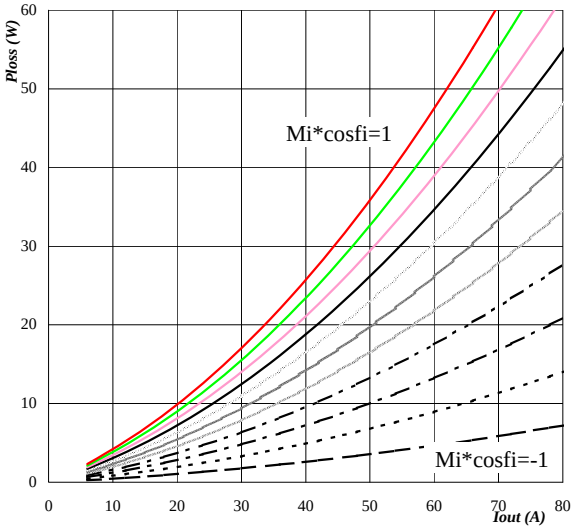
Output inverter application

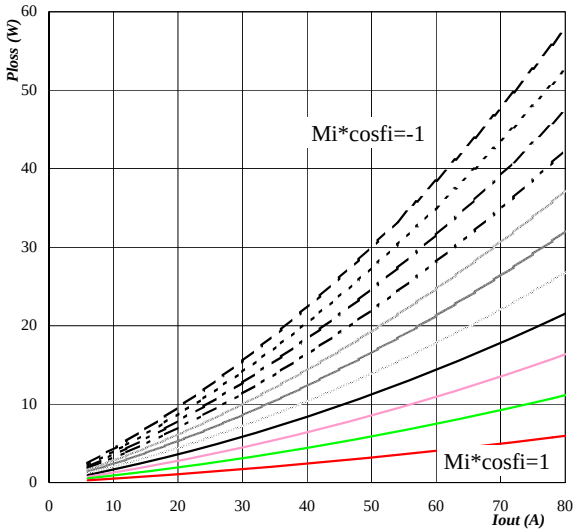
General conditions: 3 phase SPWM, Vgeon= 15 V
Vgeoff= -15 V
Rgon= 14 Ohm
Rgoff= 14 Ohm

Figure 1. Typical avarage static loss as a function of output current
IGBT Ploss=f(Iout)



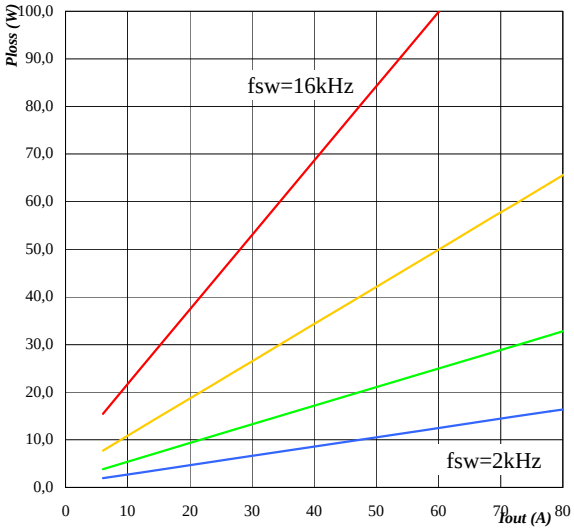
Conditions: Tj=125°C
Modulation index * cosfi
parameter Mi*cosfi from -1,00 to 1,00
in 0,20 steps

Figure 2. Typical avarage static loss as a function of output current
FRED Ploss=f(Iout)



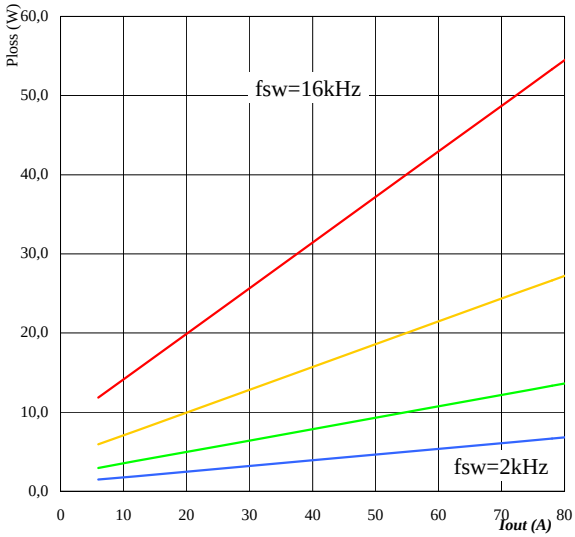
Conditions: Tj=125°C
Modulation index * cosfi
parameter Mi*cosfi from -1,00 to 1,00
in 0,20 steps

Figure 3. Typical avarage switching loss as a function of output current
IGBT Ploss=f(Iout)



Conditions: Tj=125°C
DC link= 600 V
Switching freq. parameter fsw from 2 kHz to 16 kHz
in * 2 steps

Figure 4. Typical avarage switching loss as a function of output current
FRED Ploss=f(Iout)



