



CW Arc Lamp Drivers

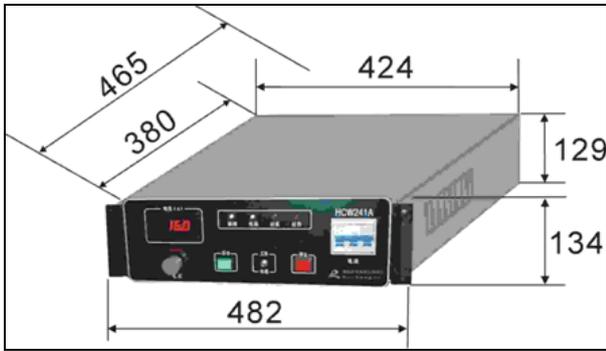
The STCW series laser power supplies are made for CW lamp-pumped Nd:YAG lasers. The main circuit of the power supply is based on power electronic module IGBT, adopts PWM technique to yield conversion efficiency more than 90%, and outputs constant current with high accuracy and low current ripple. Ignition circuits which produce a high voltage pulse consists of three steps: series high voltage unit for igniting the lamp, LC unit to relay the power, and low –voltage-constant-current to continue the lamp current. Automatic igniting is achieved with igniting-detecting circuit. The successful ratio of one-time ignition is more than 99%. The high voltage rises smoothly, and its magnitude can be adjusted to meet the dispersible characteristics of the krypton lamps, and to reduce the spattering of the electrode material at the same time, and further to reduce the damage to the krypton lamp caused by high voltage triggering.

The soft-charging circuit and soft-starting circuit are provided to avoid the voltage spiking and in-rush current in the event of starting. Display shows the set current and operation current at different time. The function of “work/sleep” is designed to output normal current at working and low holding current at the time of stand by, so as to increase the efficiency of the power supply, lighten the heat exchanger system, and prolong the lifetime of the lamp as well. Conveniently turns switch to Run/Stop status, adjust output current, and show the working status through the inner/outer control selection.

Excellent design makes the power supply maintained easily and perfect design of circuit protects the device from over voltage, over current and over heat.

There are the following advantages of our products:

- High reliability
- Advanced design of the whole circuits system highly improves the electrical characteristics of the power supply.
- Anti-dust design
- Anti-vibration design
- Easy maintenance
- Malfunction indicators
- Strict testing and 48hour full-load testing in the factory
- Temperature test in $-10^{\circ}\text{C}\sim 70^{\circ}\text{C}$ to ensure that it works stably in the ambient temperature at $0^{\circ}\text{C}\sim 50^{\circ}\text{C}$.
- Test in relative humidity 90%.
- Measure the current ripple and test the stability of the output current accurately in factory to make sure the output current meet the requirements of the Kr lamp.



Part Number Description:

STCWxyzT

STCW – STCW series CW laser power supplies

X ----- maximum output current (2 means 20A or 25A, 3 means 30A, 4 means 40A)

Y ----- Maximum output voltage (4 means 400V, 2 means 200V)

Z ----- input electricity (A means 3-phase 380VAC, B means 1-phase 220VAC)

