



DMAC 31 May

Basic, current loop

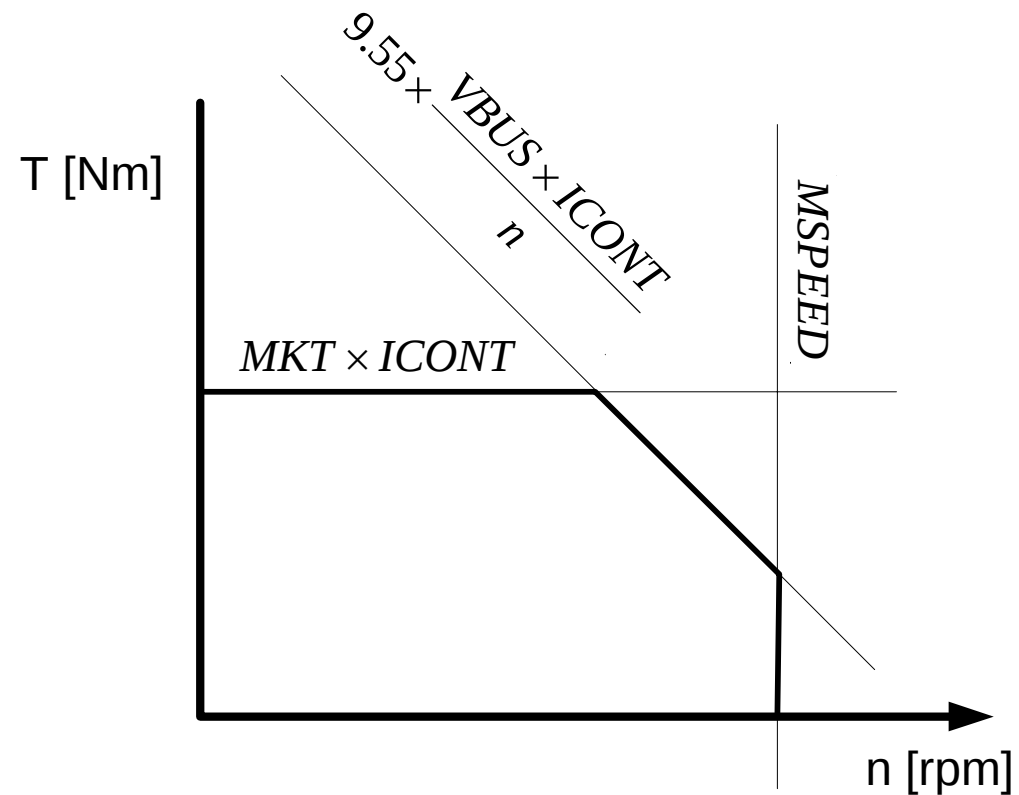
KOLLMORGEN
Servotronix

$$P = I^2 \times R = V_{BUS} \times I_{CONT} = T \times \omega = 1/9.55 \times T \times n \text{ [w]}$$

$$T = 9.55 \times (V_{BUS} \times I_{CONT}) / n \text{ [Nm]}$$

$$T = M_K T \times I_{CONT} \text{ [Nm]}$$

$$M_K T = 16.54 \times M_B E_{MF}$$



Current loop

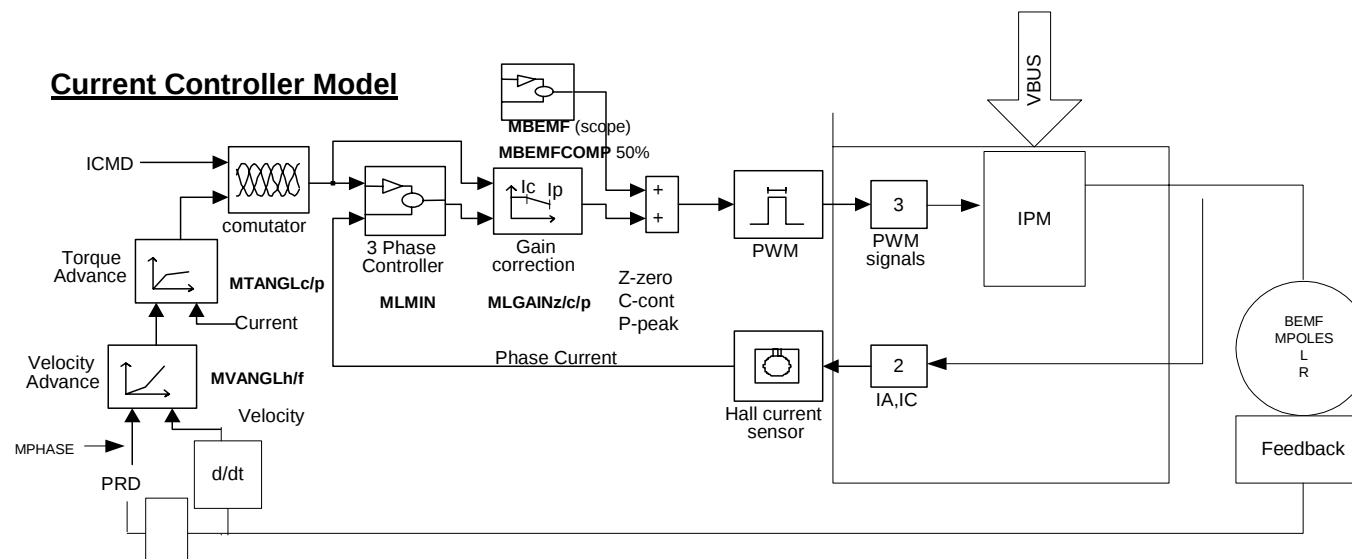
current loop compensation

T adv ; only for buried magnet, where induction is not uniform

Vel adv; to compensate for delay in calculation and delay in current loop

Gain correction; to compensate for L(i), if I increase, L decrease 1/L increase

- Test
1. Lock rotor - MLMIN, MLGAINZ/C/P
 2. Running rotor - phase adv
MVANGLH/F, MTANGLC/P
 3. Plot of Torque vs Speed (continuous current)



MOTORTYPE	
MOTOR	
VBUS	
MIPEAK	
MICONT	
MSPEED	
MBEMF	
MBEMFCOMP	
MENCTYPE	
MENCOFF	
MSININT	
MECNRES	
MJ	
MKTI	
MKT	
MLMAX-NUJ	
MLMIN	
MLGAINP	
MLGAINC	
MLGAINZ	
MPHASE	
MPOLES	
MRES-NUJ	
MRESPOLES	
MTANGLP	
MTANGLC	
MVANGLF	
MVANGLH	
ILIM	
ICONT	