



HELLROARING TECHNOLOGIES, INC.

P.O. Box 1521

POLSON, MT 59860

406 883-3801 [HTTP://WWW.HELLROARING.COM](http://www.hellroaring.com)

SALES11@HELLROARING.COM

SSD-100200-1200V-XP-XC

Preliminary Data Sheet!

The **SSD-100200-1200V-XP-TTL** is designed for switching DC power ON of OFF to loads. Designed for power source voltages 100 to 500Vdc (1200 Vdc max across the terminals with transients). It switches fast with the option to use a 5 volt regulated power source (i.e. 4.75V to 5.25Vdc on the -5P model) or an unregulated 12V nominal source (i.e. 8 to 16Vdc for the -12P model). Control input is TTL compatible with the input relative to the Power input common. This Solid State Driver provides fast switching transitions of less than 10 microseconds and it has Opto-isolation between the 5V or 12V SSD power source and the high voltage DC power source.

Should you have a specific application or question not covered here, feel free to send an e-mail technical support request. Include as much detail as practical regarding your application. Send to: **sales11@hellroaring.com**. Or check our web site for current e-mail address.

Depending on your power source capability and wire size utilized, appropriate circuit protection should be installed. The following table includes recommendations for wire protection values. In all cases, we recommend using circuit protection no greater than 150 amps.

Wire Size AWG	Circuit protection
4	150 A
6	100 A
8	60 A
10	40 A
12	25 A

The circuit protection listed is for continuous current.

Hellroaring SSD-100200-1200V-XP-TTL Instructions

Industrial Switching Applications:

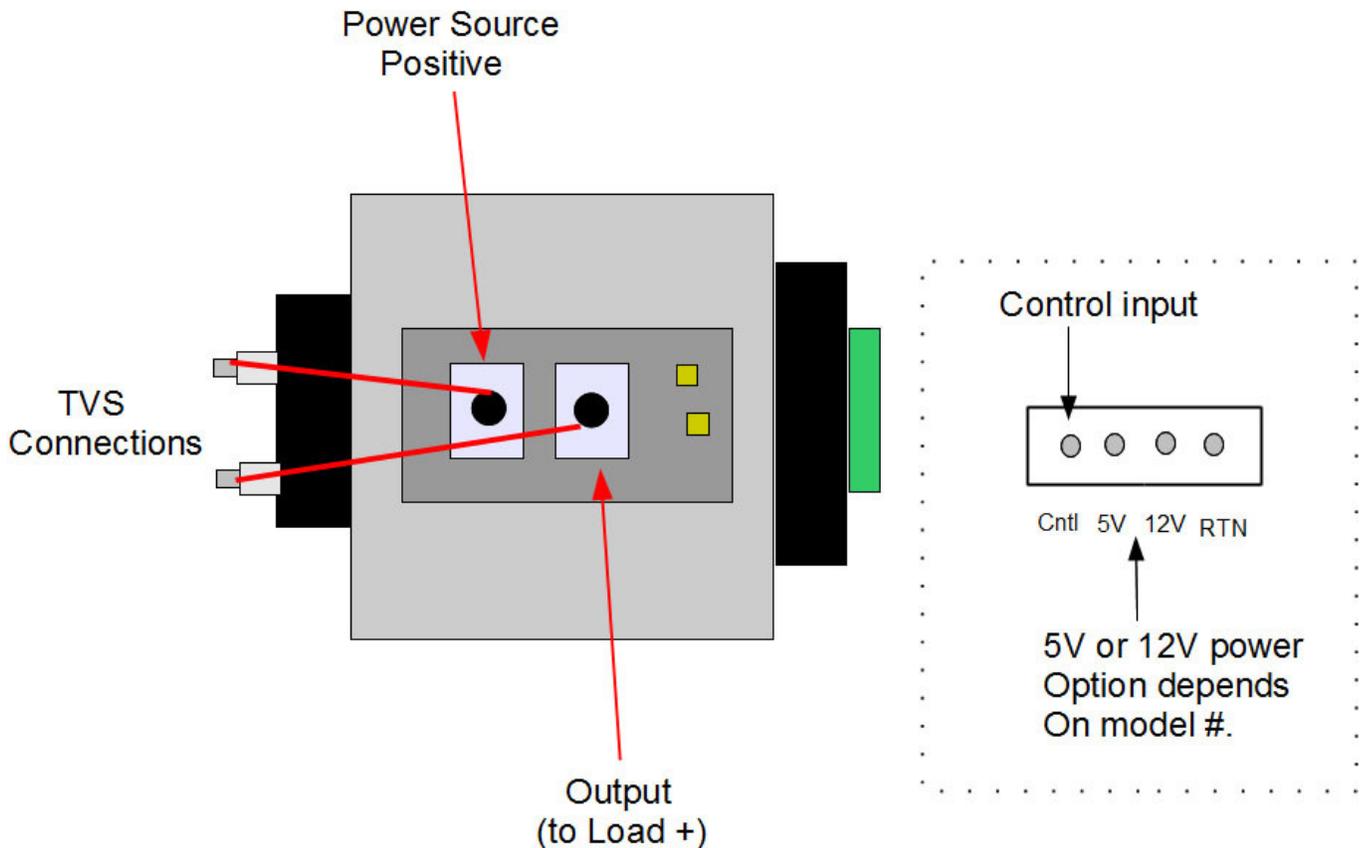
Wire per diagram illustrated below. **Diode suppression** for inductive loads is recommended for most applications. An external **transient suppression device is required** across the SSD terminals. The value chosen should be above the max power source voltage and less than 1200 volts at the transient current level expected. We recommend one with a standoff voltage of about not more than 720 Volts.

