

System Information

Versionen

Gerätename	Symo GEN24 10.0
Hardware ID	
WebUI	1.18.1-2
User Agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/108.0.0.0 Safari/537.36 OPR/94.0.0.0

Software-Revisionen

CoyoteCore	1.18.2-1
DEVICEGROUP	1.23.3-1
GEN24	1.23.3-1
GEN24ROW	1.23.3-1
GEN24SYMO	1.23.3-1
Kronos	2.31.3-16925
Rhea	2.10.1-2
S10RW-pilot	1.18.2-1
Zeus	2.22.0-10805
imx6sx-pilot	1.18.2-1

Hardware-Revisionen

3PN10K-33471005065140073	33471005065140073 4,071,594 0.6G_ 3PN10K R
PILOT-33431001132370128	33431001132370128 4,071,452 0.6E_B PILOT R
ROX-L-33431001132560159	33431001132560159 4,071,779 0.2B_B ROX-L R

Netzwerk

LAN (LAN1)

status	connected
ip	
dns	



mask

gateway

WLAN

status disconnected

Lizenz

Seriennummer	
Nennleistung	10000
Sequenznummer	2
Artikelnummer	4,210,157,002

Aktivierte Features

Artikelnummer	Name
41,300,221	Battery Operation
41,300,222	Full Backup

Setup Version

Grid Code	DE2U >4,6kVA Q(U)
Region	Germany
Grid Code Id	196619 (0x3000b)
Grid Code Version	V 01.00.33.00

Sicherheits- und Netzanforderungen

Allgemein

Startup and Reconnection

Option	Limits	Value	Unit
Grid Monitoring Time Startup	[1 - 900]	60	s
Grid Monitoring Time Reconnection	[1 - 900]	60	s

Ramp Rates

Ramp-Up at Startup and Reconnection

Option	Limits	Value	Unit
Ramp-Up at Startup and Reconnection		Ein	
Ramp-Up at Startup and Reconnection Rate	[0.001 - 100]	0.16	%/s

Ramp-Up Irradiation

Option	Limits	Value	Unit
Ramp-Up Irradiation		Aus	
Ramp-Up Irradiation Rate	[0 - 200]	0.167	%/s

Ramp-Down Irradiation

Option	Limits	Value	Unit
Ramp-Down Irradiation		Aus	
Ramp-Down Irradiation Rate	[0 - 200]	0.167	%/s

Ramp-Up Communication

Option	Limits	Value	Unit
Ramp-Up Communication		Ein	
Ramp-Up Communication Rate	[0 - 100]	0.6	%/s

Ramp-Down Communication

Option	Limits	Value	Unit
Ramp-Down Communication		Ein	
Ramp-Down Communication Rate	[0 - 100]	0.6	%/s

Netz- und Anlagenschutz

Netztyp

Voltage

Inner Limits

Option	Limits	Value	Unit
Undervoltage U<	[0 - 311]	184.75	V

Option	Limits	Value	Unit
Undervoltage Time U<	[0 - 1000]	2.96	s
Overvoltage U>	[0 - 311]	288.67	V
Overvoltage Time U>	[0 - 1000]	0.1	s

Middle Limits

Option	Limits	Value	Unit
Voltage Middle Limits		Aus	
Undervoltage U<	[0 - 311]	190	V
Undervoltage Time U<	[0 - 1000]	0.18	s
Overvoltage U>	[0 - 311]	270	V
Overvoltage Time U>	[0 - 1000]	0.18	s

Outer Limits

Option	Limits	Value	Unit
Voltage Outer Limits		Ein	
Undervoltage U<<	[0 - 311]	103.92	V
Undervoltage Time U<<	[0 - 1000]	0.34	s
Overvoltage U>>	[0 - 311]	288.67	V
Overvoltage Time U>>	[0 - 1000]	0.1	s

Long Time Average Limit

Option	Limits	Value	Unit
Long Time Average Limit		Ein	
Overvoltage U>	[0 - 311]	254.03	V
Overvoltage Averaging Time U>	[0 - 15300]	600	s

Fast Overvoltage Disconnect

Option	Limits	Value	Unit
Fast Overvoltage Disconnect Threshold	[0 - 200]	135	%V
Fast Overvoltage Disconnect Time	[0.0001 - 0.02]	0.0005	s

