flowPACK 1 3rd gen | **Output Inverter Application** | **600V/50A**

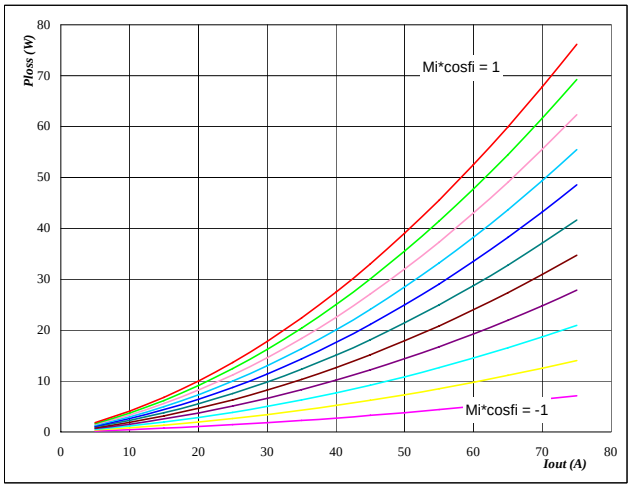
General conditions

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

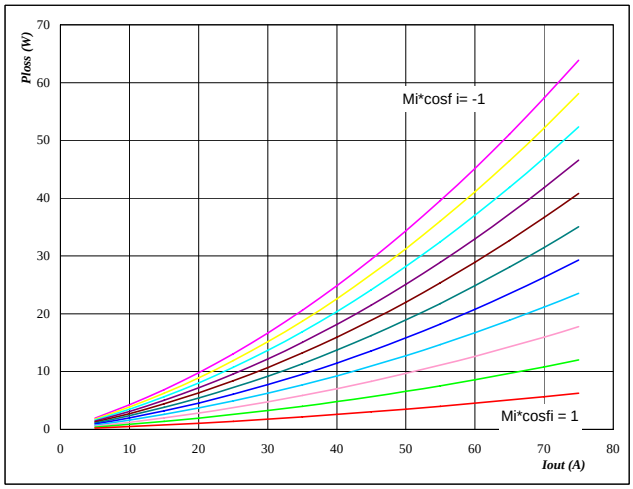
T_j = 150 °C

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

Figure 2 FRED

Typical average static loss as a function of output current

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



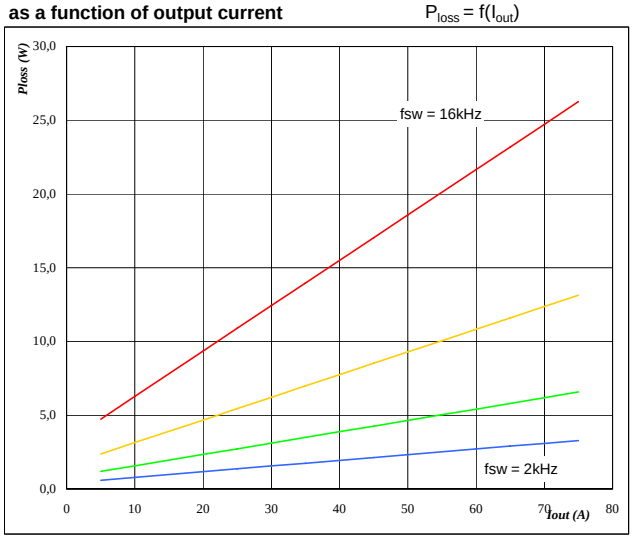
At

T_j = 150 °C

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

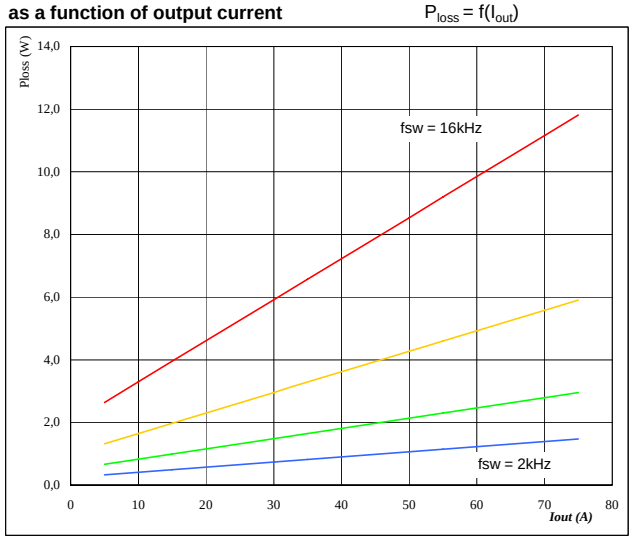
T_j = 150 °C

DC link = 320 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

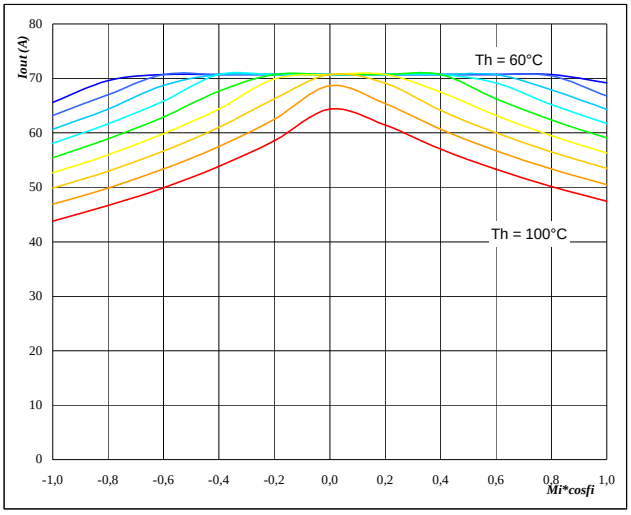
T_j = 150 °C

DC link = 320 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 $I_{out} = f(Mi*cosfi)$



