

## 阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

## Read Statement

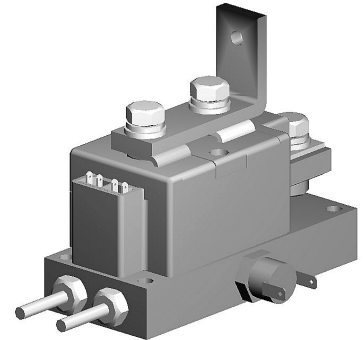
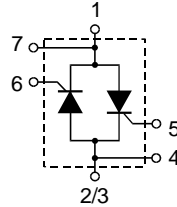
1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

# AC Controller with Isolated Water Flow

**$I_{RMS} = 900\text{ A}$**   
 **$V_{RRM} = 1200\text{-}1800\text{ V}$**

Preliminary data

$V_{RSM}$ $V_{DSM}$ V	$V_{RRM}$ $V_{DRM}$ V	Type
1300	1200	HVL 900 - 12io1
1500	1400	HVL 900 - 14io1
1700	1600	HVL 900 - 16io1
1900	1800	HVL 900 - 18io1



Symbol	Test Conditions	Maximum Ratings	
$I_{RMS}$	$T_{Water} = 17^{\circ}\text{C}$ ; watervolume = 4 l/min	900	A
$I_{TSM}$ , $I_{FSM}$	$T_{VJ} = 45^{\circ}\text{C}$ ; $V_R = 0$	t = 10 ms (50 Hz) t = 8.3 ms (60 Hz)	A A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz) t = 8.3 ms (60 Hz)	A A
$I^2t$	$T_{VJ} = 45^{\circ}\text{C}$ $V_R = 0$	t = 10 ms (50 Hz) t = 8.3 ms (60 Hz)	$A^2s$ $A^2s$
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz) t = 8.3 ms (60 Hz)	$A^2s$ $A^2s$
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ repetitive, $I_T = 960\text{ A}$ f = 50 Hz, $t_p = 200\ \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 1\text{ A}$ , $di_G/dt = 1\text{ A}/\mu\text{s}$	100	$A/\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$ ; method 1 (linear voltage rise)	1000	$V/\mu\text{s}$
$P_{GM}$	$T_{VJ} = T_{VJM}$	$t_p = 30\ \mu\text{s}$	120 W
	$I_T = I_{TAVM}$	$t_p = 500\ \mu\text{s}$	60 W
$P_{GAV}$			20 W
$V_{RGM}$			10 V
$T_{VJ}$		-40...+140	$^{\circ}\text{C}$
$T_{VJM}$		140	$^{\circ}\text{C}$
$T_{stg}$		-40...+125	$^{\circ}\text{C}$
$V_{ISOL}$	50/60 Hz, RMS t = 1 min	3000	V~
	$I_{ISOL} \leq 1\text{ mA}$ t = 1 s	3600	V~
Weight	Typical including screws	1300	g

## Features

- Isolation between water and electrical connections with Direct copper bonded  $\text{Al}_2\text{O}_3$ -ceramic
- Planar passivated chips
- Isolation voltage 3600 V~
- Keyed gate/cathode twin pins

## Applications

- Large resistance welding equipment
- Large electroplating equipment

Data according to IEC 60747 refer to a single thyristor unless otherwise stated.  
IXYS reserves the right to change limits, test conditions and dimensions

Symbol	Test Conditions	Characteristic Values
$I_{RRM}, I_{DRM}$	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	40 mA
$V_T, V_F$	$I_T, I_F = 600 \text{ A}; T_{VJ} = 25^\circ\text{C}$	1.32 V
$V_{T0}$	For power-loss calculations only	0.8 V
$r_T$		0.68 mΩ
$V_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	2 V
	$T_{VJ} = -40^\circ\text{C}$	3 V
$I_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	150 mA
	$T_{VJ} = -40^\circ\text{C}$	220 mA
$V_{GD}$	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	0.25 V
$I_{GD}$	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	10 mA
$I_L$	$T_{VJ} = 25^\circ\text{C}; t_p = 30 \mu\text{s}; V_D = 6 \text{ V}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	200 mA
$I_H$	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$	150 mA
$t_{gd}$	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 1 \text{ A}; di_G/dt = 1 \text{ A}/\mu\text{s}$	2 μs
$Q_S$	$T_{VJ} = 125^\circ\text{C}; I_T, I_F = 300 \text{ A}; -di/dt = 50 \text{ A}/\mu\text{s}$	760 μC
$I_{RM}$		275 A
$R_{thJW}$	per thyristor ; 180° el; watervolume = 4 l/min	0.203 K/W
$d_S$	Creeping distance on surface	12.7 mm
$d_A$	Creepage distance in air	
$a$	Maximum allowable acceleration	

