**flowPACK 0 3rd gen** | **Output Inverter Application** | **1200V/25A**

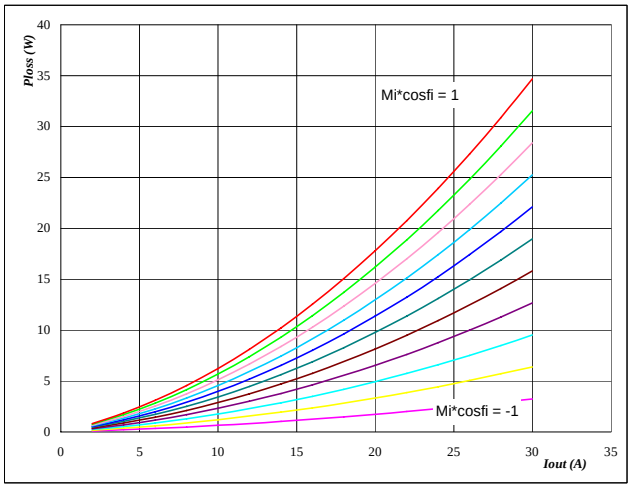
**General conditions**

| 3phase SPWM | | |
|---|---|---|
| $V_{GEon}$ | = | 15 V |
| $V_{GEoff}$ | = | -15 V |
| $R_{gon}$ | = | 32 Ω |
| $R_{goff}$ | = | 32 Ω |

