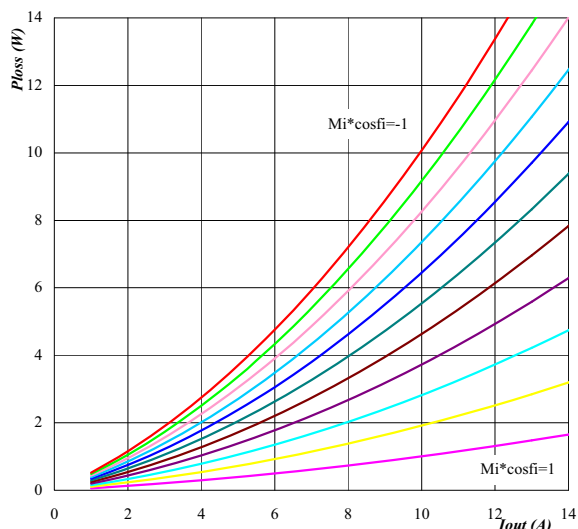


Output inverter application

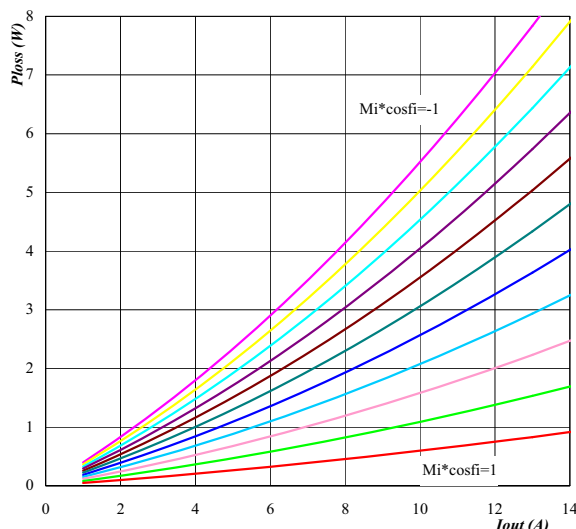
General conditions: 3 phase SPWM, $V_{geon}=15\text{ V}$ $V_{geoff}=0\text{V}$ $R_{gon}=56\text{ ohms}$ $R_{goff}=28\text{ ohms}$

Figure 1. Typical average static loss as a function of output current
IGBT $P_{loss}=f(I_{out})$



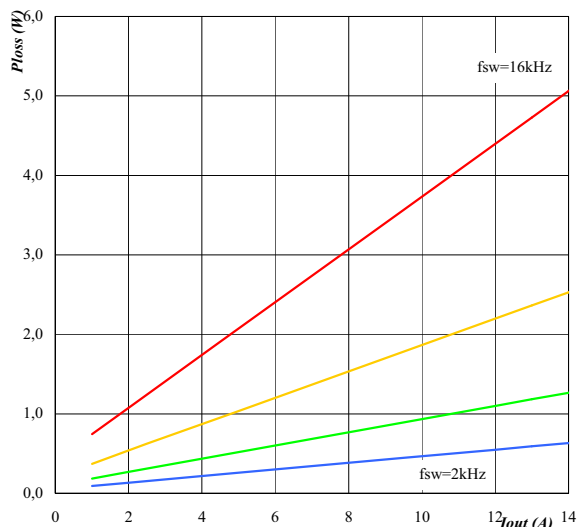
Conditions: $T_j=125^\circ\text{C}$
Modulation index * $\cos\phi_i$
parameter $M_i*\cos\phi_i$ from -1,00 to 1,00
in 0,20 steps

Figure 2. Typical average static loss as a function of output current
FRED $P_{loss}=f(I_{out})$



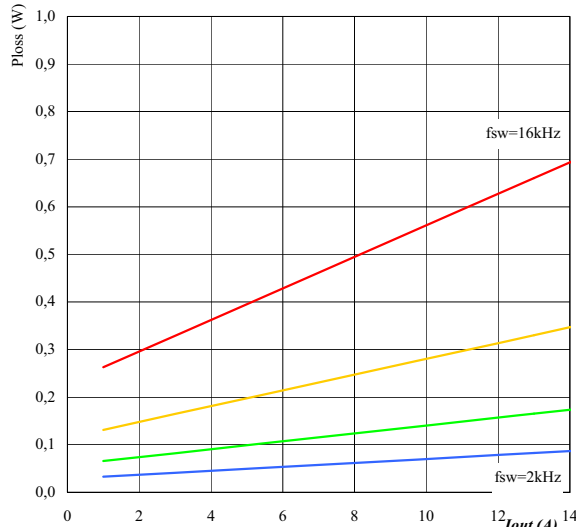
Conditions: $T_j=125^\circ\text{C}$
Modulation index * $\cos\phi_i$
parameter $M_i*\cos\phi_i$ from -1,00 to 1,00
in 0,20 steps

Figure 3. Typical average switching loss as a function of output current
IGBT $P_{loss}=f(I_{out})$



Conditions: $T_j=125^\circ\text{C}$
DC link= 320 V
Switching freq. f_{sw} from 2 kHz to 16 kHz
parameter in * 2 steps

