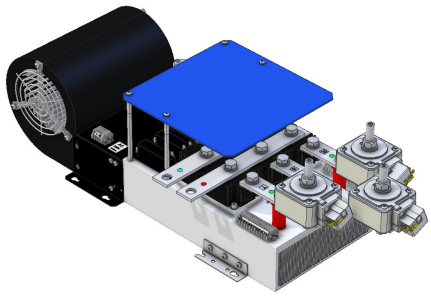
# MF-B6C1180F16RCVTF

Three phase fully controlled power bridge rectifier

## HIGHLIGHTS

-Radial fan
-High reliability
-Ultrafast fuses included
-Thermostat, snubber and varistor included
-Working voltage up to 480$V_{RMS}$
-Insulation 3000 $V_{RMS}$ /1 min
-Accesories support plate (e.g.:control cards)



non-contractual photo

| GENERAL SPECIFICATIONS | |
|---|---|
| Nominal line to line input voltage ($V_{RMS}$) | 480 $V_{AC}$ ±10% |
| Repetitive peak reverse voltage ($V_{RRM}$) | 1600 $V_P$ |
| Maximum working current ($I_{DC}$) (1) | 1186 $A_{DC}$ @ 35ºC $T_{AMB}$ |
| Maximum nominal working current ($I_{DC}$) (2) | 958 $A_{DC}$ @ 35ºC $T_{AMB}$ |
| Working altitude | ≤1000 m ASL |
| Cooling (3) | Forced air, radial fan, 230 $V_{RMS}$, 50 Hz, 207 W |

(1): *Maximum non-continuous working current.*
(2): *Maximum continuous working current without thermal protection trip.*
(3): *Performance at 60 Hz mains frequency differs from 50 Hz. For 60 Hz applications please consult the factory.*

| SEMICONDUCTOR SPECIFICATIONS | |
|---|---|
| Peak non-repetitive surge current ($I_{TSM}$) | 18 kA @ $T_P$=10 ms, $V_{RM}$=60%$V_{RRM}$ |
| | 19.8 kA @ $T_P$=10 ms, $V_{RM}$ ≤ 10V |
| $I^2t$ capacity for fusing @ $T_{JMAX}$ | 1620 $kA^2s$ @ $T_P$=10 ms, $V_{RM}$=60%$V_{RRM}$ |
| | 1960 $kA^2s$ @ $T_P$=10 ms, $V_{RM}$ ≤ 10V |
| Maximum rate of rise of on-state current (repetitive) ($di_T/dt$) | 150 A/µs |
| Maximum rate of rise of on-state current (non-repetitive) ($di_T/dt$) | 300 A/µs |
| Maximum peak on-state voltage ($V_{TM}$) | 1.3 V @ $I_{TM}$ = 1700 A |
| Critical rate of rise of off-state voltage (dv/dt) | min. 1000 V/µs @ $T_J$ = 125ºC, $V_D$ = 80% $V_{DRM}$ |
| Gate trigger voltage ($V_{GT}$) | max. 3 V @ $T_J$ = 25ºC, $V_D$ = 10 V, $I_T$ = 3 A |
| Gate trigger current ($I_{GT}$) | max. 300 mA @ $T_J$ = 25ºC, $V_D$ = 10 V, $I_T$ = 3 A |
| Holding current ($I_H$) | 1000 mA @ $T_J$ =25ºC, $V_D$ = 12 V |

| PROTECTIONS | |
|---|---|
| dv/dt protection (RC) | RC network 0.22 µF / 56 Ω |
| Peak voltage protection (VDR) | 550 $V_{RMS}$ varistor |
| Current protection (Semiconductor fuses) (1) | 069UR3S1250B |
| Microswitch fuse indicators | 3 x MS 3V1-5N |
| Thermal protection (thermostat) | 80ºC NC |

(1): *Fuses only for shortcircuit protection. User must provide external protection for continuous overloads and cable size.*