Startup and Reconnection

Option	Limits	Value	Unit
Mode	Startup Values are used for Startup and Reconnection		

Option	Limits	Value	Unit
Startup Minimum Voltage	[0 - 311]	196.3	V
Startup Maximum Voltage	[0 - 311]	254.03	V
Reconnection Minimum Voltage	[0 - 311]	196.3	V
Reconnection Maximum Voltage	[0 - 311]	254.03	V

Frequency

Inner Limits

Option	Limits	Value	Unit
Underfrequency f<	[45 - 66]	47.5	Hz
Underfrequency Time f<	[0 - 1000]	0.1	s
Overfrequency f>	[45 - 66]	51.5	Hz
Overfrequency Time f>	[0 - 1000]	0.1	s

Outer Limits

Option	Limits	Value	Unit
Frequency Outer Limits		Ein	
Underfrequency f<<	[45 - 66]	47.5	Hz
Underfrequency Time f<<	[0 - 1000]	0.1	s
Overfrequency f>>	[45 - 66]	51.5	Hz
Overfrequency Time f>>	[0 - 1000]	0.1	s

Alternative Limits

Option	Limits	Value	Unit
Frequency Alternative Limits		Aus	
Underfrequency f<	[45 - 66]	49.5	Hz
Underfrequency Time f<	[0 - 1000]	0.1	s
Overfrequency f>	[45 - 66]	50.5	Hz
Overfrequency Time f>	[0 - 1000]	0.1	s

Startup and Reconnection

Option	Limits	Value	Unit
Mode	Startup Values are used for Startup and Reconnection		
Startup Minimum Frequency	[45 - 66]	47.5	Hz

Option	Limits	Value	Unit
Startup Maximum Frequency	[45 - 66]	50.1	Hz
Reconnection Minimum Frequency	[45 - 66]	47.5	Hz
Reconnection Maximum Frequency	[45 - 66]	50.1	Hz

Rate of Change of Frequency (RoCoF) Protection

Option	Limits	Value	Unit
Rate of Change of Frequency (RoCoF) Protection		Aus	
RoCoF Limit	[0.05 - 99]	2.5	Hz/s
RoCoF Time	[0.05 - 16]	0.3	s

DC Injection

Inner Limit

Option	Limits	Value	Unit
Mode		Aus	
DC Current Absolute Value	[0 - 10]	0.9	A
DC Current Relative Value	[0 - 10]	0.5	%A
DC Injection Time	[0 - 10]	0.2	s

Outer Limit

Option	Limits	Value	Unit
Mode		Absolute Value	
DC Current Absolute Value	[0 - 10]	0.9	A
DC Current Relative Value	[0 - 10]	0.5	%A
DC Injection Time	[0 - 10]	0.18	s

Phase Balance Protection

Netzstützende Funktionen

Voltage Fault Ride Through

Option	Limits	Value	Unit
Mode		Ein	

Option	Limits	Value	Unit
Detection Mode		Mode 1	
Current Calc Mode		Zero Current	
Threshold Static	[0 - 200]	115	%V
k-factor Positive Sequence	[0 - 10]	0	
k-factor Negative Sequence	[0 - 10]	0	

Region 2

Option	Limits	Value	Unit
Detection Mode		Mode 1	
Current Calc Mode		Zero Current	
Threshold Static	[0 - 200]	80	%V
k-factor Positive Sequence	[0 - 10]	0	
k-factor Negative Sequence	[0 - 10]	0	

Region 3

Option	Limits	Value	Unit
Detection Mode		Mode 1	
Current Calc Mode		Passive	
Threshold Static	[0 - 200]	0	%V
k-factor Positive Sequence	[0 - 10]	0	
k-factor Negative Sequence	[0 - 10]	0	

Active Power

Voltage-dependent Power Control

Option	Limits	Value	Unit
Mode		Aus	
Activation Threshold Overvoltage	[208 - 311]	253	V
Gradient Overvoltage	[0.01 - 100]	8.7	%/V
Calculation Mode		$P_{max} = P_n - P_n(k \cdot dV)$	
Active Grid Support Undervoltage		Aus	
Activation Threshold Undervoltage	[0 - 311]	0	V
Gradient Undervoltage	[0 - 100]	0	%/V

