EN

1 Extended technical Data

1.1 KACO blueplanet 25.0 NX3

AC-Power	
Inverter power nominal	25 kVA
Inverter power maximal	25 kVA
Rated current (In)	3*37.9 A [@220V] / 3*36.2 A [@230V] / 3*34.8 A [@240V]
Short circuit current continous (max output fault current)	39,9 A
Power electronics type	IGBT-MLI (self-commutated)
Rated operating voltage	220V / 380V [3/N/PE], 230V / 400V [3/N/PE], 240V / 415V [3/N/PE]
cos phi nominal	≈ 0.80 ind …0.80 cap
Grid connection	Three-phase
Impedance bei 165 Hz *	$R_{165\ Hz}$ ≈ xxx,0 Ω, $X_{165\ Hz}$ ≈ xxx,0 Ω
Impedance bei 175 Hz *	$R_{175\ Hz}$ ≈ xxx,0 Ω, $X_{175\ Hz}$ ≈ xxx,0 Ω
* Scheme in parallel	

Operating behaviour in the event of a short circuit at the inverter output	
Contribution to peak short-circuit current (îp)	110,0 A
Contribution to the initial short-circuit alternating current (Ik" first single period effective value)	39.9 A

Flicker				
Grid impedance angle	30°	50°	70°	85°
Flicker step factor	0,25	0,25	0,25	0,25
Short term flicker	0,28	0,28	0,28	0,28
Note: $S_{k,\ fic}/S_n$ in the fictitious grid was set to	20			

Injection of DC currents
A converter must not feed in more than 0.5% of its rated current or a maximum of 20 mA (whichever is higher) as direct current.

P_{bin} [% P_n]	$P_{bin,\ e\ val}$ [% P_n]	P kW]	$I_{DCcmp\ L1}$ [mA]	$I_{DCcmp\ L2}$ [mA]	$I_{DCcmp\ L3}$ [mA]	$I_{DCcmp\ L1}$ [% I_n]	$I_{DCcmp\ L2}$ [% I_n]	$I_{DCcmp\ L3}$ [% I_n]
30	9,9	9,9	65,8	87,4	83	0,14%	0,18%	0,17%
40	13,2	13,2	76,4	83,2	74,2	0,16%	0,17%	0,16%
60	19,8	19,8	87,4	95,9	98,9	0,18%	0,20%	0,21%
70	23,1	23,1	106	140	153	0,22%	0,29%	0,32%
100	33,0	33	136	163	166	0,28%	0,34%	0,35%
[% von Imax] % rated AC current						0,28%	0,34%	0,35%

Tab. 1: DC-Injection measurement values

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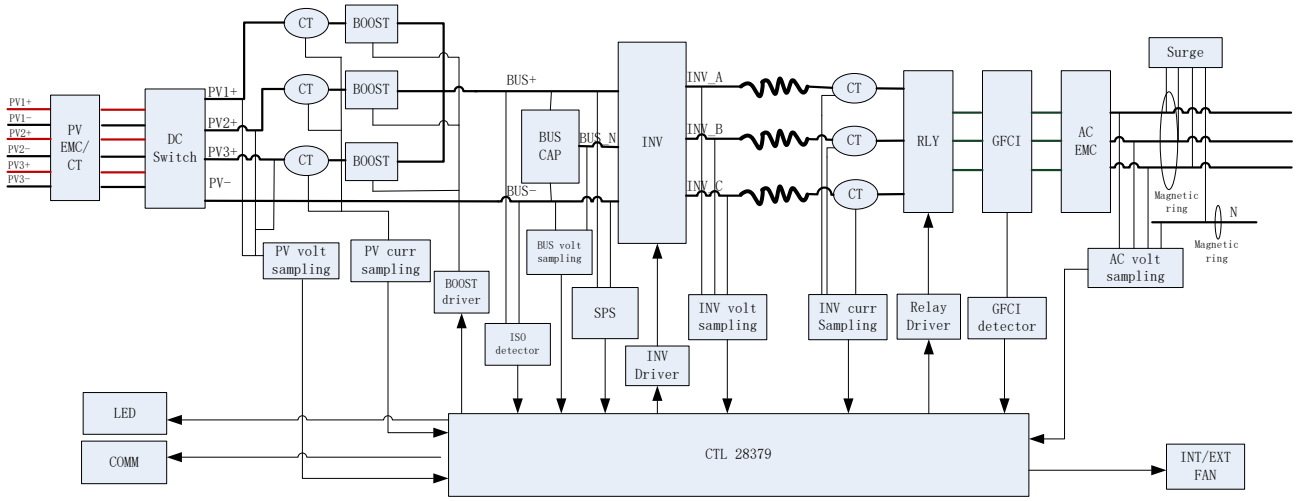

