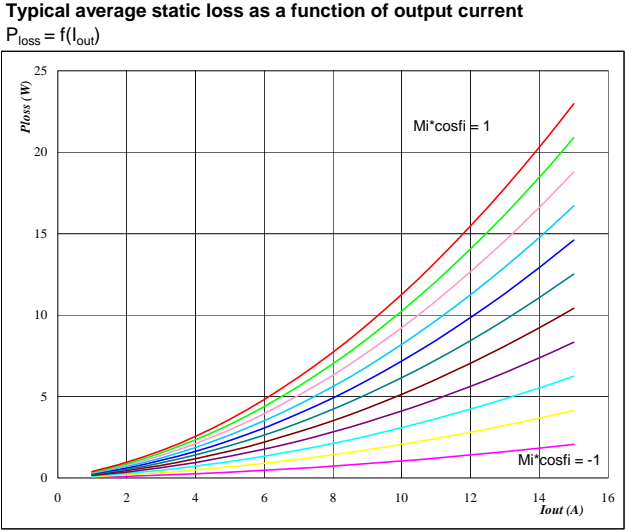


MiniSkiip 0 **Output Inverter Application** **600V/6A**

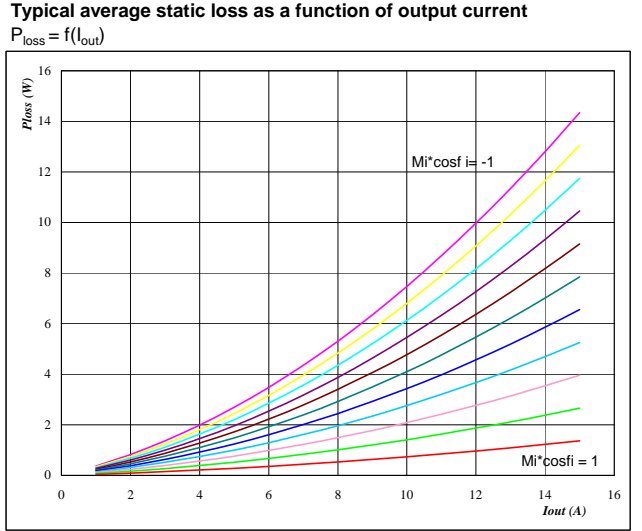
General conditions
3phase SPWM
 $V_{GEon} = 15\text{ V}$
 $V_{GEoff} = -15\text{ V}$
 $R_{gon} = 64\ \Omega$
 $R_{goff} = 64\ \Omega$

Figure 1 IGBT



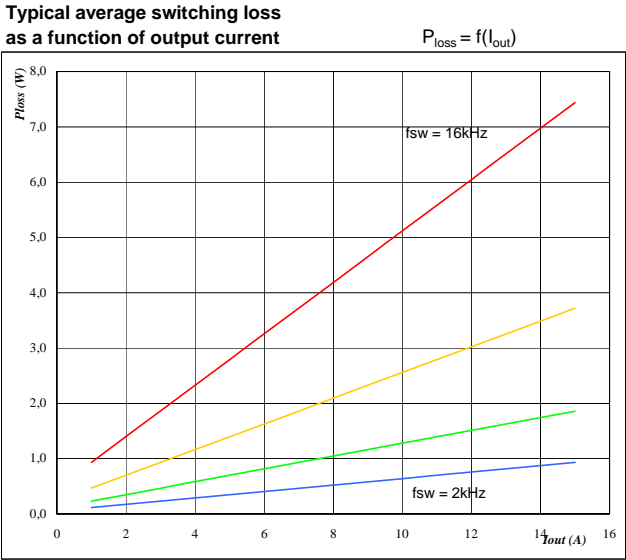
$T_j = 150\ \text{°C}$
 $Mi \cdot \cos\phi$ from -1 to 1 in steps of 0,2

Figure 2 FWD



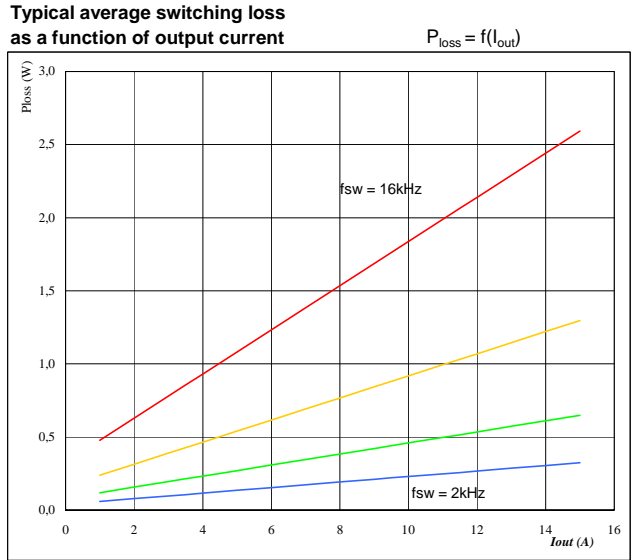
$T_j = 150\ \text{°C}$
 $Mi \cdot \cos\phi$ from -1 to 1 in steps of 0,2

