

cmprtr_hyst_1_dly.gce

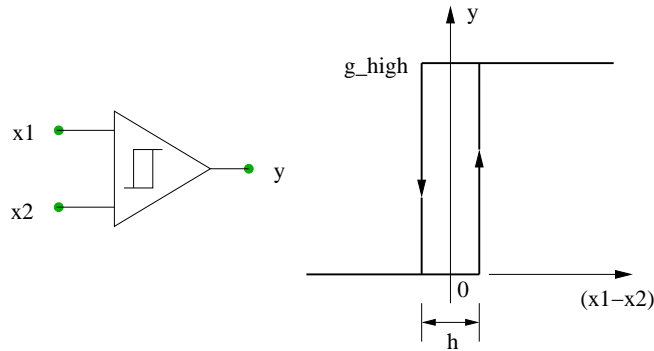


Figure 1: Input-output relationship for comparator with hysteresis.

Attributes

```
mainvars: x1 x2 y
rparams: g_high=1.0 eps1=1.0e-6 delt_min=1.0e-6
+      delt_nrml=1.0e-3 h=0.1 dly=1m
```

Description

`cmprtr_hyst_1_dly.gce` is a comparator with hysteresis. It compares general variables `x1` and `x2`. The input-output relation is as shown in Fig. 1. A delay (`dly`) between the change in the input conditions and the output (`y`) is incorporated internally. This feature is sometimes useful in convergence of Newton-Raphson iterations. The value assigned to `dly` should be sufficiently small to ensure that it does not change the simulation results.

The parameters `delt_min`, `delt_nrml`, and `eps1` are used for controlling the simulator time steps. Additional time points are forced, depending on the values of `delt_min` and `delt_nrml`, when $(x1 - x2) \pm h/2 \leq \text{eps1}$. This feature allows accurate simulation without having to make the average time step very small. Generally, `delt_nrml` should be made equal to the typical simulator time step (`delt_const`) while `delt_min` should be made much smaller (say, by a factor of 100).

AC behaviour is not implemented.