

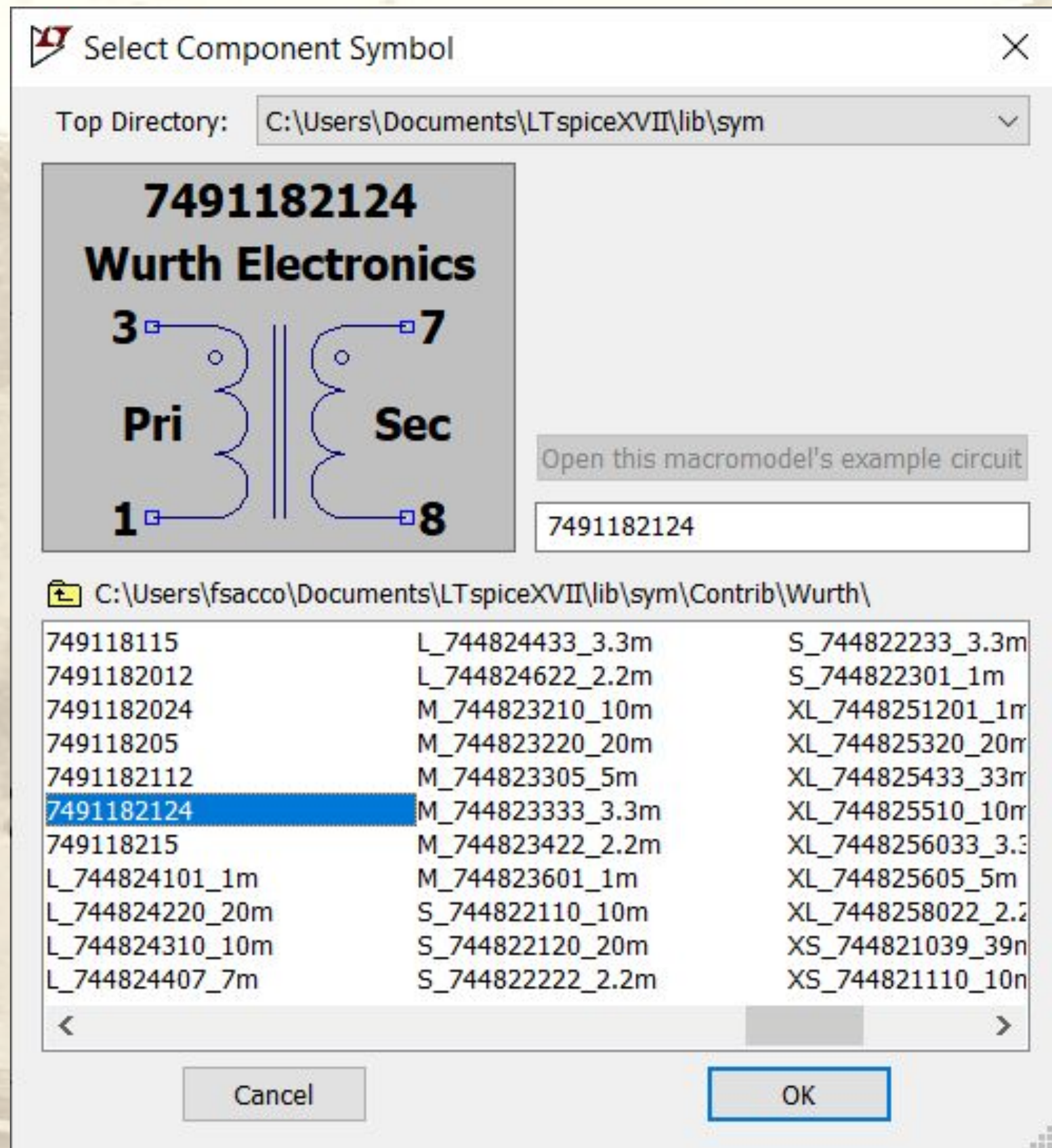
# Drops of LTSpice



How use transformers?



