

1 Extended technical Data

1.1 KACO blueplanet 50.0 NX3

AC-Power	
Inverter power nominal	50 kVA
Inverter power maximal	50 kVA
Rated current (In)	3*75,8 A [@220V/380V] / 3*72.5 A [@230V/400V] / 3*69.4 A [@240V/415V]
Short circuit current (Ik'' First cycle RMS value)	83,6 A
Short circuit current continuous (max output fault current)	83,6 A
Power electronics type	IGBT-MLI (self-commutated)
Rated operating voltage	220V / 380V [3/N/PE; 3/PEN], 230V / 400V [3/N/PE; 3/PEN], 240V / 415V [3/N/PE; 3/PEN]
cos phi nominal	≈ 0.80 ind ...0.80 cap
Grid connection	Three-phase
Impedance at 165 Hz *	$R_{165 \text{ Hz}} \approx 0,51 \Omega$, $X_{165 \text{ Hz}} \approx 0,88 \Omega$
Impedance at 175 Hz *	$R_{175 \text{ Hz}} \approx 0,52 \Omega$, $X_{175 \text{ Hz}} \approx 0,74 \Omega$
* Scheme in parallel	

Operating behaviour in the event of a short circuit at the inverter output

Maximum peak current (Ip)	200,0 A
Maximum peak current (Ik'')	83,6 A

Flicker

Grid impedance angle	30°	50°	70°	85°
Flicker step factor	0,20	0,18	0,15	0,14
Short term flicker	0,17	0,16	0,13	0,12

