OMNI-3MD and OMNI-3MDMAX

I2C Commands (I2C write)

Command model for I2C communication with OMNI-3MD and OMNI-3MDMAX

ADDRESS	W/R	COMMAND	BYTE1	BYTE2	BYTE3	BYTE4	BYTE5	BYTE6	BYTE7
	W=0		**Data Bytes**						

Stop Motors

0x18	0	0xFC	0xAA	0x55
0x30				

Calibrate

0x18	0	0xFB	0xAA	0x55
0x30				

Omnidireccional movement with PID Control

0x18	0	0xFA	Linear Speed	Rotational Speed	Direction_High	Direction_Low
0x30			0 - 100	0 - 100 - 200	0 - 360 (Direction 16 bits)	

Omnidireccional movement without Control

0x18	0	0xF9	Linear Speed	Rotational Speed	Direction_High	Direction_Low
0x30			0 - 100	0 - 100 - 200	0 - 360 (Direction 16 bits)	

Linear movement - 3 motors simultaniously with PID control

0x18	0	0xF8	Direction M1	Speed M1	Direction M2	Speed M2	Direction M3	Speed M3
0x30			1 / 2	0 - 100	1 / 2	0 - 100	1 / 2	0 - 100

Linear movement - 3 motors simultaniously without control

0x18	0	0xF7	Direction M1	Speed M1	Direction M2	Speed M2	Direction M3	Speed M3
0x30			1 / 2	0 - 100	1 / 2	0 - 100	1 / 2	0 - 100

Linear movement - 1 motor with PID control

0x18	0	0xF6	MotorX	Direction	Speed
0x30			1 - 3	1/2	0 - 100

Linear movement - 1 motor without control

0x18	0	0xF5	MotorX	Direction	Speed
0x30			1 - 3	1/2	0 - 100

PID configuration kp, ki and kd

0x18	0	0xF4	kp_High	kp_Low	ki_High	ki_Low	kd_high	kd_low
0x30			0 - 65535 0.00 - 655.35		0 - 65535 0.00 - 655.35		0 - 65535 0.00 - 655.35	

CW rotation definition

0x18	0	0xF3	CW	0xAA	CW	0x55
0x30			0 / 1		0 / 1	

Change I2C address

0x18	0	0xF2	New Address	0xAA	New Address	0x55
0x30						

I2C Timeout configuration

0x18	0	0xF1	Timeout T	0xAA	Timeout T	0x55
0x30			0 - 255			
			(T == 0) -> OFF (T > 0) -> ON if T>0 -> Timeout = T x 100ms			

Encoder Prescaler configuration

0x18	0	0xF0	Encoder	Prescaler CFG	0xAA	0x55
0x30			1-3	0-4		
				CFG=0->PS=1 CFG=1->PS=10 CFG=3->PS=1000 CFG=2->PS=100 CFG=4->PS=10000		

PreSet Positional Counters

0x18	0	0xEF	Encoder nr	Preset Enc High	Preset Enc Low	0xAA	0x55
0x30			1-3	0-65535			

Positional Movement

0x18	0	0xEE	Motor	Direction	Speed	Count High	Count LOW	Stop Torque
0x30			1-3	1/2 1->CW 2->CCW	0-100	0-65535		0/1 0->OFF 1->ON

OMNI-3MD and OMNI-3MDMAX

I2C Commands (I2C read)

Note: For all requests is always returned 1 byte. Concatenate the High byte and Low byte to obtain the 16 bits values.

Firmware version request (integer part)

0x18	1	0xFE
0x31		

Firmware version request (decimal part)

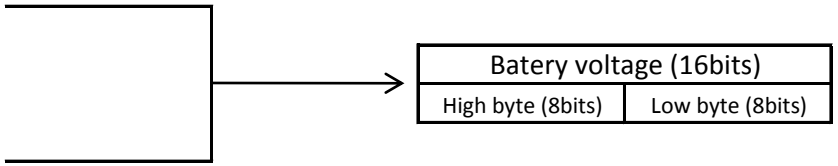
0x18	1	0xFD
0x31		

Batery voltage request (high byte)

0x18	1	0xE4
0x31		

Batery voltage request (low byte)

0x18	1	0xE3
0x31		



Temperature request (high byte)

0x18	1	0xE2
0x31		

Temperature request (low byte)

0x18	1	0xE1
0x31		

Encoder 1 lim calibration value request (high byte)

0x18	1	0xE0
0x31		

Encoder 1 lim calibration value request (low byte)

0x18	1	0xDF
0x31		

Encoder 2 lim calibration value request (high byte)

0x18	1	0xDE
0x31		

Encoder 2 lim calibration value request (low byte)

0x18	1	0xDD
0x31		

Encoder 3 lim calibration value request (high byte)

0x18	1	0xDC
0x31		

Encoder 3 lim calibration value request (low byte)

0x18	1	0xDB
0x31		

Encoder 1 max calibration value request (high byte)

0x18	1	0xDA
0x31		

Encoder 1 max calibration value request (low byte)

0x18	1	0xD9
0x31		

Encoder 2 max calibration value request (high byte)

0x18	1	0xD8
0x31		

Encoder 2 max calibration value request (low byte)

0x18	1	0xD7
0x31		

Encoder 3 max calibration value request (high byte)

0x18	1	0xD6
0x31		

Encoder 3 max calibration value request (low byte)

0x18	1	0xD5
0x31		

PID control rate request

0x18	1	0xD4
0x31		

Encoder 1 positional counter request (high byte)

0x18	1	0xD3
0x31		

Encoder 1 positional counter request (low byte)

0x18	1	0xD2
0x31		

Encoder 2 positional counter request (high byte)

0x18	1	0xD1
0x31		

Encoder 2 positional counter request (low byte)

0x18	1	0xD0
0x31		

Encoder 3 positional counter request (high byte)

0x18	1	0xCF
0x31		

Encoder 3 positional counter request (low byte)

0x18	1	0xCE
0x31		