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| TERMINAL SPECIFICATIONS | |
|---|---|
| Input power terminals (AC terminals) | (M12) 13 to 15 Nm |
| Module power terminals | (M10) 12 to 15 Nm |
| Output power terminals (DC terminals) | 1xØ13 (M12) 13 to 15 Nm (1) |
| Control and auxiliary terminals block | WAGO series 260 terminal block<br>1.5 $mm^2$ / AWG 16 |

(1): *Tightening should be performed with two wrenches, avoiding transmitting lateral efforts to the connection terminal which would produce a deterioration of the element semiconductor.*

| ENVIRONMENT SPECIFICATIONS | |
|---|---|
| Protection grade (EN 60520 / CEI 529 / UNE 20324) | IP 00 |
| Humidity max. | 50% RH @ 35ºC / 90 % RH @ 20ºC |
| Pollution degree | III |
| Isolation | 3000 $V_{RMS}$ / 1 min |

| LOSSES | |
|---|---|
| Power dissipation of semiconductors at full charge | Approx. 2012 W |
| Maximum power dissipation of fuses at full charge | Approx. 159 W |
| Maximum total power dissipation at full charge | Approx. 2170 W |

| MECHANICAL SPECIFICATIONS | |
|---|---|
| Mounting position | Any |
| Storage temperature | -25ºC to 80ºC |
| Width | 292 mm |
| Depth | 365 mm |
| Height | 850 mm |
| Approx. Weight | 22.2 kg |

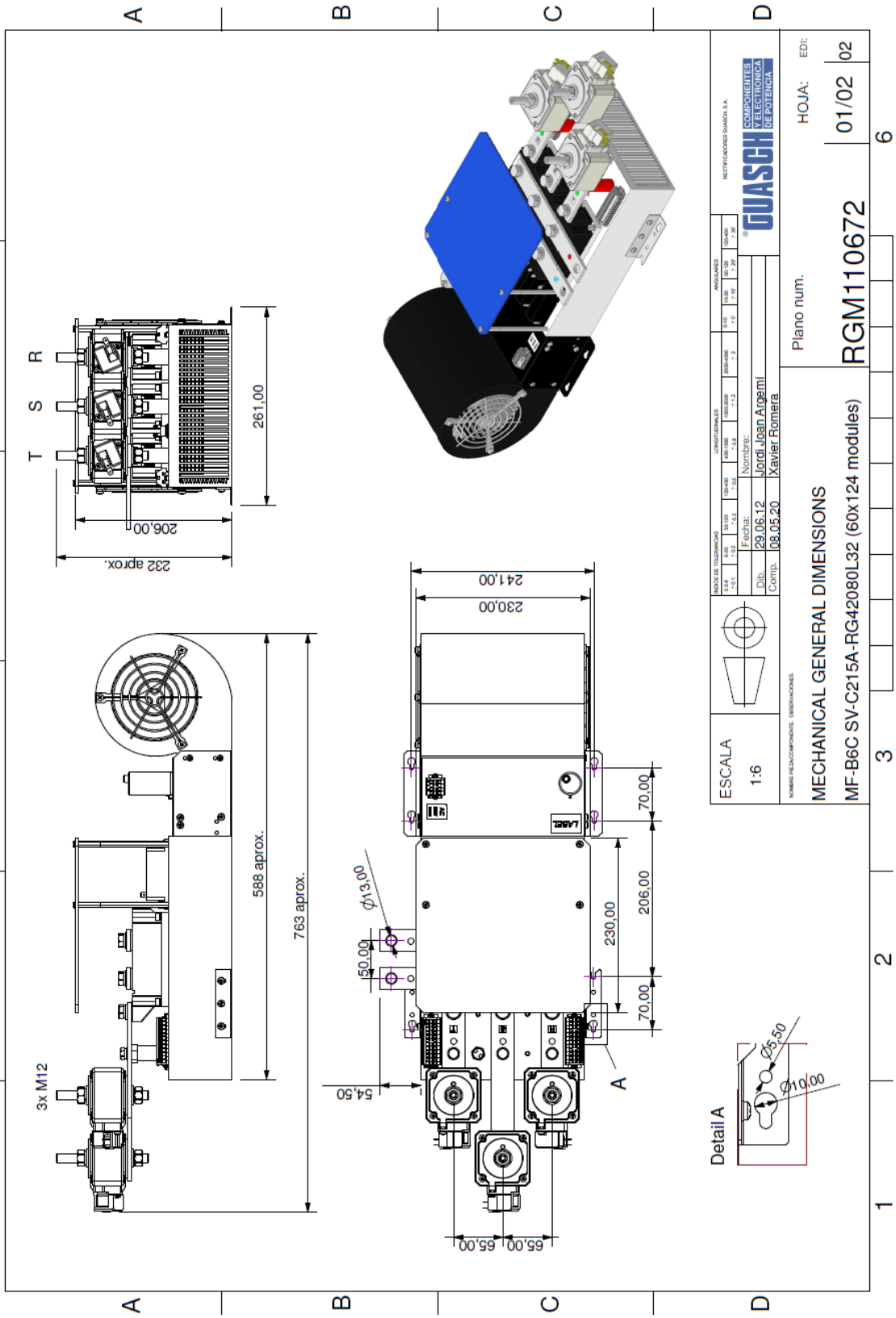
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## MECHANICAL DIMENSIONS



