

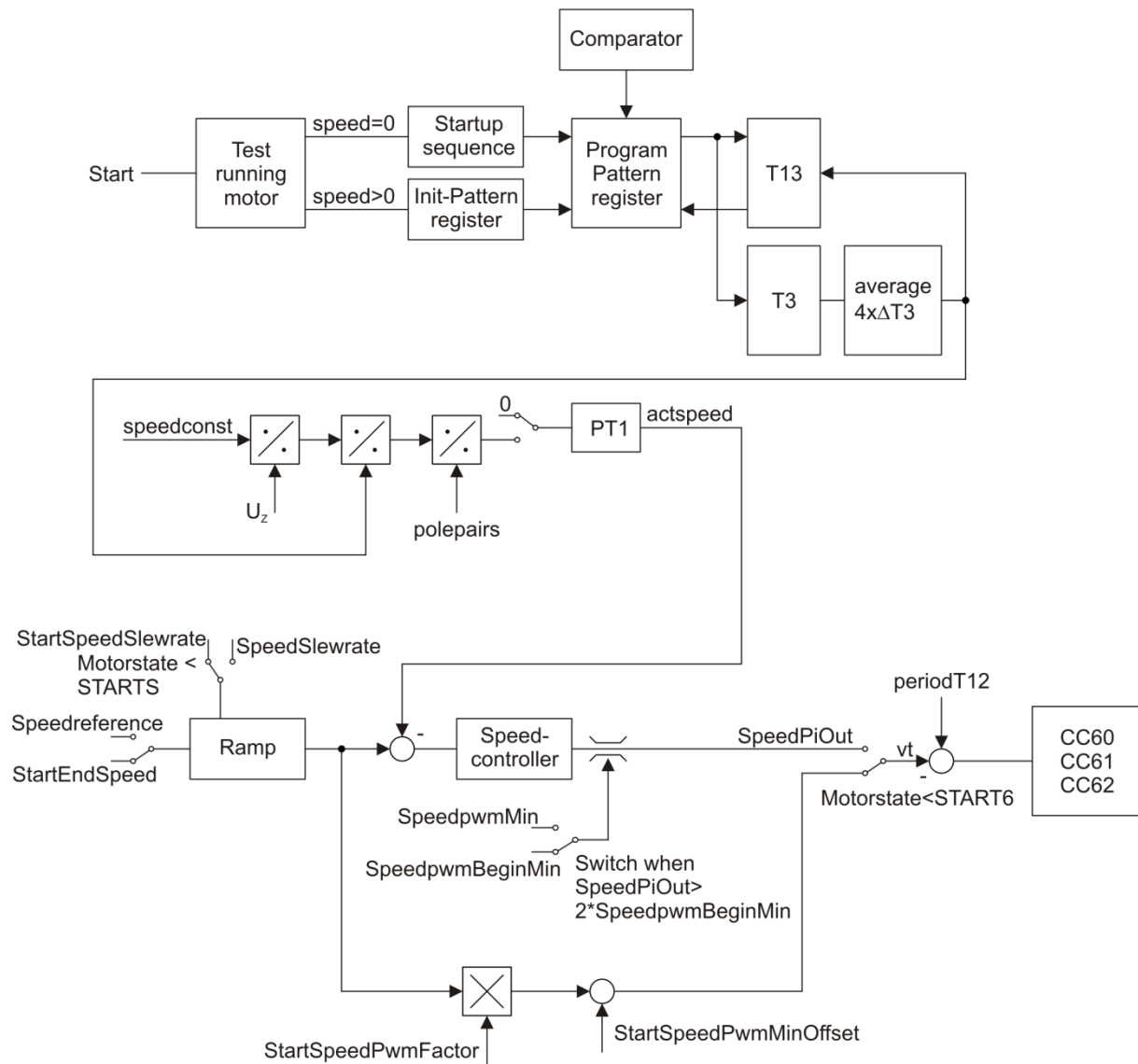
Description of the parameters for BEMF

Parameter in file "bemf_defines.h"

