

ANEXOS RT UNIDAD 1 GUATAPE

Tabla 1. Parámetros del Generador

Descripción	Variable	Unidad	Unit1
Armature resistance	Ra	[ohm]	0.295
d-axis reactance	Xd	[p.u.]	0.950
d-axis transient reactance	Xpd	[p.u.]	0.288
d-axis subtransient reactance	Xppd	[p.u.]	0.235
q-axis reactance	Xq	[p.u.]	0.740
q-axis subtransient reactance	Xppq	[p.u.]	0.235
Leakage reactance	Xl	[p.u.]	0.120
d axis open circuit transient time constant	Tpdo	[s]	7.050
d axis open circuit subtransient time constant	Tppdo	[s]	0.031
q axis open circuit subtransient time constant	Tppqo	[s]	0.025
Field current base	Ifbase	[A]	371
Field voltage base	Vfbase	[V]	97
Inertia constant	H	[MWs/MVA]	3.6701

DIAGRAMA DE BLOQUE Y PARAMETROS

Control Automático (AVR)

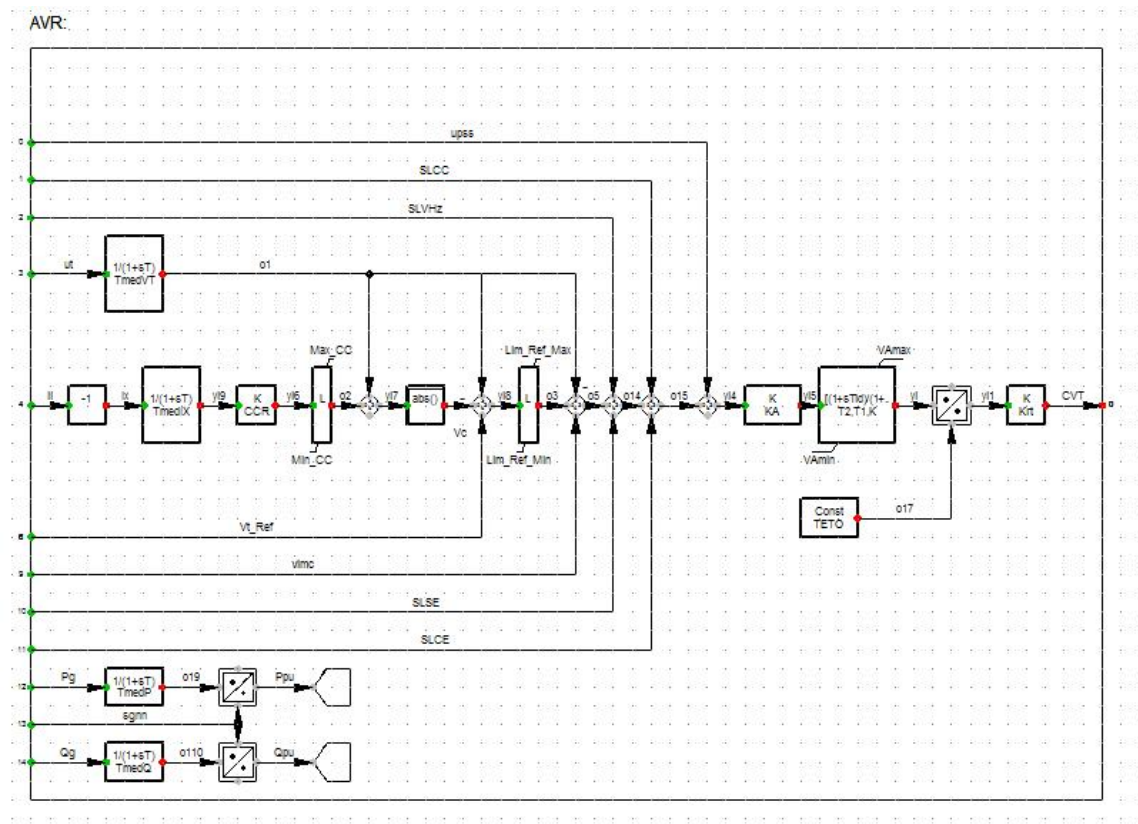


Figura 1. Diagrama de bloques del Regulador de Tensión (AVR)

Tabla 2. Parámetros del AVR

Common Model - Grid\AVR.ElmDsl

Name:

Model Definition: ... Models\Models_Guatape\AVR

☐ Out of Service ☐ A-stable integration algorithm

	Parameter	
▶ TmedIX	0,02	
T2	8,	
T1	2,	
K	1,	
TmedVT	0,01	
CCR	-0,03	
KA	500,	
TETO	6,15	
TmedP	0,02	
TmedQ	0,02	
Krt	1,	
VAmin	-5,326	
Lim_Ref_Min	0,9	
Min_CC	-0,05	
VAmax	6,056	
Lim_Ref_Max	1,1	
Max_CC	0,05	

Conversor de Potencia (DRIVE)

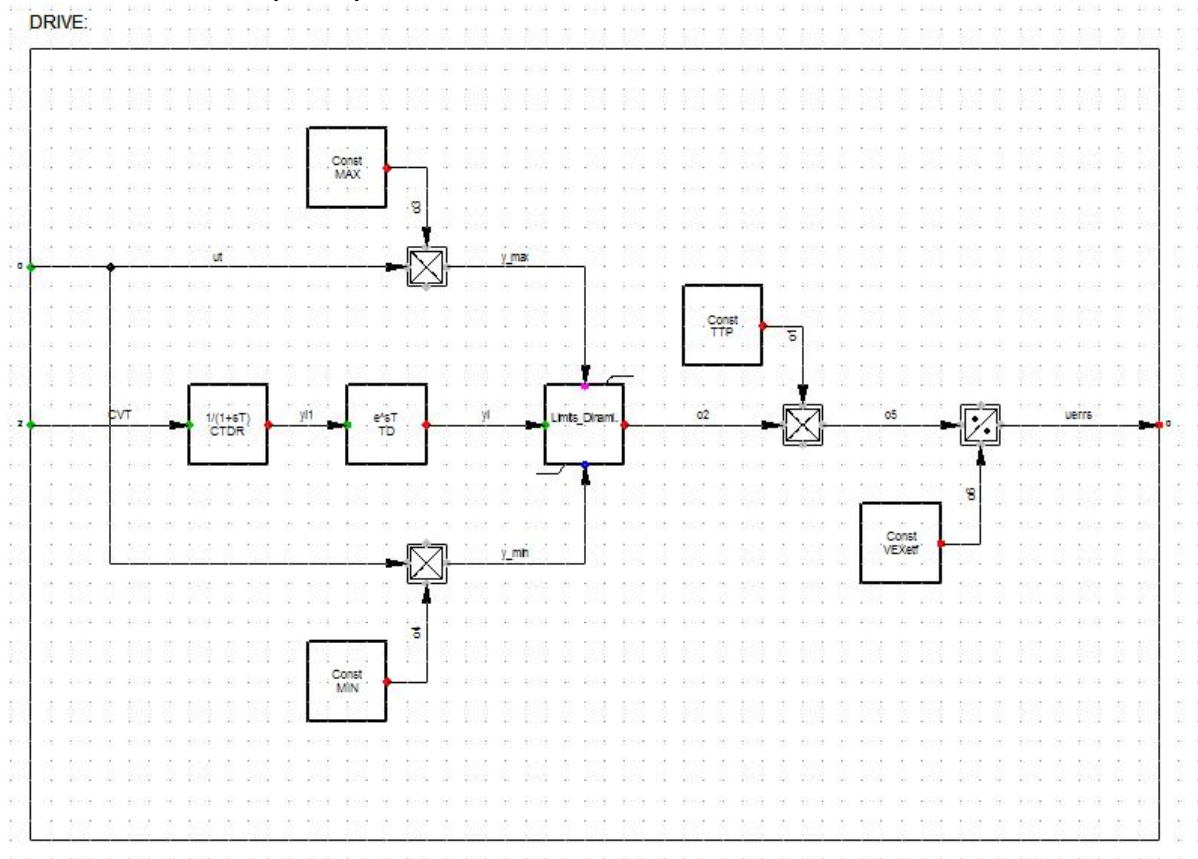


Figura 2. Modelo Conversor de Potencia

Tabla 3. Parámetros del Drive

Common Model - Grid\DRIVE.Elmdsl		
Name	DRIVE	
Model Definition	...dels\Models_Guatape\DRIVE	
☐ Out of Service	☐ A-stable integration algorithm	
Parameter		
CTDR	0.01	
TD	0.001	
TTP	553.5	
VEXetf	80.56	
MAX	0.9848	
MIN	-0.866	

Export to Clipboard

Limitador de Sobreexcitación (OEL, Digsilent = LCC)