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

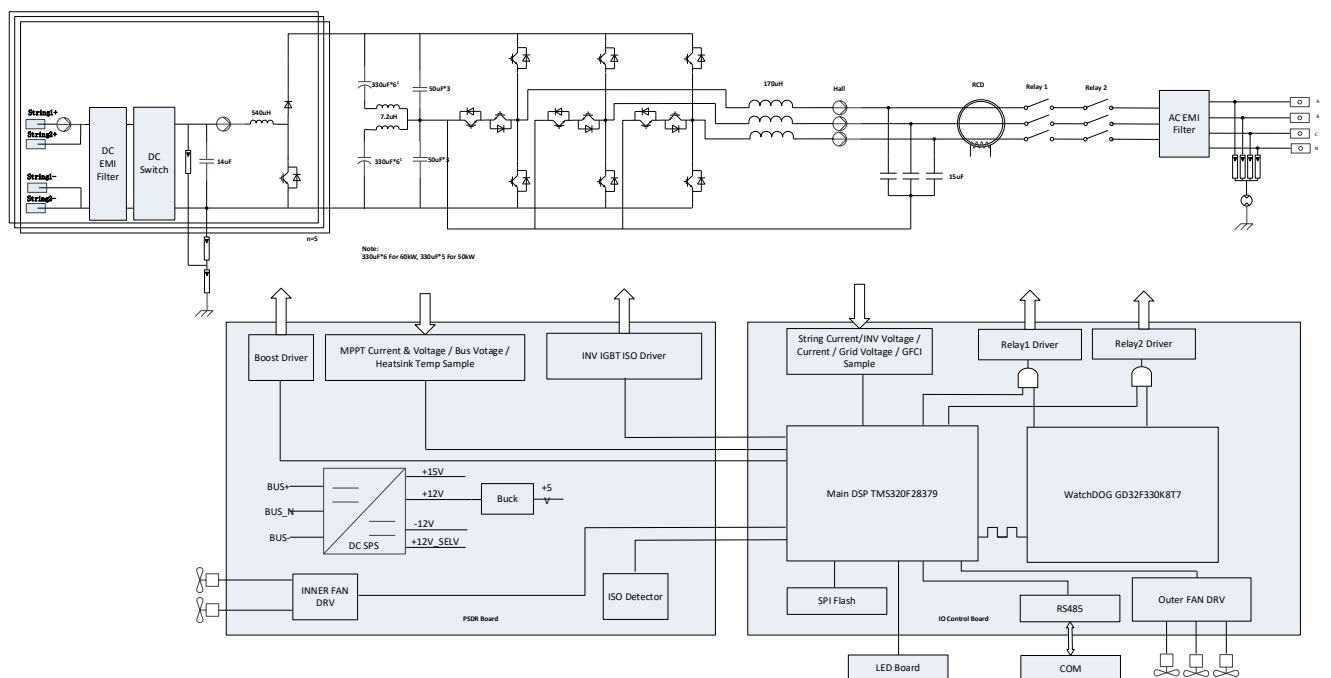


Fig. 1: Block schema blueplanet 50.0-60.0 NX3

Harmonics 50 Hz	[A]	[% In]
1	72,364	99,86
2	0,095	0,13
3	0,715	0,99
4	0,605	0,83
5	0,359	0,50
6	0,136	0,19
7	0,127	0,18
8	0,203	0,28
9	0,167	0,23
10	0,192	0,26
11	0,070	0,10
12	0,102	0,14
13	0,038	0,05
14	0,145	0,20
15	0,180	0,25
16	0,235	0,32
17	0,340	0,47
18	0,065	0,09
19	0,246	0,34
20	0,123	0,17
21	0,068	0,09
22	0,100	0,14
23	0,099	0,14
24	0,059	0,08
25	0,227	0,31
26	0,083	0,11
27	0,069	0,10
28	0,077	0,11
29	0,133	0,18
30	0,096	0,13
31	0,216	0,30
32	0,091	0,13
33	0,053	0,07
34	0,109	0,15
35	0,152	0,21
36	0,060	0,08
37	0,171	0,24
38	0,065	0,09
39	0,037	0,05
40	0,071	0,10
41	0,136	0,19
42	0,039	0,05
43	0,127	0,18
44	0,053	0,07
45	0,044	0,06
46	0,053	0,07

Harmonics 50 Hz	[A]	[% In]
47	0,114	0,16
48	0,033	0,05
49	0,097	0,13
50	0,041	0,06

