

1 Extended technical Data

1.1 KACO blueplanet 100 NX3

AC-Power				
Inverter power nominal	100 kVA			
Inverter power maximal	100 kVA			
Rated current (In)	182,0 A			
Short circuit current (Ik'' First cycle RMS value)	190,2 A			
Short circuit current continuous (max output fault current)	182,66 A			
Power electronics type	IGBT-MLI (self-commutated)			
Rated operating voltage	400 V			
cos phi nominal	≈ 0.80 ind ...0.80 cap			
Grid connection	Three-phase			
Impedance at 165 Hz ^{*)}	R _{165 Hz} ≈ 10501,02 Ω, X _{165 Hz} ≈ -646,26 Ω R _{165 Hz} ≈ -4,35 Ω, X _{165 Hz} ≈ -652,82 Ω			
Impedance at 175 Hz ^{*)}	R _{175 Hz} ≈ -70773,96 Ω, X _{175 Hz} ≈ -610,09 Ω R _{175 Hz} ≈ 1,88 Ω, X _{175 Hz} ≈ -610,01 Ω			
^{*)} Scheme:	in parallel		in serial	
Operating behaviour in the event of a short circuit at the inverter output				
Maximum peak current (Ip)	1,40 x 190,2 A			
Power quality characteristics				
Max. number of switching operations, N ₁₀	10			
Max. number of switching operations, N ₁₂₀	120			
Case of switching operation	Cut-in at 10 % of rated power			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [kf(ψk)]	0,11	0,10	0,08	0,07
Voltage change factor [ku(ψk)]	0,19	0,18	0,15	0,13
Maximum inrush current factor [ki,max]	0,13			
Maximum inrush current factor (transient only)	0,09			
Case of switching operation				
Case of switching operation	Cut-in at 100 % of rated power			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [kf(ψk)]	0,95	0,75	0,46	0,22
Voltage change factor [ku(ψk)]	0,88	0,69	0,41	0,17
Maximum inrush current factor [ki,max]	1,01			
Maximum inrush current factor (transient only)	0,62			

Case of switching operation	Service disconnection at rated power			
Description of the service disconnection procedure	Disconnection by the DC-switch			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [$k_f(\psi_k)$]	0,58	0,45	0,28	0,15
Voltage change factor [$k_u(\psi_k)$]	1,00	0,76	0,51	0,26
Maximum inrush current factor [$k_{i,max}$]	1,01			
Worst case over all switching operations	1,01			
Note: $S_{k, fic}/S_n$ in the fictitious grid was set to	20			

Flicker				
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [$C(\psi_k)$]	0,60	0,57	0,59	0,62
Short term flicker [Pst]	0,03	0,03	0,03	0,03
Note: $S_{k, fic}/S_n$ in the fictitious grid was set to	20			

