

# LRC SERIES 30 to 50kV. 300 to 700W

Industrial Laser Power Supplies

### DESCRIPTION

UNIPOWER'S LRC Series high voltage power supplies are optimized for use in midpower carbon dioxide and similar laser applications. Of particular significance are the robust and reliable design architecture, and the "superpulsing" capability of this series: maximum pulse currents of up to 60mA and repetition rates to 2kHz are available at 100% duty cycle.

LRC Series provides full power at 75% of maximum voltage. Power is switched at a 42kHz switching frequency for optimum efficiency and lowest heat generation. Current mode operation eliminates the need for a discharge ballast element.

LRC Series is ideal for O.E.M. CO2 laser applications because of its rugged and durable circuitry, compact footprint, efficiency, choice of openframe or enclosed configurations and availability of remote control.

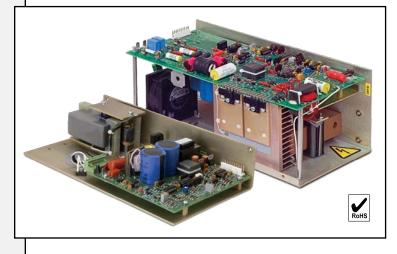
### **FEATURES**

- Reliable & Rugged
- Superpulsing capability
- Compact & Lightweight
- Air cooled
- Potted high-voltage sections
- Precise regulation
- Positive or negative output
- Open frame or enclosed options
- 300 watt meets EN60601, Medical standard for leakage current, optional on 700 watt.
- Open and short circuit protected
- Remote analog output control

### **ONE-YEAR WARRANTY**

SAFETY COMPLIANCE

UL 601010/ EN601010



### STANDARD MODELS

INPUT VOLTAGE	OUTPUT VOLTAGE <sup>1</sup>	OUTPUT CURRENT <sup>2</sup>	OUTPUT POWER	POLARITY		
115V	25/30kV	25/40mA	300W	Positive		
230V	25/30kV	25/40mA	300W	Positive		
115V	25/30kV	25/40mA	300W	Negative		
230V	25/30kV	25/40mA	300W	Negative		
115V	32/50kV	40/60mA	700W	Positive		
230V	32/50kV	40/60mA	700W	Positive		
115V	32/50kV	40/60mA	700W	Negative		
230V	32/50kV	40/60mA	700W	Negative		
	VOLTAGE 115V 230V 115V 230V 115V 230V 115V 230V 115V	VOLTACE     VOLTACE <sup>1</sup> 115V     25/30kV       230V     25/30kV       115V     25/30kV       230V     25/30kV       115V     25/30kV       230V     25/30kV       115V     32/50kV       230V     32/50kV       115V     32/50kV	VOLTAGE     VOLTAGE <sup>1</sup> CURRENT <sup>2</sup> 115V     25/30kV     25/40mA       230V     25/30kV     25/40mA       115V     25/30kV     25/40mA       230V     25/30kV     25/40mA       115V     25/30kV     25/40mA       230V     25/30kV     25/40mA       115V     32/50kV     40/60mA       230V     32/50kV     40/60mA       115V     32/50kV     40/60mA	VOLTAGE     VOLTAGE <sup>1</sup> CURRENT <sup>2</sup> POWER       115V     25/30kV     25/40mA     300W       230V     25/30kV     25/40mA     300W       115V     25/30kV     25/40mA     300W       115V     25/30kV     25/40mA     300W       230V     25/30kV     25/40mA     300W       230V     25/30kV     25/40mA     300W       115V     32/50kV     40/60mA     700W       230V     32/50kV     40/60mA     700W       115V     32/50kV     40/60mA     700W		

Notes:

First figure is continuous rating, second is Ignition Voltage.
First figure is continuous rating, second is pulse rating.

Customized versions and alternate polarities are available

Contact UNIPOWER to discuss your application and define the right part number for your specific application.

### www.unipowerco.com



## **SPECIFICATIONS**

Typical at Nominal Line, Full Load and 25°C Unless Otherwise Noted.

