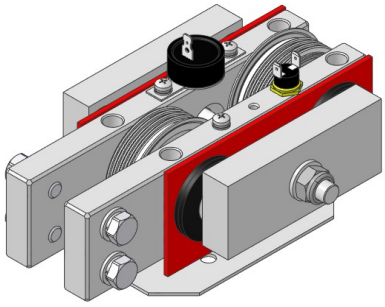
SCx-W1C4190W16xx

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}



non-contractual image

OVERVIEW

W1C liquid cooled anti-parallel thyristor power stacks. This series is suited for AC switches in welding by resistance. Due to its reliable and compact design are used in industrial cabinets with aggressive atmosphere and strongly recommended for demanding applications.

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.*		4190		A
$I_{AC\ nom.}$	Maximum nominal working current (2)	*Water @ 25ºC; 4L/min.*		2747		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)*		30		kA
I^2t	I^2t capacity for fusing	*TP =10ms, Tj=125ºC, (50Hz)*		4500		kA^2s
di/dt	Maximum rate of rise of on-state current (Min=continuous; Typ= repetitive; Max= non repetitive)	*Tj=125ºC, I_{TM} =3I_{AV} V_D =0,75V_{DRM}, I_{GM} =2A*	75	150	300	A/µs
dv/dt	Critical rate of rise of off-state voltage	*Tj=125ºC, V_D =0,70V_{DRM}*		150	300	V/µs
V_{ISO}	Isolation Voltage	*V_{RMS}; 1min @ 50Hz*	2500			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}	Power leads	*M10*	12		14	Nm
L_{CTRL}	SCR control leads	300mm long cable Red / White M4 ring terminal				
L_{TH}	Thermal cut-off leads	*6,35 mm Fast-on*				

Reserves the right to change limits, test conditions and dimensions given in this data sheet at any time without previous notice.

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*		80		%
PD	Pollution degree			III		
Visol	Isolation	*V_{AC}/1 minute*		2500		V

