flowPACK 1 3rd gen | **Output Inverter Application** | **1200V/50A**

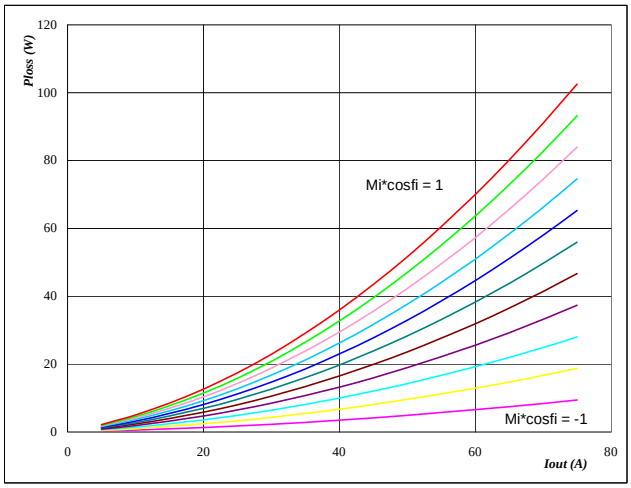
General conditions

3phase SPWM		
V_{GEon}	=	15 V
V_{GEoff}	=	-15 V
R_{gon}	=	8 Ω
R_{goff}	=	8 Ω

Figure 1 IGBT

Typical average static loss as a function of output current

$P_{loss} = f(I_{out})$



At

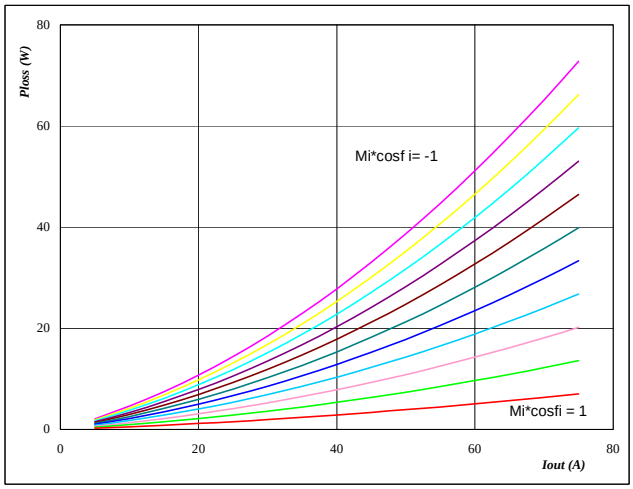
T_j = 150 ℃

Mi*cosfi from -1 to 1 in steps of 0,2

Figure 2 FRED

Typical average static loss as a function of output current

$P_{loss} = f(I_{out})$



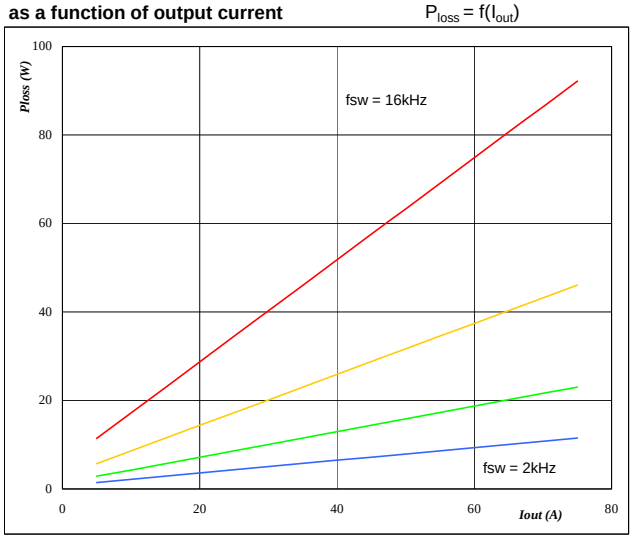
At

T_j = 150 ℃

Mi*cosfi from -1 to 1 in steps of 0,2

Figure 3 IGBT

Typical average switching loss as a function of output current $P_{loss} = f(I_{out})$