Tab. 1: Harmonics 50 Hz blueplanet 50.0 NX3

Power derating blueplanet 50.0 NX3 @ 400V

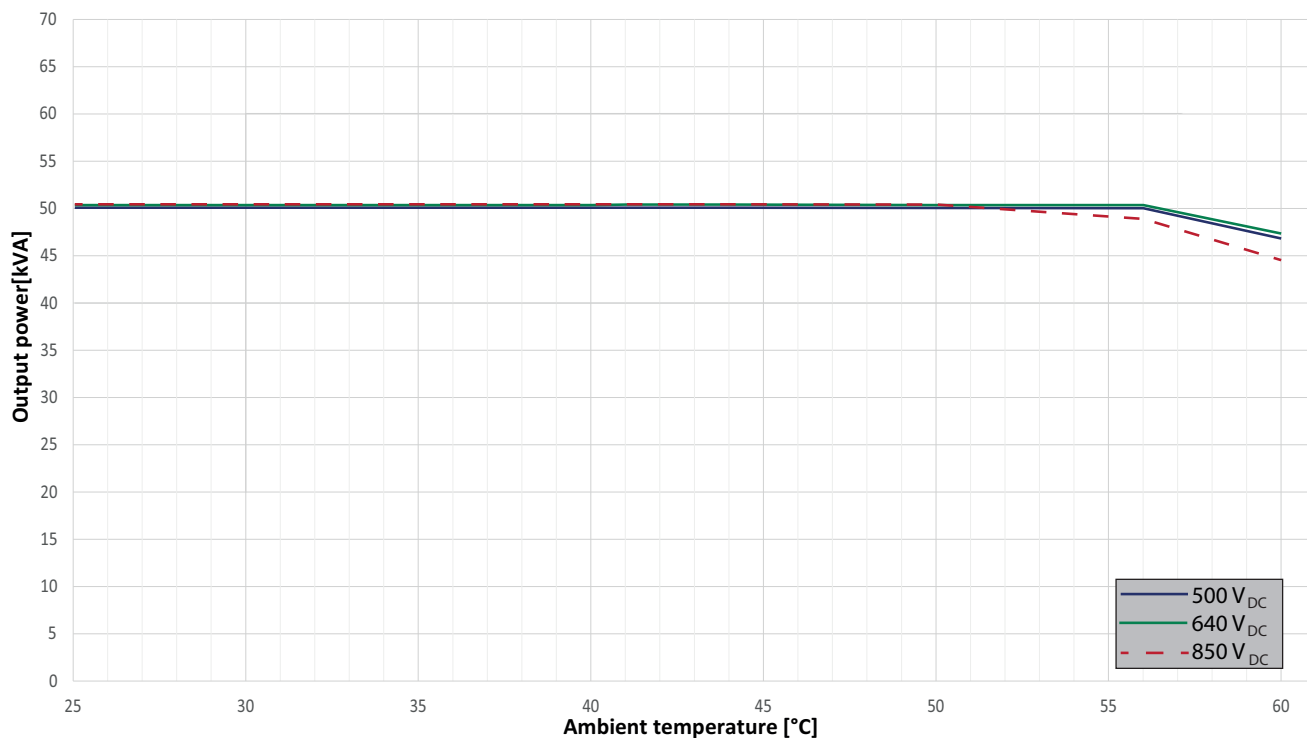


Fig. 2: Power derating blueplanet 50.0 NX3

Efficiency characteristic

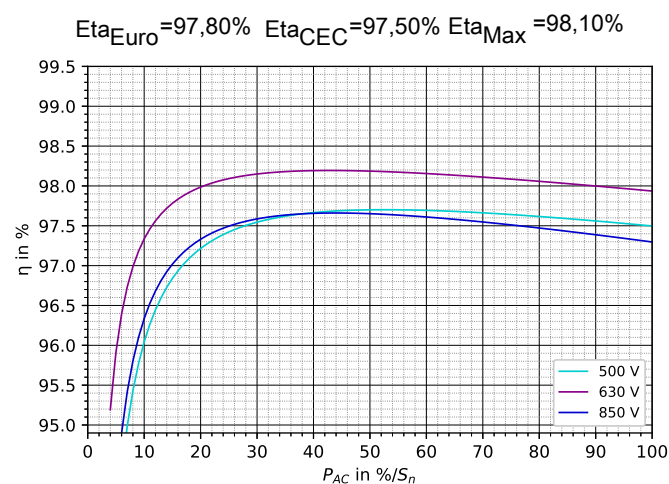


Fig. 3: 2D Diagram blueplanet 50.0 NX3 M5

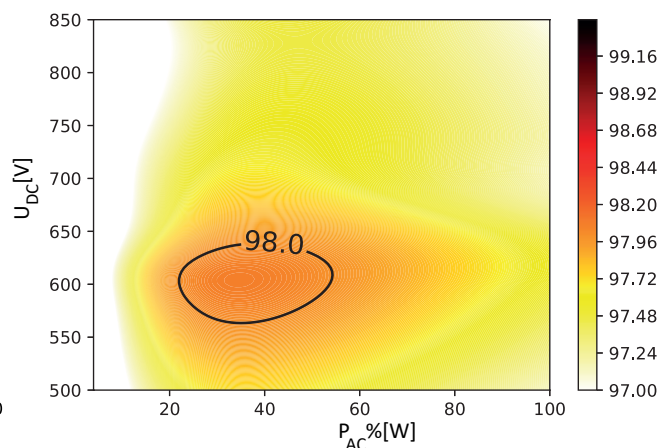


Fig. 4: 3D Diagram blueplanet 50.0 NX3 M5

1.2 KACO blueplanet 60.0 NX3

AC-Power	
Inverter power nominal	60 kVA
Inverter power maximal	60 kVA
Rated current (In)	3*91,0 A [@220V/380V] / 3*87.0 A [@230V/400V] / 3*83.3 A [@240V/415V]
Short circuit current (Ik'' First cycle RMS value)	95,3 A
Short circuit current continuous (max output fault current)	95,3 A
Power electronics type	IGBT-MLI (self-commutated)
Rated operating voltage	220V / 380V [3/N/PE; 3/PEN], 230V / 400V [3/N/PE; 3/PEN], 240V / 415V [3/N/PE; 3/PEN]
cos phi nominal	≈ 0.80 ind ...0.80 cap
Grid connection	Three-phase
Impedance at 165 Hz *	$R_{165\text{ Hz}} \approx 0,51\ \Omega$, $X_{165\text{ Hz}} \approx 0,88\ \Omega$
Impedance at 175 Hz *	$R_{175\text{ Hz}} \approx 0,52\ \Omega$, $X_{175\text{ Hz}} \approx 0,74\ \Omega$
* Scheme in parallel	

Operating behaviour in the event of a short circuit at the inverter output

Maximum peak current (Ip)	200,0 A
Maximum peak current (Ik'')	95,3 A

Flicker

Grid impedance angle	30°	50°	70°	85°
Flicker step factor	0,30	0,27	0,23	0,23
Short term flicker	0,26	0,23	0,20	0,20

