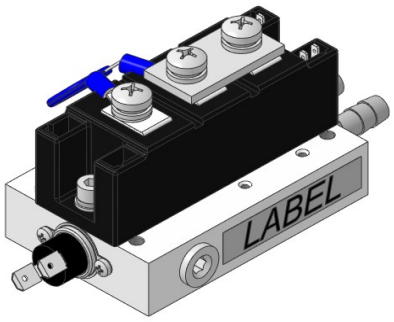
SMx-W1C0402W16xx

SCR water cooled AC regulator

HIGHLIGHTS

- Wide range.
- Reliability.
- Short delivery time.
- Thermostat and varistor options.
- Ready to use.
- Working voltage up to 460 V_{RMS}
- Insulation 3000 V_{RMS} /1 min.



non-contractual image

OVERVIEW

Compact liquid cooled stacks with thyristor-thyristor modules ready to use.

GENERAL SPECIFICATIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
V_{AC}	Nominal line to line input voltage			460	510	V
$I_{AC\ max}$	Maximum working current (1)	*Water @ 25ºC; 4L/min.*		422		A
$I_{AC\ nom.}$	Maximum nominal working current (2)	*Water @ 25ºC; 4L/min.*		380		A

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

SEMICONDUCTOR SPECIFICATIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
V_{RRM}	SCR repetitive peak voltage			1600		V
I_{TSM}	Peak non-repetitive surge current	*TP =10ms, Tj=125ºC, (50Hz)*		5250		A
I^2t	I^2t capacity for fusing	*TP =10ms, Tj=125ºC, (50Hz)*		137		KA^2s
di/dt	Maximum rate of rise of on-state current	*Repetitive*		100		A/µs
		Non repetitive		500		
dv/dt	Critical rate of rise of off-state voltage	*Tj=125ºC, V D =2/3 V RRM*	1000			V/µs
V_{ISO}	Isolation Voltage	*V_{RMS}; 1min @ 50Hz*	3000			V

PROTECTIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
VDR	Voltage protection	*Nominal value*		510		V
TH_{switch}	Maximum working current (1)	*Cut off temperature*	55	60	65	ºC

LEADS SPECIFICATIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
L_{POWER}	Module power leads	*M6*	4.5		5.5	Nm
L_{CTRL}	SCR control leads	*Fast-on 2,8/0,8 (1)*				
L_{TH}	Thermal cut-off leads	*6,35 mm Fast-on*				

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ENVIRONMENT SPECIFICATIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
IP	Protection grade	*EN-60529 / UNE-20324*		0		
Hr_{MAX}	Maximum relative humidity	*Without condensation*		85		%
PD	Pollution degree			III		
Visol	Isolation	*V_{AC}/1 minute*		3000		V