Fig. 1: Block schema blueplanet 25.0-33.0 NX3

Harmonics 50 Hz	[A]	[% In]
1	35,797	98,81
2	0,092	0,25
3	0,059	0,16
4	0,009	0,03
5	0,171	0,47
6	0,007	0,02
7	0,119	0,33
8	0,013	0,03
9	0,009	0,03
10	0,010	0,03
11	0,094	0,26
12	0,006	0,02
13	0,313	0,86
14	0,010	0,03
15	0,011	0,03
16	0,009	0,02
17	0,194	0,54
18	0,004	0,01
19	0,165	0,45
20	0,010	0,03
21	0,012	0,03
22	0,010	0,03
23	0,109	0,30
24	0,003	0,01
25	0,092	0,25
26	0,009	0,03
27	0,011	0,03
28	0,010	0,03
29	0,061	0,17
30	0,004	0,01
31	0,051	0,14
32	0,009	0,02
33	0,007	0,02

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Harmonics 50 Hz	[A]	[% In]
34	0,009	0,03
35	0,035	0,10
36	0,003	0,01
37	0,032	0,09
38	0,008	0,02
39	0,005	0,01
40	0,009	0,03
41	0,028	0,08
42	0,003	0,01
43	0,031	0,08
44	0,008	0,02
45	0,005	0,01
46	0,008	0,02
47	0,031	0,08
48	0,002	0,01
49	0,031	0,09
50	0,007	0,02