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

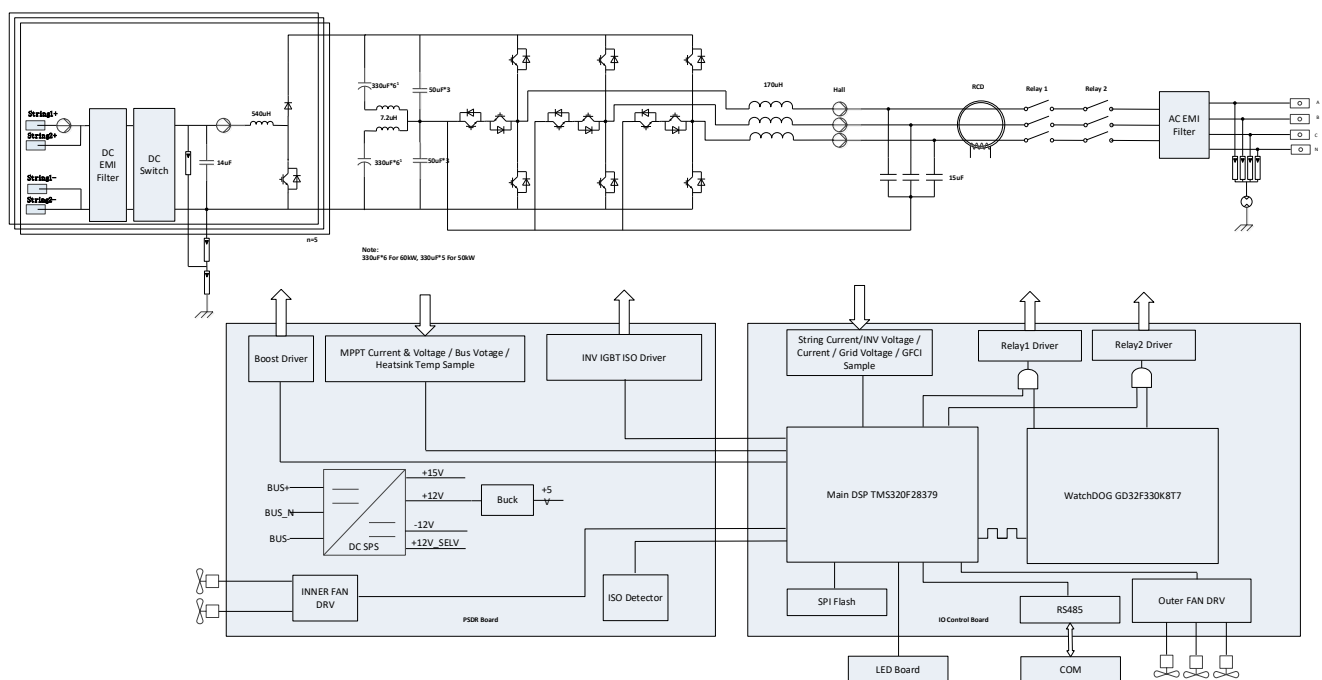


Fig. 5: Block schema blueplanet 50.0-60.0 NX3

Harmonics 50 Hz	[A]	[% In]
1	85,610	98,45
2	0,093	0,11
3	0,816	0,94
4	0,605	0,70
5	0,377	0,43
6	0,133	0,15
7	0,139	0,16
8	0,204	0,23
9	0,187	0,22
10	0,153	0,18
11	0,075	0,09
12	0,121	0,14
13	0,046	0,05
14	0,157	0,18
15	0,170	0,20
16	0,239	0,27
17	0,391	0,45
18	0,085	0,10
19	0,150	0,17
20	0,090	0,10
21	0,088	0,10
22	0,093	0,11
23	0,107	0,12
24	0,069	0,08
25	0,223	0,26
26	0,081	0,09
27	0,058	0,07
28	0,106	0,12
29	0,111	0,13
30	0,112	0,13
31	0,232	0,27
32	0,097	0,11
33	0,068	0,08
34	0,105	0,12
35	0,141	0,16
36	0,069	0,08
37	0,188	0,22
38	0,070	0,08
39	0,053	0,06
40	0,081	0,09
41	0,141	0,16
42	0,051	0,06
43	0,139	0,16
44	0,067	0,08
45	0,046	0,05
46	0,056	0,06

Harmonics 50 Hz	[A]	[% In]
47	0,121	0,14
48	0,039	0,04
49	0,102	0,12
50	0,056	0,00

