

**PRELIMINARY TECHNICAL INFORMATION**

**HIGHLIGHTS**

- Wide range.
- Reliability.
- Short delivery time.
- Ultrafast fuses included.
- Thermostat, snubber and varistor included.
- Ready to use.
- Working voltage up to 400 V<sub>RMS</sub>.
- Insulation 3000 V<sub>RMS</sub>/1 min.
- With plate for accessories.

Non-contractual photo

<b>GENERAL SPECIFICATIONS</b>	
Nominal line to line input voltage (V <sub>RMS</sub> )	400 V <sub>AC</sub> ±10%
Repetitive peak reverse voltage (V <sub>RRM</sub> )	1200 V <sub>p</sub>
Maximum working current (I <sub>DC</sub> ) (1)	690 A <sub>DC</sub> @ 35°C TA
Maximum nominal working current (I <sub>DC</sub> ) (2)	632 A <sub>DC</sub> @ 35°C TA
Cooling	Forced convection, 3 fan Ø120

(1): The maximum non continuous working current

(2): The maximum continuous working current without thermal protection activation

<b>SEMICONDUCTOR SPECIFICATIONS</b>	
Peak non-repetitive surge current (I <sub>TSM</sub> )	9200 A @ T <sub>p</sub> =10ms, T <sub>j</sub> =45°C, (50Hz), sine
	8000 A @ T <sub>p</sub> =10ms, T <sub>j</sub> =125°C, (50Hz), sine
I <sup>2</sup> t capacity for fusing	420 kA <sup>2</sup> s @ T <sub>p</sub> =10ms, T <sub>j</sub> =45°C, (50Hz), sine
	320 kA <sup>2</sup> s @ T <sub>p</sub> =10ms, T <sub>j</sub> =125°C, (50Hz), sine
Maximum rate of rise of on-state current (repetitive) (di <sub>T</sub> /dt)	100 A/μs
Maximum rate of rise of on-state current (non-repetitive) (di <sub>T</sub> /dt)	500 A/μs
Maximum peak on-state voltage (V <sub>TM</sub> )	1,32 V @ I <sub>TM</sub> =600A
Critical rate of rise of off-state voltage (dv/dt)	Min. 1000 V/μs @ T <sub>j</sub> =125°C, V <sub>D</sub> =2/3 V <sub>RRM</sub>
Gate trigger voltage (V <sub>GT</sub> )	max. 2 V @ T <sub>j</sub> =25°C, V <sub>D</sub> =6V
	max. 3 V @ T <sub>j</sub> =-40°C, V <sub>D</sub> =6V
Gate trigger current (I <sub>GT</sub> )	max. 150 mA @ T <sub>j</sub> =25°C, V <sub>D</sub> =6V
	max. 200 mA @ T <sub>j</sub> =-40°C, V <sub>D</sub> =6V
Latching current (I <sub>L</sub> )	200 mA @ T <sub>j</sub> =25°C, t <sub>p</sub> =30μs; V <sub>D</sub> =6V
Holding current (I <sub>H</sub> )	150 mA @ T <sub>j</sub> =25°C; V <sub>D</sub> =6V

<b>PROTECTION</b>	
dv/dt protection (RC)	RC network 0,22μF/56 Ohms
Peak voltage protection (VDR)	460 V <sub>RMS</sub> varistor
Current protection (Semiconductor fuses) (1)	3 x 069UR1S0630B
Microswitch (fuse indicators)	3 x MS 3V1-5N
Thermal protection (Thermostats)	90°C NC

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

120521 Rev.:4

**RECTIFICADORES GUASCH, S.A.**

Ciutat de Granada, 80  
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SPAIN

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### TERMINAL SPECIFICATIONS

Input power terminals (AC terminals)	(M8) 11 to 13 Nm
Module power terminals	(M8) 11 to 13 Nm
Output power terminals (DC terminals)	2xØ11 (M10) 11 to 13 Nm (1)
Control & signal terminals	WAGO 260 series terminal block 0,08-1,5mm <sup>2</sup> (28-16 AWG)

(1): The press should be performed with two keys, avoiding to transmit lateral efforts at terminal of connection, what would be able to produce the deterioration of the element semiconductor.

### ENVIRONMENT SPECIFICATIONS

Protection grade (EN-60529 / CEI529 / UNE-20324)	IP-00
Humidity max.	50% RH @ 35°C / 90% RH @ 20°C
Pollution degree	III
Isolation	3000 V <sub>RMS</sub> / 1 min