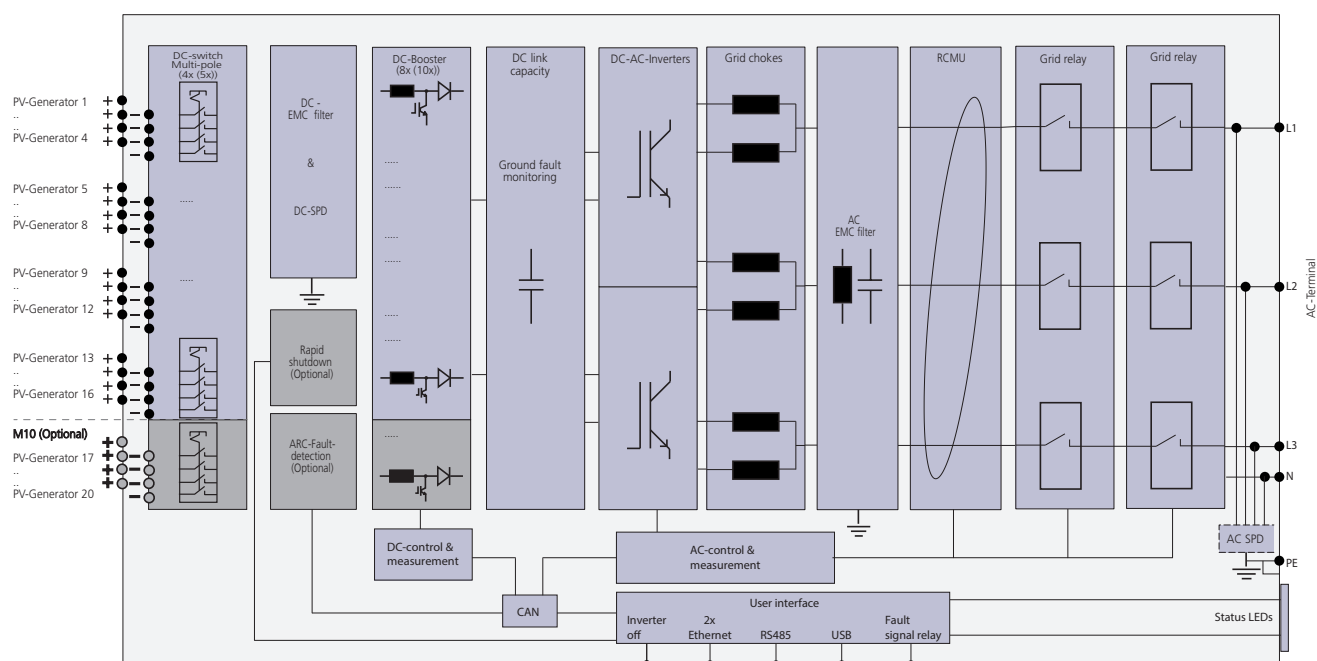


Fig. 1: Block schema blueplanet 100-125 NX3

Harmonics 50 Hz		
	[A]	[% In]
1	144,3	99,08
2	0,377	0,26
3	0,145	0,10
4	0,363	0,25
5	2,176	1,49
6	0,145	0,10
7	1,160	0,80
8	0,160	0,11
9	0,174	0,12
10	0,189	0,13
11	1,015	0,70
12	0,102	0,07
13	0,986	0,68
14	0,073	0,05
15	0,131	0,09
16	0,102	0,07
17	0,450	0,31
18	0,044	0,03
19	0,479	0,33
20	0,044	0,03
21	0,073	0,05
22	0,044	0,03
23	0,189	0,13
24	0,029	0,02
25	0,218	0,15
26	0,029	0,02
27	0,029	0,02
28	0,015	0,01
29	0,087	0,06
30	0,015	0,01
31	0,102	0,07
32	0,015	0,01
33	0,015	0,01
34	0,015	0,01
35	0,029	0,02
36	0,015	0,01
37	0,058	0,04
38	0,015	0,01
39	0,015	0,01
40	0,015	0,01
41	0,015	0,01
42	0,015	0,01
43	0,029	0,02
44	0,015	0,01
45	0,015	0,01