T ----- others

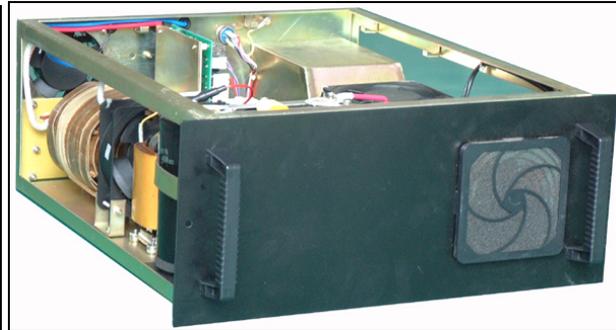
Model	STCW22A	STCW32A	STCW34A	STCW24A	STCW22B	STCW32B
Max output current	25	30	30	20	25	30
Max output voltage	200V	200V	400V	400V	200V	200V
Current ripple	≅ 0.4%	≅ 0.4%	≅ 0.4%	≅ 0.4%	≅ 0.4%	≅ 0.4%
Control accuracy	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Simmer current	7A	7A	7A	7A	7A	7A
Switching frequency	20KHZ	20KHZ	20KHZ	20KHZ	20KHZ	20KHZ
Allowed input voltage tolerance	±15%	±15%	±15%	±15%	±15%	±15%
Environment temperature	0~50℃	0~50℃	0~50℃	0~50℃	0~50℃	0~50℃
Environment humidity	≅ 90%	≅ 90%	≅ 90%	≅ 90%	≅ 90%	≅ 90%
Input electricity	380V, 6KVA	380V, 9KVA	380V, 15KVA	380V, 11KVA	220V, 6KVA	220V, 9KVA
Dimension (mm)	500x481x135	500x481x135	500x481x135	500x481x135	500x481x180	500x481x180
Weight	23.5kg	23.5kg	28kg	25kg	23.5kg	23.5kg

Remark: the power supply can be externally controlled.

Pulsed Flashlamp Power Supply (STLDP Series)



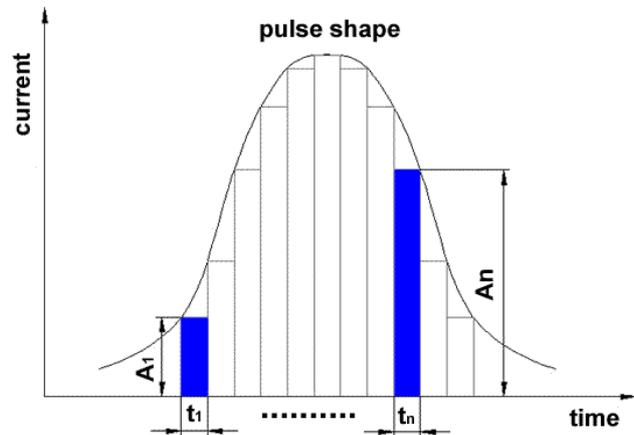
Control box with control panel (Box I)



Capacitor box (Box II)

STLDP series pulse laser power supplies are designed to drive xenon lamps in pulse Nd:YAG lasers. It is a constant-current switching power supply.

A pulse shape can be programmed and be divided into maximum 15 segments as shown in the figure. Each segment consists of a width (t_n) and a current (A_n). The width and current can be individually and independently set. The capacitor is 16400uF, maximum output electrical pulse energy is 1200J and maximum output voltage is about 540V.



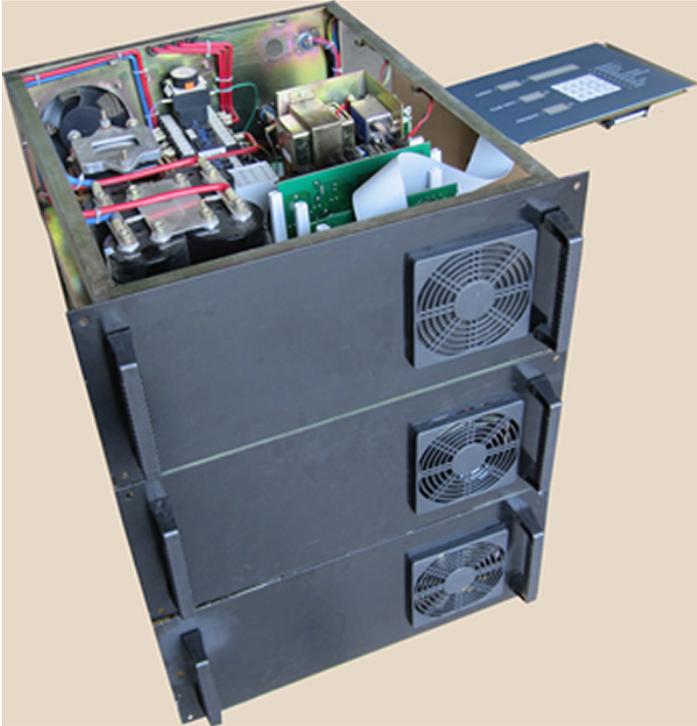
A power supply consists of two boxes: one control box and one capacitor box.

