



位置模式加減速及 Jerk 設定

Date: May 6th, 2020

1. 在位置, 速度, 加速度表中, 輸入需要的設定數值. 如下所示.

Position management: Pos-Tab cyclic

Pos-Tab cyclic

Maximum Speed: 2500 Selection index: ---

Pos. actual value: 0 Pos number: 1

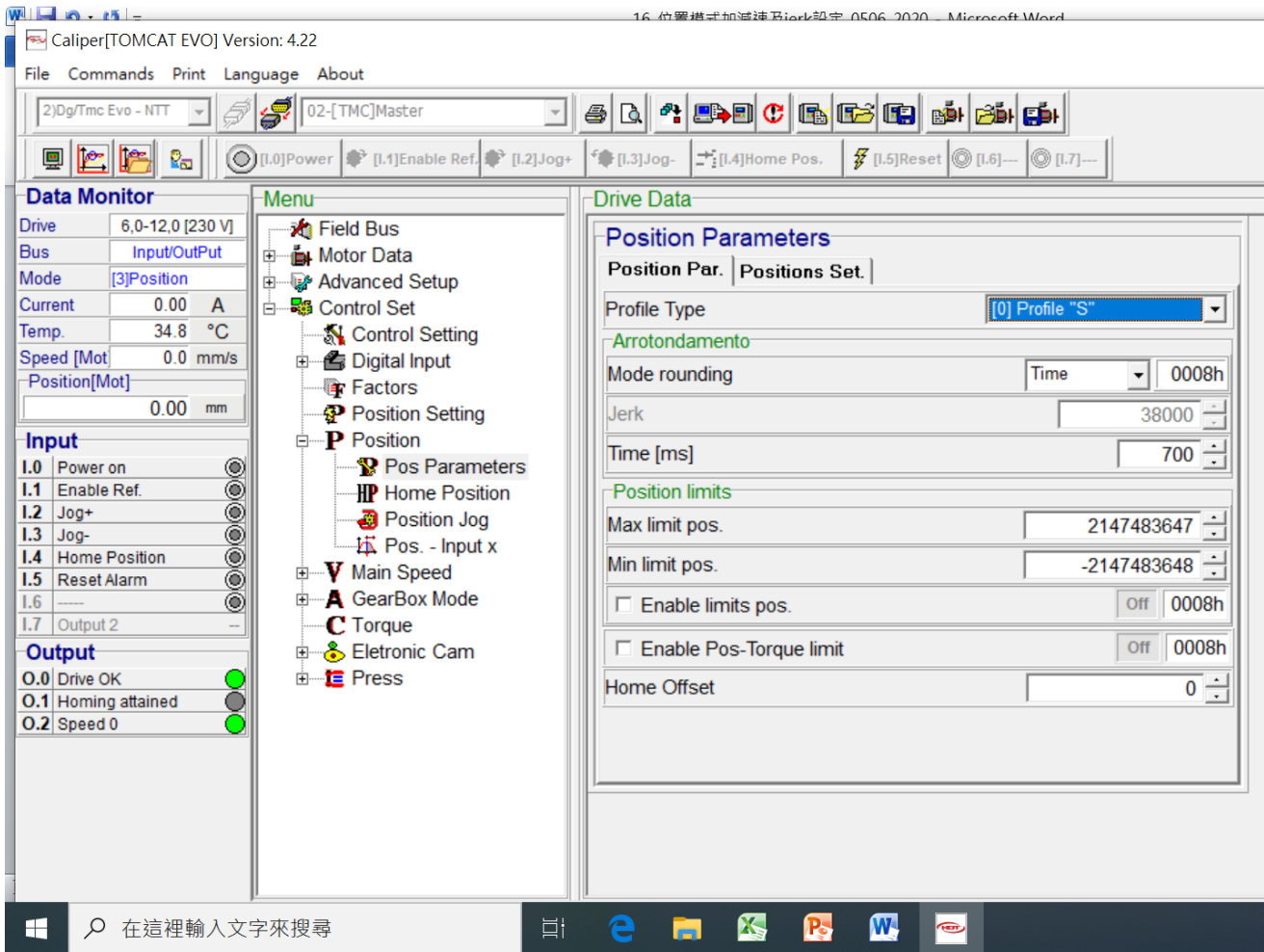
Cyclic Positions

Mode: Automatic Max cycles: 1

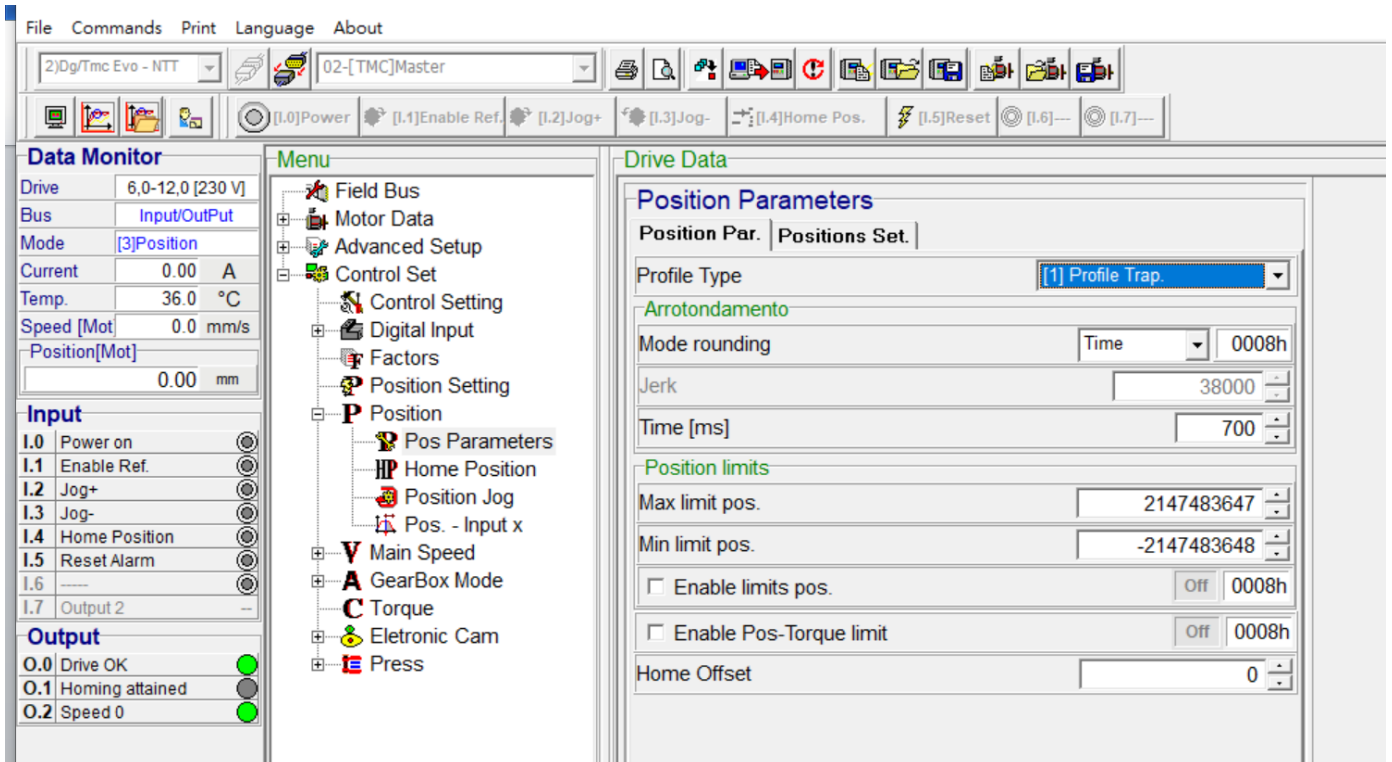
Cycle: Cyclic Index: 2

N?	Position	Velocity	Accel.	Decel.	Time	Abso./Rela.	Vel. mode
1	0	1000	5000	5000	1500	Absolute	Tab-rec data
2	600	1000	5000	5000	1500	Absolute	Tab-rec data
3	650	500	5000	5000	500	Absolute	Tab-rec data
4	0	1500	5000	5000	500	Absolute	Tab-rec data
5	650	500	5000	5000	500	Absolute	Tab-rec data
6	350	1000	5000	5000	500	Absolute	Tab-rec data
7	393216	1000	10000	10000	0	Absolute	Tab-rec data
8	458752	1000	10000	10000	0	Absolute	Tab-rec data
9	524288	1000	10000	10000	0	Absolute	Tab-rec data
10	589824	1000	10000	10000	0	Absolute	Tab-rec data
11	655360	1000	10000	10000	0	Absolute	Tab-rec data

2. 若是需要用 S 型加減速, 則需設定 Jerk 值或是 time, 如下所示. 在 Position → Position Para.,