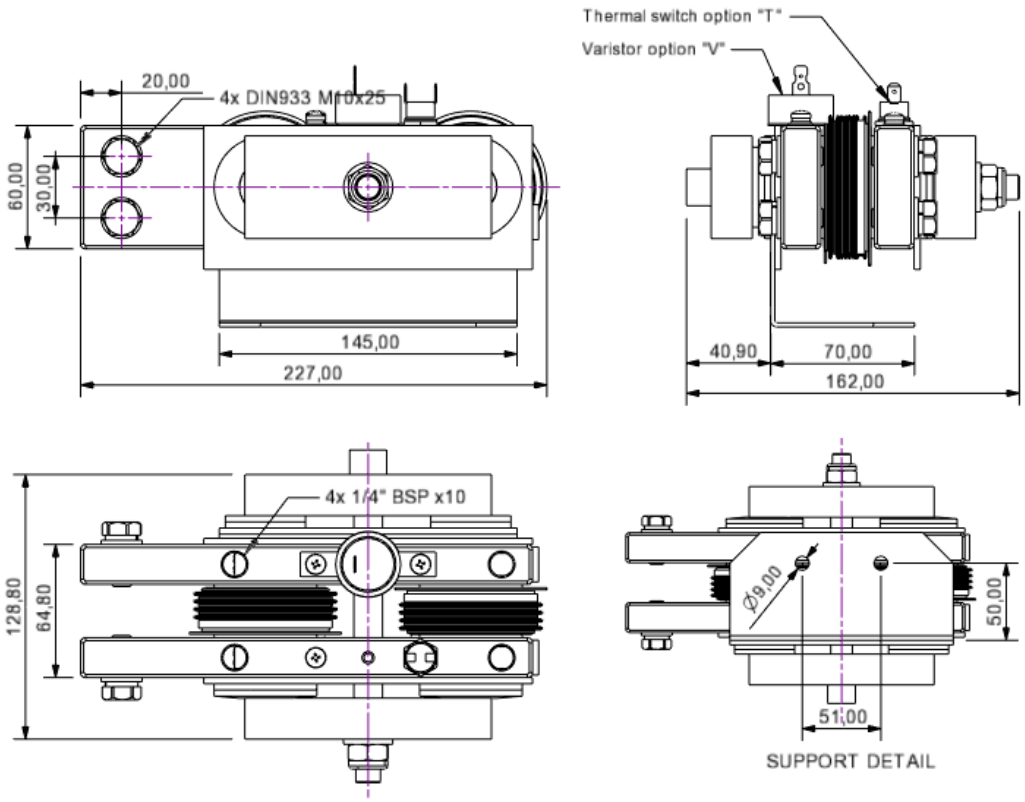
LOSSES

Symbol	Parameter	Notes / Test conditions	Min	Typ	Max	Units
P_{LOSSES}	Power dissipation	*$I_{AC\ nom}$ @ full conduction*		3226		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	*main body*		162		mm
D	Depth	*main body*		130		mm
H	Heigh	*main body*		230		mm
Wt	Weigth		7.95		8.10	Kg

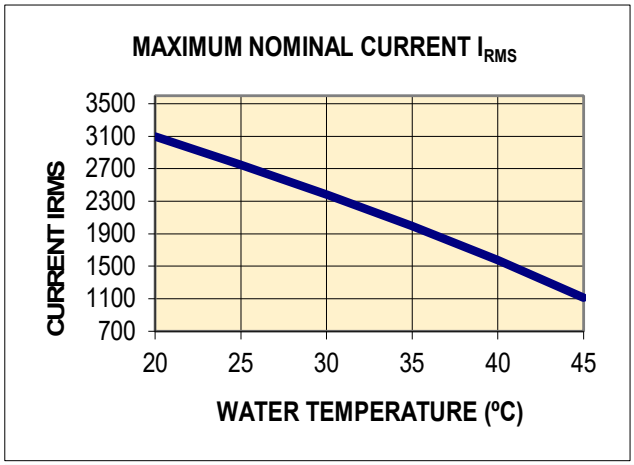
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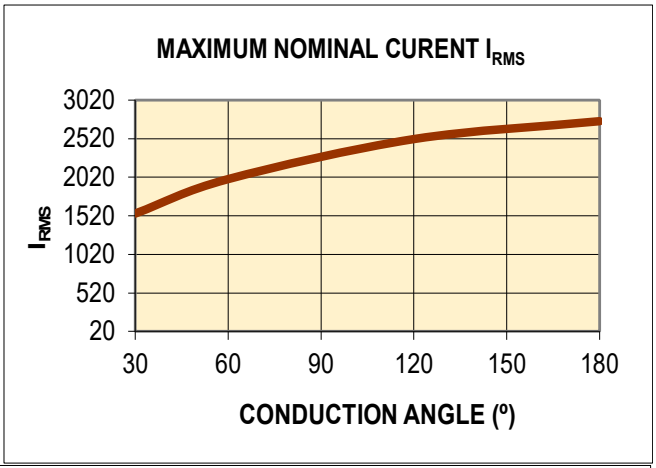