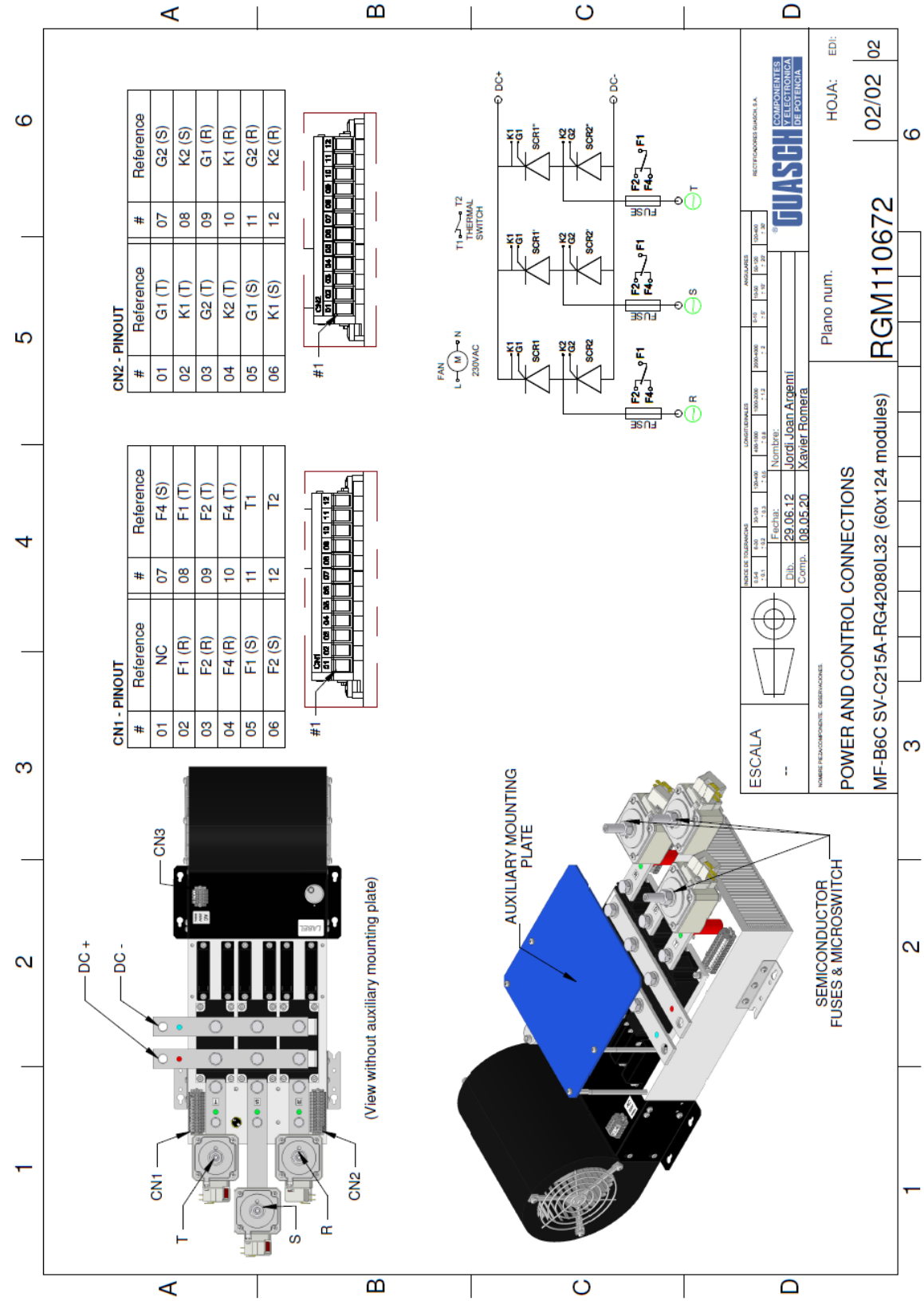

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## CIRCUIT & CONTROL / AUXILIARY TERMINALS




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## MOUNTING CONSIDERATIONS

It's necessary a minimum distance of 100 mm with regard to the envelope. The free air circulation should be guaranteed. Avoiding the heat sources of nearby to assembly.

In the real applications it is important to consider a safety margin with regarding the working current, we recommend a margin of the 20%.

For critical cases (24 hours work, repetitive overloads...), margins of the 30% to 50% are used.

## ORDER CODES & OPTIONS

| MF- | B6C | 1180 | F | 16 | RCVTF | /A |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |

1- MF, Series identifier
2- B6C, Circuit identifier
3- 1180; Maximum current identifier
4-F, Refrigeration identifier (F: Forced)
5-16; $V_{RRM}$/10 identifier
6-Accesories:
- RC: Resistance-capacitor (snubber) included
- V: Varistor included
- T. Thermal switch included
- F: Semiconductor fuse protection included. (fuse also includes microswitch)

7-Options:
- /A or without indication: Power output terminals on right side (standard type)
- /B: Power output terminal on left side.
- /C: Positive output on right side & negative output on left side
- /D: Positive output on left side & negative output on right side