Tab. 2: Harmonics 50 Hz blueplanet 25.0 NX3

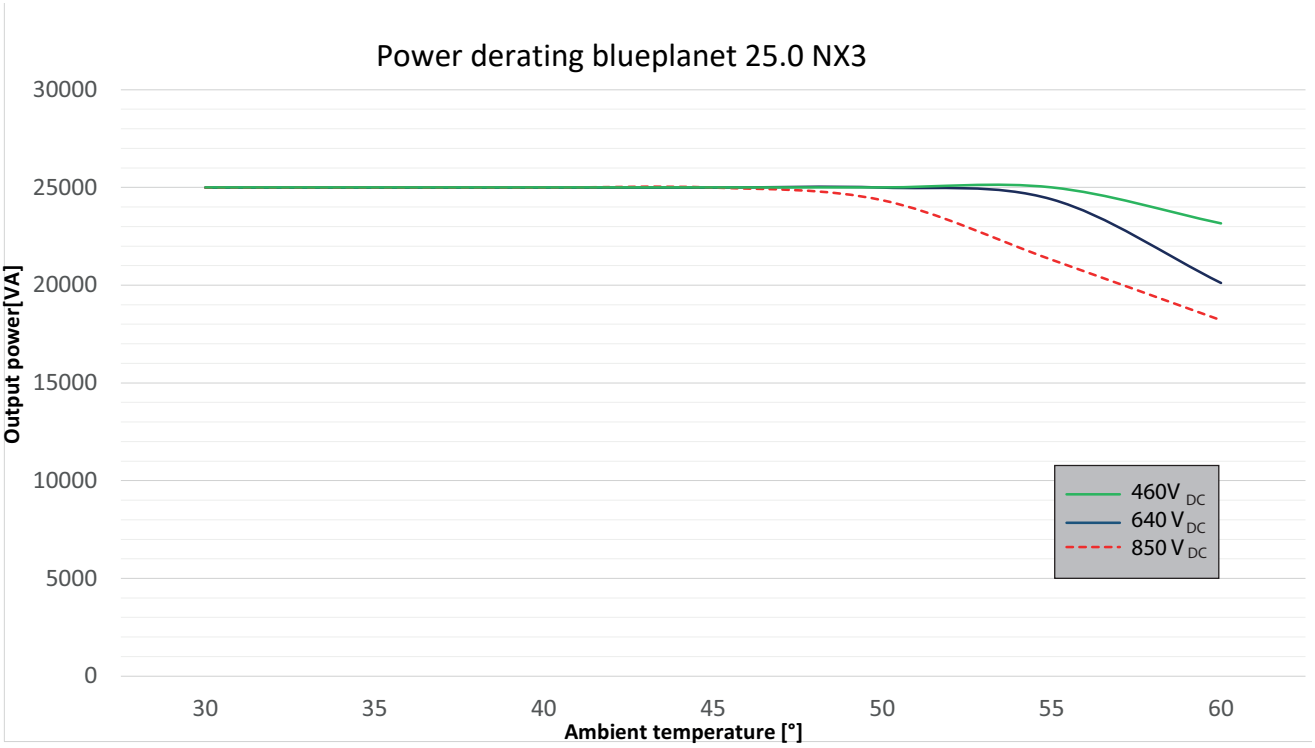

Fig. 2: Power derating blueplanet 25.0 NX3

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Efficiency characteristic

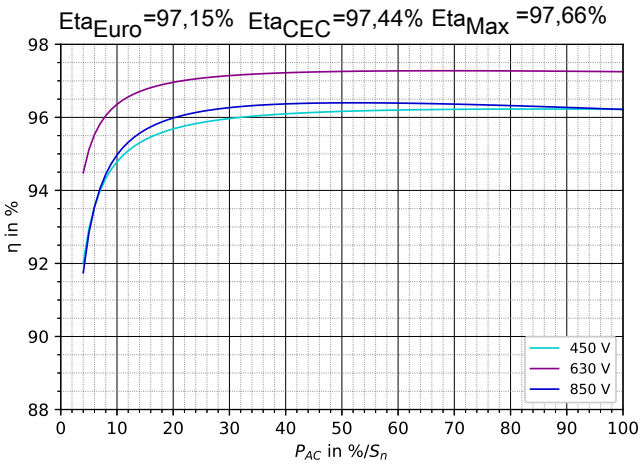

Fig. 3: 2D Diagram blueplanet 25.0 NX3 M3

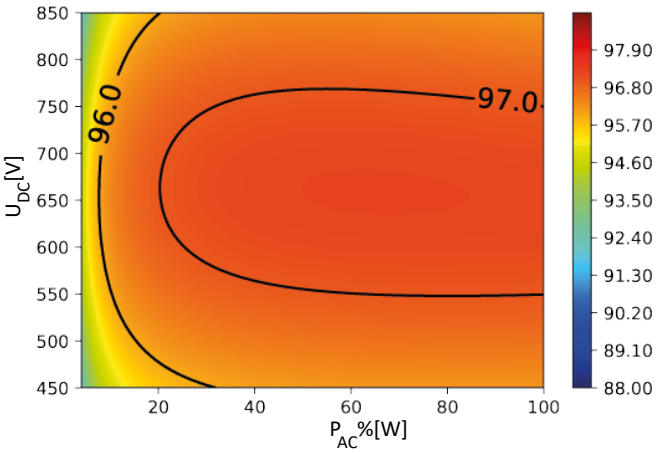

Fig. 4: 3D Diagram blueplanet 25.0NX3

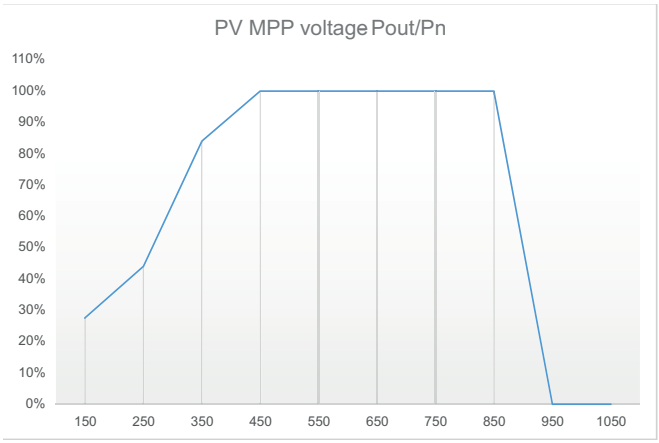

Fig. 5: 2D Diagram %Pout/Pn vs Voltage 25.0 NX3 M2

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1.2 KACO blueplanet 30.0 NX3

AC-Power	
Inverter power nominal	30 kVA
Inverter power maximal	30 kVA
Rated current (In)	3*45.5 A [@220V] / 3*43.5 A [@230V] / 3*41.7 A [@240V]
Short circuit current continous (max output fault current)	47,8 A
Power electronics type	IGBT-MLI (self-commutated)
Rated operating voltage	220V / 380V [3/N/PE], 230V / 400V [3/N/PE], 240V / 415V [3/N/PE]
cos phi nominal	≈ 0.80 ind ...0.80 cap
Grid connection	Three-phase
Impedance at 165 Hz *	$R_{165\ Hz}$ ≈ xxx,0 Ω, $X_{165\ Hz}$ ≈ xxx,0 Ω
Impedance at 175 Hz *	$R_{175\ Hz}$ ≈ xxx,0 Ω, $X_{175\ Hz}$ ≈ xxx,0 Ω
* Scheme in parallel	

Operating behaviour in the event of a short circuit at the inverter output	
Contribution to peak short-circuit current (îp)	110,0 A
Contribution to the initial short-circuit alternating current (Ik" first single period effective value)	47.8 A

Flicker				
Grid impedance angle	30°	50°	70°	85°
Flicker step factor	0,26	0,26	0,26	0,26
Short term flicker	0,29	0,29	0,29	0,29
Note: $S_{k,\ fic}/S_n$ in the fictitious grid was set to	20			

Injection of DC currents
A converter must not feed in more than 0.5% of its rated current or a maximum of 20 mA (whichever is higher) as direct current.

