

Current in a motor winding is given by the following relationship:

$$I_{coil} = \frac{E}{R} \left(1 - e^{-\frac{Rt}{L}}\right)$$

where:

- I = coil current (amps)
- E = terminal voltage (volts)
- R = coil resistance (ohms)
- L = coil inductance (henrys)
- t = elapsed time (seconds)
- e = 2.718281828 (natural number)