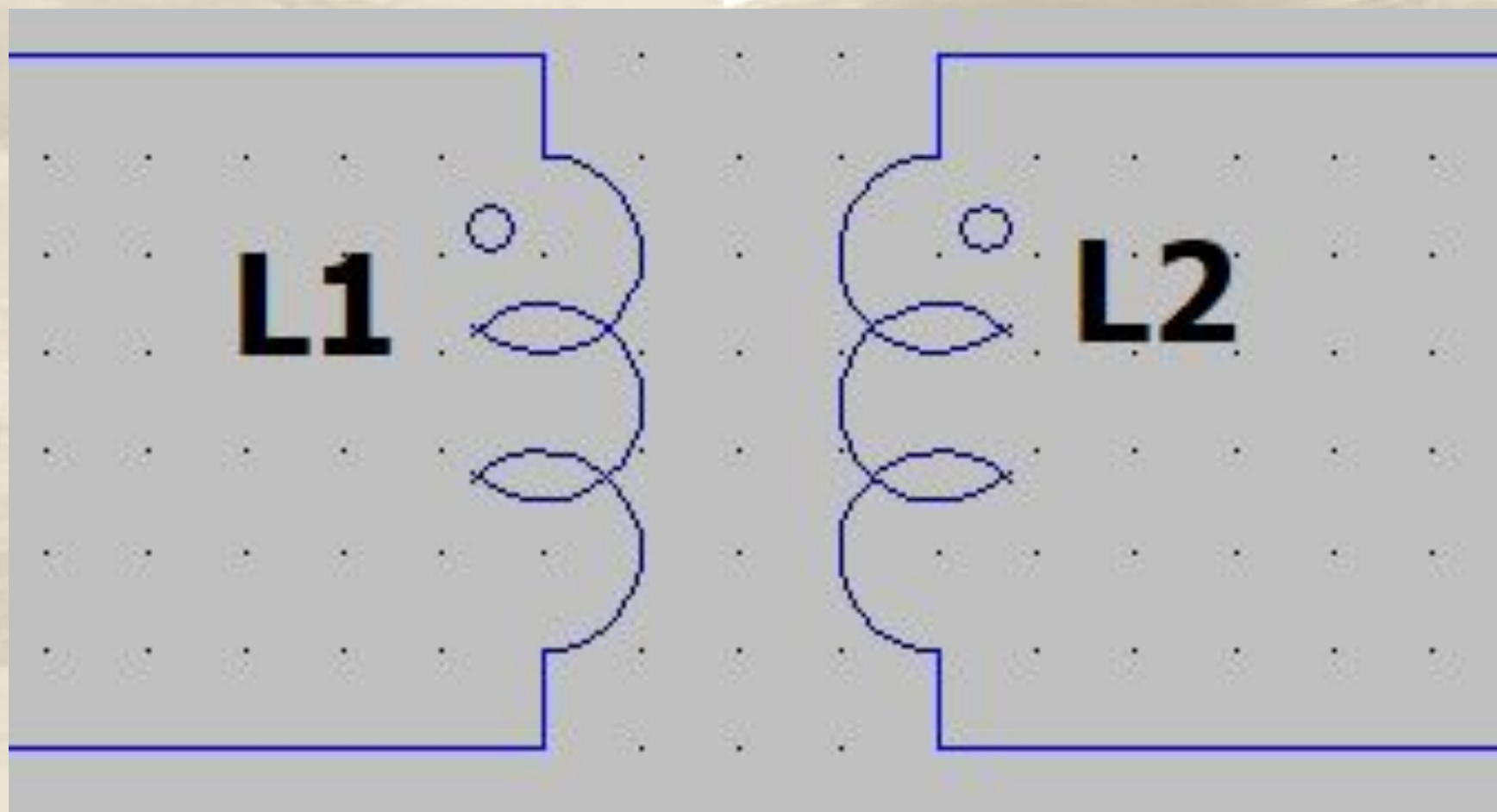
If you look, you'll notice that only Würth transformers are available.



Is there no generic transformer?