### Optional accessories for modules

Keyed Gate/Cathode twin plugs with wire length = 350 mm, gate = yellow, cathode = red  
 Type ZY 180 L (L = Left for pin pair 4/5) } UL 758, style 1385,  
 Type ZY 180 R (R = Right for pin pair 6/7) } CSA class 5851, guide 460-1-1

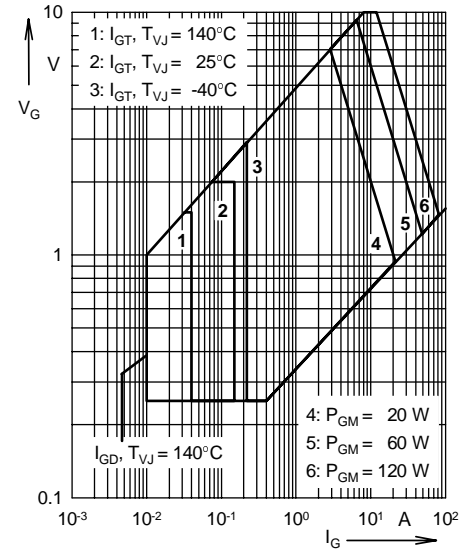
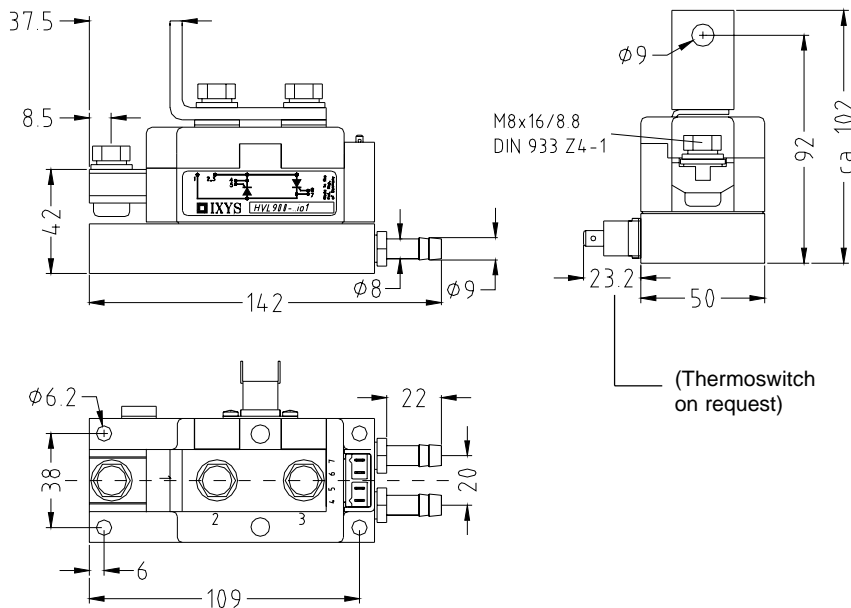