Model	STLDP-1	STLDP-2	STLDP-3	STLDP-4
Max output average power (kW)	5	5	4	4
Output current range (A)	100-600	100-600	100-600	100-600
Pulse width (ms)	0.1-10	0.1-20	0.1-10	0.1-20
Pulse repetition rate (Hz)	0.1-100	0.1-200	0.1-100	0.1-200
Electricity requirement	380VAC	380VAC	380VAC	380VAC
Dimension (mm)	480x202x600			
Net weight	Box I: 21kg; Box II: 31kg			
Gross weight	72kg			

The following power supplies are used to drive two lamps in series. They are suitable for the lasers with output laser powers above 200W. The power supply consists of three boxes: one control box and two capacitor boxes.

Model	STLDP-1-10	STLDP-2-10	STLDP-3-08	STLDP-4-08
Max output average power (kW)	10	10	8	8
Output current range (A)	100-600	100-600	100-600	100-600
Pulse width (ms)	0.1-10	0.1-20	0.1-10	0.1-20
Pulse repetition rate (Hz)	0.1-100	0.1-200	0.1-100	0.1-200
Electricity requirement	380VAC	380VAC	380VAC	380VAC
Dimension (mm)	480x202x800			
Net weight	Box I: 21kg; Box II & Box III: 31kg each			
Gross weight	115kg			

The control panel may be fixed with the control box (as shown above) or is separated from the control box but is connected via the cables (as shown as follows). Please show your selection of the panel when placing a purchase order.



The following power supplies are specially designed for pulsed Nd:YAG lasers, which are suitable to laser cutting.

Model	Input Voltage	Output Power	Max. Output Voltage	Pulse Width	Frequency	Dimension(mm)
STLDP-C08	3Φ380VAC	8KW	400V	0.05-1ms	1-1000Hz	Single/dual box
STLDP-C10	3Φ380VAC	10KW	400V	0.05-1ms	1-1000Hz	430x600x200
STLDP-C12	3Φ380VAC	12KW	600V	0.05-1ms	1-500Hz	438x470x183, 2pcs
STLDP-C14	3Φ380VAC	14KW	800V	0.05-1ms	1-400Hz	Dual/triple box
STLDP-C16	3Φ380VAC	16KW	400V	0.05-1ms	1-300Hz	430x450x180, 2pcs



STLDP-C10



STLDP-C12



STLDP-C16

Pulsed Flashlamp Power Supply (STLDF Series)

STLDF series flashlamp-pumped laser power supplies are designed to drive solid state-state lasers and EO Q-switches. Power supplies are complete pumping solutions and include all required modules - bank of storage capacitors, charging module and discharging circuit with triggering and simmer modules.

Power supplies are performed accordingly to 19-inch specification. Height is 4U. Embedded touchscreen controlled computer allows changing of all principal parameters such as output voltage, flashlamp pulse duration and pulse repetition rate.

Description of Part Number: STLDF-xx-yyy

STLDF: STLDF series drivers

xx : max output power. 17 means 1.75kW; 35 means 3.5kW

yyy : Pockels cell driver. QBD or QBU.

For example, STLDF-35-QBD: 30.5kW output power with an EO Q-switch driver QBD.

