

xfmr_level2_1ph.ebe

Attributes

```
ebe name=xfmr_level2_1ph
#
# two-winding transformer
# n1, n2, lm model
#
Jacobian: constant
nodes: p_p s_p p_n s_n
state_vars:
aux_vars: cur_p_p cur_s_p im
aux_vars_startup:
x_vars:
iparms:
sparms:
rparms:
+ p_turns=1
+ s_turns=1
+ lm=15m
stparms: ip0=0 is0=0
igparms:
outparms: ip is vp vs
```

Description

xfmr_level2_1ph.ebe is the ideal transformer model with the magnetising inductance taken out (see figure). It incorporates the following equations.

$$\frac{V_p}{N_p} = \frac{V_s}{N_s}, \quad (1)$$

$$N_p i'_p + N_s i_s = 0, \quad (2)$$

where N_p and N_s are given by the real parameters `p_turns` and `s_turns`, respectively.

The currents i_p , i_s , and voltages V_p , V_s (see figure) are made available as output variables `ip`, `is`, `vp`, `vs`, respectively.

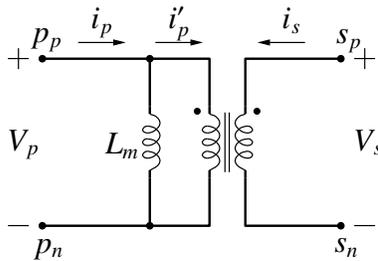


Figure 1: xfmr_level2_1ph model.