P_{bin} [% P_n]	$P_{bin,\ e\ val}$ [% P_n]	P kW]	$I_{DCcmp\ L1}$ [mA]	$I_{DCcmp\ L2}$ [mA]	$I_{DCcmp\ L3}$ [mA]	$I_{DCcmp\ L1}$ [% I_n]	$I_{DCcmp\ L2}$ [% I_n]	$I_{DCcmp\ L3}$ [% I_n]
30	9,9	9,9	65,8	87,4	83	0,14%	0,18%	0,17%
40	13,2	13,2	76,4	83,2	74,2	0,16%	0,17%	0,16%
60	19,8	19,8	87,4	95,9	98,9	0,18%	0,20%	0,21%
70	23,1	23,1	106	140	153	0,22%	0,29%	0,32%
100	33,0	33	136	163	166	0,28%	0,34%	0,35%
[% von Imax] % rated AC current						0,28%	0,34%	0,35%

Tab. 3: DC-Injection measurement values

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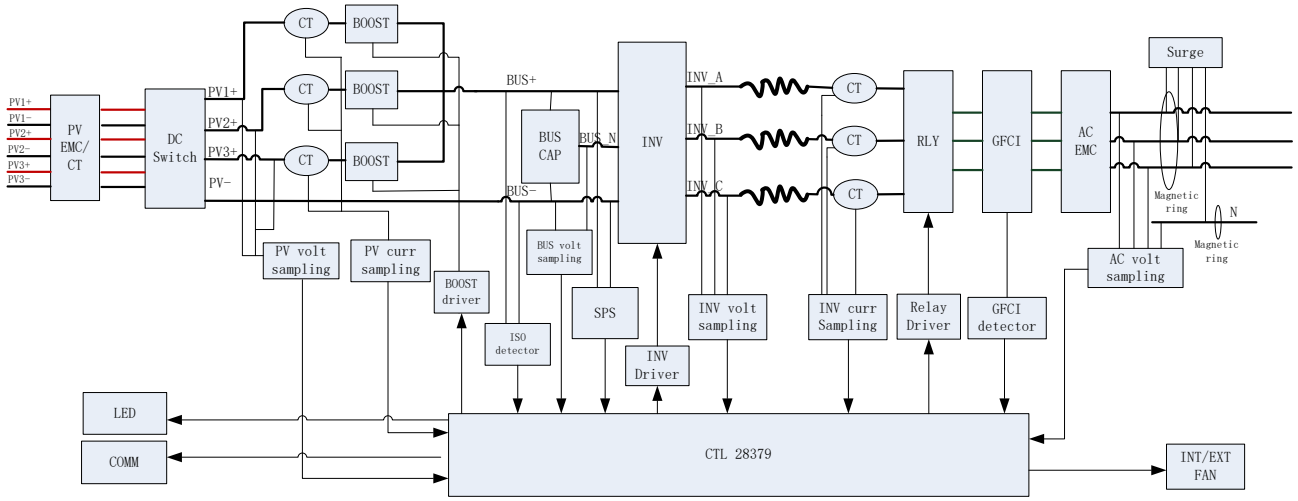

Fig. 6: Block schema blueplanet 25.0-33.0 NX3

Harmonics 50 Hz	[A]	[% In]
1	43,192	99,34
2	0,088	0,20
3	0,069	0,16
4	0,008	0,02
5	0,156	0,36
6	0,008	0,02
7	0,107	0,25
8	0,014	0,03
9	0,009	0,02
10	0,011	0,02
11	0,085	0,20
12	0,006	0,01
13	0,321	0,74
14	0,009	0,02
15	0,011	0,03
16	0,008	0,02
17	0,209	0,48
18	0,005	0,01
19	0,189	0,43
20	0,009	0,02
21	0,011	0,03
22	0,009	0,02
23	0,141	0,32
24	0,004	0,01
25	0,127	0,29
26	0,009	0,02
27	0,012	0,03
28	0,009	0,02
29	0,092	0,21
30	0,004	0,01
31	0,082	0,19
32	0,010	0,02
33	0,010	0,02

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Harmonics 50 Hz	[A]	[% In]
34	0,009	0,02
35	0,059	0,13
36	0,004	0,01
37	0,052	0,12
38	0,009	0,02
39	0,006	0,01
40	0,010	0,02
41	0,035	0,08
42	0,003	0,01
43	0,031	0,07
44	0,008	0,02
45	0,004	0,01
46	0,009	0,02
47	0,023	0,05
48	0,003	0,01
49	0,021	0,05
50	0,008	0,02