Input:

Voltage 230VAC *

Output:

Max. voltage up to 1000 V *

Max. output power up to 3.5 kW *

Pulse width 0.1-20 ms *

Repetition rate up to 200 Hz *

Simmer supply:

Simmer current up to 800 mA

Triggering voltage 1000 V

Triggering pulse width 1us

Triggering pulse energy 110 mJ

Restrike rate approx. 30 Hz

Capacitor bank 28000 uF *

Efficiency 85-90%

Protection overvoltage, overheating, flashlamp breakdown, interlock

Environment:

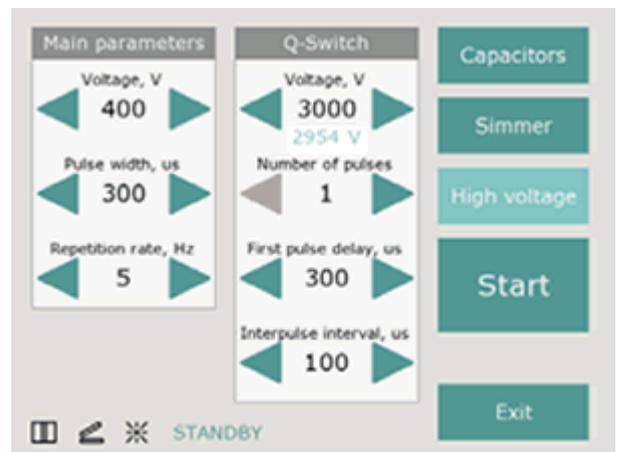
Operation Temperature 0...+40 C

Humidity 90%, non-condensing

Size (LxWxH) 500 x 315 x 172 mm

Weight 10 kg

* -other values are available on request



By default the laser power supply is supplied in serial triggering and partial discharge modification. Modifications for external triggering or complete discharge are available on request. Also the laser power supply can be equipped with Pockels cell driver (Q-switch driver). In this case user obtains a possibility to control output voltage level and delay between flashlamp pulse start and Q-switch pulse (pulses). This ability is significant for adjusting user system for best performance. Synchro pulse delay is regulated in 0-300us range after beginning of flashlamp pulse. Other values are available on request.

Options

Three standard output power levels are available:

- 1.75kW, PFC > 0.85
- 3.5kW, PFC > 0.85
- 2 kW, PFC > 0.98

A variety of output voltages, longer pulse duration, complete discharge, parallel or serial triggering,

embedded or external Pockels cell driver are available on request.

Compact STLDF Power Supply: STLDF-17-2U



Input:

Voltage 230 VAC (other on request)

Output:

Max. output voltage 450 V (up to 2000 V on request)

Max. output power 1.75 kW (other on request)

Pulse width 0.1-20 ms (other on request)

Repetition rate 1-200 Hz (other on request)

Efficiency 85-90%

Protection overvoltage, overheating, flashlamp breakdown, interlock etc

Cooling Forced air (built-in fans)

Simmer supply SCA-2008 (other on request)

Capacitor bank 14000 uF (other on request)

Environment:

Operation temperature 0 ... +40 °C

Storage temperature -20 ... +80 °C

Humidity 90%, non-condensing

Size (LxWxH) 500x315x86 mm

Weight 6 kg

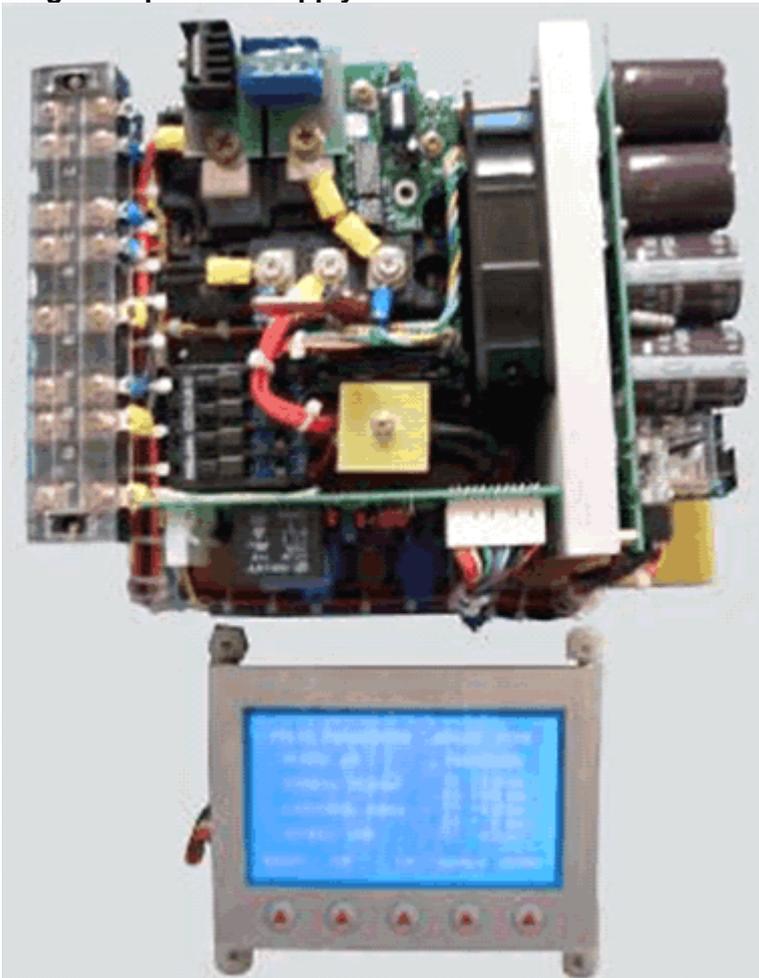
Options

By default laser power supply is supplied in serial triggering and partial discharge modification.

Modifications for external triggering or complete discharge are available on request.

Also on request the laser power supply can be equipped with Pockels cell driver.

Single-lamp Power Supply



190x240x140mm

Dual-lamp Power Supply



240*300*140mm

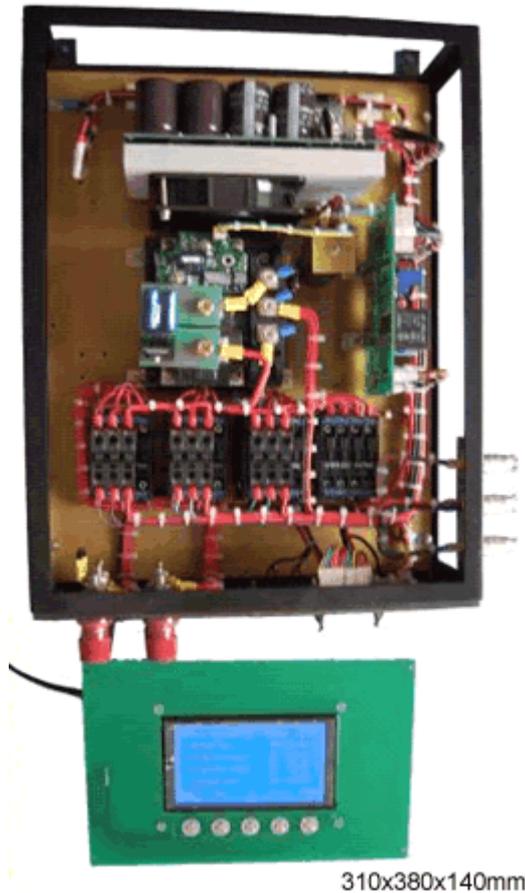


200*300*140mm



| 240*360*170mm

3-lamp Power Supply



Treatment handles without the cover

Illumination area: 8x40mm

Dimension: LxHxW: 135x75x32, the water nozzle is included. The dimension is for the use of a lamp STX7x61x125 (external diameter 7mm, arc length 61mm, overall length 125mm).

Model ILP-TH-520-1200; high transmission from 520 to 1200nm.

Model: ILP-TH-560-1200; high transmission from 560 to 1200nm.

Model: ILP-TH-640-1200; high transmission from 600 to 1200nm.

Remark: when you order treatment handles, please tell us the dimension of the lamp to be used. It is better to give us its drawing for our design.

