ADVICE	Capacitor Charger				
Date	14-12-2020	Doc. Nbr	1510-DOC0-10	Rev.	A2
Written by	S. Sadot	Approved by	I. Zuker		

Specification for:

Capacitor Charging Power Supply

1,000V / 1,500J/Sec. AC-DC

ADVICE Part Number – LCH1510-100

Revision History

	Change Description	ECO No.	Date	Approved by
A	Specification Release		25-06-2020	I. Zuker
A1	Added outline drawing		28-06-2020	I. Zuker
A2	Inhibit logic levels update		14-12-2020	I. Zuker

Scope

The LCH1510-100 is a capacitor charging power supply designed for OEM laser manufactures.

Power supply provides 1,500J/Sec charging power and 1,000 V output voltage, using an internal fan for cooling.

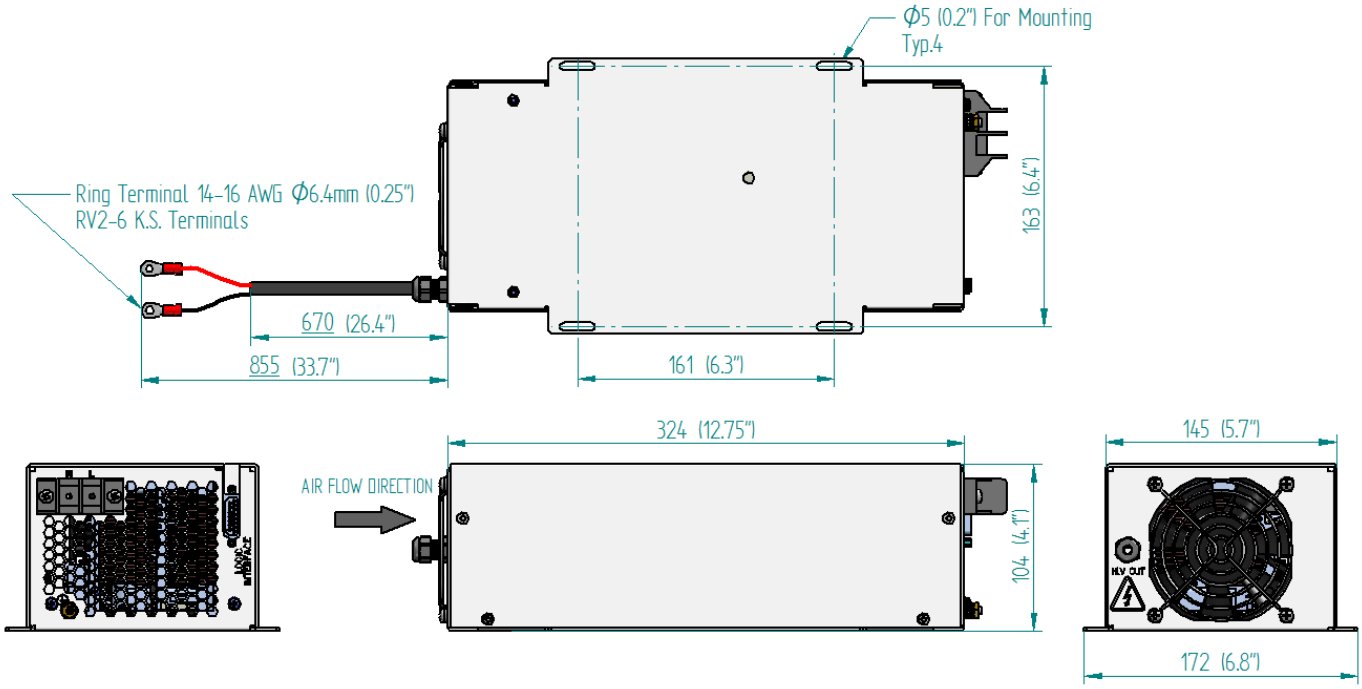
The LCH1510-100 with its reliable construction delivers clean and efficient power for pulsed laser applications.

Input	
Input Voltage	90-264VAC
Frequency	47-63Hz
Initial Inrush current	<25A
Power Factor (typical, at full load)	0.99
Efficiency (typical, at full load)	88% at 220Vac
Max. Input Current	12A at 220VAC input voltage
Output Voltage & Current	
Output Voltage	User controllable from 200VDC to 1,000VDC
Average Power (Maximum)	1,500W
Line Regulation (Maximum)	±0.1%
Load Regulation (Maximum)	±0.5%
Ripple & Noise (Max @ 20 MHz bandwidth with 1uF ceramic capacitor and 10uF electrolytic capacitor connected in parallel on the measuring point)	≤ 2% p-p
Output Voltage Accuracy	±1% of setting from 200V to maximum rated output voltage
Charge Time – max' (0 to 1,000V, 1,500µF load cap')	500mS
Over Temperature Protection	Shutdown, automatically recovers when the temperature decreases
Output Grounding	Negative output shorted to Protective Earth

Environmental Specifications (Designed to meet when installed within the 19", 3U drawer)	
Operating Temperature	0°C to +40°C
Storage Temperature	-20°C to +60°C
Cooling	By an internal fan
Humidity	10% to 90% RH non-condensing
Safety Regulation & EMC Specifications (Designed to meet when installed within the 19", 3U drawer)	
EMI	EN 55011 Class A , Group 1 (without external filter)
Insulation	Input to chassis: 1,750Vac Input to SELV Circuit : 4,000Vac
Safety	cTUVus, EN 60601-1 3rd edition and CE Mark
Leakage Current to Protective Earth	<120uA

Mechanical Dimensions	
Size L x W x H in Inches (mm)	12.75 x 5.75 x 4.10 (324 x 146 x 104)
AC Input Connector	Terminal Block, 2 positions
AC Earth	10-32 GND stud, use at least 14AWG wire
HV Output Connector	MHV Male and coax cable rated for at least 150% of maximum rated output voltage
Interface Connector	15 pin D-type (female)
Weight	4Kg Maximum

User interface signals description

Pin #	Signal	Remarks
1	Inhibit (Charge/Standby)	Turn the output On and Off by electrical signal or dry contact: • 0V-3.5V (or Short): HV output is On (Charge) • 11.5V-15V (or Open): HV output is Off (Standby) Remark: Inhibit polarity can be inverted (factory set)
2	Power fault	Low in case of power fail, normally high (15V)
3	Sum Fault	Pulled low in case of an internal fault/s, normally high (15V)
4	HVON	Pulled low when the unit is enabled (Inhibit input low) and there is no internal fault
5	Voltage Program	Positive input voltage 0 to 10V accordingly controls the output voltage from up to 100% of the rated output voltage. Input Impedance: approximately 100KOhm
6	Fault Indication	Output rise time is measured: If the rise time>approx. 6 Sec., a malfunction is assumed and an “Active LOW” indication is provided from an open collector (rated to 30V/10mA) and the output voltage is shut down. The input supply voltage needs to be recycled to restart.
7	Vo Monitor - Peak	0V to 10V for 0 to Vout max. (peak measurement, decaying with a time constant of 20 Sec.) Drive capability 1.5mA
8	Vo Monitor - Instantaneous	0V to 10V for 0 – Vout max. Drive capability 1.5mA
9, 11, 12	15V Reference	15V±5%, up to 100mA output
10	Not connected	
13	End of Charge Indication	Provides “LOW” indication when the load capacitor reaches the set voltage, otherwise it is "HIGH" (15V)
14, 15	Signals ground	All the signals in the connector are referred to this ground, which is shorted internally to the high voltage output negative line, and to the chassis (Protective Earth)

Outline Drawing