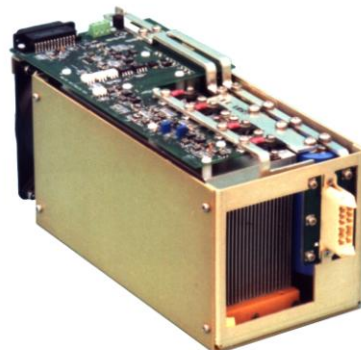




### HIGH POWER OEM LASER DIODE DRIVER

- OUTPUT CURRENT TO 300 AMPS PULSED OR 50 AMPS CW
- IDEAL FOR HIGH POWER LASER DIODES
- DIODE LOAD VOLTAGES UP TO 280VDC
- WIDE PULSEWIDTH TO 10ms
- INTERNAL HEATSINK AND FAN
- FLOATING OUTPUT



### DESCRIPTION:

The **Model 7701A** Laser Diode Driver is designed to power high current laser diodes and arrays for applications such as illumination and diode-pumped solid-state (DPSS) lasers. High power FET technology is employed and a DB-25 interface connector provides for external control of functions such as enable and pulse input, current control and monitor, CW or pulsed mode select and others. The **Model 7701A** provides a floating output, which is capable of driving grounded anode or grounded cathode emitters. The rugged, compact chassis and internal fan and heatsink make the **Model 7701A** an excellent OEM choice for driving high power DPSS lasers.

### SPECIFICATIONS:

<p><b>Input</b> Voltage</p> <p><b>Output</b> Current</p> <p>Risetime</p> <p>Falltime</p> <p>Pulse Flatness</p> <p>Pulse Overshoot</p> <p>Diode Load Voltage</p> <p>Current Monitor</p> <p>Load Volt. Mon.</p> <p>Diff. Volt. Mon.</p> <p>Protection</p> <p>Temperature</p>	<p>DC Voltage for Laser Drive (300V Max.), plus 115VAC±10%, 1φ, 50 to 60Hz (Add -C to part number.) 198 to 253VAC, 1φ, 50 to 60Hz (Add -D to part number.)</p> <p>5 to 50A CW or 10 to 100A pulsed (-1) 5 to 50A CW or 10 to 200A pulsed (-2) 5 to 50A CW or 10 to 300A pulsed (-3)</p> <p>≤10μs at peak output current</p> <p>≤10μs at peak output current</p> <p>±2% of peak output current</p> <p>≤5% of peak output current</p> <p>2.5V to 280VDC, depending on laser drive supply voltage.</p> <p>Max output current = 10VDC into ≥10kΩ 30V/V Scale</p> <p>10V = 20V across driver; zero droop; 100μs PW</p> <p>Fast reverse polarity diode / Adj. current limit for CW and pulsed mode / PRF &amp; PW limit / Thermal shutdown / Crowbar circuit/ Open circuit</p> <p>0° to 40° C</p>	<p><b>Internal Controls</b> Peak Current Limit</p> <p>CW Current Limit</p> <p><b>External Controls</b> Current Control</p> <p>Current Monitor</p> <p>Enable/Pulse I/P</p> <p>Mode Select</p> <p>Crow Bar Activate</p> <p>Input</p> <p>Pulsewidth</p> <p>PRF</p> <p><b>Connections</b> Ext. Controls</p> <p>Output</p> <p>AC Power</p> <p>DC Power</p> <p><b>Size</b> <b>Weight</b></p>	<p>10 to 100A (-1), 200A (-2), or 300A (-3) min., trimpot adj.</p> <p>5 to 50 Amps min., trimpot adj.</p> <p>0 to 10V = 0 to max. current</p> <p>0 to 10V = 0 to max. current</p> <p>Opto-Isolated input 5V at 10mA</p> <p>+5V to +15V</p> <p>100μs to 10ms typical.; external caps required for high current &amp; wide PW</p> <p>1Hz to 1kHz</p> <p>25 Pin D-connector</p> <p>Low inductance connector with 1 meter flat conductor output cable</p> <p>Terminal Block</p> <p>via #8 Buss bar holes</p> <p>11.67"L x 5.18"W x 5.94"H</p> <p>4.53kg</p>
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Specifications subject to change without notice.