Conditions: Tj=125°C
DC link= 600 V
Switching freq. parameter fsw from 2 kHz to 16 kHz
in * 2 steps

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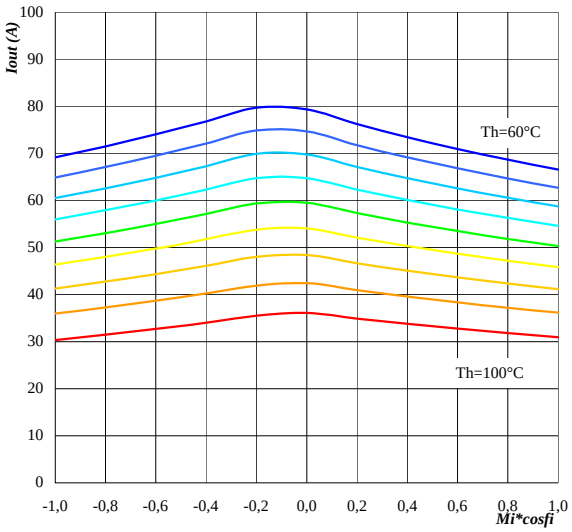
Output inverter application

General conditions: 3 phase SPWM, Vgeon= 15 V Rgon= 14 Ohm Rgoff= 14 Ohm
Vgeoff= -15 V

Figure 5. Typical available 50Hz output current as a function of Mi*cosfi

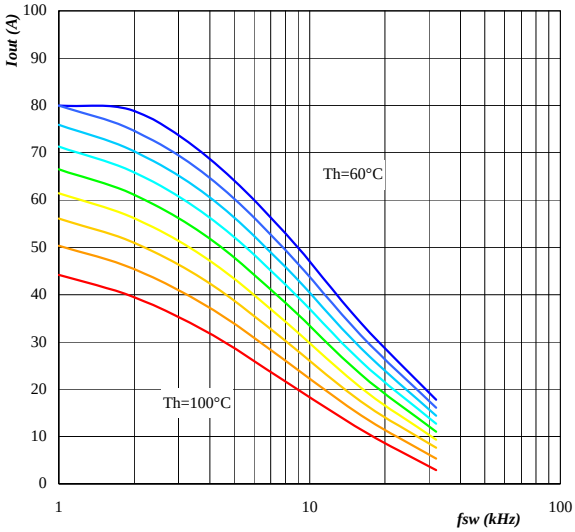
Phase Iout=f(Mi*cosfi)



Conditions: Tj=125°C
DC link= 600 V
fsw= 4 kHz
Heatsink temp. Th from 60 °C to 100 °C
parameter in 5 °C steps

Figure 6. Typical available 50Hz output current as a function of switching frequency

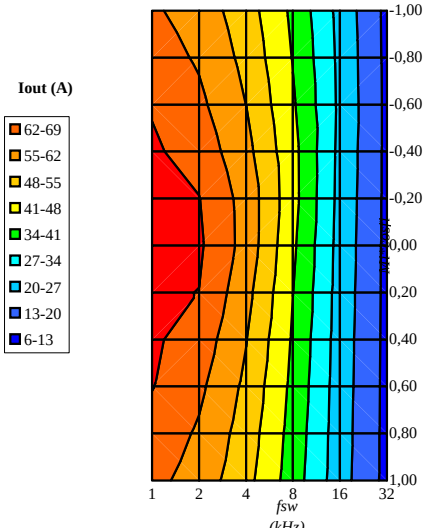
Phase Iout=f(fsw)



Conditions: Tj=125°C
DC link= 600 V
Mi*cosfi= 0,8
Heatsink temp. Th from 60 °C to 100 °C
parameter in 5 °C steps

Figure 7. Typical available 50Hz output current as a function of Mi*cosfi and fsw

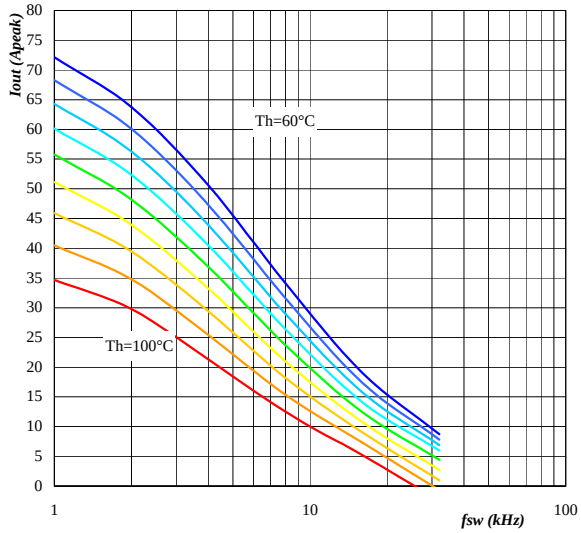
Phase Iout=f(fsw,Mi*cosfi)



Conditions: Tj=125°C
DC link= 600 V
Th= 80 °C

Figure 8. Typical available 0Hz output current as a function of switching frequency

