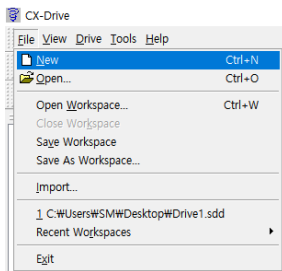# Technical Note

Feb 03, 2021
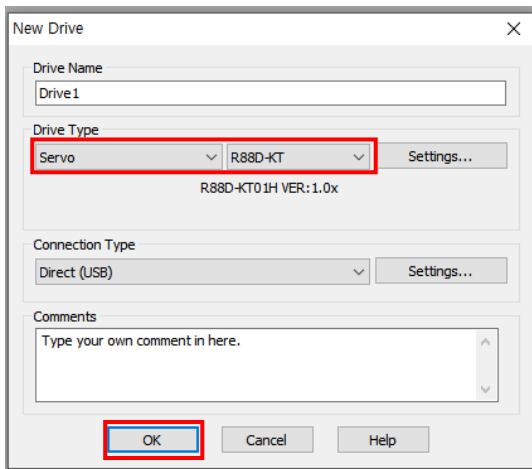
[ODT] G5 Torque Mode Setup.

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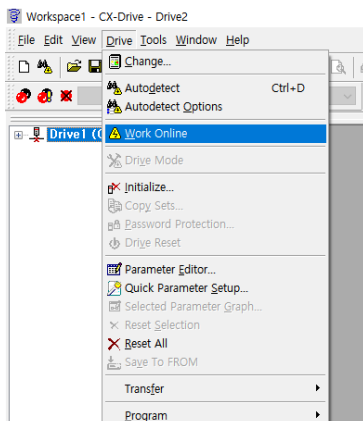
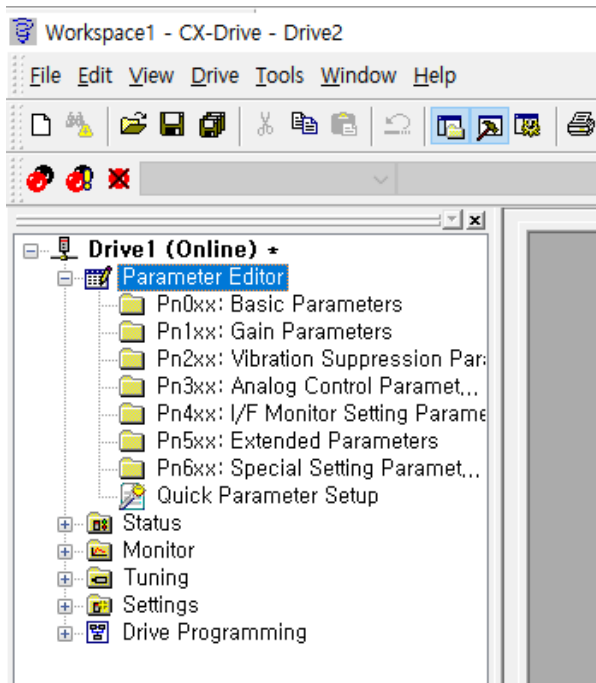1. Driver 통신 연결.

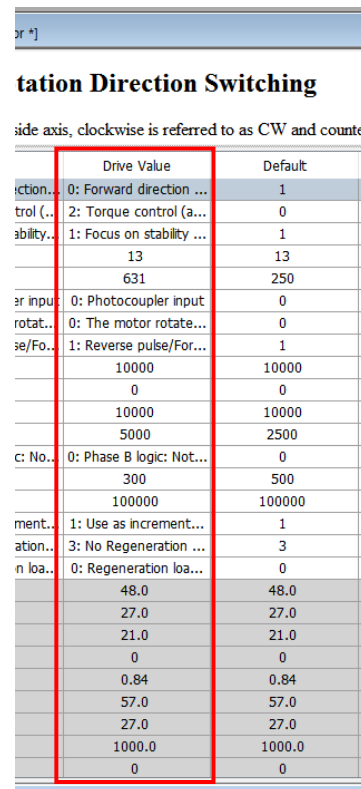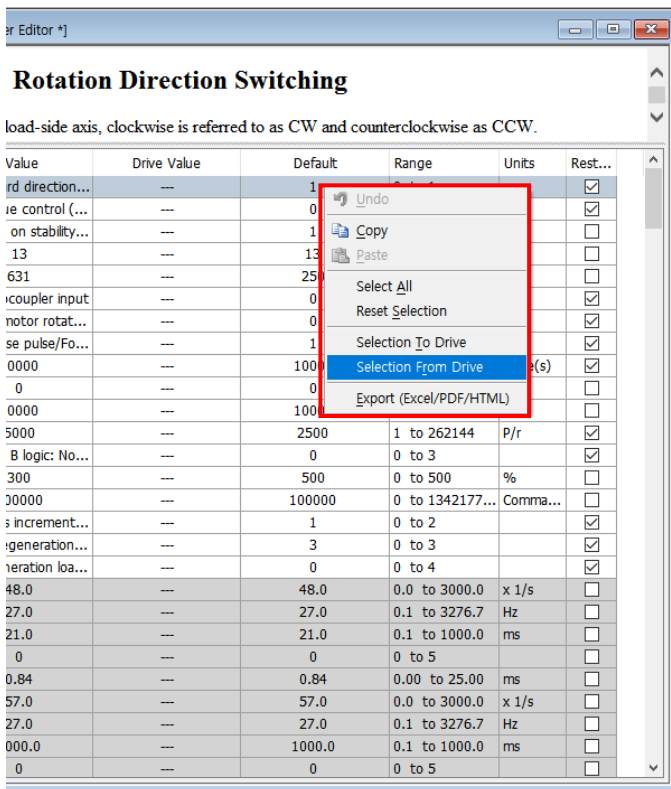➢ CX-One 실행 후 File > New 를 선택합니다.