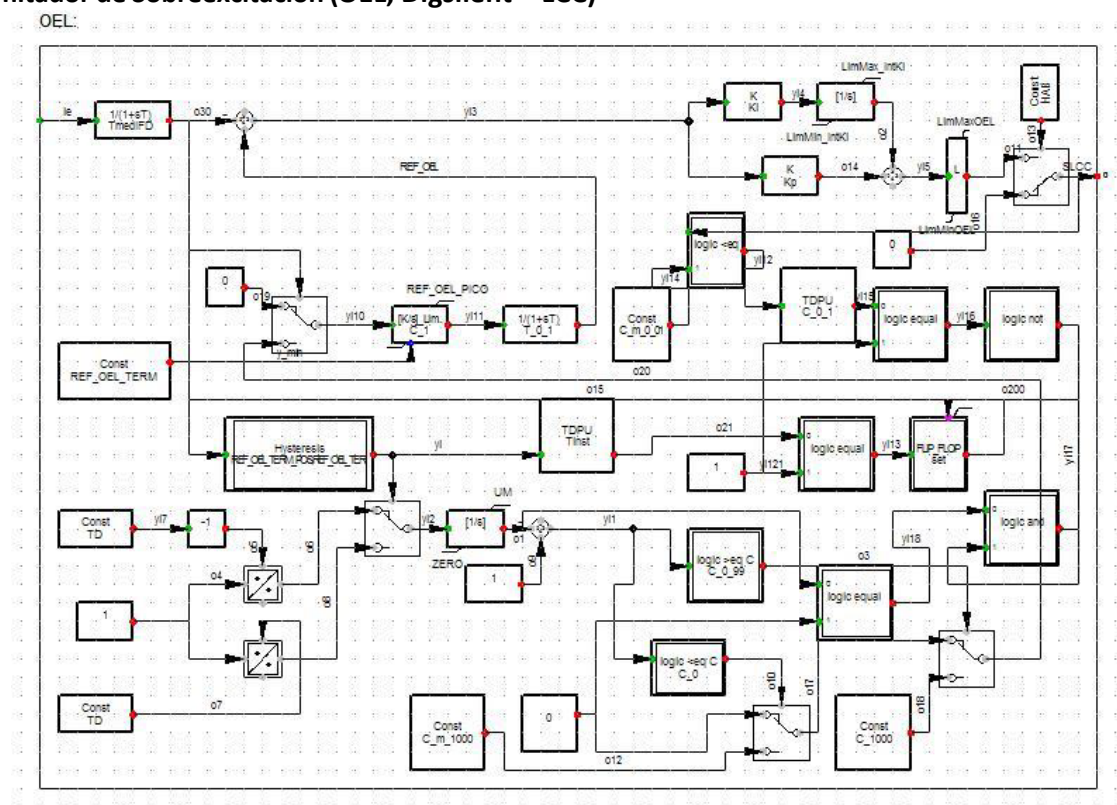


Figura 3. Diagrama de bloques del limitador OEL

Tabla 4. Parámetros del limitador OEL

Common Model - Grid\OEL.ElmDsl		
Name	OEL	
Model Definition	...ned Models\Models_Guatape\OEL	
☐ Out of Service	☐ A-stable integration algorithm	
Parameter		
REF_OEL_TERM	2.309	
TD	0.1	
Ki	0.1	
C_1	1.	
Kp	0.05	
TmedIFD	0.02	
T_0_1	0.1	
HAB	1.	
REF_OEL_TERM_POS	2.31	
REF_OEL_TERM_NEG	2.308	
Tinst	10.	
C_m_0_01	-0.01	
C_m_1000	-1000.	
C_1000	1000.	
set	0.5	
C_0_1	0.1	
C_0_99	0.99	

Common Model - Grid\OEL.Elmdsl

Name:

Model Definition: ned Models\Models_Guatape\OEL

☐ Out of Service ☐ A-stable integration algorithm

	Parameter
C_0	0.
ZERO	0.
LimMin_IntKi	-5.
LimMinOEL	-5.
UM	1.
REF_OEL_PICO	2.77
LimMax_IntKi	0.
LimMaxOEL	0.