BASE MODEL	LRC-30-25	LRC-50-40		
Output (HV)				
DC Output Voltage	25kV continous, 30kV ignition	32kV continous, 50kV ignition		
Output Current	25mA max. steady state, 40mA pulse	40mA max. steady state, 60mA pulse		
	0 5 10 15 20 25 30 35 mA	0 10 20 30 40 mA		
Current Regulation	±(1% of FS + 250µA) (1-25mA, DC-2kHz)	±1% of FS + 400µA		
Max. Output Power	300W	700W		
Polarity	Positive or Negative	Positive or Negative		
Switching Frequency	42kHz			
Pulse Repetition Rate	DC to >2 kHz			
Pulse Duty Cycle	100% continuous			
Input				
Voltage Range	115 / 230V	/AC (±10%)		
Input Current	5A / 2.5A	10A / 6A		
Phases		1		
Line Frequency	47-6	63Hz		
User Interface				
Metering Signal Current	0 to 5V = 0 to 25mA Accuracy ±(1% FS + 35mV)	0 to 10V = 0 to 50mA		
Setpoint Control	N/A	One turn potentionmeters		
Control Signals	0 to 5V = 0 to 25mA	0 to 10V = 0 to 50mA		
Remote HV ON	5V @ 5mA into Opto-Isolator or Contact Closure			
Mechanical / Environ	mental			
Dimensions l x w x h inches (mm) Weight	12 x 6.75 x 3 (254 x 172 x 76) 4.2lbs / 1.9kg	13 x 6.75 x 5.25 (330 x 172 x 133)		
		11.2lbs / 5.1kg		
HV Output Interface Connector	Dry cable well with 1 meter of cable			
	Screw Terminals suitable for wire to #12AWG			
Mounting Operating Temp	Any orientation on (4) 10-32 UNC inserts			
Operating Temp.	0°C to +40°C			
Storage Temp.	-20°C to +85°C			
Humidity	5 to 95% RH non-condensing UL/IEC/EN61010-1			
Safety	UL/IEC/E			

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### PULSE OUTPUT (10 POSITION HEADER MTA-156 STRAGHT LOOKING) NPVT OND 115 or 230NAC 6250 QUICK (6250 QUICK DISCONNECT) PON 47 HIGH VOLTAGE CABLE PROVIDED INSULATORY CONNECTOR ASSEMBLY 0 00 ø 675 \$25" (133.5 mm) ٥ Ò 13.25" (011.15 mm) 0002 ------PNIT 115 of 220 VAC 5050Hz CONNECTOR: 3 POSITION PHOENX HEADER. 0.200 SPACING (UTL43 mm) (63.5 m UTUT: 200W PULSE CONVECTOR: 12 POSITION HEADER MTA-156 STRAIGHT LOOKING

AC P2

GND P3

P5-6

P5.7

P5-8

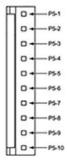
P5-9

P5-10

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# **OUTLINE DIMENSIONS & CONNECTION DETAILS**

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#### AC Power P1-1 Input P1-2 AC Power Input P1-3 Ground Common P5-1 +5V Ref. P5-2 Ext. mA Ref. P5-3 Ground P5-4 HV Pulse Enable P5-5 HV Pulse Enable

FUNCTION

**300W PIN-OUT** 

PIN

P5-6

P5-7

P5-8

P5-9

P5-10

+5V Ref.	Output	
Ext. mA Ref.	input	
Ground	Common	
HV Pulse Enable +	Input	
HV Pulse Enable -	Input *	
Jumpered to P5-1	kV Ref. In	
kV Monitor	Output	
mA Monitor	Output	
Spare	Not Used	
Spare	Not Used	

Spare \*Jumpered to Common

### 700W PIN-OUT DIN FUNCTION

	PIN	FUNCTION	
5	P1-1	AC Power	Input
4	P1-2	AC Power	Input
	P1-3	Ground	Common
5	P5-1	+5V Ref.	Output
	P5-2	Ext. mA Ref.	input
	P5-3	Ground	Common
•	P5-4	HV Pulse Enable +	Input
	P5-5	HV Pulse Enable -	Input *
	P5-6	Input	kV Ref. In
	P5-7	kV Monitor	Output
0	P5-8	mA Monitor	Output
	P5-9	Super Pulse Enable	Not Used
	P5-10	+15V	Not Used

\*Jumpered to Common

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