LCH Series Capacitor Charging Power Supplies

1,500W to 3,000W

The first advance in capacitor charging technology in 25 years !

The LCH Series is designed to meet the unique requirements of medical, aesthetic and industrial pulsed energy systems. The modular design of these highly efficient and flexible devices leads to lower cost, high reliability and shorter lead times.

For years capacitor chargers have relied on resonant inverter topology to deliver constant current to the load. The design of the inverter section requires carefully matched precision components that add to the complexity and testing of the power supply.

The LCH capacitor chargers use a simpler Quasi Constant Power (QCP) design that drastically reduces parts count and eliminates the need for costly matched components. This results in much better long term reliability and smaller size at a lower cost.

For more information on the QCP design
https://www.advicepower.com/choosing-capacitor-charger

Features

- Standard output voltages to 2,200V
- Output power from 1,500 to 3,000W
- Universal input voltage
- Frendly & flexible user interface
- Power Factor Correction 0.99
- High efficiency, typically 88%
- Robust protection against faults
- MTBF 50,000 hours
- Advice offers a complete line of capacitor chargers from 500 to 9,000 watts

Applications

- Medical laser systems
- Intense pulsed light devices
- Flash lamp pumped lasers
- UV curing systems
- Sterilization systems
- Medical Electromagnetic Stimulation

Exclusive Representation:

NEW SOURCE TECHNOLOGY LLC

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Specifications

Input	
Input voltage	See Model Chart
Power factor	0.99 typical
Inrush Current	<25A @220Vac
Leakage Current	<300µA
Output	
Output Voltage	Available maximum output voltages from 400V to 2,200V
Output Power Range	1,500W to 3,000W
Polarity	Positive. Negative return can be grounded or floating
Efficiency	Typically 88% (full Load)
Fault Protection	Over Temp, Over Voltage Open Circuit, Load Short, Over Current
Environmental	
Operating Temperature	0°C to +50°C
Storage	- 20°C to +85°C
Humidity (Operating)	10 to 90%RH
Humidity (Storage)	10 to 95%RH
Cooling	Internal Fan
Safety	EN60601-1 3rd Edition CE Mark
MTBF	50,000 Hours @30°C
Mechanical	
AC Input Connector	Terminal Block
Interface Connector	D Type 15 Pin
HV Output	Coax Cable RG58A/U 50Ω
AC Earth	M5 Stud, Length:10.5mm
Dimensions	324 x 145 x 104.3 mm 12.7" x 5.75" x 4.1"
Weight	3kg | 6.6lb
Flexible User Interface	
Advice offers a wide range of interface options for new designs and the replacement of existing Capacitor Chargers. Please see page 3 for a complete list of options. We would be happy to assist you in creating a unique part number for your application.	

Models

Part #	Output	Input	Input Current
LCH1510-XXX	1,500W	90 to 264VAC 47 to 63Hz	16.1A @ 115VAC
LCH2000-XXX	2,000W	200 to 264VAC 47 to 63Hz	11.0A @ 230VAC
LCH3010-XXX	3,000W		16.0A @ 230VAC

XXX indicates the maximum output voltage/10
Example: 050=500V, 075=750V, 100=1,000V
Custom output voltages available upon request

Interface (D Type, 15 Pin)

Pin #	Signal Name	Description
1	Inhibit	Turn High Voltage ON/OFF
2	Input Power Fault	Pulls Low in case of power failure, normally at logic High
3	Sum Fault	Pulled to logic Low or High (depending on customer option selection) in case of any fault/s detection
4	HV ON	Pulled Low when the unit is enabled and there is no internal fault, otherwise at logic High.
5	V Program	0 to 10V = 0 to Full output voltage or 0 to 5V = 0 to Full output voltage Impedance ~ 100kOhm
6	Load Fault Indication	Output rise time of > ~6sec., a malfunction is assumed. A disconnected load capacitor condition will be detected and considered a fault (no delay). In both cases the input supply voltage needs to be recycled to restart.
7	V Monitor-Peak	0 to 5V or 0 to 10V = 0 to V out Max
8	V Monitor	0 to 5V or 0 to 10V = 0 to V out Max
9, 11,12	15V Output	15V ±5%, maximum 100mA
10	5V output	5V ±5%, maximum 50mA (Optional, no connection if not selected)
13	End of Charge	Provides "Low" or "High" (depending on customer option selection) indication when the load capacitor reaches the set voltage
14,15	Signal Ground	All the signals in the connector are referred to this ground, which is shorted internally to the high voltage output negative line.