For installation, follow these steps:

- 1) Connect the load positive to the Output terminal.
- 2) Connect the power source Positive (+) cable (not powered yet) to the SSD Power Source terminal. We suggest using appropriate circuit protection (fuse or circuit breaker).
- 3) Connect +5 Vdc to the +5V input terminal if you have the -5P model, or 12Vdc to the 12V power terminal if you have the -12P model.
- 4) Connect the 5V or 12V return to the RTN terminal.
- 5) Connect your control signal to the Cntl input. This should be a TTL compatible signal for the -TTLC model, or a voltage level compatible with the option ordered. For example, for a -10C the logic high should be 10V +/- 20%. The control input should be a fast rise time signal that has no bounce. This SSD switches very fast, so any bounce will show up on the output.
- 6) Ensure the TVS is connected properly across the SSD power and out terminals.
- 7) Connect the high voltage power source negative to your Load negative.

The unit is now ready for switching. Apply the + 5V or +12V power. Apply your high voltage power source. Then apply your logic inputs as desired.

Figure 1



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For applications assistance, you can send e-mail to sales11@hellroaring.com.

Definitions:

Power Terminals: One terminal requires regulated +5 Vdc (+4.75 to +5.25 Vdc), The other requires a 12V power source (8 to 16Vdc) with a 100 mA capability. Typical current draw is about 25 to 40 mA with the output OFF, and about 50 mA with the output ON. This supply should be isolated from the high voltage power supply. Depending on the model ordered -5P or -12P will determine which power source is required.

Cntl Input: This terminal, when connected to a TTL signal or its optional voltage level, to a logic high, will cause the output transistors to switch ON. A logic low, will cause the output transistors to switch OFF.

Dimensions: 4.8" long, by 7.2" wide, by 7.0" tall.

Weight: 96 Oz., typical.

Note: The optional TVS module will add to the dimensions as depicted.

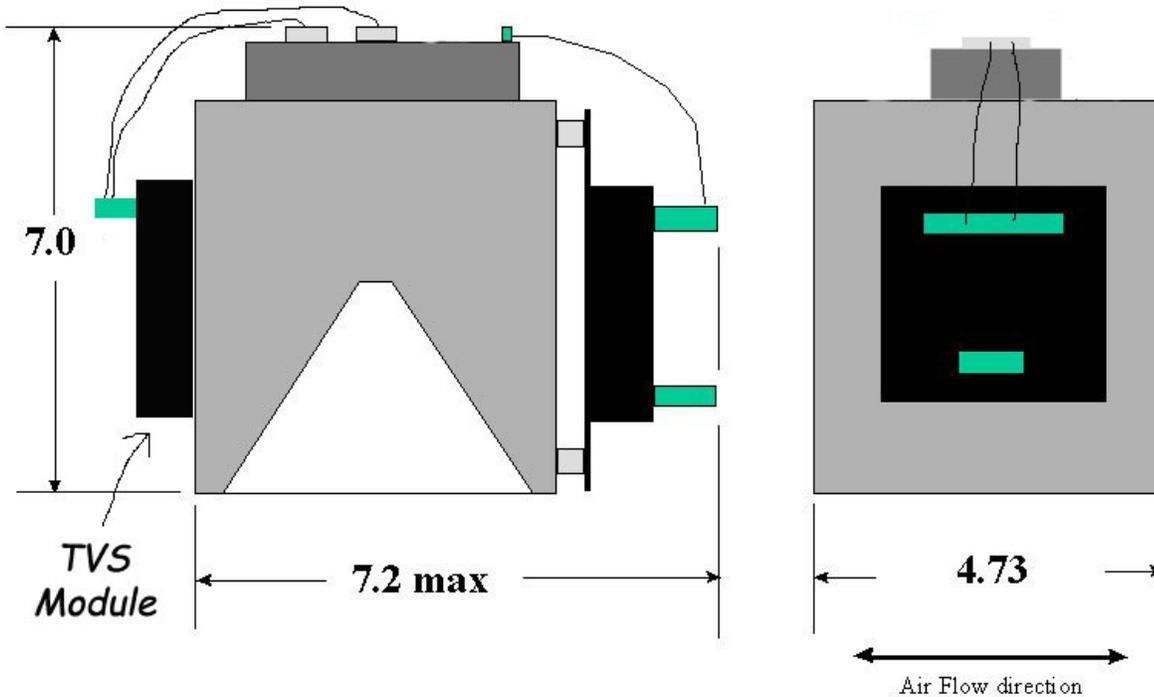
Hellroaring Technologies, inc.