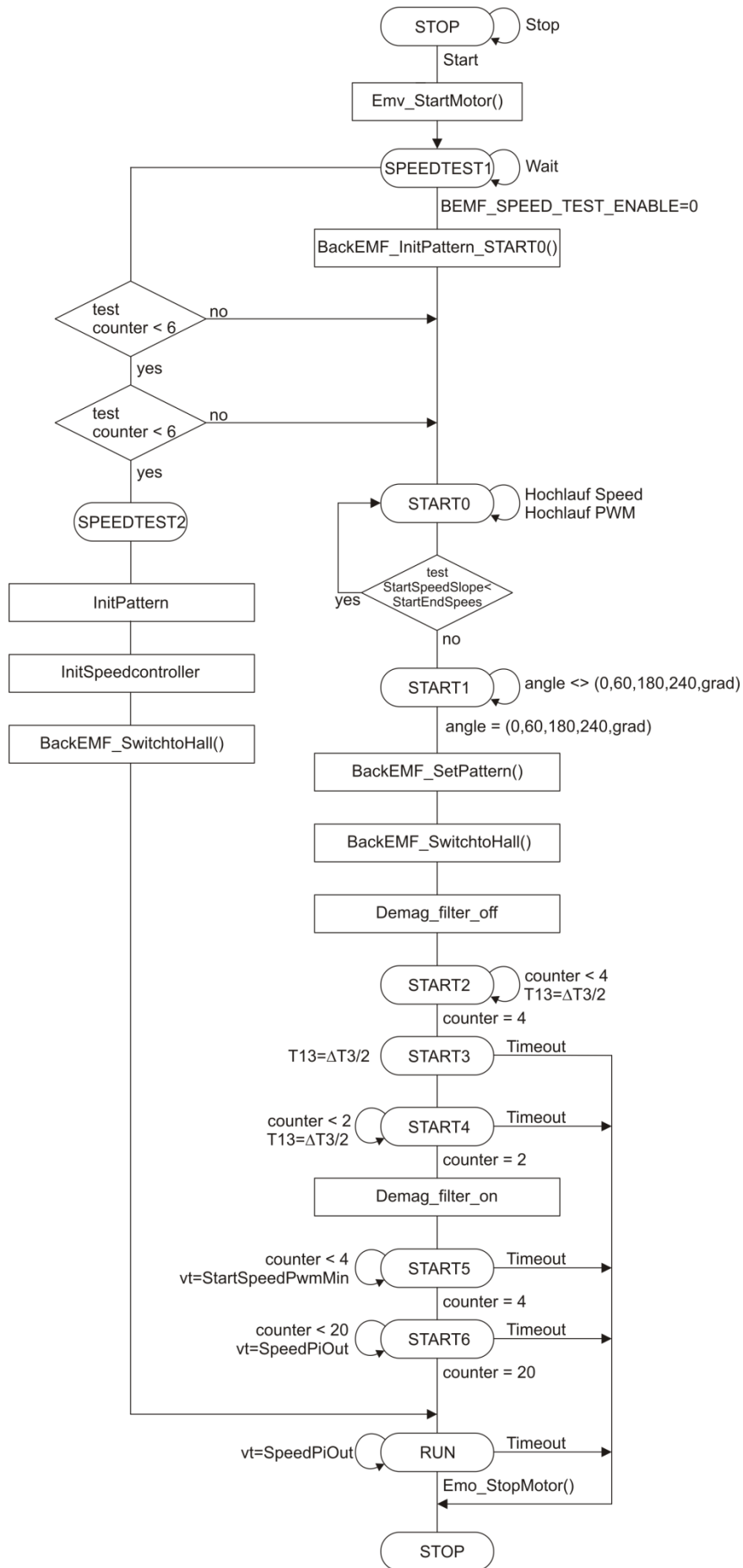
BEMF_END_START_SPEED	Speed value for end of Startup (Motorstatus <=Start5)
BEMF_POLE_PAIRS	Polpairs;
BEMF_PWM_FREQ [Hz]	pulsfrequency
BEMF_SPEED_FILT_TIME [s]	Time constant für ActSpeed
BEMF_SPEED_KI	Ki for speedcontroller
BEMF_SPEED_KP	Kp for speedcontroller
BEMF_START_ACCEL [U/min/s]	Acceleration for Start (Motorstatus <=Start5)
BEMF_RUN_ACCEL [U/min/s]	Acceleration for Run (Motorstatus>Start5)
BEMF_START_FREQ_ZERO	0: Start without frequency=0 1: Start with frequency=0
BEMF_SWITCH_ON_SPEED [U/min]	Turn on with speed reference > BEMF_SWITCH_ON_SPEED
BEMF_ZERO_VEC_TIME [s]	Time for frequency=0 if(BEMF_START_FREQ_ZERO=1)
BEMF_START_SPEED_PWM_MIN [0..0.95]	$V_t = ((BEMF_START_SPEED_PWM_MIN / BEMF_END_START_SPEED) * SpeedSlope) + BEMF_START_SPEED_PWM_MIN_OFFSET) * PeriodeT12$
BEMF_START_SPEED_PWM_MIN_OFFSET [0..0.95]	$V_t = ((BEMF_START_SPEED_PWM_MIN / BEMF_END_START_SPEED) * SpeedSlope) + BEMF_START_SPEED_PWM_MIN_OFFSET) * PeriodeT12$
BEMF_RUNBEGIN_SPEED_PWM_MIN [0..0.95]	Speedcontroller.Outmin= BEMF_RUNBEGIN_SPEED_PWM_MIN* PeriodeT12 if (Motorstatus =START6)
BEMF_RUN_SPEED_PWM_MIN [0..0.95]	Speedcontroller.Outmin= BEMF_RUN_SPEED_PWM_MIN* PeriodeT12 if (Motorstatus =RUN)
BEMF_SPEED_TEST_ENABLE	0:Startup without speedtest 1:Startup with speedtest

The counter in control of startup is number of hall events.

