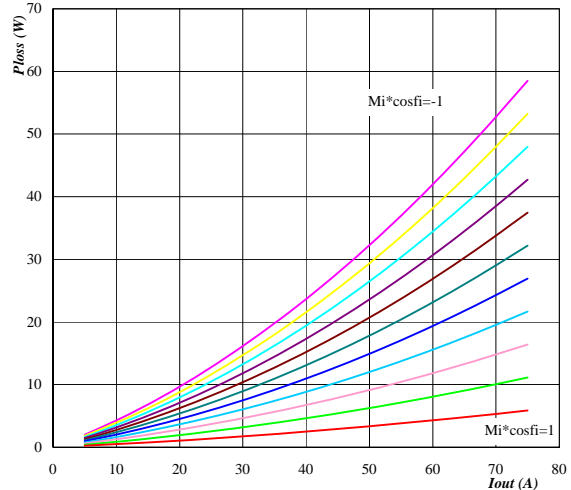
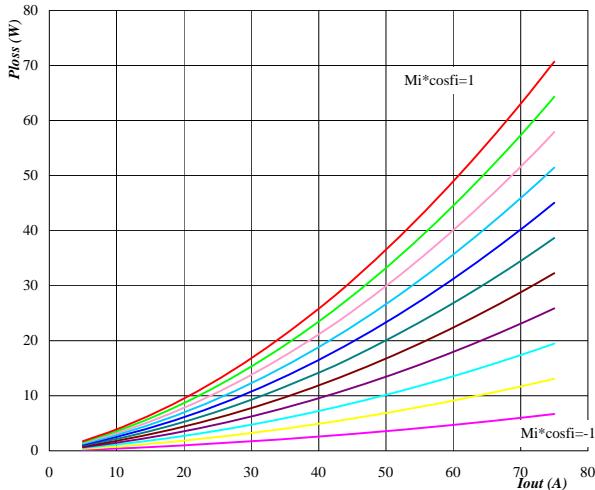
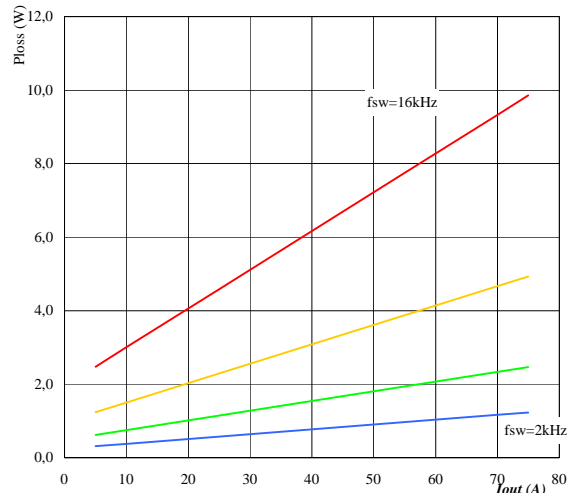
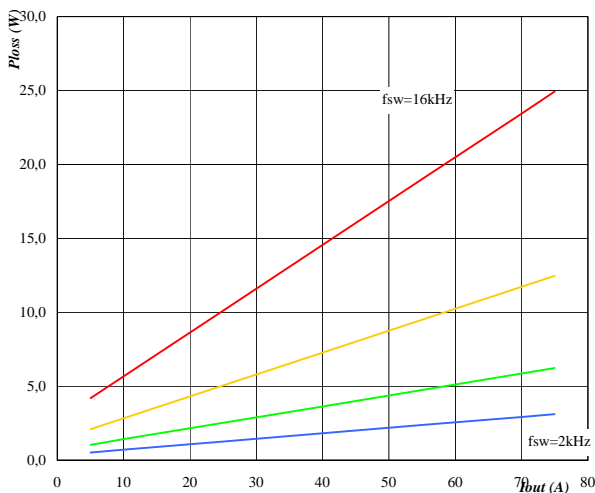


Output inverter application

 General conditions 3 phase SPWM, $V_{geon} = 15\text{ V}$
 $V_{geoff} = -15\text{ V}$
 $R_{gon} = 8\ \Omega$ $R_{goff} = 8\ \Omega$
Figure 1. Typical average static loss as a function of output current
IGBT $P_{loss} = f(I_{out})$
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 * $\cos\phi$
 parameter $M_i \cdot \cos\phi$ from $-1,00$ to $1,00$
 in $0,20$ steps