Voltage-dependent Power Control

Option	Limits	Value	Unit
Mode		Aus	
Activation Threshold Overvoltage	[208 - 311]	253	V
Gradient Overvoltage	[0.01 - 100]	8.7	%/V
Calculation Mode		$P_{max} = P_n - P_n(k \cdot dV)$	
Active Grid Support		Aus	
Activation Threshold Undervoltage	[0 - 311]	0	V
Gradient Undervoltage	[0 - 100]	0	%/V
Time Constant (τ)	[0 - 600]	5	s
Stop Voltage at Overvoltage	[0 - 311]	270	V
Power at Stop Voltage - Overvoltage	[0 - 100]	0	%
Stop Voltage at Undervoltage	[0 - 311]	220	V
Power at Stop Voltage - Undervoltage	[0 - 100]	100	%
Activation Delay	[0.5 - 60]	0.5	s
Reset Delay	[0 - 60]	0	s

Frequency-dependent Power Control

Option	Limits	Value	Unit
Mode		On (without Hysteresis)	
Configuration Method		Use Gradient	
Transition Frequency at Overfrequency	[45 - 66]	66	Hz
Transition Frequency at Underfrequency	[45 - 66]	45	Hz

Frequency-dependent Power Control - Overfrequency

Option	Limits	Value	Unit
Calculation Mode Overfrequency		$P_{max} = P_m - P_m(k \cdot df)$	
Activation Threshold Overfrequency	[45 - 66]	50.2	Hz
Gradient Overfrequency	[0.01 - 300]	40	%/Hz
Stop Frequency - Overfrequency	[45 - 66]	52	Hz
Power at Stop Frequency - Overfrequency	[-100 - 100]	0	%
Upper Deactivation Threshold Overfrequency	[45 - 66]	50.2	Hz
Lower Deactivation Threshold Overfrequency	[45 - 66]	49.8	Hz

Frequency-dependent Power Control - Underfrequency

Option	Limits	Value	Unit
Active Grid Support		Ein	
Calculation Mode Underfrequency		$P_{max} = P_m - P_n(k \cdot df)$	
Activation Threshold Underfrequency	[45 - 66]	49.8	Hz
Gradient Underfrequency	[0 - 100]	40	%/Hz
Stop Frequency - Underfrequency	[45 - 66]	48	Hz
Power at Stop Frequency - Underfrequency	[-100 - 100]	0	%
Upper Deactivation Threshold Underfrequency	[45 - 66]	50.2	Hz
Lower Deactivation Threshold Underfrequency	[45 - 66]	49.8	Hz

Frequency-dependent Power Control - General - Frequency-dependent Power Control

Option	Limits	Value	Unit
Return Gradient 1	[0.01 - 100]	0.16	%/s
Return Gradient 1 Alternative	[0.01 - 100]	5	%/s
Return Gradient 1 Alternative Threshold	[0 - 100]	100	%W
Return Gradient 2 Mode		Off	
Return Gradient 2	[0.01 - 100]	5	%/s
Deactivation Time	[0 - 600]	0.5	s
Intentional Delay	[0 - 60]	0.5	s
Time Constant (τ)	[0 - 60]	0	s

Frequency-dependent Power Control - Battery SoC Limitation for Grid Support

Option	Limits	Value	Unit
Mode		Aus	
Battery SoC Lower Limit	[0 - 100]	10	%
Battery SoC Upper Limit	[0 - 100]	90	%

General - Active Power

Option	Limits	Value	Unit
Priority at Underfrequency		Priority on Frequency-dependent Power	

Reactive Power

Option	Limits	Value	Unit
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Option	Limits	Value	Unit
Mode		Q(U) - Voltage-dependent Reactive Power Characteristic	
P/Q Priority		Q Priority	
Cos φ Minimum	[0 - 1]	0.9	

const cos φ

Option	Limits	Value	Unit
cos φ - Power Factor	[0 - 1]	1	
Direction / Excitation		Injection / OverExcited / Capacitive	
Time Constant (τ)	[0.01 - 60]	3.333	s

Q Absolute - Constant Reactive Power

Option	Limits	Value	Unit
Q - Reactive Power (Var)	[-200000 - 200000]	0	var
Time Constant (τ)	[0.01 - 60]	3.333	s

