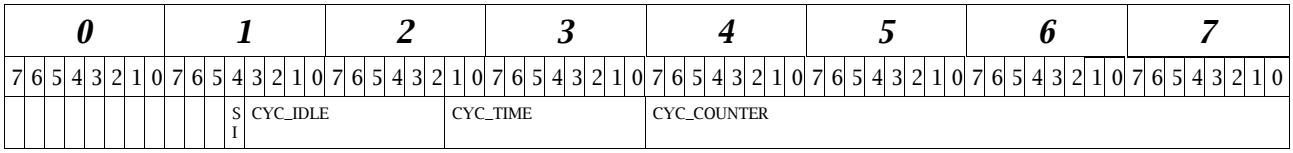
Firmware Manual TMC_CAN
Version: 0.01beta

The CAN Data Objects

	ID	*DataLen*	*Request by RTR*	*Cyclic Sending*
PING	0x001	8	YES	NO

0								***1***								***2***								***3***								***4***								***5***								***6***								***7***							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
VersionString																																								MAYER_VERSION								LOWER_VERSION							

	ID	***DataLen***	***Request by RTR***	***Cyclic Sending***
CYC_INFO	0x002	8	YES	YES



CYC_COUNTER	A unsigned long (4 byte) value that is counted up every cycle. The lower byte is equal to the CYC_ID of the other data packages.
CYC_TIME	The cycle Time in ms [0,1023]
CYC_IDLE	Absolute value of idling in last cycle (ms)
SI	Sign of idling time (1 is negatve idling time -> cycle time problem)

	ID	***DataLen***	***Request by RTR***	***Cyclic Sending***
VEL1	0x003	8	YES	YES

0								***1***								***2***								***3***								***4***								***5***								***6***								***7***							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
IO_PORT_STATE											HERR	VCCBAT				D1	AVEL_1							D2	AVLE_2							D3	AVEL_3							CYC_ID																			

	ID	***DataLen***	***Request by RTR***	***Cyclic Sending***
VEL2	0x004	8	YES	YES

0								***1***								***2***								***3***								***4***								***5***								***6***								***7***							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
																		CURRENT_1								CURRENT_2								CURRENT_3								CYC_ID															

	ID	***DataLen***	***Request by RTR***	***Cyclic Sending***
VEL3	0x005	8	YES	YES

0								***1***								***2***								***3***								***4***								***5***								***6***								***7***							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
																								D1	ABS_OUTPUT_1							D2	ABS_OUTPUT_2							D3	ABS_OUTPUT_3							CYC_ID							

	ID	*DataLen*	*Request by RTR*	*Cyclic Sending*
CONFRET	0x00C	8	NO	NO

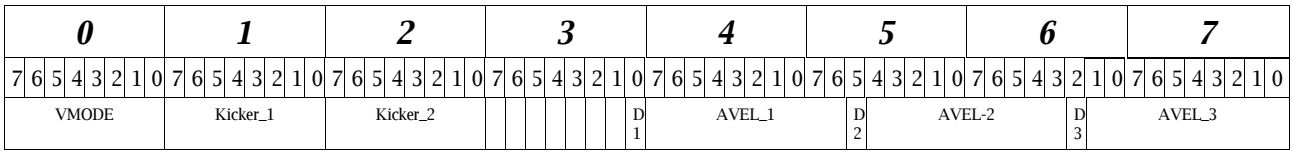
7								*6*								*5*								*4*								*3*								*2*								*1*								*0*							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
CONF_ID								ErrCode								Param1																Param2																Param3													

CONF-ID

ERRCODE: 0 OK

The CAN Command Objects

	ID	*DataLen*
SETVEL	0x00E	8



AVEL_X **The absolute velocity of Motor X as 10bit value [0, 1023].**

DX **Direction bit for velocities**
0: positive
1: negative

K1 **Set Kicker Kommand for Kicker 1 (Port P1L6, Pin 1),**
the number of cycles the kicker should be active

VMODE **Velocity mode bits**
0: Direct PWM output, [-1023, 1023] is -100% to 100% pwm output.
255: Don't change the current setting (default)

	ID	***DataLen***
CONFCMD	0x00D	8

7								***6***								***5***								***4***								***3***								***2***								***1***								***0***							
7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0
CONF_ID								Param1								Param2																Param3												Param4															

CONF_ID 0: Reset (no params) (... not yet implemented)
1: SET CyclicSendMode <Mode><-><-><->
2: SET PID Params <Motor><Gain><Tn><Tv>