Limitador de Subexcitación (UEL, Digsilent = LSE)

UEL:

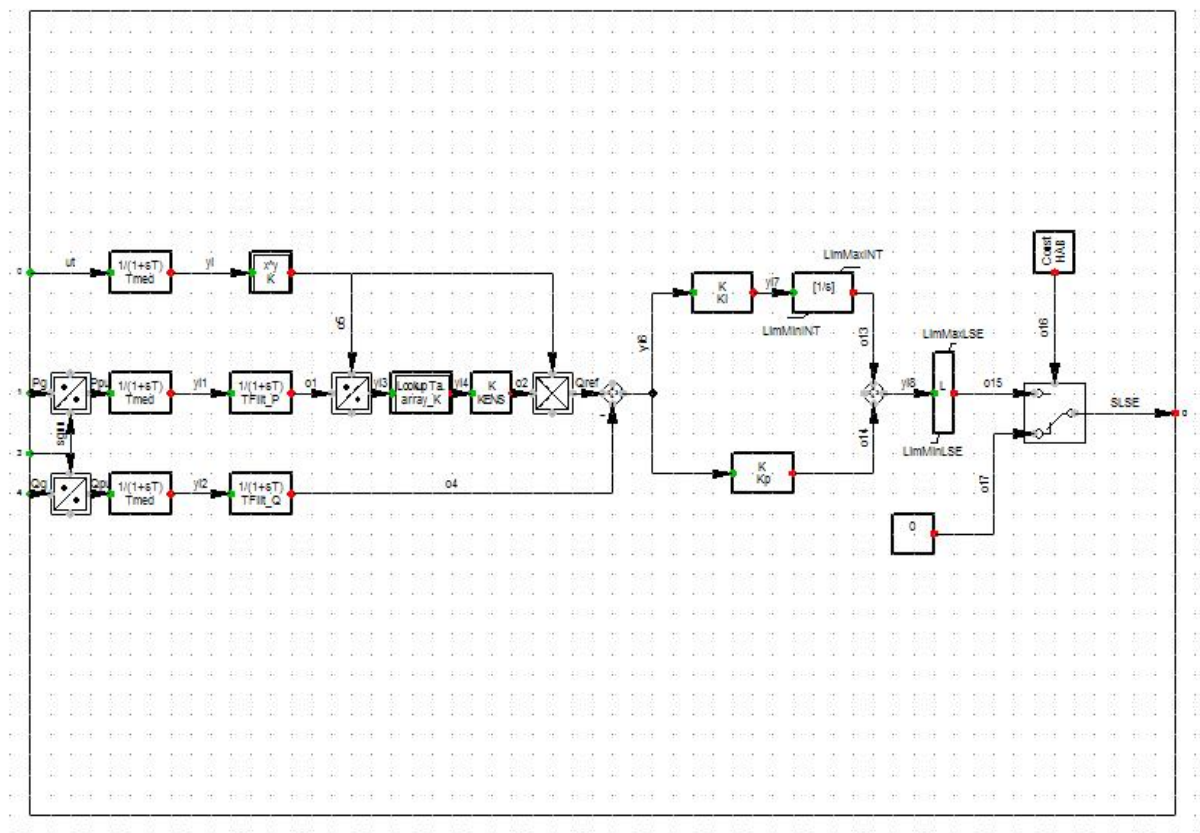


Figura 4. Diagrama de bloques del limitador UEL

Tabla 5. Parámetros del limitador UEL

Common Model - Grid\UEL.ElmDsl

Name: UEL

Model Definition: ...ned Models\Models_Guatape\UEL

☐ Out of Service ☐ A-stable integration algorithm

Parameter	
Tmed	0.01
TFilt_P	1.
TFilt_Q	0.01
Ki	0.15
Kp	0.2
HAB	1.
K	2.
KENS	1.
LimMinINT	0.
LimMinLSE	0.
LimMaxINT	10.
LimMaxLSE	10.

Export to Clipboard

OK Cancel Events

Common Model - Grid\UEL.ElmDsl

Characteristics:

	K _x	K _y
Size	5.	0.
1	0.	-0.61
2	0.25	-0.58
3	0.5	-0.54
4	0.75	-0.48
5	1.	-0.36

OK Cancel

Limitador de Corriente de Estator (SCL, Digsilent = LCE)