**Figure 1** IGaT

**Typical average static loss as a function of output current**

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



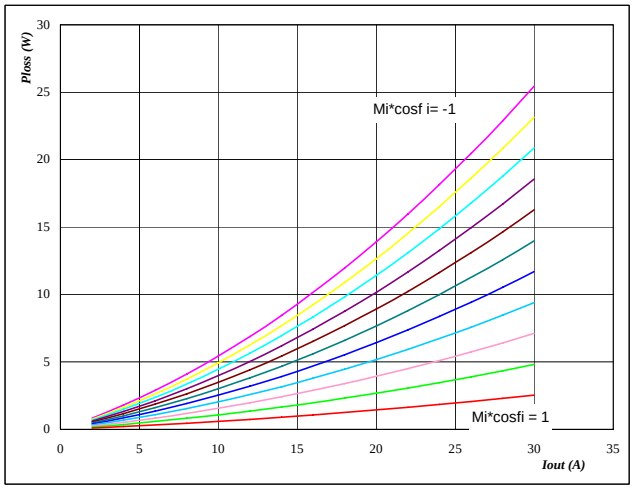

$T_j$ = 150 °C

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

**Figure 2** FRED

**Typical average static loss as a function of output current**

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

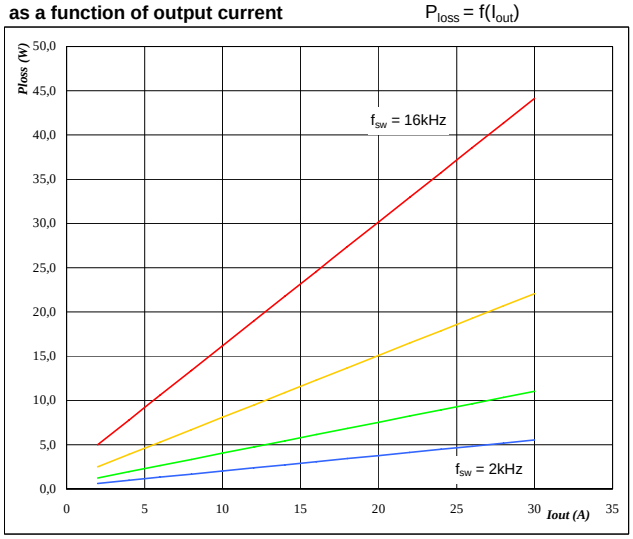



$T_j$ = 150 °C

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

**Figure 3** IGaT

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



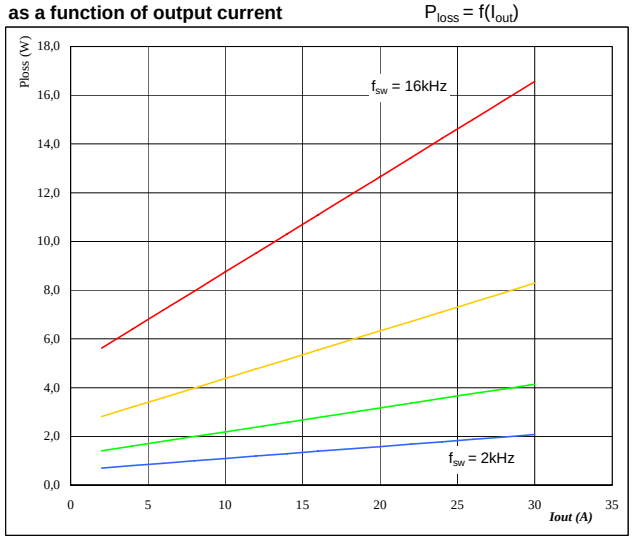

$T_j$ = 150 °C

DC link = 600 V

$f_{sw}$ from 2 kHz to 16 kHz in steps of factor 2

**Figure 4** FRED

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



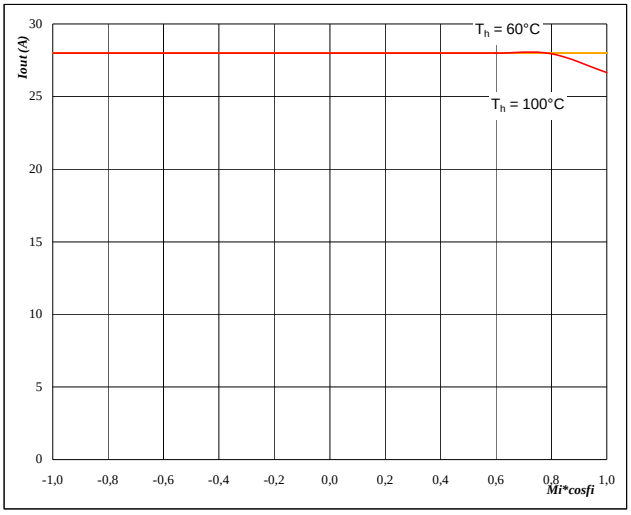

$T_j$ = 150 °C

DC link = 600 V

$f_{sw}$ from 2 kHz to 16 kHz in steps of factor 2

**Figure 5** Phase

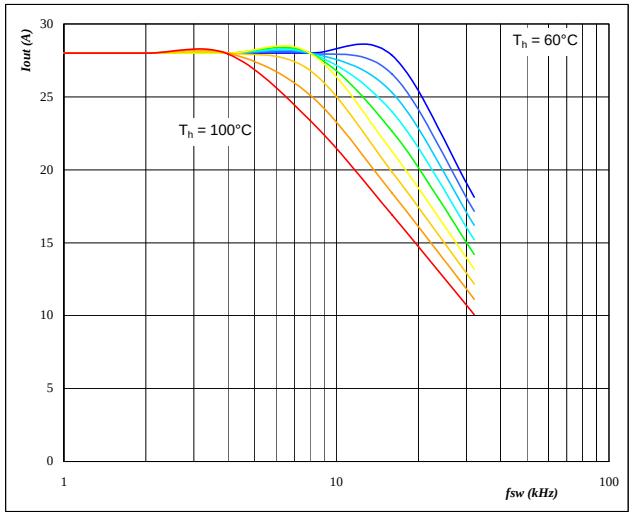
**Typical availaale 50Hz output current as a function Mi*cosfi** $I_{out} = f(Mi*cosfi)$




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| $f_{sw}$ = | 4 | kHz |
| $T_h$ from | 60 °C to 100 °C in steps of 5 °C | |