At

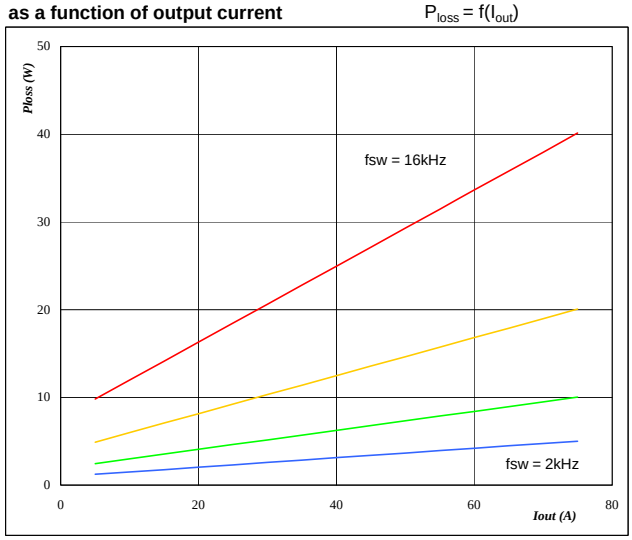
T_j = 150 ℃

DC link = 600 V

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 4 FRED

Typical average switching loss as a function of output current $P_{loss} = f(I_{out})$



At

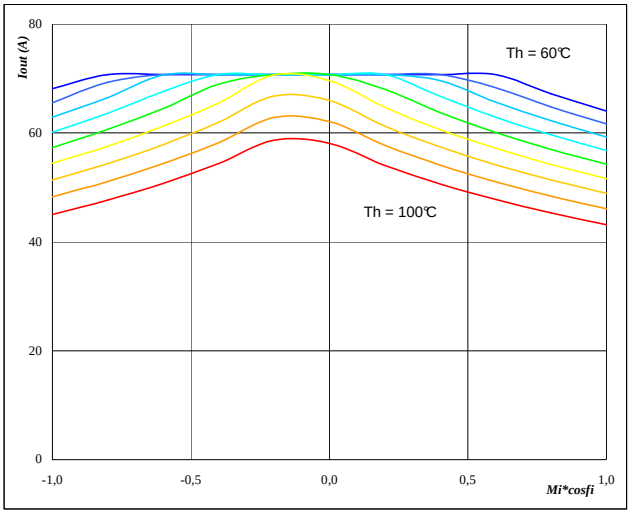
T_j = 150 ℃

DC link = 600 V

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 5 Phase

Typical available 50Hz output current as a function Mi*cosfi $I_{out} = f(Mi*cosfi)$



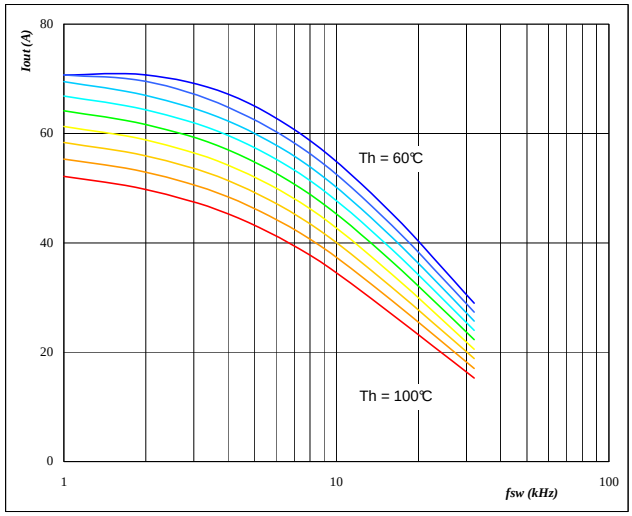
At

T_j =	150	℃
DC link =	600	V
fsw =	4	kHz

Th from 60 ℃ to 100 ℃ in steps of 5 ℃

Figure 6 Phase

Typical available 50Hz output current as a function of switching frequency $I_{out} = f(f_{sw})$