Figure 4. Typical average switching loss as a function of output current
FRED $P_{loss}=f(I_{out})$



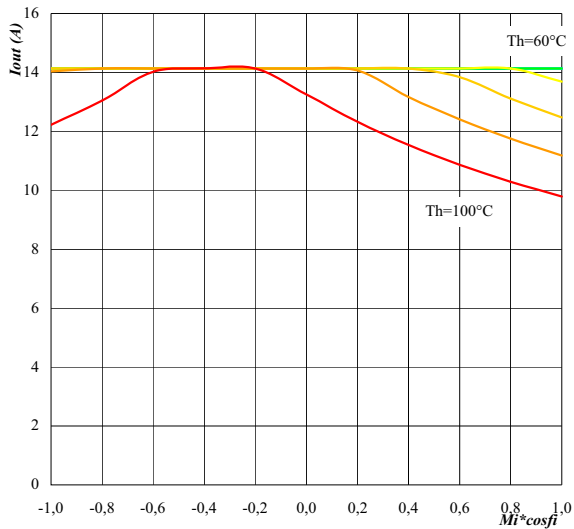
Conditions: $T_j=125^\circ\text{C}$
DC link= 320 V
Switching freq. f_{sw} from 2 kHz to 16 kHz
parameter in * 2 steps

Output inverter application

General conditions: 3 phase SPWM, $V_{geon}= 15\text{ V}$ $V_{geoff}=0\text{V}$
 $R_{gon}= 56\text{ ohms}$
 $R_{goff}= 28\text{ ohms}$

Figure 5. Typical available 50Hz output current as a function of $Mi*\cos\phi_i$

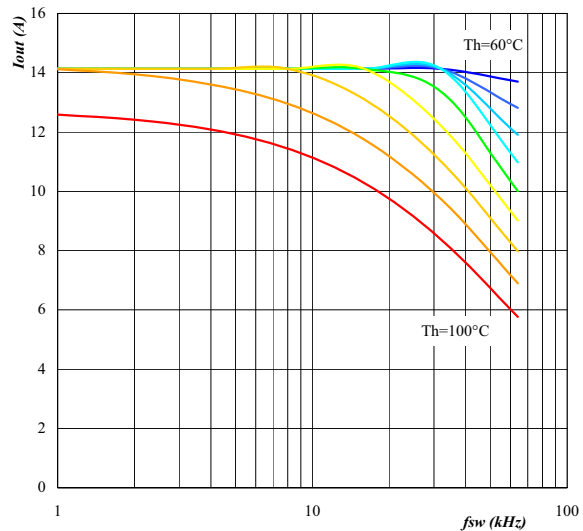
Phase $I_{out}=f(Mi*\cos\phi_i)$



Conditions: $T_j=125\text{C}$
DC link= 320 V
fsw= 16 kHz
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

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

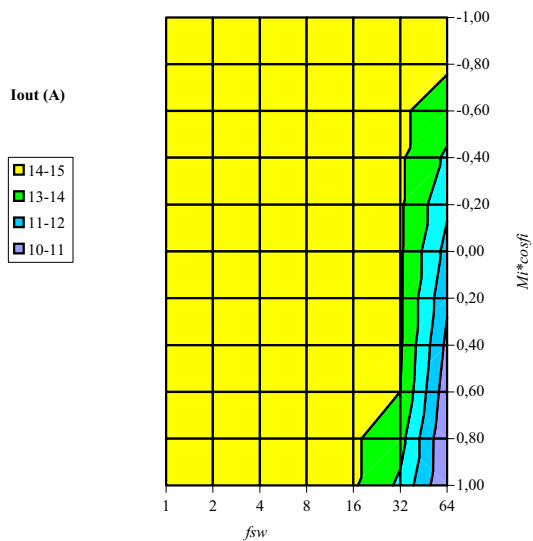
Phase $I_{out}=f(f_{sw})$



Conditions: $T_j=125\text{C}$
DC link= 320 V
 $Mi*\cos\phi_i= 0,8$
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

Figure 7. Typical available 50Hz output current as a function of $Mi*\cos\phi_i$ and fsw

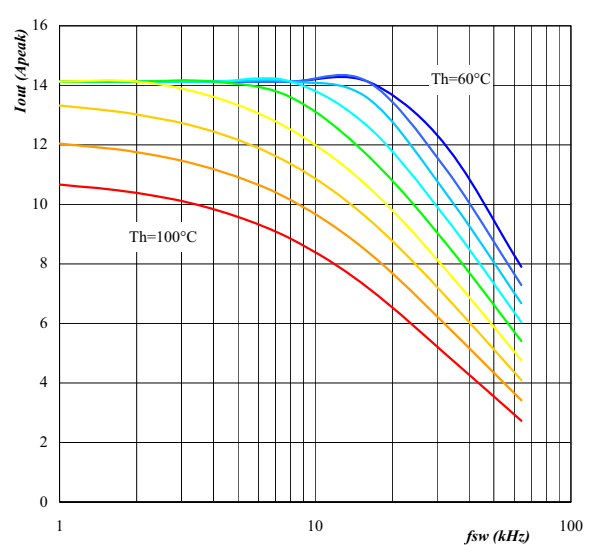
Phase $I_{out}=f(f_{sw}, Mi*\cos\phi_i)$



