



ULTRA LOW RIPPLE CW & PULSED LASER DIODE DRIVER

- OUTPUT CURRENT UP TO 20 AMPS
- OUTPUT PULSEWIDTH $\leq 10\mu\text{s}$ TO CW
- COMPLIANCE VOLTAGE UP TO 14V
- EXTREMELY LOW OUTPUT RIPPLE
- ANALOG PULSE SHAPING
- RoHS COMPLIANT



DESCRIPTION:

AMI's Model 785 OEM laser diode driver is ideal for compact industrial and medical direct illumination applications that require extremely low ripple and/or pulse shaping. Proprietary technology allows AMI to offer a 0-20A, 2-14V driver with industry leading output current stability and small footprint. Contact AMI today to discuss your application's requirements.

SPECIFICATIONS:

PARAMETER	785			Units
	Min.	Typical	Max.	
INPUT				
Power (Driver)	+10.0	+12.0	+14.0	VDC
Current (Driver)	-	50	100	mA
Power (Laser)	+3.0	-	+15.0	VDC
Current (Laser)	-	-	20	A
Control Voltage (Scaling = 4A/V \pm 5%)	0	-	5	V
Pulse Source (TTL)	2.2	-	5	V
Enable (TTL)	2.2	-	5	V
OUTPUT				
Current	0	-	20	A
Compliance Voltage	1.5	-	14	V
Pulsewidth	10	-	CW	μs
Duty Cycle	0	-	100	%
Modulation Bandwidth	-	-	600	kHz
Risetime at 20A (10% to 90%)	400	-	1000	ns
Ripple	-	~ 0	<1%	A _{RMS}
Noise	-	0.9%	2%	%
Pulse Overshoot at 20A	-	2%	4%	%

Specifications are subject to change without notice.

APPLICATIONS:

Direct Illumination Applications requiring precise current regulation.

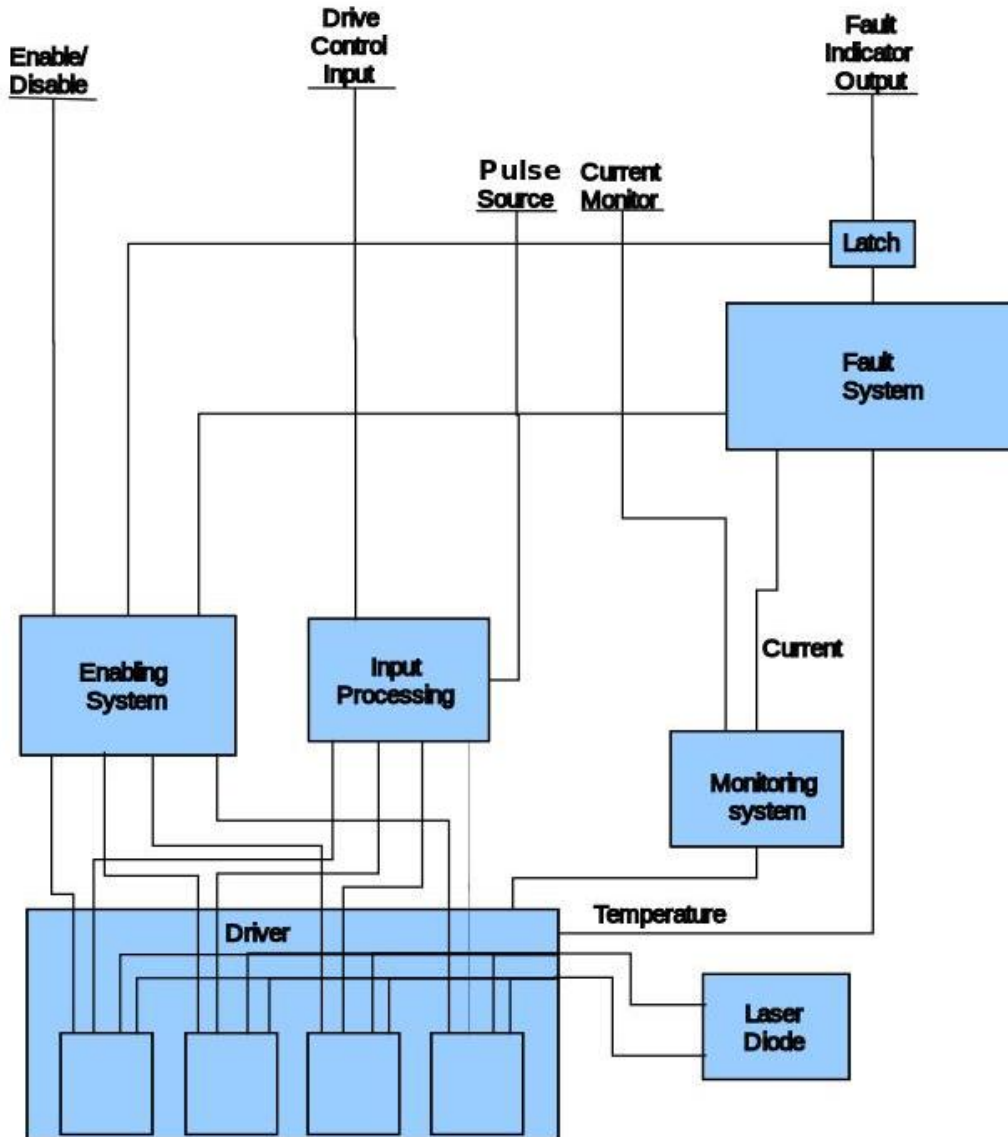


ABSOLUTE MAXIMUM RATINGS:

PARAMETER	Min.	Max.	Units
INPUT			
Power (Driver)	9	16	VDC
Power (Laser)	-	15	VDC
OUTPUT			
Power Dissipation $P = (\text{DutyCycle}) \times (\text{LaserSupply} - \text{LaserDrop}) \times (\text{PeakCurrent})$	-	155	W
TEMPERATURE			
Operating:	0	+50	°C
Storage:	-20	+70	°C
Humidity:		< 95% Non-Condensing	

Protection:	Over Temperature, Over Current. TTL Output, latched (HIGH state indicates fault)
Connections:	Output - Edge Solder Pads Power – Screw Terminal Blocks (Laser) / 14 Pin AMP MicroMatch (Driver) Control/Interface – 14 Pin AMP MicroMatch Connector (8-215460-4)
Cooling:	Provisions for forced air, TEC and water cooling
Size:	4.33" x 2.37" x 1.24"
Weight:	6.4oz

BLOCK DIAGRAM



14 Pin I/O Connector

J1	Name	Value
P01	Current Monitor	0-5V
P02	Ground	GND
P03	Pulse Source	TTL
P04	Ground	GND
P05	Drive Control	0-5V
P06	Ground	GND
P07	NC	

J1	Name	Value
P08	Ground	GND
P09	Enable	TTL
P10	Ground	GND
P11	Fault	TTL
P12	Ground	GND
P13	NC	
P14	Input Power	12.0 +/-2V

MECHANICAL OUTLINE DRAWING