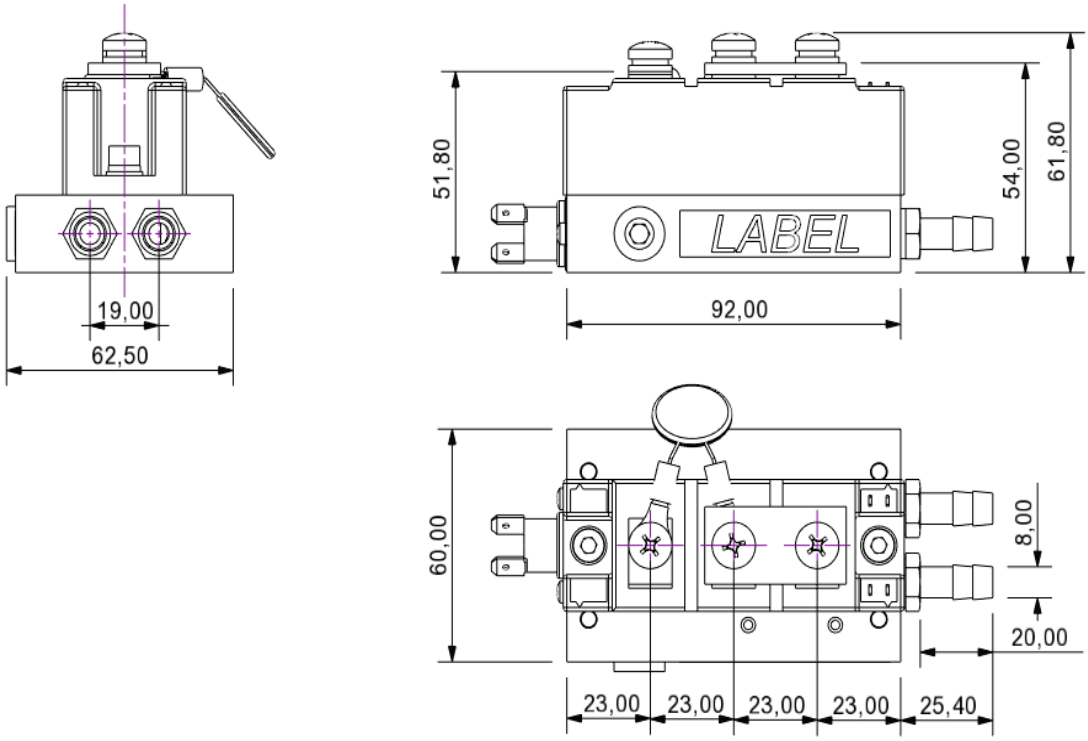
LOSSES

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
P_{LOSSES}	Power dissipation	*$I_{AC\ nom}$ @ full conduction*		466		W

MECHANICAL SPECIFICATIONS

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
M_p	Mounting position	*Any*				
T_{sto}	Storage temperature		-25		80	ºC
W	Width			63		mm
D	Depth	*main body*		53		mm
H	Heigh	*main body*		92		mm
Wt	Weigth		1000	1110		g

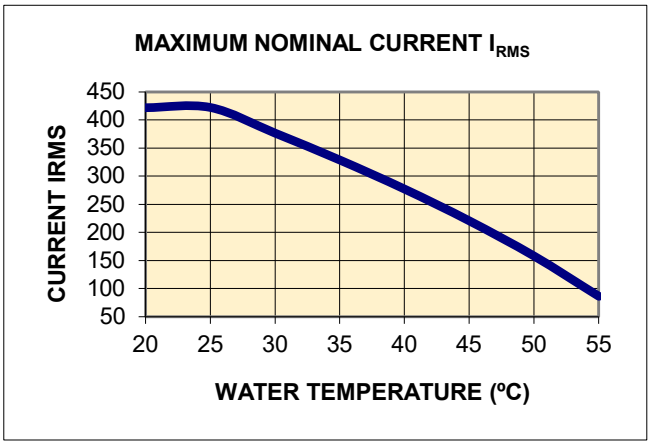
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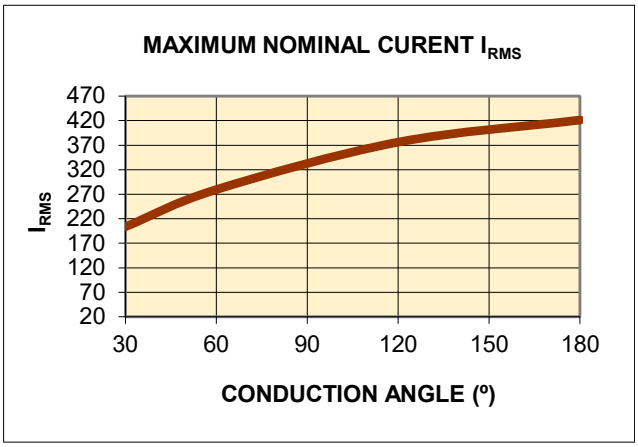


