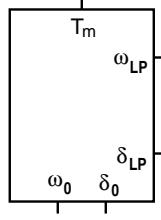


turbine_hp.ece



Attributes

```

mainvars:
+   delta
+   omega
+   delta_lp
+   omega_lp
+   tm
stparams:
+   delta_sv=0
+   omega_sv=0
iparms:
+   i_compute_strt=1
rparams:
+   h0=0.05
+   d0=0.1
+   k_lp=20
+   d_lp=0.3
+   fb=50
+   f0=50

```

Description

turbine_hp.ece is a turbine model satisfying the following equations:

$$\begin{aligned} \frac{d\delta}{dt} &= \omega\omega_B - \omega_0, \\ \frac{d\omega}{dt} &= w_p T_m - K'_{LP} (\delta - \delta_{LP}) - D' \omega - D'_{LP} (\omega - \omega_{LP}). \end{aligned}$$

In the above equations,

$$w_p = D_0/2H_0, K'_{LP} = K_{LP} w_p, D' = D_0 w_p, D'_{LP} = D_{LP} w_p.$$

When the integer parameter `i_compute_strt` is specified as 1, the start-up values of the state variables are computed in the synchrosnous machine template and are supplied to `turbine_hp.gce` through a Fortran common block.

AC behaviour is not implemented.