

## vsrc\_ac.ebe

### Attributes

```
ebe name=vsrc_ac
# ac voltage source
# f_hz in Hz, phi_deg in deg
# a is amplitude in volts
Jacobian: constant
nodes: p n
state_vars:
aux_vars: cur_p
aux_vars_startup: cur_p_s
x_vars:
iparms:
sparms:
rparms:
+ a=1
+ f_hz=1
+ phi_deg=0
+ t0=0
+ omega=0
+ phi_rad=0
+ vdc=0
stparms:
igparms:
outparms: i v
```

### Description

vsrc\_ac.ebe is an AC voltage source connected between nodes p and n. The real parameters a, f\_hz, phi\_deg, t0, and vdc represent  $A$ ,  $f$ ,  $\phi'$ ,  $t_0$ , and  $V_{dc}$  respectively, in the following equation for the source voltage:

$$V_s(t) = A \sin(2\pi f(t - t_0) + \phi) + V_{dc} ,$$

with  $\phi = \frac{\pi}{180} \phi'$ . Note that the phase angle needs to be supplied in degrees. It is internally converted to radians.

The branch current and branch voltage are made available as output variables i and v, respectively.