M5Stack Unit RollerCAN I2C Protocol

Registers marked in red, parameters can be saved to flash

V2 (FW Version) 2024/10/11

REG MAP (Addr:0x64)			0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note
Motor configuration & Motor parameters	Motor Config	0x00 W/R	Output	Mode									Motor Over Range Protection				Button switching mode enable	Motor Stall Protection	Output 0:Motor off 1:Motor on Mode 1: Speed Mode 2: Position Mode 3: Current Mode 4: Encoder Mode Button switching mode enable: 0: Off; 1: Press and hold for 5S to switch modes in running mode. Motor Stall Protection: 0: Disable 1: Enable Motor Position Over Range Protection: 0: Disable 1: Enable
	Remove protection	0x00 W												Release stall protection					Write 1 to remove protection
	Motor Status	0x00 R													Motor Status	Motor Error Code			Motor Status: 0: Standby; 1: Running; 2: Error Motor Error Code: 1: Overvoltage 2: Jam 4: Over Range
	CANID	0x10 W/R	CANID																0~255
	CAN BPS	0x10 W/R		BPS															BPS: 0,1Mbps; 1, 500Kbps; 2, 125Kbps;
	RGB Brightness	0x10 W/R			RGB Brightness														RGB Brightness: 0~100
Speed Control	Setting Speed X100 Int	0x40 W/R	Speed Setting-byte0	Speed Setting-byte1	Speed Setting-byte2	Speed Setting-byte3													Speed Setting = Speed Setting-byte0 + Speed Setting-byte1 * 256 + Speed Setting-byte2 * 65536 + Speed Setting-byte3 * 16777216 Actual Speed Setting = Speed Setting/100 Range: -2100000000~2100000000
	Max Current X100 Int	0x50 W/R	Max Current-byte0	Max Current-byte1	Max Current-byte2	Max Current-byte3													Max Current = Max Current-byte0 + Max Current-byte1 * 256 + Max Current-byte2 * 65536 + Max Current-byte3 * 16777216 Actual Max Current = Max Current/100 Range: -120000~120000
	Speed Readback X100 Int	0x60 R	Speed Readback-byte0	Speed Readback-byte1	Speed Readback-byte2	Speed Readback-byte3													Speed Readback = Speed Readback-byte0 + Speed Readback-byte1 * 256 + Speed Readback-byte2 * 65536 + Speed Readback-byte3 * 16777216 Actual Speed Readback = Speed Readback/100
	Speed PID Int	0x70 W/R	P-X100000-byte0	P-X100000-byte1	P-X100000-byte2	P-X100000-byte3	I-X10000000-byte0	I-X10000000-byte1	I-X10000000-byte2	I-X10000000-byte3	D-X100000-byte0	D-X100000-byte1	D-X100000-byte2	D-X100000-byte3					P/I/D: PID = PID-byte0 + PID-byte1 * 256 + PID-byte2 * 65536 + PID-byte3 * 16777216 For example: P=1, P setting value=1*100000=100000
Postion Control	Postion Setting X100 Int	0x80 W/R	Postion Setting-byte0	Postion Setting-byte1	Postion Setting-byte2	Postion Setting-byte3													Position Setting = Position Setting-byte0 + Position Setting-byte1 * 256 + Position Setting-byte2 * 65536 + Position Setting-byte3 * 16777216 Actual Position Setting = Position Setting/100 Range: -2100000000~2100000000
	Max Current X100 Int	0x20 W/R	Max Current-byte0	Max CurrentI-byte1	Max CurrentI-byte2	Max CurrentI-byte3													Max Current = Max Current-byte0 + Max Current-byte1 * 256 + Max Current-byte2 * 65536 + Max Current-byte3 * 16777216 Actual Max Current = Max Current/100 范围: -120000~120000
	Position Readback X100 Int	0x90 R	Position Readback-byte0	Position Readback-byte1	Position Readback-byte2	Position Readback-byte3													Position Readback = Position Readback-byte0 + Position Readback-byte1 * 256 + Position Readback-byte2 * 65536 + Position Readback-byte3 * 16777216 Actual Position Readback = Position Readback/100
	Position PID Int	0xA0 W/R	P-X100000-byte0	P-X100000-byte1	P-X100000-byte2	P-X100000-byte3	I-X10000000-byte0	I-X10000000-byte1	I-X10000000-byte2	I-X10000000-byte3	D-X100000-byte0	D-X100000-byte1	D-X100000-byte2	D-X100000-byte3					P/I/D: PID = PID-byte0 + PID-byte1 * 256 + PID-byte2 * 65536 + PID-byte3 * 16777216 For example: P=1, P setting value=1*100000=100000

Category	Name	Addr	b0	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12	b13	b14	b15	Description
Current Control	Current Setting X100 Int	0x80 W/R	Current Setting-byte0	Current Setting-byte1	Current Setting-byte2	Current Setting-byte3													Current Setting = Current Setting-byte0 + Current Setting-byte1 * 256 + Current Setting-byte2 * 65536 + Current Setting-byte3 * 16777216 Actual Current Setting = Current Setting/100 Range: -120000-120000
	Current Readback X100 Int	0xC0 R	Current Readback-byte0	Current Readback-byte1	Current Readback-byte2	Current Readback-byte3													Current Readback = Current Readback-byte0 + Current Readback-byte1 * 256 + Current Readback-byte2 * 65536 + Current Readback-byte3 * 16777216 Actual Current Readback = Current Readback/100
System	RGB	0x30 W/R	RGB-B	RGB-G	RGB-R	RGB Mode													RGB Mode: 0, Sys-default 1, User-define
	VIN X100 Int	0x30 R					VIN X100-byte0	VIN X100-byte1	VIN X100-byte2	VIN X100-byte3									VIN X100 = VIN X100-byte0 + VIN X100-byte1 * 256 + VIN X100-byte2 * 65536 + VIN X100-byte3 * 16777216 Actual VIN = VIN X100/100
	Temp Int	0x30 R									Temp-byte0	Temp-byte1	Temp-byte2	Temp-byte3					Temp = Temp-byte0 + Temp-byte1 * 256 + Temp-byte2 * 65536 + Temp-byte3 * 16777216
	Encoder Counter	0x30 W/R													Encoder Counter-byte0	Encoder Counter-byte1	Encoder Counter-byte2	Encoder Counter-byte3	Encoder Counter = Encoder Counter-byte0 + Encoder Counter-byte1 * 256 + Encoder Counter-byte2 * 65536 + Encoder Counter-byte3 * 16777216
	Flash Writeback	0xF0 W	Flash Writeback																Write 1 save to flash
	Firmware Version	0xF0 R															Version		Version: firmware version number
	I2C Address (Can be save to flash)	0xF0 R/W																Address	Address: 1~127