Qwiic Step Register Map

Byte Number	HEX	Register Name	Type	Read/Write	Power On Reset	Description
0	0x00	id	byte	Read Only	0x60	Unique Identifier
1	0x01	firmware_LSB	unsigned int16	Read Only	0x0100	The current firmware version.
2	0x02	firmware_MSB				
3	0x03	interruptConfig	byte	R/W	NVM/User Set Default 0x00	isLimitedEnable(1), isReachedEnable(0)
4	0x04	status	byte	R/W	0x00	Status bits eStopped(5), isLimited(4), isReached(3), isDecelerating(2), isAccelerating(1), isRunning(0).
5	0x05	config	byte	R/W	NVM/User Set Default (0b0010.0000)	Stop when limit switch is pressed (5). Disable stepper once requested position is reached (4). Disable motor on E-stop event(3). Micro-step config (2:0). stopOnLimitSwitchPress(5), disableMotorOnPositionReached(4), disableMotorOnEStop(3), MS3 (2), MS2(1), MS1(0)
6	0x06	mode	byte	R/W	NVM/User Set Default 0x00	Available options: disableMotor(4), hardStop(3), runContinuous(2), runToPositionWithAccel(1), runToPosition(0)
7	0x07	currentPos_0	signed long	R/W	0	Current position
8	0x08	currentPos_1				
9	0x09	currentPos_2				
10	0x0A	currentPos_3				
11	0x0B	distanceToGo_0	signed long	R	0	Distance left to go
12	0x0C	distanceToGo_1				
13	0x0D	distanceToGo_2				
14	0x0E	distanceToGo_3				
15	0x0F	move_0	signed long	W	0* (see unlockMoveNVM)	Position to move if run command is issued relative to current position
16	0x10	move_1				
17	0x11	move_2				
18	0x12	move_3				
19	0x13	unlockMoveNVM	byte	W	0	When set to 0x59 the value of move register is written to NVM.
20	0x14	moveTo_0	signed long	R/W	0	Position to move to if run to command is issued.
21	0x15	moveTo_1				
22	0x16	moveTo_2				
23	0x17	moveTo_3				
24	0x18	maxSpeed_0	float	R/W	NVM/User Set	Max speed to run at if run to command is issued.
25	0x19	maxSpeed_1				
26	0x1A	maxSpeed_2				
27	0x1B	maxSpeed_3				
28	0x1C	acceleration_0	float	R/W	NVM/User Set	Acceleration used if run or runTo mode is enabled.
29	0x1D	acceleration_1				
30	0x1E	acceleration_2				
31	0x1F	acceleration_3				
32	0x20	speed_0	float	R/W	0* (see unlockSpeedNVM)	Speed to run at if run or runSpeedToPosition mode is enabled.
33	0x21	speed_1				
34	0x22	speed_2				
35	0x23	speed_3				
36	0x24	unlockSpeedNVM	byte	W	0	When set to 0xC4 the value of speed register is written to NVM.
37	0x25	holdVoltage_0	float	R/W	NVM/User Set Default 0x3F99999A or 1.2V	Hold voltage. Max of 3.3V.
38	0x26	holdVoltage_1				
39	0x27	holdVoltage_2				
40	0x28	holdVoltage_3				
41	0x29	runVoltage_0	float	R/W	NVM/User Set Default 0x3F99999A or 1.2V	Run voltage. Max of 3.3V.
42	0x2A	runVoltage_1				
43	0x2B	runVoltage_2				
44	0x2C	runVoltage_3				
45	0x2D	i2cAddress	byte	R/W	NVM/User Set Dafault 0x52	Value between 0x08 and 0x77 (inclusive) that is the address of this device. Overridden if ADR jumper is closed (address becomes ADR - 1).
46	0x2E					
47	0x2F					
48	0x30					
49	0x31					

runToPosition mode requires:
- maxSpeed
- move or moveTo
- speed
- Does not implement accelerations

runToPositionWithAccel mode requires:
- maxSpeed
- acceleration
- move or moveTo

runContinuous mode requires:
- maxSpeed
- speed
- Does not implement accelerations

hardStop is used in run mode:
- hardStop will stop immediately
- stop will decelerate to a stop
- in other modes (runSpeed) both stop immediately