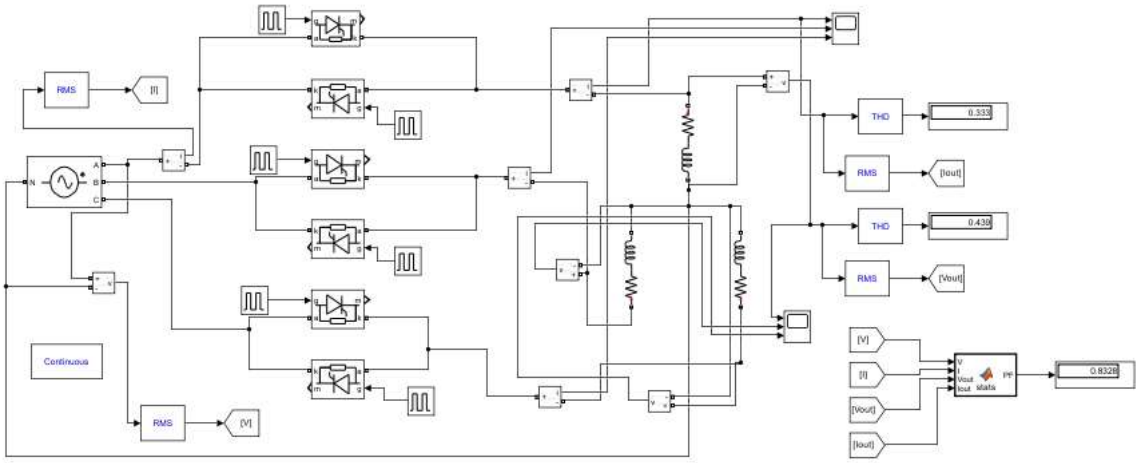
AC_Voltage_Controller

Details for AC_Voltage_Controller and above



G. Surya Anirudh

03-Apr-2024 11:17:03

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List of Tables

Model - AC_Voltage_Controller

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Full Model Hierarchy

1. AC_Voltage_Controller

Simulation Parameter	Value
Solver	VariableStepAuto
RelTol	1e-3
Refine	1
MaxOrder	5
ZeroCross	on

[more info]

Machine - AC_Voltage_Controller

Machine	AC_Voltage_Controller
Creation Date	03-Apr-2024 11:09:28

[more info]

System - AC_Voltage_Controller

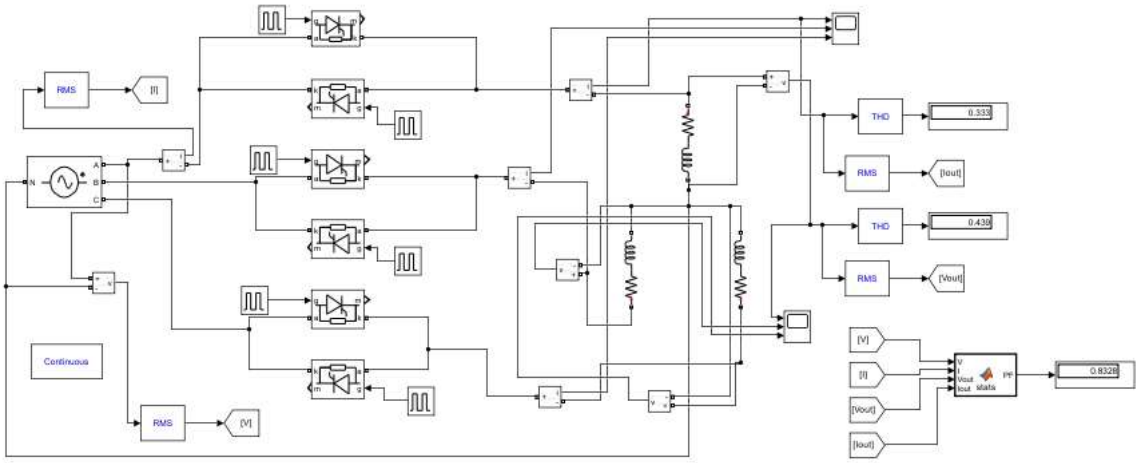

Table 1. Current Measurement Block Properties

Name
Current Measurement
Current Measurement1
Current Measurement2
Current Measurement3

Table 2. DiscretePulseGenerator Block Properties

Name	Pulse Type	Time Source	Amplitude	Period	Pulse Width	Phase Delay	Sample Time
Pulse Generator	Time based	Use simulation time	1	0.02	33.333	(60)*0.02/360	1
Pulse Generator1	Time based	Use simulation time	1	0.02	33.333	(240+180+60)*0.02/360	1
Pulse Generator2	Time based	Use simulation time	1	0.02	33.333	(240+60)*0.02/360	1
Pulse Generator3	Time based	Use simulation time	1	0.02	33.333	(180+60)*0.02/360	1
Pulse Generator4	Time based	Use simulation time	1	0.02	33.333	(120+60)*0.02/360	1
Pulse Generator5	Time based	Use simulation time	1	0.02	5	(120+180+60)*0.02/360	1