Phase Ioutpeak=f(fsw)



Conditions: Tj=125°C
DC link= 600 V
Heatsink temp. Th from 60 °C to 100 °C
parameter in 5 °C steps

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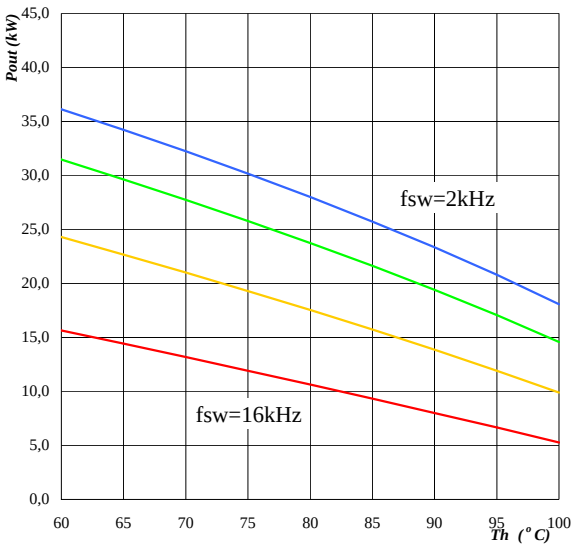
Output inverter application

General conditions: 3 phase SPWM, Vgeon= 15 V
Vgeoff= -15 V
Rgon= 14 Ohm
Rgoff= 14 Ohm

Figure 9. Typical available electric peak output power as a function of heatsink temperature

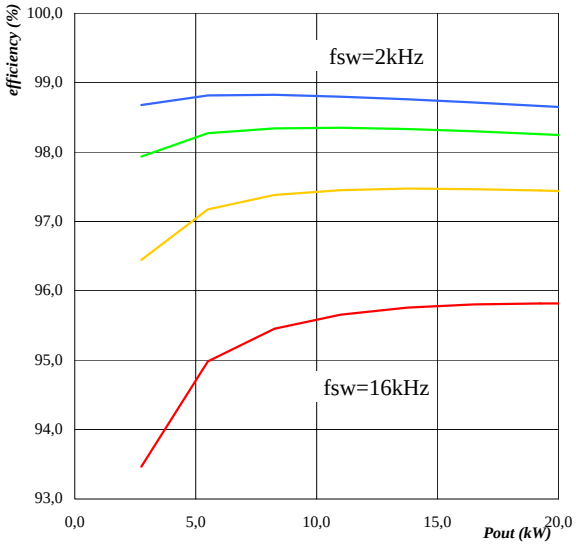
Inverter Pout=f(Th)



Conditions: Tj=125°C
DC link= 600 V
Modulation index Mi= 1
cosfi= 0,80
Switching freq. parameter: fsw from 2 kHz to 16 kHz in * 2 steps

Figure 10. Typical efficiency as a function of output power

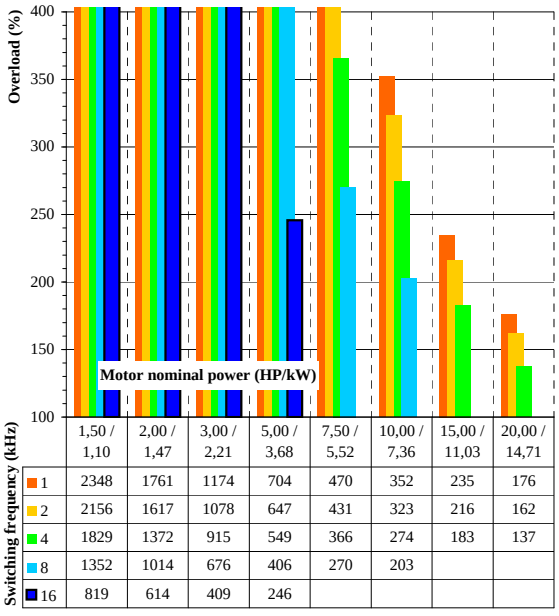
Inverter efficiency=f(Pout)



Conditions: Tj=125°C
DC link= 600 V
Modulation index Mi= 1
cosfi= 0,80
Switching freq. parameter: fsw from 2 kHz to 16 kHz in * 2 steps

Figure 11. Typical available overload factor as a function of motor power and switching frequency

Inverter Ppeak/Pnom=f(Pnom,fsw)



Switching frequency (kHz)	1,50 / 1,10	2,00 / 1,47	3,00 / 2,21	5,00 / 3,68	7,50 / 5,52	10,00 / 7,36	15,00 / 11,03	20,00 / 14,71
1	2348	1761	1174	704	470	352	235	176
2	2156	1617	1078	647	431	323	216	162
4	1829	1372	915	549	366	274	183	137
8	1352	1014	676	406	270	203		
16	819	614	409	246				

Conditions: Tj=125°C
DC link= 600 V
Modulation index Mi= 1
cosfi= 0,8
Switching freq. parameter: fsw from 1 kHz to 16 kHz in * 2 steps
Heatsink temperature= 80 °C
Motor efficiency= 0,85

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