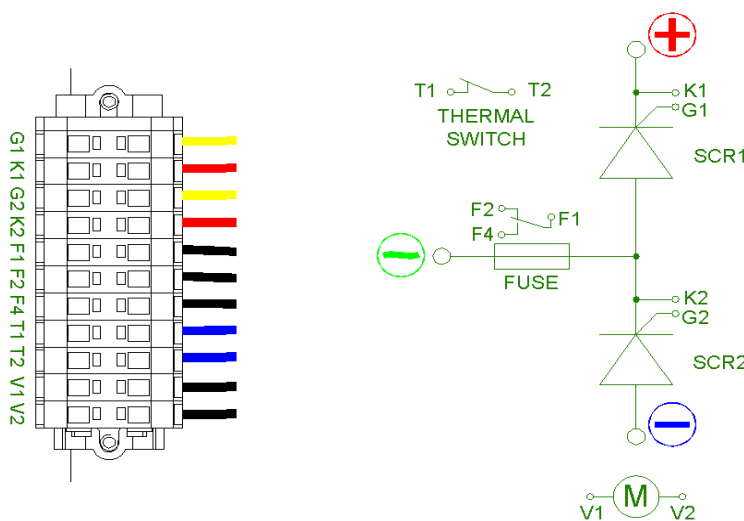
### LOSSES

Power dissipation of semiconductors at full charge	Aprox. 1334 W
Maximum power dissipation of fuses at full charge	Aprox. 96 W
Maximum total power dissipation at full charge	Aprox. 1429 W

### MECHANICAL SPECIFICATIONS

Mounting position	Vertical, fins perpendicular to ground
Storage temperature	-25 to 80°C
Width	489 mm
Depth	402 mm
Height	248 mm
Aprox. Weight	21 Kg.

### CONNECTIONS AND DIMENSIONS

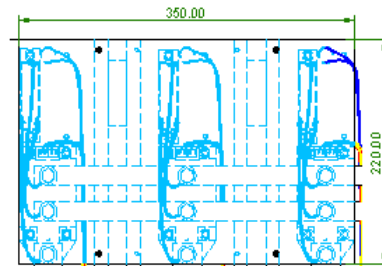
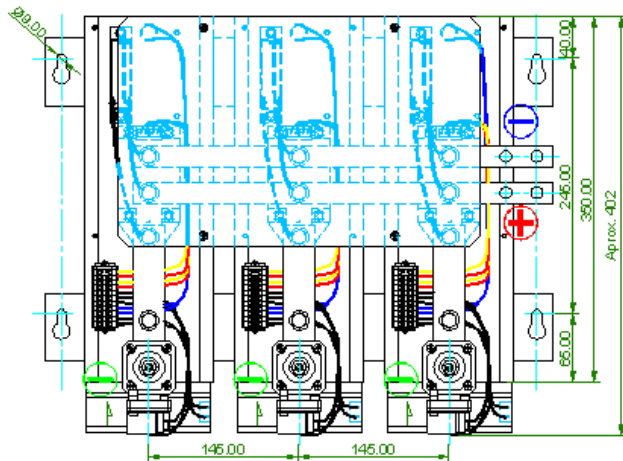
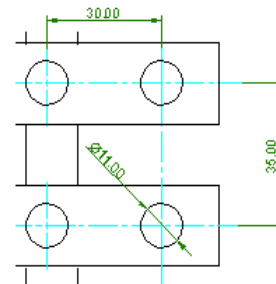
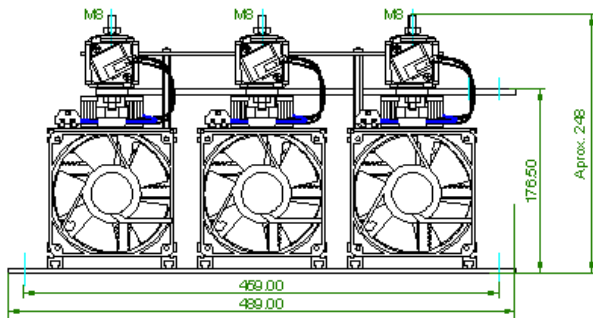
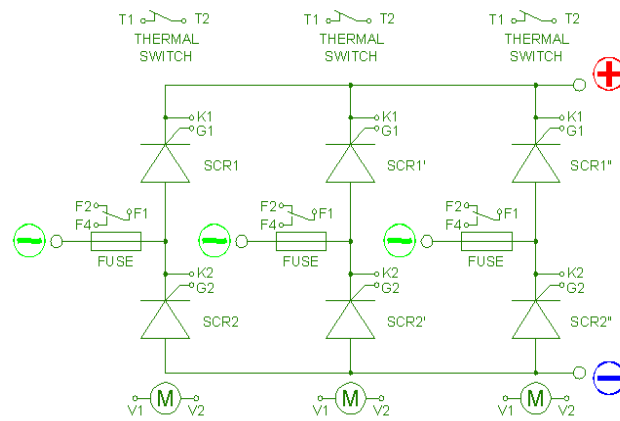


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## MOUNTING CONSIDERATIONS

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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.