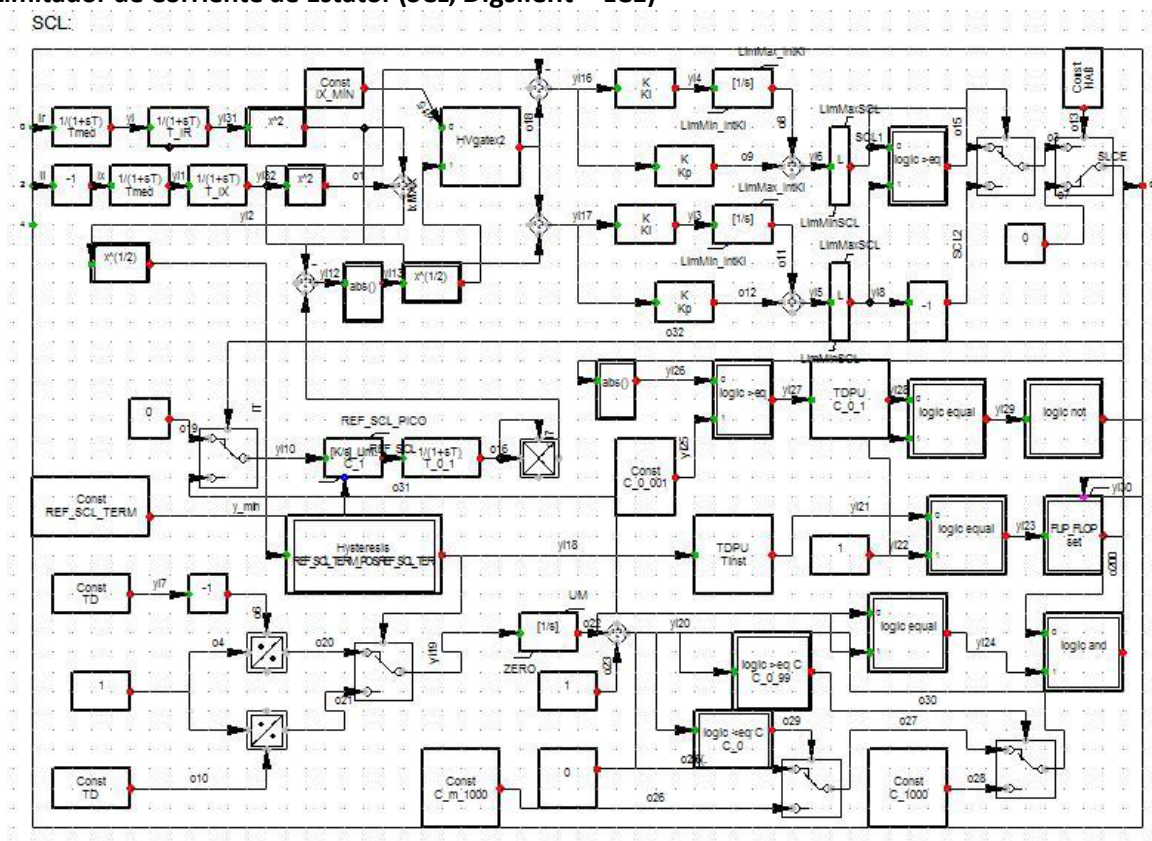


Figura 5. Diagrama de bloques del limitador SCL

Tabla 6. Parámetros del limitador SCL

Common Model - Grid\SCL.ElmDsl		
Name	SCL	
Model Definition	...ned Models\Models_Guatemala\SCL	
☐ Out of Service	☐ A-stable integration algorithm	
Parameter		
Tmed	0.02	
TD	60.	
T_IR	1.	
IX_MIN	0.05	
REF_SCL_TERM	1.	
T_IX	0.01	
Ki	0.1	
C_1	1.	
Kp	0.05	
T_0_1	0.1	
HAB	1.	
REF_SCL_TERM_POS	1.01	
REF_SCL_TERM_NEG	0.99	
Tinst	2.	
C_m_1000	-1000.	
C_1000	1000.	
C_0_001	0.001	

Common Model - Grid\SCL.ElmDsl

Name:

Model Definition: ...ned Models\Models_Guatape\SCL

☐ Out of Service ☐ A-stable integration algorithm

	Parameter	
set	0.5	
C_0_1	0.1	
C_0_99	0.99	
C_0	0.	
ZERO	0.	
LimMin_IntKi	-1.	
LimMinSCL	-1.	
UM	1.	
REF_SCL_PICO	3.	
LimMax_IntKi	0.	
LimMaxSCL	0.	