3. Profile type = [0] profile "S"; Mounding round = Time; Time[ms]= 700; 或是
Profile type = [0] profile "S"; Mounding round = Jerk; Jerk = 38000.
4. 計算的公式: Jerk = Acceleration/ ACCELERATION Time; Acceleration = Velocity/VELOCITY Time



5. 若是使用梯形加減速, 設定 Profile type = [1] profile "Trap", 則是遵照上表值來執行, 此時 Mounding round 的設定 Time 或 Jerk 都無效.



6. 下面實測結果, 可以更明白做動效果.

LM Jerk test1		Test12(用此數據)	
		Master	Slave
Current loop, Kp		466	400
	Ki	257	200
	Kd	1	1
Velocity loop, Kp		1600	1600
	ki	200	200
	Kd	1	1
Position loop, Kp		1	200
	Velocity, mm/s	1000	480
	Acce/Dece, mm/s^2	5000	10000
	計算的加速時間(V/A), s	0.2	0.048
	Profile type	Profile S	Profile trap
	Mode rounding	Time	
	Jerk, mm/s^3		
	Time, s (注意:Caliper是用ms)	0.7	
	Note	看出rounding效果	
	計算的Jerk值(A/t), mm/s^3	7143	
	計算的Jerk時間(A/J), s		
Results:			
	distance	600	600
	全行程時間distance total time, s	1.32	1.3
	Max. Speed	865	480
	測量的Acce/Dece time, s	0.7	0.05
	dewell time		
		水瓶OK, 水穩定	水瓶很不穩定

以下空白



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