➢ 팝업창에 사용하는 Driver 선택를 선택합니다.

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

➢ 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.

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 *]

Pn002 - Realtime Autotuning Mode Selection

Set the operating mode for realtime autotuning.

...	Index	Description	Value	Drive Value	Default	Range	Units	Rest...
🔴	Pn000	Rotation Direction Switching	0: Forward direction...	0: Forward direction ...	1	0 to 1		☑
🔴	Pn001	Control Mode Selection	2: Torque control (...	2: Torque control (a...	0	0 to 6		☑
🔴	Pn002	Realtime Autotuning Mode Selec...	1: Focus on stability...	1: Focus on stability ...	1	0 to 6		☐
⚫	Pn003	Realtime Autotuning Machine Rig...	13	13	13	0 to 31		☐
🔴	Pn004	Inertia Ratio	631	631	250	0 to 10000	%	☐
⚫	Pn005	Command Pulse Input Selection	0: Photocoupler input	0: Photocoupler input	0	0 to 1		☑
⚫	Pn006	Command Pulse Rotation Directio...	0: The motor rotat...	0: The motor rotate...	0	0 to 1		☑
⚫	Pn007	COMMAND PULSE mode Selection	1: Reverse pulse/F		1	0 to 3		☑
⚫	Pn008	Electronic Gear Integer Setting	10000	🔄 Undo	10000	0 to 1048576	Pulse(s)	☑
⚫	Pn009	Electronic Gear Ratio (Numerator)	0	📋 Copy	0	0 to 1073741...		☐
⚫	Pn010	Electronic Gear Ratio (Denominat...	10000	📋 Paste	10000	1 to 1073741...		☐
🔴	Pn011	Encoder Dividing Numerator	5000	Select All	2500	1 to 262144	P/r	☑
⚫	Pn012	Encoder Output Direction Switch...	0: Phase B logic: N	Reset Selection	0	0 to 3		☑
🔴	Pn013	No. 1 Torque Limit	300	Selection To Drive	500	0 to 500	%	☐
⚫	Pn014	Error Counter Overflow Level	100000	Selection From Drive	100000	0 to 1342177...	Comma...	☐
⚫	Pn015	Operation Switch When Using A...	1: Use as incremer	Export (Excel/PDF/HTML)	1	0 to 2		☑
⚫	Pn016	Regeneration Resistor Selection	3: No Regeneratio		3	0 to 3		☑
⚫	Pn017	External Regeneration Resistor S...	0: Regeneration loa...	0: Regeneration loa...	0	0 to 4		☑
⚫	Pn100	Position Loop Gain 1	48.0	48.0	48.0	0.0 to 3000.0	x 1/s	☐
⚫	Pn101	Speed Loop Gain 1	27.0	27.0	27.0	0.1 to 3276.7	Hz	☐
⚫	Pn102	Speed Loop Integration Time Co...	21.0	21.0	21.0	0.1 to 1000.0	ms	☐
⚫	Pn103	Speed Feedback Filter Time Con...	0	0	0	0 to 5		☐
⚫	Pn104	Torque Command Filter Time Co...	0.84	0.84	0.84	0.00 to 25.00	ms	☐
⚫	Pn105	Position Loop Gain 2	57.0	57.0	57.0	0.0 to 3000.0	x 1/s	☐
⚫	Pn106	Speed Loop Gain 2	27.0	27.0	27.0	0.1 to 3276.7	Hz	☐
⚫	Pn107	Speed Loop Integral Time Const...	1000.0	1000.0	1000.0	0.1 to 1000.0	ms	☐
⚫	Pn108	Speed Feedback Filter Time Con...	0	0	0	0 to 5		☐