Harmonics 50 Hz

	[A]	[% In]
46	0,015	0,01
47	0,015	0,01
48	0,015	0,01
49	0,015	0,01
50	0,015	0,01

Tab. 1: Harmonics 50 Hz

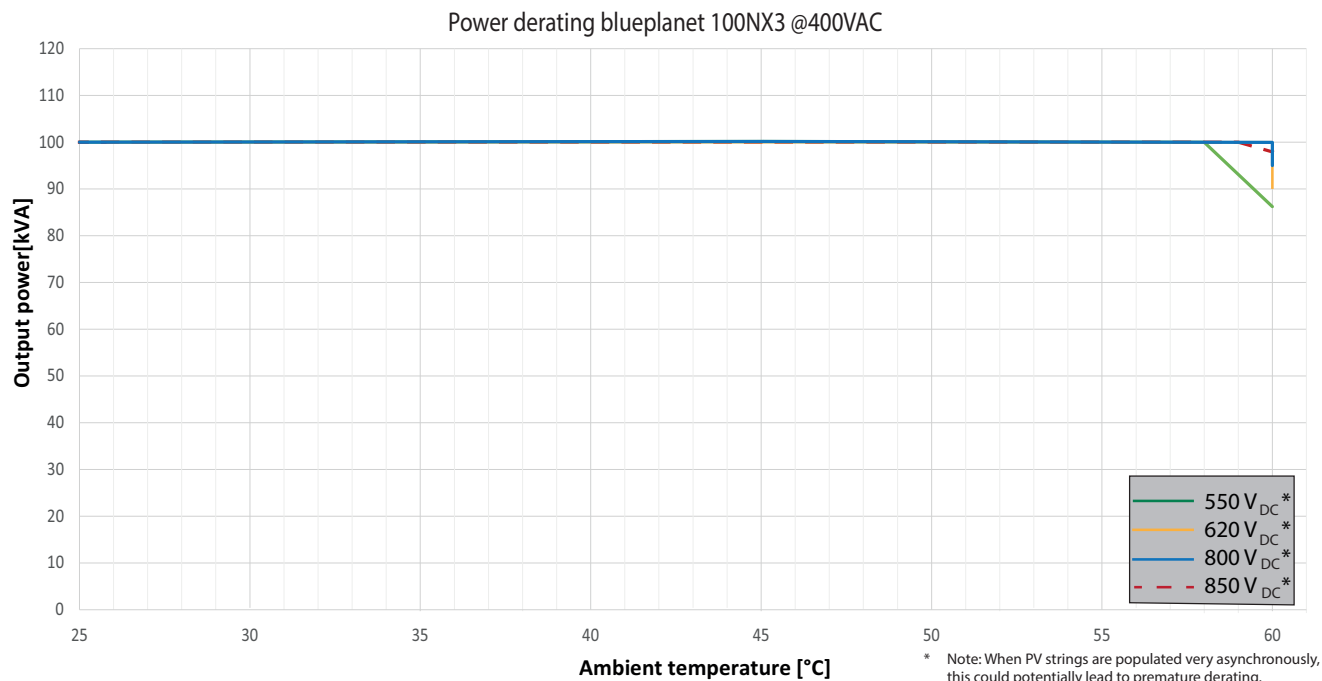


Fig. 2: Power derating blueplanet 100 NX3

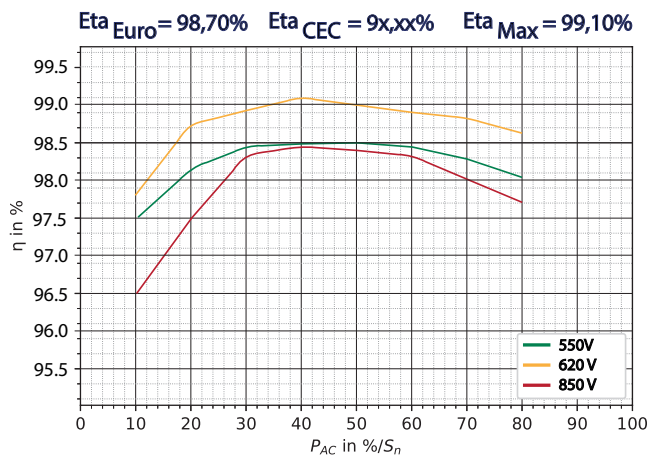


Fig. 3: 2D Diagram blueplanet 100 NX3

Coming soon ...

Fig. 4: 3D Diagram blueplanet 100 NX3

1.2 KACO blueplanet 125 NX3

AC-Power				
Inverter power nominal	125 kVA			
Inverter power maximal	125 kVA			
Rated current (In)	182,0 A			
Short circuit current (Ik'' First cycle RMS value)	190,2 A			
Short circuit current continuous (max output fault current)	182,66 A			
Power electronics type	IGBT-MLI (self-commutated)			
Rated operating voltage	400 V			
cos phi nominal	≈ 0.80 ind ...0.80 cap			
Grid connection	Three-phase			
Impedance at 165 Hz *)	R _{165 Hz} ≈ 10501,02 Ω, X _{165 Hz} ≈ -646,26 Ω R _{165 Hz} ≈ -4,35 Ω, X _{165 Hz} ≈ -652,82 Ω			
Impedance at 175 Hz *)	R _{175 Hz} ≈ -70773,96 Ω, X _{175 Hz} ≈ -610,09 Ω R _{175 Hz} ≈ 1,88 Ω, X _{175 Hz} ≈ -610,01 Ω			
*) Scheme:	in parallel		in serial	
Operating behaviour in the event of a short circuit at the inverter output				
Maximum peak current (Ip)	1,40 x 190,2 A			
Power quality characteristics				
Max. number of switching operations, N ₁₀	10			
Max. number of switching operations, N ₁₂₀	120			
Case of switching operation	Cut-in at 10 % of rated power			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [kf(ψk)]	0,11	0,10	0,08	0,07
Voltage change factor [ku(ψk)]	0,19	0,18	0,15	0,13
Maximum inrush current factor [ki,max]	0,13			
Maximum inrush current factor (transient only)	0,09			
Case of switching operation	Cut-in at 100 % of rated power			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [kf(ψk)]	0,95	0,75	0,46	0,22
Voltage change factor [ku(ψk)]	0,88	0,69	0,41	0,17
Maximum inrush current factor [ki,max]	1,01			
Maximum inrush current factor (transient only)	0,62			
Case of switching operation	Service disconnection at rated power			
Description of the service disconnection procedure	Disconnection by the DC-switch			
Grid impedance angle	30°	50°	70°	85°
Flicker step factor [kf(ψk)]	0,58	0,45	0,28	0,15
Voltage change factor [ku(ψk)]	1,00	0,76	0,51	0,26
Maximum inrush current factor [ki,max]	1,01			
Worst case over all switching operations	1,01			
Note: S _{k, fic} /S _n in the fictitious grid was set to	20			