Tab. 4: Harmonics 50 Hz blueplanet 30.0 NX3

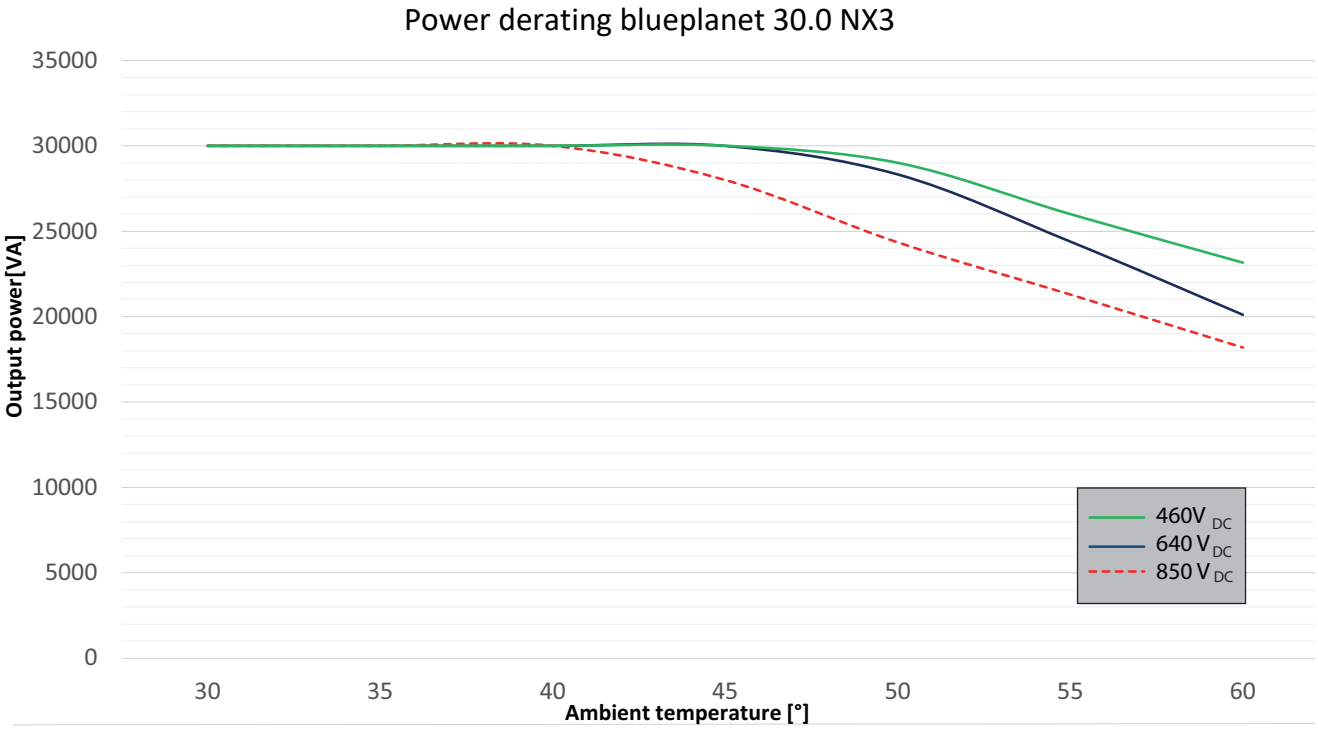

Fig. 7: Power derating blueplanet 30.0 NX3

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Efficiency characteristic

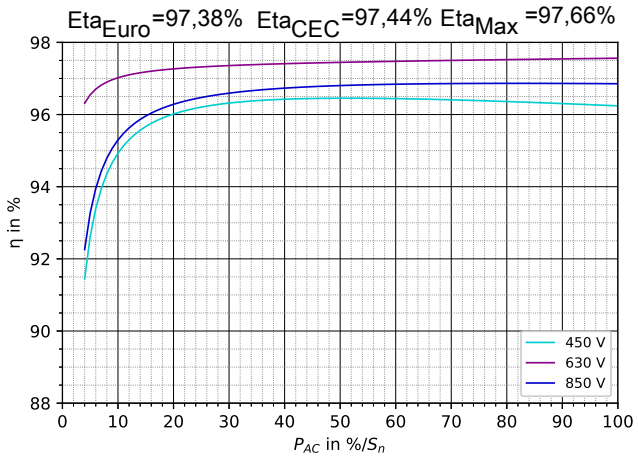

Fig. 8: 2D Diagram blueplanet 30.0 NX3 M3

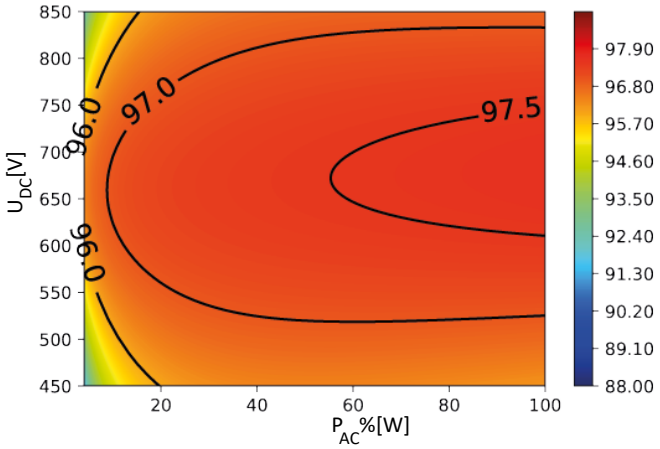

Fig. 9: 3D Diagram blueplanet 30.0 NX3 M3

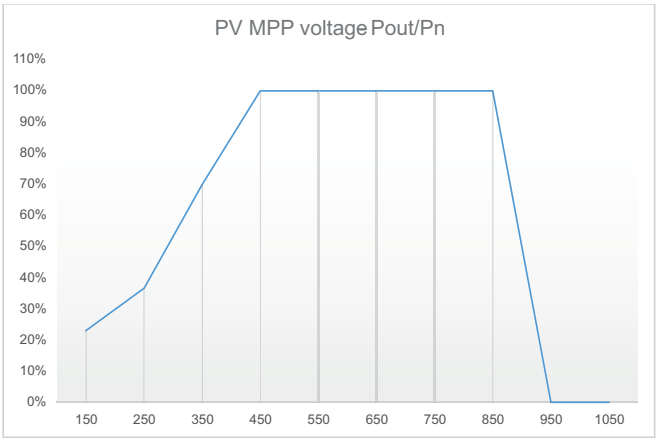

Fig. 10: 2D Diagram %Pout/Pn vs Voltage 30.0 NX3 M2

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1.3 KACO blueplanet 33.0 NX3

AC-Power	
Inverter power nominal	33 kVA
Inverter power maximal	33 kVA
Rated current (In)	3*50 A [@220V] / 3*47.8 A [@230V] / 3*45.9 A [@240V]
Short circuit current continous (max output fault current)	52,6 A
Power electronics type	IGBT-MLI (self-commutated)
Rated operating voltage	220V / 380V [3/N/PE], 230V / 400V [3/N/PE], 240V / 415V [3/N/PE]
cos phi nominal	≈ 0.80 ind ...0.80 cap
Grid connection	Three-phase
Impedance bei 165 Hz *	$R_{165\ Hz}$ ≈ xxx,0 Ω, $X_{165\ Hz}$ ≈ xxx,0 Ω
Impedance bei 175 Hz *	$R_{175\ Hz}$ ≈ xxx,0 Ω, $X_{175\ Hz}$ ≈ xxx,0 Ω