Tab. 2: Harmonics 50 Hz blueplanet 60.0 NX3

Power derating blueplanet 60.0 NX3 @ 400V

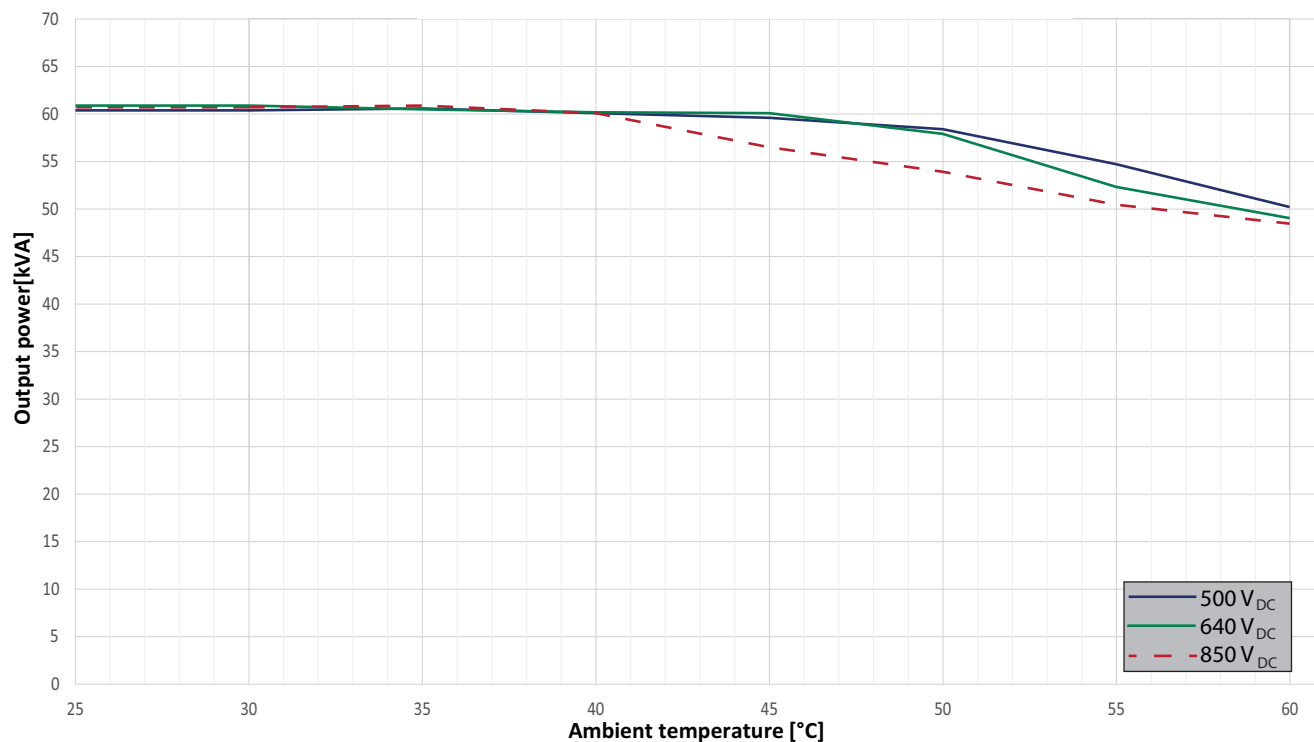


Fig. 6: Power derating blueplanet 60.0 NX3

Efficiency characteristic

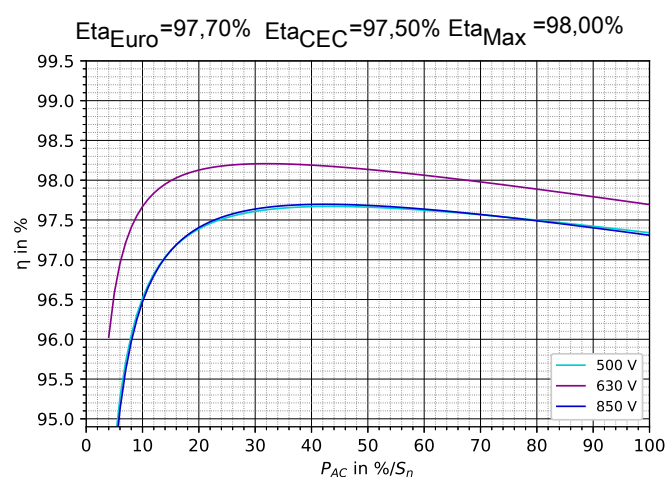


Fig. 7: 2D Diagram blueplanet 60.0 NX3 M5

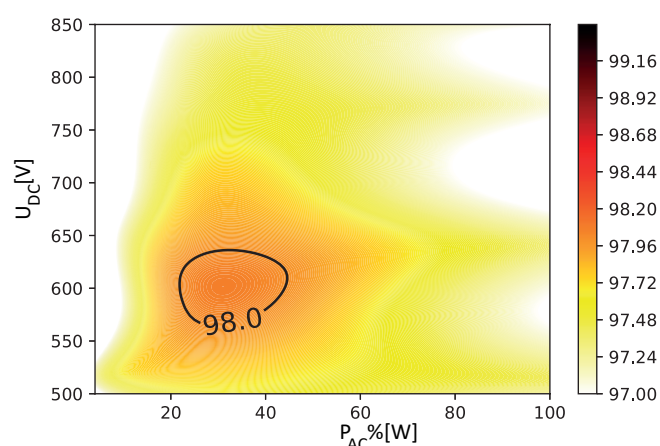


Fig. 8: 3D Diagram blueplanet 60.0 NX3 M5