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Interface and Control Options (Factory Set)

Option	Pin #	Function	Option 1	Option 2
1	-	Digital interface signals voltage level	Option "**A**" 0-15V	Option "**B**" 0-5V
2	1	"Inhibit" command signal polarity Note: not active when disconnected	Option "**C**" Low = HV ON	Option "**D**" High = HV ON
3	13	"End of Charge" signal polarity	Option "**E**" Low @ End of Charge	Option "**F**" High @ End of Charge
4	5	Scale of "Voltage Program" control	Option "**G**" Volt' Prog' 0-10V	Option "**H**" Volt' Prog' 0-5V
5	7, 8	Range of "Voltage Monitor" and "Peak Voltage Monitor" signals	Option "**J**" Monitor signals 0-10V	Option "**K**" Monitor signals 0-5V
6	-	Enables or disables the 6 seconds timeout turn-off function	Option "**L**" Timeout turn-off disabled	Option "**M**" Timeout turn-off enabled
7	3	"Sum Fault" signal polarity	Option "**N**" Fault = LOW	Option "**O**" Fault = HIGH
8	10	5V/50mA option	Option "**P**" 5V/50mA	Option "**R**" NOT connected
9	-	Timeout if 80% or 100% of the set voltage is not reached within 6Sec., in case option "**M**" is selected	Option "**S**" 100%	Option "**T**" 80%
10	14,15	Negative output tied to Protective Earth or floating	Option "**U**" Tied to P.E.	Option "**V**" Customer Specified Grounding Scheme.
11	-	Desired cable length in cm. (two digits)		

Ordering options part number (default) example:

LCH3010-070	A	C	E	-	G	J	M	-	N	R	S	U	25	X

In this example the ordered unit is: LCH3010-070-ACE-GJM-NRSU25.
This part number corresponds to the following (default) set of options:

1.	A	Digital interface signals voltage level: 0-15V
2.	C	"Inhibit" command signal polarity: LOW = HV ON, HIGH = Inhibit (standby)
3.	E	"End of Charge" signal polarity: normally HIGH, LOW at End of Charge
4.	G	Scale of "Voltage Program" analog control signal: 0-10V
5.	J	Range of "Voltage Monitor" and "Peak Voltage Monitor" analog signals: 0-10V
6.	M	Six seconds timeout turn-off function ENABLED
7.	N	"Sum Fault" signal polarity: normally High, LOW at Fault
8.	R	5V/50mA NOT available in pin10 (the pin is not connected)
9.	S	Timeout turn-off if 100% of the set voltage is not reached within 6 seconds
10.	U	Negative output TIED to Protective Earth
11.	25	Cable Length cm. (two digits)
12	X	Factory designation (this is not an option)

Note: If no option selection with 10 characters is included in the model part number ordered, the following default option will be delivered: ACE-GJM-NRSU. Consult New Source Technology for assistance with ordering.