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

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

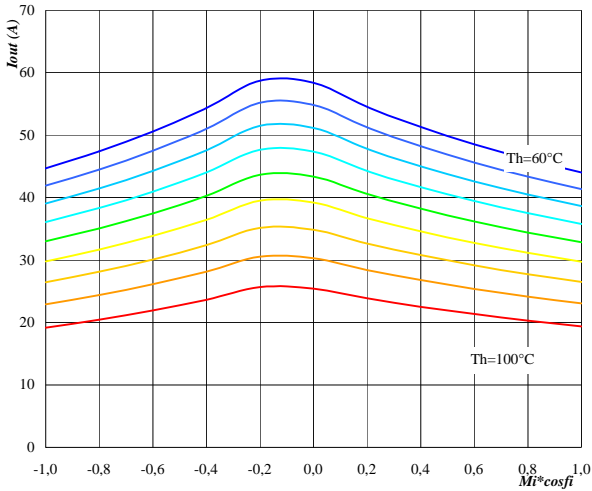
 Conditions: $T_j = 125^\circ\text{C}$
 DC link = 320 V
 Switching freq. f_{sw} from 2 kHz to 16 kHz
 parameter in $* 2$ steps

Output inverter application

General conditions 3 phase SPWM, $V_{geon} = 15\text{ V}$
 $V_{geoff} = -15\text{ V}$

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

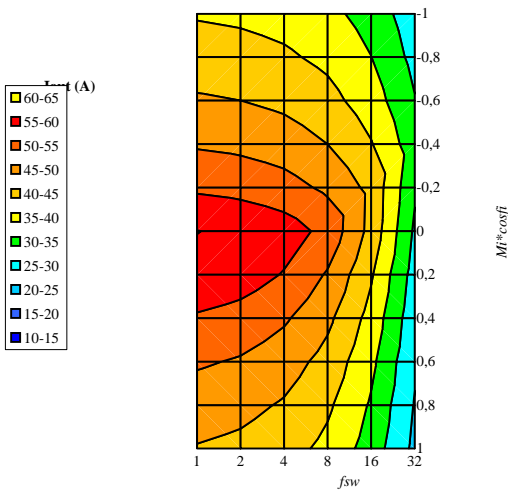
Phase $I_{out} = f(Mi \cdot \cos\phi_i)$



Conditions: $T_j = 125^\circ\text{C}$
 DC link = 320 V
 $f_{sw} = 16\text{ kHz}$
 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 $Mi \cdot \cos\phi_i$ and f_{sw}

