

[ODT] G5 Torque Mode Setup.

본 Technical Note는 Omron사의 CX-Driver 프로그램을 사용하여 G5 Driver Torque Control 하기 위한 Driver 설정 Manual 입니다.

- 1. Driver 통신 연결.
- ▶ CX-One 실행 후 File > New 를 선택합니다.

₿ c	X-Drive							
Eile	<u>V</u> iew <u>D</u> rive <u>T</u> ools <u>H</u> elp							
	New	Ctrl+N						
6	<u>O</u> pen	Ctrl+O						
	Open Workspace	Ctrl+W						
Ē.	Close Workspace							
	Save Workspace							
	Save As Workspace							
	Import							
	1 C:#Users#SM#Desktop#Drive1.sdd							
	Recent Workspaces							
	E <u>x</u> it							

▶ 팝업창에 사용하는 Driver 선택를 선택합니다.

lew Drive		×
Drive Name		
Drive1		
Drive Type		
Servo	V R88D-KT	✓ Settings
	R88D-KT01H VER:	:1.0x
Connection Type		
Direct (USB)		 Settings
Comments		
Type your own com	nent in here.	~
		×
ОК	Cancel	Help

> Driver -> Work Online 을 선택하여 통신 연결을 시도 합니다.





Feb 03, 2021

▶ Drive 1 은 Online으로 정상 통신 연결 중인 상태이며 Parameter Editor 선택하여 설정을

시작합니다.



 Select All -> Selection From Drive 를 선택하면 Driver에 적용 되어 있던 Parameter를 불러 올 수 있으며 Drive Value에 적용 되어 있는 Parameter 확인이 가능합니다.

er Editor *]	liter *] otation Direction Switching A-side axis, clockwise is referred to as CW and counterclockwise as C e Drive Value Default Range inction 0 </th <th></th> <th></th> <th></th> <th colspan="5">or *]</th>					or *]				
Rotatio	on Direction	Switching	nterclockwise as (CCW		<	tati	on Direction S	Switching	
load-side axi	s, clockwise is referre		Increase as w				ade ax	is, clockwise is referred	to as C w and count	
Value	Drive Value	Default	Range	Units	Rest	Â		Drive Value	Default	
rd direction		1 🔊 Und	lo				ction.	0: Forward direction	1	
ie control (0					trol (2: Torque control (a	0	
on stability		1 🗳 <u>C</u> op	у				ability	1: Focus on stability	1	
13		13 🛍 Pas	te					13	13	
631		25 Sele	ect All					631	250	
coupler input		0 Res	et Selection				er inpu	0: Photocoupler input	0	
notor rotat		0					rotat	0: The motor rotate	0	
se pulse/Fo		1 Sele	ection <u>T</u> o Drive		\checkmark		se/Fo	1: Reverse pulse/For	1	
0000		100 Sele	ection F <u>r</u> om Drive	e(s)				10000	10000	
0		0 Evp	ort (Excel/PDE/HTM					0	0	
0000		100	ore (Excel/TET/TITIV	iii.)				10000	10000	
5000		2500	1 to 262144	P/r	\checkmark			5000	2500	
B logic: No		0	0 to 3		\checkmark		c: No	0: Phase B logic: Not	0	
300		500	0 to 500	%				300	500	
00000		100000	0 to 1342177	Comma				100000	100000	
; increment		1	0 to 2		\checkmark		ment.	1: Use as increment	1	
generation		3	0 to 3				ation	3: No Regeneration	3	
reration loa		0	0 to 4				n loa	0: Regeneration loa	0	
48.0		48.0	0.0 to 3000.0	x 1/s				48.0	48.0	
27.0		27.0	0.1 to 3276.7	Hz				27.0	27.0	
21.0		21.0	0.1 to 1000.0	ms				21.0	21.0	
0		0	0 to 5					0	0	
0.84		0.84	0.00 to 25.00	ms				0.84	0.84	
57.0		57.0	0.0 to 3000.0	0.0 to 3000.0 x 1/s				57.0	57.0	
27.0		27.0	0.1 to 3276.7	0.1 to 3276.7 Hz				27.0	27.0	
000.0		1000.0	0.1 to 1000.0	ms				1000.0	1000.0	
0		0	0 to 5			~		0	0	