Limitador de Sobreflujo (Digsilent = LVHZ)

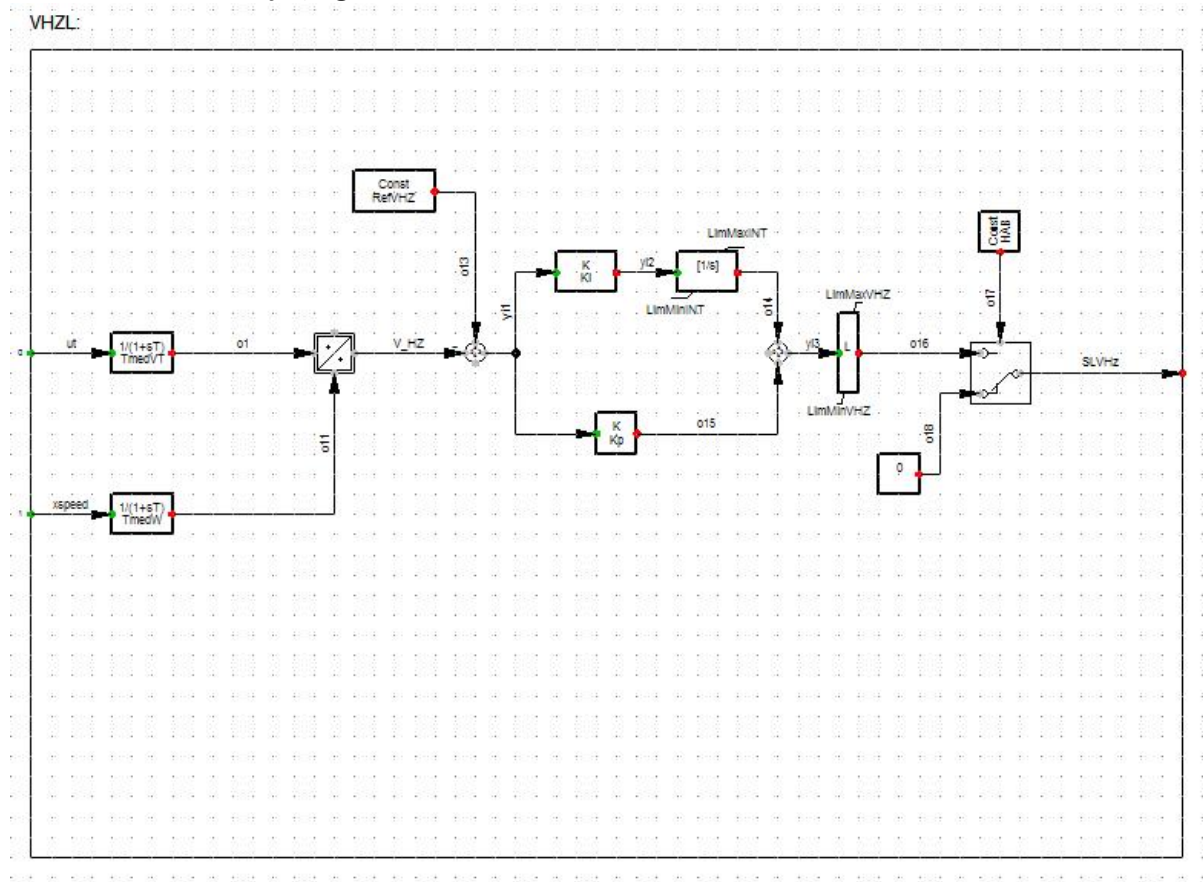


Figura 6. Diagrama de bloques del limitador VHZ

Tabla 7. Parámetros del limitador VHZ

Common Model - Grid\VHZE.ElmDsl		
Name	VHZE	
Model Definition	... Models\Models_Guatape\VHZE	
☐ Out of Service	☐ A-stable integration algorithm	
Parameter		
TmedVT	0,01	
TmedW	0,01	
RefVHZ	1,1	
Ki	0,2	
Kp	0,05	
HAB	1,	
LimMinINT	-5,	
LimMinVHZ	-5,	
LimMaxINT	0,	
LimMaxVHZ	0,	
Export to Clipboard		

Limitador MEL (Digsilent = MEL)