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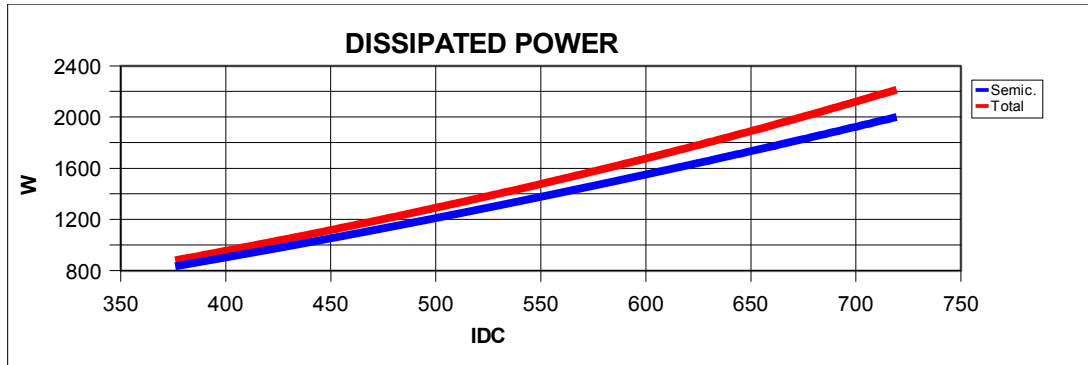
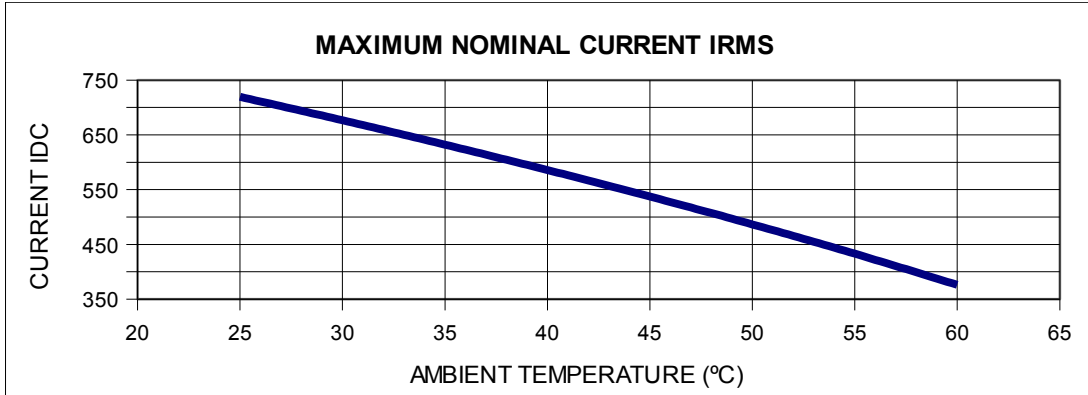
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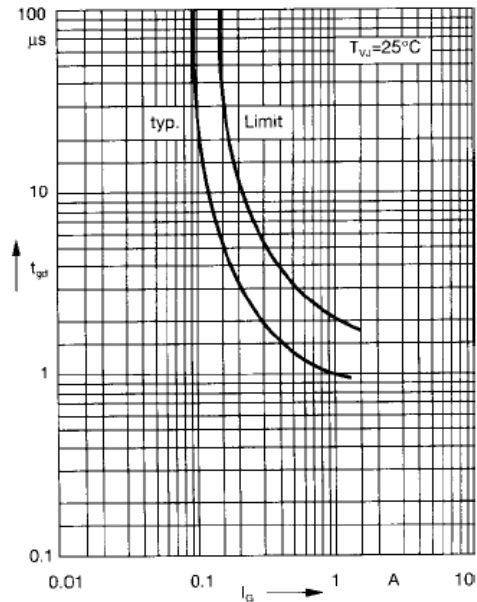
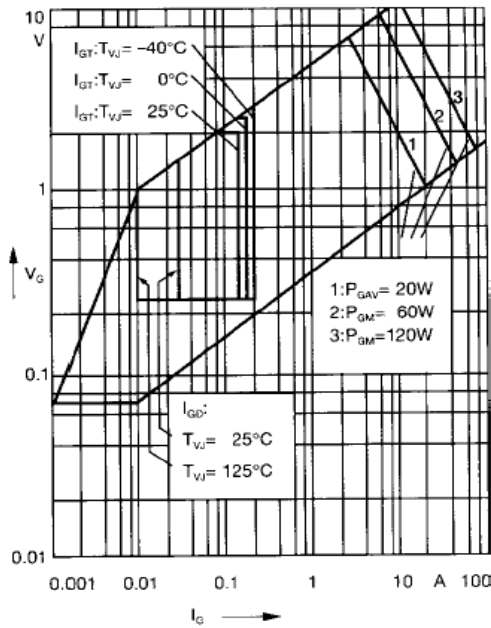
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**POWER AND CHARACTERISTIC CURVES**

Aammdd Rev.:0



120521 Rev.:4



## ORDER CODES & OPTIONS

MF- B6C 0620 F 12 RCVTF /A  
(1) (2) (3) (4) (5) (6) (7)

1- MF, Series identifier

2- B6C, Circuit identifier

3- 0620; Maximum current identifier

4-F: Refrigeration identifier (N:Natural; F: Forced)

5-12;  $V_{RRM}/10$  identifier

6-Accessories:

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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No Annotation: The product parameters are fixed and the product is available to datasheet specification.

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# Your Needs, Our Solutions

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