ANALOG MODULES, INC.

a HEICO company

MODEL 7701B
HIGH POWER OEM
LASER DIODE DRIVER

HIGH POWER OEM LASER DIODE DRIVER

- **Output Current to 300 A Pulsed or 50 A CW**
- **Ideal for High Power Laser Diodes**
- **Diode Load Voltages up to 280 VDC**
- **Wide Pulsewidth to 10 ms**
- **Internal Heatsink and Fan**
- **Floating Output**

DESCRIPTION:

The ***Model 7701B*** 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 7701B* 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 7701B* an excellent OEM choice for driving high power DPSS lasers.

SPECIFICATIONS:

Input	
Voltage	DC Voltage for Laser Drive (300 V Max.), plus 198 to 253 VAC, 1ϕ, 50 to 60 Hz
Output	
Current	10 to 300 A pulsed
Risetime	≤10 μs at peak output current
Falltime	≤10 μs at peak output current
Pulse Flatness	±2% of peak output current
Pulse Overshoot	≤5% of peak output current
Diode Load Voltage	2.5 V to 280 VDC, depending on laser drive supply voltage.
Current Monitor	Max output current = 10 VDC into ≥10 kΩ
Load Volt. Mon.	30 V/V Scale
Diff. Volt. Mon.	10 V = 20 V across driver; zero droop; 100μs PW
Protection	Fast reverse polarity diode / Adj. current limit for CW and pulsed mode / PRF & PW limit / Thermal shutdown / Crowbar circuit/ Open circuit
Temperature	0° to 40° C

Internal Controls	
Peak Current Limit	10 to 300 A min., trimpot adj.
CW Current Limit	5 to 50 A min., trimpot adj.
External Controls	
Current Control	0 to 10 V = 0 to max. current
Current Monitor	0 to 10 V = 0 to max. current
Enable/Pulse I/P Mode Select	Opto-Isolated input 5 V at 10 mA
Crow Bar Activate Input	+5 V to +15 V
Pulsewidth	100 μs to 10 ms typical.; external caps required for high current & wide PW
PRF	1 Hz to 1 kHz
Connections	
Ext. Controls	25 Pin D-connector
Output	36” Low inductance output cable terminated with 1/4-20 lugs
AC Power	Terminal Block
DC Power	via #8 Buss bar holes
Size	11.67”L x 5.18”W x 5.94”H
Weight	4.53 kg

ISO 9001 CERTIFIED

Specifications subject to change without notice.

APPLICATIONS:

CW and Pulsed High Power Laser Diode Current Source

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10/2024

	MODEL NUMBER
	7701B-3-D
Maximum Peak Output Current	300 A
Maximum CW Output Current	50 A

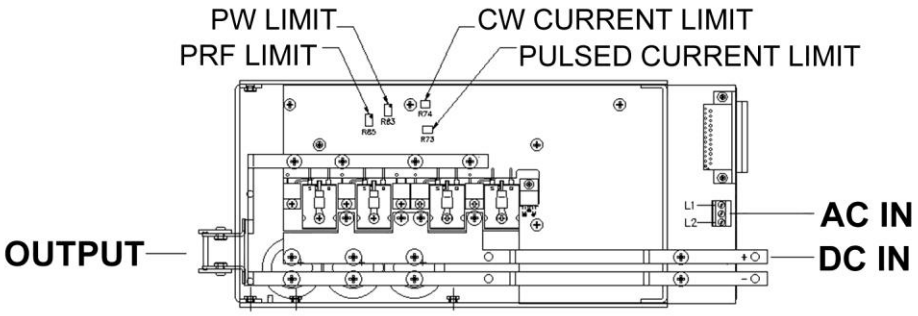
Typical Part Number: ***7701B-3-D =***

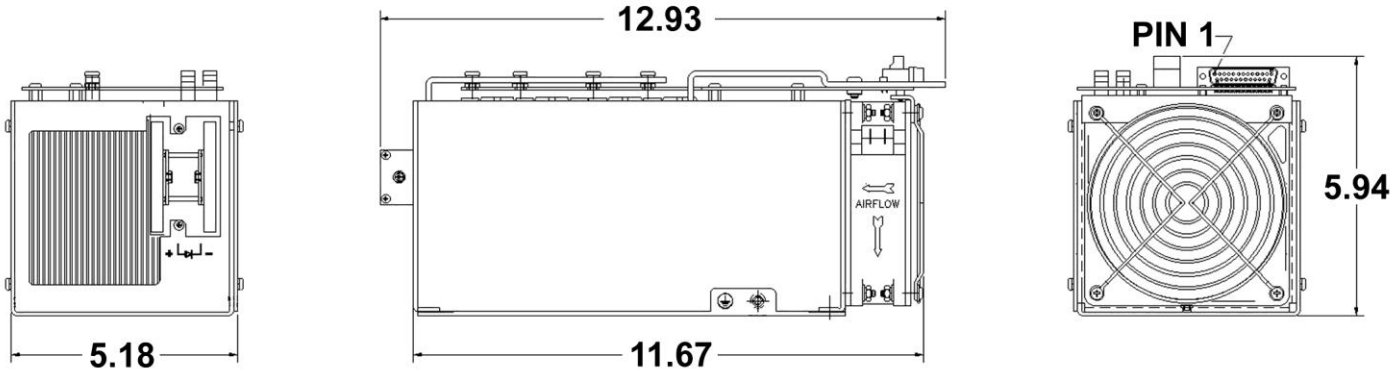
Output Current:	10 to 300 Amps peak pulsed or 5 to 50 Amps CW
Diode Load Voltage:	2.5 to 280 VDC
Input Connector:	25 Pin Female D-connector
Current Control Input/Monitor Output:	50 mV/A (20 A/V)
DC Input Voltage:	Diode load voltage plus headroom*
AC Power:	220 VAC ±10%, 1ϕ, 50 to 60 Hz
PRF Range:	1 Hz to 1 kHz

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 7701B.
*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	CURENTMONITOR 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 7701B Standard Interface Description
Crowbar output (Pin 16) must be connected to INHIBIT of power supply to prevent driver damage when Crowbar is engaged.





Dimensions are in Inches