$$V = \begin{pmatrix} V_1 \\ V_2 \\ V_3 \end{pmatrix} = \begin{pmatrix} 1 & 0 & r \\ -1/2 & \sqrt{3}/2 & r \\ -1/2 & -\sqrt{3}/2 & r \end{pmatrix} \begin{pmatrix} V_x \\ V_y \\ V_\theta \end{pmatrix}$$