

PU Bases used in EMTP-EMTPWorks for the DC machine model

The base quantities are defined as follows:

- Base voltage $V_b = V_{\text{rated}}$
- Base power $P_b = P_{\text{rated}}$
- Base current $I_b = \frac{P_b}{V_b}$
- Base impedance $Z_b = \frac{V_b^2}{P_b} = \frac{V_b}{I_b}$
- Base torque $T_b = \frac{P_b}{\omega_b}$
- Base flux $\Psi_b = \frac{V_b}{\omega_b}$

The variable ω_b is the rated mechanical speed in rad/sec.