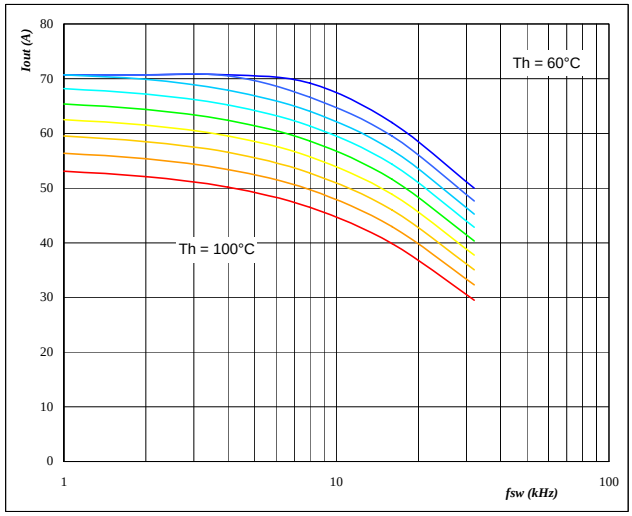
At

T_j =	150	°C
DC link =	320	V
fsw =	4	kHz

Th from 60 °C to 100 °C in steps of 5 °C

Figure 6 Phase

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



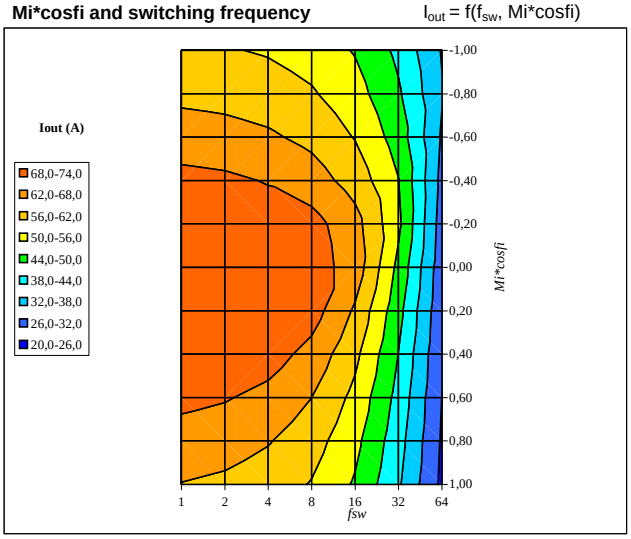
At

T_j =	150	°C
DC link =	320	V
Mi*cosfi =	0,8	

Th from 60 °C to 100 °C in steps of 5 °C

Figure 7 Phase

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

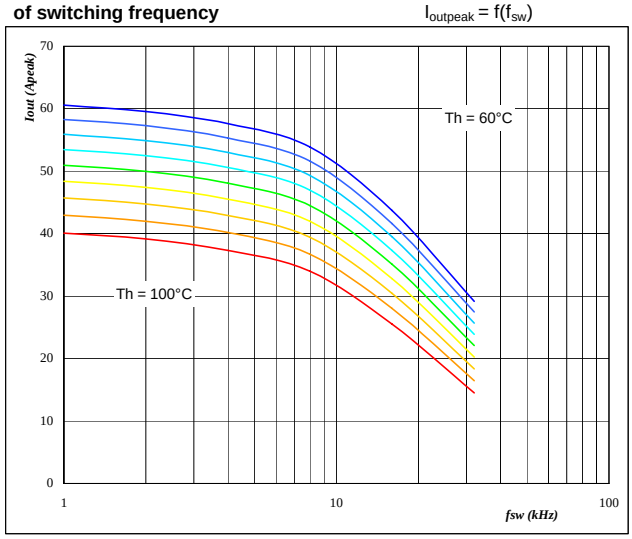


At

T_j =	150	°C
DC link =	320	V
T_h =	80	°C

Figure 8 Phase

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



At

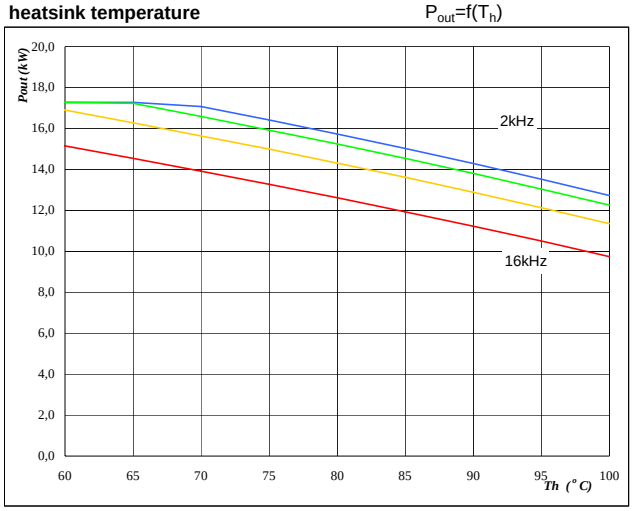
T_j =	150	°C
DC link =	320	V

Th from 60 °C to 100 °C in steps of 5 °C

Mi = 0

Figure 9 Inverter

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



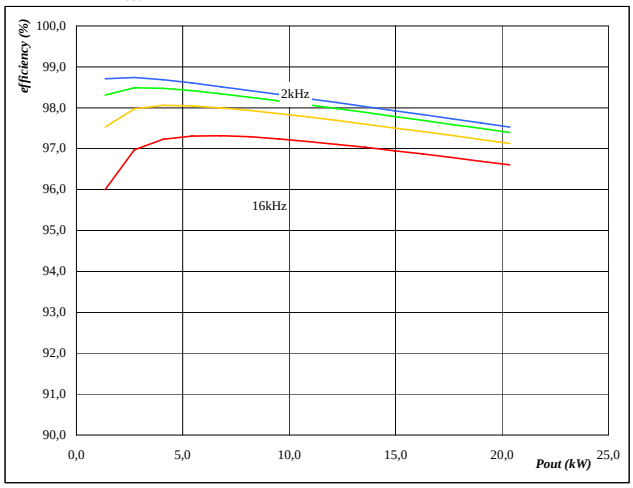
At

