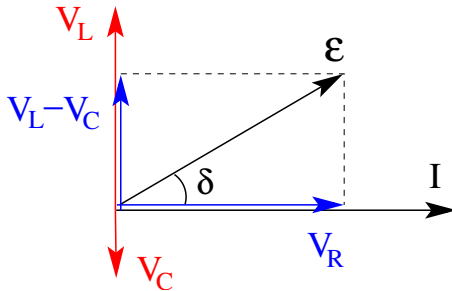




Phasor diagram (for  $\omega t = \delta$ ):

Voltage amplitudes:

- $V_{R,max} = I_{max}X_R = I_{max}R$
- $V_{L,max} = I_{max}X_L = I_{max}\omega L$
- $V_{C,max} = I_{max}X_C = \frac{I_{max}}{\omega C}$



Relation between  $\mathcal{E}_{max}$  and  $I_{max}$  from geometry:

$$\begin{aligned}\mathcal{E}_{max}^2 &= V_{R,max}^2 + (V_{L,max} - V_{C,max})^2 \\ &= I_{max}^2 \left[ R^2 + \left( \omega L - \frac{1}{\omega C} \right)^2 \right]\end{aligned}$$