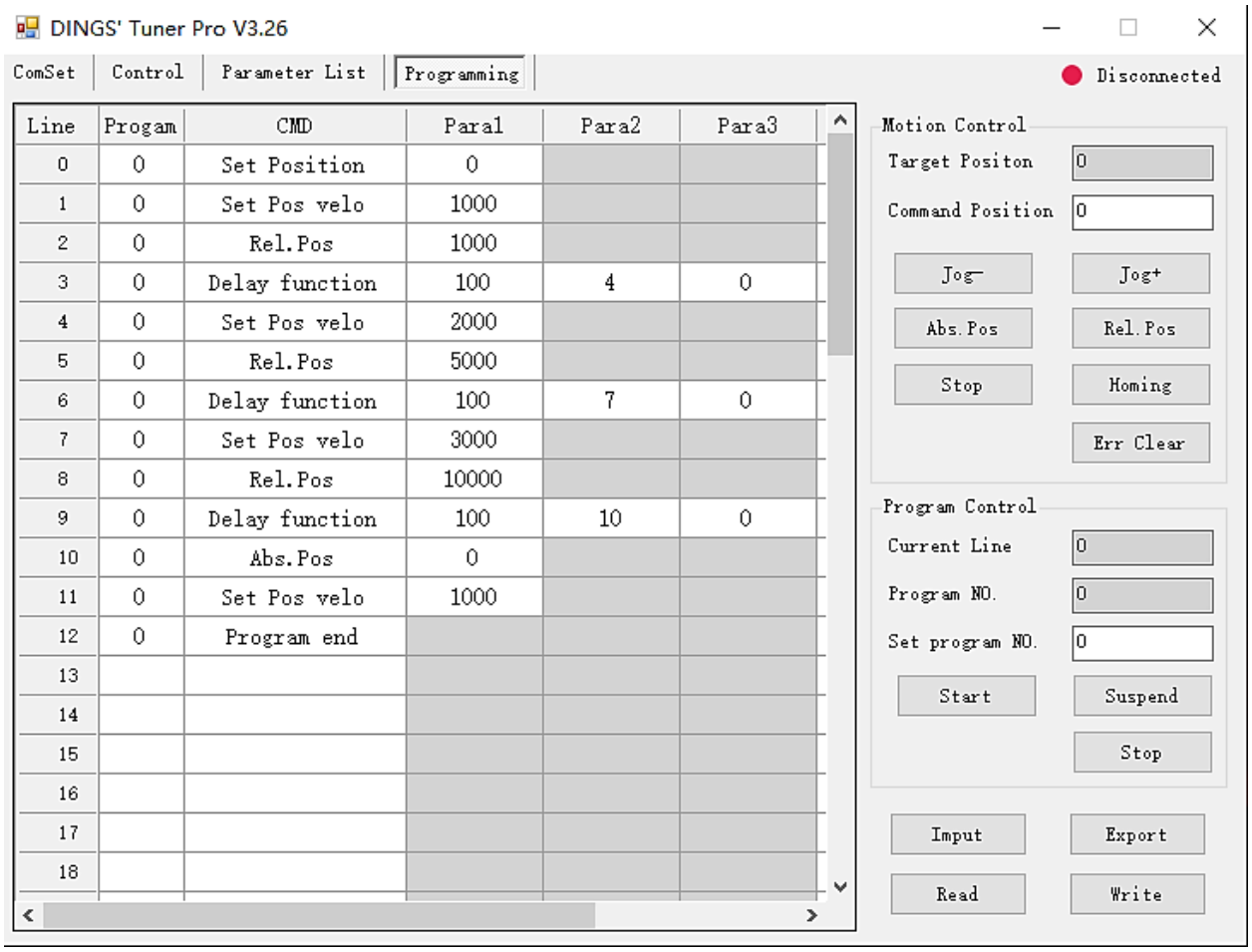
104：invalid.