T_j =	150	°C
DC link =	320	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})



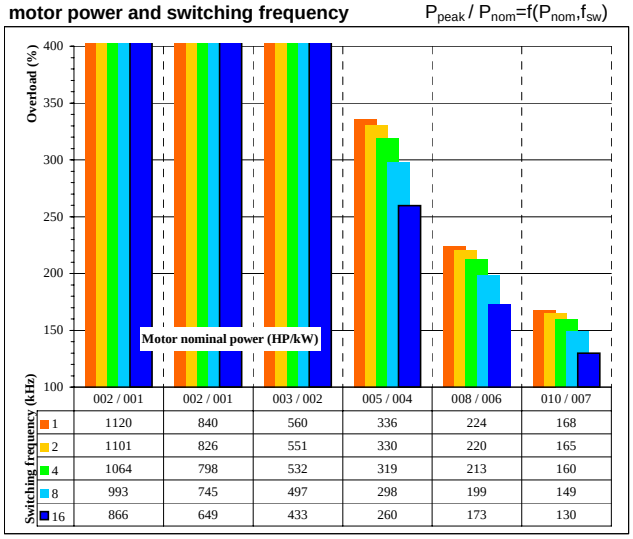
At

T_j =	150	°C
DC link =	320	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)	002 / 001	002 / 001	003 / 002	005 / 004	008 / 006	010 / 007
1	1120	840	560	336	224	168
2	1101	826	551	330	220	165
4	1064	798	532	319	213	160
8	993	745	497	298	199	149
16	866	649	433	260	173	130

At

T_j =	150	°C
DC link =	320	V
Mi =	1	
cosfi =	0,8	

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

Th =	90	°C
Motor eff =	0,85	

PRODUCT STATUS DEFINITIONS

Datasheet Status	Product Status	Definition
Target	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice. The data contained is exclusively intended for technically trained staff.
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