

■ wCK protocol definition

Command		Command Packet														Response Packet											
		byte 1	byte 2		byte 3		byte 4		byte 5		byte 6		byte 7		byte 8		byte 9		byte 10		...	byte	byte	byte			
		header	Torq	ID	target position		check sum																				
		0xFF	0~4	0~30	0~254		(note1)																				
			0~4	31	X	lastID+1		ID0 target	ID1 target	ID2 target	ID3 target	ID4 target	ID5 target	ID6 target	...	lastID-1 target	lastID target	check sum		(note2)							
			mode	ID	X		check sum																				
			5	0~30																							
			6	ID	mode	X		(note1)																			
			6	0~30	1																						
				3=CCW	speed																						
				4=CW	0~15																						
				31	2	X																					
Configure Command		Baudrate Set	7	ID	mode	new baudrate		= byte4		check sum																	
					8	0~191		(note3)																			
		P,D gain Set			9	new P gain		new D gain																			
						1~254		0~254																			
		P,D gain Read			10	X		= byte4																			
		Runtime P,D gain Set			11	P gain		D gain																			
						1~254		0~254																			
		ID Set			12	new ID		= byte4																			
						0~254																					
		SPEED Set			13	speed		accel																			
						0~30		20~100																			
		SPEED Read			14	X		= byte4																			
		Over Load Set			15	new overcur T		= byte4																			
						33~199																					
		Over Load Read			16	X		= byte4																			
		Boundary Set			17	new L bound		new U bound																			
						0~254		0~254																			
Boundary Read			18	X		= byte4																					
I gain Set			21	new I gain		=byte4																					
				0~10																							
I gain Read			22	X		=byte4																					
Runtime Speed Set			23	speed		accel																					
				0~30		20~100																					
Runtime I gain Set			24	I gain		I gain																					
				0~10		0~10																					
Extended Command		I/O Write			100	X		=byte4		check sum																	
		I/O Read			101	X		=byte4																			
		Motion DATA Write			150	Motion Count		Motion Command 1		Motion DATA 1		Motion Command 2		Motion DATA 2		Motion Command 3		Motion DATA 3		...		check sum		(note4)			
						0~8		0~254		0~254		0~254		0~254		0~254		0~254									
Motion DATA Read			151	X		=byte4		check sum		(note3)																	
10bit Command		Position Move		x	200	ID		Torq		target(H3)		target(L7)		check sum		(note6)											
						0~253		0~254		0~1023		X															
Position Read			201	ID		=byte4		check sum		(note5)																	
				0~253																							

※ X : don't care
 ※ note1 : CheckSum = (byte2 XOR byte3) AND 0x7F
 ※ note2 : CheckSum = (byte4 XOR ... (byte(lastID+3)) AND 0x7F
 ※ note3 : CheckSum = (byte2 XOR byte3 XOR byte4 XOR byte5) AND 0x7F
 ※ note4 : CheckSum = (byte2 XOR byte3 XOR ... byteN) AND 0x7F
 ※ note5 : CheckSum = (byte2 XOR byte3 XOR ... byteN) AND 0x7F
 ※ note6 : CheckSum = (byte2 XOR byte3 XOR byte4 XOR byte5 XOR byte6 XOR byte7) AND 0x7F
 ※ Motion DATA commands: Self-running motion mode is activated only when the No of Instruction is more than 0 .

Response Packet	
byte 1	byte 2
7 6 5 4 3 2 1 0	7 6 5 4 3 2 1 0
Load	position
0~254	0~254
Load	position
0~254	0~254
byte3	position
	0~254
Rotation Count	position
	0~254
ID	position
	0~254
new baudrate	new baudrate
new P gain	new D gain
P gain	D gain
P gain	D gain
new ID	new ID
new Speed	new Accel
Speed	Accel
new Over Load	new Over Load
Over Load	Over Load
new L bound	new U bound
L bound	U bound
new I gain	new I gain
I gain	I gain
P gain	D gain
D/O Value	D/O Value
D/O Value	8bit AD
Motion Count	Motion Count
0~8	0~8
Motion Count	Motion Count
0~8	0~8
position(H3)	position(L7)
0~1023	X
position(H3)	position(L7)
0~1023	X