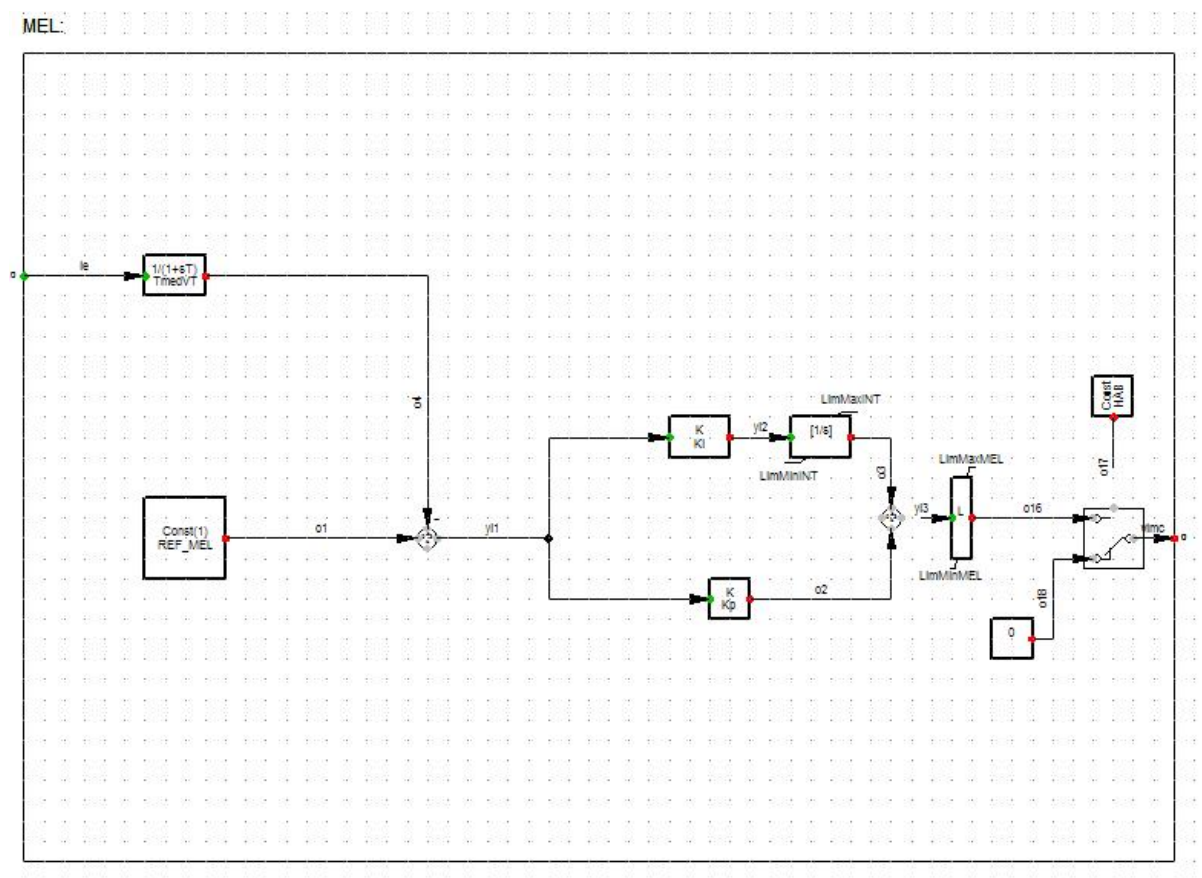


Figura 7. Diagrama de bloques del limitador MEL

Tabla 8. Parámetros del limitador MEL

Common Model - Grid\MEL\ElmDsl		
Name	MEL	
Model Definition	... Models\Models_Guatape\MEL	
☐ Out of Service	☐ A-stable integration algorithm	
Parameter		
TmedVT	0,02	
REF_MEL	0,3496	
Ki	0,1	
Kp	0,05	
HAB	1,	
LimMinINT	0,	
LimMinMEL	0,	
LimMaxINT	1,	
LimMaxMEL	1,	
Export to Clipboard		

Estabilizador de Sistema de Potencia (PSS)