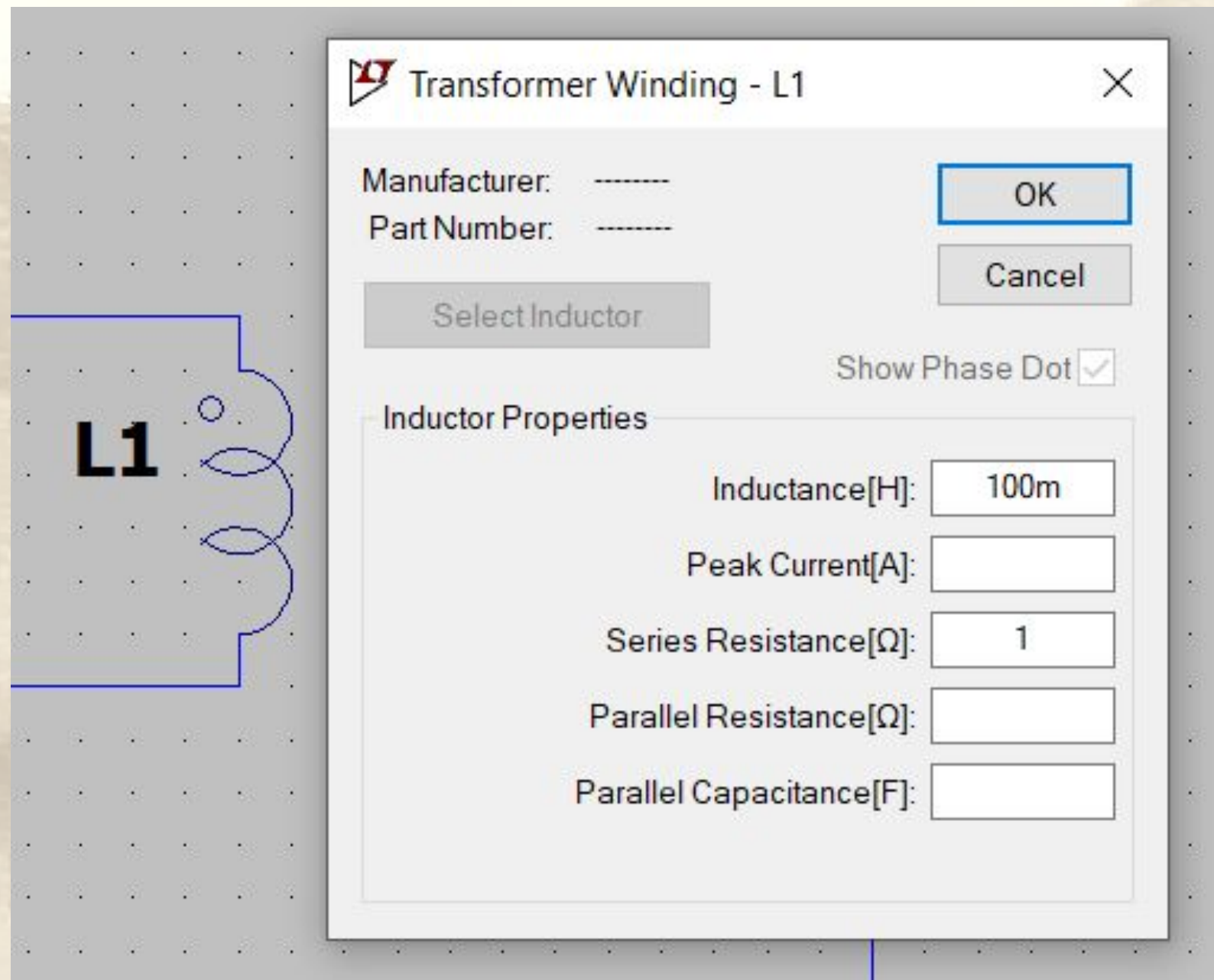
LTSpice provides the transformer using inductor. Each inductor is a transformer winding.



I like to use the symbol with dot.



In LTSpice, you provide the inductance of each winding. It's important set the series impedance.

