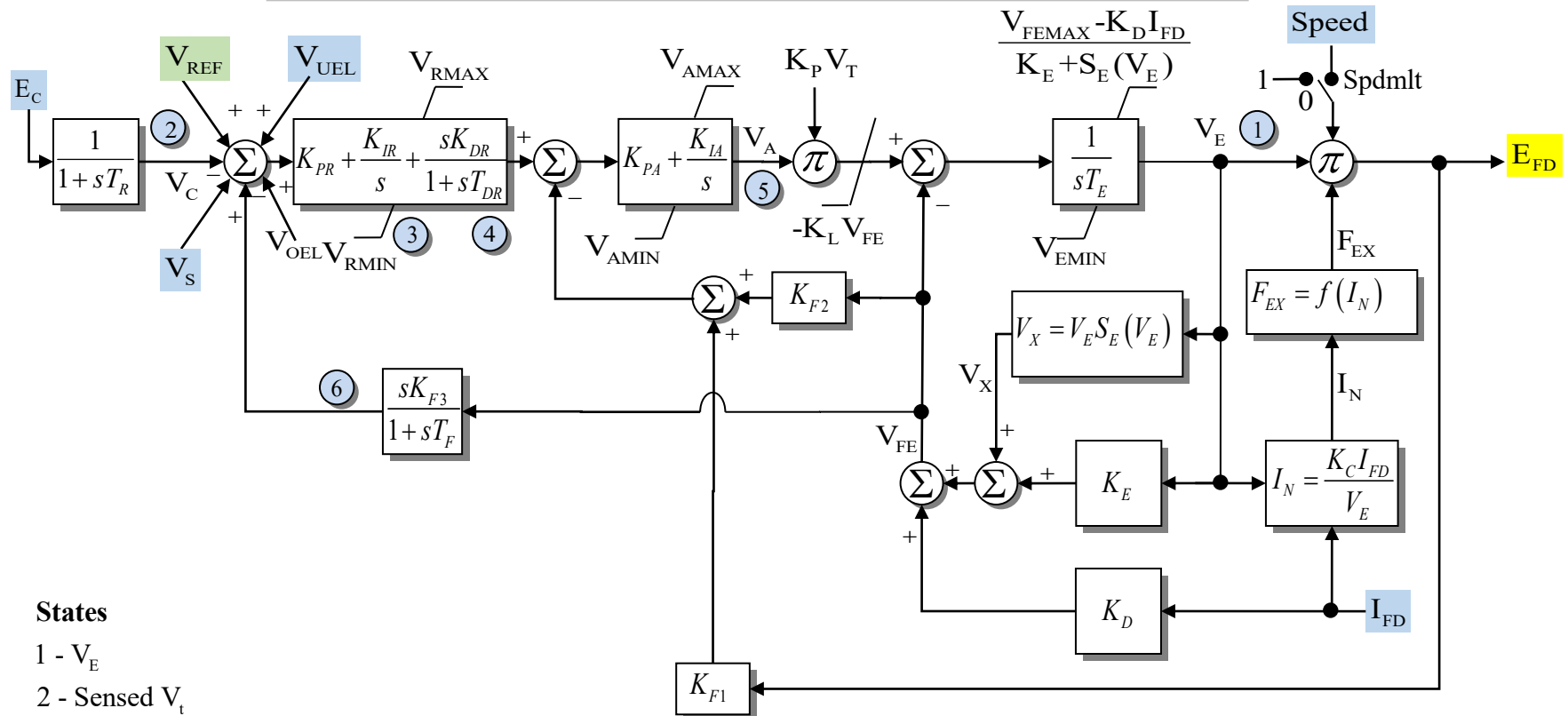


Exciter AC7B and ESAC7B

Exciter AC7B and ESAC7B IEEE 421.5 2005 Type AC7B Excitation System Model



States

- 1 - V_E
- 2 - Sensed V_t
- 3 - K_{IR}
- 4 - K_{DR}
- 5 - V_A
- 6 - Feedback

AC7B supported by PSSE

ESAC7B supported by PSLF with optional speed multiplier

Parameters for AC7B:

Tr	Filter time constant, sec
Kpr	Proportional gain, pu
Kir	Integral gain, pu
Kdr	Regulator derivative gain, pu
Tdr	Derivative gain washout time constant, sec
Vrmax	Maximum exciter control signal, pu
Vrmin	Minimum exciter control signal, pu
Kpa	Amplifier proportional gain, pu
Kia	Amplifier integral gain, pu
VaMax	Maximum control element output, pu
VaMin	Minimum control element output, pu
Kp	Potential source gain, pu
KI	Exciter field current limiter gain, pu
KF1	KF1
KF2	KF2
KF3	Rate feedback gain, pu
Tf	Rate feedback constant, sec
Kc	Rectifier loading factor proportional to commutating reactance
Kd	Exciter internal reactance, pu
Ke	Exciter field resistance constant, pu
Te	Exciter field time constant, sec
Vfemax	Exciter field current limit parameter, pu
Vemin	Minimum exciter output voltage, pu
E1	Field voltage value, 1
SE1	Saturation factor at E1
E2	Field voltage value, 2
SE2	Saturation factor at E2

Parameters for ESAC7B:

Tr	Filter time constant, sec
Kpr	Proportional gain, pu
Kir	Integral gain, pu
Kdr	Regulator derivative gain, pu
Tdr	Derivative gain washout time constant, sec
Vrmax	Maximum exciter control signal, pu
Vrmin	Minimum exciter control signal, pu
Kpa	Amplifier proportional gain, pu
Kia	Amplifier integral gain, pu
VaMax	Maximum control element output, pu

VaMin	Minimum control element output, pu
Kp	Potential source gain, pu
KI	Exciter field current limiter gain, pu
Te	Exciter field time constant, sec
Vfemax	Exciter field current limit parameter, pu
Vemin	Minimum exciter output voltage, pu
Ke	Exciter field resistance constant, pu
Kc	Rectifier loading factor proportional to commutating reactance
Kd	Exciter internal reactance, pu
KF1	KF1
KF2	KF2
KF3	Rate feedback gain, pu
Tf	Rate feedback constant, sec
E1	Field voltage value, 1
SE1	Saturation factor at E1
E2	Field voltage value, 2
SE2	Saturation factor at E2
Spdmlt	If not zero, multiply output (Efd) by generator speed