Conditions: $T_j=125\text{C}$
DC link= 320 V
 $T_h= 80\text{ °C}$

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

Phase $I_{outpeak}=f(f_{sw})$



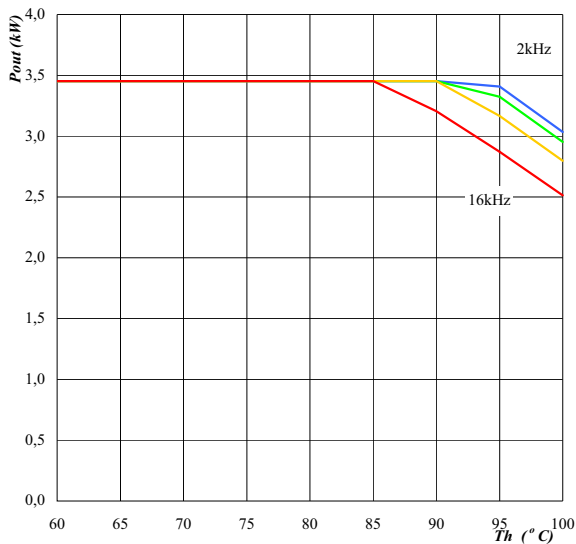
Conditions: $T_j=125\text{C}$
DC link= 320 V
Heatsink temp. T_h from 60 °C to 100 °C
parameter in 5 °C steps

Output inverter application

General conditions: 3 phase SPWM, $V_{geon}= 15\text{ V}$ $V_{geoff}=0\text{V}$ $R_{gon}= 56\text{ ohms}$ $R_{goff}= 28\text{ ohms}$

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

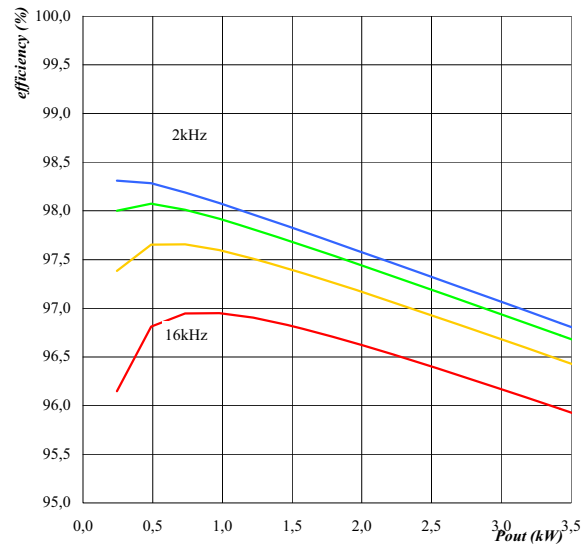
Inverter $P_{out}=f(T_h)$



Conditions: $T_j=125\text{C}$
DC link= 320 V
Modulation index $M_i= 1$
 $\cos\phi_i= 0,80$
Switching freq. fsw from 2 kHz to 16 kHz
parameter in * 2 steps

Figure 10. Typical efficiency as a function of output power

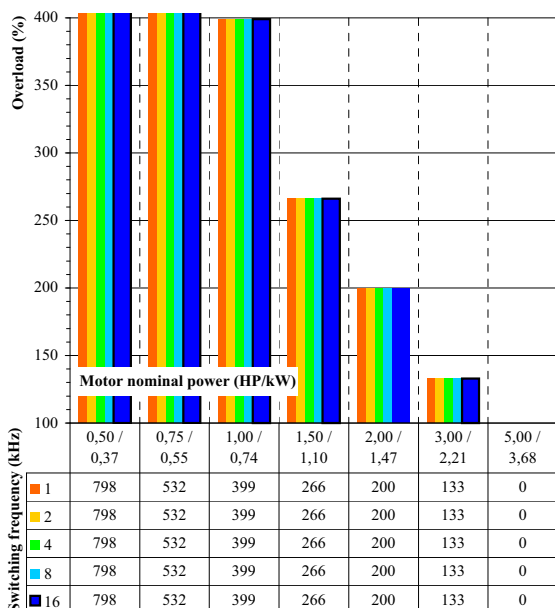
Inverter $\text{efficiency}=f(P_{out})$



Conditions: $T_j=125\text{C}$
DC link= 320 V
Modulation index $M_i= 1$
 $\cos\phi_i= 0,80$
Switching freq. fsw from 2 kHz to 16 kHz
parameter in * 2 steps

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

Inverter $P_{peak}/P_{nom}=f(P_{nom}, f_{sw})$



Conditions: $T_j=125\text{C}$
DC link= 320 V
Modulation index $M_i= 1$
 $\cos\phi_i= 0,8$
Switching freq. fsw from 1 kHz to 16 kHz
parameter in * 2 steps
Heatsink temperature= 80 °C
Motor efficiency= 0,85