**Figure 6** Phase

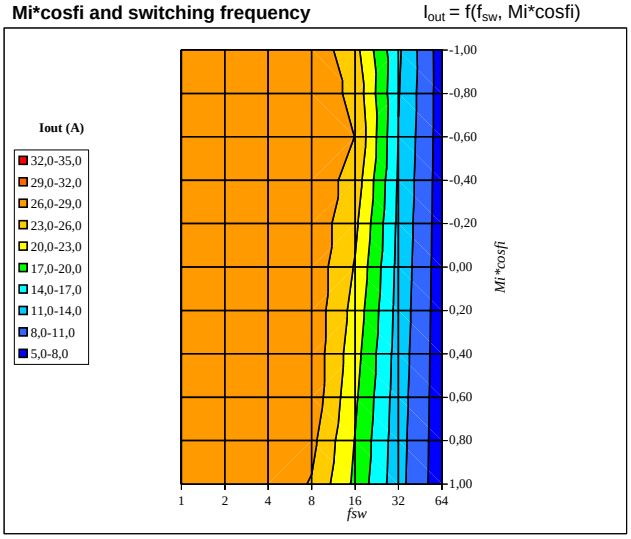
**Typical availaale 50Hz output current as a function of switching frequency** $I_{out} = f(f_{sw})$




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| Mi*cosfi = | 0,8 | |
| $T_h$ from | 60 °C to 100 °C in steps of 5 °C | |

**Figure 7** Phase

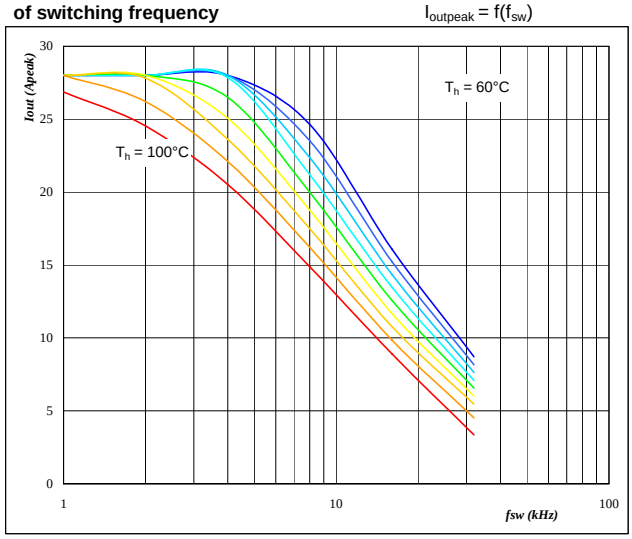
**Typical availaale 50Hz output current as a function of Mi*cosfi and switching frequency** $I_{out} = f(f_{sw}, Mi*cosfi)$




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| $T_h$ = | 90 | °C |

**Figure 8** Phase

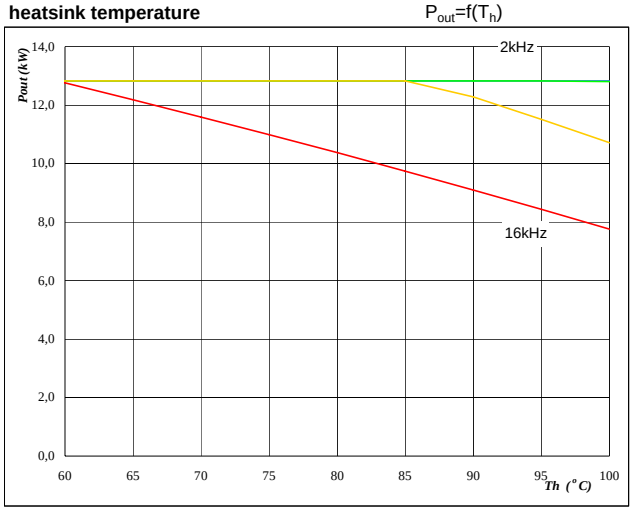
**Typical availaale 0Hz output current as a function of switching frequency** $I_{outpeak} = f(f_{sw})$




