



# Capacitor charger and laser driver

For Medical Laser Applications



Designed to meet medical, aesthetical and industrial pulsed energy systems requirements

## Features

- 800 W | 7.500 W peak power
- 800 J/s charger
- 50V/150 A laser diode stack driver
- Up to 50mS/50V/150A
- Ideal for OEM Laser applications
- EN55011 Class A, no external filter is needed
- Compliant with IEC 60601-1 3rd Ed. requirements
- Fully isolated input to output, allowing connection directly to an AC line

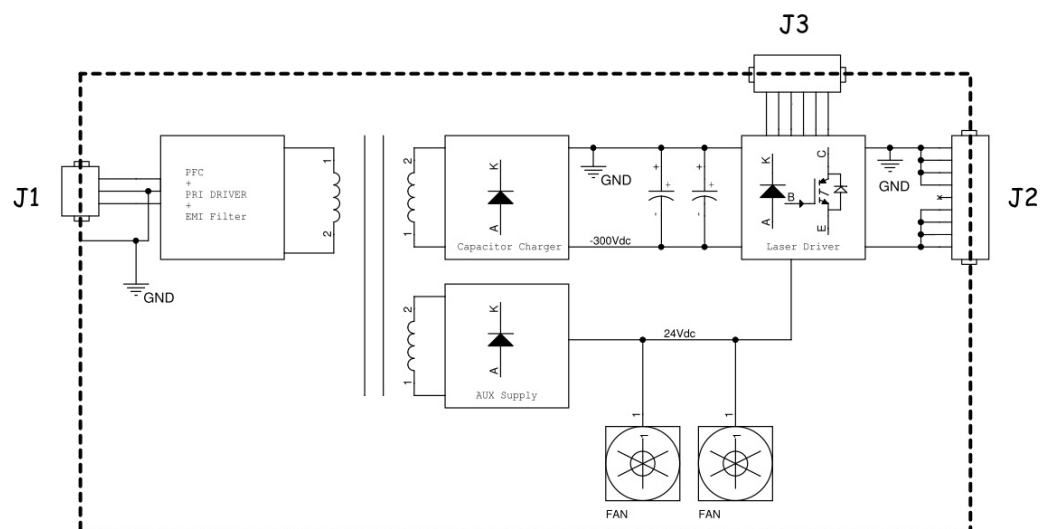
## Application

- Medical lasers
- Laser aesthetic systems
- Products that supply bursts of pulsed energy

# Capacitor charger and laser driver

## DEVICE TECHNICAL SPECIFICATIONS

INPUT	
Nominal voltage	88 ÷ 264 VAC; 47-63 Hz
Power factor	0,99 typical
Input current	7 Arms
Inrush current	< 5 A
Leakage current	< 300 uA
LASER DRIVER OUTPUT	
Pulse	1 – 70 msec
Pulse repetition rate	Up to 5 Hz
Rise time	200 uS max
Vout / Compliance Voltage	Up to 50 VDC
Nominal current	150 A
Peak output power	7.500 W
ENVIRONMENT	
Operating temperature	10°C to + 40°C / 50° F to 104° F
Storage	-25°C to + 70°C / -13° F to 158° F
Humidity	Operating 10-90%RH, Storage 10-95%RH
Cooling	Built-in temperature controlled fans
MTBF	50,000 hours @ 30°C
STANDARD APPLIED	
Safety	IEC/EN 60601-1 3rd ed.
EMC – Emission & Immunity	EN 55011 Class A
CONNECTORS	
Mains	Front panel connector TE connectivity mate'n'lock 350782-1
Output	Front panel connector TE connectivity mate'n'lock 350767-1
I/O signals	Molex Minifit 39-01-2120
COMMANDS/FEEDBACK	
I/O	Analog IN for current, pulse   Analog OUT > Iout, Vout
Protection	Over-current, over-voltage, short-circuit, over-temperature
MECHANICAL CONSTRUCTION	
Size (W, H, D)	340 x 212 x 159 (mm)   13,36 x 8,36 x 6,25 (in)
Weight	< 7 kg   15,43 lb



picture - Schematic block diagram

## TABLE - MAINS CONNECTOR

Housing	PIN Number	Contact	Signal
TE CONNECTIVITY MATE-N-LOK 3x1 350767-1	1	TE CONNECTIVITY 926895-1	AC
	2	TE CONNECTIVITY 926895-1	Ground
	3	TE CONNECTIVITY 926895-1	AC

## TABLE - I/O SIGNALS CONNECTOR

Housing	PIN Number	Contact	Signal
MOLEX MINI FIT 39-01-2120	1	MOLEX 39-00-0082	Ground
	2	MOLEX 39-00-0082	Ground
	3		Not Connected
	4		Not Connected
	5	MOLEX 39-00-0082	Ground
	6		Not Connected
	7	MOLEX 39-00-0082	Program Current
	8	MOLEX 39-00-0082	Driver Pulse
	9	MOLEX 39-00-0082	Driver Enable
	10	MOLEX 39-00-0082	Fault
	11	MOLEX 39-00-0082	+13.5Vdc (0,1A max)
	12		Not Connected

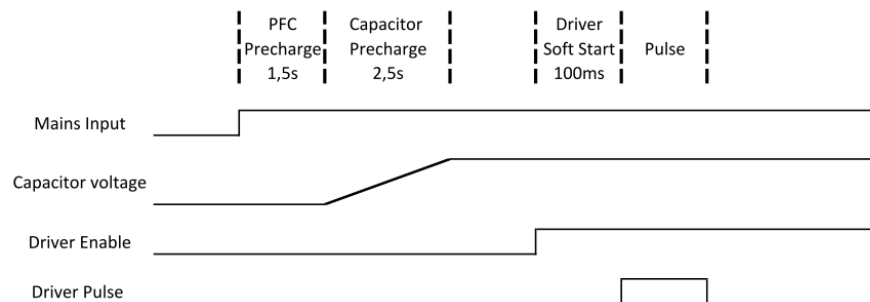
## TABLE - I/O SIGNALS

Signal	Description
Program Current	INPUT - 0V to 10V for output 0A to 150A
Driver Pulse	INPUT - Active high 5V input. This signal enables reference to the input of the output current regulation loop.
Driver Enable	INPUT - Active high 5V input. This signal enables power to PWM regulator and IGBT driver circuit in output stage.
Fault	OUTPUT - Active low 5V output. Drops to 0V when Fault occurs.
+13.5V dc	OUTPUT - Max 0.1A supply for factory tests.

## TABLE - OUTPUT CONNECTOR

Housing	PIN Number	Contact	Signal
TE CONNECTIVITY MATE-N-LOK 3x3 350782-1	1	TE CONNECTIVITY 926894-1	Laser Anode
	2	TE CONNECTIVITY 926894-1	Laser Anode
	3	TE CONNECTIVITY 926894-1	Laser Anode
	4	TE CONNECTIVITY 926894-1	Laser Anode
	5		Not Connected
	6	TE CONNECTIVITY 926894-1	Laser Cathode
	7	TE CONNECTIVITY 926894-1	Laser Cathode
	8	TE CONNECTIVITY 926894-1	Laser Cathode
	9	TE CONNECTIVITY 926894-1	Laser Cathode

*N.B. Laser Anode is internally connected to GROUND*



*Picture - Input signal timing chart at startup*