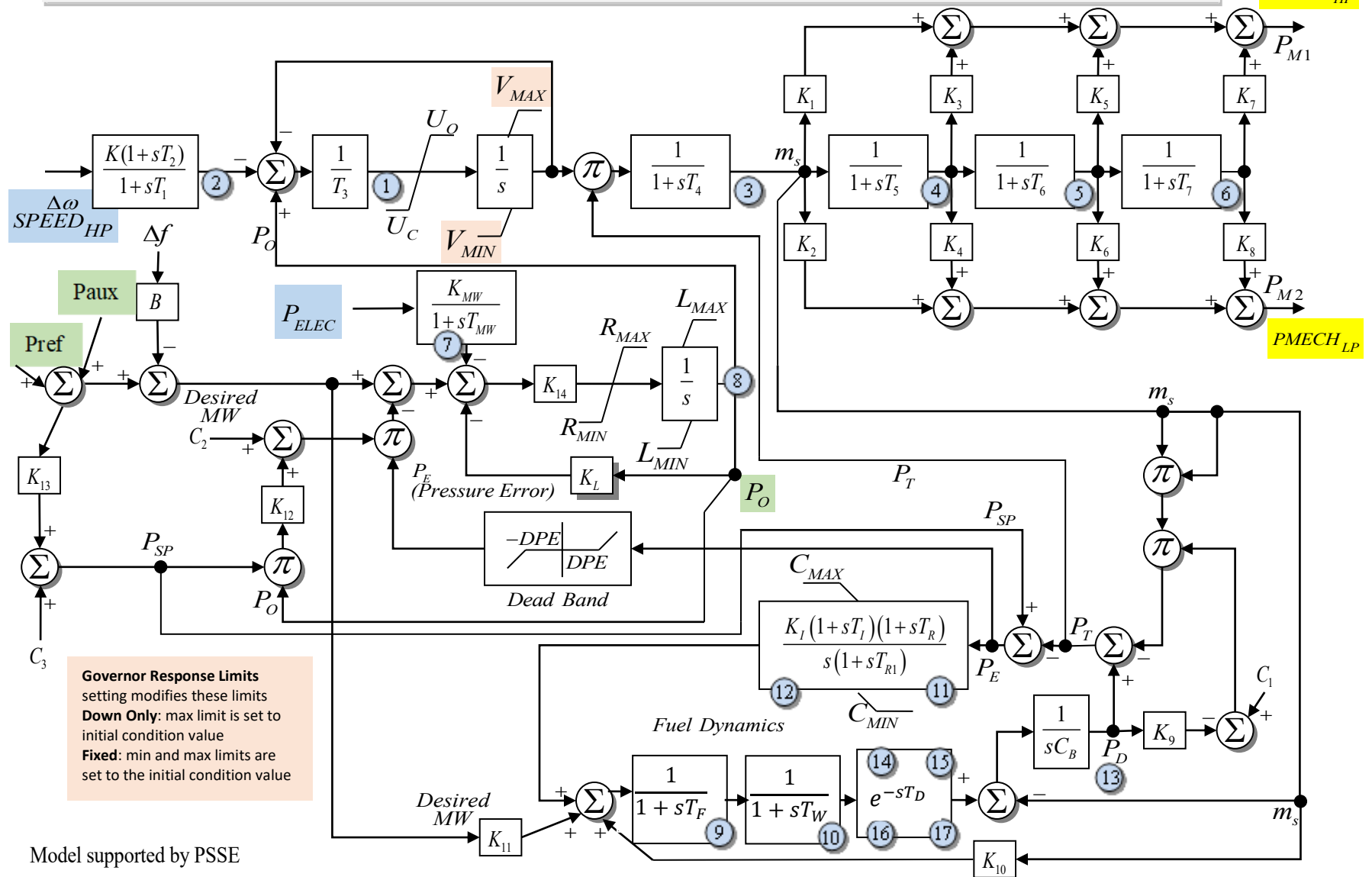


Governor TGOV5

Governor_TGOV5 - IEEE Type 1 Speed-Governor Model Modified to Include Boiler Controls



Governor_TGOV5 - IEEE Type 1 Speed-Governor Model Modified to Include Boiler Controls

States:

- 1 – Governor Output
- 2 – Speed Lead-Lag
- 3 – Turbine Bowl
- 4 – Reheater
- 5 – Crossover
- 6 – Double Reheat
- 7 – P_{ELEC}
- 8 – P_O
- 9 – FuelDyn1
- 10 – FuelDyn2
- 11 – Controller1
- 12 – Controller2
- 13 – P_D
- 14 – Delay1
- 15 – Delay2
- 16 – Delay3
- 17 – Delay4

Model supported by PSSE

Parameters:

K	Governor gain (recirpocal of droop), pu
T1	Governor mechanism time constant, sec
T2	Turbine power time constant, sec
T3	Turbine exhaust temperature time constant, sec
Uo	Maximum valve opening velocity, pu/sec
Uc	Maximum valve closing velocity, pu/sec
Vmax	Maximum turbine power, pu of mwcap
Vmin	Minimum turbine power, pu of mwcap
T4	Governor lead time constant, sec
K1	Fraction of hp shaft power after first boiler pass
K2	Fraction of lp shaft power after first boiler pass
T5	Governor lag time constant, sec
K3	Fraction of hp shaft power after second boiler pass
K4	Fraction of lp shaft power after second boiler pass
T6	Time constant, sec
K5	Fraction of hp shaft power after third boiler pass
K6	Fraction of lp shaft power after third boiler pass
T7	Time constant, sec
K7	Fraction of hp shaft power after fourth boiler pass
K8	Fraction of lp shaft power after fourth boiler pass
K9	Gain
K10	Gain
K11	Gain
K12	Gain
K13	Gain
K14	Gain
Rmax	Maximum fuel valve opening rate, pu/sec
Rmin	Minimum fuel valve opening rate, pu/sec
Lmax	Po Maxmum
Lmin	Po Minimum
C1	Inputs
C2	Inputs
C3	Inputs
B	Turbine power time constant denominator scale factor
Cb	Integrator time constant, sec
Ki	Integral gain, pu
Ti	Time constant, sec
Tr	Washout time constant, sec
Tr1	Washout time constant, sec

Cmax	Controller maximum
Cmin	Controller minimum
Td	Input filter time constant, sec
Tf	Washout time constant, sec
Tw	Water inertia time constant, sec
Psp	Pressure setpoint
Tmw	Pelec time constant, sec
KI	Controller gain
Kmw	Pelec gain
DeltaPe	Deadband