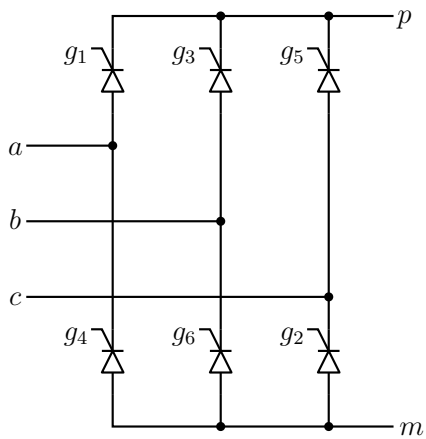


thyristor_bridge_3ph_2.gme



Attributes

```
mainnodes_anlg: a b c p m
aux_var: g1 g2 g3 g4 g5 g6
iparms:
+ flag_frequency=1
+ flag_period=0
rparms:
+ r_on=1m
+ r_off=100k
+ g_high=1.0
+ t_period=20m
+ frequency=50
+ tw_deg=10
+ alpha=0
+ dt=0.1u
+ cap=0.2n
outvar_anlg:
+ g1=var_of_g1
+ g2=var_of_g2
+ g3=var_of_g3
+ g4=var_of_g4
+ g5=var_of_g5
+ g6=var_of_g6
+ i_T1=i1_of_t1
+ i_T2=i1_of_t2
+ i_T3=i1_of_t3
+ i_T4=i1_of_t4
+ i_T5=i1_of_t5
+ i_T6=i1_of_t6
```

Description

`thyristor_bridge_3ph_2.gme` is a three-phase thyristor bridge as shown in the figure.

$R_{\text{on}}/R_{\text{off}}$ -type thyristors are used in the model. The gate signals, `g1` to `g6`, are internally generated. If a gate input is greater than `g_high/2`, it is considered to be high.

The other parameters have the following meaning:

flag_frequency: If this parameter is set to 1, the period of the gate signals is computed using the real parameter `frequency`.

flag_period: If this parameter is set to 1, the period of the gate signals is given by the real parameter `t_period`.

tw_deg: Pulse width in degrees (with T corresponding to 360°).

alpha: Offset of `g1` (with respect to $t = 0$) in degrees, where one period corresponds to 360° . (`g2` lags `g1` by 60° , and so on.)

dt: Rise and fall times of the gate pulses. `dt` should be generally set to $1/10$ of the pulse width or smaller.

cap: Capacitance added between `a` and `m`, between `b` and `m`, and between `c` and `m`. It may help convergence of the Newton-Raphson process in some cases.

AC behaviour is not implemented.