Figure 3 IGBT



$T_j = 150\ \text{°C}$
 DC link = 320 V
 f_{sw} from 2 kHz to 16 kHz in steps of factor 2

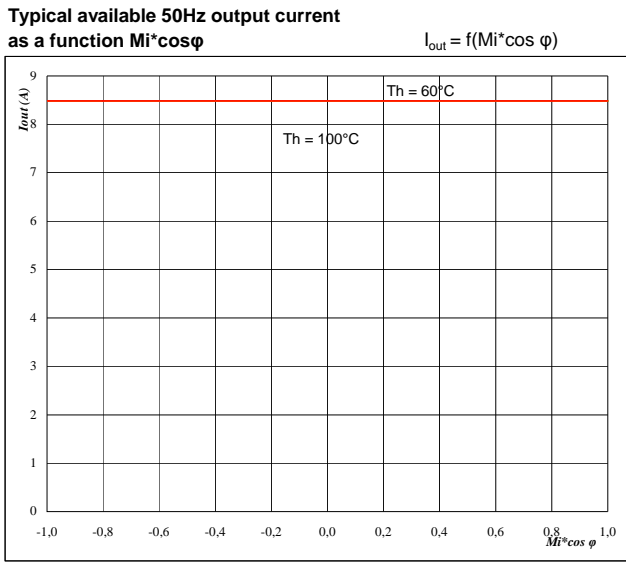
Figure 4 FWD



$T_j = 150\ \text{°C}$
 DC link = 320 V
 f_{sw} from 2 kHz to 16 kHz in steps of factor 2

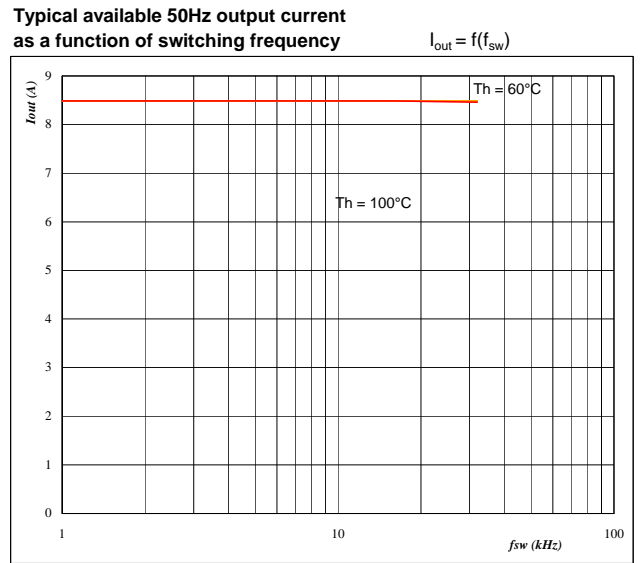
MiniSkiip 0 Output Inverter Application 600V/6A

Figure 5 Phase



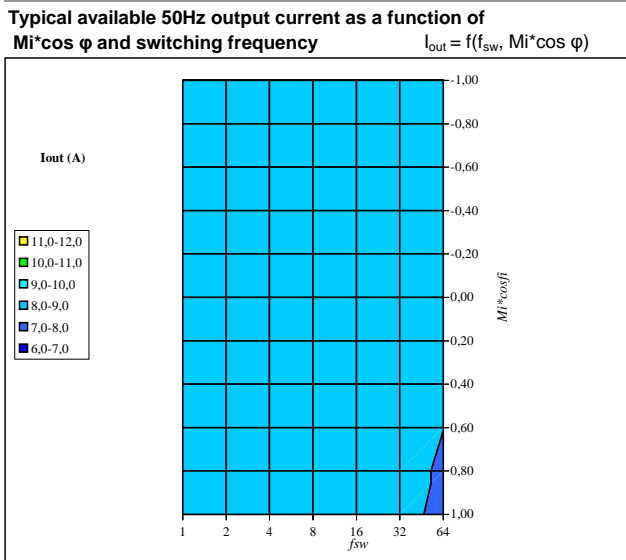
$T_j = 150 \text{ } ^\circ\text{C}$
 DC link = 320 V
 $f_{sw} = 4 \text{ kHz}$
 T_h from 60 °C to 100 °C in steps of 5 °C

Figure 6 Phase



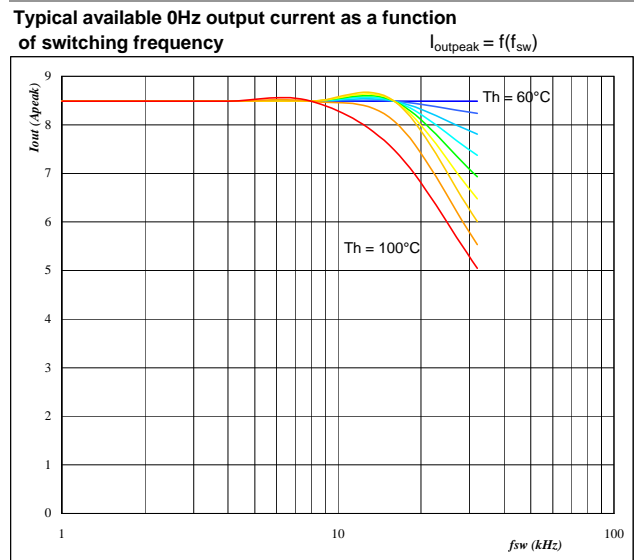
$T_j = 150 \text{ } ^\circ\text{C}$
 DC link = 320 V
 $Mi \cdot \cos \varphi = 0,8$
 T_h from 60 °C to 100 °C in steps of 5 °C