(default：101)

Addr	Name	Parameter range	Act Value	Edit Value
420	OUT1 function	100～104	100	100
421	OUT2 function	100～104	100	100
422	OUT3 function	100～104	100	100
423	OUT4 function	100～104	100	100
428	Controllable output set	0～255	0	0
430	Output port logic	0～255	0	0

- Parameter form driver
- Parameter to driver
- Restore the factory
- Export Parameter
- Import parameters

2.3.6 Multi Axes Operation



2.3.6.1 Motion Control

The motor position shows the current position

Running pulse input current pulse number forward jog : Jog+

Jog in reverse : Jog-

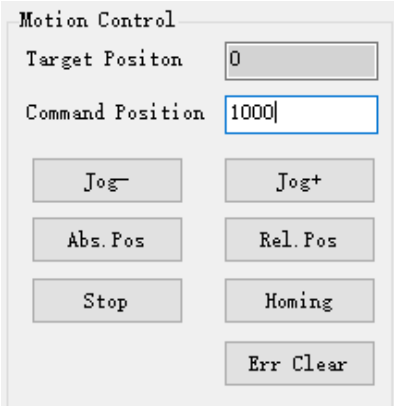
Absolute position : absolute displacement

Relative position : relative displacement

Deceleration stop : Deceleration stop displacement

Back to origin : back to origin displacement

Clear alarm : clear alarm



2.3.6.2 Multi Axes Control

Running line number : the current running paragraph number

Port selected axis number

Specify axis number

Start multi axes : start multi axes operation

Pause multi axes : pause multi axes operation

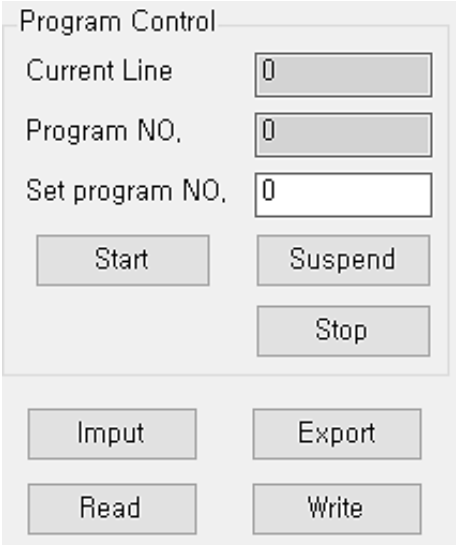
Stop multi axes : stop multi axes operation

Import from file : import multi axes run program from desktop

Save to file : save multi axes run program to desktop

Read multi axes number : read multi axes program from driver

Write multi axes number : write the multi axes running program to the driver



2.3.6.3 Control Instruction

Absolute position : absolute position movement

Relative position : relative position movement

Constant speed operation : speed mode operation

Deceleration stop : set the stop position according to acceleration and deceleration

