s_vsrc_ac_3ph_bus (subcircuit)

Attributes

```
inputs:
outputs:
e_left_nodes:
e_right_nodes:
e_top_nodes:
e_bottom_nodes: n
b_left_nodes:
b_right_nodes: abc
b_top_nodes:
b_bottom_nodes:
parameters:
  A: 10
  f_hz: 50
  phi_deg_a: 0
  phi_deg_b: -120
  phi_deg_c: 120
```

Description

s_vsrc_ac_3ph_bus is a 3-phase AC source, with outputs given by,

$$V_{an}(t) = A \, \sin\left(2\pi f t + \phi_a\right),$$
$$V_{bn}(t) = A \, \sin\left(2\pi f t + \phi_b\right),$$
$$V_{cn}(t) = A \, \sin\left(2\pi f t + \phi_c\right),$$

where A, f, ϕ_a, ϕ_b, ϕ_c are given by the parameters, A, f_hz, phi_a_deg, phi_b_deg, phi_c_deg, respectively. Note that phi_a_deg, phi_b_deg, phi_c_deg need to be supplied in degrees. They are internally converted to radians. The source nodes are brought out as an electrical bus node rather than three separate electrical nodes.

The source currents are made available as output variables i_a, i_b, i_c.