* Scheme in parallel	

Operating behaviour in the event of a short circuit at the inverter output	
Contribution to peak short-circuit current (îp)	135,0 A
Contribution to the initial short-circuit alternating current (Ik" first single period effective value)	52.6 A

Flicker				
Grid impedance angle	30°	50°	70°	85°
Flicker step factor	0,27	0,27	0,27	0,27
Short term flicker	0,29	0,29	0,29	0,29
Note: $S_{k,\ fic}/S_n$ in the fictitious grid was set to	20			

Injection of DC currents
A converter must not feed in more than 0.5% of its rated current or a maximum of 20 mA (whichever is higher) as direct current.

P_{bin} [% P_n]	$P_{bin,\ e\ val}$ [% P_n]	P kW]	$I_{DCcmp\ L1}$ [mA]	$I_{DCcmp\ L2}$ [mA]	$I_{DCcmp\ L3}$ [mA]	$I_{DCcmp\ L1}$ [% I_n]	$I_{DCcmp\ L2}$ [% I_n]	$I_{DCcmp\ L3}$ [% I_n]
30	9,9	9,9	65,8	87,4	83	0,14%	0,18%	0,17%
40	13,2	13,2	76,4	83,2	74,2	0,16%	0,17%	0,16%
60	19,8	19,8	87,4	95,9	98,9	0,18%	0,20%	0,21%
70	23,1	23,1	106	140	153	0,22%	0,29%	0,32%
100	33,0	33	136	163	166	0,28%	0,34%	0,35%
[% von Imax] % rated AC current						0,28%	0,34%	0,35%