### APPLICATIONS:

*CW and Pulsed High Power Laser Diode Current Source*

## MODEL NUMBER

	7701A-1	7701A-2	7701A-3
Maximum Peak Output Current	100A	200A	300A
Maximum CW Output Current	50A	50A	50A

**Typical Part Number: 7701A-2-C =** Output Current: 10 to 200 Amps peak pulsed or 5 to 50 Amps CW  
 Diode Load Voltage: 2.5 to 280VDC  
 Input Connector: 25 Pin Female D-connector  
 Current Control Input/Monitor Output: 50mV/A (20A/V)  
 DC Input Voltage: Diode load voltage plus headroom\*  
 AC Power: 115VAC±10%, 1ϕ, 50 to 60Hz  
 PRF Range: 1Hz to 1kHz

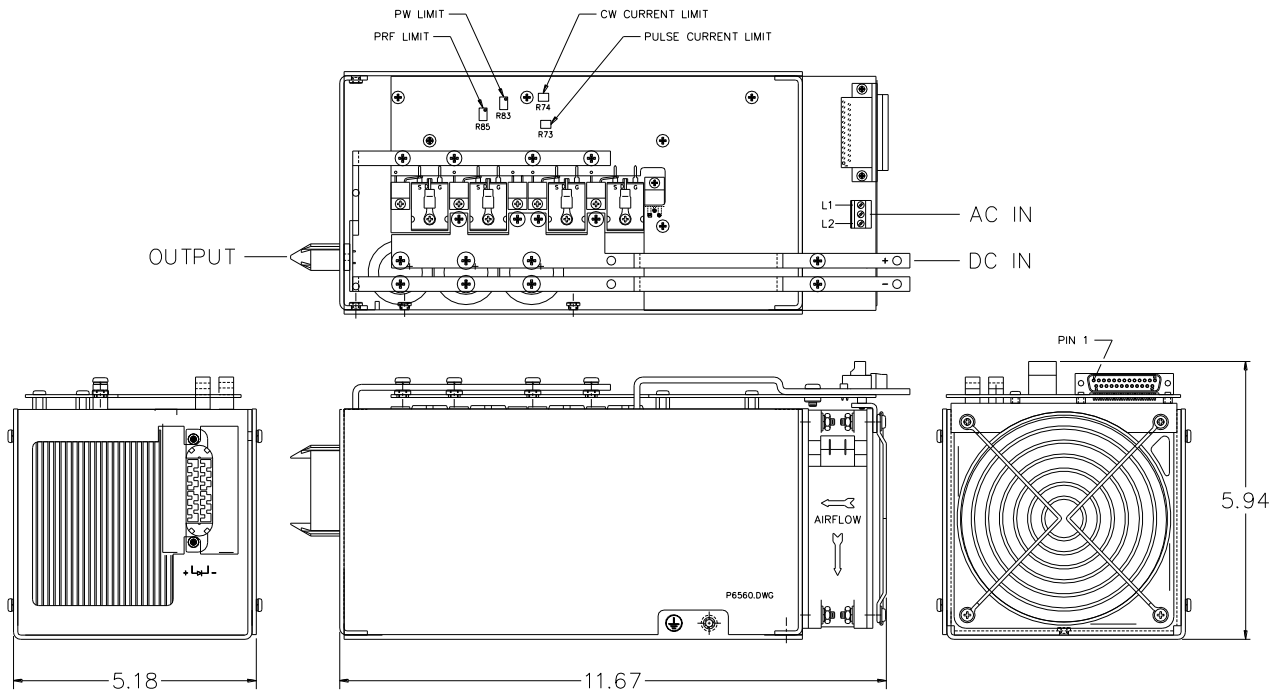
Provide maximum values for laser diode voltage, peak current, pulse repetition frequency (PRF) and pulsewidth at or before time of order so AMI can verify the operating point is within the safe operating range of the Model 7701A.

\*Headroom: Voltage required across the driver to keep current regulation.

25 Pin D-Connector Interface Description			
1	ENABLE IN HIGH	14	CROWBAR ACTIVATE
2	GND	15	NC
3	CURRENT MONITOR OUT	16	CROWBAR OUT
4	GND	17	NC
5	PULSE IN HIGH	18	NC
6	GND	19	MODE IN LOW
7	CURRENT CONTROL IN	20	DIFF. VOLTAGE OUT
8	GND	21	NC
9	PULSE IN LOW	22	NO LOAD SIGNAL
10	GND	23	NC
11	NC	24	GND
12	VOLTAGE MONITOR OUT	25	NC
13	NC		

Consult Factory for 7701A Standard Interface Description

Crowbar output (Pin 16) must be connected to INHIBIT of power supply to prevent driver damage when Crowbar is engaged.



Dimensions in inches