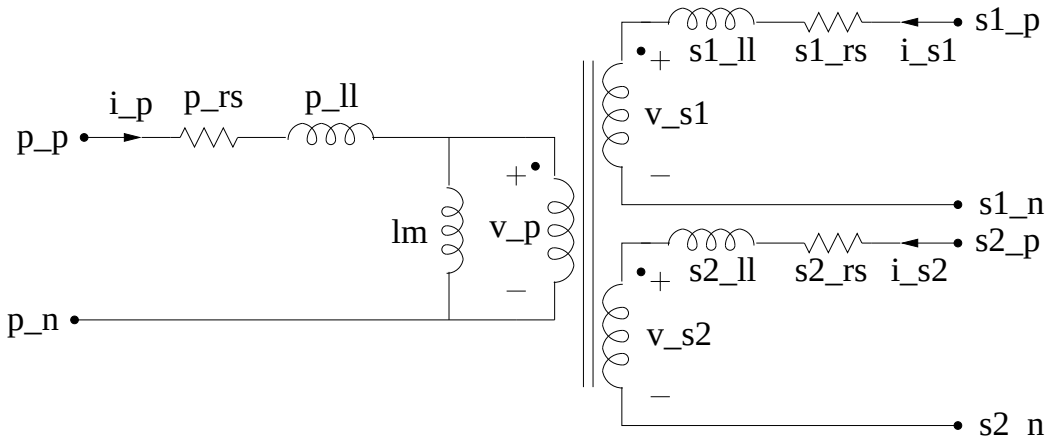
xfmr_level2_1ph_1_2.ece



Attributes

```
  mainnodes:
+  p_p  p_n
+  s1_p s1_n
+  s2_p s2_n
  outvar:
+   v_p=v_p_of_x0
+   v_s1=v_s1_of_x0
+   v_s2=v_s2_of_x0
+   i_p=cur(p_p)_of_x0
+   i_s1=cur(s1_p)_of_x0
+   i_s2=cur(s2_p)_of_x0
  rparms:
+   p_turns=1
+   s1_turns=1
+   s2_turns=1
+   lm=1m
+   p_rs=1m
+   p_ll=1n
+   s1_rs=1m
+   s1_ll=1n
+   s2_rs=1m
+   s2_ll=1n
```

Description

xfmr_level2_1ph_1_2.ece is a transformer with one primary and two secondary windings (see figure). The model includes ideal transformer equations, with the magnetizing inductance,

coil series resistances, and leakage inductances taken outside (see figure). `p_xxx`, `s1_xxx`, and `s2_xxx` are used to denote node and parameter names on the primary (`p`) and secondary (`s1` and `s2`) sides, respectively. Currents and voltages shown in the figure are made available as output variables. The model equations incorporated for the ideal transformers are:

$$\frac{V_p}{N_p} = \frac{V_{s1}}{N_{s1}}\,,$$
$$\frac{V_p}{N_p} = \frac{V_{s2}}{N_{s2}}\,,$$
$$N_p\, i_p + N_{s1}\, i_{s1} + N_{s2}\, i_{s2} = 0\,.$$

Note that, by assiging suitably small values to the coil series resistances and leakage inductances, and a suitably large value to the magnetizing inductance, this element can be used as an ideal transformer with one primary and two secondary sides.

As with other transformer elements, the user should make sure that there is a "dummy" connection between the secondary sides and the primary side so that all node voltages get defined with respect to the same reference node (see comments in the help file for `xfmr_level2_1ph.ece`, for example).

AC behaviour is not implemented.