Figure 7 Phase



$T_j = 150 \text{ } ^\circ\text{C}$
 DC link = 320 V
 $T_h = 80 \text{ } ^\circ\text{C}$

Figure 8 Phase

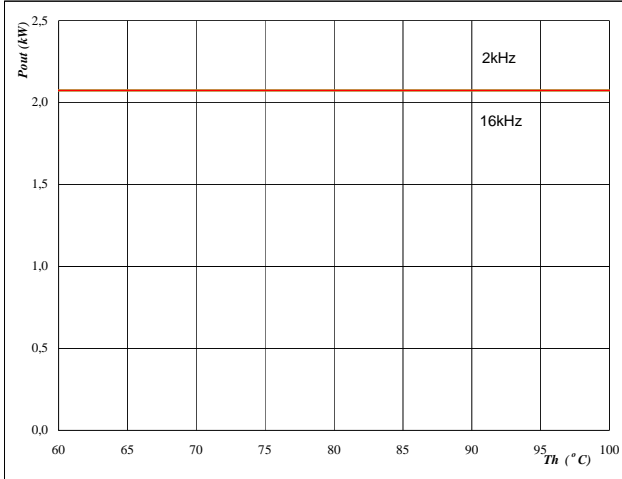


$T_j = 150 \text{ } ^\circ\text{C}$
 DC link = 320 V
 T_h from 60 °C to 100 °C in steps of 5 °C
 $Mi = 0$

MiniSkiip 0 Output Inverter Application 600V/6A

Figure 9 Inverter

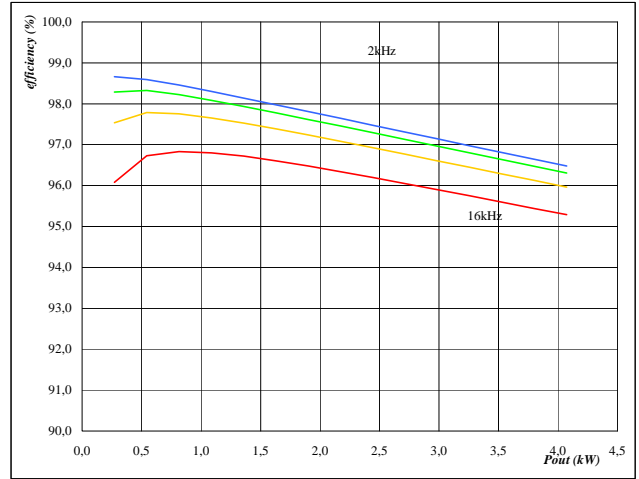
Typical available peak output power as a function of heatsink temperature $P_{out}=f(T_h)$



$T_j = 150 \text{ } ^\circ\text{C}$
DC link = 320 V
Mi = 1
cos $\varphi = 0,80$
 f_{sw} from 2 kHz to 16 kHz in steps of factor 2

Figure 10 Inverter

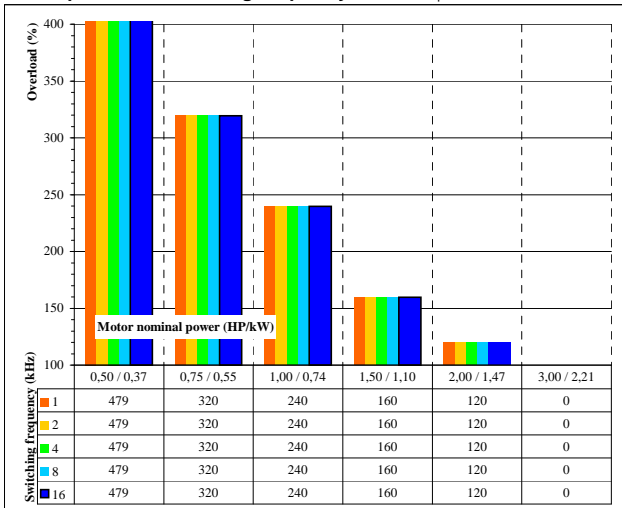
Typical efficiency as a function of output power efficiency= $f(P_{out})$



$T_j = 150 \text{ } ^\circ\text{C}$
DC link = 320 V
Mi = 1
cos $\varphi = 0,80$
 f_{sw} 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 $P_{peak} / P_{nom}=f(P_{nom}, f_{sw})$



$T_j = 150 \text{ } ^\circ\text{C}$
DC link = 320 V
Mi = 1
cos $\varphi = 0,8$
 f_{sw} from 1 kHz to 16kHz in steps of factor 2
 $T_h = 80 \text{ } ^\circ\text{C}$
Motor eff = 0,85