

# 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 mid-power 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. CO<sub>2</sub> laser applications because of its rugged and durable circuitry, compact footprint, efficiency, choice of open-frame or enclosed configurations and availability of remote control.

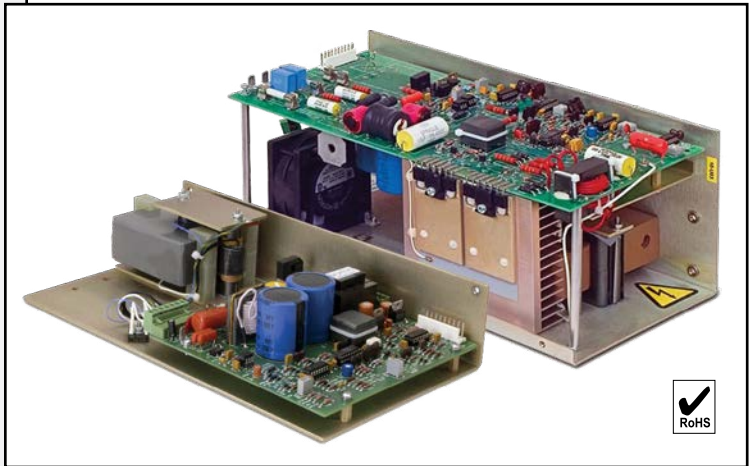
## FEATURES

- ◆ 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

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE <sup>1</sup>	OUTPUT CURRENT <sup>2</sup>	OUTPUT POWER	POLARITY
LRC-30-25P-H17	115V	25/30kV	25/40mA	300W	Positive
LRC-30-25P-K17	230V	25/30kV	25/40mA	300W	Positive
LRC-30-25N-H17	115V	25/30kV	25/40mA	300W	Negative
LRC-30-25N-K17	230V	25/30kV	25/40mA	300W	Negative
LRC-50-40P-H17	115V	32/50kV	40/60mA	700W	Positive
LRC-50-40P-K17	230V	32/50kV	40/60mA	700W	Positive
LRC-50-40N-H17	115V	32/50kV	40/60mA	700W	Negative
LRC-50-40N-K17	230V	32/50kV	40/60mA	700W	Negative

### Notes:

1. First figure is continuous rating, second is Ignition Voltage.
2. 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.**

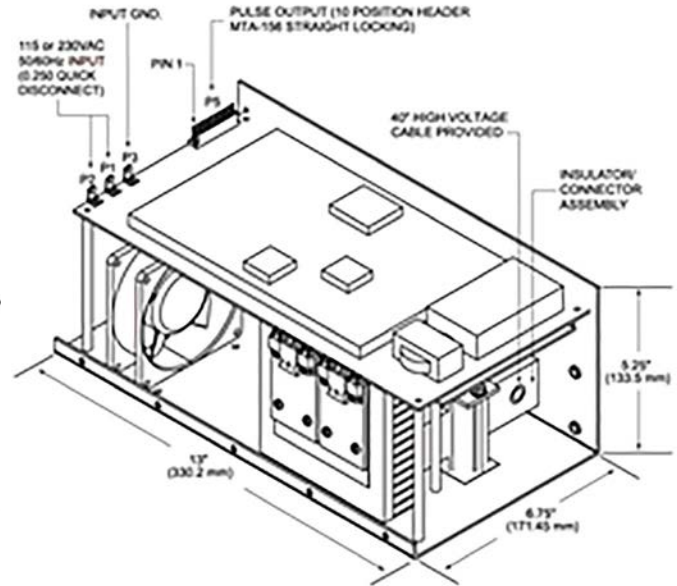
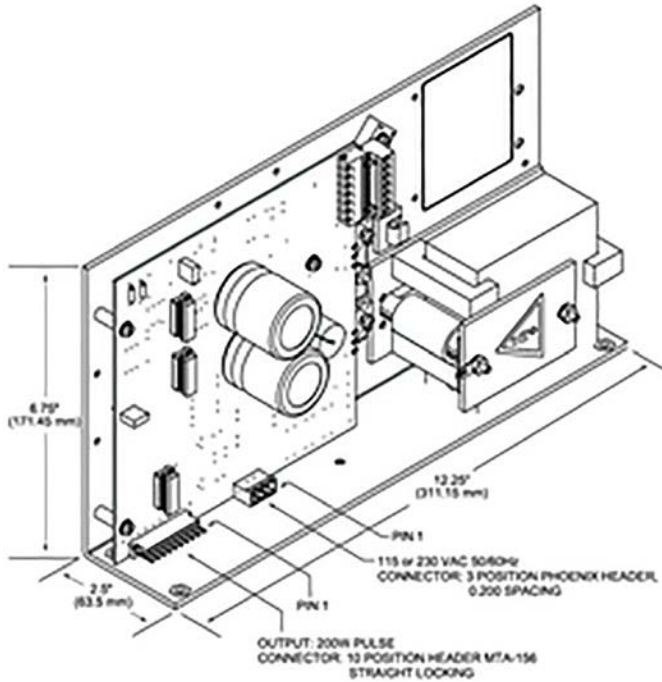
## SPECIFICATIONS

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

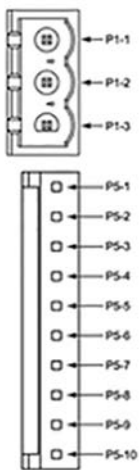
BASE MODEL	LRC-30-25	LRC-50-40
<b>Output (HV)</b>		
DC Output Voltage	25kV continuous, 30kV ignition	32kV continuous, 50kV ignition
Output Current	25mA max. steady state, 40mA pulse	40mA max. steady state, 60mA pulse
Current Regulation	±(1% of FS + 250µA) (1-25mA, DC-2kHz)	±1% of FS + 400µA
Max. Output 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	
<b>Input</b>		
Voltage Range	115 / 230VAC (±10%)	
Input Current	5A / 2.5A	10A / 6A
Phases	1	
Line Frequency	47-63Hz	
<b>User Interface</b>		
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 potentiometers
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	
<b>Mechanical / Environmental</b>		
Dimensions l x w x h inches (mm)	12 x 6.75 x 3 (254 x 172 x 76)	13 x 6.75 x 5.25 (330 x 172 x 133)
Weight	4.2lbs / 1.9kg	11.2lbs / 5.1kg
HV Output	Dry cable well with 1 meter of cable	
Interface Connector	Screw Terminals suitable for wire to #12AWG	
Mounting	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	
Safety	UL/IEC/EN61010-1	

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OUTLINE DIMENSIONS & CONNECTION DETAILS



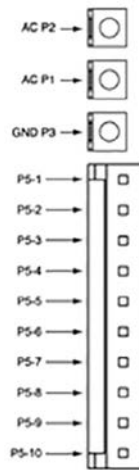
300W PIN-OUT



PIN	FUNCTION	
P1-1	AC Power	Input
P1-2	AC Power	Input
P1-3	Ground	Common
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	Jumpered to P5-1	kV Ref. In
P5-7	kV Monitor	Output
P5-8	mA Monitor	Output
P5-9	Spare	Not Used
P5-10	Spare	Not Used

\*Jumpered to Common

700W PIN-OUT



PIN	FUNCTION	
P1-1	AC Power	Input
P1-2	AC Power	Input
P1-3	Ground	Common
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
P5-8	mA Monitor	Output
P5-9	Super Pulse Enable	Not Used
P5-10	+15V	Not Used

\*Jumpered to Common