Tab. 5: DC-Injection measurement values

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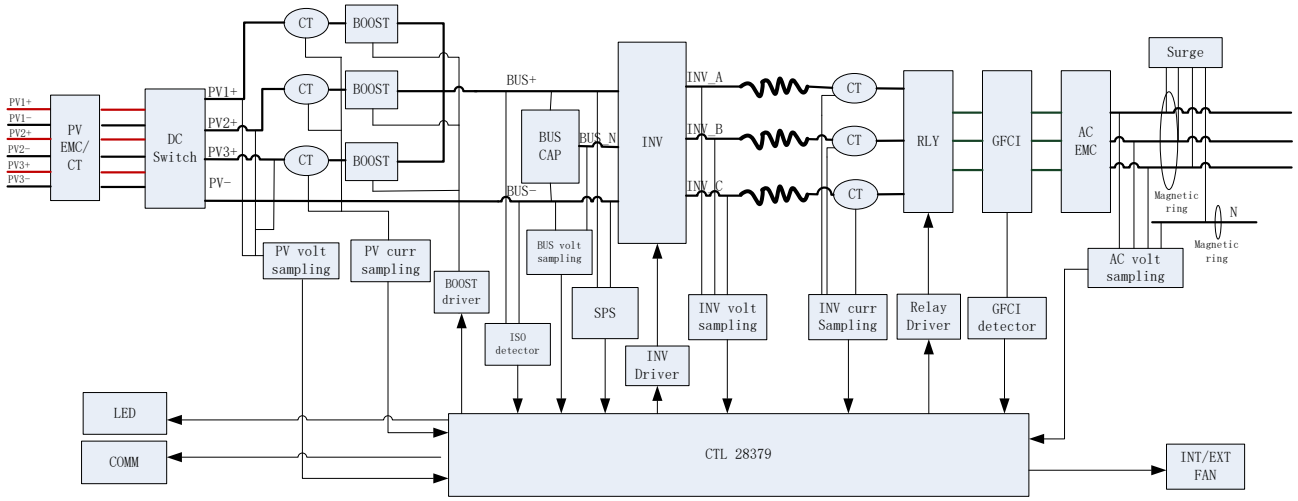

Fig. 11: Block schema blueplanet 25.0-33.0 NX3

Harmonics 50 Hz	[A]	[% In]
1	47,473	99,25
2	0,115	0,24
3	0,074	0,15
4	0,010	0,02
5	0,151	0,32
6	0,009	0,02
7	0,097	0,20
8	0,014	0,03
9	0,009	0,02
10	0,012	0,02
11	0,082	0,17
12	0,007	0,02
13	0,323	0,68
14	0,009	0,02
15	0,010	0,02
16	0,009	0,02
17	0,206	0,43
18	0,005	0,01
19	0,190	0,40
20	0,010	0,02
21	0,010	0,02
22	0,009	0,02
23	0,146	0,31
24	0,005	0,01
25	0,135	0,28
26	0,010	0,02
27	0,011	0,02
28	0,010	0,02
29	0,100	0,21
30	0,004	0,01
31	0,091	0,19
32	0,010	0,02
33	0,010	0,02

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Harmonics 50 Hz	[A]	[% In]
34	0,010	0,02
35	0,065	0,14
36	0,004	0,01
37	0,058	0,12
38	0,009	0,02
39	0,007	0,01
40	0,010	0,02
41	0,040	0,08
42	0,004	0,01
43	0,033	0,07
44	0,009	0,02
45	0,005	0,01
46	0,009	0,02
47	0,023	0,05
48	0,004	0,01
49	0,020	0,04
50	0,008	0,02