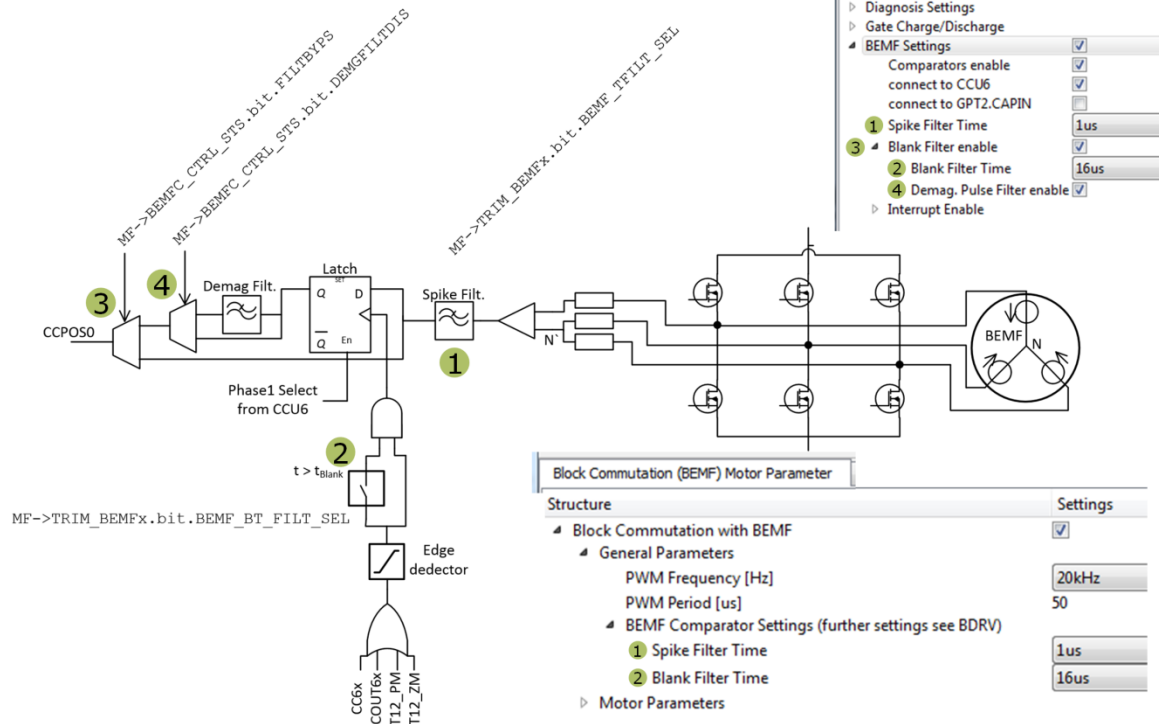
Blockschaltbild



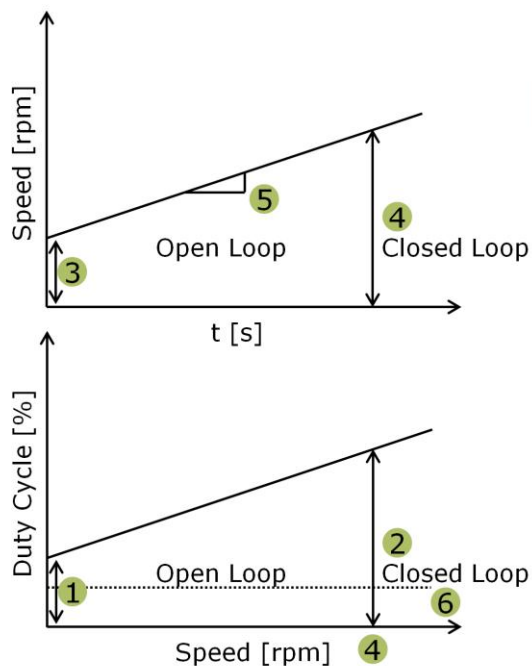
Ablaufsteuerung



BEMF Structure (1 out of 3)



BEMF Start-up Parameters



Block Commutation (BEMF) Motor Parameter	
Structure	Settings
Block Commutation with BEMF	<input checked="" type="checkbox"/>
General Parameters	
Motor Parameters	
Speed Controller Settings	
Acceleration ramp (Open-Loop)	
Synchronization to already rotating rotor	<input checked="" type="checkbox"/>
min. Duty Cycle [0..0.95]	0.01
Enable Start with Frequency Zero	<input checked="" type="checkbox"/>
Rotor alignment [s]	0.1
1 Duty Cycle at beginning of start-up ramp (DC offset) [0..0.95]	0.3
2 Duty Cycle at end of start-up ramp [0..0.95]	0.6
3 Switch-on Speed [rpm, mech.]	50
4 Speed at end of start-up ramp [rpm, mech.]	1000
5 Start-up Acceleration [rpm/s, mech.]	1000
Closed-Loop	
6 min. Duty Cycle [0..0.95]	0.2
Acceleration [rpm/s, mech.]	300