Speed setting position : set the current position

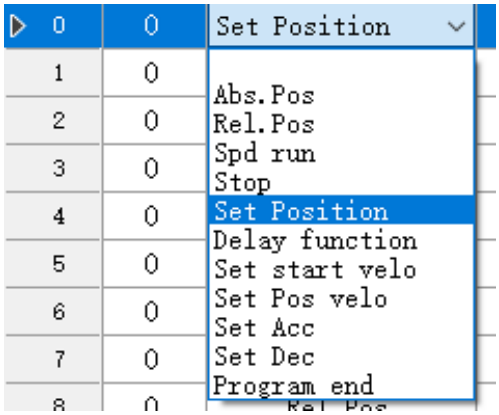
Delay jump : Delay instruction

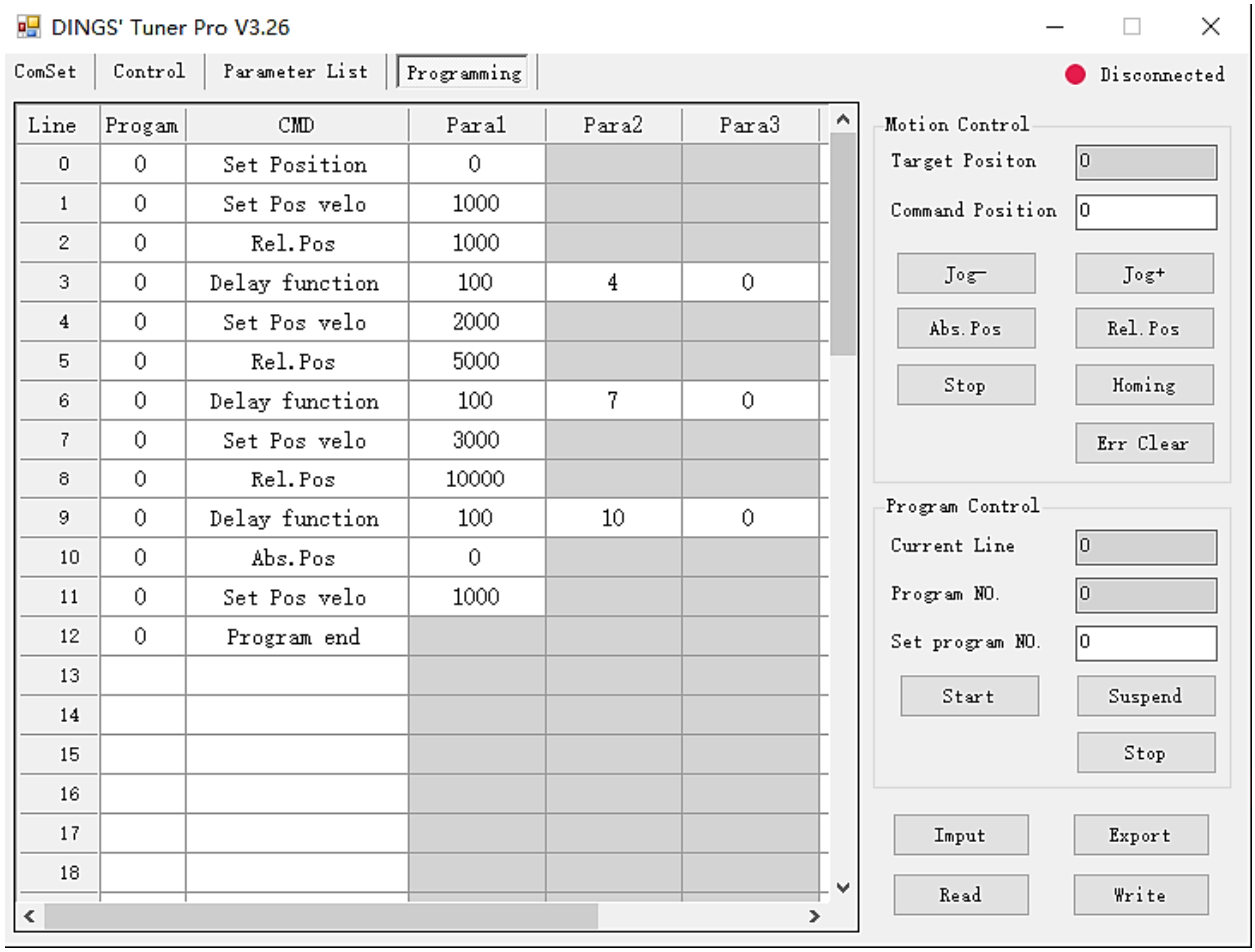
Setting the starting speed : starting speed

Set acceleration : acceleration

Setting deceleration : deceleration

End of multi axes movement : end





For example from above picture

0 set position=0

1 set position speed=1000

2 displacement=1000

3 delay 100ms to jump to line number 4

4 set position speed=2000

5 movement distance=5000

6 delay 100ms to jump to line number 7

7 set position speed=3000

8 displacement=10000

9 delay 100ms jump to line number 10

10 shift to absolute position 0

11 set displacement speed=1000

12 END

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