- 2. Parameter Setting
- ▶ Pn000 : Motor 방향 설정.
 - 0 : CW
 - 1 : CCW
- ▶ Pn001 : 제어 모드 선택.
 - 2 : Torque Mode
- ▶ Pn011 : 분해능
 - 4체배로 2500 설정 시 한바퀴당 10000Pulse 출력
- ▶ Pn321 : Speed Limit 설정.
 - 모터 구동 사양에 맞게 설정.
- Pn522 : Torque Limit (0~500%)
 - 0~500% (Max 500% 로 설정)
- 3. Driver Setting 적용.
- > Select To Driver 선택하여 Parameter 전송 후 Driver 전원 Reset 하면 적용이 완료 됩니다.



🖹 Drive1 - [R88D-KT01H VER:1.2x+R88M-K10030T-S Parameter Editor *]													
Γ	Pn002 - Realtime Autotuning Mode Selection												
S	Set the operating mode for realtime autotuning.												
		Index	Description	Value		Drive Value		Default	Range	Units	Rest	^	
	۲	Pn000	Rotation Direction Switching	0: Forward direction	on	0: Forward direction		1	0 to 1		\checkmark		
	۲	Pn001	Control Mode Selection	2: Torque control	(2: Torque control (a		0	0 to 6				
l F	۲	Pn002	Realtime Autotuning Mode Selec	1: Focus on stabili	ty	1: Focus on stability		1	0 to 6				
	۲	Pn003	Realtime Autotuning Machine Rig	13		13		13	0 to 31				
	۲	Pn004	Inertia Ratio	631		631		250	0 to 10000	%			
	Ð	Pn005	Command Pulse Input Selection	0: Photocoupler in	nput	0: Photocoupler input		0	0 to 1				
	Ð	Pn006	Command Pulse Rotation Directio	0: The motor rota	at	0: The motor rotate		0	0 to 1				
	۲	Pn007	COMMAND PULSE mode Selection	1: Reverse pulse/	19	Undo		1	0 to 3				
	۲	Pn008	Electronic Gear Integer Setting	10000		Capu		10000	0 to 1048576	Pulse(s)	\checkmark		
	۲	Pn009	Electronic Gear Ratio (Numerator)	0			<u>c</u> opy	[0	0 to 1073741			
	Ð	Pn010	Electronic Gear Ratio (Denominat	10000		Paste	[10000	1 to 1073741				
	۲	Pn011	Encoder Dividing Numerator	5000		Select All	[2500	1 to 262144	P/r	\checkmark		
	۲	Pn012	Encoder Output Direction Switch	0: Phase B logic: N		Reset Selection	[0	0 to 3		\checkmark		
	۲	Pn013	No. 1 Torque Limit	300		Selection To Drive		500	0 to 500	%			
	Ð	Pn014	Error Counter Overflow Level	100000	er	Selection From Drive		100000	0 to 1342177	Comma			
	۲	Pn015	Operation Switch When Using A	1: Use as increme				1	0 to 2		\checkmark		
	۲	Pn016	Regeneration Resistor Selection	3: No Regeneration		Export (Excel/PDF/HTM	L) [3	0 to 3		\checkmark		
	۲	Pn017	External Regeneration Resistor S	0: Regeneration k	oa	0: Regeneration loa		0	0 to 4		\checkmark		
	۲	Pn100	Position Loop Gain 1	48.0		48.0		48.0	0.0 to 3000.0	x 1/s			
	۲	Pn101	Speed Loop Gain 1	27.0		27.0		27.0	0.1 to 3276.7	Hz			
	۲	Pn102	Speed Loop Integration Time Co	21.0		21.0		21.0	0.1 to 1000.0	ms			
	۲	Pn103	Speed Feedback Filter Time Con	0		0		0	0 to 5				
	۲	Pn104	Torque Command Filter Time Co	0.84		0.84		0.84	0.00 to 25.00	ms			
	۲	Pn105	Position Loop Gain 2	57.0		57.0	57.0		0.0 to 3000.0	x 1/s			
	۲	Pn106	Speed Loop Gain 2	27.0		27.0		27.0	0.1 to 3276.7	Hz			
	۲	Pn107	Speed Loop Integral Time Const	1000.0		1000.0	1000.0		0.1 to 1000.0	ms			
	۲	Pn108	Speed Feedback Filter Time Con	0		0		0	0 to 5			¥	