Q Relative - Constant Reactive Power

Option	Limits	Value	Unit
Q - Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var
Time Constant (τ)	[0.01 - 60]	3.333	s

Cos φ (P) - Power-dependent Power Factor Characteristic

Cos φ (P) - Power-dependent Power Factor Characteristic - Point 1

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	0	%W
cos φ - Power Factor	[0 - 1]	1	
Direction / Excitation		Injection / OverExcited / Capacitive	

Cos φ (P) - Power-dependent Power Factor Characteristic - Point 2

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	0	%W
cos φ - Power Factor	[0 - 1]	1	
Direction / Excitation		Injection / OverExcited / Capacitive	

Cos φ (P) - Power-dependent Power Factor Characteristic - Point 3

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	50	%W
cos φ - Power Factor	[0 - 1]	1	
Direction / Excitation	Injection / OverExcited / Capacitive		

Cos φ (P) - Power-dependent Power Factor Characteristic - Point 4

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	100	%W
cos φ - Power Factor	[0 - 1]	0.9	
Direction / Excitation	Absorption / UnderExcited / Inductive		

Cos φ (P) - Power-dependent Power Factor Characteristic - General

Option	Limits	Value	Unit
Lock-Out P-Dependent (% of Nominal Apparent Power)	[0 - 100]	0	%W
Lock-In Voltage-Dependent (% of Nominal Voltage)	[0 - 120]	0	%V
Lock-Out Voltage-Dependent (% of Nominal Voltage)	[0 - 120]	0	%V
Time Constant (τ)	[0.01 - 60]	3.333	s

Q(P) - Power-dependent Reactive Power Characteristic

Q(P) - Power-dependent Reactive Power Characteristic - Point 1

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	0	%W
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(P) - Power-dependent Reactive Power Characteristic - Point 2

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	25	%W
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(P) - Power-dependent Reactive Power Characteristic - Point 3

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	25	%W
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(P) - Power-dependent Reactive Power Characteristic - Point 4

Option	Limits	Value	Unit
Active Power (% of Nominal Apparent Power)	[0 - 100]	100	%W
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(P) - Power-dependent Reactive Power Characteristic - General

Option	Limits	Value	Unit
Lock-In Voltage-Dependent (% of Nominal Voltage)	[0 - 120]	0	%V
Lock-Out Voltage-Dependent (% of Nominal Voltage)	[0 - 120]	0	%V
Lock-Out P-Dependent (% of Nominal Apparent Power)	[0 - 100]	0	%W
Time Constant (τ)	[0.01 - 60]	3.333	s

Q(U) - Voltage-dependent Reactive Power Characteristic

Q(U) - Voltage-dependent Reactive Power Characteristic - Point 1

Option	Limits	Value	Unit
Voltage (% of Nominal Voltage)	[50 - 150]	93	%V
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	43.6	%var

Q(U) - Voltage-dependent Reactive Power Characteristic - Point 2

Option	Limits	Value	Unit
Voltage (% of Nominal Voltage)	[50 - 150]	97	%V
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(U) - Voltage-dependent Reactive Power Characteristic - Point 3

Option	Limits	Value	Unit
Voltage (% of Nominal Voltage)	[50 - 150]	103	%V
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	0	%var

Q(U) - Voltage-dependent Reactive Power Characteristic - Point 4

Option	Limits	Value	Unit
Voltage (% of Nominal Voltage)	[50 - 150]	107	%V
Reactive Power (% of Nominal Apparent Power)	[-100 - 100]	-43.6	%var

Q(U) - Voltage-dependent Reactive Power Characteristic - General

Option	Limits	Value	Unit
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Option	Limits	Value	Unit
Q Offset Factor	[-1 - 1]	0	
Initial Delay Time	[0 - 60]	0	s
Lock-In P-Dependent Production (% of Nominal Apparent Power)	[0 - 100]	0	%W
Lock-Out P-Dependent Production (% of Nominal Apparent Power)	[0 - 100]	0	%W
Time Constant (τ)	[0.01 - 60]	3.333	s

Achtung: Eingestellte Parameter nur für Fronius Wechselrichter dieses Typs gültig (aufgrund von Umrechnungsfaktoren im Hintergrund weichen die dargestellten Werte marginal von den offiziell geforderten Entkupplungsschutzparametern ab).