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

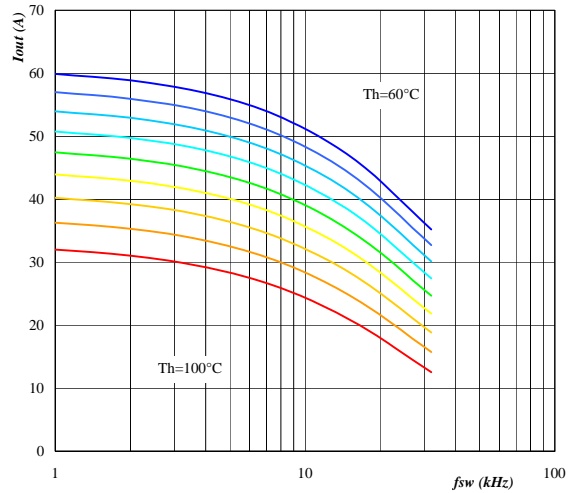


Conditions: $T_j = 125^\circ\text{C}$
 DC link = 320 V
 $T_h = 80^\circ\text{C}$

$R_{gon} = 8\ \Omega$ $R_{goff} = 8\ \Omega$

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

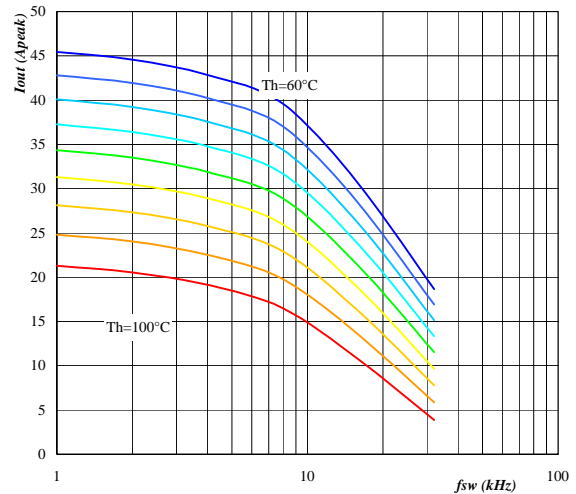
Phase $I_{out} = f(f_{sw})$



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

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

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



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

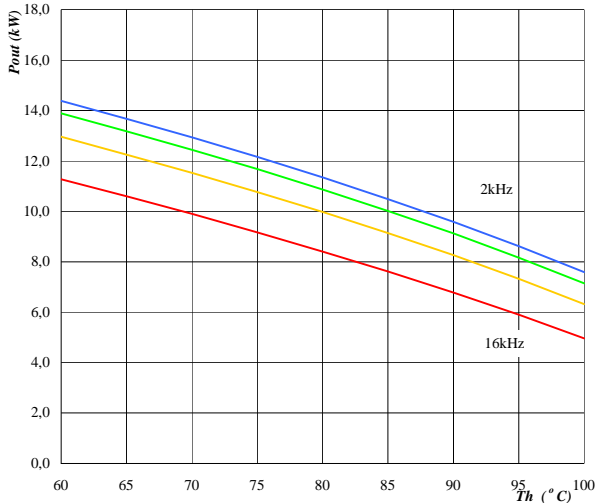
Output inverter application

General conditions 3 phase SPWM, $V_{geon} = 15\text{ V}$
 $V_{geoff} = -15\text{ V}$

$R_{gon} = 8\ \Omega$ $R_{goff} = 8\ \Omega$

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

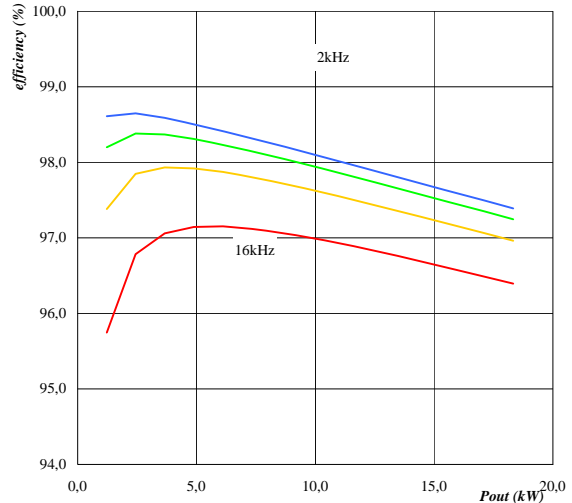
Inverter $P_{out} = f(T_h)$



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

Figure 10. Typical efficiency as a function of output power

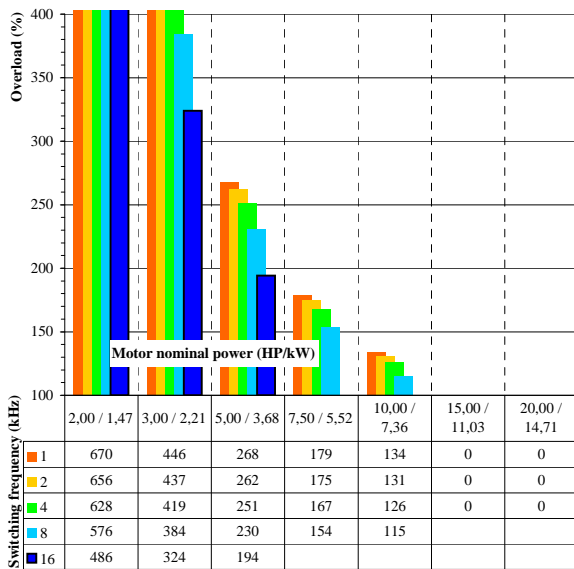
Inverter $\text{efficiency} = f(P_{out})$



Conditions: $T_j = 125^\circ\text{C}$
 DC link = 320 V
 Modulation index $M_i = 1$
 $\cos\phi = 0,80$
 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 $P_{peak}/P_{nom} = f(P_{nom}, f_{sw})$



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