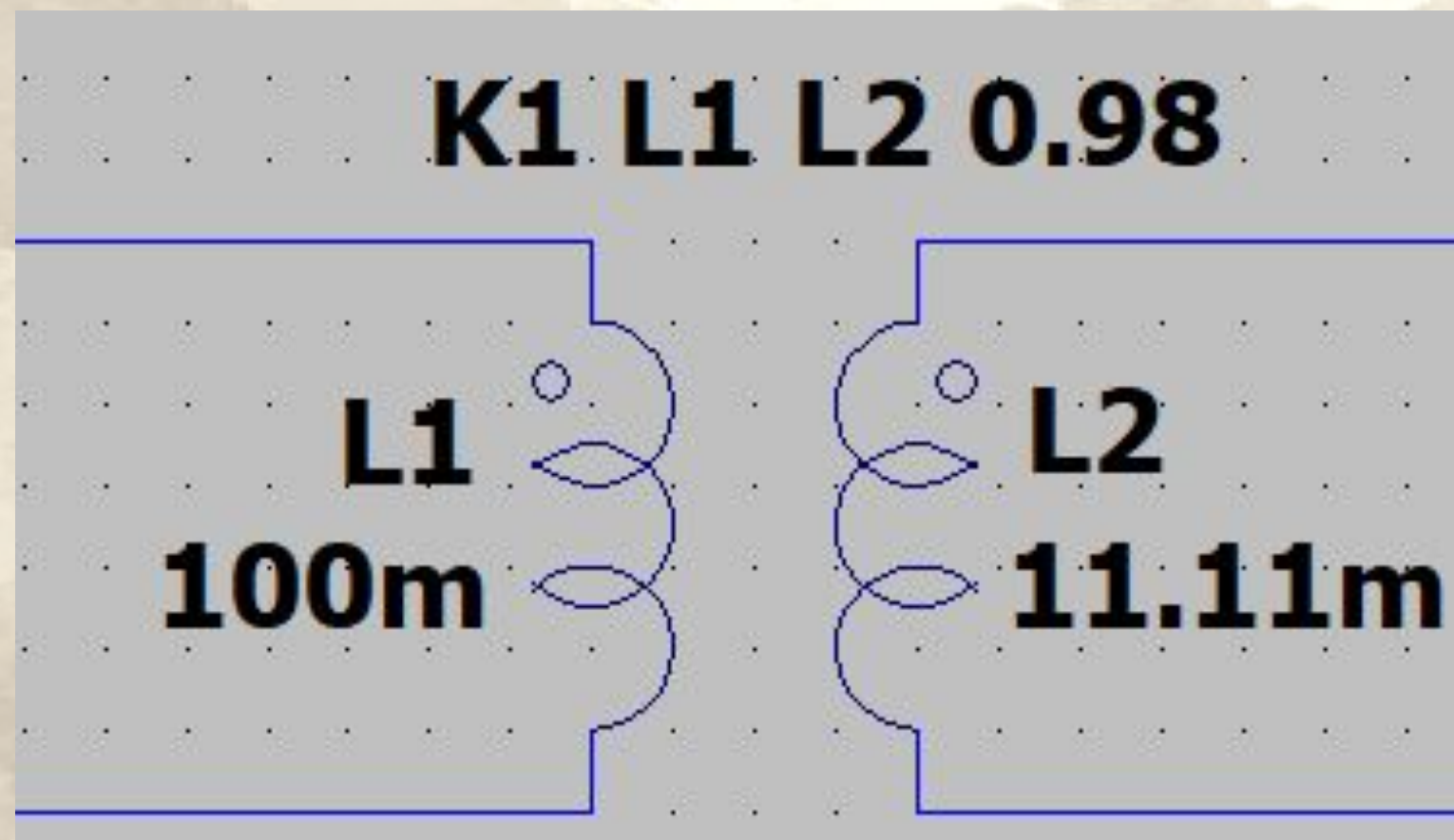


Keep in mind that:

$$\frac{L_1}{L_2} = \left( \frac{N_1}{N_2} \right)^2$$



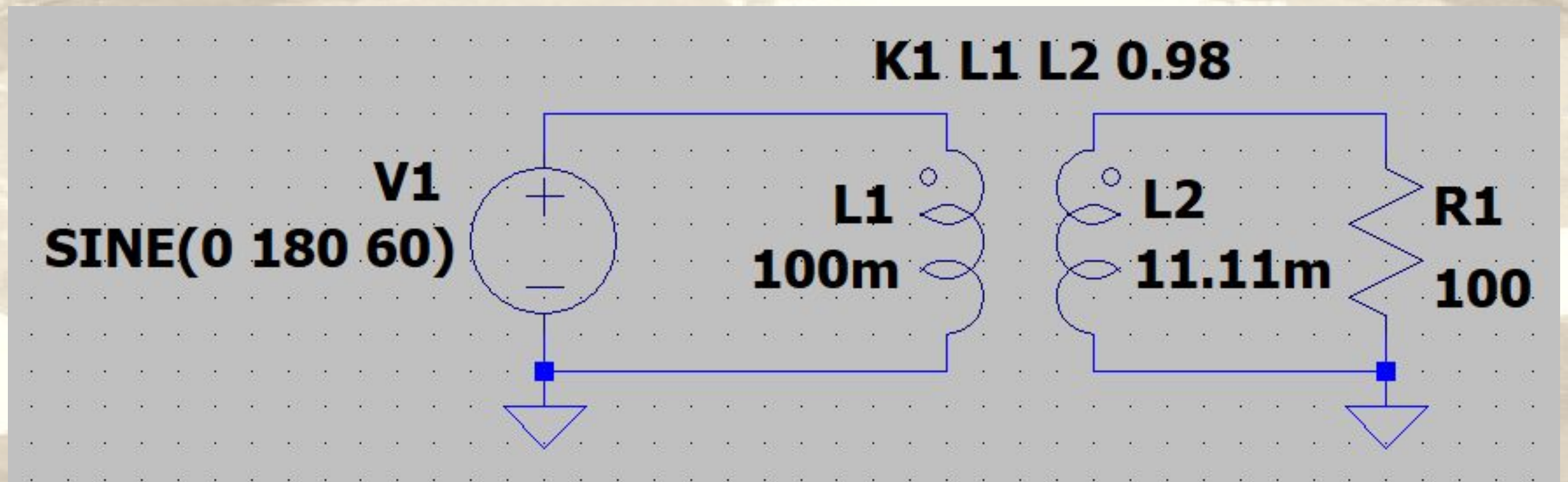
To couple our inductors as a transformer, you need add a directive with the coupling coefficient.



Here, K1 couples L1 and L2. Our transformer has around 3:1 ratio.



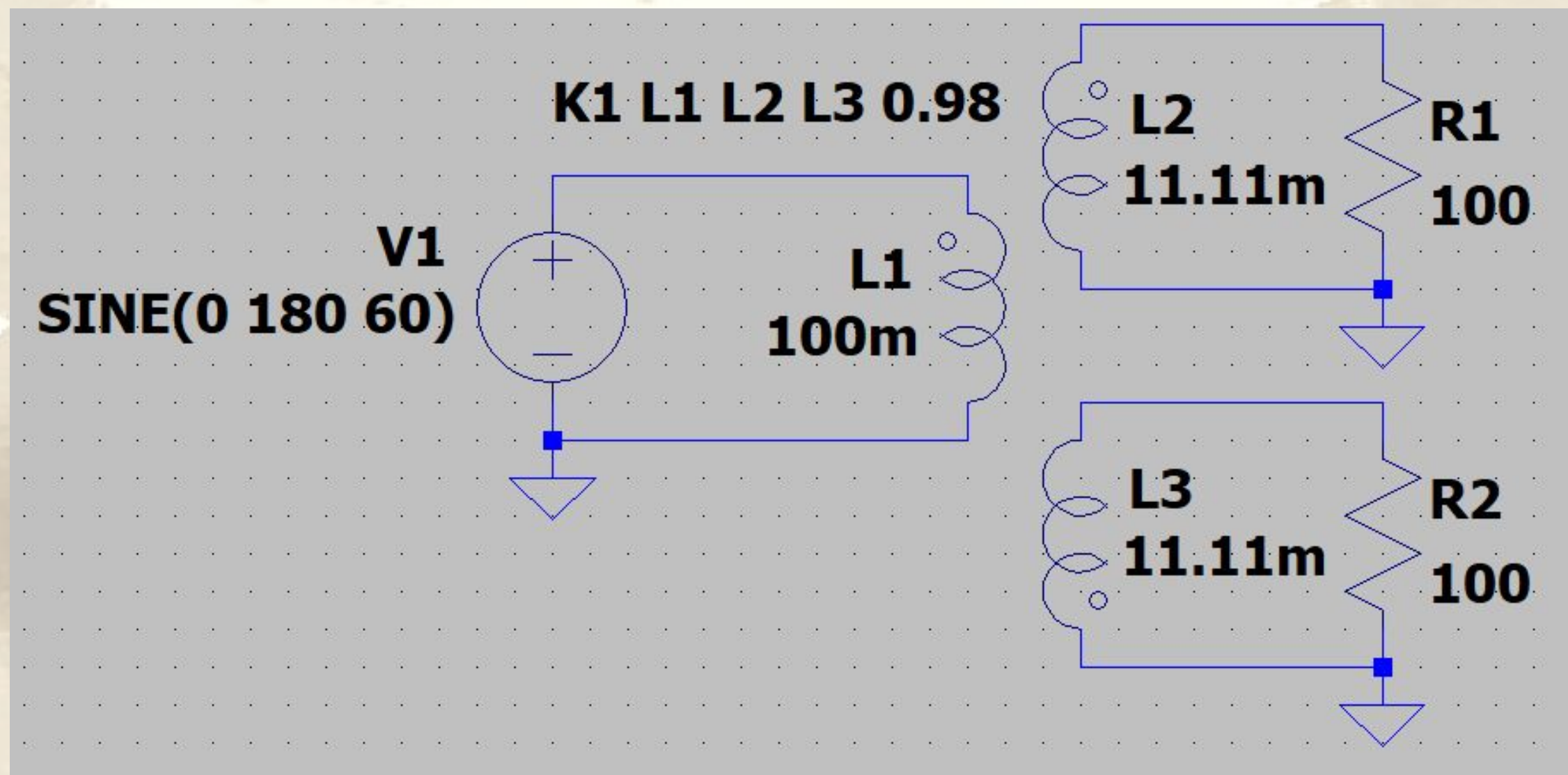
And it's done.  
So, let's simulate!