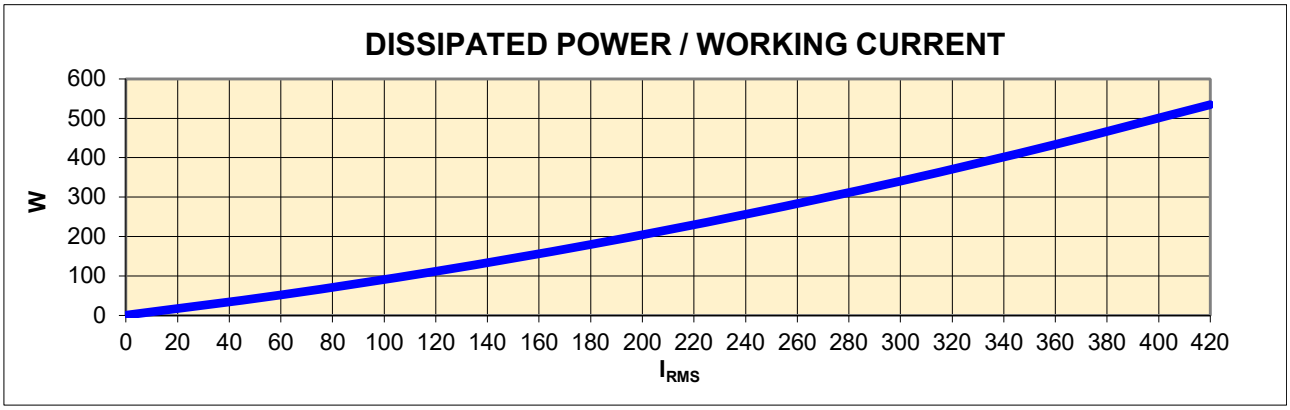
All dimensions in mm

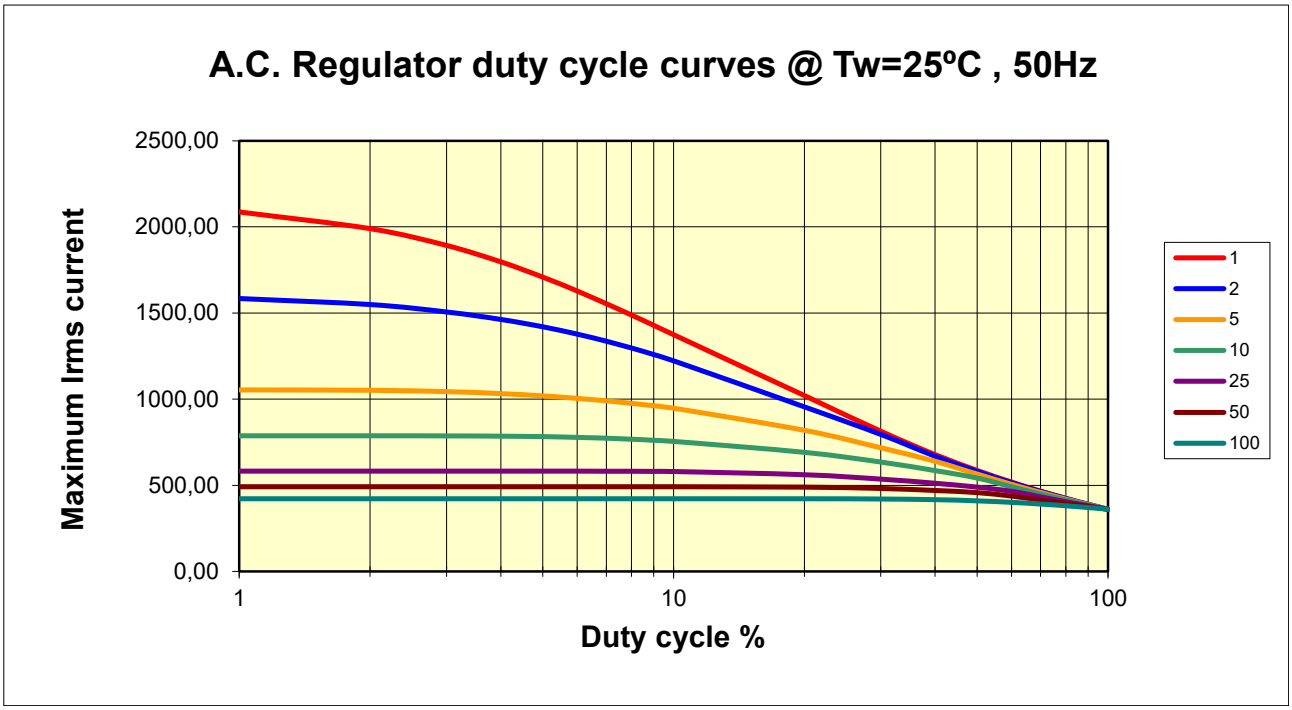
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GRAPHICAL INFORMATION









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ORDER CODES

Example: SM 1 W1C 0402 W 16 VT
1 2 3 4 5 6 7

1- SM, Series general identification
2- Fittings configuration
0.- Without water input-output fittings
1.- Straight water input-output fittings
L.- Down side water input-output fittings
3.- Electrical circuit topology (W1C means anti-parallel thyristors)
4.- Maximum allowable I_{RMS} current
5.- Cooling system (W = water)
6.- Maximum reverse voltage V_{RRM} . (16 = 1600 V)
7.- Accessories and protections included
V.- Varistor.
T.- Thermal switch (NC)

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

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