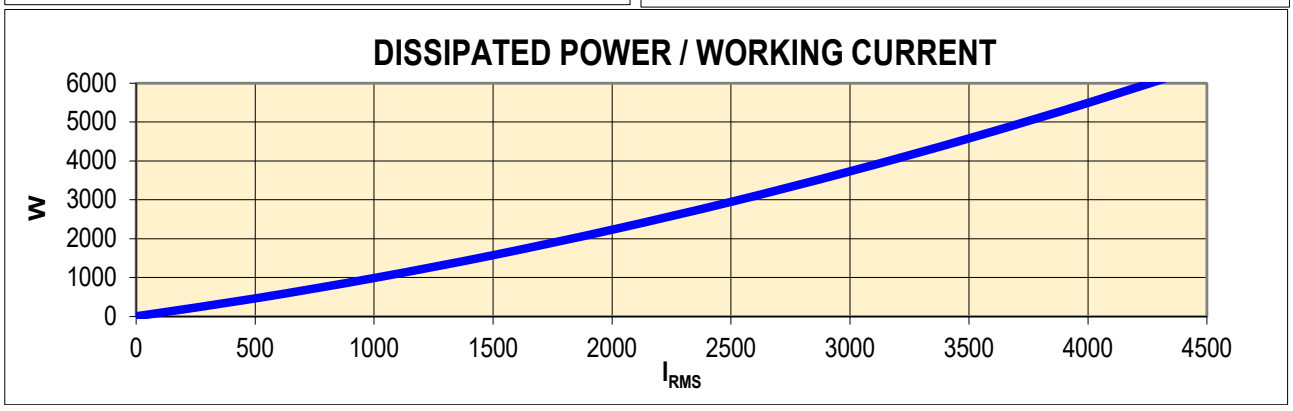
All dimensions in mm

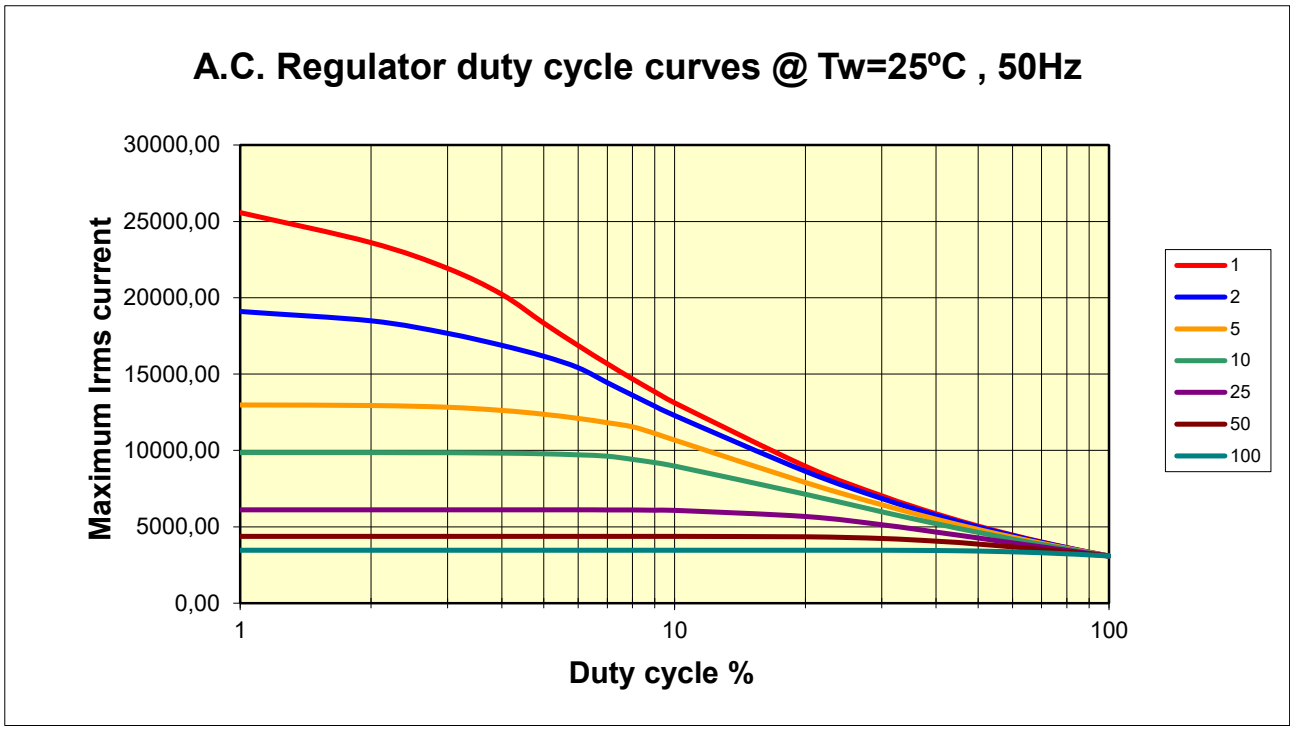
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GRAPHICAL INFORMATION