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| $T_h$ from | 60 °C to 100 °C in steps of 5 °C | |
| Mi = | 0 | |

**Figure 9** Inverter

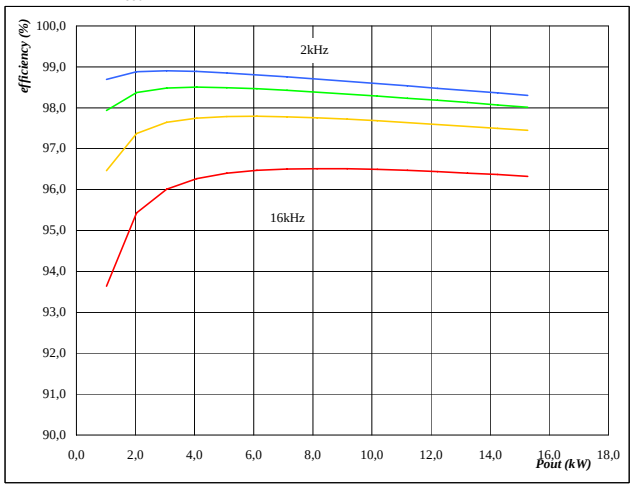
**Typical availaale peak output power as a function of heatsink temperature** $P_{out}=f(T_h)$




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| Mi = | 1 | |
| cosfi = | 0,80 | |
| $f_{sw}$ from | 2 kHz to 16 kHz in steps of factor 2 | |

**Figure 10** Inverter

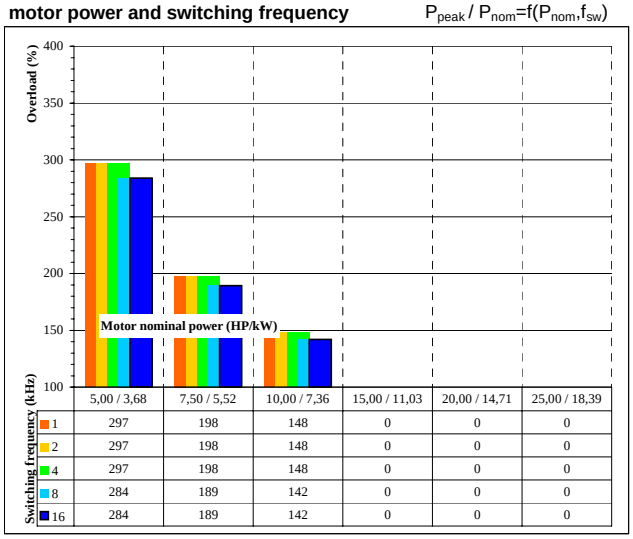
**Typical efficiency as a function of output power** efficiency=f($P_{out}$)




| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| Mi = | 1 | |
| cosfi = | 0,80 | |
| $f_{sw}$ from | 2 kHz to 16 kHz in steps of factor 2 | |

**Figure 11** Inverter

**Typical availaale overload factor as a function of motor power and switching frequency** $P_{peak} / P_{nom}=f(P_{nom},f_{sw})$




| Switching frequency (kHz) | 5,00 / 3,68 | 7,50 / 5,52 | 10,00 / 7,36 | 15,00 / 11,03 | 20,00 / 14,71 | 25,00 / 18,39 |
|---|---|---|---|---|---|---|
| 1 | 297 | 198 | 148 | 0 | 0 | 0 |
| 2 | 297 | 198 | 148 | 0 | 0 | 0 |
| 4 | 297 | 198 | 148 | 0 | 0 | 0 |
| 8 | 284 | 189 | 142 | 0 | 0 | 0 |
| 16 | 284 | 189 | 142 | 0 | 0 | 0 |

| | | |
|---|---|---|
| $T_j$ = | 150 | °C |
| DC link = | 600 | V |
| Mi = | 1 | |
| cosfi = | 0,8 | |
| $f_{sw}$ from | 1 kHz to 16kHz in steps of factor 2 | |
| $T_h$ = | 90 | °C |
| Motor eff = | 0,85 | |