Tab. 6: Harmonics 50 Hz blueplanet 33.0 NX3

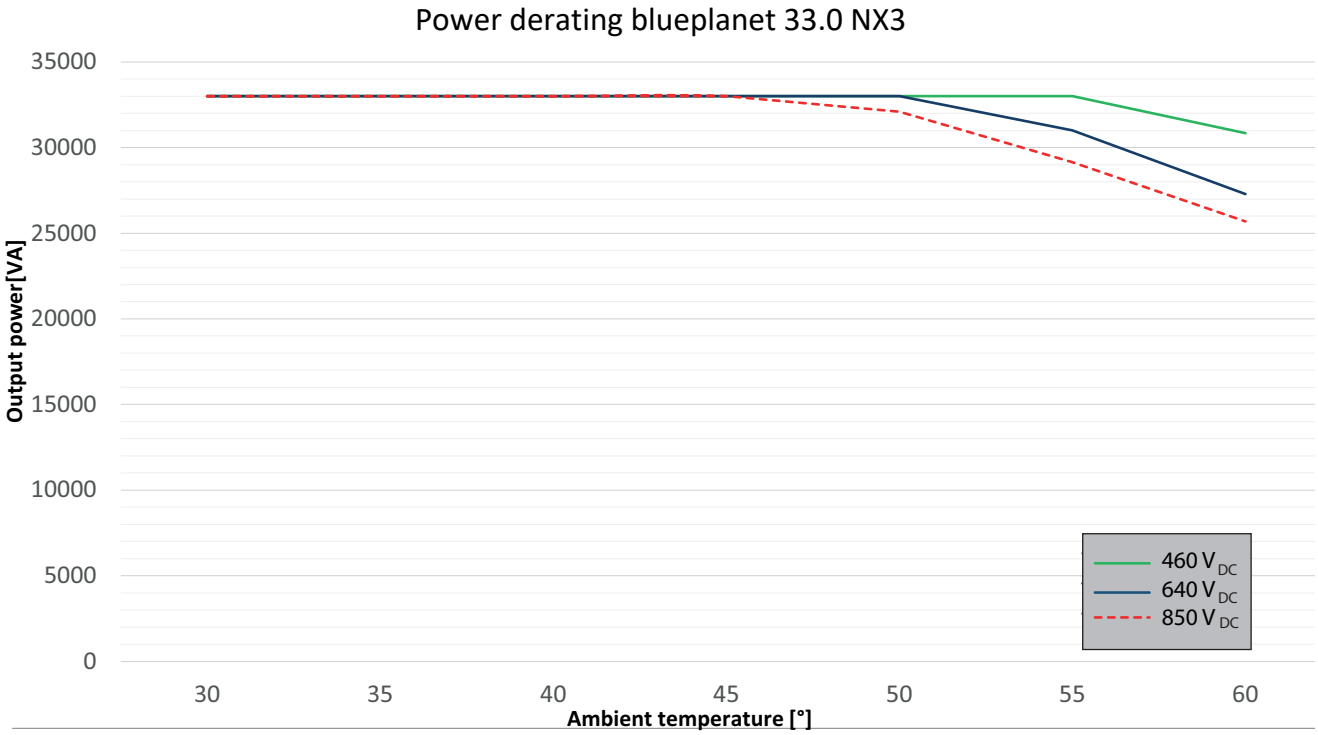

Fig. 12: Power derating blueplanet 33.0 NX3

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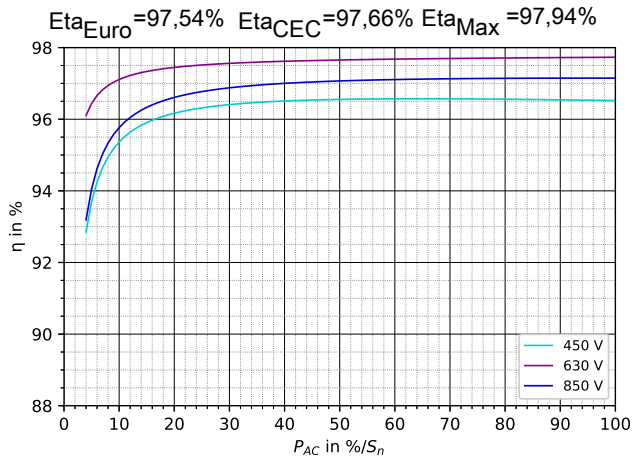

Fig. 13: 2D Diagram blueplanet 33.0 NX3 M3

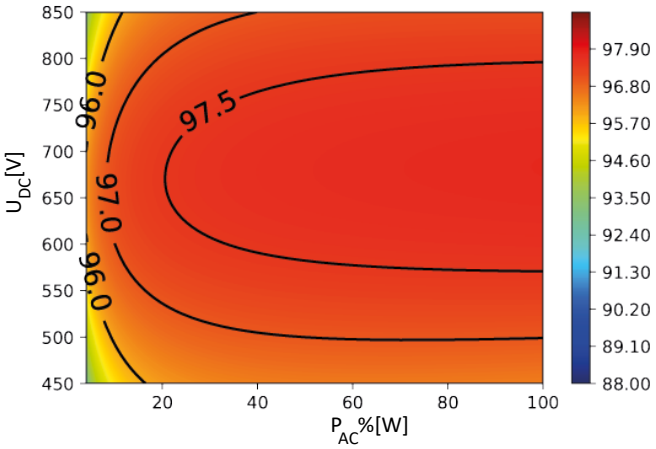

Fig. 14: 3D Diagram blueplanet 33.0 NX3 M3

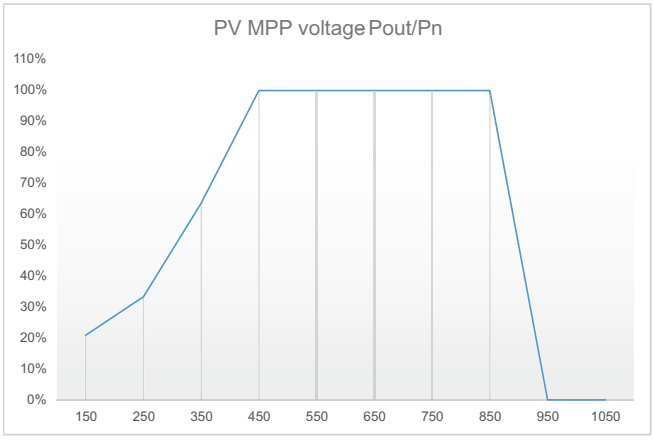

Fig. 15: 2D Diagram %Pout/Pn vs Voltage 33.0 NX3 M2

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