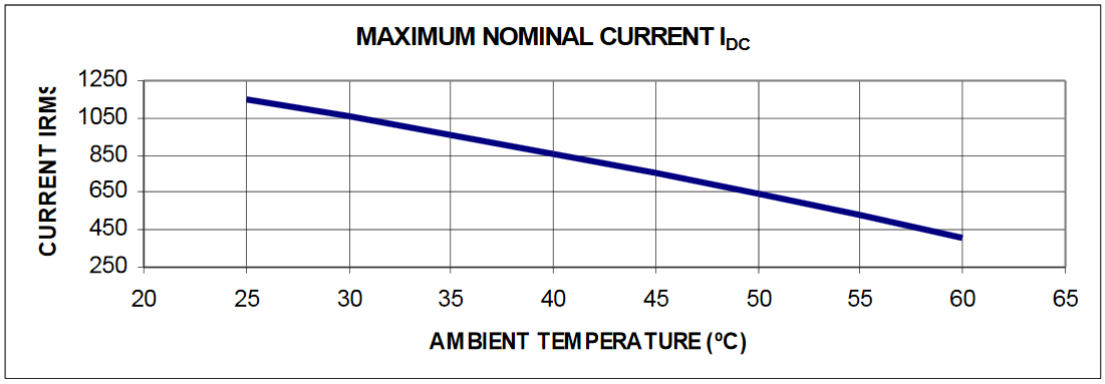


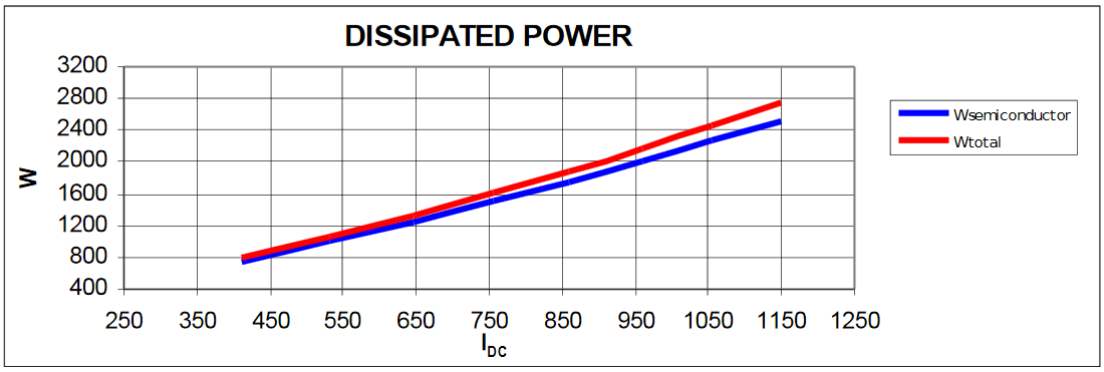
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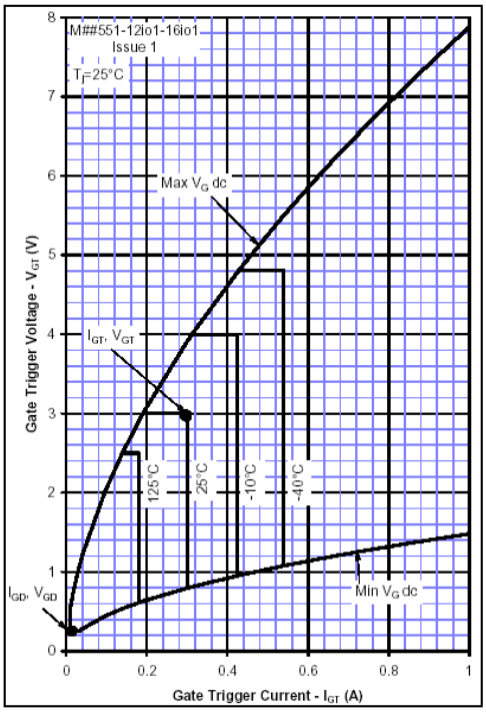
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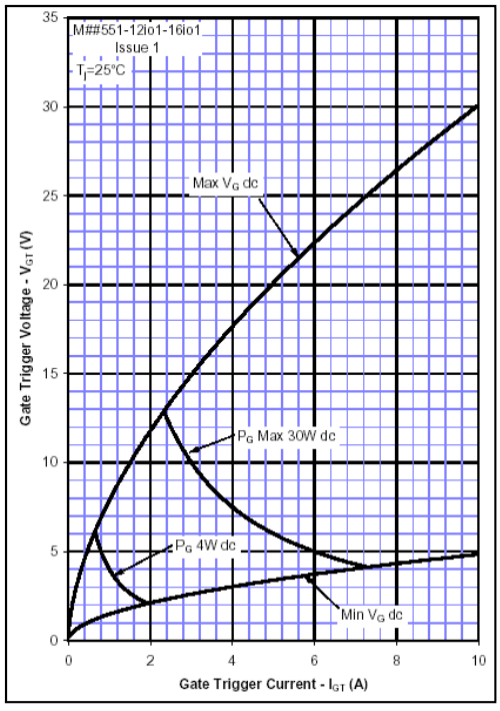
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