Flicker

Grid impedance angle	30°	50°	70°	85°
Flicker step factor [C(ψ_k)]	0,59	0,59	0,62	0,68
Short term flicker [Pst]	0,03	0,03	0,03	0,03

Note: $S_{k, fic}/S_n$ in the fictitious grid was set to 20

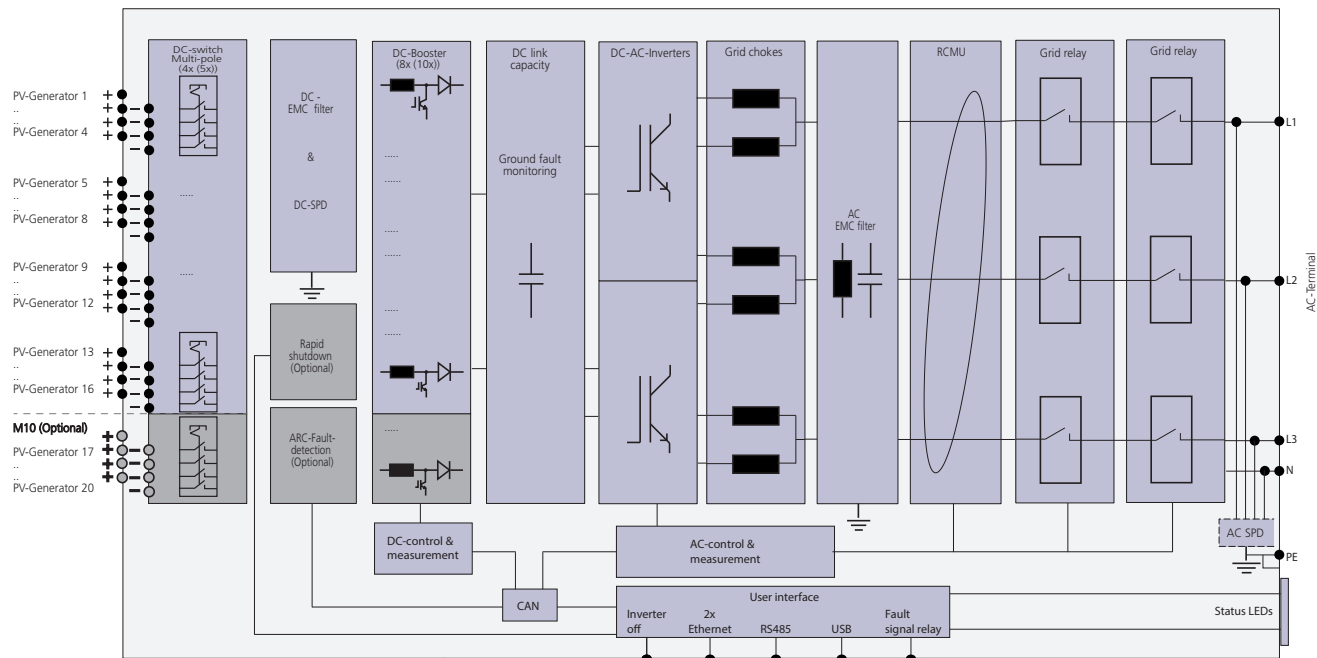


Fig. 5: Block schema blueplanet 100-125 NX3

Harmonics 50 Hz		
	[A]	[% In]
1	180,4	98,84
2	0,545	0,30
3	0,182	0,10
4	0,363	0,20
5	2,035	1,12
6	0,145	0,08
7	1,163	0,64
8	0,182	0,10
9	0,164	0,09
10	0,182	0,10
11	0,927	0,51
12	0,109	0,06
13	0,854	0,47
14	0,091	0,05
15	0,127	0,07
16	0,109	0,06
17	0,400	0,22
18	0,055	0,03
19	0,400	0,22
20	0,036	0,02
21	0,055	0,03
22	0,036	0,02
23	0,164	0,09
24	0,018	0,01
25	0,182	0,10
26	0,018	0,01
27	0,018	0,01
28	0,018	0,01
29	0,073	0,04
30	0,018	0,01
31	0,109	0,06
32	0,018	0,01
33	0,018	0,01
34	0,018	0,01
35	0,036	0,02
36	0,018	0,01
37	0,055	0,03
38	0,018	0,01
39	0,018	0,01
40	0,018	0,01
41	0,018	0,01
42	0,018	0,01
43	0,036	0,02
44	0,018	0,01
45	0,018	0,01