Table 3. Display Block Properties

Name	Format	Decimation	Floating
Display	short	1	off
Display1	short	1	off
Display2	short	1	off

Table 4. From Block Properties

Name	Goto Tag	Icon Display	Goto Blk Name	Goto Blk Location	Defined In Blk
From	V	Tag	Goto2	AC_Voltage_Controller	Switch
From1	I	Tag	Goto3	AC_Voltage_Controller	Switch
From2	Vout	Tag	Goto1	AC_Voltage_Controller	Switch
From3	Iout	Tag	Goto	AC_Voltage_Controller	Switch

Table 5. Goto Block Properties

Name	Goto Tag	Icon Display	Tag Visibility	From Blk	From Blk Location	Used By Blk
Goto	Iout	Tag	local	From3	AC_Voltage_Controller	SFunction
Goto1	Vout	Tag	local	From2	AC_Voltage_Controller	SFunction
Goto2	V	Tag	local	From	AC_Voltage_Controller	SFunction
Goto3	I	Tag	local	From1	AC_Voltage_Controller	SFunction

Table 6. MATLAB Function Block Properties

Name	Script

Name	Script

MATLAB Function	`function PF = stats(V,I,Vout,Iout)`
	
	`Po=(Vout*Iout);`
	`P=(V*I);`
	`PF=(Po/P);`

Table 7. PSB option menu block Block Properties

Name	Simulation Mode	Iterations	Frequencyindice	Pbase	Err Max	Units V	Units W	Function Messages	Echomessages	Current Source Switches	Disable Snubber Devices	Disable Ron Switches	Disable Vf Switches	Display Equations	Methode	X0stat
powergui	Continuous	50	50	100e6	1e-4	kV	MW	off	off	off	off	off	off	off	off	blocks

Table 8. RMS Block Properties

Name	True RMS	Freq	RMSInit	Ts
RMS	off	50	120	0
RMS1	off	50	120	0
RMS2	off	50	120	0
RMS3	off	50	120	0

Table 9. Series RLC Branch Block Properties

Name	Branch Type	Resistance	Inductance	Seti L0	Measurements
Series RLC Branch	RL	1	1e-3	off	None
Series RLC Branch1	RL	1	1e-3	off	None
Series RLC Branch2	RL	1	1e-3	off	None

Table 10. THD Block Properties

Name	Freq	Ts
THD	60	0
THD1	60	0

Table 11. Three-Phase Programmable Voltage Source Block Properties

Name	Positive Sequence	Variation Entity	Harmonic Generation	Bus Type
Three-Phase Programmable Voltage Source	[311 0 50]	None	off	swing

Table 12. Thyristor Block Properties

Name	Ron	Lon	Vf	IC	Rs	Cs	Measurements
Thyristor	0.001	0	0.8	0	500	250e-9	on
Thyristor1	0.001	0	0.8	0	500	250e-9	on
Thyristor2	0.001	0	0.8	0	500	250e-9	on
Thyristor3	0.001	0	0.8	0	500	250e-9	on
Thyristor4	0.001	0	0.8	0	500	250e-9	on
Thyristor5	0.001	0	0.8	0	500	250e-9	on

Table 13. Voltage Measurement Block Properties

Name
Voltage Measurement
Voltage Measurement1
Voltage Measurement2
Voltage Measurement3

Appendix

Table 14. Block Type Count

BlockType	Count	Block Names
Thyristor (m)	6	Thyristor, Thyristor1, Thyristor2, Thyristor3, Thyristor4, Thyristor5
DiscretePulseGenerator	6	Pulse Generator, Pulse Generator1, Pulse Generator2, Pulse Generator3, Pulse Generator4, Pulse Generator5
Voltage Measurement (m)	4	Voltage Measurement, Voltage Measurement1, Voltage Measurement2, Voltage Measurement3
RMS (m)	4	RMS, RMS1, RMS2, RMS3
Goto	4	Goto, Goto1, Goto2, Goto3
From	4	From, From1, From2, From3
Current Measurement (m)	4	Current Measurement, Current Measurement1, Current Measurement2, Current Measurement3
Series RLC Branch (m)	3	Series RLC Branch, Series RLC Branch1, Series RLC Branch2

BlockType	Count	Block Names
Display	3	Display, Display1, Display2
THD (m)	2	THD, THD1
Scope	2	Scope, Scope1
Three-Phase Programmable Voltage Source (m)	1	Three-Phase Programmable Voltage Source
PSB option menu block (m)	1	powergui
MATLAB Function	1	MATLAB Function