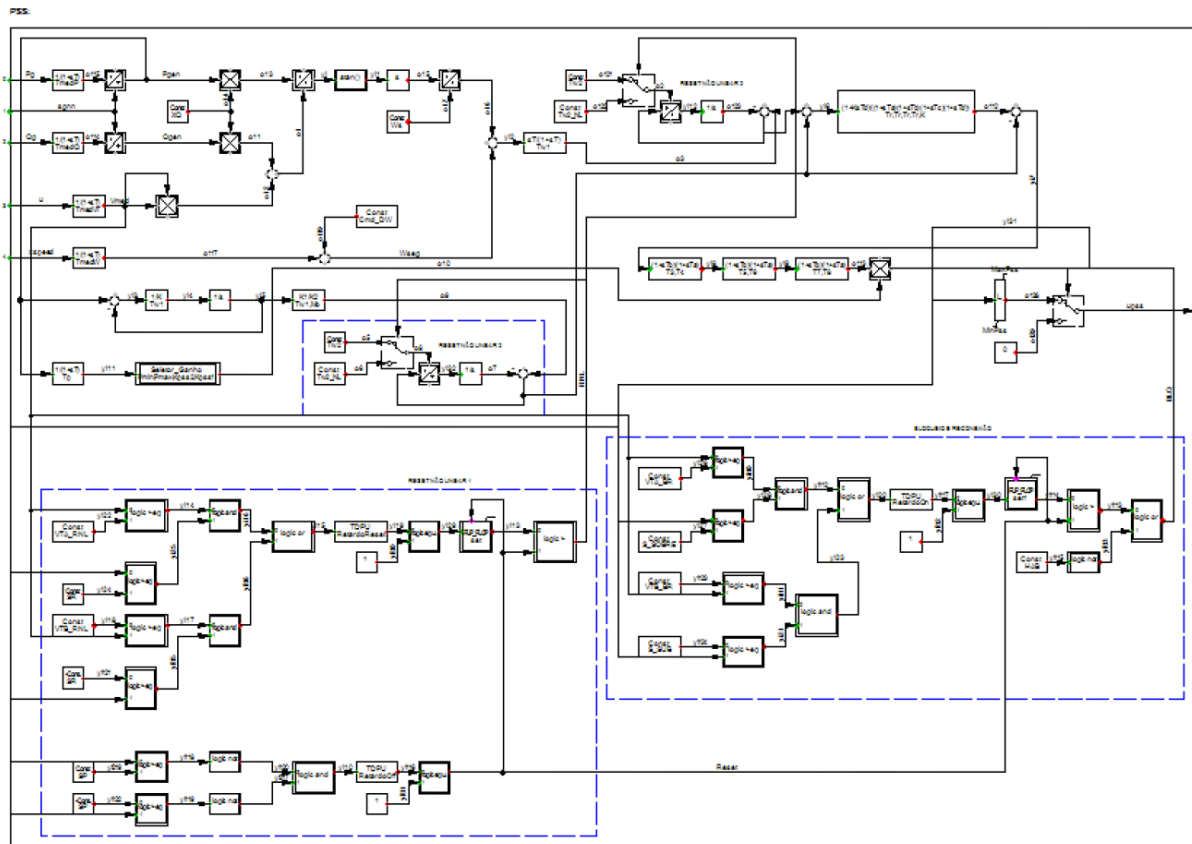


Figura 8. Diagrama de bloques del Estabilizador de Sistema de Potencia

Tabla 9. Parámetros del Estabilizador del Sistema de Potencia

Common Model - Grid\PSS.Elmdsl	
Name	PSS
Model Definition	...ned Models\Models_Guatape\PSS
☐ Out of Service	☐ A-stable integration algorithm
Parameter	
XQ	0.74
Ws	377.
Tw1	3.
Tr	0.15
K	4.
T3	0.099
T4	0.014
T5	0.099
T6	0.014
T7	0.01
T8	0.01
Mo	5.94
TmedP	0.02
TmedQ	0.02
TmedVT	0.01
TmedW	0.01
Tp	1.
Export to Clipboard	

Common Model - Grid\PSS.ElmDsl

Name:

Model Definition: ... ned Models\Models_Guatape\PSS

☐ Out of Service ☐ A-stable integration algorithm

	Parameter	
Tw2	3,	
Tw2_NL	0.5	
VTA_RNL	1,05	
VTB_RNL	0,95	
set	0.5	
VTA_BR	1,1	
VTB_BR	0,9	
S_SOBRE	0,05	
S_SUB	-0,05	
set1	0.5	
HAB	1,	
Pmin	0,	
Pmax	0.3	
Kpss2	0,	
Kpss1	15,	
SR	0,05	
SP	0,02	

Export to Clipboard

OK Cancel Events

Common Model - Grid\PSS.ElmDsl

Name:

Model Definition: ... ned Models\Models_Guatape\PSS

☐ Out of Service ☐ A-stable integration algorithm

	Parameter	
Cmd_DW	0,	
RetardoReset	0.5	
RetardoOff	0.1	
RetardoOn	2,	
MinPss	-0.1	
MaxPss	0.1	

Export to Clipboard

OK Cancel Events