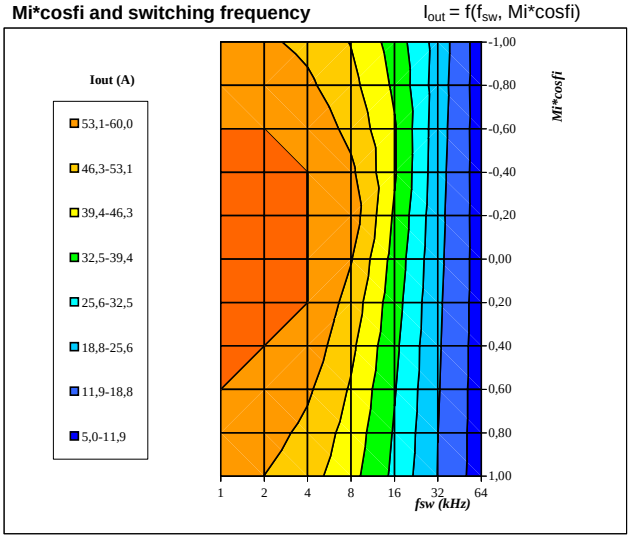
At

T_j =	150	℃
DC link =	600	V
Mi*cosfi =	0,8	

Th from 60 ℃ to 100 ℃ in steps of 5 ℃

Figure 7 Phase

Typical available 50Hz output current as a function of Mi*cosfi and switching frequency $I_{out} = f(f_{sw}, Mi*cosfi)$

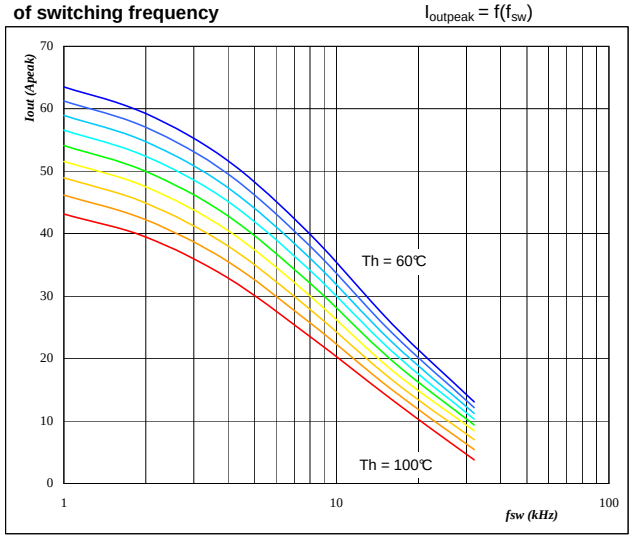


At

T_j =	150	℃
DC link =	600	V
T_h =	90	℃

Figure 8 Phase

Typical available 0Hz output current as a function of switching frequency $I_{outpeak} = f(f_{sw})$