And our transformer works.



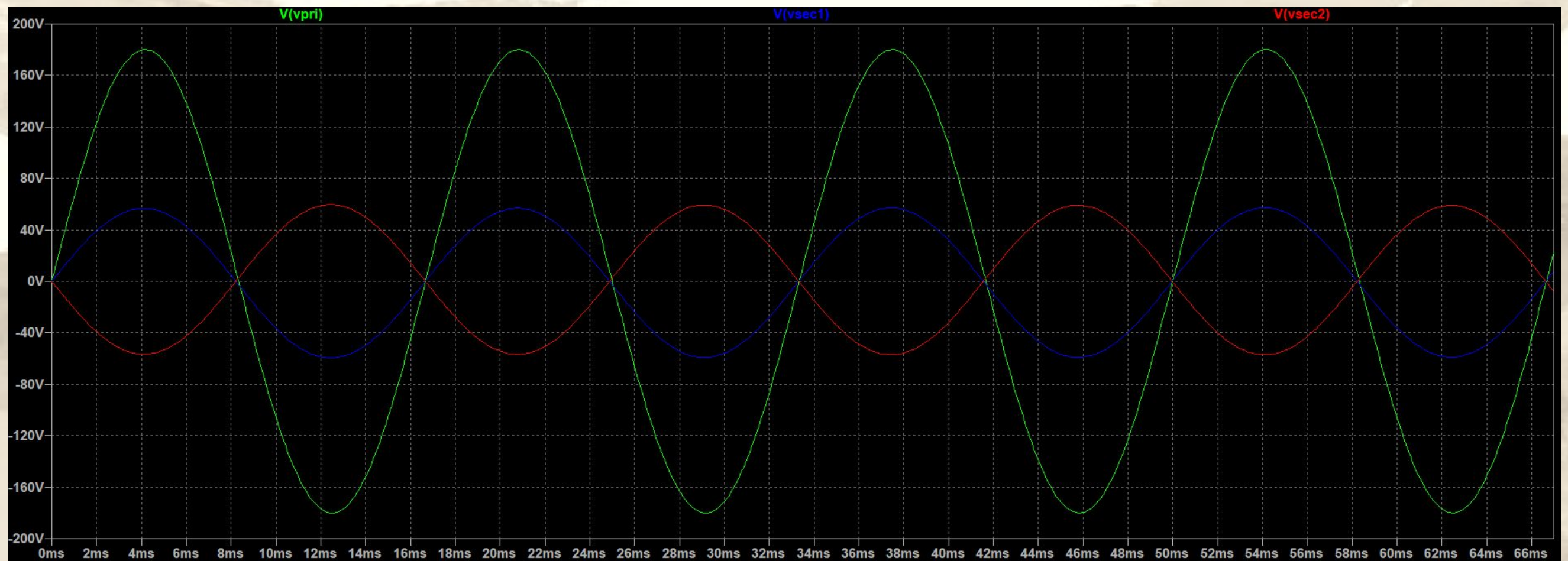
Your transformer also can have more than one secondary.



In this case, the directive with the coupling coefficient have all out three inductors.



And this simulations always looks  
beautiful for me :-)



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