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SSD-100200-1200V-XP-XC

*Solid State Driver module, 1200V, 100A continuous, 200A pulse
5V or 12V power and control input.*

(Envelope Drawing)



1) All dimensions are in inches.

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Specifications:

SSD-100200-1200V-XP-XC:		Unless specified otherwise, ambient temp = +65C ; max current.
Max voltage	1200 Volts	
Recommended operating voltage	< 600 Vdc	
Recommended TVS on output terminals	510V nominal, 30KW, 60KW, or 90KW peak.	For a max power source of 480Vdc
Absolute Max ON Current	100 Amps	100% duty cycle 65C ambient to 480 Vdc Natural Convection (NC) . (35C ambient to keep the sink under 100C)
	200 Amps	duty cycle TBD, Max ON time TBD, NC
Control Power	+ 5.0 Vdc for -5P +12.0Vdc for -12P	
Control Input (Cntl)	TTL signals for -TTLC, or other optional voltage level, i.e. -10C	
Switch on transient time Tr	< 10 uS	
Switch off transient time Tf	< 10 uS	

Note: Specifications are subject to change without notice.

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Standard Terms and Conditions of Sale

The sale of Hellroaring Technologies, inc. products shall be governed by the laws of the state of Montana. All sales shall transfer title within the state of Montana via common carrier. Hellroaring Technologies, inc. will not collect sales taxes for any other state. Should the unlikely event, a cause of action arises, buyer agrees that such action shall be held and governed in the state of Montana. The buyer recognizes that there exists inherent risks associated with batteries and installation & operation of battery devices. It is understood that any technical information published by Hellroaring Technologies, inc. including any installation instructions is of a general nature only and it is the user's responsibility to determine the proper application, installation, and operation of products. The buyer assumes all risk and agrees to indemnify Hellroaring Technologies, inc. against any and all causes for injury or damage to third parties that arises from use of such product.

Return Policy

Should any single unit product sold by Hellroaring Technologies, inc. not meet or exceed your expectations, you may, within 30 days of our shipment to you, return such product for a full refund (credit on credit card orders) less a 15% restock charge, provided that:

- a) You obtain an RMA number and provide your shipping address by calling customer service at 406 883-3801 or send an RMA request via e-mail (include the model #, serial number, and your phone number), and
- b) The product, including all accessories, is returned in original and re-saleable condition, and
- c) Units are Shipped (prepaid and insured for damage in transit) in the original or equivalent packaging, and
- d) (optional) You include a simple note as to the reason for dissatisfaction. (This can help us improve our products)

For quantity orders, or custom products, sales are final and our standard limited warranty applies.

Limited Warranty

This Limited Warranty is extended to the original purchaser. Hellroaring Technologies, inc. warrants that our SSR products will be free from defects in materials and workmanship upon delivery. All claims for defects must be made within 30 days of delivery. The sole and exclusive remedy for failure of the product shall be for us, at our option, to repair or replace the product, to whatever extent we deem necessary to restore the product to proper operating condition. We may make replacements with new or functionally equivalent products of equal value. Should Hellroaring Technologies, inc. be unable to repair or replace the product within a reasonable time, we reserve the right, at our option, to issue a refund or credit of the purchase price in lieu of repair or replacement. We reserve the right to assess a \$15 fee for units returned and proven not to be defective. To obtain warranty service you must:

- 1) Call Customer Service at 406-883-3801 for a Return Material Authorization (RMA) number and shipping address. Or send an RMA request via e-mail (include the model #, serial number, and your phone number and your return shipping address)
- 2) Return the product in the original or equivalent packaging (Shipping prepaid and insured for damage in transit), together with the RMA number AND a description of the problem. Include your return shipping address and your phone number.

Do not attempt to disassemble, or otherwise tamper with any of the 4 nuts on the bottom of each unit. Doing so will void this limited warranty. For quantity orders, extended warranty for switching applications may be available on an application specific basis at slight extra cost.

Exclusions

This Limited Warranty is made expressly in lieu of and to the exclusion of any and all warranties, express or implied, oral or written, including, without limitation, any and all implied warranties of merchantability or fitness for a particular purpose, and all such other warranties are expressly disclaimed. This Limited Warranty shall not be applicable to failures of the product that result from accident, abuse, misapplication or alteration, improper installation or maintenance, unauthorized repair attempts, operation or attempts to operate it beyond its mechanical, chemical, thermal, or electrical capacity intentionally or otherwise, and we assume no liability as a consequence of such events under the terms of this warranty. Hellroaring Technologies, inc. shall not be liable for any special, indirect, incidental, consequential, exemplary, or punitive damages for claims in any claim, action, suit or proceeding arising out of the purchase, use or performance of the product, and whether or not it has been advised of the possibility of such damages. The foregoing allocation of risk is reflected in the price of the product. Nor shall there be any liability thereunder for claims of labor, loss, profit, goodwill, repairs or other expenses incidental to the repair or replacement of such product.

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