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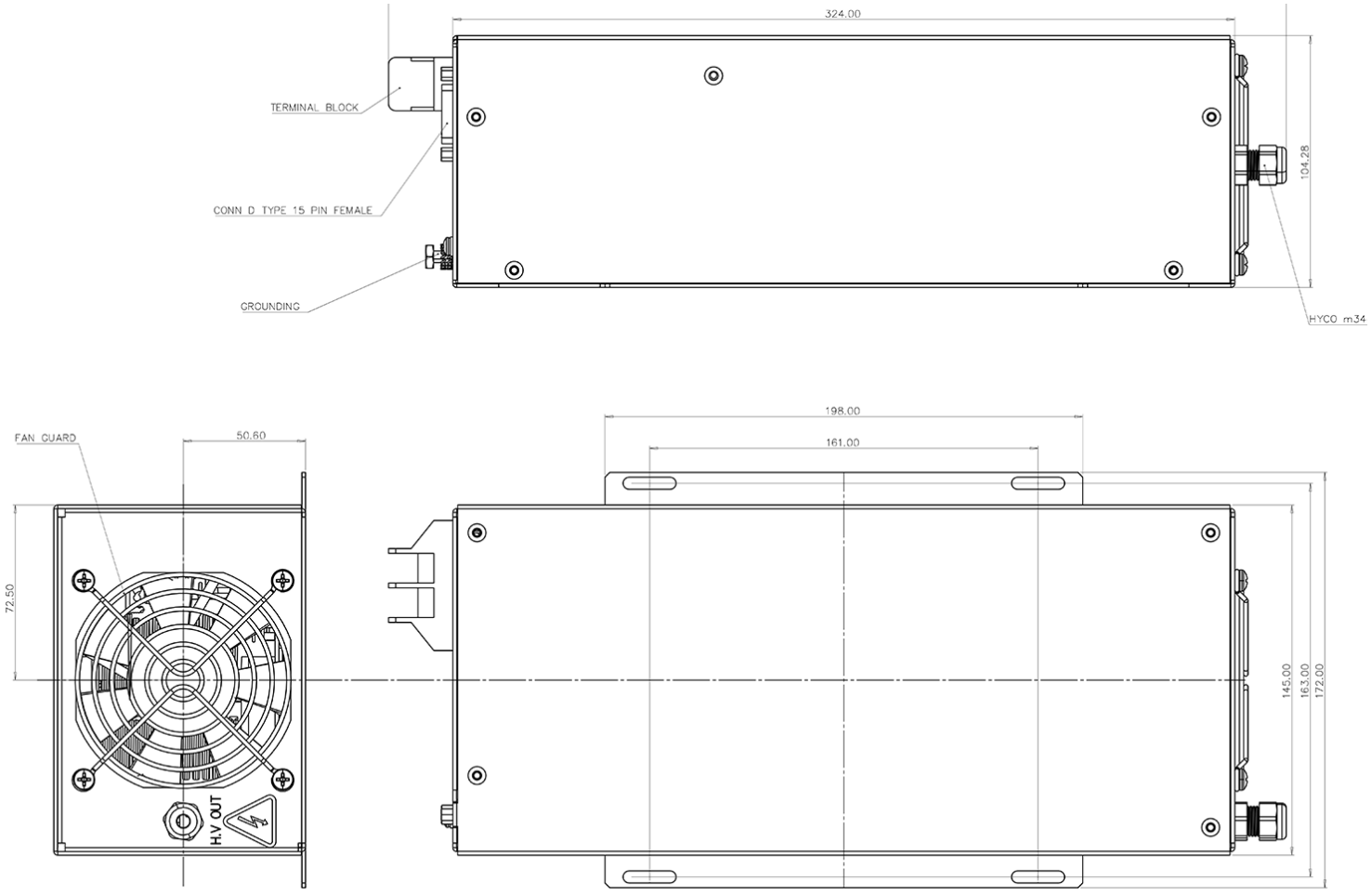
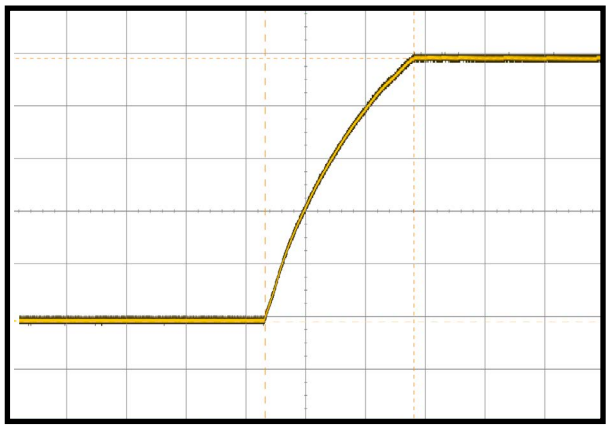
Outline Drawing (B Chassis) LCH1500 , LCH 2000, LCH3000



Quasi-Constant Power (QCP)

The LCH series capacitor chargers utilize Quasi-Constant Power Topology to deliver more power to the load while reducing input current and stress on the power supply. This results in more power in a smaller package and increased reliability at a reduced cost.



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