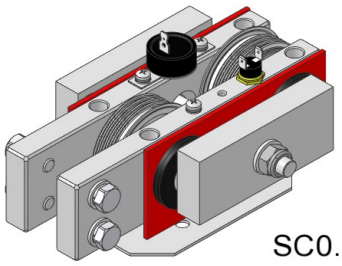
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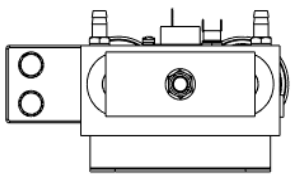
ORDER CODES

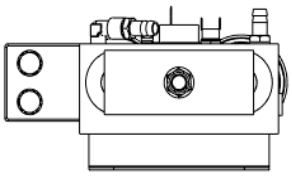
Example: SC 1 W1C 4190 W 16 VTS
1 2 3 4 5 6 7

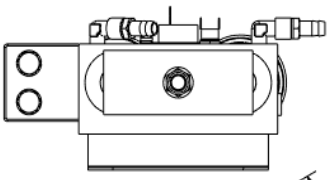
1- SC, Series general identification
2- Fittings configuration (see images down)
- 0 - Without water input-output fittings
- 1 - Straight water input-output fittings
- 2 - Combined straight and elbow water input-output fittings
- 3 - Elbow water input-output fittings

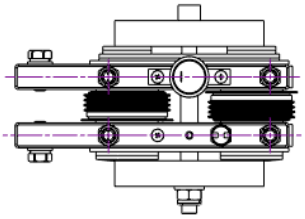
3.- Electrical circuit topology (W1C means anti-parallel thyristors)
4.- Maximum allowable I_{RMS} current
5.- Cooling system (W = water)
6.- Maximum reverse voltage V_{RRM} . (16 = 1600 V)
7.- Accessories and protections included
- V - Varistor.
- T - Thermal switch (NC)
- S - Support square

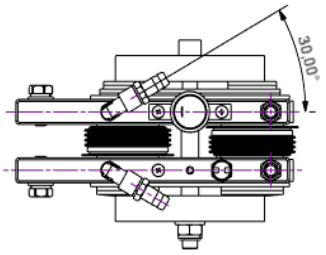

SC0...

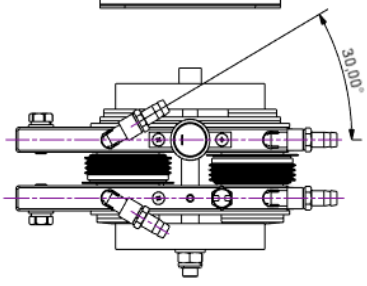


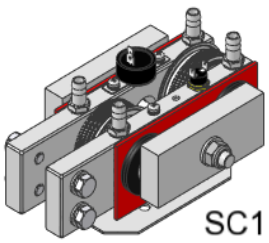


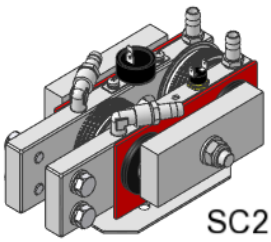


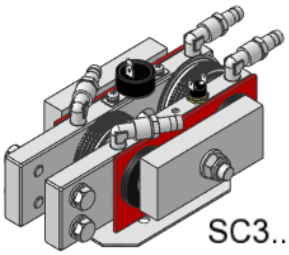







SC1...


SC2...


SC3...

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