Fig. 1 Gate trigger characteristics

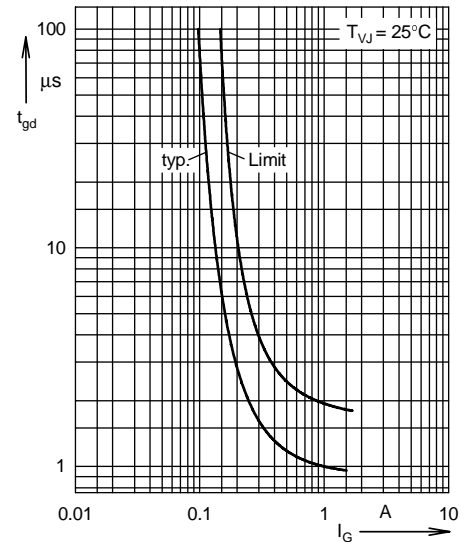


Fig. 2 Gate trigger delay time

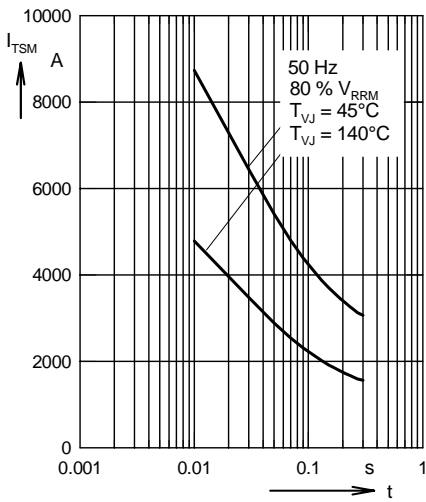


Fig. 3 Surge overload current  
 $I_{TSM}$ : Crest value,  $t$ : duration

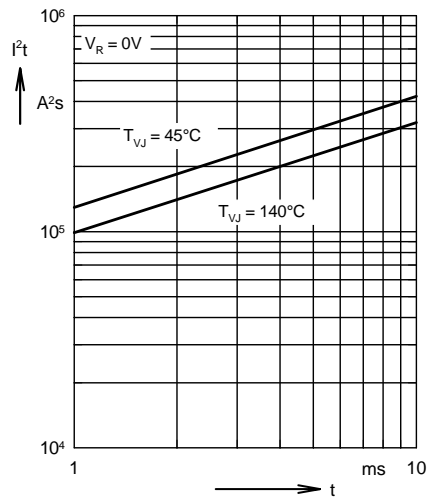


Fig. 4  $I^2t$  versus time (1-10 ms)

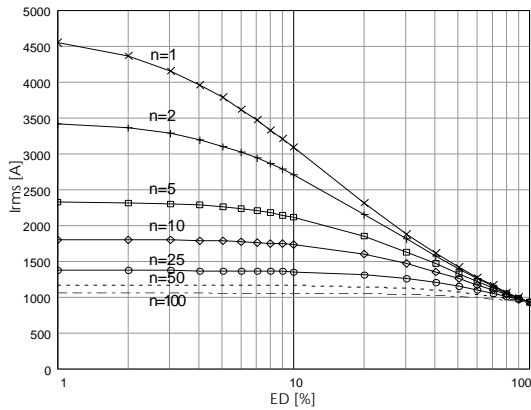


Fig. 5 Rated rms current vs. duty cycle

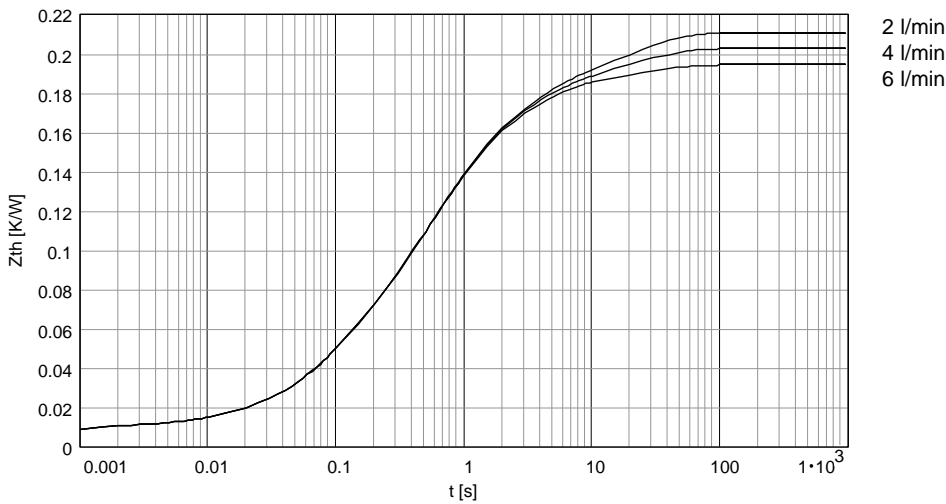


Fig. 6 Transient thermal impedance vs. time