At

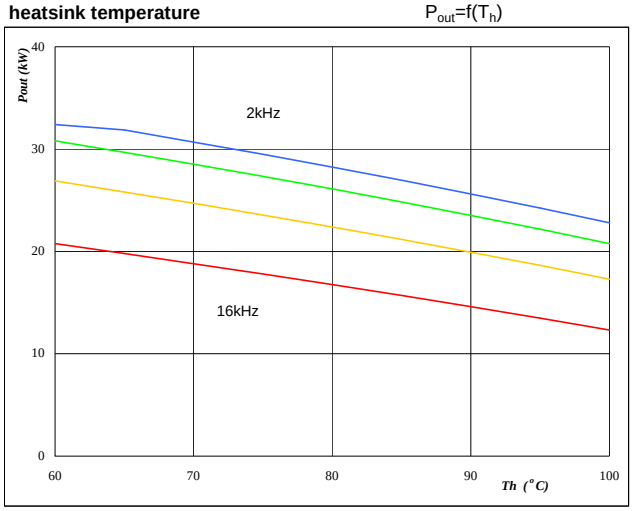
T_j =	150	℃
DC link =	600	V

Th from 60 ℃ to 100 ℃ in steps of 5 ℃

Mi = 0

Figure 9 Inverter

Typical available peak output power as a function of heatsink temperature $P_{out}=f(T_h)$



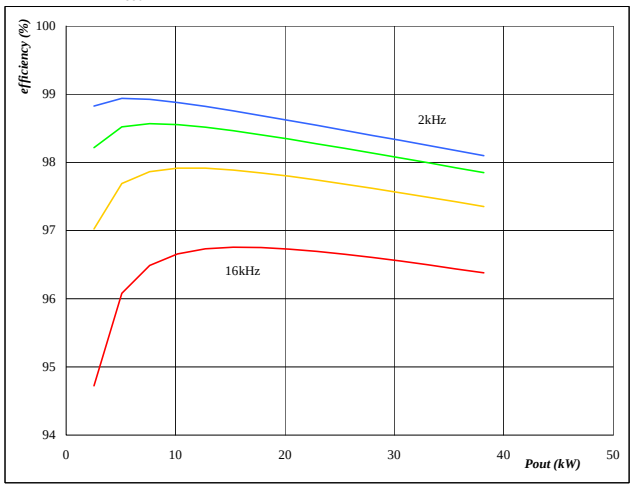
At

T_j =	150	℃
DC link =	600	V
Mi =	1	
cosfi =	0,80	

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 10 Inverter

Typical efficiency as a function of output power efficiency=f(P_{out})



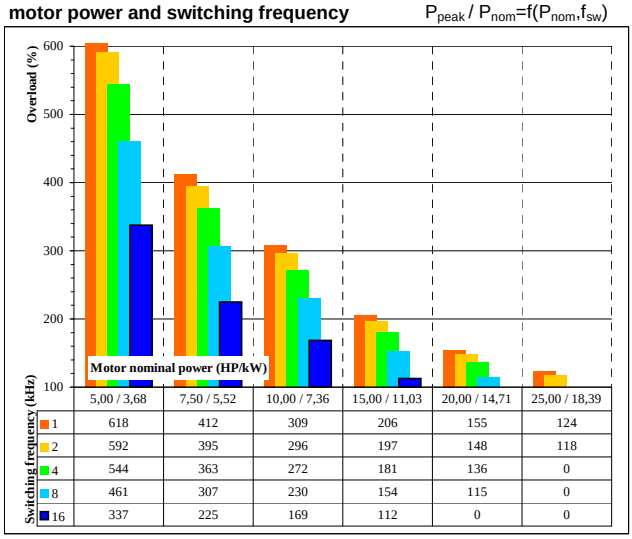
At

T_j =	150	℃
DC link =	600	V
Mi =	1	
cosfi =	0,80	

fsw from 2 kHz to 16 kHz in steps of factor 2

Figure 11 Inverter

Typical available overload factor as a function of motor power and switching frequency $P_{peak} / P_{nom}=f(P_{nom},f_{sw})$



Switching frequency (kHz)	5,00 / 3,68	7,50 / 5,52	10,00 / 7,36	15,00 / 11,03	20,00 / 14,71	25,00 / 18,39
1	618	412	309	206	155	124
2	592	395	296	197	148	118
4	544	363	272	181	136	0
8	461	307	230	154	115	0
16	337	225	169	112	0	0

At

T_j =	150	℃
DC link =	600	V
Mi =	1	
cosfi =	0,8	

fsw from 1 kHz to 16kHz in steps of factor 2

Th =	90	℃
Motor eff =	0,85	