Harmonics 50 Hz

	[A]	[% In]
46	0,018	0,01
47	0,018	0,01
48	0,018	0,01
49	0,018	0,01
50	0,018	0,01

Tab. 2: Harmonics 50 Hz

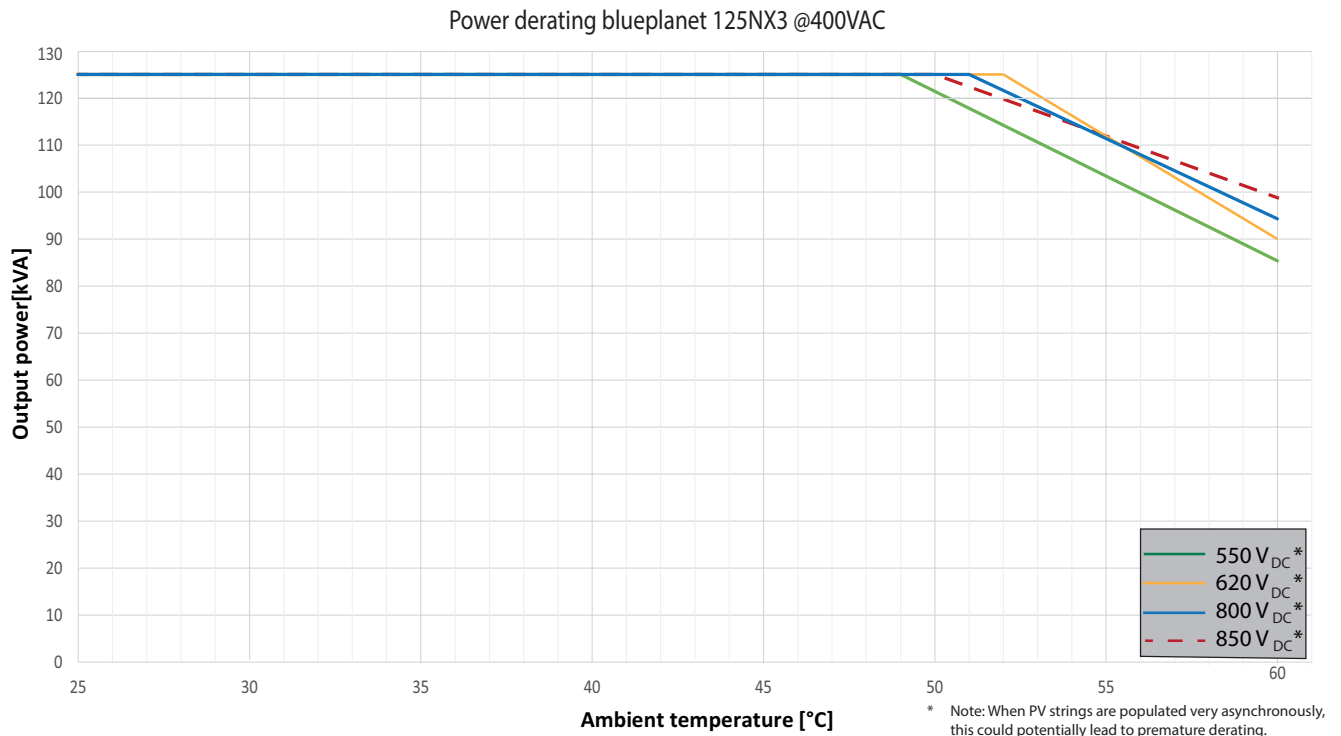


Fig. 6: Power-derating blueplanet 125 NX3

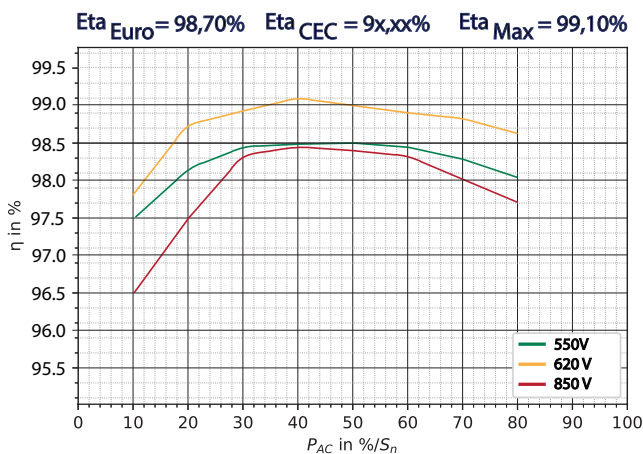


Fig. 7: 2D Diagram blueplanet 125 NX3

Coming soon ...

Fig. 8: 3D diagram blueplanet 125 NX3



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