s_vsi_3ph_3 (subcircuit)

Attributes

```
inputs:
outputs:
e_left_nodes:
e_right_nodes: a b c
e_top_nodes: p
e_bottom_nodes: m
b_left_nodes:
b_right_nodes:
b_top_nodes:
b_bottom_nodes:
parameters:
  frequency: 1
  level_0minus: 0
  ndata: 2
  r_off: 10M
  r_on: 1m
  theta_1: 90
  theta_10: 0
  theta_11: 0
  theta_12: 0
  theta_13: 0
  theta_14: 0
  theta_15: 0
  theta_16: 0
  theta_17: 0
  theta_18: 0
  theta_19: 0
  theta_2: 100
  theta_20: 0
  theta_3: 0
  theta_4: 0
  theta_5: 0
  theta_6: 0
  theta_7: 0
  theta_8: 0
  theta_9: 0
  x_high: 1
  x_low: 0
```

Description

s_vsi_3ph_3 is the 3-phase voltage source inverter circuit shown in the figure with internally generated gate signals. The switch-diode parameters are specified by r_on, r_off, x_high (see the documentation for s_switch_diode_2.ebe).

The gate signals are generated using pwm20_1.xbe blocks with parameters frequency, ndata, theta_1, theta_2, ⋯ (see the documentation for pwm20_1.xbe). The theta_delay parameters for the pwm20_1.xbe blocks are set to 0, 60, 120, 180, 240, 300, giving suitable phase shifts between the gate signals.

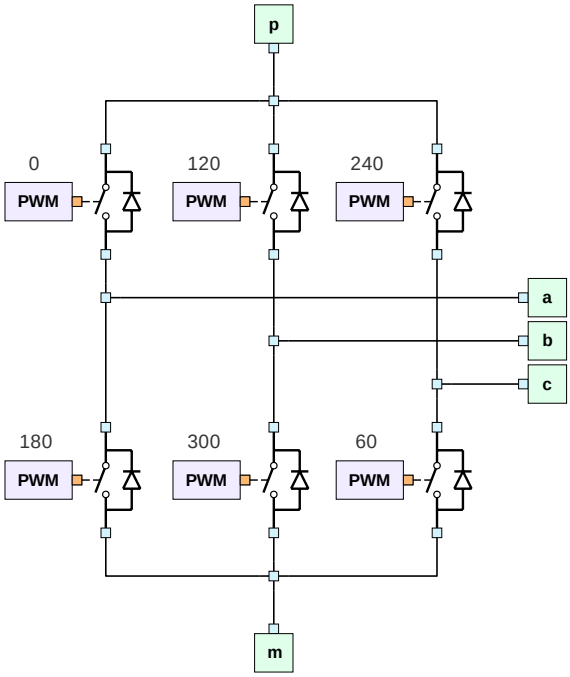

Figure 1: Schematic diagram of `s_vsi_3ph_3`.